SYSTEMATICS AND BIOGEOGRAPHY OF THE LONGICORN BEETLE TRIBE TMESISTERNINI

By J. Linsley Gressitt

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By J. Linsley Gressitt

PACIFIC INSECTS MONOGRAPH 41 Department of Entomology, B. P. Bishop Museum Honolulu, Hawaii, USA 1984 The publication of this monograph received major support from the J. Linsley Gressitt and Margaret K. Gressitt Memorial Fund. The Bishop Museum and the Department of Entomology wish to express appreciation to all those who have contributed to that fund.

FORWARD

In the middle part of April 1982, J. Linsley Gressitt delivered the manuscript of this monograph to his publications agent and former student, Shih-Kwen Cheng in Hong Kong, and there they made arrangements for the printing of the text and plates. Lin, as he was known to friends and colleagues the world over, accompanied by his wife, Margaret, proceeded to Canton to give invitational lectures on biogeography at Zhongsan University. The occasion was very much a homecoming for the Gressitts, as Lin had taught at the University (then called Lingnan University) and there they had resided during their early married years. From Canton they planned to visit the beautiful city of Guilin. The airliner carrying them toward that destination on April 26th crashed into a mountain and there were no survivors.

This monograph had been only one of the objectives of the Gressitt project "Biogeography and evolution of New Guinea-Solomons area phytophagous Coleoptera," a three-year study supported by the National Science Foundation. The project had just entered its second year in April 1982, and some weeks thereafter the NSF agreed to continue the project under my guidance. In the following months, proofs of text were read by Shirley Samuelson and me. By April 1983, I had made whatever revisions to the text deemed necessary, particularly measurements, along with revised data citations of type-series for many species, while concurrently arranging the tmesisternine specimens as a special collection in Bishop Museum.

It seems fitting that this monograph marks Lin Gressitt's return to the longicorns, bringing a subject of his earliest though continued endeavors together with the region where he had set many of the outstanding achievements of the last two decades of his life. Although this is not his first work on New Guinea longicorns, it is his first treatment of monographic scope to center on a part of the New Guinea longicorn fauna. The large number of new taxa described in this work clearly testifies to Lin's quest for discovery and the momentum that he created in making it possible for many investigators, besides himself, to reach remote areas for study and to bring to light materials of extreme scientific value. A good part of this momentum is seen in Wau Ecology Institute, a legacy that Lin and Margaret have left in New Guinea. The Institute has served continuously as a base of field operations since its beginning as a Bishop Museum field station in 1961. Today, Wau Ecology Institute thrives as an incorporated organization and has become a vital link to many biological studies and surveys undertaken in Papua New Guinea. Moreover, the Institute has become committed to science education, agricultural technology, and conservation - these being subjects of extreme relevance to the Pacific World and beyond. Readers may want to refer to the Gressitt biography and bibliography appearing in our series International Journal of Entomology.

G. ALLAN SAMUELSON

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Pacific Insects Monograph No. 41

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SYSTEMATICS AND BIOGEOGRAPHY OF THE LONGICORN BEETLE TRIBE TMESISTERNINI ^{1,2}

By J. Linsley Gressitt³

Abstract. The range of the cerambycid (lamiine) tribe Tmesisternini essentially covers the area known as Melanesia plus Wallacea (in the original sense-Sulawesi, Lesser Sunda Is), as well as Maluku, the south fringe of the Sunda Is and the NE fringe of Australia. The group has not yet been recorded from Vanuatu (New Hebrides) or Fiji, though it is known from New Caledonia. The tribe comprises 15 genera and 422 species, of which I genus and 99 species are described as new in this paper. The great majority of the species occur in New Guinea, with distribution now known as follows: New Guinea mainland, 291 species; New Guinea offshore islands, 42; Aru, 19; Kei, 6; Maluku, 35; Sulawesi, 9; Sunda Is, 2; Lesser Sunda Is, 14; Bismarcks, 20; Solomon Is, 12; New Caledonia, 11; Australia, 19. Relatives of this tribe are mostly concentrated in New Caledonia, Wallacea (broad sense including Philippines), SE Asia, Japan, Sri Lanka, Micronesia, Samoa, Fiji and New Zealand, with areas in between, including NE Australia. Several of the Tmesisternini have been recorded as borers of living cacao trees. Original host-plants probably include many rain forest tree species, but several bore in larger ferns, including bracken and tree-fern petioles.

INTRODUCTION

The tribe Tmesisternini of the longicorn subfamily Lamiinae is unique in some respects and presents some interesting problems relating especially to evolution and biogeography. As discussed in greater detail in the last section of this monograph, the eventual elucidation of the origin and history of this group should prove an interesting subject. There are some baffling examples of remarkable mimicry of sympatric species, sometimes between species of different genera, similar in minute details of pattern, dorsally and ventrally.

Among the unique aspects of this group are the striking structural difference in the angle of the head, in contrast to other groups of lamiines other than the closely related tribes; the very striking sexual dimorphism in some; and the very limited geographic range for such a large group. With 422 species (99 of them newly described herein) and many more to be described later, the group is almost limited to the islands from Wallacea (original sense) to New Caledonia. It barely occurs in the Sunda Is and in NE Australia and is not yet known from Vanuatu (New Hebrides) or Fiji.

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^{2.} Author's preceding contribution on longicorns of this area was in Pacific Insects 1(1), 1959.

^{3.} L. A. Bishop Distinguished Chair of Zoology, Dep. of Entomology, Bishop Museum, P.O. Box 19000-A, Honolulu, Hawaii, 96819, USA; and Wau Ecology Institute, P.O. Box 77, Wau, Papua New Guinea. Died April 26, 1982 in a plane crash in south China.

GENUS		NO. SPECIES/SUBSP.	DISTRIBUTION
1.	Buprestomorpha	1	New Caledonia
2.	Arrhenotoides	1	11
3.	Sphingnotus	13	Maluku to Solomons
4.	Sepicana	6	New Guinea
5.	Elaidius	1	"
6.	Pascoea	16	Maluku to Bismarcks
7.	Temnosternopsis	4	Australia
8.	Falsapolia	3	"
9.	Temnosternus	5	
10.	Karadinia	1	"
11.	Tmesisternopsis	4	Sulawesi, New Guinea
12.	Tmesisternus	298	Java to Solomons; Australia (3)
13.	Trigonoptera	59	Sumatra to Solomons; Australia (2)
14.	Blapsilon	8	New Caledonia
15.	Epiblapsilon	1	"

TABLE 1. Conspectus of the tribe Tmesisternini.

This paper reviews the entire tribe Tmesisternini. With further study this tribe may prove to be about the 12th largest tribe of the Lamiinae (largest subfamily of Cerambycidae).

A summary of the tribe as now known is shown in Table 1.

Of the presently known species, 69% occur only on the mainland of New Guinea; 2% on Sulawesi; 3% in the Lesser Sunda Is; 8% in Maluku, 5% in the Bismarck Archipelago, 3% in the Solomons, 3% on New Caledonia and 4% in Australia. The percentage for New Guinea will increase in the future because the mountains are insufficiently investigated and additional species are already at hand.

This work covers the entire tribe, which is only known from the areas listed in Table 1.

Materials and methods

The great majority of the 6000 specimens used for this study has resulted from a general survey by Bishop Museum of insects and other arthropods of the New Guinea area, made over the past 27 years. A large number of entomologists, students, amateurs and professional collectors has participated in this survey, and names of many of the participants are listed below. The primary geographical emphasis in this survey has been the mountain areas of the mainland of the island of New Guinea, because much of the collecting of earlier years was limited to the lowlands and foothills, or off-shore islands. This approach was intended to help balance collections available for study in other museums. Secondary emphasis was placed on parts of the island of New Guinea, in both divisions of the island [Papua New Guinea (E) and the Indonesian province of Irian Jaya (W)], which had been insufficiently sampled in earlier surveys. Next in priority were the major nearby islands to the east: the Bismarck Archipelago, the D'Entrecasteaux Is, Woodlark I and the Solomon Is. At times during the same period, complementary work was carried out in New Caledonia and, to a lesser extent, in Vanuatu. Likewise, some collecting was done in Maluku and Sulawesi, but on a far more limited basis. This, again, was planned on the assumption that the latter areas had received more attention in the past (more true of Maluku than of Sulawesi).

The Bishop Museum intensive program of fieldwork in the New Guinea area was initiated while I was on a Guggenheim Foundation fellowship (1955 & 1956), since which I have made annual trips or spent major portions of some years there. Also, other participants spent years collecting in the area. After 1961 much of the work was based at Wau, at the then Bishop Museum New Guinea Field Station which became the Wau Ecology Institute in 1971. All the above fieldwork added up to a total of about 55 man-years in the area.

A second important source of material for this study has been the Leiden Museum, and especially collections from the Netherlands Indian-American Expedition (Third Archbold Expedition) of 1938-39. Most of that material is from the camps Bernhard, Araucaria, Sigi, Rotan, Mist, Top, Balim Riv., Iebele and Habbema, all between E end of the Meervlakte (mid Idenburg Riv.) and Mt Wilhelmina (Trikora). Other sources are listed below, but especially important for unstudied material were the Australian Museum and the South Australian Museum.

The 6000 specimens of Tmesisternini used in this study represent many times the numbers available to all earlier workers on the group. Many of the 318 previously known species of the tribe were described from single specimens. In most cases in this work the new species have been described from modest to long series. Also, some larvae and pupae are herein described for the first time. The final assembling and writing of this volume has been based to a considerable extent upon photographs taken of most of the type-specimens at many European museums between 1953 and 1977, and on specimens compared with some of the types. Some more recent types have kindly been photographed or sent to me by Dr Z. Kaszab, Prof. A. Villiers (clichés M. Franey, PARIS), Dr G. Scherer, Bayerischen Staatsammlung, and the Naturhistoriska Riksmuseet, Stockholm.

This study has resulted in a modest number of species being synonymized, and some other earlier synonymized species have here been reinstated. This has been possible because series agreeing with the types of the formerly sunken species have come to light. Later restudy of some of these situations may prove that some of the reinstated names and some of the species here described as new are parts of populations of widespread species, or races of such. However, the great variety of forms and the many unique specimens or preliminary study suggest that many species suggests that the Tmesisternini represent a group. This topic is further discussed in the final section of this book: Evolution and biogeography.

The following are collectors of the material treated in this work, most of it here reported for the first time: A. Allison, J. H. Ardley, G. Baker, T. Barbour, J. H. Barrett, B. M. Beehler, Blakemore, G. E. Bohart, W. W. Brandt, L. J. Brass, J. Bryan, H. W. Clissold, P. Colman, P. J. Darlington, Jr, J. Dobunaba, A. P. Dodd, G. Downs, J. Fairlamb, T. L. Fenner, E. W. Ferguson, E. J. Ford, Jr, W. H. Ford, J. G. Franclemont, W. W. Froggatt, H. Frost, W. C. Gagné, Gewise Otoweto, B. Gray, L., M., R., C. & E. Gressitt, A. B. Gurney, D. L. Hancock, A. W. Harrington, C. Harslett, A. D. Hart, G. W. Heid, W. C. van Heurn, H. Holtmann, H. Hoogstraal, N. Howcroft, J. F. Illingworth, H. Ivogal, Kannegieter, A. A. Kirk, A. Kollar, Paul Kores, N. L. H. Krauss, G. Kuschel, W. Docters van Leeuwen, M. A. Lieftinck, G. Lippert, H. A. Lorentz, E. Lundquist, G. W. Lupson, T. C. Maa, C. T. McNamara, B. Malkin, V. S. Mallory, W. M. Mann, Mena, C. D. Michener, H. E. Milliron, Abid Beg Mirza, G. B. Monteith, F. Muir, M. Nango, C. W. O'Brien, M. V. Oeta, J. Olthof, F. Parker, C. E. Pemberton, B. C. Peters, L. W. & S. Quate, J. Rageau, E. Reimschüssel, Reni Sakomdaro, Rhode, R. Rice, H. Roberts, E. S. Ross, G. A. & S. Samuelson, L. W. Saylor, J., M. & H. Sedlacek, P. Shanahan, R. T. Simon Thomas, F. E. Skinner, E. Stuart, C. Smith, N. R. Spencer, H. Stevens, R. Stevens, R. Straatman, E. Streseman, W. Stüber, G. Szechura, J. J. H. Szent-Ivany, Tawi Bukam, G. M. Tate, B. M. Thistleton, L. J. Toxopeus, D. B. Vogtman, L. Wagner, C. Wahnes, A. M. R. Wegner, O. Wilkes, N. Wilson, R. G. Wind, W. R. Wylie, K. M. Wynn, C. M. Yoshimoto and J. T. Zimmer.

Abbreviations

The following acronyms and words are used in the text for repositories and sources of material [BISHOP is usually the repository for paratypes lacking any designation]:

AM	Australian Museum, Sydney
AMNH	American Museum of Natural History, New York
AMSTERDAM	Zoological Museum, University, Amsterdam
ANSP	Academy of Natural Sciences, Philadelphia
RISHOP	Bishop Museum, Honolulu
RMNH	British Museum (Natural History), London
BOCOR	Museum Zoologicum Bogoriensis, Bogor
BUDAPEST	Hungarian Natural History Museum, Budapest
BOUNFILES	Institut Royal des Sciences Naturelles, Bruxelles
BRUALLES	Forest Research Institute, Bulolo, PNG
CAS	California Academy of Sciences, San Francisco
CAS	Commonwealth Scientific & Industrial Research Organiza-
USIKU	tion, Canberra

DEI	Deutsches Entomologisches Institut, Eberswalde
DPI	Department of Primary Industries Konedoby PNC
	(earlier DASF)
DRESDEN	Staatliche Museum für Tierkunde, Dresden
FREY	Museum G. Frey, Tutzing bei München
GENOVA	Museo Civico di Storia Naturale, Genova
KØBENHAVN	Universitetets Zoologiske Museum Copenhagen
LEIDEN	Rijksmuseum van Natuurlijke Historie. Leiden
LEPESME	Collection of the late P Lenesme of Paris location
	known
MCZ	Museum of Comparative Zoology Harvard University
	Cambridge
MÜNCHEN	Zoologische Staatsammlung der Baverische Staates
	München
PARIS	Museum Nationale d'Histoire Naturelle Paris
QM	Queensland Museum, Brisbane
SAM	South Australian Museum Adelaide
SCHEIN	A German collection of uncertain disposition
SENCKENBERG	Senckenberg Museum, Frankfurt
STOCKHOLM	Naturhistoriska Riksmuseet, Stockholm
UQ	University of Queensland St. Lucia
USNM	National Museum of Natural History Smithsonian Institut
	tion, Washington, DC
WEI	Wau Ecology Institute, Wau PNG
WILDLIFE	Wildlife Division, Department of Environment & Comment
	vation, PNG (Bulolo)
ZMB	Zoologisches Museum der Humboldt Universität Der L
	Berlin der Humbolut Umversität, Berlin

Other abbreviations or geographical terms used in the text include the following:

Bismarcks	Bismarck Archipelago, including Admiralty Is (Manus
	Lorengau, etc), New Hanover, New Ireland, Duke of York
	Is and New Britain
EHP	Eastern Highlands Prov, PNG: New Guinea (NE)
ESP	East Sepik Prov, PNG: New Guinea (NE)
Irian	Irian Jaya Prov of Indonesia (W New Guinea: formerly
	Irian Barat, Dutch New Guinea)
Lesser Sunda	Lesser Sunda Is (S Wallacea)
Maluku	Maluku Is (Moluccas)
N Solomons	North Solomons Prov of PNG (Bougainville and Buka)
PNG	Papua New Guinea

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SHP Solomon Is	Southern Highlands Prov, PNG: New Guinea (SE) Solomon Islands (Nation), not including Bougainville and
	Buka
Sulawesi	Sulawesi I (Celebes; in Wallacea)
WHP	Western Highlands Prov, PNG: New Guinea (NE)
WSP	West Sepik Prov, PNG: New Guinea (NE)

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SYSTEMATICS

Though the Tmesisternini form a highly distinctive tribe with various unique characteristics, there is great diversity of form and adaptations within the group. Much further research is required to clarify all the taxonomic problems within the tribe. In this treatment, the first attempt is made to assign the species of the 2 large genera, *Tmesisternus* and *Trigonoptera*, to species-groups. In the future, rearrangements will be inevitable because many more species (partly on hand) will come to light. Also, there are some problems of specific and generic characters aside from those 2 large genera. The problems partly relate to characters involved

in sexual dimorphism. In the present arrangement, there are species with extreme sexual dimorphism and some with almost none that are placed together in the same genus (note especially *Pascoea*), with no them. Keys to both genera and species are because some of the secondary sexual characters relate to structures (such as prothorax or head) most often used in keys; also because of confusing dimorphism among species which appear to be closely related, and not otherwise separable subgenerically.

The only previous comprehensive treatment of the Tmesisternini was by Breuning (1945). The number of species treated in that work was a bit less than 1/2 those treated as species or allopatric subspecies in this study. However, keys to species of some of the genera were published by Gilmour (1949), and for *Trigonoptera, Tmesisternus,* and "Arrhenotus" by Gilmour (1950). The last catalog (Breuning 1962) listed about 236 full species, not counting some considered allopatric subspecies, or reinstated, in this work. A number of entities categorized by Breuning as "morpha" (a category not recognized by the International Rules of Zoological Nomenclature), are synonymized herein and others are recognized as allopatric subspecies.

KEY TO THE GENERA OF TMESISTERNINI

0.1

1.	Prothorax with 1 or 2 lateral tubercles and/or a well-developed	
	lateral ridge or expansion	2
	Prothorax simple, evenly rounded at side; elytron weakly ridged,	
9(1)	Lest shill in the state of the	IS
4 (1).	Last addominal sternite with a tooth or spine at each side of end	3
a (a)	Last abdominal sternite lacking a tooth or spine at each side	4
3 (2).	Prothorax with lateral spine, with or without lateral ridge; teeth of	
	Deal sternite strong	S
	Prothorax without lateral spine but with prominent anterolateral	
4 (expansion; teeth on last sternite brief 11. Tmesisternopsi	S
4 (2).	Eye strongly emarginate or divided	5
	Eye weakly emarginate; prothorax with discal tubercles and very	
F (4)	strong lateral tubercle 10. Karadinia	a
5 (4).	Eye strongly emarginate	5
	Eye divided	3
6 (5).	Antennal segment 3 not longer than 4	7
	Antennal segment 3 distinctly longer than 4; body usually strongly	
7(6)	Anterna million and a second s	1
7 (0).	Antenna with segment 3 hardly shorter than 4 9. Temnosternus	5
0 (->>	Antenna with segment 3 distinctly shorter than 4 7. Temnosternopsis	5
8 (5).	Elytron more or less smooth basally)
	Elytron with a strong crest along middle of basal 1/4	
	1. Buprestomorpha	

9 (8).	Prothorax with a small lateral tubercle completely hidden by strong
0 (0).	lateral expansion
	Not so
10 (9).	Humerus with an anterior ridge, or smooth 11
10 (0)	Humerus bearing a row of strong tubercles or teeth 4. Sepicana
11(10)	Humerus with a short or long crest on front margin, or strong
11 (10).	tubercle
	Humerus simple; elytron long, parallel-sided 8. Falsapolia
12 (11).	Body long; elytron often truncate or toothed 13
()	Body very short, stout and strongly convex; elytron rounded
	apically
13 (12).	Antenna with segments 1-6 stouter than following segments
	3. Sphingnotus
	Antenna with segments beyond scape slender
14(12).	Prothorax with lateral tubercle flattened dorsoventrally and with a
	blunt or weak tubercle forward and higher on side; antennal
	scape not reaching near lateral tubercle
	Prothorax with lateral tubercle very stout-based and with a prom-
	inent acute spine forward and lower on side; humerus very prom-
	inent; antennal scape reaching to major lateral tubercle
	15. Epiblapsilon, n. gen.

1. Genus Buprestomorpha Thomson

Buprestomorpha Th., 1860, Classif. Ceramb., p. 352, 359 (type-species: B. montrouzieri Th.; New Caledonia).—Lacordaire, 1869, Genera Coleopt. 9: 244.—Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 545.—Hayashi, 1961, Bull. Osaka Mus. Nat. Hist. 13: 49.

Broad-bodied with prothorax angulate and broader than elytra in δ , strongly unicarinate basally in δ .

1. Buprestomorpha montrouzieri Thomson

Buprestomorpha montrouzieri Th., 1860, Classif. Ceramb., p. 359 (New Caledonia; PARIS).Lacordaire, 1860, Genera Coleopt. 9: 245.-Fauvel, 1906, Rev. d'Entomol. 25: 59.Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 546.-Hayashi, 1961, Bull. Osaka Mus.
Nat. Hist. 13: 49.

Bronzy brown with faint pattern at side. Length 19-29 mm.

Distribution. New Caledonia; Ile des Pins.

Material Examined. Many, NEW CALEDONIA: Yahoue, VII, Williams; Col de la Pirogue, II, Yoshimoto; Paita, I, Yoshimoto; St Louis, III, Milliron; Foret de Thy, III, Gressitt; III, Sedlacek; Col des Rousettes, II, Krauss; Mt Koghis, 500 m, II, Krauss (BISHOP). Attracted to flowers of Lantana.

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2. Genus Arrhenotoides Breuning

Arrhenotoides Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 546 (type-species: Tmesisternus dubouzeti Montrouzier; New Caledonia).-Hayashi, 1961, Bull. Osaka Mus. Nat. Hist. 13:

Broad-bodied, buprestiform; prothorax as broad as elytron, straight at side; elytron lacking a prominent discal carina in δ , strongly spined apically.

1. Arrhenotoides dubouzeti (Montrouzier)

Tmesisternus dubouzeti Montr., 1861, Ann. Soc. Entomol. Fr. ser 4, 1: 296, pl. 5, fig. 5

Buprestomorpha dubouzeti: Fauvel, 1906, Rev. d'Entomol 25: 59 (New Caledonia and Lifu;

Arrhenotoides dubouzeti: Breuning, 1945, Novit. Entomol. 15-16, Suppl 3: 546.-Hayashi, 1961, Bull. Osaka Mus. Nat. Hist. 13: 50.

Reddish brown, mottled with pinkish, with irregular bands, partly glabrous. Length 20-30 mm.

Distribution. New Caledonia; Loyalty Is (Lifu I).

Material examined. NEW CALEDONIA: Hienghene, X.1940, F.X. Williams (BISHOP); Hienghene, XI.1944, W. Crabb (USNM).

3. Genus Sphingnotus Perroud

Sphingnotus Perr., 1855, Ann. Soc. Linn. Lyon ser 2, 2: 419 (mirabilis listed first); 1855, Mél. Entomol. 3: 90.-Pascoe, 1867, Trans. Entomol. Soc. Lond. ser. 3, 3: 482.-Lacordaire, 1869, Genera Coleopt. 9: 246 (mirabilis listed first).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 547. Ichthyosoma Montrouzier, 1855, Ann. Soc. Agric. Lyon ser 2, 7: 59 (part).

Sphingnothus Thomson, 1860, Classif. Ceramb., p. 353; 1864, Syst. Ceramb., p. 357.

Species large, metallic, with white or creamy pubescent spots, bands or short lines. Head broad, shallowly depressed in middle of frons, more or less grooved on occiput; prothorax short and broad, subrectangular with expanded margin, about as broad before as behind middle, constricted in middle; pronotal disc smooth medially, irregular and coarsely punctured at side; elytron more or less truncate apically.

Type-species: Tmesisternus mirabilis Boisduval, 1835.

KEY TO SPECIES OF Sphingnotus

1. Elytron transversely or obliquely trunctate apically, not strongly toothed Elytron emarginate-truncate apically with outer angle strongly toothed; 2 elytron disc usually green or blue, less often purplish black or reddish bronzy, with many white dots largely arranged in vague bands; length

•	Electron usually with 3 narrow white bands (sometimes consisting of
2.	Elytron usually with 5 narrow to middle, 3rd band less conspicuous
	spots) starting a little anterior to infer and/or sutural dots;
	and often incomplete; sometimes a rew upreu and 1-6, mirabilis
	length 21–39 mm
	Elytron with creamy spots or short stripes, mostly in longitudinal
	grooves and partly arranged in transverse or partly oblique bands
	grooves and putty fraction to a large fraction of the surface; length
	covering a sman machine to a g
	23-42 mm

1. Sphingnotus mirabilis mirabilis (Boisduval)

P1. 1a, c

Tmesisternus mirabilis Bdv., 1835, Voyage Astrolabe, Insectes 2: 468 (Dorei, Vogelkop; PARIS).-White, 1855, Cat. Coleopt. Br. Mus. 8: 340.

PARIS).-white, 1855, Cat. Collegit. Bit Med. Or 0.14.
Sphingnotus mirabilis: Perroud, 1855, Ann. Soc. Linn. Lyon ser 2, 2: 411; Mél. Entomol. 3: 91.-Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 483.-Gestro, 1876, Ann. Mus. Civ. Genova 9: 168.-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 547, fig. 307.

Shiny metallic, varying from blue and green to purple, black and coppery; elytral bands usually fairly straight and continuous. Length 21-39 mm.

Distribution. Salawati; Waigeo; Yapen I; New Guinea (Irian and PNG).

Material examined. Hundreds of specimens from many localities in NEW GUINEA: most of lowlands into lower mid-montane valleys to about 1400 m. Some taken on fallen Ficus and leaves of Terminalia brassi (Vanimo) and Dioscorea at Pimaga, SHP (BULOLO).

2. Sphingnotus mirabilis mniszechi Perroud

Sphingnotus mniszechi Perr., 1955, Ann. Soc. Linn. Lyon ser 2, 2: 417 (Amboine).-Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 483.

1807, Irans. Entomol. 300. Eond. 307 9, 00 1000 Sphingnotus mirabilis m. mniszechi: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 549.

Head black; pronotum dark green; elytron dark violet; venter and legs violet blue.

Distribution. S Maluku (Ambon); Seram.

3. Sphingnotus mirabilis keyensis Schwarzer

Sphingnotus keyensis Schw., 1924, Treubia 5: 236 (Key Is; SENCKENBERG). Sphingnotus mirabilis m. keyensis Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 548.

Elytron less brilliant; bands reduced to small spots or largely lacking.

Distribution. Kai Is (Kei, Key); Mysool (Korido).

4. Sphingnotus mirabilis admirabilis Kriesche

Sphingnotus mirabilis ssp. admirabilis Kr., 1923, Dtsch. Entomol. Z. 1923: 281 (Aru I; ZMB). Sphingnotus mirabilis m. admirabilis: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 548.

Elytron with 1st and 2nd bands broader than usual; band 3 fairly well developed.

Distribution. Aru Is.

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5. Sphingnotus mirabilis splendens Gressitt, new subspecies P1. 1b

9. Head purplish red, tinged with blue-green on lower frons and purple on gena under microscope light, steely violet-blue to naked eye; antenna reddish brown tinged with purple under microscope light, but purplish to violet to naked eye; prothorax reddish tinged with green or purple under microscope light but dark steely greenish reddish purple under microscope light but steely blue greenish or bluish reflections under microscope light but to naked eye; elytron red with purplish, greenish or bluish reflections under microscope light but to naked eye brilliant metallic green tinged slightly with purplish near base and before apex; venter purplish red under light, deep purplish blue to eye; legs purplish brown under light, purple to naked eye; tibial brushes pale orange-brown.

Head uneven but very feebly punctured; antenna not quite as long as body; prothorax nearly as broad as elytra, sinuate at side, obliquely raised on side of disc with sparse punctures, none on median strip; elytron glabrous, very smooth, with only a few minute sparse punctures near base. Length 27 mm; breadth 9.3 mm.

Holotype 9 (AMNH), IRIAN (NW): Biak I, X.1944, Dr J.R. Strauss.

This subspecies differs from the other races in having no spots whatsoever, with elytron burnished gold-green and rest of body largely steely purple.

6. Sphingnotus mirabilis salomonus Breuning

Sphingnotus mirabilis m. salomonus Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 548 (Bougainville; FREY).

Postmedian elytral band more oblique; 3rd band poorly developed.

Distribution. Solomon Is.

Material examined. Holotype: PNG: N Solomons (Bougainville). SOLOMON IS: Isabel, O'Brien coll.; Malaita, Gressitt coll. (BISHOP).

7. Sphingnotus insignis insignis Perroud

Sphingnotus insignis Perr., 1855, Ann. Soc. Linn. Lyon ser 2, 2: 413 (San Cristobal; PARIS); Mél. Entomol. 3: 92.-Pascoe, 1967, Trans. Entomol. Soc. Lond. ser 3, 3: 483.-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 548, fig. 308.

Ichthyosoma mirabile Montrouzier, 1855 (nec Bdv.), Ann. Soc. Agric. Lyon ser 2, 7: 58.

Sphingnotus perroudi Montr., 1864, Ann. Soc. Linn. Lyon ser 2, 11: 196 (San Cristobal). New synonymy.

Elytron with many small yellowish spots, mostly arranged in 4 broad bands, 2nd and 3rd more distinct; pronotum heavily punctured on side of disc; elytron grooved. Length 20-40 mm.

Distribution. Solomon Is.

Material examined. SOLOMON IS: San Cristobal: Menai, VIII.1960, O'Brien.

8. Sphingnotus insignis ammiralis Breuning

Sphingnotus insignis ssp. ammiralis Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 549 (Manus; BMNH).

P1. 1e

Green; elytral spots small and fewer than in albertisi; elytral ridges weak.

Distribution. PNG: BISMARCK ARCH: Admiralty Is: Manus I.

9. Sphingnotus insignis albertisi Gestro

Sphingnotus albertisi Gest., 1876, Ann. Mus. Civ. Genova 8: 523 (Mt Epa, SE; GENOVA); 1876, op. cit. 9: 171.

Sphingnotus insignis ssp. albertisi: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 548.

Elytron more strongly ridged than in 2 preceding; elytral spots more dispersed in broader, vaguer bands. Ground color green, blue, and purplish black.

Distribution. New Guinea; Goodenough I; Normanby I.

Material examined. PNG: NEW GUINEA (NE): numerous specimens from many localities in Finisterre Mts and central ranges, to 1700 m. NEW GUINEA (SE): both N and S sides of Owen Stanley Mts; Goodenough I to 600 m; Normanby I. Collected on Ficus wassa, Alphitonia, Castanopsis and Polyscias (BULOLO).

10. Sphingnotus dunningi dunningi Pascoe

Sphingnotus dunningi Pasc., 1967, Trans. Entomol. Soc. Lond. ser 3, 3: 484, pl. 18, fig. 4. (Batchian; BMNH)-Aurivillius, 1926, Treubia 7: 105 (Buru).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 549, fig. 309 (Gilolo).

Coppery golden with scattered whitish spots, partly in 2 vague elytral bands.

Distribution. Maluku: Halmahera; Batjan; Buru.

Material examined. Holotype.

11. Sphingnotus dunningi regius Kriesche

Sphingnotus dunningi ssp. regius Kr., 1928, Dtsch. Entomol. Z. 1928: 48 ("Finschhafen"; ZMB).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 549.

Purplish to black beneath; legs and antenna steely blue.

Distribution. Umboi I. Questionably from PNG (NE): Finschhafen.

Material examined. BISMARCK ARCH: Many, PNG: Morobe Prov: Umboi I: 8 km WSW of Lab Lab, 300 m, II.1967, G.A. & S. Samuelson & P. Colman.

12. Sphingnotus dunningi gazellus Gressitt, new subspecies P1. 1g

Head and prothorax purplish black, densely clothed with tawny except on raised areas; elytron metallic dark green with some white spots, mostly in 2 irregular bands before and behind middle, 1st oblique and 2nd subtransverse toward suture; also some spots fused along suture near apex; venter purplish black; legs purple; antenna black to purplish.

Head irregularly punctured; pronotum smooth medially and on part of base; rest grossly punctured. Elytron smooth, not ridged, subobliquely truncate apically. Length 30 mm; breadth 10.4 mm.

2. Pronotum more extensively pubescent; elytron with scattered punctures, coarser near base. Length 24 mm; breadth 8.3 mm. Paratopotype: 36 mm.

P1. 1d

Holotype & (BISHOP 12,427), PNG: BISMARCK ARCH: New Britain: Gazelle Penin., Warangoi Val, 250-600 m, 28-30 XI.1962, J. Sedlacek; allotopotype & (BISHOP), same data; paratopotype, same data; 1 paratype (BULOLO), W New Britain: Tabairikau, 8.II.1971, B.C. Peters; 1, possibly from cacao.

This subspecies differs from d. regius in being green instead of coppery gold, with pronotum more pubescent; and from d. costipennis in having elytron much smoother and green instead of purplish bronzy, as well as in having fewer spots. The spots are mostly arranged in 2 bands.

13. Sphingnotus dunningi costipennis Breuning P1. 1f

Sphingnotus dunningi ssp. costipennis Br., 1950, Longicornia 1: 527 (New Ireland; PARIS). Purplish bronzy with elytral spots extensive, roughly in 4 wide bands, 2nd and 3rd more distinct.

Distribution. New Ireland.

Material examined. PNG: BISMARCK ARCH: New Ireland: Lelet Plateau, Schleinitz Mts, 900 m, X. 1959, W.W. Brandt.

4. Genus Sepicana Kriesche

Sepicana Kr., 1923, Dtsch Entomol. Z. 1923: 285 (type-species: S. vespertilio Kr.; Sepik). – Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 549.

Humerus tuberculate; prothorax often with 3 lateral projections.

KEY TO SPECIES OF Sepicana

1.	Elytron with large white or yellow spot, 3 mm or more in diameter	2
	Elytron with largest spots less than 1.5 mm in diameter	4
2(1).	Elytron with oblique pale patch anterior to middle; humerus with	
	weak teeth	3
	Elytron with only a single large round or oval creamy spot at end of	
	basal 1/3 and very small spots preapically; humerus with strong	
	teeth; length 18-25 mm 1. albomaculat	a
3(2).	Elytron with an oblique yellow patch near side before middle; length	
	26-28 mm	is
	Elytron with a large irregular patch from near humerus to near middle	
	(6 x 3 mm), plus smaller postmedian spot of 2 mm3. shanahani, n. sp).
4(1).	Premedian elytral spot with 2 or 3 smaller ones near it; postmedian	
	spots partly almost joined in a band; length 18-23 mm 4. hauser	ri
	Premedian elytral spot single; postmedian spots only 1 or 2, very	
	small; length 21.5-24.0 mm 5. migsomine	a
1. Se	picana albomaculata (Gahan) P1, 1i, 51	h
Ichthy	osoma (Elais) albomaculatum Gah., 1915, Trans. Zool. Soc. Lond. 20: pl. 39, fig. 21	1;

1916, Rep. B.O.U. & Wollaston Exped. Dutch NG 1, Coleopt. 3: 6 (43) (Mimika Riv, SW; BMNH).

Sepicana vespertilio Kriesche, 1923, Dtsch Entomol. Z. 1923: 286 (Sepik; ZMB). Sepicana albomaculata: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 549, fig. 310.

Distribution. New Guinea.

Material examined. Holotype: IRIAN: NEW GUINEA (SW): Mimika Riv, S coast; NEW GUINEA (NW): Ifar, Cyclops Mts, 300-500 m, VI, Sedlacek. PNG: NEW GUINEA (NE): Sepik; NEW GUINEA (SE): Kiunga, 50 m, VIII, Brandt; VIII, Sedlacek.

2. Sepicana arfakensis Breuning

Sepicana arfakensis Br., 1950, Longicornia 1: 527 (Arfak Mts, Vogelkop; LEPESME).

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Vogelkop.

3. Sepicana shanahani Gressitt, new species

ð. Chocolate brown with rusty brown pubescence, denser on anterior portion of body, somewhat mixed with whitish hairs on legs and ventral surfaces; elytron with a large irregular, somewhat oblique area of pinkish buff pubescence on disc, starting just behind humerus and continuing almost to middle, with an accessory small spot in 2nd groove from suture; a moderatesized spot behind middle, near midline, with a small spot beside it on sutural side.

Head rather flat, depressed in center of frons, sparsely and moderately punctured. Antenna nearly as long as body; segment 4 distinctly longer than 1, 3, or 5. Prothorax oblong, over $2 \times$ as broad as long; lateral flange large, tongue-like; anterolateral tubercle long, acute; lateral ridge well above tubercles, subserrate, with a stronger tooth well anterior to middle; disc carinate medially, depressed on each side of carina, raised external to depression, coarsely punctured. Elytron strongly grooved, moderately toothed on humerus, depressed under pale patches; apex obliquely emarginate and acutely toothed. Length 22 mm.

9. Lateral tubercle large, flat and acute; anterior angle on lateral margin as strong as in d. Length 20.3 mm. Paratypes: 21-23 mm.

Holotype & (BISHOP 12,428), PNG: NEW GUINEA (NE): Morobe Prov, nr Wau, Big Wau Creek, 1600 m, II-III.1974, P. Shanahan; allotopotype & (BISHOP), same data: 2 paratypes, & (BULOLO), same data.

Differs from *arfakensis* Breuning in being slightly smaller, in having a larger and more central anterior elytral patch, pinkish cream instead of yellow, plus a postmedian spot.

4. Sepicana hauseri (Aurivillius)

Elais hauseri Aur., 1907, Ark. Zool. 3(18): 14 (Wareo, NE; STOCKHOLM). Sepicana hauseri: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 550 (Cyclops).

Brown; elytron with 1 large and 2-3 small white spots anteriorly and a few small ones postmedially nearly fused into a band. Length 18-23 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Cyclops Mts; Hollandia, III, Jewett (CAS); Waris, 450-500 m, VIII, Maa (BISHOP). PNG: NEW GUINEA (NE): Alexander Mts, Dreikikir, 400 m, VI, L. & M. Gressitt; Busu Riv, nr Lae, IX, Gressitt (BISHOP).

5. Sepicana migsominea Gilmour

Sepicana migsominea Gilm., 1949, Entomol. Mon. Mag. 85: 104 (Cyclops; BMNH).

The type is \mathfrak{P} , not \mathfrak{F} as indicated by Gilmour. This group needs further study, as the following specimens agree well with those of *albomaculata* recorded above, except in size of main elytral spot. Three of the 5 species are represented from Cyclops Mts. A probable new species is at hand from SE New Guinea.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Cyclops Mts; Ifar, Cyclops, VI, Sedlacek.

6. Sepicana armata (Montrouzier), new combination

Ichthyosoma armata Montr., 1855, Ann. Soc. Agric. Lyon ser 2, 7: 59 (Woodlark; type lost?). Tmesisternus armatus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 593 (uncertain position).

Humerus with 2 tubercles; dorsum with white spots of different sizes, 2 on each elytron quite large.

This species is questionably placed in Sepicana. Distribution. Woodlark I (Murua) (PNG: off SE New Guinea).

5. Genus Elaidius Breuning

Elaidius Br., 1942, Folia Zool.-Hydrobiol. 11(2): 123 (type-species: E. biplagiatus Br.; New Guinea); 1945, Novit. Entomol. 15-16, Suppl. 3: 553 (again as n. gen.).

This genus is remarkable in having a rounded and unarmed prothorax, which is an exception for this tribe. Otherwise, it is close to *Pascoea*.

1. Elaidius biplagiatus Breuning

P1.1h

Elaidius biplagiatus Br., 1942, Folia Zool.-Hydrobiol. 11(2): 123 (New Guinea; FREY); 1945, Novit. Entomol. 15-16, Suppl. 3: 553, fig. 315 (again as n. sp.).

The pattern is like some species of *Pascoea*, with a large premedian elytral spot. Length 15-17 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Nabire, IX.1962, J. Sedlacek.

6. Genus Pascoea White

Pascoëa Wh., 1855, Cat. Coleopt. Br. Mus. 8: 340 (type-species: P. idae Wh.; Ceram). – Thomson, 1860, Classif. Ceramb., 76. – Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3,

3: 485. – Lacordaire, 1869, Genera Coleopt. 9: 245. – Kriesche, 1923, Dtsch. Entomol. Z. 1923: 281. – Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 550.

Elaïs Thomson, 1864, Syst. Ceramb., p. 32 (type-species: E. thoracica Th.; Aru). – Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 495. – Kriesche, 1923, Dtsch. Entomol. Z. 1923: 283.

Lesia Kriesche, 1923, Dtsch. Entomol. Z. 1923: 282 (type-species: L. bilunata Kr.; Sepik).

KEY TO SPECIES OF Pascoea

1.	Elytron with 1 or 2 large or moderate rounded spots near end of
	basal $1/3$
	Elytron without 1 or 2 large or moderate round spots near end of
	basal $1/3$
2(1).	Postbasal spot large, or consisting of 2 spots
	Postbasal pale spot small, about 1 mm in diameter; postmedian
	band vague, of 3 or 4 minute spots, followed by a few more
	widely separated preapical spots
3(2).	A single large premedian spot of creamy white 4
	Two subrounded premedian spots, often one larger than the other;
	postmedian band of about 4 pale spots in a close zigzag. 8. bimaculata
4(3).	Pronotum oblong, margins hardly expanded, 39 7. degenerata
· · /	Pronotum produced strongly forward and laterally in 3, mostly
	laterally in \mathcal{Q}
5(1).	Elytron with broad bands of elongate spots, or elytron submetallic.
	Elytron with bands of very small round pale dots or short elliplicat
	spots, or bands very vague
6(5).	Elytron more or less metallic greenish or bluish black
	Elytron without green or blue metallic tinges; brown or gray-brown.
7(6).	Anterior margin of frons with distinct pale-publiscent spots, pro-
	notum with 2 spots at base
	Anterior margin of frons with vague dots; pronotum with vague
	basal pale band; elytral bands broad, subtransverse
8(7).	Elytron with some pale spots on base; premedian band undulating.
	Elytron without pale dots on base; premedian band bending
	posteriorly at side and at suture
9(6).	Elytral bands of small narrow spots
	Elytral bands of partly broad spots of continuous, the 2 bands
	sometimes connected along suture; ballds white of yellowish,
	pronotum partly with similar publications bands more or less
10(9).	Elytron black, with very slight metallic tinge, bands more of less
	transverse; interior eye-lobe 4 x as uccp as gena
	Elytron chocolate blown, with white barres sugars, party 3 x as
	median band oblique, narrow; interior cyclobe barely of x as
	deep as gena

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11(5).	Elytron with 2 bands: anterior band partly fused into transverse bar (incomplete band) or of 2-4 round spots nearly fused: 2nd band
	irregular; pronotum fairly even on disc
	Elytron with bands of several small spots or very weak; pronotum
	depressed on each side of median strip anteriorly 13
12(11).	Elytron with premedian band of a transverse bar; prothorax irregu-
	lar at side11. exarata
	Elytron with premedian band of $2-4$ spots, at most only partly
	fused; prothorax subrectangular
13(11).	Prothorax with lateral tubercle long, acute 14
	Prothorax with lateral tubercle short, nearly hidden from above by
	subacute projection from lateral margin; elytral bands vague
14(13).	Prothorax with lateral margin irregular, distinctly emarginate
	anterior to middle of side 15
	Prothorax with lateral margin nearly straight in d; pronotal disc
	deeply punctured but not grooved on each side of median strip
	····· 14. parcemaculata
15(14).	Postmedian elytral band weakly undulating; pronotum more or less
	depressed on each side of median strip, but not grooved
	Postmedian elytral band advancing forward to suture; pronotum
	grooved on each side of median strip anteriorly

1. Pascoea idae White

P1.5c

Pascoëa idae Wh., 1885, Cat. Coleopt. Br. Mus. 8: 341, p1. 8, fig. 5 (Ceram: BMNH).-Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 486, p1. 19, fig. 6.-Lacordaire, 1869, Genera Coleopt. 9: 245, p1. 96, fig. 1.-Gestro, 1876, Ann. Mus. Civ. Genova 9: 171.-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 551, fig. 312.

Distribution. Maluku.

Material examined. MALUKU: Ambon: Waai, Wegner coll.; Seram (Ceram): Piroe, F. Muir coll. (BISHOP).

2. Pascoea coeruleogrisea Breuning

Pascoea coeruleogrisea Br., 1950, Longicornia 1: 528 ("Russell I"; LEPESME).

Distribution. PNG: Louisiade Arch.: Rossel I (not Russell Is).

3. Pascoea meeki Breuning

Pascoea meeki Br., 1966, Bull. Inst. R. Sci. Nat. Belg. 42(21): 4 (Sudest I; BRUXELLES).

Distribution. PNG: Louisiade Arch.: Sudest I (Tagula).

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4. Pascoea dohrni (Fairmaire)

Sphingnotus dohrni Fairm., 1883, Ann. Soc. Entomol. Belg. 27: 48 (Duke of York Is; PARIS). Arrhenotus willeyi Sharp, 1900, Willey, Zool. Results . . . New Britain 4: 483, pl. 35, fig. 5

(New Britain; BMNH). Pascoea dohrni: Kriesche, 1923, Dtsch. Entomol. Z. 1923: 282 (Rabaul).-Breuning, 1945, Novit, Entomol. 15-16, Suppl. 3: 551.

Distribution. New Britain; Duke of York Is.

Material examined. PNG: BISMARCK ARCH.: Duke of York Is; New Britain; Dagi, IV, R. Stevens. A questionable specimen from Astrolabe Bay (NE New Guinea), Rhode (ANSP).

5. Pascoea undulata Gressitt, new species

 \bigcirc . Shiny black with slight bluish to purplish or steely tinge; partially clothed with silvery blue pubescent spots: a small 1 before, 1 behind, upper eye-lobe; pronotum with 1 on each side of middle of base an 2 or 3 near lateral margin, and lateral tubercle pubescent above; scutellum with a spot on each side; elytron with a few narrow basal spots, a sparse narrow uneven band just behind base, a premedian irregular band of narrow spots, a postmedian similar band which is still more zigzag, bending posteriorly at side, a narrow subsinuate preapical band and some minute apical spots; venter and legs very thinly and incompletely pale-pubescent.

Head fairly even in front, irregularly punctured, shallowly grooved on occiput. Antenna 9/10 as long as body; segment 3 as long as 1, distinctly shorter than 4, barely longer than 5. Prothorax nearly 2 x as broad as long, subrectangular, sinuate at side, subequally broad at narrowly rounded anterolateral tubercle, middle of side and near base; lateral tubercle subacute, extending well beyond protuberance at middle of side; disc shiny, fairly even, with median smooth strip wide from middle to base; side of disc with partly strong, irregular punctures. Scutellum fairly smooth. Elytron convex, moderately narrowed, emarginate-truncate apically with outer angle obtusely prominent; disc with about 3 distinct ridges and grooves, besides postscutellar row (basal 1/3) with distinct punctures, and remainder sublineate-punctate. Venter hardly punctured. Legs with femora smooth and fairly slender. Length 22.5 mm; breadth 8.3 mm. Paratype 9, 21.5 mm \times 7.2 mm.

Holotype, ? (BISHOP 12,429), PNG. BISMARCK ARCH: New Ireland: Lelet Plateau, Schleinitz Mts, 900 m, X.1959, W.W. Brandt; paratopotype ?, same data.

Differs from *idae* in having elytral bands narrower and more zigzag, pronotum much more even and less completely punctured, elytron more broadly emarginate-truncate apically and obtusely toothed at outer angle instead of narrow and spined.

6. Pascoea brunneoalba Gressitt, new species

 \mathcal{P} . Reddish chocolate brown, slightly more reddish on venter, legs and antenna; partly clothed with spots of dense white pubescence; 4 small spots on anterior margin of frons (tawny yellowish), 2 behind upper eye-lobes; a few small whitish tawny flecks near anterior margin of pronotum and a narrow white basal margin; scutellum with a spot on each side; elytron with partly transverse basal spots, a few small dots behind humerus and internal to humerus, a premedian slightly zigzag band of elliptical spots reaching suture but not outer margin, an oblique and slightly sinuous postmedian band and scattered white dots behind it, mostly near

P1.5b

P1.5e

apex; venter and legs very thinly clothed with gray-buff; dorsum almost entirely covered with very thin pale pubescence.

Head sparsely but distinctly punctured, slightly depressed medially. Antenna not quite as long as body; segment 3 as long as 1, much shorter than 4, longer than 5. Prothorax more than $2 \times$ as broad as long, irregular at side, with anterolateral angle prominent, rounded-obtuse, then slightly narrowed to obtuse projection just behind middle of side, then with margin narrowed exposing straight side below; lateral tubercle long, acute, considerably exceeding angle of margin above it; disc with median strip (only partly glabrous) very narrow anteriorly and broadest near base; remainder moderately punctured but with a deep depression beside narrow portion of median strip. Scutellum short, convex, even. Elytron moderately narrowed, truncate and strongly spined at outer angle, rendering truncation more or less arcuate-oblique; disc with 4 distinct ridges, plus postscutellar ridge, plus weak sublateral ridges postmedially; punctures mostly in regular single rows. Venter weakly punctured. Legs with femora fairly slender, smooth. Length 21.5 mm; breadth 7.7 mm.

Holotype 9 (BISHOP 12,430), IRIAN: NEW GUINEA (NW): Biak I: Kampong Landbouw, 50-100 m, 29.V.1959, Gressitt.

Differs from *dohrni* in being more narrowly and delicately banded, in having prothorax more angular on lateral margin, with much longer lateral spine, more grooved pronotal disc, and more regularly ridged and more strongly spined elytron.



FIG. 1. Parameres (left) and aedeagus (right) of a, Pascoea degenerata; b, P. mimica; c, Tmesisternus trivittatus.

7. Pascoea degenerata (Heller)

Arrhenotus degeneratus Hllr, 1914, Nova Guinea 9: 658, pl. 16, fig. 11 (Bivak I, Lorentz Riv, SW; DRESDEN): 1914, Dtsch. Entomol. Z. 1914: 315 (Sepik).

Pascoea degenerata: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 553, fig. 314.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Nabire, VIII, Sedlacek; Klamagoen Riv, XII, G.W. Heid; Hollandia, IV, Jewett; Hollandia, XII, Hoogstraal; NEW GUINEA (SW): Lorentz Riv. PNG: NEW GUINEA (SE): many specimens, Kiunga, VIII, Sedlacek; Kura, 9 m, VIII, Clissold.

8. Pascoea bimaculata (Gestro)

Elais bimaculata Gest., 1876, Ann. Mus. Civ. Genova 9: 173 (Ramoi, Vogelkop; GENOVA). Pascoea bimaculata: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 553, fig. 313.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Vogelkop; Maffin Bay, VIII.1944, Darlington (MCZ).

9. Pascoea torricelliana Gressitt, new species

Dull reddish brown, partly pitchy on head and prothorax; largely clothed with even, fine buff pubescence, denser on head and prothorax; marked with spots of dense tawny or creamy white pubescence: head with small patches along anterior margin of frons and gena, before and behind upper eye-lobe; pronotum with small patches on each side of middle of apex and base and on base anterolateral tubercle; scutellum with a spot, also tawny, on each side; elytron with a band of small tawny spots along extreme base, a medium large subrounded creamy spot near side at end of basal 1/3 and a few scattered flecks on apical 1/4; venter glabrous medially, thinly clothed with buff at side, but with a patch of dense tawny on side of hind margin of abdominal sternite 1-4; legs thinly clothed.

Head sparsely and not very strongly punctured, depressed medially. Antenna slightly shorter than body; segment 3 longer than 1, shorter than 4, longer than 5. Prothorax 3/5 as long as broad, sinuate at side with anterolateral tubercle rounded obtuse and with a weaker, more rounded angle behind middle of side; lateral tubercle strong, subacute; disc fairly even, with nearly parallel-sided median impunctate (but pubescent) strip and large, irregularly placed punctures on side of disc. Scutellum smooth, slightly convex. Elytron long and narrow, obliquely truncate and strongly spined apically; disc weakly convex, with 4 regular puncturerows in grooves on sutural 1/2 and less-regular rows barely depressed postmedially in part. Venter only minutely punctured. Legs smooth with femora slightly swollen. Length 17.2 mm; breadth 5.2 mm.

Holotype ? (BISHOP 12,431), PNG: NEW GUINEA (NE): Torricelli Mts (N slope): Siaute Vill, nr sea level, 9-17.XI.1958, W.W. Brandt.

Differs from *bilunata* (Kriesche) in being more parallel-sided, more sinuate at side of prothorax, and in being more sparsely punctured on pronotal disc, having elytron less strongly ridged, with premedian elytral band consisting of a single medium-sized subrounded spot and postmedian band nearly obsolete, with a few minute flecks even smaller than those near apex.

P1. 5i

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10. Pascoea bilunata (Kriesche)

Lesia bilunata Kr., 1923, Dtsch. Entomol. Z. 1923: 282 (Sepik; ZMB). Pascoea bilunata: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 553 (Manokwari).

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Vogelkop: Manokwari; Hollandia, XII.1944, Hoogstraal, IV.1945, Jewett, XII.1944, Saylor (CAS). PNG: NEW GUINEA (NE): Sepik (type); Busu Riv, E of Lae, 100 m, IX.1955, Gressitt (BISHOP); Morobe, Kui, II.1979, Wylie (BULOLO).

11. Pascoea exarata (Pascoe)

Tmesisternus exaratus Pasc., 1862, J. Entomol. 1: 364 (Aru; BMNH).

Elais exarata: Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 496.

Ichthyosoma (Elais) exarata: Gahan, 1916, Rep. B.O.U. & Wollaston Exped. Dutch NG 1 Coleopt. 3: 6(43).

Elais detzneri Kriesche, 1923, Dtsch. Entomol. Z. 1923: 283 (Sepik; ZMB). Pascoea exarata: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 552.

Distribution. Aru; New Guinea.

Material examined. Holotype: ARU. PNG: NEW GUINEA (NE): Sepik; NEW GUINEA (SE): Popondetta, IX.1963, Sedlacek, IV.1966, G. Lippert.

12. Pascoea spinicollis (Boisduval)

Tmesisternus spinicollis Bdv., 1835, Voyage Astrolabe, Insectes 2: 472 (Waigeu; BMNH). -White, 1855, Cat. Coleopt. Br. Mus. 8: 337.-Aurivillius, 1922, Coleopt. Cat. 73: 227.

Pascoea amaliae Gestro, 1876, Ann. Mus. Civ. Genova 9: 171 (Ramoi, Vogelkop; GENOVA). -Kriesche, 1923, Dtsch. Entomol. Z. 1923: 282 (NE NG).

Pascoea spinicollis: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 552 (Geelvink Bay, Aru).

Distribution. Aru; Waigeu; New Guinea.

Material examined. Holotype: IRIAN: WAIGEO. ARU IS. IRIAN: NEW GUINEA (NW): Vogelkop; Cenderawasi Bay. PNG: NEW GUINEA (NE): Sepik; Wau, 1200 m, IX, Sedlacek; Lae, VII, Skinner; Bubia, VIII, Ardley; Garaina, 750 m, 1, Sedlacek; Bupu Riv, nr Lae, IV, Spencer; NEW GUINEA (SE): Kokoda-Pitoki, III, Gressitt; Popondetta, VI, Catley, VI, Shanahan & Lippert, IX, Sedlacek (BISHOP); Babauguina Plant'n, Milne Bay, IX, Griffith, in fallen Artocarpus (breadfruit) tree; Subitana, VI, Barrett (DPI).

13. Pascoea angustana (Kreische)

Elais angustana Kr., 1923, Dtsch. Entomol. Z. 1923: 284 (Sepik; ZMB). Pascoea angustana: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 552.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Sepik (holotype); Busu Riv, nr Lae, IX, Gressitt; Wau 1200 m, I, Sedlacek. Additional questionable specimens from PNG: NE and SE.

Pl. 5k

14. Pascoea parcemaculata Breuning

Pascoea parcemaculata Br., 1948, Bull. Mus. R. Hist. Nat. Belg 24(38): 31 (Humboldt Bay; BMNH).

Distribution. New Guinea; Aru.

Material examined. ARU IS (KØBENHAVN). IRIAN: NEW GUINEA (NW): Humboldt Bay (holotype). PNG: NEW GUINEA (NE: Wum, Jimi Val, VII, Gressitt (BISHOP).

15. Pascoea thoracica (Thomson)

Elais thoracica Th., 1864, Syst. Ceramb., p. 32 (Aru: PARIS).

Tmesisternus exaratus Pascoe (part: d), 1862, J. Entomol. 1: 364.

Elais exarata: Pasc. (part: d), 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 496, pl. 19, fig. 7.

Ichthyosoma (Elais) thoracica: Gahan, 1916, Rep. B.O.U. & Wollaston Exped. Dutch NG 1 Coleopt. 3: 6(43).

Pascoea thoracica: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 552.

Distribution. Aru; New Guinea.

Material examined. ARU IS (type). PNG: NEW GUINEA (NE): Astrolabe Bay (ANSP).

16. Pascoea mimica Gressitt, new species

Pl. 5f, g; Fig. 1b

d. Reddish brown, duller beneath; largely clothed with thin tawny pubescence and with some marks of dense tawny or creamy pubescence: head entirely clothed with thin pubescence, with 2 tawny spots on anterior margin of frons, 1 on gena and 1 before and 1 behind upper eyelobe; pronotum thinly clothed except on median strip, with a few small ochreous spots near side and base; scutellum with ochreous spot on each side; elytron with 3 small ochreous basal spots, a large creamy spot at end of basal 1/3, as wide as its distance from suture and wider than its distance from margin, plus partial thickening of stripes in grooves before and behind middle and between middle and apex; venter glabrous medially, unevenly pubescent at side; legs weakly and unevenly clothed.

Head sparsely punctured, depressed medially. Antenna 1/6 longer than body; segment 3 longer than 1 and 5, much shorter than 4. Prothorax nearly as broad as elytra, 3/5 as long as broad; pronotum greatly expanded anterolaterally in a large arc, followed by a blunt projection above lateral tubercle, which is acute and quite visible from above; disc depressed posterolaterally and with anterolateral margin raised; moderately punctured and depressed on each side of median smooth (and glabrous) strip. Scutellum convex, smooth. Elytron broad at base, evenly narrowed, truncate and strongly spined ectoapically; disc convex, distinctly ridged, keeled on humerus and asperate behind it; punctures weaker and sparser posteriorly. Ventral surfaces not distinctly punctured. Legs relatively slender. Length 21.5 mm; breadth 7.8 mm.

 $\[mathcal{P}]$. Pronotum expanded anterolaterally, obtuse, with indentation just before obtuse expansion at middle. Length 18.3 mm; breadth 6.3 mm. Paratypes 15.2-20.8 mm × 5.1-7.3 mm.

Holotype & (BISHOP 12,432), PNG. NEW GUINEA (SE): Kiunga, Fly Riv, 30 m, VIII.1969, J. & M. Sedlacek; allotopotype & (BISHOP), 7-8.IX.1957, W.W. Brandt; 23 paratopotypes (138,10%), Brandt, Sedlacek.

Differs from degenerata in being broader and in having prothorax very different

in both sexes, with pronotum expanded, especially in δ . The structure and pattern seem otherwise to be identical with *degenerata* and also with *Sepicana albomaculata*, which has still a very different thoracic (and humeral) structure. All 3 species with identical size and pattern were collected at Kiunga.

7. Genus Temnosternopsis Breuning

Temnosternopsis Br., 1939, Festschr. E. Strand 5: 180 (type-species: Temnosternus dissimilis Pascoe; Qld); 1945, Novit. Entomol. 15-16, Suppl. 3: 594.

Third antennal segment distinctly shorter than 4th; prothorax with 2 tubercles at side.

KEY TO SPECIES OF Temnosternopsis

1.	Elytral carina fairly strong.	9
	Elytral carina weak; prothorax carinate anterior to anterolateral	4
	tubercle; elytron marbled with ochreous on basal 2/3, gray on	
	remainder; elytral apex truncate, rounded externally; length 13 mm	
9(1)		s
2(1).	Elytral carina at least partly sinuate; elytral apex oblique	3
	Elytral carina fairly straight, not bending toward suture; elytral apex	
	emarginate, toothed ectoapically; elytral disc with partly sinuous	
	oblique pale lines; pronotum with 2 oval yellow areas; length 9 mm	
9(0)		5
3(2).	Elytral carina bending nearer to suture near end of basal 1/3, then	
	straight for remainder; pronotum with median glabrous strip; elytral	
	disc with 2 large distinct oblique white areas; length 14 mm	
	Elytral carina bending twice closer to suture, at end of 1st and 3rd	
	quarters, at latter point meeting another weaker carina: pronotum	
	with glabrous shiny area on each side of median carina: elytral disc	
	with 3 patches of fawn along suture. 1st and 2nd broad diamond	
	shaped, 3rd irregularly narrower: length 15 mm 2 guadritude and	
	- 0, 10, 10, 10, 10, 10, 10, 10, 10, 10,	

1. Temnosternopsis dissimilis (Pascoe)

Temnosternus dissimilis Pasc., 1859, Trans. Entomol. Soc. Lond. ser 2, 5: 59 (Moreton Bay, Qld; BMNH).

Temnosternopsis dissimilis: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 594, fig. 363.

Distribution. Australia.

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Material examined. AUSTRALIA: SE Queensland: Moreton Bay; Lan Kelly Crk, 1 under bark of Araucaria cunninghamii, VIII.1972, R. Stevens (BULOLO).

2. Temnosternopsis quadrituberculatus (McKeown)

Temnosternus quadrituberculatus McK., 1942, Rec. Aust. Mus. 21(2): 102 (Imbil, Qld; QM).-Duffy, 1963, Immature Australasian timber beetles, p. 175 (host).

Temnosternopsis quadrituberculatus: Breuning, 1962, Cat. Lamiaires Monde 6: 399.

Distribution. Australia: Queensland: Imbil; Yarraman, in Baloghia lucida.

3. Temnosternopsis subtruncatus Breuning

Temnosternopsis subtruncatus Br., 1948, Bull. Mus. R. Hist. Nat. Belg. 24(38): 37 (Malanda, Qld; STOCKHOLM).

Distribution. Australia: Queensland: Malanda.

4. Temnosternopsis pictus Breuning

Temnosternopsis pictus Br., 1939, Festschr. E. Strand 5: 180 (Cairns, Qld; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 595.

Distribution. Australia: N Queensland: Cairns.

8. Genus Falsapolia Breuning

Falsapolia Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 595 (type-species: Temnosternus apicalis Pascoe, N Qld).

Eye divided; prothorax with a short postmedian lateral tubercle; elytron long, parallel-sided.

KEY TO SPECIES OF Falsapolia

1. Falsapolia apicalis (Pascoe)

Temnosternus apicalis Pasc., 1878, Ann. Mag. Nat. Hist. ser 5, 2: 371 (Rockhampton, Qld; BMNH).

Falsapolia apicalis: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 595.

Distribution. Australia.

Material examined. AUSTRALIA: N Queensland: Rockhampton (type).

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2. Falsapolia vitula (Pascoe)

Temnosternus vitulus Pasc., 1871, Ann. Mag. Nat. Hist. ser 4, 8: 275 (Wide Bay, Qld; BMNH). Falsapolia vitula: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 596.

Distribution. Australia.

Material examined. AUSTRALIA: Queensland: Wide Bay (type).

3. Falsapolia catula (McKeown)

Temnosternus catulus McK., 1942, Rec. Aust. Mus. 21(2): 99 (Southport, Qld; QM). Falsapolia catula: Breuning, 1962, Cat. Lamiaires Monde 6: 399.

Distribution. Australia: S Queensland: Southport; Tambourine Mt; New South Wales: Tweed Riv (after McKeown).

9. Genus Temnosternus White

Temnosternus Wh., 1855, Cat. Coleopt. Br. Mus. 8: 335 (type-species: T. planiusculus Wh.; Qld).-Lacordaire, 1869, Genera Coleopt. 9: 250.-Breuning, 1945, Novit. Entomol. 15-16, suppl. 3: 596.

Antenna slender, longer than body; prothorax with lateral ridge above lateral tubercle; elytron narrowed apically, finely carinate.

KEY TO SPECIES OF Temnosternus

1.	Elytron with rather distinct fine yellow or white oblique lines on disc.	
	partly joined on median carina or near suture	2
	Elytron without such well-defined pale lines	3
2(1).	Elytron with very fine pale yellow lines: 1st sometimes vague, oblique,	0
	near humerus, with right-angle connection to behind humerus; 2nd	
	oblique, from side well behind humerus to near middle at suture:	
	3rd similar, just behind middle and joined to 2nd along suture; 4th	
	oblique, commencing on midline of disc at start of last 1/4 and	
	meeting a similar sutural stripe (of apical 1/3); length 7.5-11.5 mm	
		us
	Elytron with white stripes: 1st on basal 1/6 of median carina; 2nd	
	oblique, starting on disc well behind humerus, bending posteriorly	
	on reaching median carina; 3rd similar, well behind middle; 4th	
	similar, behind 3rd, meeting latter's carinal continuation, which	
	continues to apical angle; length 13 mm	us
3(1).	Pronotal disc coarsely rugose-punctate at side anteriorly	4
	Pronotal disc finely striate transversely at side; elytron with a sinuou	15
	median carina, narrow and acute apically; length 11-14.5 mm	
	······································	15
4(3).	Elytral apex obliquely truncate; disc with oblique or linear marks	5

Elytral apex narrow and subacute; elytral disc with distinct median carina and zigzag subtransverse pale bands; length 13-15 mm.....

Elytral apex oblique with outer angle forming blunt spine; disc with strong carina starting near base, curving inward, then parallel with suture, marked with irregular oblique chocolate brown, buff and white areas; length 8 mm......6. imbilensis

1. Temnosternus planiusculus White

Temnosternus planiusculus Wh., 1855, Cat. Coleopt. Br. Mus. 8: 335, pl. 8, fig. 6 (Australia; BMNH).—Lacordaire, 1869, Genera Coleopt. 9: 251.—Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 596.—Duffy, 1963, Immature Australasian timber beetles, p. 175 (host).

Distribution. Australia.

Material examined. AUSTRALIA. S Queensland: Gayndah; Mt Glorious, I.1963, J. Bryan (UQ); Imbil, in Agathis robusta. New South Wales: Tweed Riv, X.1901, W.W. Froggatt; N Dorrigo, XI, 1910, S.W.J.; Macleay Riv, IV.1903 (Helms coll.: BISHOP); Illawara, E.W. Ferguson (CSIRO); Greta, XI.1951, J. Sedlacek.

2. Temnosternus flavolineatus Breuning

Temnosternus flavolineatus Br., 1939, Festrschr. E. Strand 5: 179 (Bellenden Ker, Qld; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 596; 1962, Cat. Lamiaires Monde 6: 399.

Temnosternus flavolineatus McKeown, 1942, Rec. Aust. Mus. 21(2): 99 (Mt Glorious, Qld; QM) (syn., hom.)

Distribution. Australia.

Material examined. AUSTRALIA. NE Queensland: "N Qld," VII.1913, Dodd; Cairns, 1907, A.P. Dodd (Helms coll.; BISHOP); Kuranda, 200 m, III.1956, Gressitt; Cairns, 1962, Sedlacek; Babinda, 1920, J.F. Illingworth (BISHOP); Cairns, E.W. Ferguson (CSIRO).

3. Temnosternus niveoscriptus McKeown

Temnosternus niveoscriptus McK., 1942, Rec. Aust. Mus. 21(2): 100, fig. 11 (Mt Gipps, Qld; QM).

Distribution. Australia: Queensland: Mt Gipps.

4. Temnosternus undulatus McKeown

Temnosternus undulatus McK., 1942, Rec. Aust. Mus. 21(2): 102 (Cairns, Qld; AM).

Distribution. Australia: N Queensland: Cairns.

P1.4a

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5. Temnosternus grossepunctatus Breuning

Temnosternus grossepunctatus Br., 1939, Festschr. E. Strand 5: 180 (Bellenden Ker, Qld; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 597.

Distribution: Australia: N Queensland: Mt Bellenden Ker.

6. Temnosternus imbilensis McKeown

Temnosternus imbilensis McKeown, 1940, Rec. Aust. Mus. 20: 311.-Duffy, 1963, Immature Australasian timber beetles, p. 173 (larva).

Distribution. Australia: Queensland: Imbil, in Araucaria cunninghamii.

10. Genus Karadinia McKeown

Karadinia McK., 1942, Rec. Aust. Mus. 21(2): 97 (type-species: K. nubila McK.; Qld).-Breuning, 1962, Cat. Lamiaires Monde 6: 399.

Rather robust; scape long and slender; prothorax strongly tuberculate at middle of side; elytron broad, suboblong, broadly rounded apically.

I am not familiar with this genus.

1. Karadinia nubila McKeown

Karadinia nubila McKeown, 1942, Rec. Aust. Mus. 21(2): 97 (Carnarvon Ranges, Qld; AM).

Distribution. Australia: Queensland: Carnarvon Ranges.

11. Genus Tmesisternopsis Breuning

Tmesisternopsis Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 554 (type-species: Arrhenotus pauli Heller).

Slender, subparallel-sided; prothorax of δ broadly expanded anteriorly; last abdominal sternite with a fine tooth at each side of end. Head medially grooved on occiput but with vertex and frons with median carina barely creased along ridge; lateral carina reduced to 2 callous areas barely connected together; antenna barely longer than body, with segment 3 slightly shorter than 4; prothorax with anterolateral tubercle replaced by a broad flat flange, midlateral tubercle minute and disc rather flat; elytron long, briefly truncate apically with a short tooth at outer angle and disc convex, irregularly punctured and without a smooth postscutellar area; femora rather slender.

This genus is not abundantly distinct from *Tmesisternus*, and seems rather similar to some species of the latter. The generic characters stated seem largely a matter of degree.

KEY TO SPECIES OF Tmesisternopsis

1.	Median cephalic carinae distinct, with a groove between: prothorax	
	weakly expanded anteriorly	2
	Median cephalic carinae largely fused; prothorax broadly expanded	4
	anteriorly	3

2.	Elytra with many small whitish yellow spots around postscutellar area and in median and postmedian transverse bands; teeth of last sternite
	minute: length 23 mm
	Flytra with 3 successive common triangles of ochreous pubescence; teeth
	at end of last abdominal sternite of moderate size; length 19-22 mm
	at end of the or here signatus
3	Teeth at end of last abdominal sternite quite small; elytron narrowly
5.	rounded-truncate apically, reddish brown with 3 bands of ochreous
	spots: 1st band of 1 spot, next 2 of 3-4 spots each; length 17-24 mm
	Teeth at end of last abdominal sternite of moderate size; elytron broadly
	and obliquely truncate apically, with outer angle prominent; elytral
	disc coppery black with ochreous marbling forming a narrow basal
	band, a large obtuse area at side in anterior $1/2$ and a broad external
	stripe in hind 1/2 with sinuous inner margin; length 15 mm 3. imitans
	P1. 5a

1. Tmesisternopsis pauli (Heller)

Arrhenotus pauli Hllr, 1897, Abh. Mus. Dresden 6(10): 35 (Mt Bonthain, Celebes; DRESDEN).
 Tmesisternopsis pauli: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 554, fig. 316 (type of genus Tmesisternopsis).

Reddish castaneous, densely clothed with ochreous pubescence on head; less densely so on 4 corners of pronotum (with median portions, longitudinally and transversely, glabrous to sparsely pubescent), and with 3 or 4 bands of ochreous spots on elytron (besides narrow basal margin), 1st band of only 1 spot, near end of basal 1/3, 2nd band arched-oblique, of 3 or 4 spots; 3rd band less distinct, of about 3 spots, partly narrow and partly merging with less densely pubescent apical area. Length 17-24 mm.

Distribution. Sulawesi.

Material examined. Mt Bonthain (type); 1, S Celebes, Parasalamakki, Lompobatang, 1600 m, VII.1936, L.J. Toxopeus (USNM).

2. Tmesisternopsis ochraceosignatus (Breuning), new combination P1. 5d

Tmesisternus (Arrhenotus) ochraceosignatus Br., 1939, Festschr. E. Strand 5: 166 (Bua Kreng, S Celebes; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 556, fig. 317.

Reddish castaneous, dark on elytron; head and pronotum almost glabrous; elytron with 3 or 4 oblique bands formed of spots of ochreous pubescence: 1st starting near end of basal 1/3, not reaching suture or margin; 2nd more complete, arched-oblique; 3rd less regular, partly merging with less pubescent apical area; basal margin of elytron also narrowly ochreous. Length 19-22 mm.

Distribution. Sulawesi.

Material examined. S Sulawesi: Bua Kreng (type); 1, 30 km NW of Rantepau, 1700 m, Bulu-Bulu, 9-15.V.1966, R. Straatman (BISHOP).

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3. Tmesisternopsis imitans (Breuning), new combination

Tmesisternus (Arrhenotus) imitans Br., 1939, Festschr. E. Strand 5: 167 (Bua Kreng, 1700 m, S Celebes; BMNH).

Black, somewhat bronzy on elytron; head with areas of ochreous pubescence; pronotum with a large spot of ochreous at each corner; scutellum ochreous with a glabrous dot at center; elytron with base and large lateral areas marbled ochreous. Length 15 mm.

Distribution, Sulawesi

Material examined. S Sulawesi: Bua Kreng, 1700 m (type).

4. Tmesisternopsis papuanus Breuning

Tmesisternopsis papuanus Br., 1980, Bull. Soc. Entomol. Fr. 85: 133 (Tari, SE; PARIS).

Black, shiny; pronotum with yellowish pubescence except on central 1/3; elytron with small pale spots bordering postscutellar area and on 2 bands; pronotum grossly punctured; elytron more finely punctured. Length 23 mm.

Distribution. PNG: New Guinea (SE): SHP, Tari, ca. 1700 m.

12. Genus Tmesisternus Latreille

Tmesisternus Latr., 1829, Regne Anim. ed. 2, 5: 121 (type-species: trivittatus Guer.).-Thomson, 1860, Fam. Ceramb., p. 351, 358.-Pascoe, 1867, Trans. Entomol. Soc. Lond. Ichthyosoma Montrouzier, 1855, Ann. Soc. Agric. Lyon ser 2, 7: 59.

Arrhenotus Pascoe, 1858, Trans. Entomol. Soc. Lond. ser. 2, 4: 242 (type-species: A. wallacei Pasc.); 1967, op. cit., ser 3, 3: 492. New synonymy.

Ichthyosomus Thomson, 1860, op. cit., p. 352, 358 (type-species: politus B1.).

Apolia Thomson, 1864, Syst. Ceramb., p. 34 (type-species: A. conicicollis Th.).

Polyxo Th., 1864, Syst. Ceramb., p. 32 (type-species: P. viridescens Th.).-Pascoe, 1867, Trans. Entomol. Soc. Lond., ser 3, 3: 487.

Mneside Th., 1864, tom. cit., p. 324 (type-species: M. venata Th.).-Pascoe, 1867, tom. cit., p. 493.

This large genus has long been divided into 2 subgenera after synonymization of most of the other names. The use of the subgenera Tmesisternus s. str. and Arrhenotus was very convenient, but has to be abandoned because the 2 subgenera actually merge in several different species-groups. In fact, examination of a long series of specimens of many of the species considered true Tmesisternus s. str. will show a tendency toward development of the lateral ridge (carina, margin or expansion of pronotum), with various modifications. The lateral ridge, the only character of Arrhenotus, is both a secondary sexual character (d) and a common evolutionary tendency in this tribe. Some species have been put in Arrhenotus because the unique specimen the author had was a well-developed male, whereas in other cases a species was described in Tmesisternus s. str. because it was a female (sometimes ? of a species whose of was described in Arrhenotus) or a male with weak or no development of the margin. For a number of the new species

proposed in this work it would have been an arbitrary matter as to which subgenus each might have been ascribed.

Instead of using subgenera and being arbitrary, I attempt here to assign species to species-groups or subgroups. In doing this I have found it necessary to unite some species of both supposed subgenera in the same groups. With further study, this trend may be continued. I have not examined all the type-specimens, though I have seen and photographed most of them. In particular, both sexes need to be studied for many species named from single individuals (often without mention of sex).

As the main key to species offered here may present many problems because of the above points, and also because of extensive variation within some species, I also present a tentative key to species-groups, including subgroups and some problem species. Both of these keys will need revision in the future. The main key does not include all of the named species, as some have been too briefly described and not compared with any other species. Moreover, many specimens are at hand representing probable additional species.

A tentative assignment of the species is made to species-groups here proposed. Many of these assignments may need revision with further study. The use is made of subgroups in an attempt to more accurately show relationships. In the tentative key to species-groups which follows, the roman numerals in parentheses refer to the species-groups in the list of species following this key. In the list the parenthesized numbers after the group names represent the starting point(s) for each group in the main key to species which follows the list. That list also serves as a table of contents for the genus, as the species bear the same numbers as in the main text. These species numbers are also inserted in the main species key before the species names.

KEY TO SPECIES-GROUPS OF Tmesisternus

1	Prothorax with more or less of a ridge forming external margin	
1.	extending posteriorly from anterolateral tubercle, passing above	
	midlateral tubercle (often lacking in middle, or nearly lost, in \mathfrak{P}).	2
	Prothorax without any horizontal ridge at side, usually with widely	
	separate anterolateral and midlateral tubercles	2
2(1)	Elytron smooth or with narrow costae	3
4(1).	Elytron with broad flat costae; prothorax trapeziform, crenulate	T)
		1)
3(2)	Elvtra very convex in lateral view	4
5(4).	Elvtra not very convex in lateral view	5
1(2)	Prothorax with very broad, thin lateral expansions, rounded at side.	
4(5).	Tromorax with very should be a convexus (X	I)
	Prothorax suboblong with lateral carina thick and straight; elytron	(7)
	strongly ridged irregularis (X)	√)
5(3).	Prothorax 2 x as broad as long, much narrower at apex than base, arched at side, with midlateral tubercle hidden; domum with	
---------	--	
	extensive areas of metallic pubescence	
	Prothorax usually less than $2 \times as$ broad as long, rounded or oblique	
	at side; dorsum without areas of metallic pubescence	
6(5).	Dorsum black with bands of golden pubescence or scales .salomonus (IV)	
	Dorsum blue-green with dense silvery (part golden) pubescence, and	
7(5)	Side of prothorax broadly amonded in the line is a line in the line in the line is a line in the line in the line is a line in the line in the line is a line in the line in the line is a line in the line in the line is a line in the line in the line is a line in the line in the line in the line in the line is a line in the line in the line in the line in the line is a line in the line is a line in the line in t	
. (0).	1/2, or obtuse with midlateral tuberda hidden in densel.	
	Side of prothorax not very broadly expanded in <i>A</i> midlateral	
	tubercle usually visible from above	
8(7).	Side of prothorax broadly arched or obtuse in d: midlateral tubercle	
	hidden from above	
	Sides of prothorax parallel in basal 1/2; elytral veins glabrous, con-	
0/9)	spicuous, with transverse connections venatus (III)	
9(8).	Side of prothorax broadly arched in δ	
	Side of prothorax obtuse; elytral apex toothed or emarginate	
10(9).	Body slender, strongly narrowed posteriorly over 3 x as long as	
	breadth at middle of elytron	
	Body broad, subparallel, less than $3 \times as$ long as breadth at middle	
11(7)	of elytron	
11(7).	From with a median ridge without groove or with very fine groove . 12	
12(11)	Median ridge of from unground, and have in the second seco	
()•	side; elvtron very short, broadly truncate apically	
	Median ridge of frons with a minute groove much shallower then	
	height of ridge; elytron very long, narrow and spined apically	
10/11)	(outer angle)	
13(11).	Frons with double median ridge diverging, the groove becoming an	
	elliptical depression	
14(13)	From carinate laterally from a start of the	
(10).	Frons not carinate laterally lateral ridge outer line for	
	insertion directly to submedian ridge (of pair) and joining its	
	widely divergent central portion; prothorax greatly broadened	
	anteriorly rufipes (II)	
15(14).	Frons with median ridges weak, narrowly divergent; prothorax very	
	weakly margined at side; elytron unevenly ridged, densely	
	punctured, not toothed ectoapically timorlautensis (X)	
	Froms with median ridges strong, widely diverging in middle; pro-	

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thorax distinctly margined, though constricted in middle; elytron	
long, regularly ridged, truncate, toothed cetoapicarly)
16(13). Frons lacking a carina on lateral margin	
Frons with a carina on or near lateral margin 19	3
17(16). Head with median groove relatively weak, very weak on occiput,	
the ridges slightly separating on lower frons; lateral margin of prothorax almost obsolete)
18(17). Prothorax more or less trapeziform but with anterolateral angle and	
carinate)
Prothorax uneven at side with anterior part of lateral margin very	
prominent and basal part of side much less prominent than ind- lateral tubercle: elytron strongly carinate)
19(16). Prothorax not trapeziform; lateral margin weakly developed;	0
anterolateral tubercle weak	U
Prothorax trapezitorm but emarginate in induce, not that on dise, as)
20(19). Prothorax with anterolateral tubercle distinct, with lateral ridge	
immediately behind it 2.	1
Prothorax with anterolateral tubercle not distinct, continuous with	
carina barely developedgriseus (XXX	()
21(20). Frons with median carinae connected to lateral carinae by glabrous	
punctured areas anterior to middle to form somewhat of a "W";	
elytron with 2nd and 4th interstices from suche funded in the with (XXVI)	I)
Frons with median carinae slightly broadened distally, not con-	
nected to lateral carinae before apex; lateral carinae partly	
obscured by pubescence; elytron with sutural and 1st and 2nd interstices from suture raised	K)
22(1). Frons with median carina single, or at most with a very fine partial	,
groove much shallower than height of ridge	23
Frons with median ridge double, divided by a deep groove, of even	25
23(22) Frons with median carina varying in height and thickness, some-	
times interrupted; pronotum more or less smooth and glabrous	24
From with median carina uniform, narrow but sharp; pronotum	
slightly ridged and largely pubescent medially distinctus (XXXII	(I)
 Weak lateral margin; lateral margins subparallel, frons with lateral carina barely developed	I) I) 23 25 24 II)

24(23).	Head with median carina finely grooved on occiput, widened on vertex, then nearly obliterated on upper part of frons but revived anteriorly; elytron long, ridged posteriorly, truncate and toothed ectoapically agriloides (XXV)
	Head with median carina weak and grooved on occiput, raised and thickened on vertex, narrow and finely grooved on frons, be- coming weaker at apex: elytron short smooth obliquely
	truncate apically
25(22).	Frons with median carinae low, broad and usually glabrous and smoothly convex, but sometimes confused and irregular
	Frons with median carinae narrow, parallel or diverging and rejoin-
26(25).	Frons with median carinae low and in part confused by heavy
	punctures
	a few punctures
27(26).	Frons with lateral carinae fairly distinct hardly punctured 28
()	Frons with lateral carinae weak or irregular, confused by punctures;
	prothorax with 2 prominent obtuse tubercles at side; elytron
	broad, smooth, weakly punctured, subrounded schaumi (XXII)
28(27).	Prothorax with prominent tubercles: anterolateral blunt, midlateral
	acute; elytron more or less convex in lateral view, smooth, finely
	Prothorow with apex narrow and bispinose viridipennis (XXVI)
	lateral tubercle minute acute: elutron narrow, nearly flat more
	or less punctured, with apex truncate and toothed externally
29(26).	Frons with lateral carina low and/or partly obliterated; prothorax
	distinctly narrowed anteriorly; elytron short, oblique or truncate
	Frons with lateral carinae distinct, complete; prothorax suboblong, with anterolateral tubercle prominent and side subsinuate; elytron long longitudinally grooved rounded anically atrofacciatus (XX)
30(29).	Prothorax with both tubercles blunt: pronotum largely impunctate:
	elytron with complex white bands in depressions excellens (XVII)
	Prothorax with midlateral tubercle subacute; pronotum heavily
	punctured; elytron contrastedly smooth/glabrous/black and
01/05)	pubescent/red with black-pubescent spots speciosus (XVIII)
	Brone with median carinae parallel ridthy millorm () () ()
	Frons with median carinae diverging, usually reuniting before apex to form an elliptical depression
	1 r

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32(31).	Elytra jointly nearly 1/2 as broad as long, subrounded ectoapically . 33 Elytra jointly well under 1/2 as broad as long, usually toothed
	ectoapically
33(32).	as elvtra; elvtra broadruficornis (XXI)
	Frons with lateral carina partly obscured, not straight; prothorax
	3/4 as broad as elytra; elytra not very broad olthofi (IX)
34(32).	Prothorax broad and flat; side of body often colored like dorsum; pronotum usually without a median glabrous or impunctate or
	dark stripe
	Prothorax subcylindrical, convex; side of body usually with a broad
	dark brown stripe, often pale-edged above and sometimes inter-
	rupted by bands; pronotum usually with a median dark stripe
0 5 (01)	The marmoratus (XXXV)
35(31).	distinctly carinate 36
	Elytron rarely very convex postbasally, usually with only 2 or 3 or
	no interstices distinctly raised
36(35).	Elytra subevenly convex in lateral view; femora broad
	Elytra unevenly convex, slightly depressed behind postscutellar
07(00)	swelling; femora slender
37(36).	basally sulcatus (XVI)
	Pronotum smooth on disc; elytron with a basal depressed pubescent
	areahumeralis (XVI)
38(36).	Frons with median carinae diverging and then suddenly turning
	closer just below middle; pronotal disc even; elytron basally with
	a narrow nage between basar publication depressions
	Frons with median carinae broad, gradually merging distally; pro-
	notal disc depressed on each side of median strip; elytron basally
	with a broad ridge between depressions pteridophytae (XVI)
39(35).	Elytron usually without a distinctly raised interstice near middle of
	even: apex not spined 40
	Elytron with a more or less raised interstice near middle of base,
	usually joining a postsoutellar glabrous area: apex often spined or
	toothed ectoapically
40(39).	Frons with median carinae distinct and gradually diverging; pro-
	thorax with anterolateral tubercle distinct trivittatus (XXIII)
	Frons with median carinae rather suddenly diverging and weakening
	near middle; prothorax with anterolateral tubercle weak
	\ldots Iotor (XXIV)

41(39).	Body relatively deep (3/5 as deep as wide); head usually broader than prothorax at anterolateral tubercles; elytron usually with postscutellar bare area	2
	Body relatively shallow (1/2 as deep as wide); head no broader than prothorax at anterolateral tubercles; elytron usually without	
42(41).	Antennal scape subcylindrical, weakly swollen in middle; elytron with 2nd interstice fairly distinct and straight; median carinae of)
	frons rather narrow	3
43(42).	distinct and straight; median carinae of frons rather broad 44 Elytron with a distinct glabrous postscutellar area; frons with some-	4
	what of a "W" connection between carinae anteriorly pseudintricatus (XXIX)
	Elytron with postscutellar area not broadly glabrous and im- punctate; frons rarely with a "W" connection between carinae anteriorly)
44(42).	Frons with lateral carina uneven, partly depressed or punctured; elytron with postscutellar area punctured, and apex oblique with outer angle prominent))
	Frons with lateral carina fairly distinct and straight; elytron with postscutellar area glabrous and impunctate, and apex truncate and with outer angle spined transversus (XXXVI))

TENTATIVE ASSIGNMENT OF *TMESISTERNUS* SPECIES TO SPECIES-GROUPS (New species are asterisked. Numbers in parentheses refer to couplet numbers in key that follows.)

I. COSTATUS (57)

1. costatus

- II. RUFIPES (13)
 - 2. r. rufipes
 - 3. r. sumbawanus
 - 4. subrufipes
 - 5. wallacei
 - 6. florensis
 - 7. seriemaculatus
 - 8. virens*
 - 9. breuningi
 - 10. soembanus
 - 11. aurosignatus
 - 12. tenimberanus

- 13. lucidus
- 14. geniculatus
- III. VENATUS (81)
 - 15. lansbergei
 - 16. v. venatus
 - 17. v. djampeanus
 - 18. v. kangeanus
 - 19. subvenatus
- IV. SALOMONUS (54)
 - 20. s. salomonus
 - 21. s. aurescens
 - 22. s. vellalavellae*
- V. TRAPEZICOLLIS (30, 58, 88)

23. trapezicollis

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24. anomalus* 25. cuneatus* 26. discomaculatus VI. LATITHORAX (23) 27. latithorax, n.n. 28. planicollis* 29. obtusatus* 30. stellae* 31. bosavi* 32. gracilis* 33. attenuatus* 34. tenimberensis 35. multilineatus VII. ADSPERSUS (31) 36. superans 37. mucronatus 38. pseudosuperans 39. viridescens 40. pseudoviridescens 41. adspersus 42. adspersarius 43. lictorius 44. finisterrae* 45. angae* 46. renii* 47. subadspersus 48. heurni 49. kapauku* VIII. JASPIDEUS (63, 90, 100) 50. jaspideus 51. curvatolineatus 52. flyensis* 53. separatus 54. canofasciatus 55. mimethes 56. rossi* 57. albertisi 58. biarciferus 59. andreas 60. ochreomaculatus 61. ziczac 62. froggatti 63. brevespinosus 64. sepicanus 65. obliquelineatus 66. postflavescens 67. vagejaspideus 68. indistinctelineatus

69. septempunctatus

70. octopunctatus 71. sexmaculatus 72. quadripunctatus 73. meridionalis* 74. laensis* 75. keitoeali IX. OLTHOFI (114) 76. olthofi* X. TIMORLAUTENSIS (97) 77. timorlautensis 79. karimui* 80. lamingtonus* 81. niger* 82. brandti* XI. CONVEXUS (3) 83. convexus* XII. TOXOPEI (46) 84. toxopei* 85. maai* 86. szentivanyi* 87. paniae* 88. rubrus* 89. wauensis* XIII. SUBCHLORUS (84) 90. subchlorus 91. flavescens 92. postglaber 93. lacustris* XIV. LUTEOSTRIATUS (66) 94. luteostriatus 95. denticollis* XV. IRREGULARIS (4) 96. irregularis 97. pseudirregularis 98. margaretae 99. rotundipennis 100. ludificator 101. pseudosulcatus 102. sedlaceki* 103. fumatus* XVI. SULCATUS (221) 104. sulcatus 105. sulcatellus* 106. arabukae* 107. japeni 108. subvirescens 109. costipennis

- 110. costiceps
- 111. nami*

112. b. brassi* 113. b. koresi* 114. humeralis 115. obliquefasciatus 116. quadriplagiatus 117. p. paracyclops 118. p. pormontis* 119. schraderi 120. nitidus* 121. bioculatus* 122. bifoveatus 123. bifoveatipennis 124. parasulcatus 125. arfakianus 126. joliveti 127. giluwe* 128. pteridophytae* 129. prasinatus 130. beehleri* 131. kaindi* 132. triangularis 133. subtriangularis XVII. EXCELLENS (160) 134. e. excellens 135. e. albosignatus XVIII. SPECIOSUS (161) 136. s. speciosus 137. s. jobiensis XIX. RAFAELAE (53, 71) 138. rafaelae 139. subraphaelae 140. fulgens XX. RAFAELAE: ATROFASCIATUS (158) 141. atrofasciatus* XXI. RUFICORNIS (164) 142. ruficornis XXII. SCHAUMI (126, 259) 143. s. schaumi 144. s. interruptus 145. s. yorkensis 146. s. leleti* 147. s. obscurus 148. s. bifasciatus 149. aeneofasciatus 150. politus 151. cupreosignatus 152. dohertyi 153. isabellae 154. helleri

155. gabrieli 156. elegans 157. phaleratus XXIII. TRIVITTATUS (256) 158. trivittatus 159. divisus 160. oblongus 161. cyclopsi 162. trilineatus 163. pulvereus 164. pulvereoides 165. tersus 166. latifascia 167. vinculatus 168. subvinculatus XXIV. TRIVITTATUS: LOTOR (250) 169. l. lotor 170. l. externemaculatus 171. l. gebehensis 172. l. mortyanus 173. lepidus 174. elongatus 175. p. petechialis 176. p. plumbeus 177. wiedenfeldi 178. affinis 179. opalescens 180. torridus 181. obiana, n.n. 182. obiensis XXV. AGRILOIDES (178) 183. a. agriloides 184. a. persimilis 185. elateroides 186. demissus 187. vagefasciatus 188. mamberamo* 189. reductus* 190. samuelsoni* 191. goilalae* 192. transversevittatus 193. batchianensis 194. metalliceps XXVI. AGRILOIDES: VIRIDIPENNIS (142) 195. viridipennis 196. asaroanus* 197. habbemanus* 198. lucens 199. meeki

XXVII. AGRILOIDES: BRUIJNI (112, 168) 200. modestus 201. cinnamomeus 202. d. dubius 203. d. rufithorax 204. d. saintaignani 205. obsoletus 206. bolanicus 207. teragrammus 208. strigosus 209. avarus 210. bilineatus 211. bruijni 212. subbilineatus XXVIII. HERBACEUS (176) 213. herbaceus 214. albovittatus 215. lugubris 216. bosaviensis* XXIX. PSEUDINTRICATUS (272) 217. pseudintricatus XXX. GRISEUS (79) 218. g. griseus 219. g. agrarius XXXI. GRISEUS: MONTICOLA (146) 220. m. monticola 221. m. continentallis 222. pseudomonticola 223. pseudagrarius 224. insularis* 225. subuniformis* 226. olivaceipes* 227. subaureus* 228. inermis 229. monteithi* XXXII. CONICICOLLIS (118) 230. conicicollis 231. mediovittatus 232. viridis 233. benjamini XXXIII. DISTINCTUS (121) 234. d. distinctus 235. d. contraversus 236. d. electus 237. nigrotriangularis 238. transversefasciatus XXXIV. DISTINCTUS: NIGROFASCIATUS (120, 186)

240. marginalis 241. assimilis 242. dissimilis 243. laterimaculatus 244. laterivittus 245. bifuscomaculatus 246. fuscosignatus 247. flavovittatus 248. subsimilis 249. quadrimaculatus XXXV. MARMORATUS (190) 250. marmoratus 251. tesselatus 252. pseudotesselatus 253. villaris 254. vagus 255. immitis 256. andaii 257. papuanus 258. pullus 259. oliquevittatus 260. aubrooki 261. lineatus 262. lateralis 263. variegatus* 264. replicatus* 265. nabirensis* 266. popondettae* 267. semivittatus 268. sylvanicus* 269. geelvinkianus 270. flavolineatipennis 271. intricatus 272. pseudohieroglyphicus 273. p. postfasciatus 274. p. postmaculatus 275. multiplicatus 276. hieroglyphicus 277. ochrostictus* 278. quadripustulatus* 279. pleuristictus 280. bilaterimaculatus XXXVI. TRANSVERSUS (273) 281. thomsoni 282. transversus 283. transversatus 284. apicalis 285. v. virescens

286. v. pteridii*

239. nigrofasciatus

montanus*	293.	tolai*
subalpinus*	294.	unipunctatus
rufotriangularis*	295.	brevis*
flavolineatus	296.	bougainvillensis
longicollis*	297.	o. ornatus
griseovittatus	298.	o. kraussi*
	montanus* subalpinus* rufotriangularis* flavolineatus longicollis* griseovittatus	montanus*293.subalpinus*294.rufotriangularis*295.flavolineatus296.longicollis*297.griseovittatus298.

The following key to species of *Tmesisternus* is not complete and problems will certainly be encountered in attempting to use the key. Some species are inserted in the key at more than one point, because of the problems of variability of characters. When the species-groups can be more clearly established and segregated, then separate keys should be constructed by species-group. The size of the genus makes these problems rather great, and many more species remain to be named.

KEY TO SPECIES OF Tmesisternus

1.	Lateral margin of pronotum often distinctly bordered with a carina or broadly expanded at least in d or antarian tub such
	forming a ridge often extending to basal margin of protherese
	body sometimes large
	Lateral margin of pronotum not developed, years line 9 and 1
	tubercles at each side of prothorax: hody small to large 110
2(1).	Elvtron very convex in lateral view and strongly perceived
	posteriorly in dorsal view
	Elytron not conspicuously convex above, usually gradually
3(2)	Protheres whethere side has a side of the second se
J(2).	protionax subobiong with lateral ridge thick, not greatly ex-
	panded, or trapezitorm with ridge weak; frons 4-carinate;
	Protheray with your bread this 1 to 1
	oblong in dered view shot
	substate frame with 4 is 1 1
	short: length 14.5 mm
4(3)	Protheray subablers with later 1
1(3).	thick at margin alightly sinuste
	Prothoray trangeliform (0) much burgh in the second second
	lateral tubercles: caring facility clusteral and a lateral tubercles:
	not toothed: length 18.4. 22.0 mm
5(4)	Flytron with a commission range disk and the first line in the fin
0(1).	at side just antonion to middle
	Flytron locking a server in the locking of the lock
	some nuberer and in the some nuberer and the some nuberer and the some nuberer and the some numberer and
	some publication some vague oblique bands

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6(5).	Elytron subobliquely truncate apically; elytral spot 1/3 as wide as elytron; length 16-21 mm 100. ludificato Elytron rounded ectoapically; elytral spot 1/4 as wide as elytron;	r
	length 11–19 mm 101. pseudosulcatu	lS O
7(5).	Elytron truncate apically	0 is
8(7).	Elytra nearly parallel-sided in basal 1/2 Elytra narrowed behind humeri and then broadened; length 15-19 mm96. irregulari	9 is
9(8).	Ectoapical angle of elytron rounded	0 is
10(9).	Pubescence of elytral grooves giving gray-buff appearance, with 2 or 3 oblique bands of denser pubescence; pronotum nearly glabrous; head with minute hairs; length 13.6-21.0 mm 102. sedlaceki, n. sp Pubescence of elytral grooves yellow, without oblique bands;	p.
	yellow pubescence except on ridges; length 14.5-17 mm	
11(2).	Pronotum with lateral carina of & broadly expanded, rounded, trapeziform, sinuate or incised in dorsal view	12
	panded; prothorax more or less oblong, trapeziform or	51
12(11).	Pronotum not strongly widened anteriorly	13
	or behind middle	21
13(12).	Elytra without a common postscutellar glabrous area Elytra with a common postscutellar glabrous area (sometimes	14 16
14(13).	Pronotum with 3-5 dark or glabrous straight longitudinal stripes	15
	Pronotum with 4 yellow-pubescent narrow slightly sinuous stripes in depressions, those of each side joined anteriorly and posteriorly; elytron with 5 longitudinal rows of small yellow spots: length 11-13 mm9. breunir	ngi
15(14).	Elytron with about 30 large white spots in 3 subregular rows, some of spots partly fused; length 12-14.5 mm 5. wallac	cei

	Elytron green with rows of short tawny pubescent stripes on	
16(13).	apical 1/4; length 11.5–13.2 mm 8. virens, p Pronotum with some longitudinal stripes on disc	n. sp. 17
	transverse line on each side of anterior and posterior borders;	
	elytron with postscutellar glabrous area extending to humerus;	
17(16).	Pronotum with 3 or more longitudinal stripes on disc	itans
	Pronotum with a single median glabrous stripe, which is broaden-	10
	ed posteriorly; postscutellar dark area connected to narrow	
	another fine discal glabrous strine; elytral approximation of the strine in the strine	
	subtruncate; length 14–18 mm	ensis
18(17).	Pronotum with 3 longitudinal glabrous stripes on disc	19
	Pronotum with partly pubescent stripes, median stripe vague,	
	narrow, subsinuate somewhat publicate a largely	
	pubescent, with partly squarish dark spots along suture and	
10/10)	external margin; length 17 mm 10. soemb	anus
19(18).	Elytron with longitudinal pale pubescent stripes, sometimes	0.0
	Elytron with narrow sutural and discal green stripes; elytron with	20
90(10)	carinae on sutural 1/2; length 9-13 mm 12. tenimber	anus
20(19).	Elytron with continuous narrow black stripes on pale-pubescent	
	length 9–15 mm	ines
	Elytron with pale pubescent spots in 5 rows; elytron impunctate	ipes
91(19)	on apical 1/4; length 11-13 mm	ipes
41(14).	incised at middle	22
	Pronotum with lateral carina emarginate to deeply incised at or	44
99/91)	near middle in σ ; margin slightly emarginate in \circ	45
<i>44(41)</i> .	body siender, strongly narrowed posteriorly, more than $3x$ as	0.0
	Body relatively broad and subparallel-sided, less than 3x as long	23
99/90)	as breadth at middle of elytra	31
23(22).	Elytron rather strongly convex behind base; prothorax rather flat	-
	Elytron less strongly convex: prothorax broadly rounded or	24
	trapeziform, somewhat convex	95
24(23).	Pronotum very flat and finely punctured; elytron subobtusely	25
	angulate ectoapically; length 12.5 mm	sp.

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95(93)	Pronotum more or less rugose, coarsely punctured; elytron acutely angulate ectoapically; length 15.6 mm30. stellae, n. sp. Elytron with many longitudinal yellow-brown stripes and 3 trans-
25(25).	verse bands. 1st and 3rd zigzag and 2nd arched with convexity
	forward; length 21 mm
	Without this combination of characters
26(25).	Pronotum broadly rounded at side in 3; elytron strongly narrowed posteriorly
	Pronotum somewhat trapezitorm in 8; elytron very harrow at
97(96)	Prothorax broadly rounded at side, widest well behind middle in
27(20).	and median strip widened posteriorly; length 13-16 mm
	(laticollis Br.) 27. latithorax, n. n.
	Prothorax somewhat obtusely rounded at side, widest a little
	behind middle in δ and near base in \mathfrak{P} ; median strip of disc
	narrow; length 11–16 mm
28(26).	Elytron brown, with 3 bands, 2, or none; antenna about as long
	as body 25
	Elytron green, with 5 weak oblique part bands, ancenna nearly
	1/4 longer than body, pronotant rounded duponterior in sp.
20(28)	Flytron with 2 hands or none
29(20).	Elytron with 3 vague sinuous pale yellow bands; pronotum with
	3 dark stripes; length 17 mm
30(29).	Elytron with 2 sharply oblique pale bands, 1st extending to
	glabrous postscutellar area, 2nd just behind middle; pronotum grossly punctured; length 13.5-17.0 mm25. cuneatus, n. sp.
	Elytron with vague thin pale pubescence; pronotum finely, in
	part not very closely punctured; length 12.5-12.7 mm
31(22).	Prothorax convex, sinuate or trapeziform at side in dorsal view 52
	Prothorax oblong, subsinuate at side; dorsum with a broad pare
	band on each side of head and prothorax, not touching fateral
	margins, but on elytron behand middle: length 26-30 mm
	narrowing and terminating bernite initiate, tenger 20 00 million 48. heurni
00/01)	Elutron rounded or subtransversely truncate apically
	i i i i i i i i i i i i i i i i i i i
	Elytron oblique apically, otten sinuately emarginate-trutteate
	with sutural angle and or induce of apex extending further 36
88(89)	Dorsum with some pale spots or oblique bands on posterior $1/2$
55(54)	of elvtron

Gressitt: Systematics and biogeography of the Tmesisternini 43 Dorsum entirely brown, without spots; elytron rounded apically; pronotum with lateral carina subevenly rounded in o, weakly emarginate in 9; length 20.5-23.5 mm49. kapauku, n. sp. Elytral apex slightly sinuate 34(33). 35 Elytral apex evenly rounded; prothorax broader anteriorly than posteriorly, punctured nearly across anterior portion of glabrous area; elytron with narrow longitudinal stripes, an irregular oblique postmedian band, and lacking pale border on Median groove of frons almost disappearing between upper 35(34). borders of lower eye-lobes; side of prothorax of o oblique, broader near anterior end; dorsum with only small pale spots; Median groove of frons distinct and even; side of prothorax of d convex, only slightly widened before middle; dorsum with pale borders to glabrous areas and compound oblique postmedian elytral band and other spots; length 21-28 mm. 36. superans Elytral apex with an often obtuse or rounded projection external 36(32). to sutural angle and projecting beyond sutural angle..... 37 Elytral apex weakly obtuse, fairly even; elytral disc with pale border to glabrous area and only 2 small pale spots not far from suture, at ends of 3rd and 4th fifths; lateral carina of prothorax broader anteriorly than posteriorly in d, nearly straight in 9; length 18-26 mm 38. pseudosuperans Pronotal outline of o suboblong, not much wider at middle than 37(36). at anterior and posterior corners; postmedian elytral band often narrow..... 38 Pronotal outline of & strongly rounded at side, narrowed anteriorly and posteriorly, very broad and short; postmedian elytral band often broad 41 Postmedian elytral band narrow, an even line 38(37). 39 Postmedian elytral band usually formed of spots consisting of posteriorly open arcs (or upside-down "U"'s) 40 Anterior angle of pronotum of 9 subacute; dorsum blackish, 39(38). border of glabrous area of elytra indistinct; length 22-23 mm Anterior angle of pronotum of φ obtuse; dorsum fawn color; border of glabrous area of elytra usually distinct; length 18-26 mm . . . (range: N of main cordillera) 38. pseudosuperans Dorsum blackish, a curved lateral stripe near middle of elytron 40(38). connecting pale border of glabrous area with external margin;

	Dorsum gray-buff, lateral pale mark at middle of elytron only a
	brief band near side, usually not connecting to border of
	glabrous area; length 22-26 mm (dorsum gray-brown, crytran
	bands broad, pale yellow: m. salwattianus Br.) 37. mucronatus
41(37).	Ground color dark chocolate brown; glabrous area of elytron
	more or less bordered with pale; postmedian elytral band not
	very broad, straight or of short arcs 42
	Ground color bluish black or brownish to black; glabrous area of
	elytron not entirely bordered with pale; premedian and post-
	median bands broad and apex largely pale also
42(41).	Prothorax evenly rounded at side in δ , strongly sinuate in φ ;
()	elytron with premedian band connected to border of glabrous
	area; length 20–28 mm
	Prothorax narrower, more coarsely punctured at side; a triangular
	lobe between apical angles of elytron (NE NG).47. subadspersus
	Prothorax narrowed posteriorly at side in δ , weakly sinuate in \Im ;
	elytron with premedian band incomplete, not connected to
	border of glabrous area; length 21–28 mm 36. superans
43(41).	Prothorax no broader than elytron in d
	Prothorax broader than elytra in d; dorsum with broad distinct
	pale buff bands on dark brown or black; length 22-25 mm
44(43).	Dorsum largely clothed with pale blue publication, with bands
	(mostly of close stripes) of paler public public and party in-
	distinct from lack of contrast in color; length 18-24 mm
	Dorsum largely dotted with brownish yellow publication, with
	broad bands of yellow pubescence; lengul 22 min
45(21).	Lateral carina of prothorax of o with a harrow mension at minute,
	elytral costae somewhat equally pronounced, length 10 10 million 46
	Lateral carina of 8 prothorax broadly incised at induce (areaster)
	emarginate); anterior lobe of carma tinex, prominent, and
	elytral carinae more strongly pronounced, especially find and
	4th from sutural carina; erytron broadly truncate and broadly
	toothed at both angles; length 10-25 min
46(45).	Elytral apex with external angle simple, not could a wide as deep;
	longth 9-14 mm
	Elytral apex with external angle toothed; emargination at middle
	of lateral propotal carina usually deeper than wide; elytron
	Or fatoral pronotal carrier in the pronotal of

	more or less with a dark inverted isosceles triangle on base of
	elytra
47(46).	Prothorax with anterior tubercle $1/4$ as long as prothorax; size
	usually over 11 mm long; color not green
	Prothorax with anterior lobe usually longer than 1/4 of pro-
10(17)	thorax; size usually under 11 mm; color often partly green 49
48(47).	Elytron closely punctured at middle of basal 1/3; dorsum brown
	to pale chestnut, with partial oblique bands of many spots of
	pale pubescence; length 14 mm
	Liytron not closely punctured near base; dorsum largely red,
49(47)	Flutteen net level
+3(+7).	triongle triongle
	Flytron largely mean with 11
	length 10.0-11.5 mm
50(49).	Antenna with segments 3 and 4 fairly straight
	irregular impunctate area: nale hands foisily distinct limit
	8.7–9.6 mm
	Antenna with segments 3 and 4 arched: proportium lacking an
	irregular impunctate area; no distinct pale bands: length
-	10.6 mm
51(11).	Prothorax rather broadly and subevenly rounded or slightly
	arched at side, but narrowed apically in σ , $2\times$ as broad as long;
	lateral tubercle hidden in dorsal view
	Prothorax generally straight, obtuse, oblique or irregular at side,
	usually less than 2x as broad as long; lateral tubercle rarely
52(51)	Body with extensive golden and it
0 = (01).	Body with extensive golden of slivery pubescence
	sinuous bands of tan: length 13-18 mm
53(52).	Dorsum blackish with bands or stripes of golden to golden groop
	pubescence; prothorax more trapeziform
	Dorsum bluish green; covered with dense silvery pubescence
	(goldish in middle) except for anterior (1) and posterior (2)
	subsinuate black bands on elytron and median stripe and band
54/50)	on pronotum; length 20 mm (Sulawesi)
54(53).	Pronotum with 3 black discal stripes; elytron with a median basal
	gold stripe as well as sutural stripe
	with only a narrow median black discal stripe; elytron
	plete: length 15–19 mm
55(54).	Elytron black at middle between 1st and 2nd middle between
, /	and 3rd gold bands separate: length 16-20 mm 20 c c-1
	g in the 20 mm 20. s. salomonus

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	Elytron with gold lines and spots at middle, and also between
	2nd and 3rd gold hands: length 12–18 mm
	211d and 51d gold ballas, 121g
EC(E1)	Prothoray transziform, widest at base
56(51).	Prothorax not conspicuously trapeziform
$E_{7}(E_{C})$	Extron smooth at least in basal $1/3$
57(50).	Elytron with strong wide costae, 3 in particular extending from
	have to apex or pear apex: dorsum castaneous, unicolorous;
	length 21–23 mm (Sulawesi) 1. costatus
50(57)	Prothoray as broad as elytra 59
58(57).	Brothorax as broad as critical control of the contr
50(50)	Bustherrow straight (oblique) at side: elytron with conspicuous
59(58).	Prothorax straight (oblique) at side, clydron longitudinal pale
	White spot anterior to initiale and what and the 23, trapezicollis
	D the sinusta obligue at side: elytron with 2 narrow pale
	Prothorax sinuate-oblique at side, cryston man 24, anomalus, n. sp.
00/50)	De the server 2 m as broad as long lateral tubercle hardly visible
60(58).	Prothorax 2 x as broad as long, lateral table the hind humerus.
	from above; elytron with part thangle at one semi-
	and postmedian oblique line, length 10.0 1110 line of the line of
	Dut the last then 2 y as broad as long lateral tubercle visible;
	Prothorax less than 2 x as broad as long, lateral tamm
	elytron with 2 oblique pare banes, lenger 10 10 1187. vagefasciatus
	$\mathbf{I}_{\mathbf{i}} = \mathbf{I}_{\mathbf{i}} = $
61(56).	Lateral margin record partly projecting
00/01)	Lateral margin at least party projecting
62(61).	Lateral tubercle of prothorax pot very prominent
CO(CO)	Antorior tubercle of prothorax not prominent; elytron with
63(62).	chlique bands: length 16–17 mm
	Anterior tubercle of prothorax prominent
CA(CQ)	Estempical angle of elytron strongly spined; elytral bands joined
64(63).	by longitudinal vellow lines
	Extrapical angle of elytron briefly toothed: elytral oblique pale
	hands not connected by longitudinal pale lines63. brevespinosus
	Esternical angle harely toothed: elytral bands vague75. keitoeali
CF(CQ)	Ectoapical angle barely toothed, ely the summer of
65(63).	Elytron funcate aplearly
	Environ nationed and rounded upleady, they
	nubescent lines in interstices but with broad. slightly arched
	glabrous hand at middle: length 19.2 mm. 141. atrofasciatus, n. sp
CCLCEN	Anterior tubercle of prothorax rounded
66(65).	Antenor tuberere of protitorial realised of the

	Anterior tubercle of prothorax with a tooth-like projection; ectoapical angle of elytron toothed; length 14.5-17.5 mm
67(66).	Elytron with longitudinal stripes, only interrupted in part
	posteriorly
	Elytron without longitudinal stripes, only meager oblique marks 70
68(67).	Elytron transversely truncate apically
	Elytron slightly emarginate apically with outer angle more pro-
	minent; elytron with lateral stripe on hasal 3/4 and 3 irregular
	bands; length 15–17 mm
69(68).	Pronotum with median glabrous stripe: pronotum and elutron
	lacking conspicuous lateral glabrous stripe, pronotum and environ
	104 1 de la compreue de la construction graditous suripe, length 10-18 mm.
	Pronotum without median glabrous string but median l
	elytron with lateral glabrous stripe slutner with 8
	length 14.5 mm
70(67).	Elvtral apex suboblique sinuater bands and and all all
().	14-19 mm
	Flytral apex transverses a year fine at 1 at 1 at 1 at 1
	length 15 mm
71(62)	Black clothed with grow blue and so and so and the set
. 1(04).	glabrous proposal string and all d
	glabious pronotal stripe and elytron with gray-green scales,
	and and additionary langer of the startly wide glabrous bands, 1st
	With out above and high 21 mm
79(71)	Flytron with a large a high 1 has a high 1 h
14(11).	Elytron with a large whitish band at middle, not reaching suture. 73
	Environ with 3 longitudinal rows of white pubescent spots;
78(79)	Protheren 9/2 1 (Sulawesi)
13(12).	headless of a line as broad; elytron with 3 short stripes
	basally; a few small sutural spots in posterior 1/2; length 12.5-
	Protheren i de la 1/2 de la construcción de
	Prothorax just over 1/2 as long as broad; elytron with 4 short
	stripes basally; a sutural row of gradually larger pale pubescent
74(01)	spots, from base to apex; length 11 mm
74(61).	Lateral margins of prothorax at least partly parallel-sided
78/74	Lateral margins of prothorax obtuse, sinuate or irregular
75(74).	Prothorax oblong, sides parallel
	Prothorax with sides parallel in basal 1/2 80
16(75).	Prothorax nearly rectangular in δ , slightly tapering forward in \mathfrak{P} ;
	lateral tubercle slender; pronotum flat
	Prothorax rounded-oblong, with lateral tubercles obtuse; pro-
	notum convex \dots 78

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77(76).	Elytron with very vague oblique bands; length 11.0–16.2 mm
	Elytron with pale publication spot at side at end of basar 1/5 and
	oblique band at end of 2nd 1/3, length 11.2-12.2 min
78(76).	Elytron black with oblique black and pale bands and the tongitu
	dinal lines; length 12–18 mm pubescence in small irre-
	Dorsum reddish with reddish brown public cence, in small file
	gular spots on elytron; length 12.0-10 mm 220. pseudagranus
79(78).	Prothorax with lateral stripe indistinct
00 W1 144221704	Prothorax with lateral stripe distinct
80(75).	Elytron without a single strong carina and with dark patches
	Elytron with 1 stronger sinuale carina and with dark patents
	between it and suture; elytral apex oblique, length 13.5 mm
1007001 - 10080-0100 1 0	
81(80).	Elytral veins glabrous, conspicuous, with connecting marks with fine nale
	Elytron without stripes and connecting marks, with fine pare
	lines forming first an oval on each, then a common M, then
	a zigzag line, all of bluish gray; length 19.5 min
	- i
82(81).	Prothoracic margin prominent, cremulate at side, punctulation
	coarse; elytral apex truncate with strong sutural tooth, length
	14-17 mm
	Prothoracic margin not cremulate, puncturation mile, cryston
	coarsely punctuled, with many transverse glabious miles, legs
	paler; length 10-14 him (Rangean 1, in Jula) vertevere anus
	Ducth among margin weak: nuncturation sparse: length 10-14 mm
	Protitoracie margin weak, puncturation spinstry and g
00(74)	Lateral margin of prothorax obtuse or slightly sinuate
83(74).	Lateral margin of prothorax irregular, sometimes emarginate 89
04(09)	Lateral tubercle of prothorax hidden; elytral apex toothed or
84(83).	emarginate 85
	Lateral tubercle of prothorax visible
95/91)	Brothorax evenly obtusely rounded at side
05(04).	Prothorax unevenly obtuse laterally; elytral apex emarginate with
	both angles spined; elytron dark brown with red-brown
	pubescence with darker stripe along outer margin, which is
	bordered internally with spots of gray and yellow; length
	15 mm
86(85).	Elytral apex emarginate and bispinose; elytra with large post-
()	scutellar glabrous area and without stripes or distinct spots,

	with vague marbling of brown; sides of ventral surfaces with
	many small round brown spots
	Elytral apex less arcuately emarginate, with a triangular lobe at
	outer angle; elytron red with testaceous pubescence in the
	longitudinal grooves, with a vague broad band at middle,
	widened toward suture; prothorax more evenly obtuse at side
87(84).	Elytron with 1 or 2 isolated pale spots and fine oblique lines 88
	Elytron with about 4 zigzag and otherwise irregular buff bands,
	in part connected by very fine longitudinal lines; length 16-20
	mm
88(87).	Elytron with 1 discal pale spot on midline at end of basal 1/4 and
	2 fine oblique lines behind middle, both forming obtuse marks
	with their mates; length 16 mm
	Elytron with 2 lateral pale spots and incomplete lines forming
	somewhat of an X-like mark at middle of suture; length
	20 mm
89(83).	Lateral carina of prothorax (continuation from anterior tubercle)
	fairly distinct and continuous, at least in σ
	Lateral carina of prothorax vague, indistinct or incomplete 112
90(89).	Prothorax with lateral tubercle of o sometimes nearly hidden in
	dorsal view by carina
	Prothorax with lateral tubercle never hidden in dorsal view 93
91(90).	Elytron with some pale spots
	Elytron without pale spots, only vague oblique lines; elytral base
	glabrous near sutellum; length 14.5-18 mm . 68. indistinctelineatus
92(91).	Elytron with postmedian white spot by suture oval and distinct;
	Flytron with postmodion role and he and he
	distinct and ten colored and angular if ansate local, not
	18 mm
93(90)	Lateral coving of protherest since and in the initial sector of the sect
55(50).	Lateral carina of prothorax sinuous, emarginate in middle 94
	though often normany through a t
94(93)	Flytral analy distinctly analyzing to a life the life of 14, 14, 10
54(55).	Livital apex distinctly emarginate and tootned; length 14–18 mm
	Elytral apex not both distinctly emarginate and toothad
95(94).	Outer angle of elytral apex projecting much more than sutural
().	angle: lateral tubercle of prothoray obtuget modern string of
	propotum broad behind: length 16, 18 mm
	Outer angle of elvtral anex not projecting much more that
	sutural angle: lateral tubercle of prothonory courter mati-
	stripe of proportium parrow: length 16, 99
	surpe of pronotum narrow, length 10-23 mm 57. albertisi

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96(94).	Elytron distinctly carinate on disc
97(96).	Outer corner of elytral apex rounded; length 17–19 mm
98(97).	 Elytron with 3 ashy spots at side and irregular marks on disc; length 14-18.8 mm
99(97).	Elytral apex with sutural angle blunt, not prominent 100 Elytral apex with sutural angle acute; length 18 mm78. costulatus
100(99).	Pronotum somewhat rugulose and unevenly punctured, with median strip somewhat carinate anteriorly
101(100).	Elytral costae unevenly thickened; elytral bands more or less zigzag
102(101).	 partly of straight oblique lines; length 11.5-16.5 mm First 2 elytral costae stronger than others, slightly sinuate; elytral markings mostly strongly zigzag; length 17-20 mm 53. separatus
100(100)	Second and 4th elytral costae stronger than others; 1st elytral band unevenly arched forward in middle; 2nd and 3rd zigzag; length 21-22 mm
103(100).	Elytron with 3 fairly large pale spots plus irregular bands; length
104(103).	Elytron with a broad glabrous postscutellar area, and ectoapical
105(104).	angle spined
106(105).	 17 mm
	tudinally at suture), without pale line behind it; length 15-20 mm
107(96).	Lateral carina of frons distinct 108 Lateral carina of frons obscure; elytron with 2 or 3 distinct pale
	spots

108(107).	Elytra with buff bands forming a common vague "X" across middle and an arcuate band behind, these faintly connected by
109(107).	fine longitudinal stripes; length 14.0-18.2 mm52. flyensis, n. sp. Elytron with most of posterior 1/2 yellowish, this area arcuately bordered anteriorly; length 16 mm
110(109).	length 20 mm
111(93).	 Two pale spots touching suture, before and behind middle, and a vague band posteriorly; length 13-19 mm 70. octopunctatus Elytra with 2 fine common marks: 1st anterior to middle forming a very wide "V"; 2nd postmedian, forming a common "M"; length 14 mm
119/20)	Elytron with a fine oblique pale line well anterior to middle and another well behind middle, plus less distinct marks pre- apically; length 15.5 mm
112(09).	approximately 2nd 1/5 113 Elytron without a prominent yellow spot at side anterior to middle
113(112).	 Elytron with a black glabrous spot behind scutellum and 2 fine sinuate yellow bands behind middle; pronotum with a median glabrous strip; length 18-20 mm
114(112).	before and behind this band; pronotum entirely pubescent; length 16 mm (NE NG) 212. subbilineatus Lateral carina of prothorax somewhat distinct before and behind middle; lateral carina of frons weak, near eye, curved an- teriorly; elytra with a fine common "X"-mark; elytral apex sinuate, subconvex; length 11.5 mm
	Lateral carina of prothorax almost obliterated except at anterior tubercle; postbasal elytral band with a sharp anterior angle at middle; posterior bands oblique; all bands narrow; length 15- 20 mm 211. bruijni

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115(1).	Frons with median carina single, or at most with a very fine partial groove much shallower than height of ridge 116
	Frons with median flage double, divided by a deep groote, of
	even with diverging ridges in part
116(115).	Frons with median carina varying in height and thickness, some-
	times interrupted; pronotum more or less smooth and glabrous
	medially 117
	Frons with median carina uniform, narrow but sharp; pronotum
	slightly ridged and largely pubescent medially 120
117(116).	Head with median carina weak and grooved on occiput, raised
	and thickened on vertex, narrow and finely grooved on frons,
	becoming weaker at apex; elytron short, smooth, truncate 118
	Head with median carina finely grooved on occiput, widened on
	vertex then nearly obliterated on upper part of frons but
	revived anteriorly: elytron long, ridged posteriorly, truncate,
	toothed ectoanically; length 13.5–17.0 mm
110(117)	Proportium with a single stripe or no stripes at all
110(117).	Pronotum often with 5 dark stripes: nostscutellar area of elvtron
	how the num strung disc with about 2 raised lines: elytral
	heavily punctured; cry train disc with about 2 faised mess, cry that
	apex obliquely truncate, not toothed, length 7.0-11.5 min
110(110)	P
119(118).	Pronotum rarely with more than a fine median fine, possed tenar
	area of elytron very weakly punctured, elytral disc with about
	5 raised lines; elytral apex distinctly toollied externally, length
	9–13 mm
	Pronotum unstriped; elytron without an impunctate posiscutellar
	area, brown with numerous large testaceous spots covering
	most of disc, weakly truncate apically; length 10-11 mm
120(116).	Elytra with a common black band or triangle covering part of
	suture
	Elytra without a common dark mark; each with 2 pale-edged
	dark brown angular, subtrapezoidal marks at side, before and
	behind middle; length 14 mm 245. bifuscomaculatus
121(120).	Elytra crossed by a broad black band edged with pale lines about
	as far from base as width of band; a similar mark behind
	middle on outer ½ of disc only, rounded at inner end; a weak
	brown spot before apex; length 11-16 mm. 238. transversefasciatus
	Elvtra with a common blackish brown spot forming an isosceles
	triangle across suture about its own length behind scutellum;
	the triangle bordered anteriorly with an oblique tawny yellow
	fine line which continues obliquely to near external margin, a

	smaller triangle at side bordering the pale line anteriorly with its anterior side forming a straight line with base of common dark triangle; another subtriangular dark spot at side behind middle largely bordered with a sinuous yellowish line; elytral apex bluntly toothed ectoapically; length 12–16 mm	
122(115).	Frons with carinae low, broad and usually glabrous and smoothly	ictus
	convex, but sometimes confused and irregular	123
	form elliptical depressions	162
123(122).	Frons with median carinae low and in part confused by heavy	104
	Frons with median carinae broad smooth and even comptimes	124
124(123).	with a few punctures Frons with lateral carinae weak or irregular, confused by	155
	punctures; prothorax with 2 prominent obtuse tubercles at side; elytron broad, smooth, often weakly punctured, sub-	
	rounded or subtruncate	125
125(124).	Elytron with some broad unbroken bands of metallic scales or	140
. ,	yellow or green pubescence, with or without slender longi- tudinal pubescent lines on anterior 1/2; prothorax largely	
	pubescent; occiput deeply grooved	126
	pubescence, or with 4 longitudinal stripes on anterior 1/2 and a band of stripes before apex; prothorax often broadly	
100/105)	glabrous medially; occiput often shallowly grooved	131
120(125).	Environ with 6 or more longitudinal lines of pale pubescence on anterior 1/2, sometimes with similar lines posteriorly	197
	Elytron without longitudinal public ent lines on anterior 1/2	129
127(126).	Elytron without longitudinal lines posteriorly; lines on anterior $1/2$ of gran or pole may achieve the	
	Elytron with glabrous lines on ridges on posterior 1/2 and similar lines anteriorly, with a broad suboblique black band just	128
	middle; pronotum with broad median glabrous stripe; length	11 a!
128(127).	Pronotum entirely clothed with pubescence, gray medially and vellow to sides: elytron entirely nale vellow-green pubescent	ueri
	on posterior 2/5 behind black band at middle; length 26 mm.	
	Pronotum with narrow median glabrous string and an in	rieli
	stripe at each side of middle, not reaching apex or base and	
	divided in middle; length 20-25 mm	ans

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129(126).	Pronotal disc with golden-orange pubescence except for median stripe (and sometimes apical and basal borders) 130 Pronotal disc with golden green scale-hairs except for bluish
	medial stripe; elytron largely covered with metallic gold-green scale-hairs with nearly transverse blackish band just behind middle and irregular oblique band before apex; length 22-30
	mm
130(129).	Median pronotal stripe broadened a bit near middle; elytron
	scales, 1st not reaching suture, 2nd oblique, and 3rd arcuate,
	often touching apical angles; length 23–28 mm
	Modian proposal strine broadened at base narrowed in middle.
	anterior and posterior borders sometimes black; elytron with
	golden (to blue or greenish) pubescence on base except part of
	humeral angle, and with subtransverse gold band at middle,
	oblique band near end of 2nd 1/3 and apical area also gold-
181(195)	Flytron with 2 bands, 1 before, 1 behind middle, or bands
151(125).	lacking
	Elytron with 4 or 5 longitudinal stripes on basal 1/2 and a band
	of longitudinal stripes well before apex, plus a few dots of pale
	scales: length 21 mm
132(131).	Elytral bands fairly continuous, of white to pale golden
	pubescence, not very broad 133
	Elytral bands of many fine whitish pubescent stripes, or of a net-
	or bands almost lacking
133(132).	Pronotum with very broad glabrous discal area, pale pubescence
	only near sides and along basal margin; elytral bands narrow,
	lst band suboblique
	basal margin: elytral bands fairly regular, dense pale yellow,
	1st band nearly transverse; length 15-28 mm (Bismarcks)
	145. schaumi yorkensis
134(133).	Anterior band of elytron often broadened in middle, often
	tured: length 14–24 mm (Solomons) 148. schaumi bifasciatus
	Anterior band of elytron often quite narrow, nearly transverse;
	2nd band moderately narrow and oblique (but variable
	between different islands of Solomons); length 10-23 mm
	(Solomons)

135(132).	. Elytron usually bluish, greenish or purplish; bands of short
	longitudinal white or yellow stripes, or joined, or partly or
	largely lacking
	Elytron somewhat bronzy; bands partly lacelike, of small spots
	or irregular lines, wider at sides; pronotum often almost
	entirely covered with thin pubescence, with irregular denser
	pubescence on sides of disc; length 15-25 mm 150. politus
136(135).	Elytral bands regular or nearly lacking 137
	Elytral bands joined across middle section by longitudinal lines
	of pubescence; length 15-28 mm (New Britain) (latefas-
	ciatus color form) 145. schaumi yorkensis
137(136).	Elytron with bands of short longitudinal lines, 1 before middle,
	1 behind middle; median glabrous area of pronotum wide 138
	Elytron with bands partly or completely obsolete
138(137).	Elytron dark chalybeate blue, with a few strong punctures near
	base and rest of surface almost impunctate; length 17-24 mm
	(Kei Is) 143. s. schaumi
	Elytron dark metallic blue with rather dense punctures through-
100/107)	out; length 18-28 mm (Bismarcks) 144. schaumi interruptus
139(137).	Elytron blue, with bands partly incomplete or lacking; elytral
	punctures mostly in regular rows; length 15–28 mm (New
	Hannover) (<i>infasciatus</i> color form) 145. schaumi yorkensis
	and and hand completely half
	and 2nd band completely lacking or represented by only a
	mm: body porrow 5.2.76 mm (N= L=1)
	146 146 1.11
140(124)	Prothoray with prominent typerales entry lateral libration in
110(141).	lateral acute: elytron more or less convex in lateral size
	smooth finely punctured with apex toothed or spined
	Prothorax with anterolateral tubercle a short low ridge and mid
	lateral tubercle minute, acute: elytron parrow nearly flat
	more or less punctured, with apex truncate and usually
	toothed externally
141(140).	Elytron truncate or emarginate-truncate anically 142
	Elytron oblique apically
142(141).	Elytral apex transverse, toothed or spined externally 143
	Elytral apex emarginate; elytron with 2 moderate roundish spots
	at side
143(142).	Elytron with 4 or 5 bands of metallic scales, partly incomplete:
	length 15 mm 194. metallicens
	Elytron with 2 or 3 pale spots at side; prothorax strongly narrow-
	ed anteriorly; length 17 mm

144(142).	Elytral apex with both angles spined; length 16-17 mm
	195. viridipennis
	Elytral apex with only outer angle produced: toothed, not
	spined; length 19 mm 198. lucens
145(141).	Dorsum nearly impunctate; head and pronotum reddish; elytron
	pale olive; length 17.4-18.0 mm 197. habbemanus, n. sp.
	Dorsum with many fine punctures on elytron; dorsum dark olive;
	length 18.3 mm 196. asaroanus, n. sp.
146(140).	Prothorax with 1 or 2 weak tubercles, or lateral carina, at side 147
,	Prothorax without tubercles; body relatively broad; spots in
	approximately 6 irregular bands; length 10 mm228. inermis
147(146).	Frons with fairly distinct median carinae, dividing and reuniting
11/(110)	to form an enclosed ellipse or wide groove
	Frons with median carinae parallel or depressed
148(147)	Pronotum with an impunctate parallel-sided median strip; about
110(117).	10 punctures in an approximate row from apex to base;
	femora vellowish: body slender; length 11.6 mm
	227. subaureus, n. sp.
	Proportium with median strip partly interrupted by punctures;
	about 15 punctures in an approximate row; femora green;
	length 17.5 mm
149(147)	Pronotum pubescent on part of impunctate median strip 150
145(117).	Pronotum largely or entirely glabrous on impunctate median strip
150(149).	Prothorax with a weakly developed lateral margin in d; pronotum
	with median stripe often narrower than sublateral stripes;
	length 9–17 mm
	Prothorax with fairly well-developed lateral margin in d; pronotal
	stripes subequal in width; length 12-16 mm 223. pseudagrarius
	Prothorax with moderately developed lateral margin in d; pro-
	notum with median stripe broader than sublateral stripes;
	length 10–13 mm
151(149).	Elytron with anterior 3/5 of disc thinly and evenly pubescent or
	with pubescence largely in more or less continuous longitu-
	dinal stripes and not in bands 152
	Elytron with pubescence in patches, partly in bands or rows 154
152(151).	Elytron with basal 3/5 with longitudinal stripes, partly broken 153
()	Elytron with basal 3/5 evenly pubescent; pronotum practically
	without sublateral stripe; length 12-14.3 mm
153(152).	Femora reddish; elytral stripes mostly complete; length 9-16 mm
. ,	(d'Entrecasteaux Is) 222. pseudomonticola

	Femora greenish; elytral stripes mostly broken; length 9-17 mm
	(on mainland)
154(151).	Elytron fairly narrow, with discal spots largely missing;
	pubescence pale gray; length 12 mm (Australia)
	Elvtron broad: with discal spots present: pubescence slightly
	golden metallic: length 13 2-16 2 mm (New Iroland)
155(199)	Durch and the life of the life
155(125).	Prothorax with midlateral tubercle essentially lacking 156
	Prothorax with midlateral tubercle distinct
156(155).	Elytron with 20-25 large white or metallic spots scattered
	throughout
	Elytron with an irregular pale yellow band near middle, not
	reaching suture, and other marks posteriorly; length 12.5-14.0
	mm
157(156).	Elytron with about 20 pale green metallic spots: length 14 mm
()	
	Elvtron with about 25 white spots: length 19 mm 7 seriemaculatus
158(155).	Frons with lateral carina low and/or partly obliterated: prothoray
	distinctly narrowed anteriorly: elytron short, aney oblique or
	truncate
	Frons with lateral carinae distinct complete protherer sub
	oblong with interelational tuberale prominent and side al
	sinuate: elutron long longitudineller menual
	rounded enjoyley for the 10.9 million of the second except on band,
150/159)	Protheren with both the light 19.2 mm
159(158).	Prothorax with both tubercles blunt; pronotum largely im-
	punctate; elytron with complex white bands in depressions 160
	Prothorax with midlateral tubercle subacute; pronotum heavily
	punctured; elytron contrastedly black and red 161
	Prothorax with tubercles weak or blunt; elytron with large post-
	humeral white triangle, acute ectoapically; length 10 mm
160(159).	Pronotum with glabrous area very wide, no pubescence on
	middle portion of basal margin; elytron with basal mark
	extending to external margin behind humerus. 2nd band
	extending anteriorly and posteriorly near middle of disc
	irregular near suture, but not meeting suture: 3rd hand re
	sembling 2nd: 4th sinuate sublongitudinal: length 14, 10 mm
	124 o orosilisti
	Pronotium with glabrous area nearly enclosed by white 1
	scence on basal margin: elytron with 1 at hand and
	short line near soutallum, and here the
	short file flear scutenum; 2nd band narrow, sinuate externally

	and arcuate internally, reaching suture; 3rd and 4th combined	
	for a single sinuous line from external margin forward on disc,	
	then arching posteriorly, touching suture and winding to apex	
	near external angle; length 15 mm	
161(159).	Elvtron with basal 3/5 shiny black, almost impunctate; anterior	
101(100)	2 spots near elvtral apex separated by 1-2 spot-diameters;	
	length 14-18 mm 136. s. speciosus	5
	Elvtron with a humeral triangle orange pubescent; shiny black	
	area obtuse behind, extending a bit past basal 3/5; anterior 2	
	spots near elytral apex small and widely separated; length 13-	
	19 mm	5
162(122).	Frons with median carinae parallel-sided, uniform 163	3
()	Frons with median carinae diverging, usually reuniting before	
	apex to form an elliptical depression)
163(162).	Elytron subrounded ectoapically	ł
(<i>'</i>	Elytron usually toothed apically 165	Ś
164(163).	Frons with lateral carina straight, oblique; prothorax 8/9 as	
	broad as elytra; elytra broad; length 15-25 mm 142. ruficorni	S
	Frons with lateral carina partly obscured, not straight; prothorax	
	3/4 as broad as elytra; elytra not very broad; length 11.5 mm	
		•
165(163).	Elytron moderately convex behind scutellum; suture and next 2	
, , , , , , , , , , , , , , , , , , ,	or 3 interstices distinctly raised, at least postmedially; antero-	
	lateral tubercle of prothorax usually distinct and obtuse 166	6
	Elytra rather flat; 1st and 3rd interstices from suture not usually	
	raised; anterolateral tubercle of prothorax often low and	
	broadly arched	5
	Elytron subconvex with 1st interstice flat, 2nd strongly raised,	
	with incomplete oblique pale marks at side; apex emarginate	
		S
166(165).	Elytron fairly smooth with at most a few weakly raised veins 16	1
	Elytron with some distinctly raised ridges 17	2
167(166).	Prothoracic lateral tubercles weak; elytra subparallel with weak	0
	apical angles 16	8
	Prothoracic lateral tubercles strong; elytra narrowed, produced	
	ectoapically, weakly mottled; length 16 mm	IS
168(167).	Pronotum with 3 more or less glabrous stripes, or largely glabrous	0
		9
	Pronotum almost entirely pubescent, with very narrow median	0
	strip 17	U

169(168).	Pronotum with 3 glabrous stripes; elvtron largely covered with
	ochreous pubescence; length 11–16 mm 202. d. dubius
	Pronotum largely glabrous; elytron with 3 ochreous stripes on
	posterior 2/3; length 11-15 mm
	Pronotum with vague sublateral stripes; elytron with 6 narrow
	ochreous stripes
170(168).	Elytron largely unicolorous, sometimes with basal and apical
	dark areas
	Elytron mottled with pale and darker pubescence, dark on most
	of side of prothorax and elytron; length 13–14 mm (Kei Is)
171/170)	
1/1(1/0).	Dorsum entirely clothed with dark yellow-orange pubescence;
	length 18.5 mm
	Dorsum mottled dark brown with elytron evenly pale tawny
172(166)	Elytron somewhat viertical et cite 1 l
172(100).	humerus not prominent
	Elvtron sloping at side: humerus rather prominent: elutron
	usually strongly narrowed posteriorly, without prominent, elytron
	spots
173(172).	Elytron with 2-4 distinct pale spots on side
	Elytron with 1 white or yellowish spot or band
	Elytron marbled with brown in vague transverse bands; length
	13-14 mm
174(173).	Elytron with pale spots not reaching median line and usually not
	touching external margin 175
	Elytron with spots large, mostly reaching median line and partly
	touching external margin; body stout, $14.2-14.7 \times 5 \text{ mm}$
175(174)	Elytron with 4 lateral anota basider wind a lateral state in the former state and the
1/5(1/1).	anterior connections between longitudinal springer (N
	Britain): length 10.2–14.9 mm
	Elvtron with 2 distinct spots besides apical marks: from lacking
	connections between longitudinal carinae: length 10.0-
	13.5 mm
176(173).	Elytron with a single pale spot, not approaching suture: frons
	lacking a "W"-like connection between carinae 177
	Elytron with a transverse whitish-yellow band behind middle,
	narrowed toward suture; frons with "W"-like ridge; femora
1 / 1 >	green; length 12-13 mm 214. albovittatus
177(176).	Elytron with spot ochreous, anterior to middle; frons with
	carınae sımple; length 11.9 mm 216. bosaviensis, n. sp.

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	Elvtron with spot whitish, behind middle; frons with median
	carina enlarged preapically; length 10-14 mm213. herbaceus
178(172).	Prothorax not conspicuously trapeziform 179
1.0(1.1)	Prothorax trapeziform; elytron strongly narrowed, with a post-
	scutellar glabrous area and vague oblique marks; length 21 mm
	206. bolanicus
179(178)	Elytron distinctly and evenly narrowed posteriorly
115(110).	Elytron subparallel in basal 3/5, then narrowed; pubescence thin
	with elvtral ridges conspicuous; postscutellar glabrous area not
	conspicuous: dark brown: length 9.9-15.7 mm
	tonspiedode, dalla service, and a service service and service
180(179)	Proportium depressed, smooth, finely punctured
100(175).	Pronotum irregular, coarsely punctured
181(180)	Elytron with postscutellar area partly bare and ectoapical angle
101(100).	prominent
	Elytron without a bare area; ectoapical angle obtuse and sutural
	angle prominent and acute; length 20 mm 193. batchianensis
182(181)	Pronotum with median strip prominent; elytral postscutellar
102(101)	glabrous area conspicuous; elytron with vague postmedian
	oblique band; length 17.7-19.3 mm188. mamberamo, n. sp.
	Pronotal median strip and elytral postscutellar glabrous area
	vague or limited; elytron with band very weak; length 14.4-
	17.8 mm
183(180).	Elvtral bands straight or lacking 184
200(200)	Elytral bands undulating; postscutellar glabrous area conspicuous;
	length 16 mm (Vogelkop)
184(183).	Elytron with 3 oblique bands moderately distinct at side; post-
, , ,	scutellar glabrous area distinct; length 14-19 mm. 183. a. agriloides
	Elytron with faint bands; postscutellar glabrous area limited, or
	surface entirely pubescent; length 15-17 mm
185(165).	Body with conspicuous dark and/or pale stripe at each side, or
, , , ,	with subtriangular pale-edged dark patches at side of elytron;
	elytra usually with a common triangular or oblong dark patch
	across suture; pronotum not striped medially 186
	Body with lateral stripes, if present, broken by oblique bands or
	spots of dark or pale pubescence; elytron sometimes without
	a common patch; pronotum sometimes striped medially 189
186(185).	Elytra with a conspicuous common triangular or oblong dark
	patch across suture 187
	Elytra without a conspicuous common triangular or oblong dark
	patch

	187(186).	Elytra with a common triangular dark patch near middle, follow- ed by a dark patch at side and small one by suture near start of
		apical 1/4; length 10-15 mm
		Elytra with a common oblong dark patch about its own width
		behind scutellum, sometimes divided into separate squarish
		spots; a subtriangular smaller black patch by suture at start of
		apical 1/4 immediately followed by a smaller ochreous patch;
	100/100	length 11.5–15.5 mm
	188(186).	Pronotum sparsely punctured, usually with less than 10 punc-
		tures in an approximate line from apex to base; elytron with
		usually 2 or 3 black dots on anterior $1/2$ of disc and 3 or 4
		pale ochreous marks on apical 1/3; length 12–15 mm
		Pronotum densely punctured with more than 10 punctures in an
		approximate line from apex to base; elytron with 5 yellow
	100/105)	spots on apical 1/4; length 11.0–11.5 mm 244. laterivittus
	189(185).	Pronotum without a median glabrous or impunctate stripe or
		of dark pubescence 190
	190(180)	Fronotum with at least a faint median dark stripe
	150(105).	Elytron with 2 comprise ships a line in the line in th
		Elytron with 2 conspicuous oblique incomplete pale bands 192
		13 mm
	191(190).	Anterior elytral band nearly transverses a next-ut-1
	().	hardly developed: posterior elytral hand not need him at
		elvtron toothed ectoanically: length 17.5 mm 247. flame in the
		Anterior elvtral band more sinuate a more developed dark anot
		anterior to it on each side of suture: nosterior nale hand loss
		sinuate, reaching suture; length 16 mm.
	192(190).	Elytra with a small postscutellar dark area
		Elytra without a postscutellar dark area; with a pale buff oblique
		band from external margin behind humerus to middle of disc
		near end of basal 1/3, and a similar shorter band extending
		obliquely forward from external margin to a bit short of mid-
		line of disc near start of apical 1/3; length 12-16 mm.
1	93(192).	Elytra very long, with a fairly small inverted subtriangular dark
		area across suture, with sparse dark brown pubescence a short
		distance behind scutellum, an ochreous band extending
		obliquely forward from external margin at end of basal 2/5
		and reaching postscutellar area and sometimes turning at angle
		as hind border of latter, as well as another less strongly oblique

	ochreous band extending forward from external margin at start of apical $1/3$ to near suture and bordered anteriorly by a dark 243 laterimaculatus
	Elytra shorter, with rounded postscutellar glabrous area and
	areas: length about 15 mm (Mysool I)
194(189)	Median pronotal stripe indistinct or very narrow
154(105).	Median pronotal stripe usually distinct
195(194).	Elytron with oblique pale line from base just internal to
, , , , , , , , , , , , , , , , , , ,	humerus, reaching suture just anterior to middle; another
	oblique pale line extending from this line obliquely back to
	line postmedially
	Elvtron without lines described above, having 2 large black
	triangles at side partly bordered with pale; length 14 mm
	246. fuscosignatus
196(195).	Pronotum mottled, without pale line at side of disc; postmedian
	pale band angulate, the angle acute and pointing formal a,
	Proportium with pale line at side of disc, in line with long elytral
	line; postmedian band simple; length 13 mm.
	Pronotum with vague pale line at side; elytron with 2 large
107/104	ochreous preapical spots
197(194).	Elytra without common possecutional squarism of thangane 198
	Elvtra with postscutellar squarish or triangular dark area (often
	glabrous) or rarely with only a dark area on each side of suture
198(197).	Side of elytron with large pale spots, at least 1 before and 1
	Side of elutron stringed without 2 large pale spots near middle 202
199(198)	Side of elytron with 2 or 3 pale spots
155(150).	Side of elytron with 4 distinct pale spots
200(199).	Side of pronotal disc with broad ochreous stripe, black lateral
	surface hardly visible from above; elytral spots ochreous; 2
	main spots nearly 1/2 as broad as erytron, length 11.2-11.7
	Side of pronotum with narrower and paler stripe; black lateral
	stripe visible from above; elytral spots tawny, smaller; length
	10.0–13.5 mm

201(199). Pale stripe of side of pronotum continuing on elytron, bending slightly outward behind humerus and forming 1st of 4principal pale spots of side; length 10.2-14.9 mm. No conspicuous pale stripe on pronotum or elytral base; usually 2 principal pale spots at side of elytron, but sometimes apparently 3 or even 4; length 11-14.5 mm . 280. bilaterimaculatus 202(198). Elytron without a dark brown stripe at side in basal 2/3; pronotum often with 3 dark discal stripes 203 Elytron with a dark brown stripe at side in basal 2/3, then 2 oblique pale spots (only on side); dorsum of disc with extensive pale pubescence but only forming marks (vague) posteriorly; lateral discal pronotal stripes usually vague; length 9-16 mm 203(202). Elytron with longitudinal and oblique pale bands but no broad transverse black band 204 Elytron with almost no strongly oblique pale bands, but with a fairly broad black band just behind middle followed by pale band or spot 205 204(203). Elytron with a weak oblique pale line extending toward postscutellar area from near middle of disc; 2 distinct oblique pale spots at side posteriorly, hardly showing from above; apex not especially pale; pronotum with sublateral dark discal bands distinct; length 16 mm 269. geelvinkianus Elytron with a fairly strong oblique pale line extending toward postscutellar area from near middle of side; 2 distinct pale spots well behind this, visible from above, 1 behind the other; apex pale; pronotum with sublateral discal dark bands spotted with pale; length 12 mm 275. multiplicatus 205(203). Elytron with postmedian subtransverse black band advancing slightly forward to suture followed by a large squarish pale spot on outer side of disc and a narrow pale line from fore Elytron with postmedian subtransverse black band directed slightly posteriorly to suture, followed by a subrhomboidal pale spot on outer 2/3 of disc but no pale line to suture; length 206(197). Postscutellar spot variable, vague, or divided at suture, often Postscutellar spot distinct, usually triangular and pubescent or squarish to triangular and glabrous 215 207(206). Elytron with a partial lateral dark brown stripe at side 208 Elytron without a partial lateral dark brown stripe at side 210

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 208(207). Elytron with lateral brown stripe interrupted only in posterior 2/5 or only with bands which extend posteriorly toward margin
mate longitudinal row from apex to base; length 8-11 mm
210(207). Elytron with fairly distinct straight pale line extending obliquely forward from side anterior to middle nearly to suture or to
another oblique pale line nearly at right angles
211(210). Elytron with oblique premedian pale line nearly reaching suture, not ending at another line at right angles; a sinuous narrow
postilieuran brack band euged zeinen nur 1 253. villaris
Elytron with oblique premedian pale line meeting another pale line at right angles; basal 1/3 of elytron with yellow pubes- cence; 2 triangular yellow spots anterior to apex; length 19 mm
 212(210). Postmedian elytral black band oblique or irregular
length 10–15 mm
 213(212). Postmedian elytral band irregular

214(213)	. Elytron with 2 ochreous spots before apex, the one touching
	suture preceded by a black spot; pronotum with more than 12
	punctures in an approximate longitudinal row from apex to
	base; length 9–16 mm 250 marmoratus
	Elytron without conspicuous spots before anex: proportium with
	less than 12 punctures in an approximate longitudinal news
	length 12–15 mm
215(206).	Postscutellar spot triangular pointing towned and the
	pubescent bordered with pole enteriode the li
	band continuing towards side
	Postscutellar spot pot triangular or globuscutification 1
216(215).	Elvtron nostmedially with 2 down have a final state of the second
(angulate nale line; side of alutron with 5 1 1 1
	length 9 4-13 7 mm
	Elytron with postmedian oblighted dark half half half half half half half half
	with pale; side of alutron branch is the stand bordered behind
	marks: length 9.6.15 mm
217(215)	Elytron with posteritaller mate
<u> </u>	with pale behind
	Elytron with postsoutellar and alternal alterna
	obtuse pale line; side of elutron has a side
	pale marks posteriorly: length 8 5 14 0 m account
218(217)	Elytron with irregular postmation day line 1
()	Elytron with more or loss transmission in the second secon
	followed by a small squarish black much be
	15 mm
	Elvtron marbled reddish brown with gigger angula life in the
	out ochroous spots: length 16 mm
219(218).	Elytron with many marks and 2 preapical oppracy anota law
	green: length 9–16 mm
	Elytron with fine longitudinal dark brown strings, abligue line
	forward to postscutellar area and postmedian antarial
	angulate black band bordered behind with acknown have
	brown; length 10.2–14.5 mm
220(162).	Elytra rather convex in side view: each elytron with 4 or more
	carinae
	Elytra rarely very convex postbasally: each with 0, 2 or 3 carinae
	at most
221(220).	Elytron with 3 or more carinae between suture and humerus:
	pronotum with usually more than just median strin raised
	Elytron with usually 2 or less carinae between suture and
	humerus; pronotum smooth or with median strip slightly
	raised

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222(221).	Elytral apex strongly toothed externally
000(000)	Elytran with a conspicuous white patch, or patch of white lines
223(222).	at side anterior to middle: pronotum with 5 raised smooth
	at side anterior to initiate, pronotant
	strips antenony white patch at side, but with even
	Elytron without a conspicuous white paten at side, but white points
	white lines of publication in suici infoughout except on post
	scutellar area and a weak glabrous chevron at induce, rengen
	10.2-13.4 mm.
224(223).	Elytron with conspicuous while found patent at side, stripes in
	sulci limited to base, middle, and 2 postificular barles, rengen
	16.5-17.0 mm
	Elytron with lateral white patch partly of folgetudinar mics,
	stripes in sulci mostly complete, not limited to partial ballos,
	length 8.6–14 mm 105. suicatellus, n. sp.
225(222).	Elytron with postscutellar area partly not grooved, but punctured
	or not 220
	Elytron with postscutellar area grooved; elytron pubescent in
	grooves but fainter on a large basal triangle and a more of less
	connecting obtuse/trapeziform area at middle; elytron greenish
	or bronzy; length 15–19 mm
226(225)	Elytron with lateral white patch, narrow transverse band of
	transverse or oblique row of spots, near middle
	Elytron without white patch, band, or row of spots; only long
	lines, interrupted on postscutellar area and at a ballu just
	behind middle; length 13 mm 109. costipennis
227(226)	. Elytron with transverse or oblique band or band of spots 220
	Elytron with a large white patch at side, just anterior to initiale,
	length 11–22 mm
228(227)	. Elytron with transverse white band or band of spots
	Elytron with oblique band of spots, or 2 at side merging to 1
	near midline 230
229(228)	. Elytron with narrow transverse white band near middle preceded
	by a transverse glabrous/nonsulcate band across entire elytroll,
	length 12-19 mm
	Elytron with narrow band of spots at middle preceded by a
	triangular glabrous/nonsulcate area pointing to scutellum;
	length 10–20 mm sp.
230(228)	. Elytral marks white, elongate, leaving a glabrous pattern of sub-
· · · ·	cordiform convex postscutellar area, a small triangle at side
	behind humerus, a broad rectangular band at middle, widened
	anteriorly to suture, and 2 irregular preapical bands; length
	12.5-15.0 mm (Fergusson I) 112. b. brassi, n. sp.
	Elytral marks partly ochreous, mostly short, in isolated in- complete bands, best developed in an oblique row from anterior to middle of side toward postscutellar area; pubes- cence ochreous on head, pronotum; length 12.5-15 mm
-----------	--
231(221).	(Goodenough I)
	not strongly narrowed
	toothed
232(231).	Elytron with several costae posteriorly
	mark at side; length 12.5-14.0 mm
233(232).	Elytron with a conspicuous oblique white band near humerus 234
	Elytron without a white band near humerus
234(233).	Oblique white band from base to side, passing beside humerus;
	elytral apex toothed externally; length 12-13 mm 114. humeralis
	Oblique white band starting at margin, extending backward to
	middle of disc; elytron subrounded-truncate at apex; length
005(000)	14-17 mm
235(233).	Elytral costae on more than sutural 1/2 of disc; elytron truncate. 236
	Elytral costae on only sutural 1/2 of disc; elytron with a triangu-
	langth 10 mm
236(235)	Elutral costae fairly distinct throughout elutrary neuronal
200(200).	narallel red-brown: length 14 mm
	Elytral costae obliterated on postscutellor areas elytron fairly
	broad ochreques on basal 1/2: length 16.7 mm 180 basklari n an
237(231).	Elytron subrounded-truncate anically or at least without a pro-
	jecting tooth ectoapically
	Elytron truncate, with projecting angle, tooth, or spine ecto-
	apically
238(237).	Elytron not markedly obtuse in dorsal and lateral view 239
	Elytron obtusely bent at end of basal 1/3, both in dorsal and
	lateral view; length 13.2-17.3 mm 128. pteridophytae, n. sp.
239(238).	Elytral base with a depression next to scutellum with oval
	pubescent patch; disc often with up to 5 oblique bands; pro-
	thorax often reddish; length 10.6–15.3 mm 127. giluwe, n. sp.
	Elytral base lacking a pubescent depression; disc usually glabrous;
040(007)	prothorax usually pitchy black; length 11-16 mm 126. joliveti
240(237).	Elytron truncate, or slightly emarginate, or slightly toothed
	ectoapically
	Environ strongly spined ectoapically

241(240).	Pronotum with a strip surrounded by punctures parallel to median strip; elytron more or less toothed ectoapically 242 Pronotum without a smooth strip parallel to median strip;
	elytron truncate or slightly emarginate
242(241).	Elytron yellow-green with vague bands of white; apex slightly
	emarginate; length 11 mm125. arfakianus
	Elytron red to pitchy with incomplete bands of lines; elytron
	truncate apically; length 12-15 mm 124. parasulcatus
243(241).	Elytron glabrous or with 2 narrow oblique pubescent lines 244
	Elytron with pubescence in grooves and often faint pattern of
	bands; a distinct parascutellar publication area; length 15-16
044(049)	mm
244(243).	thoray nitchy: elytron red heavily punctured at side; length
	12 2–16.3 mm
	Elytron with 2 oblique narrow bands: 1st more oblique than 2nd;
	base of elytron with golden pubescence; elytron weakly
	punctured at side; length 14 mm 117. p. paracyclops
	Elytron with 3 oblique narrow bands; base of elytron with
	ochreous pubescence; elytron distinctly punctured at side;
	length 11–17 mm
245(240).	Pronotum glabrous or with narrow golden stripe at side
94C(94E)	Pronotum pale publicient with median glabrous surper
240(245).	densely and distinctly punctured: length 18 mm119. schraderi
	Pronotum with lateral vellow stripe continuing on elytron to
	meet obligue posthumeral line; an obligue yellow line behind
	middle; length 1.9 mm 120. nitidus, n. sp.
247(245).	Elytron with 3 oblique bands, often vague, 1st may be part of a
	triangular lateral spot 248
	Elytron with 2 distinct yellow oblique lines at side, not parallel;
	basal pubescent area of elytron broken by 2 ridges; length 14.5
	mm
248(247).	Elytron with 1st band usually forming side of positiumeral
	triangle; 2nd band subtransverse; length 13-10 him
	El torne with lat hand simple parrow: 2nd hand distinctly
	oblique length 11-16.5 mm
249(220)	Elytron usually without a distinctly raised interstice near middle
410(440)	of base, and usually without postscutellar glabrous area; sur-
	face even; apex rarely spined 250

	Elytron with a more or less raised interstice near middle of base, usually joining a postscutellar glabrous area: apex often spined	
250(249)	or toothed ectoapically	2
400(4 10)	strongly oblique, or distinctly emarginate	1
	Elytral apex truncate, rounded externally, sinuate or suboblique; angles not strongly toothed	9
251(250).	Elytral apex toothed, emarginate or strongly oblique	2
	pronotum heavily punctured on each side of parrow median	
	smooth strip; elytron with subtransverse premedian band and	
	oblique postmedian band, or pale sulphury pubescence; length	
252(251).	Elytral apex emarginate, with both angles more or less toothed . 25.	3
253(252)	Elytral apex strongly oblique, or with a single strong tooth 25-	4
200(202).	pronotum with broad median impunctate strip: elytron with a	
	fairly large triangular patch of pale pubescence at side in 2nd	
	1/4, sometimes broken into about 3 spots; postmedian band	
	of slightly separate spots; length 15-19 mm177. wiedenfeld	i
	Elytral apex less strongly emarginate, with sutural angle blunt,	
	hardly toothed; elytron with posthumeral patch more sharply	
	(1700, 2000 m alt)	
254(252)	Elytral apex with external angle projections	s
	Elytral apex with sutural angle projecting)
255(254).	Elytral apex oblique with external angle projecting and spined	5
	Elytral apex with external angle projecting but barely acute:	,
	pronotum with median impunctate strip somewhat irregular;	
	elytron with 3 narrow pale pubescent bands, 1st and 2nd	
050(055)	slightly interrupted; length 21.5 mm 179. opalescens	3
256(255).	Pronotum evenly pubescent or largely pubescent with narrow	
	Proportium model 1 257	E.
	hand angulate (obtuge) and a blinger is the state of the	
	length 10 mm	
257(256).	Pronotum largely publicated with parrow slightly reised modily	
(100).	impunctate strip: elytron with 3 complex zigzag dark brown	
	discal bands and some basal and apical marks: length 16-23	
	mm (Maluku)	
	Pronotum evenly pubescent, with narrow median line; elvtron	
	with glabrous postscutellar area and 2 vague bands; length	
	16 mm	

258(254).	Elytron with 2 or 3 partly incomplete bands; elytral apex oblique with sutural angle acutely projecting; anterolateral tubercle of prothorax weak; elytron with 3 pale bands, 1st just anterior to middle of only an external spot, next 2 nearly complete; also apical area pale pubescent; length 21 mm (Vogelkop) Elytron with a single broad transverse pale band slightly narrower
	than middle 1/3; pronotum coarsely punctured on each side of narrow median impunctate strip; length 14.5-20.0 mm
259(250).	Elytron with 1 or more bands or subtransverse rows of spots, or with only 2 large spots
	Elytron with a broad sublateral stripe of pale gray pubescence,
	continuous with similar stripe on side of prothorax; similar
	stripe on side of top of head; length 15-20 mm (Monuccas)
960(950)	Elytron with a single distinct pale band, or with 2 large black
200(255).	spots
	Elytron with 2 or more bands, sometimes of spots
261(260).	Elytron with 2 large black spots edged with pale, 1 before, other
	behind middle, closer to external margin than suture; apex also
	partly black; length 20 mm (New Britain).249. quadrimaculatus
	Elytron with a single creamy while ball anterior to middle,
	sometimes pubescent: length 12-17 mm
262(260)	Elytron with 2 distinct narrow pale bands, transverse or oblique,
202(200).	2nd sometimes lost or modified
	Elytron with broad bands or spots 266
263(262).	Elytron with premedian band slightly oblique
	Elytron with premedian band more or less transverse
264(263).	Elytron with premedian band strongly oblique, extending in a
	straight line from anterior to middle at side toward sectement,
	distinct and hand before anex; length 13 mm 161. cyclopsi
	Flytron with premedian band weakly oblique, reaching suture
	well behind scutellum; postmedian band more strongly
	oblique; length 8-16 mm
265(263)	Elytron with premedian band very narrow, transverse; post-
()	median band vague, sinuous or margin with a mottled patch;
	length 15–18 mm 159. divisus
	Elytron with premedian band distinct; postmedian band similar,
	slightly oblique; rest of elytral disc dark or faintly motified;

	pronotum with median impunctate strip greatly broadened
966(969)	toward base; length 11-18 mm
266(262).	Elytral apex more or less sinuate; pronotum with median im-
	punctate strip usually irregular
	Elytral apex oblique; pronotum with median impunctate strip
	gradually widened posteriorly; elytron very coarsely punc-
	tured, with bands interrupted; length 18 mm (Gebeh I)
267(266).	Legs red
	Legs brown or blackish 269
268(267).	Elytron with a pale spot at suture anterior to middle; length 16-
	22 mm (Maluku)
	Elytron without a pale spot at suture anterior to middle: length
	16-24 mm (Maluku)
269(267).	Pronotum with median impunctate strip varying in width
	broadened at base
	Pronotum with median strip narrow regular: elytron with pre-
	median pale band incomplete: length 16-20 mm (N
	Mahuku)
270(269)	Elytron with at least partial pre- and postmedian pala hands
_ (_).	Elytron with ar least partial pic- and postmedian pale bands 271
	mm 176 mm
271(270)	Elytron with premedian automal mark la shine had in
271(270).	boside soutellum length 16, 20
	Elytron with many line in 16–20 mm
	Erytron with premedian sutural mark present, angulate; without
279(240)	a spot by scutelium; length 16-20 mm 175. p. petechialis
272(249).	Antennal scape elliptical; elytron with 2nd interstice rarely both
	distinct and straight; median carinae of frons rather broad 273
	Antennal scape subcylindrical, weakly swollen in middle; elytron
	with 2nd interstice fairly distinct and straight; median carinae
979/979	of frons rather narrow; length 10–15 mm 217. pseudintricatus
273(272).	Elytron without a conspicuous triangular or transverse glabrous
	area behind scutellum, sometimes narrowly glabrous along
	suture; elytral pubescence silvery or golden; elytron finely
	punctured
	Elytra with conspicuous triangular, transverse, or subrounded
	glabrous area behind scutellum; elytral pubescence usually
	goldish; elytron strongly punctured, very dense in middle 275
274(273).	Elytron dark brown along suture, without distinct glabrous area;
	disc with longitudinal stripes or elongate spots of silvery gray;
	pronotum broadly glabrous on middle of disc, without a
	distinct stripe; length 11-17 mm (Solomons)
	· · · · · · · · · · · · · · · · · · ·
	-

	Elytron reddish brown and often slightly glabrous along suture, forming a vague longitudinal patch; disc largely otherwise clothed with goldish on basal 1/2 and with postmedian oblique series of elongate goldish spots and similar ones before apex; pronotum with narrow median glabrous stripe; length 10.7- 15.5 mm (New Britain)
275(273).	Postscutellar area distinctly to strongly punctured; pubescence generally golden on dorsum
276(275).	 Postscutellar patch somewhat triangular, scutiform or deeply emarginate anteriorly and obtuse or rounded behind (mostly species from Bismarcks and Solomons)
277(276).	Postscutellar patch short, transverse, deeply emarginate anteriorly and obtuse or rounded behind
278(277).	 Body ± broad and short; prothorax with vague lateral stripe and tubercles similar; postscutellar patch very short, connecting narrowly glabrous midbasal carina; disc with 2 oblique bands, 1st not reaching suture; pubescence dull gold-buff; length 10-11.7 mm; breadth 3.2-3.8 (New Britain)295. brevis, n. sp. Body ± slender, narrowed behind; prothorax with distinct fine lateral stripe and anterior tubercle subobsolete; postscutellar patch nearly as long as broad, rounded-obtuse behind, connected to glabrous ridge extending both forward and backward; 2 oblique bands crossed by 2 glabrous carinae; pubescence quite golden; length 7.5-13.5; breadth 2.3-4.3 (New
279(277).	 Ireland)

280(279).	 Pronotum with fairly narrow median glabrous stripe; elytral disc rather generally gold-buff pubescent often with 2 vague or incomplete oblique brown lines near middle; length 7.5-13.5 mm (New Britain, New Ireland) 294. unipunctatus Pronotum with very broad, often squarish, central glabrous area; elytral disc with oblique golden stripe along hind side of post-scutellar patch and 4 or 5 bands (often broken) or patches at angles to former and 1st connected to it; length 9-14 mm
001/075)	(Solomons)
281(275).	Postscutellar area very large and distinct
	triangular parrow not reaching not willing fully
	times lacking; elytron with 2 whitiel many 1 1
	arcuate 2nd oblique: length 8 15 mm
282(281)	Postscutellar area broad transverse on triangular last
101(101).	reaching side (sometimes vague there) or humania (if this
	lar, or connected to side by a black hand)
	Postscutellar area scutiform to subtriangular often rounded or
	obtuse behind, distinctly bounded not reaching side
283(282).	Postscutellar area transverse or weakly obtuse behind where it is
	bordered by a pale narrow band, transverse or weakly obtuse:
	median pronotal stripe narrow
	Postscutellar area triangular or diamond-shaped, not bordered
	behind by a transverse or weakly obtuse pale band
284(283).	Postscutellar area more or less reaching side of elytron, bordered
	behind by a slightly obtuse narrow pale band, the angle point-
	ing posteriorly at suture; length 9–13 mm 282. transversus
	Postscutellar area often vague at side, more or less pubescent,
	bordered behind by a transverse slightly ochreous or yellowish
285(282)	Dand; length 7.5–13.0 mm
205(205).	rosiscutenar area transversely diamond-shaped, connecting to
	area and appy block ball; 2 narrow oblique black lines in middle
	elytron weakly spined length 8 19 5
	Postscutellar area an inverted isosceles triangle with here h
	on humeri and apex on suture: cephalic and proposal angles
	glabrous stripes broad: elytral discal bands weak apex broum.
	body reddish castaneous with ochreous brown pubescence:
	elytron strongly spined ectoapically; length 10.6-13.2 mm
286(282).	Prothorax about 3/5 or 2/3 as long as broad
	Prothorax more than 4/5 as long as broad; postscutellar area

convex and more or less diamond-shaped, nearly forming a right angle at suture, partly punctured; spined ectoapically; 287(286). Postscutellar smooth area broadly connected to base, at least opposite scutellum; median pronotal stripe about 1/3 as broad as long...... 288 Postscutellar smooth area transverse or obtuse anteriorly, only connected to base by narrow lines on ridges; median pronotal 288(287). Greenish; postscutellar area broadly connected to base of elytron, more or less rounded posteriorly, nearly impunctate; elytron with a broad transverse glabrous band just behind middle; Reddish to pitchy; postscutellar area connected to base opposite scutellum and with a narrow connection at middle of base, obtuse behind at suture; elytron with narrow stripes and 1 or 2 vague oblique lines; length 7.4-11.7 mm.... 288. subalpinus, n. sp. 289(287). Postscutellar area convex in anterior outline, subrounded or subacute behind; elytron with 4 stripes in middle and more or less distinct preapical marks 290 Postscutellar area subtransverse anteriorly and obtuse behind; elytron with rows of weak spots and very weak oblique bands; prothorax nearly 3/4 as long as broad; length 7.5-13.2 mm 290(289). Green; prothorax 5/6 as broad as elytra, distinctly obtuse at side; length 8-12 mm 285. v. virescens Red-brown to pitchy; prothorax 3/4 as broad as elytron, nearly straight at side; length 7.0-13.4 mm . . 286. virescens pteridii, n. ssp.

I. Costatus group

1. Tmesisternus costatus Breuning

Tmesisternus (Arrhenotus) costatus Br., 1939, Festschr. E. Strand 5: 169 (Celebes: Latimodjong, 2200 m; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 555.

Reddish castaneous with broad smooth ridges on elytron paler red; legs still paler ochraceous; prothorax trapeziform, heavily punctured, its base nearly as broad as elytra; elytron closely punctured between ridges; antenna distinctly shorter than body. Length 21-23 mm.

Distribution. Sulawesi: Latimodjong.

P1. 2a



FIG. 2. a, Tmesisternus r. rufipes; b, Tm. sulcatus.

II. Rufipes group

2. Tmesisternus rufipes rufipes Blanchard

Tmesisternus rufipes Bl., 1853, Voyage Pôle Sud, Zool. 4: 287, pl. 16, fig. 13 (Aru; PARIS).-White, 1855, Cat. Coleopt. Br. Mus. 8: 338.

Arrhenotus rufipes: Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 493 (N Moluccas, Kei, Vogelkop).-Gestro, 1876, Ann. Mus. Civ. Genova 9: 167.

Tmesisternus (Arrhenotus) rufipes: Gahan, 1916, Rep. B.O.U. & Wollaston Exped. Dutch NG

1, Coleopt. 3: 7(44) (Utakwa Riv).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 557. Tmesisternus (Arrhenotus) rufipes m. buruensis Br., 1950, Longicornia 1: 528 (Buru; LEPESME).

Tmesisternus (Arrhenotus) rufipes m. vittatus Br., 1956, Bull. Inst. R. Sci. Nat. Belg. 32(25): 3 (Kei Is; BRUXELLES).

Tmesisternus (Arrhenotus) rufipes ssp. ceramensis Br., 1973, Mitt. Zool. Mus. Berl. 49(1): 44 (Ceram).

Reddish brown to pitchy, partly clothed with golden-buff pubescence, with a median pronotal glabrous stripe, a postscutellar glabrous area and fine glabrous lines on the ridges, often

Fig. 2a

partly connected by irregular subtransverse bands; quite variable. Length 9-15 mm. The characters given for the above "morpha" and subspecies fall within the general range of variation of the species.

Distribution. Maluku; Kei; Aru; Biak; New Guinea; Manus.

Material examined. MALUKU: Halmahera and nearby isles; Buru; Seram; Kei; Aru. IRIAN NEW GUINEA (NW): Vogelkop; Biak I, I.1945, Blakemore; Biak, X.1959, VII.1962, Gressitt; NEW GUINEA (SW): S coast. PNG: NEW GUINEA (SE): Kiunga, Fly Riv, Brandt, Sedlacek. PNG: BISMARCK ARCH: Admiralty Is: Manus I: Rossum, 35-125 m, VI.1959, Gressitt; Lorengau, VI, Gressitt; Los Negros, IV.1945, G. Bohart; Nuwok, IV.1969, Gray.

3. Tmesisternus rufipes sumbawanus Breuning

Tmesisternus (Arrhenotus) rufipes ssp. sumbawanus Br., 1966, Mitt. Zool. Mus. Berl. 42(2): 255 (Sumbawa; ZMB).

Similar to *rufipes* but pronotum more coarsely punctured, elytron more coarsely and less closely punctured; elytral apex rounded externally.

Distribution. Lesser Sunda Is: Sumbawa I.

4. Tmesisternus subrufipes Breuning

Tmesisternus (Arrhenotus) subrufipes Br., 1966, Mitt. Zool. Mus. Berl. 42(2): 255 (Sattelberg, NE; ZMB).

Elytral pubescence in 5 rows of spots; prothorax very strongly widened anteriorly; pronotum with 3 distinct stripes in central portion; elytral punctures nearly lacking in apical 1/4. Length 11-13 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Bernhard Camp, 100 m, IV.1939, Toxopeus (questionable assignment).

5. Tmesisternus wallacei (Pascoe)

Arrhenotus wallacei Pasc., 1858, Trans. Entomol. Soc. Lond. ser. 2, 4: 242, pl. 25, fig. 1 (Macassar; BMNH); 1867, ser. 3, 3: 492.-Thomson, 1860, Fam. Ceramb., p. 360.

Tmesisternus (Arrhenotus) wallacei: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 557, fig. 319.

Shiny black, smooth, with dark brown pubescence; pronotum with 4 stripes of yellowish pubescence; elytron with irregular rows of large spots of golden yellow. Length 12-14.5 mm.

Distribution. Sulawesi.

Matemal examined. SULAWESI: Macassai (Ujuliy Fallualiy).

6. Tmesisternus florensis Breuning

Tmesisternus (Arrhenotus) florensis Br., 1948, Bull. Mus. R. Hist. Nat. Belg. 24(38): 33 (Flores; BMNH).

Reddish, with golden pubescence; median glabrous stripe of pronotum considerably widened to base; postscutellar glabrous area scutiform, projecting toward base of elytron from upper corner; elytron also glabrous on 2 raised lines, humerus and 2 weak postmedian bands. Length 14-18 mm.

Distribution. Lesser Sunda Is: Flores I.

7. Tmesisternus seriemaculatus Breuning

Tmesisternus (Arrhenotus) seriemaculatus Br., 1939, Festschr. E. Strand 5: 169 (Celebes; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 557, fig. 320.

Bronzy black with brown pubescence; elytron with 3 rows of large whitish spots; elytral apex emarginate. Length 19 mm.

Distribution. Sulawesi.

Material examined. Sulawesi: Pic de Bonthain, 1100 m.

8. Tmesisternus virens Gressitt, new species

d. Green above and on femora, tibiae and basal 3 segments of antenna; head pitchy olive; prothorax tinged with reddish medially, mainly near apex and base; scutellum tinged with ochraceous; elytron reddish apically; tarsi and venter reddish but latter tinged with green at side and on last sternite; body partly clothed with tawny buff pubescence: head densely clothed in depressed areas but with pair of broad submedian glabrous stripes branching on vertex to sublateral and median occipital stripes and another dark stripe behind upper eyelobe; pronotum with broad median raised strip slightly pubescent along each side, raised glabrous sublateral strip and lateral expansion nearly glabrous; scutellum broadly glabrous medially; elytron almost glabrous on basal 3/4, with a small amount of pubescence on extreme base, extreme outer margin and very narrowly along suture; apical portion largely clothed with flecks and patches; venter broadly and serrately glabrous medially, moderately clothed with pale at side, without dots; legs nearly glabrous.

Head with carinae very broad, raised but nearly partly with fine wrinkles; remainder not obviously body; segment 3 longer than 1, equal to 4, nearly as elytra, 5/9 as long as broad; lateral expansion broad narrowed to behind middle, then subparallel-sided; midlateral tubercle obsolete; disc with broad median raised strip bearing a few punctures on each side of middle, another straight, narrower raised strip separated from it by a narrow pubescent subrugose on lateral expansion. Scutellum flat, broadly arched anteriorly over base of pronotum. Elytron narrow, almost parallel-sided, subobliquely emarginate-truncate with outer angle spined and inner obtuse; disc smooth, weakly convex in side view, finely punctured anteriorly, with raised lines posteriorly. Venter not smooth and strongly swollen. Length 13.2 mm; breadth 4.3 mm.

Q. Duller olive green; head and pronotum pitchy ochraceous; terminal elytral spots smaller. Length 11.9 mm; breadth 4.1 mm. Paratypes 11.5-12.0 mm.

Holotype & (BISHOP 12,433), PNG: NEW GUINEA (NE): Morobe Prov, Wau, 1200 m. 6-7.XI.1961, J. Sedlacek; allotype \circ (BISHOP), Morobe Prov, Bulldog Rd, 19-29 km S of Wau, 2200-2500 m, 31.V.1962, J. Sedlacek; 2 paratypes: 1,

Pl. 9a

Morobe Prov, Mt Kaindi, 2350 m, 5.III.1970, Sedlacek; 1, Edie Creek, 2050 m, 6.X.1961, J. & M. Sedlacek.

Differs from *rufipes* in being narrower, green, more convex, smoother, with 3 smooth raised strips on pronotum and elytron much more strongly spined ecto-apically.

9. Tmesisternus breuningi Gilmour

Tmesisternus (Arrhenotus) breuningi Gilm., 1950, Tijdschr. Entomol. 92: 233 (Waigeu; BMNH).

Shiny black, clothed in part with yellow pubescence: stripes on side of head; 2 connected sinuous stripes on side of pronotal disc; many small dots arranged in 5 lines on elytron, and a narrow apical band; elytron with 3 ridges distinctly raised and apex emarginate-truncate, slightly toothed at angles. Length 11-13 mm.

Distribution. Waigeo.

Material examined. IRIAN: NEW GUINEA (NW): Waigeo I.

10. Tmesisternus soembanus (Schwarzer)

Arrhenotus soembanus Schw., 1931, Senckenbergiana 13: 205 (Sumba; SENCKENBERG). Tmesisternus (Arrhenotus) soembanus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 560.

Dark brown; appendages red; body irregularly clothed with golden, greenish and brownish; pronotum with a slightly sinuous dark line on side of central area; elytron with numerous small patches, partly squarish dark spots. Length 17 mm.

Distribution. Lesser Sunda Is: Sumba I.

11. Tmesisternus aurosignatus Breuning

Tmesisternus (Arrhenotus) aurosignatus Br., 1959, Mitt. Zool. Mus. Berl. 35(1): 154 (New Guinea: ZMB).

Blackish brown with golden pubescence; occiput with broad median brown band; pronotum with 3 brown stripes, median broader; elytron with glabrous postscutellar squarish area; rest with vague brownish areas along suture and side. Length 14-15 mm.

Distribution. New Guinea (no locality specified).

12. Tmesisternus tenimberanus Breuning

Tmesisternus (Arrhenotus) tenimberanus Br., 1973, Mitt. Zool. Mus. Berl. 49(1): 44 (Tenimber; ZMB).

Dark brown; head and prothorax with fine greenish pubescence; pronotum with 3 glabrous stripes on disc and 1 at side; scutellum glabrous medially; elytron with narrow green sutural stripe and broader stripes on disc, partly divided into spots. Length 9-13 mm.

Distribution. Lesser Sunda Is: Tanimbar.

13. Tmesisternus lucidus Breuning

Tmesisternus (Arrhenotus) lucidus Br., 1966, Mitt. Zool. Mus. Berl. 42(2): 255 (Mira, Moluccas; ZMB).

Shiny dark brown; head and prothorax with pale yellow pubescence; occiput with 2 and pronotum with 5 glabrous stripes; elytron with a median whitish band and spots mostly close to borders, those along suture becoming larger posteriorly. Length 11 mm.

Distribution. Maluku: Morotai I (Mira).

14. Tmesisternus geniculatus Breuning

Tmesisternus (Arrhenotus) geniculatus Br., 1948, Bull. Mus. R. Hist. Nat. Belg. 24(38): 34 (Flores; BMNH).

Red with goldish pubescence; dark stripes of head and pronotum very finely pubescent; scutellum glabrous medially; postscutellar area glabrous, bounded by a ridge and extending forward and backward slightly at the ridge; elytral disc with some brown areas near suture (partly squarish) and along margin; disc strongly punctured; apex oblique. Length 15 mm.

Distribution. Lesser Sunda Is: Flores I.

III. Venatus group

15. Tmesisternus lansbergei Breuning

Tmesisternus (Arrhenotus) lansbergei Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 605 (no locality data; GENOVA).

Black, clothed with silky yellowish brown pubescence; a darker stripe on each side of pronotal disc; elytron with indistinct brown bands; prothorax $2 \times as$ broad as long, densely punctured; elytral apex emarginate with sutural angle spined and outer angle toothed. Length 12 mm.

Distribution. New Guinea (no locality given).

16. Tmesisternus venatus venatus (Thomson)

Mneside venata Th., 1864, Syst. Ceramb., p. 324 (Flores; PARIS).-Pascoe, 1867, Trans. Entomol. Soc. Lond. ser. 3, 3: 494.

Arrhenotus venatus: Aurivillius, 1922, Coleopt. Cat. 73: 224.

Tmesisternus (Arrhenotus) venatus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 559.

Broad, narrowed posteriorly; prothorax very short. Pitchy black with ochreous pubescence; head and pronotum with broad median dark stripe; latter with a narrower arcuate stripe toward side; elytron with 3 narrow dark lines, irregularly connected by fine subtransverse lines; elytral apex strongly toothed at sutural angle. Length 14-17 mm.

Distribution. Lesser Sunda Is: Flores I.

17. Tmesisternus venatus djampeanus Breuning

Tmesisternus (Arrhenotus) venatus m. djampeanus Breuning, 1950, Longicornia 1: 528 (Djampea Is; LEPESME).

Distribution. Djampea Is (between Sulawesi and Flores).

18. Tmesisternus venatus kangeanus Breuning

Tmesisternus (Arrhenotus) venatus ssp. kangeanus Br., 1969, Bull. Mus. Paris 40: 699 (Kangean I; PARIS).

Distribution. Kangean I (near Madura, Java and Bali).

19. Tmesisternus subvenatus Breuning

Tmesisternus (Arrhenotus) subvenatus Br., 1959, Mitt. Zool. Mus. Berl. 35(1): 154 (Toekan Besi Is; ZMB).

Similar to venatus but smaller, pronotal margin less prominent; dorsum more finely and sparsely punctured. Length 10-14 mm.

Distribution. Tukan Besi Is, SE of Sulawesi.

IV. Salomonus group

20. Tmesisternus salomonus salomonus (Aurivillius)

Arrhenotus salomonum Aur., 1929, Ark. Zool. 13(9): 18(378), fig. 77 (Bougainville; STOCK-HOLM).

Tmesisternus (Arrhenotus) salomonum: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 559, fig. 322 (Isabel).

Broad, elliptical; shiny black with golden pubescence: 2 broad gold stripes on occiput; 4 gold stripes on pronotum, narrowly connected along apical and basal margins; elytron with 2 short basal stripes, outer one longer, a premedian arcuate band, convex behind; a postmedian subarcuate band, convex anteriorly and uneven behind, and about 3 preapical narrow marks, lying in different directions. Prothorax transverse, oblique at side; elytron sparsely punctred, hardly ridged, rounded-truncate apically. Length 16–20 mm.

Distribution. Solomon Is: Bougainville, Choisel, Isabel.

Material examined. PNG (N Solomons): Bougainville: Kukugai, 150 m, X.1960, Brandt; Kokuro, 900 m, VI.1956, Ford; Mutahi, 700 m, SE of Timputz, Straatman; Buin, IV.1966, F. Parker. Solomon Is: Choisel, 1, Ac. 30025 (AMNH).

21. Tmesisternus salomonus aurescens Breuning

Tmesisternus salomonum ssp. aurescens Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 559 (Talasea, New Britain; Itzinger: FREY).

Shiny black with golden to greenish-golden pubescence; head with narrow median black line; pronotum almost entirely golden; elytron with shorter basal stripes, broader and less arcuate premedian band and slightly broader postmedian band. Length 15-19 mm.

Distribution. New Britain.

Material examined. PNG: Bismarck Arch: New Britain: St Paul's, Baining Mts, 360 m, IX.1955, Gressitt.

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22. Tmesisternus salomonus vellalavellae Gressitt, new subspecies Pl. 2f

d. Pitchy to black above, reddish castaneous beneath; antenna and legs reddish brown; extensively clothed with golden pubescence, partly tinged with mother-of-pearl: head largely clothed, with median and postocular glabrous stripes; pronotum densely clothed except on median and marginal glabrous stripes and another in between which is less even and less shiny, not reaching front and hind borders; scutellum glabrous medially; elytron with many fine disconnected lines of golden behind base, between arcuate gold bands and between latter and apex; nongolden areas with very brief setae, lacking on basal ridges; venter with gold to graygold pubescence at side; legs thinly clothed with golden buff.

Head sulcate on frons, weakly so on vertex. Antenna as long as body. Prothorax not quite $2 \times as$ broad as long; margin weakly arcuate, somewhat uneven; disc coarsely punctured except medially. Elytron subparallel, rounded-truncate apically, sparsely punctured. Length 14.9 mm; breadth 4.6 mm.

 \bigcirc . Elytron with arcuate bands partly connected by stripes; some stripes before and behind also connected to bands. Length 16.7 mm; breadth 5.3 mm.

Paratypes. Gold elytral stripes at middle mostly not connected with gold bands; those behind partly connected to hind band. Length 12-18 mm; breadth 3.7-5.8 mm.

Holotype & (BISHOP 12,434), SOLOMON IS: New Georgia Group: Vella Lavella I: Ulo Crater, 10 m, XII.1963, P. Shanahan; allotopotype & (BISHOP), same data; 10 paratopotypes, same data. Paratypes: SOLOMON IS: 1, Vella Lavella, XI.1927, Ac. 27590 (AMNH); 1, Santa Isabel: Sukapisu, 900 m, VI.1960, C.W. O'Brien; 5, Guadalcanal: Gold Ridge, 500-800 m, VI.1956, Gressitt; 1, Kolombangara: Gollifer's camp, 100 m, I.1964, Shanahan (BISHOP).

Differs from the nominate form in having longitudinal stripes of golden pubescence between the transverse bands and behind the posterior band.

V. Trapezicollis group

23. Tmesisternus trapezicollis (Heller)

Arrhenotus trapezicollis Hllr, 1914, Nova Guinea 9: 659 (Bivak I, Lorentz Riv, SW; DRESDEN). Tmesisternus laticollis Gahan, 1915, Trans. Zool. Soc. Lond. 20: pl. 34, fig. 24.

Tmesisternus (Polyxo) laticollis Gah., 1916, Rep. B.O.U. & Wollaston Exped. Dutch NG 1(3): 7(44) (Utakwa Riv, SW; BMNH).

Tmesisternus (Arrhenotus) trapezicollis: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 562

Black, dorsally with dark brown pubescence and dots; elytron with fine pale lines meeting a similar preapical oblique pale line and with a fairly large whitish spot at side anterior to middle; head densely yellowish pubescent except for median and postocular black stripes; prothorax trapeziform, broader than elytra, mottled and with sparse strong punctures and median glabrous impunctate strip; elytron strongly narrowed, truncate apically; venter with black spots at side. Length 17-21 mm.

Distribution. Irian: New Guinea (SW): Lorentz River; Utakwa River.

24. Tmesisternus anomalus Gressitt, new species

d. Dark reddish brown to pitchy; partly reddish castaneous beneath; tarsi, tibiae and antenna beyond scape pale reddish brown; body largely clothed with slightly tawny gray-brown pubescence, in part marked with creamy white or dark brown; head largely clothed, but glabrous on narrow carinae, mottled with brown on gena and with suggestion of a weak brown stripe behind upper eye-lobe; pronotum largely pubescent, with a poorly defined narrow median glabrous stripe; scutellum glabrous and reddish medially; elytron even clothed with grayish buff (partly abraded only on area behind scutellum), finely dotted with gray-brown, with a straight narrow transverse creamy white line a little anterior to middle, and a slightly narrower, weakly sinuate oblique similar line from suture somewhat behind middle to external margin near start of apical 1/3; venter narrowly glabrous medially, with golden buff pubescence at side marked with small brownish dots with poorly defined borders; legs thinly clothed with golden buff.

Head narrowly carinate medially but distinctly grooved, with only groove on occiput; lateral carina oblique, nearly straight, narrow, obsolete behind antennal insertion; surface with many moderately fine punctures. Antenna about 1/8 longer than body; scape fairly slender; segment 3 slightly shorter than 4; 4 slightly shorter than 5 + 6. Prothorax very nearly as broad as elytra, nearly 2 × as broad as long, trapeziform; side strongly oblique but slightly uneven, rounded anterolateral tubercle and basal 2/5 of margin more prominent and rest of margin reduced; midlateral tubercle very weak, essentially hidden by lateral margin; disc deeply but sparsely punctured, about 8 punctures in an approximate longitudinal row; an uneven median impunctate (but partly pubescent) strip is widest just anterior to middle, and at base, and narrowly constricted between. Scutellum smooth and flat, weakly convex in anterior outline. Elytron strongly and evenly narrowed, truncate and slightly emarginate apically; disc convex, irregularly punctured, the punctures fairly strong near base and weak near apex. Venter feebly punctured. Legs with femora moderately swollen and smooth. Length 16 mm; breadth 5.3 mm.

 \bigcirc . Prothorax with lateral margin moderately developed but not sharp as in \eth , widest behind middle with anterolateral tubercle prominent and midlateral tubercle larger than in \circlearrowright and visible from above; elytron somewhat abraded behind scutellum. Length 17 mm; breadth 5.9 mm.

Paratypes. 1° with prothorax fully as broad as elytra and with suggestion of a preapical pale band; 1° abraded behind scutellum and 1° and 1° entirely pubescent. Length 16.5-19 mm; breadth 5.5-6.0 mm.

Holotype & (BISHOP 12,435), PNG: NEW GUINEA (SE): Tapini, 975 m, Central Prov: Goilala Distr, Owen Stanley Mts, 16-25.XI.1957, W.W. Brandt; allotype & (BISHOP), Goilala Distr, Loloipa, 1400 m, 1-15.I.1958, Brandt; 1 paratype, Brown Riv, 20 m in rain forest, 5.XI.1960, Gressitt; 2 paratypes: NEW GUINEA (NE): Torricelli Mts, Walwali Vill, 150 m, 24-26.XI.1958, Brandt; IRIAN: NEW GUINEA (SW): Homlikia, upper Digoel (Digul) Riv, 13.X.1957, R.T. Simon Thomas.

Differs from *trapezicollis* Hllr in having prothorax not quite as short and a little less straight at side in σ , and in having different elytral pattern, without a lateral pale spot or sublongitudinal lines; very similar in superficial appearance with *trivittatus* Guerin.

Pl. 8c

25. Tmesisternus cuneatus Gressitt, new species

^d. Cuneiform, narrowed posteriorly, strongly convex. Dark reddish castaneous, with antenna partly paler reddish brown; abdomen pale reddish brown at side; legs ochraceous with swollen portions of femora dull brown, pitchy. Body partly clothed with golden tawny pubescence: dense on depressed side of frons, sparse on rest of head; fine on antenna, very sparse on pronotum, more near side; some on side of scutellum; irregular on elytron, with large postscutellar glabrous area, a moderately dense posthumeral triangle, an oblique band ascending toward suture behind middle, and side behind this subdensely pubescent and extending to meet suture before apex; ventral surfaces glabrous medially with side moderately clothed, with subglabrous dots: legs thinly clothed.

Head with median carina broad, evenly convex, widened near middle of frons; lateral carina weaker, arched, continuing from antennal tubercle to median carina, forking slightly; side of occiput densely punctured. Antenna almost as long as body; scape swollen beneath; segment 3 shorter than 4; 4 distinctly shorter than 5 + 6. Prothorax 9/10 as broad as elytra, $2 \times as$ broad as long, subtrapeziform with anterior corner with a rounded angle and basal corner rounded; side weakly convex between, well hiding small midlateral tubercle; disc moderately convex, with raised median impunctate strip widened basally, rest coarsely punctured, about 10 punctures in an approximate row from apex to base. Scutellum broad, smooth. Elytron gradually narrowed in basal 3/4, then more strongly narrowed, truncate and strongly toothed externally; disc moderately, subevenly convex, largely impunctate on large postscutellar area, with 1 stronger and 3 weaker postmedian ridges and punctures fine and partly regular. Ventral surfaces shallowly punctured. Legs smooth and femora moderately swollen. Length 13.5 mm; breadth 4.3 mm.

\$. Broader than δ ; prothorax 6/7 as wide as elytra and more trapeziform; elytron more pubescent, with entire area behind postmedian band pubescent and much of area between it and posthumeral triangle more or less pubescent. Length 15.3 mm; breadth 5.6 mm. Paratype: 17 mm.

Holotype & (BISHOP 12,436), IRIAN: NEW GUINEA (NW), Okaitadi, Wissel Lakes, Lake Paniai, 1800 m, 8.VIII.1955, Gressitt; allotopotype ? (BISHOP), same data; paratopotype ?, same data.

Differs from *latithorax*, n. n. in having prothorax more trapeziform, in being more heavily punctured, and in having elytron broader, more evenly convex, and more patterned.

26. Tmesisternus discomaculatus Breuning

Tmesisternus (Arrhenotus) discomaculatus Br., 1939, Festschr. E. Strand 5: 169 (Torricelli Mts, NE; DRESDEN); 1945, Novit. Entomol. 15-16, Suppl. 3: 562.

Similar to *trapezicollis* but smaller, with prothorax narrower, more grossly punctured and elytron more finely punctured, with lateral pale area smaller and with a round postbasal ochraceous discal spot. Length 16 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Torricelli Mts.

Pl. 8d

VI. Latithorax group

27. Tmesisternus latithorax Gressitt, new name

Tmesisternus (Arrhenotus) laticollis Breuning, 1948, Bull. Mus. R. Hist. Nat. Belg. 24(38): 36 (Cyclops Mts; BMNH) (nec Tmesisternus (Polyxo) laticollis Gahan, 1915; 1916).

Elongate, slender posteriorly; prothorax very broad and flat, rounded laterally, heavily punctured, slightly raised medially; reddish brown with olive brown pubescence; a large glabrous postscutellar area on elytra; slightly patterned with denser pubescence on side of elytron; elytron pale yellow with median glabrous strip, briefly toothed ectoapically. Length 13-16 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Cyclops Mts; Wissel Lakes: Moanemani, 1500 m, VIII.1962, Sedlacek. PNG: NEW GUINEA (NE): Torricelli Mts: Samoro, 1200 m, V.1975, Gressitt; Karimui, 100 m, VI.1961, IV.1977, Gressitt; Aseki, 1200 m, IV.1974, Hart.

28. Tmesisternus planicollis Gressitt, new species

Pl. 2d

d. Slender, convex and tapered. Bright reddish castaneous, paler reddish brown on antenna, still paler on legs. Body largely glabrous but partly clothed with thin pale buff, a little on each side of apex of frons and a few scattered hairs on other parts of head; antenna with very fine pubescence, only on distal 1/2; prothorax nearly glabrous; scutellum with just a few hairs at side; elytron with thin clothing at side and a few scattered hairs on posterior 1/2 of disc; ventral surfaces very thinly clothed, at side only; legs partly glabrous.

Head with median carinae broad and low, slightly diverging on frons and then reuniting; lateral carina similar, less pronounced, incurved distally; a few punctures along middle of side of vertex and occiput. Antenna 4/5 as long as body, slender; scape swollen a bit beneath; segment 3 about as long as 4; 4 slightly longer than 5 + 6. Prothorax nearly 7/8 as broad as elytra, rounded trapeziform, widest well behind middle; midlateral tubercle small, acute, well hidden; disc nearly flat, with fairly narrow median impunctate strip and rest rather closely punctured except near apical margin, punctures finer near side, about 11 punctures in an approximate row from apex to base. Scutellum smooth, impunctate. Elytron narrow; humerus prominent, then side narrowed, slightly widened near middle, then strongly narrowed, truncate and strongly toothed externally; disc strongly convex in area of postscutellar smooth area, then slightly depressed, with 2 costae and fine punctures partly in rows. Ventral surfaces hardly punctured. Legs with femora relatively slender. Length 12.5 mm, breadth 4.3 mm.

Holotype & (BISHOP 12,437), IRIAN: NEW GUINEA (NW): Enarotali, nr Lake Paniai, Wissel Lakes (Wisselmeren), 1800 m, 5.VIII.1955, Gressitt.

Differs from *latithorax* in having prothorax somewhat smaller, suboblique in d, with humerus more prominent, postscutellar area more swollen, and elytron less evenly narrowed.

29. Tmesisternus obtusatus Gressitt, new species

d. Slender, tapering; prothorax very broad and flat. Pitchy brown, somewhat reddish beneath and on legs except femora reddish to olive brown basally, dull brown distally. Body partly clothed with tawny brown pubescence, general and subeven on head except carinae

glabrous, a brown triangle behind upper eye-lobe and a less distinct brown area behind lower eye-lobe; antenna partly reddish, very thinly pubescent; prothorax very thinly clothed; scutellum more densely clothed but glabrous medially; elytron with a stripe of dense tawny along outer edge of disc, its outer margin straight and extending back from humerus, its inner margin less even, the stripe becoming less distinct on apical 1/4; rest of disc very thinly clothed with paler, with scattered small flecks of denser pubescence but with fairly large glabrous postscutellar area; ventral surfaces glabrous medially, thinly clothed at side with brown dots.

Head with median carinae broad and low, lateral carina similar, sinuate, partly pubescent. Antenna nearly as long as body, slender; scape swollen below in middle; segment 3 shorter than 4; 4 much shorter than 5 + 6. Prothorax not quite as broad as elytra, obtusely rounded at side, widest behind middle; midlateral tubercle small, acute and well hidden from above; disc nearly flat, distinctly and narrowly raised medially, connecting with a wide basal impunctate area; rest irregularly punctured, about 12 punctures in an approximate row from apex to base. Scutellum smooth, impunctate. Elytron gradually narrowed in basal 2/3, then more strongly narrowed, truncate and strongly toothed externally; disc subregular punctures, only a few on latter. Ventral surfaces impunctate. Femora slender. Length 13.4 mm; breadth 4.3 mm.

9. Prothorax 8/9 as broad as elytra, suboblique at side but convex near base. Length 13.7 mm; breadth 4.5 mm.

Paratypes. Elytral disc often without flecks of denser pubescence. $11-16 \times 3.5-5.3$ mm.

Holotype & (BISHOP 12,438), IRIAN: NEW GUINEA (SW): Bomberi, Bomberai penin., N of Fak Fak, 700-900 m, 9.VI.1959, Gressitt; allotopotype \mathcal{P} (BISHOP), same data; 7 paratypes, same data, but 3-10.VI.1959, 1 taken by T.C. Maa.

Differs from *latithorax* in having prothorax slightly smaller, obtuse at side in male and oblique with convexity subbasally in lateral outline in female.

30. Tmesisternus stellae Gressitt, new species

2. Cuneiform, strongly narrowed posteriorly. Reddish brown, paler on antenna and legs; in small part clothed with whitish buff pubescence: a small patch on each side of vertex, a smaller spot on each side of clypeal area; antenna very thinly clothed with duller; prothorax and scutellum glabrous; elytron with a few small flecks below humerus, an elongate patch behind humerus and a suboblique one at side behind middle; from latter, and again behind it, a suggestion of 2 narrow oblique bands, ascending toward suture; ventral surfaces mottled at side; legs very thinly clothed with golden buff.

Head with median carinae very broad, low, slightly diverging and reuniting on frons; lateral carina weak, partly interrupted; side of frons with a few punctures but more on vertex and occiput. Antenna (incomplete) probably 4/5 as long as body; scape weakly swollen; segment 3 a little shorter than 4; 4 distinctly shorter than 5 + 6. Prothorax nearly 6/7 as broad as elytra, subtrapeziform, but narrowed and rounded at each end of oblique lateral margin; midlateral tubercle small, fine, well hidden from above; disc weakly convex, slightly uneven, with raised impunctate median strip gradually widened to base which is narrowly impunctate as is apex; rest of surface subdensely and irregularly punctured, more finely at side, about 14 punctures in an approximate row from apex to base. Scutellum impunctate. Elytron with humerus prominent, then strongly narrowed, then more evenly narrowed to near apex which is truncate with outer angle strongly toothed; disc strongly convex on more than postscutellar impunctate area, then slightly depressed, with 3 discal costae postmedially and punctures fine and partly

Pl. 2c

in rows. Ventral surfaces impunctate. Legs with femora moderately swollen, smooth. Length 15.6 mm; breadth 5.7 mm.

Holotype \mathcal{Q} (BISHOP 12,439), IRIAN: NEW GUINEA (NW): Sibil Val, Star Mts, 1245 m, 18.X-8.XI.1961, Stella Quate.

Differs from *latithorax* females in having side of prothorax more rounded anteriorly and posteriorly, disc with median impunctate strip more widened posteriorly, and elytron with humerus more prominent, postbasal area more swollen, punctures weaker and side less pubescent. Named both for the Star Mts, type-locality, and for Stella Quate, the collector.

Pl. 2e

31. Tmesisternus bosavi Gressitt, new species

d. Slender, moderately narrowed, evenly convex. Grayish olive green to reddish brown or pitchy: head reddish olive thinly clothed with golden buff; mandible red except black apically; antenna olive brown with ends of segments reddish, more pitchy distally; prothorax ochraceous on borders, pale olive brown on disc; surface with very thin tawny pubescence, scutellum ochraceous with thin tawny hairs; elytron pale olive green with very thin golden buff pubescence except on postscutellar glabrous area, and with marks of fairly dense golden pubescence; an uneven posthumeral stripe, irregularly widened before and behind middle and nearly interrupted before termination a short distance before apex; also small patches forming incomplete bands, partly oblique, before and behind middle and between latter band and apex; ventral surfaces ochraceous, glabrous medially and mottled with pale pubescence and glabrous spots at side. Legs ochraceous tinged with olive green, very thinly gold-pubescent.

Head with median carinae low, even and parallel except narrower and closer distally; lateral carina low, partly depressed or punctured; moderately punctured between carinae, more densely so on occiput. Antenna a little longer than body; scape swollen in middle; segment 3 slightly shorter than 4; 4 a bit shorter than 5 + 6. Prothorax nearly as broad as elytra, unevenly rounded at side with posterior 1/2 distinctly wider; disc weakly convex, with subparallel median impunctate strip largely pubescent; rest closely punctured, partly depressed, with a less-punctured raised area not far from middle of median strip. Scutellum only micropunctulate. Elytron gradually narrowed from humerus to near apex, then more strongly narrowed, truncate and with very broad tooth on outer angle; disc moderately and evenly convex, weakly ridged and with fine, partly regular punctures. Ventral surfaces sparsely and feebly punctured. Legs smooth with femora fairly narrow. Length 12 mm; breadth 3.8 mm.

Holotype & (BISHOP 12,440), PNG: NEW GUINEA (SE): Mt Bosavi, 800-900 m, SHP, 11.V.1973, Gressitt.

Differs from *latithorax* in being narrower, with prothorax less rounded, more oblique and irregular at side, and elytron less cuneate, less convex postbasally and with ectoapical angle more triangularly toothed. Also, this species is different in color.

32. Tmesisternus gracilis Gressitt, new species Pl. 8g

². Slender, narrowed posteriorly, unevenly convex. Reddish brown, darker on head, paler on antenna and ventral surfaces, still paler on legs; partly clothed with thin whitish gray pubescence: head thinly clothed, but glabrous on median carinae and behind upper and lower eye-

lobes; antenna very sparsely clothed; prothorax thinly clothed, more densely toward lateral margin, with median strip glabrous and a lateral strip below lateral margin also glabrous; scutellum clothed at side; elytron modestly clothed except on most of side, large postscutellar area, ridges and on a vague submedian oblique band; ventral surfaces glabrous medially and side with thin pubescence with subglabrous dots; legs very thinly clothed in part.

Head with median carinae broad and low, especially on middle of frons, and partly punctured; lateral carina weak, slightly arched, partly pubescent; depressed areas feebly punctured on frons, densely so on occiput. Antenna slender, nearly as long as body; scape slightly thickened in middle; segment 3 slightly longer than 4; 4 distinctly shorter than 5 + 6. Prothorax nearly 5/6 as broad as elytra, nearly 5/8 as long as broad, suboblong, widest behind middle, with lateral margin weakly sinuate and not quite hiding lateral tubercle; disc slightly convex, with broad, parallel-sided median impunctate strip and rest substrongly punctured, with about 11 punctures in an approximate row from apex to base. Scutellum impunctate. Elytron evenly narrowed to near apex, then more strongly narrowed, truncate, and strongly toothed externally; disc moderately convex behind base, then slightly depressed and with 2 distinct ridges posteriorly and 2 weak ones with moderate punctures partly in rows; postscutellar impunctate area large. Ventral surfaces smooth. Legs smooth with femora moderately swollen. Length 12.7 mm; breadth 4.1 mm. Paratype φ 12.5 × 3.9 mm.

Holotype ? (BISHOP 12,441), IRIAN: NEW GUINEA (NW): Itouda, 1500-1700 m, Kamo Val nr Wissel Lakes, 18.VIII.1962, J. Sedlacek; paratype ? (BISHOP), Karubaka, Swart Val, 1400 m, 6.XI.1958, Gressitt.

Differs from *latithorax* in being narrower, more parallel-sided, with prothorax narrower, longer, more oblong, and elytron without prominent humerus and with postscutellar impunctate area much larger.

33. Tmesisternus attenuatus Gressitt, new species

d. Elongate, strongly narrowed posteriorly, convex. Dark reddish brown to pitchy; antenna reddish brown; ventral surfaces reddish, paler at side; legs ochraceous, duller on femoral clubs and distal portions of tibiae; moderately clothed with tawny brown, varied to paler or darker: head subevenly clothed with pale tawny except on carinae; antenna thinly clothed with buff; prothorax moderately clothed with tawny, more thinly on heavily punctured areas and glabrous along median portion only of impunctate median strip; scutellum with tawny except along narrow median stripe; elytron entirely clothed with area which extends forward and backward slightly on ridges; surface with small brown dots over many of punctures, and 3 slightly paler oblique bands, 1st from anterior to middle of side to near corner of postscutellar area, 2nd behind middle, edged anteriorly with darker, and a less distinct pale band nearer to former than to apex; ventral surfaces glabrous medially, pale buff weakly dotted with brown at side; legs thinly golden pubescent.

Head with median carinae narrow, parallel, lateral carina nearly straight on frons, bending at angle above eye, then finely punctured. Antenna not quite as long as body; scape swollen beneath; segment 3 a little longer than 4, distinctly shorter than 5 + 6. Prothorax nearly 4/5 as broad as elytra, 3/5 as long as broad, slightly sinuate at side, shallowly emarginate above the fairly strong lateral tubercle, then slightly broadened and narrowed a bit again at base; disc slightly convex, fairly even, somewhat depressed in middle; median impunctate strip subregular, broadened at base, rest substrongly punctured, with about 12 punctures in an approximate row from apex to base. Scutellum broad, smooth. Elytron subregularly narrowed to near apex, then more strongly narrowed, obliquely truncate and broadly toothed externally; disc

Pl. 8h

strongly convex basally, postscutellar glabrous area punctured anteriorly; 2nd interstice moderately raised almost throughout, others weak; punctures moderate, partly in rows. Ventral surfaces very shallowly punctured at side. Legs smooth; femora moderately swollen. Length 16.2 mm; breadth 5.3 mm.

Prothorax more sinuate at side, more narrowed anteriorly. Length 15.2 mm; breadth 4.5 mm.

Paratypes. Length 11-16 mm; breadth 3.0-5.2 mm.

Holotype & (BISHOP 12,442), IRIAN: NEW GUINEA (NW): Vogelkop, Arfak Mts, Lake Anggi Giji, 2000-2100 m, 1-3.III.1963, R. Straatman; allotype ? (LEIDEN), Mist Camp, 1800 m, 8.I.1939, L.J. Toxopeus, Neth. Ind.-Am. Exped.; 7 paratypes (LEIDEN, BISHOP): Lower Mist Camp, 1550 m, 31.I.; Rattan Camp, 1100 m, II-III; Araucaria Camp, 800 m, III.1939; Sigi Camp, 1500 m, 28.II.1939, Toxopeus, Neth. Ind.-Am. Exped.

Differs from gracilis, n. sp., in being larger, with cephalic carinae finer, prothorax longer, more oblong, and elytron broader, with postscutellar area shorter, partly punctured, oblique apically, and more pubescent.

Tentative assignment. The following 2 species are only tentatively assigned to the *latithorax* group.

34. Tmesisternus tenimberensis Breuning

Tmesisternus (Arrhenotus) tenimberensis Br., 1958, Bull. Soc. Entomol. Fr. 62: 270 (Tenimber I; PARIS).

Dark brown, clothed with yellowish pubescence; head with a pair of dark brown triangular spots; pronotum with 3 narrow dark brown stripes, median and lateral; elytron with 3 vague transverse undulating pale yellow bands: premedian, postmedian and preapical; legs and side of venter with brown dots; prothorax with obtuse lateral margin; elytron with 2 weak raised lines, densely and finely punctured, and bisinuate apically with outer angle a little more prominent. Length 17 mm.

Distribution. Lesser Sunda Is: Tanimbar I (Timorlaut).

35. Tmesisternus multilineatus Breuning

Tmesisternus (Arrhenotus) multilineatus Br., 1954, Bull. Inst. R. Sci. Nat. Belg. 30(2): 4 (New Guinea; BRUXELLES).

Pitchy brown to reddish brown, clothed with yellowish brown pubescence; punctures on head and pronotum glabrous; pronotum with 3 narrow reddish brown stripes, median and lateral; elytron with pubescence reduced to many narrow longitudinal lines, which on (sutural?) portion are limited to the grooves between carinae, and with 3 narrow transverse bands: (1) premedian, zigzag; (2) postmedian, arched forward; (3) preapical, strongly zigzag. Prothorax $2 \times as$ broad as long, densely and coarsely punctured except along narrow median line; lateral margin not very broad; elytron $3 \times as$ long as head and prothorax combined, somewhat broadly truncate apically with both angles briefly spined, with some carinae on sutural portion. Length 21 mm. Related somewhat to *hearni* but without postscutellar glabrous area.

Distribution. New Guinea (probably PNG: NE).

VII. Adspersus group

36. Tmesisternus superans (Pascoe)

Polyxo superans Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 488 (Waigiu I; BMNH).

Arrhentous superans: Lacordaire, 1869, Genera Coleopt. 9: 284.-Aurivillius, 1922, Coleopt. Cat. 73: 224.

Tmesisternus (Arrhenotus) superans: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 566.

Gray-buff with broad median pronotal strip and large postscutellar area shiny, pitchy and bordered with creamy pubescence; a wavy postmedian elytral pale band and a partial oblique one behind it; elytral apex suboblique. Length 21-28 mm.

Distribution. Waigeo; New Guinea.

Material examined. IRIAN: Waigeo I; NEW GUINEA (NW): Sigi Camp, 1300 m, II.1939, Toxopeus (Neth. Ind.-Am. Exped. LEIDEN); Hollandia, IV.1945, H. Hoogstraal (CAS); VII.1938, L.J. Toxopeus (LEIDEN). PNG: NEW GUINEA (NE): Torricelli Mts, 900 m, II.1959, W.W. Brandt; Mosom, Saruwaged Range, 750 (WILDLIFE); NEW GUINEA (SE): Sepik Riv. Straatman.

37. Tmesisternus mucronatus Gahan

Tmesisternus (Polyxo) mucronatus Gah., 1916, Rep. B.O.U. & Wallaston Exped. Dutch NG 1, Coleopt. 3: 45 (Utakwa Riv, SW; BMNH).

Arrhenotus mucronatus: Aurivillius, 1922, Coleopt. Cat. 73: 224.

Tmesisternus (Arrhenotus) mucronatus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 565 (with subspecies salwattianus; Salwatty I; LEIDEN).

Very similar to *superans*, but sutural angle of elytral apex produced into a distinct projecting lobe. Further studies are needed to determine whether this is in fact a distinct species. In view of this I am not treating *salwattianus* as a viable subspecies until more material from Salawati and related areas is seen.

Distribution. Salawati; New Guinea.

Material examined. IRIAN: NEW GUINEA (SW): S coast; Utakwa Riv. PNG: NEW GUINEA (NE): several from Torricelli Mts: Mobitei & Sugoitei, 750-900 m, III.1959, Brandt; Tsenga, 1200 m, Jimi Val, VII.1955, Gressitt.

38. Tmesisternus pseudosuperans Breuning

Tmesisternus (Arrhenotus) pseudosuperans Br., 1939, Festschr. E. Strand 5: 168 (Mt Goliath, SW; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 566.

Very similar to *superans* and *mucronatus* but elytral apex evenly rounded and postmedian elytral band consisting of only 1 or 2 small spots and the band between it and apex of just 1 small spot, though each also have a corresponding spot at margin. Length 18-26 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (SW): Mountain areas. PNG: NEW GUINEA (NE): Telefomin, Sepik highlands, VIII.1963, Straatman; Feramin, VIII, Straatman; Chimbu Val, Numbu, 2400 m, VII.1955, Gressitt; Chimbu, 1800 m, V.1963, J. Sedlacek; Miramar, Asaro Val, 1900 m, VI.1955, Gressitt; Purosa, 1700 m, V.1966, Gressitt & Tawi; Daulo Pass, 2400 m, VII.1963, Sedlacek; Moife, 2200 m, IV.1976, E.S.C. Smith; Mt Hagen, 2100 m, Sedlacek; Morobe Prov, Aseki, IV.1974, A.D. Hart; Lake Trist, nr Wau, XI.1968, G.A. Samuelson; Nondugl, V.1959, C.D. Michener; nr Okapa, 1900 m, VI.1967, Samuelson; NEW GUINEA (SE): Dimifa, S of Mt Giluwe, 2200 m, X.1958, Gressitt; Mt Ialibu, 2300 m, III.1968, Gressit & T.C. Maa; Mendi, 1660 m, X.1958, Gressitt; Mt Aunde, nr Kaintiba, 1400 m, XII.1974, Reni.

39. Tmesisternus viridescens (Thomson)

Polyxo viridescens Th., 1864, Syst. Ceramb., p. 32 (Ceram = Seram; PARIS).-Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 487 (Ambon, Dorey).

Arrhenotus viridescens: Lacordaire, 1869, Genera Coleopt. 9: 248.

Tmesisternus (Arrhenotus) viridescens: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 565.

Shiny black with pale gray-blue pubescence except on broad occipital and pronotal stripes and large postscutellar area: these and 2 submedian bands on elytron bordered by, or consisting of, denser and paler bluish gray; elytral apex obliquely emarginate. Length 18-24 mm. \Im has a close resemblance to *ruficornis*.

Distribution. Maluku; New Guinea (NW).

Material examined. SERAM: Ambon (S Maluku). IRIAN: NEW GUINEA (NW): Vogelkop. Several specimens from Ambon, F. Muir, A.M.R. Wegner (BISHOP). S Maluku: Saparua I,X.1949, M.A. Lieftinck (LEIDEN).

40. Tmesisternus pseudoviridescens Breuning

Tmesisternus (Arrhenotus) pseudoviridescens Br., 1939, Festschr. E. Strand 5: 168 (Kokoda, SE; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 566, fig 325.

Similar to *viridescens*, but side of pronotum and elytron more densely punctured. A distinct pale-bordered dark postscutellar area and 2 vague incomplete postmedian pale bands. Length 22 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (SE): Kokoda.

41. Tmesisternus adspersus Blanchard

Tmesisternus adspersus Bl., 1853, Voyage Pôle Sud, Zool. 4: 279 (Aru; PARIS).-White, 1855, Cat. Coleopt. Br. Mus. 8: 339.

Tmesisternus marmoratus: Bl. (nec Guerin), 1842, Voyage Pôle Sud, Atlas Zool. 2: pl. 16, fig 18.

? Polyxo patricius Thomson, 1865, Syst. Ceramb., p. 545 ("Celebes").

Polyxo patricia: Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 488 (Ambon).

Arrhenotus adspersus: Aurivillius, 1922, Coleopt. Cat. 73: 223.

Tmesisternus (Arrhenotus) adspersus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 564.

Pitchy black with glabrous median stripes on occiput and pronotum and large postscutellar area; behind latter a partly curved large but fine common "M" followed by an oblique whitish band behind middle and a less distinct sinuous band between it and apex; elytral apex oblique. Length 20-28 mm.

Distribution. Maluku; Salawati; Aru; Yapen; New Guinea.

Material examined. S MALUKU. ARU. IRIAN: Salawati I; Yapen I; NEW GUINEA (NW): Vogelkop. PNG: NEW GUINEA (NE): Adelbert Mts, Wanuma, 800-1000 m, X.1958, Gressitt; Melambi Riv, Gawan Vill, 600 m, XII.1956, J.H. Ardley (DPI); NEW GUINEA (SE): Popondetta, 40 m, VI.1966, P. Shanahan & G. Lippert (BISHOP); Mt Lamington, 400 m, I-II.1929, C.T. McNamara (AM).

42. Tmesisternus adspersarius Breuning

Tmesisternus (Arrhenotus) adspersarius Br., 1939, Festschr. E. Strand 5: 168 (Mimika Riv, SW; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 565.

Black, with middle of elytron often as bare as cephalic and pronotal median stripes and postscutellar area, with border of latter, part of it forming an "M" mark and 2 slightly oblique bands behind middle, of creamy white; side of head, pronotum, humeral area and elytral apex mottled or evenly clothed with tawny to pale gray. Length 17-26 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (SW): S coast: Mimika Riv. PNG NEW GUINEA (NE): Karimui, 1000 m, VI.1961, L. & M. Gressitt; Torricelli Mts, Sugoitei, 900 m, II.1959, W.W. Brandt; NEW GUINEA (SE): Kiunga, Fly Riv, 50 m, VIII.1957, Brandt; Kiunga, VIII.1969, J. Sedlacek.

43. Tmesisternus lictorius (Pascoe)

Polyxo lictoria Pasc., 1967, Trans. Entomol. Soc. Lond. ser 3, 3: 489, pl. 19, fig. 8 (Ceram = Seram; BMNH).-Gestro, 1876, Ann. Mus. Civ. Genova 9: 166 (Aru; Salwatti; Sorong; Jobi = Yapen I).

Arrhenotus lictorius: Aurivillius, 1922, Coleopt. Cat. 73: 223.

Tmesisternus (Arrhenotus) lictorius: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 565, fig. 324.

Pitchy brown with broad occipital and pronotal glabrous median stripes, with ochreous pubescence at side of each; elytron with 5 incomplete or nearly complete bands of orchreous: 1st subbasal; 2nd obtuse, antemedian; 3rd well behind middle; 4th of 2 spots; 5th apical, duller. Length 22-25 mm.

Distribution. Maluku; Aru; Salawati; Yapen; New Guinea.

Material examined. S MALUKU: Seram: 1, Wahaai, T. Barbour (MCZ). IRIAN: Salawati I; Yapen I; NEW GUINEA (NE): Vogelkop.

44. Tmesisternus finisterrae Gressitt, new species Pl. 5j

d. Large, broad, flattened. Dark reddish brown to pitchy castaneous, clothed in part with pale gray-buff pubescence, but denser below antennal insertion and glabrous medially and on

ridges; antenna thinly clothed with browner pubescence and with oblique hairs beneath; prothorax moderately clothed with buff except for broad medial glabrous stripe and narrow subglabrous transverse strip; scutellum bare except at side; elytron unevenly buff-pubescent with large postscutellar glabrous area, glabrous on ridges, with incomplete oblique line at middle of side and slightly broken narrow arcuately oblique band at about start of apical 1/3; ventral surfaces glabrous medially, dull buff at sides with small puncture-dots; legs very thinly graybuff.

Head smooth, partly impunctate medially (grooved throughout) with frons arcuately ridged laterally through antennal tubercle to above eye. Antenna 4/5 as long as body; segment 3 hardly longer than 4, which is as long as 5 + 6; following decreasing very slightly in length. Prothorax broader than elytra, nearly $3 \times$ as broad as long, straight on anterior margin, rounded at side but widest anterior to middle; disc smooth in middle, impunctate on basal 2/3 of glabrous area, otherwise moderately punctured and with narrow transverse ridge on each side of center. Scutellum impunctate. Elytron evenly narrowed for most of length, then narrowed and rounded apically; disc with 2 distinct and 2 weak raised lines, with fairly fine, partly irregular punctures except none on common postscutellar area which is subpentagonal. Ventral surfaces impunctate on glabrous areas, finely punctured on rest. Legs with femora stout and tibiae subsinuate. Length 27 mm; breadth, prothorax 9.5 mm, elytra 8.7 mm.

Holotype & (BISHOP 12,443) PNG. NEW GUINEA (NE): Huon Penin.: Matoko, Finisterre Range, 1200 m, 6-24.IX.1958, W.W. Brandt.

Differs from *superans* (Pascoe) in lacking dense tawny stripes, lacking a border to postscutellar area and in appearing to have very faint narrow pale stripes by virtue of the glabrous raised lines.

45. Tmesisternus angae Gressitt, new species Pl. 6c

δ. Small for *adspersus* group; narrow, flattish above. Reddish brown, pitchy castaneous on glabrous areas, blackish on ends of femora and lateral border of prothorax; in part thinly clothed with gray-buff pubescence with a few small patches of denser buff pubescence; head sparsely and irregularly clothed, densest on a slightly arched line extending back from upper edge of eye; antenna almost glabrous, with fine oblique hairs beneath; prothorax with broad glabrous median strip, wider than glabrous area of head between postocular stripes; disc very thinly clothed at side, denser along border of glabrous area and on a few small spots on anterior 1/2 of side; scutellum glabrous; elytra with large cordiform glabrous area with denser pubescence at side only near base and apex; remainder thinly clothed (glabrous on humerus) except for 5 unevenly spaced small patches at side, 1st smallest and just behind humerus, 2nd largest, and 5th narrow, some distance from apex, plus 2 very small patches at beginning and end of 3rd quarter, not far from suture; ventral surfaces broadly glabrous medially, otherwise very weakly pubescent except for a few irregular small patches along side; legs very finely and incompletely clothed.

Head deeply grooved medially, raised on each side of groove and arcuately along side of frons, the ridge nearly meeting swelling on vertex. Antenna 5/6 as long as body, tapered; scape moderately swollen distally; segment 3 a little longer than 4, shorter than 5 + 6; 6 and following gradually slightly shorter. Prothorax nearly as broad as prothorax, nearly $2 \times as$ broad as long, nearly transverse anteriorly, widest near anterior end and unevenly narrowed posteriorly; disc impunctate on most of glabrous area, irregularly punctured on remainder, a small oblique raised glabrous ridge near middle of lateral margin. Scutellum impunctate. Elytra gradually narrowed, obliquely rounded-truncate apically, with glabrous area convex and nearly impunctate; re-

mainder with very feeble raised lines and partly subregular fine punctures. Ventral surfaces impunctate on glabrous areas and hardly punctured on remainder. Legs with moderately stout hardly punctured femora. Length 16.5 mm; breadth 5.3 mm.

Holotype & (BISHOP 12,444) PNG: NEW GUINEA (SE): SHP, Anga Gorge E of Mendi, 1500 m, 14.X.1958, J.L. Gressitt.

Differs from *superans* (Pascoe) in being much smaller and more narrowed posteriorly, with thinner pubescence and almost no distinct marks.

46. Tmesisternus renii Gressitt, new species

d. Pitchy black, somewhat shiny; reddish brown only on antenna, tibiae, tarsi, femoral bases and concave portions of lateral part of pronotum. Body with rather limited tawny or buff pubescence; only a little, tawny, in some of depressed areas of head; antenna partly clothed with very thin tawny buff; pronotum glabrous in center, with limited tawny pubescence toward side; scutellum glabrous; elytron very thinly and incompletely clothed with tawny and with a few flecks of denser buff pubescence forming a partial border to glabrous area and a narrow arcuate-oblique postmedian line, with just a partial suggestion of 2 other lines, 1 at side near middle and other between postmedian band and apex, only near suture and near margin; ventral surfaces glabrous medially, moderately clothed at side with tawny buff with a few small puncture-dots; legs unevenly clothed with pale buff.

Head deeply grooved medially, depressed on each side of frons, with few punctures. Antenna 5/6 as long as body; segment 3 as long as 4; 4 shorter than 5 + 6; 5 and following gradually slightly shorter. Prothorax slightly broader than elytra, 2.4 \times as broad as long, subtransverse anteriorly, arcuate at side, broadest just anterior to middle; disc with impunctate stripe narrower than glabrous area, but distinctly widened basally, a distinctly raised transverse strip near middle of side; punctures varying, but heavier and sparser on side of glabrous area. Scutellum impunctate, smooth. Elytron gradually narrowed, sinuate-truncate apically; disc with a few slightly raised lines and largely irregular punctures, nearly lacking on broad convex glabrous area. Ventral surfaces impunctate on glabrous area, with a few punctures at side. Legs stout and smooth. Length 22 mm; breadth 7.9 mm.

 \circ . Prothorax much narrower than elytra, less than 2 × as broad as long, strongly constricted at side near middle with small transverse raised area touching margin; postscutellar area narrow, weakly bordered with pubescence at side but other marks hardly evident. Length 23 mm; breadth 8 mm.

Holotype & (BISHOP 12,445), PNG: NEW GUINEA (NE): Morobe Prov, Aseki, 1200 m, 13.IV.1974, Reni Sakomdaro; allotopotype (BISHOP), 1800 m, 20.IV.1974, A.D. Hart.

Differs from *superans* in being darker, nearly glabrous and with very feeble bands of simple lines, with prothorax less rounded at side in male and much more constricted in female.

47. Tmesisternus subadspersus Breuning

Tmesisternus (Arrhenotus) subadspersus Br., 1966, Mitt. Zool. Mus. Berl. 42(2): 255 (Hunsteinspitze, nr Sepik; ZMB).

Close to *adspersus* but narrower, with narrower prothorax, more strongly punctured at side; elytral apex with median process triangularly produced.

Pl. 2b, 6b

Distribution. New Guinea.

Material examined. PNG: New Guinea (NE): Sepik S foothills.

48. Tmesisternus heurni (Schwarzer)

Arrhenotus heurni Schw., 1924, Nova Guinea 15: 58 (Prauwenbivak, Idenburg Riv; SENCKEN-BERG).

Tmesisternus (Arrhenotus) heurni: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 560.

Very broad and flattened; dark reddish brown, largely clothed with thin buff pubescence, but with broad, widening glabrous stripe from vertex to end of basal 1/4 of elytra; same bordered by ochraceous stripe from side of eye to past middle of elytron. Elytral apex roundedsubemarginate. Length 26-30 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Sigi Camp, 1500 m, II.1939, L.J. Toxopeus; Mist Camp, 1800 m, II.1939, Toxopeus (Neth. Ind.-Am. Exped.; LEIDEN).

Pl. 6a

49. Tmesisternus kapauku Gressitt, new species

d. Castaneous, more pitchy on head, prothorax, scutellum, postscutellar area, ventral surfaces (except apex of last abdominal segment) and at middle and apex of each femur; body nearly glabrous above, with minute pale hairs on side of pronotal disc and posterior portion of elytron, with 5 minute flecks of buff pubescence: 1 on inner border of humeral area, 3 widely spaced along side and 1 near suture 1/5 elytral length from apex. Ventral surfaces with a little pubescence at sides of abdominal sternites; legs feebly clothed.

Head moderately grooved medially, slightly raised at side of frons, moderately punctured except on median strip. Antenna 4/5 as long as body; scape stout; segment 3 slightly longer than 4; 4 shorter than 5 + 6; 5 and following decreasing slightly. Prothorax distinctly broader than elytra; anterior margin slightly concave in dorsal view; lateral border evenly convex, slightly crenulate; disc with limited impunctate area narrowed to only a line in anterior 1/3, punctures smaller and closer toward side, an irregular narrow transverse ridge at side touching margin. Scutellum impunctate, depressed. Elytron narrowed and almost rounded apically; disc convex, with feeble raised lines posteriorly and punctures moderate and subregular, becoming sparser and minute on postscutellar area, which is smooth and convex, but not distinctly set off. Ventral surfaces largely impunctate, with just a few weak punctures at side. Legs moderately stout. Length 23.5 mm; breadth 8 mm (elytron 7 mm).

2. Prothorax constricted before middle, widest behind middle; pubescence slightly denser on posterior portion of elytron, but without distinct marks. Length 20.5 mm; breadth 7 mm.

Paratype d. Dorsum without any spots.

Holotype & (BISHOP 12,446), IRIAN: NEW GUINEA (NW): Enarotali, 1900 m, nr Lake Paniai, Wissel Lakes (Wisselmeren), 31.VII.1955, J.L. Gressitt; allotype ? (BISHOP), Itouda, 1500 m, Kamo Val, nr Wissel Lakes, 14.VIII.1955, Gressitt; paratype & (BISHOP), Moanemani, 1500 m, 16.VIII.1962, J. Sedlacek.

Differs from *heurni* in being a little smaller, with prothorax much more extensively punctured and more arcuately constricted at side in \mathfrak{P} , and in being much less pubescent and without any lateral stripe. "Kapauku" are the people of the Wissel Lakes area.

VIII. Jaspideus group

50. Tmesisternus jaspideus Boisduval

Tmesisternus jaspideus Bdv., 1835, Voyage Astrolabe, Insectes 2: 473 (New Guinea).-1855, Cat. Coleopt. Br. Mus. 8: 337.

Tmesisternus sulcatipennis Blanchard, 1853, Voyage Pôle Sud, Zool. 4: 281; Atlas Zool. 2: pl. 16, fig. 19 (New Guinea); White, 1855, Cat. Coleopt. Br. Mus. 8: 339.

Polyxo flexuosa Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 489 (Dorey; BMNH).-Gestro, 1876, Ann. Mus. Civ. Genova 9: 166 (Vogelkop).

Tmesisternus (Polyxo) jaspideus: Gahan, 1916, Rep. B.O.U. & Wallaston Exped. 1, Coleopt. 3: 9(46) (SW coast).

Arrhenotus jaspideus var. pascoei Aurivillius, 1922, Coleopt. Cat. 73: 223 (for sulcatipennis of Pascoe 1867, p. 490).

Tmesisternus Arrhenotus jaspideus & m. pascoei Auriv.: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 562.

Pitchy black, largely covered with pubescence with changes from dark golden brown to graybuff: on elytron forming 4 fine wavy or zigzag bands. Length 13-18 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Nabire, 5 m, under log, VII.1962, Gressitt; Archbold Lake, 700 m, XII.1961, L. & S. Quate; Vogelkop, Kebar Val, 550 m, I.1962, Quate; NEW GUINEA (SW): Bomberai, nr Fak Fak, VI.1959, Gressitt. PNG: NEW GUINEA (SE): many specimens, Kiunga, 50 m, Fly Riv, Brandt, Sedlacek (BISHOP); Northern Prov, Afore, Boikik Plant'n, S. Smith (DPI); Mt Lamington, 300-500 m, McNamara (SAM).

51. Tmesisternus curvatolineatus (Aurivillius)

- Arrhenotus curvatolineatus Aur., 1927, Ark. Zool. 19A(17): 15 (539), fig. 173b (Bivak I, North Riv. SW; AMSTERDAM).
- Tmesisternus (Arrhenotus) curvatolineatus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 563.

Frontal and occipital spots as in *jaspideus* but elytral bands less regular, 3 instead of 4, 1st and 2nd connected near suture; a paler spot at middle of side; prothorax more trapeziform in \mathcal{Q} . Length 16-20 mm.

Further studies must be made of mating pairs to be certain that this and the preceding are distinct species.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (SW). PNG: NEW GUINEA (SE): many specimens, Kiunga, 50 m, Brandt & Sedlacek.

52. Tmesisternus flyensis Gressitt, new species Pl. 6e

Reddish brown to pitchy, clothed with brown to pale tawny pubescence; head moderately clothed with tawny except on glabrous carinae and 2 brownish stripes behind eye; antenna reddish with thin buff pubescence and erect hairs beneath; prothorax dark brown thinly clothed with dull brown to tawny; scutellum dark brown, partly clothed with tawny; elytron

dark reddish brown, closely clothed with dark brown and tawny, latter forming patterns; some vague mottling at base, a roughly x-shaped common mark on 2nd to 3rd fifths, not touching suture and partly formed of short longitudinal stripes, a sinuous line before apex extending forward from margin, then toward suture and then obliquely posteriorward before reaching suture, plus reddish tawny mottling near apex; ventral surfaces dark reddish brown, glabrous medially to 4th abdominal sternite, with side pale pubescent with dark brown mottling.

Head strongly and evenly bicarinate medially, deeply grooved between, the groove extending back to behind eye; lateral carina distinct, oblique; depressed areas moderately punctured. Antenna slightly longer than body, slender; scape moderately thickened; segment 3 = 4, shorter than 5 + 6; rest shorter. Prothorax not quite $2 \times as$ broad as long; lateral ridge not very wide, shallowly emarginate; midlateral tubercle conspicuous; disc subeven, partly narrowly raised medially, densely punctured. Scutellum depressed in middle, not distinctly punctured. Elytron distinctly narrowed from humerus; apex sinuately truncate, arcuately projecting near middle of truncation; disc fairly even, with about 2 weak ridges, densely and irregularly punctured basally, more sparsely so behind. Ventral surfaces smooth, weakly punctured. Legs stout, hardly punctured. Length 18.2 mm; breadth 6.8 mm.

 \mathbb{Q} . Elytral pattern less closely resembling an "X" and with suture largely pale basally. Length 16.8; breadth 6.4. Paratypes, \mathbb{Q} , 14-17.6 × 4.6-6.8.

Holotype & (BISHOP 12,447), PNG: NEW GUINEA (SE): Kiunga, Fly Riv, 60 m, 1-3.VIII.1957, W.W. Brandt; allotopotype & (BISHOP), 26-28.X.1957, Brandt. 49 paratypes: 1, Kiunga, 23-25.VII.1957, Brandt; 2, Kiunga, VIII.1969, J. Sedlacek; 1, Mt Bosavi, 800-900 m, 11.V.1973, Gressitt.

Differs from *curvatolineatus* in lacking conspicuous frontal spot and occipital stripe on head, slightly less complicated pattern on elytra, and in having elytral apex convex-sinuate instead of truncate.

53. Tmesisternus separatus (Aurivillius)

- Arrhenotus separatus Aur., 1927, Ark. Zool. 19A(17): 16 (540), fig. 173c (New Guinea; STOCKHOLM).
- Tmesisternus (Arrhenotus) separatus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 563 (Paumomu Riv, SE).

Elytron with 1st band starting just behind humerus and extending along suture to join 2nd band, thus forming a wide open trapeze with a few vague spots at side in the opening. Length 17-20 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (SW): cotype, in AMSTERDAM, at least, came from SW. PNG: NEW GUINEA (SE): Paumomu Riv. Questionable specimens from Mt Bosavi, 900-1200 m, V.1973, Gressitt.

54. Tmesisternus canofasciatus (Aurivillius)

Arrhenotus canofasciatus Aur., 1927, Ark. Zool. 19A(17): 16 (540), fig. 173d (Bivak I, North Riv. SW; STOCKHOLM).

Tmesisternus (Arrhenotus) canofasciatus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 564.

More narrowed posteriorly than the 4 preceding species: frons and occiput conspicuously ochreous; pronotum with shiny basally broadened median strip; elytron with 3 bands, each angulate forward near middle or nearer suture. Length 16-18 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (SW): Lorentz Riv (= North Riv). PNG: NEW GUINEA (SE): Kiunga, Fly Riv, Brandt, Sedlacek; NEW GUINEA (NE): Karimui, 1080 m, Sedlacek.

55. Tmesisternus mimethes (Kriesche)

Arrhenotus mimethes Kr., 1926, Stettin. Entomol. Ztg 87: 377 (April Riv, Sepik; ZMB). Tmesisternus (Arrhenotus) mimethes: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 563.

Dark brown, with brown and pale buff pubescence; frons and side of occiput densely clothed with pale; elytra with a fine common "M" band, a sinuate-arcuate band behind middle and an irregular preapical band; elytral disc with 2 strong carinae. Length 21-22 mm.

Distribution. PNG New Guinea (NE): Sepik.

56. Tmesisternus rossi Gressitt, new species

d. Reddish brown to pitchy, clothed with brown, buff and tawny, head mostly clothed with dense pinkish tawny pubescence, but brown along parts of median carinae, across vertex and on middle of occiput and 2 stripes behind eye; antenna reddish brown thinly clothed with brownish buff; prothorax dark reddish brown thinly clothed with brownish buff mottled with darker brown; scutellum dark reddish with buff clothing; elytron dark brown moderately clothed with brown mottled with buff, and with an anteriorly arcuate tawny line anterior to middle and connected to humerus with a less distinct stripe; also a sinuous pale line behind middle edging a broader sinuous brown band anterior to it, and apex pale dotted with brown; ventral surfaces reddish, clothed with buff dotted to end of abdominal sternite 1. Legs reddish brown with brown-dotted buff clothing.

Head strongly bicarinate medially from between eyes to apex, deep groove continuing posteriorly; lateral carina not evident; vertex densely punctured; side of occiput with a few punctures. Antenna nearly as long as body; scape moderately swollen; segment 3 slightly shorter than 4 which is shorter than 5 + 6; rest shorter. Prothorax slightly narrower than elytra, not quite $2 \times as$ broad as long; lateral margin well developed, almost parallel-sided, widest near base; midlateral tubercle nearly hidden; disc subregularly convex, narrowly raised medially, closely punctured. Scutellum flat, impunctate. Elytron evenly narrowed to near apex, then more strongly narrowed and subsinuate-truncate; disc with about 4 slightly raised interstices and partly regular punctures. Ventral surfaces smooth, hardly punctured. Legs with femora moderately stout, smooth. Length 16.5 mm; breadth 5.6 mm.

♀. Length 15.2 mm; breadth 5.2 mm. Paratypes, 15–17 mm × 4.3–5.6 mm.

Holotype & (BISHOP 12,448), PNG: NEW GUINEA (NE), Huon Penin., Pindiu, 400-500 m, 19.IV.1963, J. Sedlacek; allotopotype & (BISHOP), same data except 500-600 m. Paratypes: PNG: NEW GUINEA (NE): 1, Finschhafen, 10 m, 16.IV.1963, Sedlacek; 1, Morobe Prov, Kalolo, 750 m, 20-30.VIII.1966, Mena for Samuelson; 2, Finschhafen, IV.1944, E.S. Ross, for whom species is named (BISHOP, CAS).

Pl. 8b

Differs from *mimethes* Kriesche in being smaller, in not having 2 specially strong carinae and in having prothorax more rectangular and with lateral tubercle less evident. Differs from *sepicanus* Kr. in having elytron simply truncate and without ectoapical spine.

57. Tmesisternus albertisi Breuning

Tmesisternus (Arrhenotus) albertisi Br., 1939, Mem. Soc. Entomol. Ital. 18: 58 (Fly Riv; GENOVA); 1945, Novit. Entomol. 15-16, Suppl. 3: 564.

Elongate, narrowed posteriorly; prothorax with anterolateral tubercle very prominent; elytron strongly costate, with 3 pale bands: 1st obtusely angulate forward; 2nd oblique, slightly sinuate to zigzag; 3rd zigzag; apex truncate and briefly toothed. Length 16-23 mm.

Distribution. New Guinea.

Material examined. PNG: New Guinea (SE): Fly Riv, Kiunga, 50 m, X.1957, Brandt; Brown Riv, nr Port Moresby, 10 m, X.1958, Gressitt.

58. Tmesisternus biarciferus Blanchard

Tmesisternus biarciferus Bl., 1853, Voyage Pôle Sud, Zool. 4: 280; Atlas, pl. 16, fig. 12 (Triton Bay, SW).-White, 1855, Cat. Coleopt. Br. Mus. 8: 339.

Polyxo biarcifera: Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 491 (Saylee).

Tmesisternus (Polyxo) biarcifer: Gahan, 1916, Rep. B.O.U. Wollaston Exped. Dutch NG (Utakwa Riv.)

Arrhenotus biarcifer: Aurivillius, 1922, Coleopt. Cat. 73: 223.

Tmesisternus (Arrhenotus) biarcifer: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 561, fig. 323.

Brown with conspicous pale patch on frons and stripe on occiput; elytra with large "X" of pale narrow stripes, and a fine short lateral and preapical, pale line. Length 15-21 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Nabire, VII.1962, Gressitt, Sedlacek: NEW GUINEA (SW): Bomberi, nr Fak Fak, VI.1959, Gressitt. PNG: NEW GUINEA (NE): Wewak, 20 m, X.1957, Gressitt; Wanuma, Adelbert Mts, 635 m, III.1975, Abid Mirza; Finisterre Mts, IX.1962, Brandt; Sepik highlands, Feramin, nr Telefomin, 1500 m, V.1959, Brandt; NEW GUINEA (SE): Brown Riv, VI.1962, Kanjiri; Kakoro, nr Bulldog, 150 m, III.1975, Gressitt & Reni; Port Glasgow, Mamai Plant'n, II.1965, Straatman.

59. Tmesisternus andreas (Kriesche)

Arrhenotus andreas Kr., 1926, Stettin. Entomol. Ztg 87: 376 (Etappenberg, Sepik; ZMB). Tmesisternus (Arrhenotus) andreas: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 561.

Similar to *biarciferus*, but with the elytral "X" less widely open at side and elytral ridges weaker. Length 15-20 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Sepik; 1, Karimui (BULOLO).

60. Tmesisternus ochreomaculatus Breuning

Tmesisternus ochreomaculatus Br., 1942, Folia Zool.-Hydrobiol. 11(2): 123 (New Guinea; Tippman: USNM); 1945, Novit. Entomol. 15-16, Suppl. 3: 561 (again as n. sp.).

Similar to *biarciferus* but elytra with a large squarish shiny postscutellar area, and ectoapical angle with a long acute tooth; an oval ochreous spot beside scutellum, 2 behind postscutellar area, and 3 forming a band at start of apical 1/4. Length not stated.

Distribution. "New Guinea."

61. Tmesisternus ziczac Breuning

Tmesisternus (Arrhenotus) ziczac Br., 1939, Mem. Soc. Entomol. Ital. 18: 58 (Paumomu Riv, SE; GENOVA); 1945, Novit. Entomol. 15-16, Suppl. 3: 563.

Dark brown; prothorax very short; elytron with fine pale oblique line from behind humerus to suture at middle, and a zigzag line behind middle; elytron transversely truncate apically. Length 14 mm.

Distribution. PNG: New Guinea (SE): Paumomu River.

62. Tmesisternus froggatti MacLeay

Tmesisternus froggatti McL., 1886, Proc. Linn. Soc N.S.W. ser 2, 1: 200 (Fly Riv; AM). Tmesisternus (Arrhenotus) frogatti (sic): Breuning, 1945, Novit. Entomol. 15-16, Suppl 3: 564.

Dark brown with areas of yellowish white pubescence; head and prothorax pubescent except for median line and some punctures; elytra with large common glabrous postscutellar area, 2 lines parallel to suture, a zigzag postmedian band, an apical band and various other pale marks. Length 16 mm.

Distribution. PNG: New Guinea (SE): Fly River.

63. Tmesisternus brevespinosus Breuning & de Jong

Tmesisternus (Arrhenotus) brevespinosus Br. & de J., 1941, Zool. Meded. 23: 71 (Salwati; LEIDEN).-Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 564 (as n. sp.) (Salwati; LEIDEN).

Similar to *froggatti* but ectoapical angle of elytron with shorter spine, disc without longitudinal yellow lines, and postmedian band extending forward a bit along suture before going obliquely toward side. Length 16 mm.

Distribution. Irian: New Guinea (NW): Salwati I.

64. Tmesisternus sepicanus (Kriesche)

Arrhenotus sepicanus Kr., 1926, Stettin. Entomol. Ztg 87: 378 (Lordberg, Sepik; ZMB). Tmesisternus (Arrhenotus) sepicanus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 563.

Dark brown, with partly paler pubescence; elytron with 3 narrow undulating brownish yellow lines in transverse direction, 1st forming somewhat of an "M" much narrower anteriorly than in *mimethes*; an oval orange-yellow spot near middle of side. Length 18 mm.

Distribution. PNG: New Guinea (NE): Sepik.

65. Tmesisternus obliquelineatus Breuning

Tmesisternus (Arrhenotus) obliquelineatus Br., 1939, Festschr. E. Strand 5: 170 (Cyclops Mts; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 563.

Black with brown pubescence; yellowish brown on head; pronotum with a narrow median brown stripe; elytron marbled with yellowish, with 2 very distinct oblique narrow yellow bands, 1st from behind suture to side before middle; 2nd behind middle, less strongly oblique; and a weaker 3rd one between latter and apex; dorsum coarsely punctured. Length 15.5 mm.

Distribution. Irian: New Guinea (NW): Cyclops Mts.

66. Tmesisternus postflavescens Breuning

Tmesisternus (Arrhenotus) postflavescens Br., 1948, Bull. Mus. R. Hist. Nat. Belg. 24(38): 35 (Japen I; BMNH).

Black with dark brown pubescence except most of apical 1/2 of elytron yellowish: area with arcuately convex anterior border and less pale before and behind middle of the area. Dorsum heavily punctured; prothorax somewhat obtuse at side; elytral apex subobliquely truncate. Length 16 mm.

Distribution. Irian (NW): Yapen I.

67. Tmesisternus vagejaspideus Gilmour

Tmesisternus (Arrhenotus) vagejaspideus Gilm., Entomol. Mon. Mag. 85: 109 (Bewani Mts; BMNH).

Black, with sparse brown pubescence, nearly lacking on pronotum; head with distinct ochreous patches; elytron with bluish gray lines forming an "O" near middle on each and a common "M" followed by a zigzag and then a straight band. Length 15.5 mm.

Distribution. Irian: New Guinea (NW): Bewani Mts.

68. Tmesisternus indistinctelineatus Breuning

Tmesisternus (Arrhenotus) indistinctelineatus Br., 1966, Senckenbergiana, Biol. 47(5): 408 (Bolan Mts, NE; SENCKENBERG).

Dark brown with a bronzy tinge, clothed with brown; elytra with a large somewhat squarish shiny glabrous area behind scutellum, with an often partly interrupted fine "V" at its hind border and 2 even less-distinct oblique pale lines in posterior 1/2; prothorax oblong in δ ; elytral apex obliquely sinuate-truncate. Length 14.5–18.0 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): many specimens, Finisterre Mts, IX.1958, Brandt; 4, Melambi Riv, Zitara Vill, nr Lae, and Mirilunga Vill, 1500-1800 m, XII.1956, Ardley.

69. Tmesisternus septempunctatus Boisduval

Tmesisternus septempunctatus Bdv., 1835, Voyage Astrolabe, Insectes 2: 470, pl. 9, fig. 16 ("Ambon").-Blanchard, 1849, Regne Anim. Ins. Ed. Masson 1, pl. 61 bis, fig. 5.-White, 1855, Cat. Coleopt. Br. Mus. 8: 337.

Polyxo septempunctatus: Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 491 (Dorey).-Gestro, 1876, Ann. Mus. Civ. Genova 9: 166 (Vogelkop).

Arrhenotus septempunctatus: Aurivillius, 1922, Coleopt. Cat. 73: 224.

Tmesisternus (Arrhenotus) septempunctatus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 561.

Pitchy black with brown and paler pubescence; head with ochreous spot on side of frons; pronotum with narrow raised line anteriorly; elytron somewhat costate, with 4 ochreous spots: on disc at end of basal 1/4, at side near middle, at side closer to middle than apex, and smaller spot at suture behind middle. Length 15-18 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Vogelkop; Nabire, 5 m, VII.1962, Gressitt; Jef Kassim I, VI.1930, Olthof; Waris, 500 m, VIII.1959, Maa. PNG: NEW GUINEA (NE): Torricelli Mts, III.1959, Brandt; Sepik, May Riv, VI.1963, Straatman.

70. Tmesisternus octopunctatus Gilmour

Tmesisternus (Arrhenotus) octopunctatus Gilm., 1949, Entomol. Mon. Mag. 85: 110 (New Guinea; BMNH).

Very close to *septempunctatus* but with another common pale spot at middle of suture. Length 13-19 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Vogelkop: Oransbari, II.1962, Straatman; Kebar Val, IX.1961, Quate.

71. Tmesisternus sexmaculatus Breuning & de Jong

Tmesisternus (Arrhenotus) sexmaculatus Br. & de J., 1941, Zool Meded. 23: 71, fig. 11a (Manokwari; LEIDEN).-Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 562 (as n. sp.).

Tmesisternus (Arrhenotus) novemmaculatus Gilmour, 1949, Entomol. Mon. Mag. 85: 111, fig. 9 (Humboldt Bay; BMNH). New synonymy.

Very similar to *septempunctatus*, but with sutural spot sometimes lacking and the 3 discal and lateral spots bordered with black; pronotum more finely punctured. Length 14.5-20.0 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Nabire, VII, Gressitt, Sedlacek; Bodem, Sarmi, VII, Maa; Waris, VIII, Maa; Genjam, nr Sentani, III, Maa (BISHOP); Maffin Bay, Ross Coll. (CAS). PNG: NEW GUINEA (NE): Torricelli Mts, VIII, Brandt.

72. Tmesisternus quadripunctatus Gilmour

Tmesisternus (Arrhenotus) quadripunctatus Gilm., 1949, Entomol. Mon. Mag. 85: 111, fig. 10 (Humboldt Bay; BMNH).

Black with brownish yellow pubescence; head and pronotum with relatively broad glabrous strips; elytron with 2 large lateral ochraceous spots, before and behind middle, latter oblique, and a somewhat "X"-shaped common mark near middle of suture.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Humboldt Bay (holotype).

73. Tmesisternus meridionalis Gressitt, new species

d. Pitchy to black, tinged with reddish brown, clothed with gray-brown, pale gray and dull tawny pubescence: head pitchy black, reddish above, largely clothed with tawny buff, thinner on occiput; antenna reddish brown, thinly clothed with dull buff; prothorax reddish pitchy, thinly and unevenly clothed with tawny buff; scutellum pitchy, clothed with pale buff except medially; elytron pitchy, clothed with dark brown partly mottled with dull tawny and marked with pattern of slightly weak gray lines: an oblique line forward from side to postscutellar area, a common "O" at middle connected to partial sutural stripe and also joining oblique stripe posteriorly to external margin, followed by zigzag band well before apex, all of these partly connected by vague and incomplete longitudinal stripes; ventral surfaces reddish clothed with tawny buff with weak brown dots and glabrous medially; legs pitchy, reddish on trochanters, bases of femora and distal portions of tarsi.

Head strongly bicarinate medially, more weakly and subsinuately carinate laterally, moderately punctured. Antenna about 1/6 longer than body; scape subelliptical; segment 3 shorter than 4; 4 shorter than 5 + 6; rest shorter. Prothorax 7/10 as long as broad, subrectangular, broadest at lateral tubercles but practically as broad just behind them; disc moderately even, slightly convex, with median impunctate strip irregular, narrowest just anterior to middle, widest at apex and base; rest of disc somewhat finely and closely punctured. Scutellum slightly convex, impunctate. Elytron gradually narrowed, more strongly narrowed near apex, which is emarginate-truncate with outer angle spined; disc convex, with only 1 appreciably raised line, postmedially; moderately and subregularly punctured; postmedian glabrous area impunctate only near suture (glabrous area at least partly from abrasion). Ventral surfaces smooth; nearly impunctate. Legs with femora modestly swollen, smooth. Length 17.7 mm; breadth 5.3 mm.

 $\hat{\Psi}$. Antenna 1/7 longer than body; lateral carina of prothorax very weak; elytral pattern more distinct, but "O" on center more inverted cordiform with many small attached lines. Length 14.4 mm; breadth 4.3 mm.

Paratype δ , elytral "O" broader, inverted cordiform and open at side: 14.0-16.7 mm \times 4.2-5.0 mm.

Holotype & (BISHOP 12,449), PNG: NEW GUINEA (SE): Kiunga, Fly Riv, 50 m, VIII.1969, J. Sedlacek; allotopotype ? (BISHOP), 28-31.VIII.1957, W.W. Brandt; paratopotype &, same data as holotype; paratopotype &, 1-3.VIII.1957, Brandt. 1 paratype (LEIDEN), IRIAN: NEW GUINEA (SW): Bivak I, II.1910, Lorentz.

Differs from *ziczac* in having elytron emarginate and strongly toothed ectoapically.

74. Tmesisternus laensis Gressitt, new species

Pl. 6d

¿. Reddish brown, almost entirely clothed with buff to gray or tawny pubescence. Head reddish, slightly tinged with pitchy, with dense tawny pubescence on most of frons, none across vertex and moderately clothed between upper eye-lobes and on occiput except in central portion, moderately dense on gena, but with 2 dusky stripes extending backward from lower and upper eye-lobes respectively; antenna reddish brown, thinly clothed with buff; prothorax reddish brown, thinly clothed with tawny to gray; scutellum reddish brown, sparsely clothed;
elytron reddish brown, largely with thin buff and grayish pubescence with an incomplete broad duller postbasal oblique band bearing a transversely oval spot of dense ochreous near middle of end of basal 1/4 and a similar smaller spot on side just anterior to middle and also surrounded with dark brown; latter ochreous spot followed by a similar one on side slightly closer to former than to apex; a less distinct ochreous patch by suture anterior to 3rd spot and another just behind it; ventral surfaces with brown-dotted tawny gray pubescence except along narrow median glabrous strip; legs pitchy brown with brown-dotted thin tawny pubescence.

Head strongly and uniformly bicarinate medially from between upper eye-lobes to apex of frons, with deep groove between; not obviously carinate at side; subglabrous areas closely and finely punctured. Antenna 1/8 longer than body; scape slender; segment 3 slightly longer than 4, slightly shorter than 5 + 6; rest shorter than 6, slender. Prothorax 2/3 again as broad as long, subblong but rounded at anterior corner; middle of side straight; base narrowed slightly above; midlateral tubercle barely visible from above; disc moderately even, narrowly raised along median line, irregularly, in part densely punctured. Scutellum smooth, micropunctulate. Elytron only slightly narrowed till apical 1/4; apex subtruncate, subrounded externally; disc moderately convex, even, with a few weakly raised interstices and punctures moderate and partly in rows. Ventral surfaces smooth, only micropunctulate. Legs moderately stout, weakly punctured. Length 15 mm; breadth 4.8 mm.

 \bigcirc . Prothorax more oblique at side and slightly (broadly) emarginate in middle of side; elytron more contrastingly public, with alternating partly oblique bands of brown (4) and tawny buff (5) public, the 3 tawny spots distinct. Length 14.8 mm; breadth 4.6 mm.

Paratypes: Length 14-18 mm; breadth 4.4-5.7 mm.

Holotype & (BISHOP 12,450), PNG: NEW GUINEA (NE): Busu Riv, nr Lae, 40 m, 16.IV.1969, J. Sedlacek; allotype & (BISHOP), Bubia, Markham Val, nr Lae, 50 m, 19.IX.1955, Gressitt; 19 paratopotypes, 15.IX.1955, Gressitt, 21.I.1962 and 7.VIII.1964, J. & M. Sedlacek, 22.III.1963, 14.I.1965, 16.IV.1969, J. Sedlacek; paratypes: 2, same data as allotype; 1, same data but 17.IX.1955; 6, Bupu Riv, nr Lae, 30 m, 15.IV-15.V.1970, N.R. Spencer; 1, Lae, 27.V.1956, E.J. Ford, Jr; 2, same loc., 12.V.1966, J.L. & M. Gressitt; 2, Singuawa Riv, nr Lae, IV.1966, O.R. Wilkes, G. Lippert; 1, Mirilunga, Melambi Riv, Lae area, 1300 m, XII.1956, J.H. Ardley; 1, Zenag-Lae road, 200 m, 17.I.1965, Sedlacek; 2, Kuper Range, nr Salamaua, I.1969, Sedlacek; 1, Sepik, May Riv Patrol Post, 100 m, V.1963, R. Straatman; 1, Gabensis, V.1972, on broad-leaf climber, Dobunaba; 1, Maprik, 160 m, XII.1959-I.1960, T.C. Maa.

Differs from *septempunctatus* in being differently patterned, with only 6 distinct tawny rounded spots.

75. Tmesisternus keitoeali Breuning

Tmesisternus (s. str.) websteri Br., 1970 (nec de Jong, 1942), Bull. Mus. Paris 42: 479 (Kei; PARIS).

Tmesisternus (s. str.) keitoeali Br., 1972, Bull. Soc. Entomol. Mulhouse 1972: 50 (new name for websteri Br.).

Head pale pubescent, striped with dark medially; elytron with glabrous postscutellar area and vague darker and paler oblique bands, truncate apically. Length 17 mm.

Distribution. Kai (Kei) Is.

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IX. Olthofi group

Head sulcate medially; prothorax weakly and sinuately carinate laterally; elytron subparallelsided, truncate apically and weakly convex.

76. Tmesisternus olthofi Gressitt, new species

¿. Dull reddish brown, paler on tarsi and antenna; sternum castaneous medially and pale reddish at side; largely clothed with dark brown to pale tawny pubescence: head densely clothed with pale tawny on side of frons, moderately clothed on remainder except medially and behind upper eye-lobe; prothorax largely, but thinly, clothed with dull tawny speckled with darker; largely pubescent on median strip; scutellum with pubescence paler in center; elytra somewhat unevenly clothed with dark brown and golden ochraceous, distinctly marked with a large but fine common "X" mark, originating behind humeri and terminating at external margin a little behind middle; venter glabrous medially to end of 1st abdominal sternite, then only partly glabrous medially on sternite 2-4 and last entirely pubescent; side subevenly palepubescent except for subglabrous brown puncture-dots; legs moderately clothed with smoky tawny.

Head with median carinae fairly broad, convex, partly punctured; median groove complete; lateral carina distinct in front but partly pubescent, lacking behind antennal insertion; punctures unevenly scattered. Antenna a little longer than body; segment 3 longer than 1, as long as 4, shorter than 5 + 6. Prothorax 4/5 as broad as elytra, 7/10 as long as broad; lateral carina weak, almost obsolete in middle, but anterolateral tubercle well developed, rounded; midlateral tubercle moderate, obtuse, distinctly visible from above; disc slightly convex, with narrow slightly raised median strip and remainder somewhat deeply but not very closely punctured, about 10 punctures in an approximate longitudinal row. Scutellum even. Elytron parallel-sided to near apex, then narrowed and subrounded-truncate with outer angle minutely toothed; disc with moderate punctures and weak interstices, more sparsely punctured on postscutellar area which is pubescent and not set off. Venter feebly punctured. Legs with femora smooth and moderately swollen. Length 11.5 mm; breadth 3.9.

Holotype & (LEIDEN), IRIAN: NEW GUINEA (NW): Bernhard Camp, 50 m, VII-XI.1938, J. Olthof (Neth. Ind.-Am. NG Exped. = Third Archbold).

Differs from *jaspideus* in being narrower, smaller, less ridged on elytron, with head having distinct lateral carina and prothorax with more reduced lateral ridge.

X. Timorlautensis group

77. Tmesisternus timorlautensis Breuning

Tmesisternus (Arrhenotus) timorlautensis Br., 1939, Festschr. E. Strand 5: 167 (Larat, Timorlaut; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 562.

Lateral ridge of pronotum rather weak; pronotum densely punctured; dark reddish with rather even tawny buff pubescence with 3 vague oblique paler bands on elytron, 1st and 2nd angulate forward near suture. Length 14–19 mm.

Distribution. Lesser Sunda Is: Tanimbar (Timorlaut).

Material examined. TANIMBAR: 15, Larat, XII.1907, F. Muir.

Pl. 8a

78. Tmesisternus costulatus Breuning

Tmesisternus (Tmesisternus) costulatus Br., 1939, Festschr. E. Strand 5: 177 (Maroe, Timorlaut: BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 570.

Black, clothed with olive brown mixed with ochreous pubescence, denser on posterior 1/2 of elytron; abdomen with ochraceous area on hind margin of each sternite at side; elytron more strongly carinate than in \Im of *timorlautensis*. Length 18 mm.

This species has a lateral ridge only slightly less developed than in *timorlautensis*, again showing the unnaturalness of applying the subgenus Arrhenotus.

Distribution. Lesser Sunda Is: Tanimbar (Timorlaut).

79. Tmesisternus karimui Gressitt, new species Pl. 6h

d. Body broad, subparallel, strongly costate. Pitchy black, reddish on trochanters, knees and tarsi; antenna pitchy brown; body largely clothed with dull brown to tawny pubescence: head densely clothed with tawny on side of frons, part of side of occiput, gena and a stripe behind middle of eye; antenna very thinly clothed with brown; prothorax moderately clothed with tawny near side of disc, duller on rest and narrowly glabrous on median line; scutellum narrowly glabrous medially; elytron evenly clothed (except where abraded on costae) with thin dull tawny pubescence, varying in shade according to light, with 3 fine weak paler lines, oblique anteriorly toward suture, roughly at respective starts of last 3/5 and progressively less sinuous; ventral surfaces glabrous medially to middle of abdomen, clothed with tawny with dark brown spots at side; legs with femora likewise.

Head with median carinae strong, even, with deep groove; lateral carina weak, almost hidden by pubescence except for round callosity near antennal insertion and a smaller one mesad of anterior end of upper eye-lobe, dense punctures visible in this area. Antenna nearly as long as body; scape slightly swollen beneath; segment 3 hardly longer than 4, distinctly shorter than 5 + 6. Prothorax over 4/5 as broad as elytra, nearly 2/3 as long as broad; lateral margin well developed, slightly sinuate, widened anteriorly and posteriorly, broadest some distance from base; midlateral tubercle strongly obtuse and visible from above; disc moderately convex, only slightly uneven, coarsely punctured with about 10 punctures in a row from apex to base, and narrow median impunctate strip slightly carinate. Scutellum slightly concave with a pit near center. Elytron subparallel, slightly narrowed behind humerus; apical portion narrowed and truncate; disc convex, with suture and next 4 interstices rather strongly carinate, especially near base, subregularly punctured throughout. Ventral surfaces shallowly punctured. Legs moderately stout. Length 12.4 mm; breadth 4.6 mm.

9. Prothorax more oblique at side; lateral margin well developed, but more emarginate in middle. Length 15.7 mm; breadth 5.4 mm.

Paratypes. Length 11.5-16.5 mm; breadth 3.9-5.8 mm.

Holotype & (BISHOP 12,451), PNG: NEW GUINEA (NE): S Chimbu Prov, Karimui, 1080 m, 8-10.VII.1963, J. Sedlacek; allotopotype (BISHOP), 14.VII. 1963; 38 paratopotypes, 2-6.VI.1961, J.L. & M. Gressitt, 8-15.VII.1963, Sedlacek, 9.III.?, J. & M. Sedlacek; paratypes: 1, Kassem Pass, 1400 m, 11.I.1965, Sedlacek; 1, Bulolo, 1005 m, 30.VIII.1956, E.J. Ford, Jr; 1, Wau, Bulolo Riv, 850-900 m, 24.VIII.1965, J. & M. Sedlacek; 1, same loc., 4.II.1966, Sedlacek. A slightly different specimen from Engabena (not a paratype).

Differs from timorlautensis Br. in having elytron more costate, median frontal

carinae stronger and parallel, and prothorax less even at side and more coarsely punctured.

80. Tmesisternus lamingtonus Gressitt, new species Pl. 6f

5. Broad, subparallel, evenly convex. Pitchy brown, varying to pitchy black or reddish brown; largely clothed with whitish to dark brown pubescence. Head blackish with dense whitish pubescence except along median carinae and 2 stripes behind eye, but thinner on vertex; antenna reddish brown thinly clothed with golden buff; prothorax pitchy brown moderately clothed with darker and paler tawny brown except on part of median line and part of anterolateral tubercle; scutellum thinly clothed with brown to paler, glabrous on anterior 1/2 of median line; elytron entirely clothed with basically dark brown varied with pale: 3 large equally spaced whitish patches at side starting behind humerus, 1st extending farther onto disc and last forming part of a disjointed band, extending obliquely forward nearly to suture, as well as less prominent gray areas with brown puncture-dots at base, near suture between 1st 2 lateral spots and vague apical area preceding by a narrow vague oblique band, and vaguer buffy areas between these spots and bands. Ventral surfaces glabrous medially to middle of abdomen, grayish white at side with brown dots; femora likewise with weaker dots.

Head with median carinae very strong, broadly rounded in section, deeply grooved; lateral carina reduced, largely hidden by pubescence but starting as a broad connection to antennal tubercle; irregularly punctured parallel to median carinae. Antenna as long as body; scape stout; segment 3 longer than 4 and shorter than 5 + 6. Prothorax 6/7 as broad as elytra, nearly 3/5 as long as broad; lateral margin well developed, subsinuate, nearly as wide anteriorly as posteriorly; large obtuse midlateral tubercle visible from above; disc fairly even, subevenly punctured with about 13 punctures in an approximate row; median strip more narrowly glabrous than impunctate, slightly carinate anteriorly. Scutellum depressed in center. Elytron broad, sub-parallel, barely narrowed behind humerus, narrowed and rounded-truncate apically; disc evenly convex with interstices hardly raised but punctures mostly in rows. Ventral surfaces feebly punctured. Legs stout, smooth. Length 17.8 mm; breadth 6.1 mm.

Q. Prothorax with lateral margin more oblique, wider near base; elytral interstices more strongly raised; buff areas lacking so pale spots more contrasted. Length 17.8 mm; breadth 6.1 mm.

Paratypes. Some specimens with anterior and posterior lateral spots joining sutural spots to form posteriorly oblique and anteriorly oblique (toward suture) bands. Length 14.0-18.8 mm; breadth 5.2-6.3 mm.

Holotype & (BISHOP 12,452), PNG: NEW GUINEA (SE): Northern Prov, Popondetta, 60 m, 3-4.IX.1963, J. Sedlacek; allotype ? (AM), Mt Lamington, (?400 m), 24.VII.1927, C.T. McNamara; 10 paratypes (AM, SAM), Mt Lamington, VIII-IX.1929, some 400-450 m; 1 paratype (WEI), Popondetta, 19.V.1966, G. Baker; 1 paratype (MCZ), Northern Prov, Dobodura, III-VII.1944, P.J. Darlington Jr. 1 (AM), Gulf Prov, Purari Delta, 20.IX.1935, G.W. Lupson, is slightly different (not paratype).

Differs from *sexmaculatus* in having prothorax more oblong in male and elytron more rounded ectoapically, smoother, and with different patterns.

81. Tmesisternus niger Gressitt, new species

Pl. 6i

d. Broad, subparallel-sided. Black above, pitchy black beneath with antenna and legs reddish

pitchy; thinly clothed with gray pubescence, slightly paler beneath and on head; almost evenly clothed throughout, but glabrous on cephalic carinae, most of median pronotal strip, inner 3 elytral costae (including suture), and thinly clothed on antenna, glabrous medially on most of ventral surfaces, and dotted with dark brown on side, including side of elytron, and femora, with tibiae largely dark brown.

Head with median carina fairly broad, conspicuous, narrowed slightly at apex and on occiput; lateral carina confused, partly punctured or discontinuous, with just a node above upper eye-lobe and rest of surface above modestly punctured and gena weakly punctured. Antenna nearly as long as body; scape slightly swollen; segment 3 longer than 4 and nearly as long as 5 + 6. Prothorax 4/5 as broad as elytra, not quite 3/5 as long as broad, narrowed anteriorly but anterior portion of lateral ridge rounded and prominent, moderately constricted in middle, exposing fairly strong midlateral tubercle and further slightly broadened to somewhat anterior to base; disc moderately convex, slightly uneven, smooth and raised on narrow medial strip, which is pubescent basally, irregularly deeply punctured on remainder with a raised less-punctured small area in middle of lateral 1/2 of disc; about 14 punctures in an approximate row from apex to base. Scutellum strongly arched forward, fairly smooth. Elytron broad, weakly narrowed to near apex, then strongly narrowed, rounded externally and obliquely trucate; disc evenly convex, rather strongly carinate, mostly lineate-punctate. Ventral surfaces moderately punctured at side. Legs stout; femora swollen and slightly punctured. Length 16 mm; breadth 5.5 mm.

 $\mathbb{Q}.$ Prothorax more narrowed anteriorly, more sinuate, but anterior tubercle quite strong. Length 18.5 mm; breadth 6.3 mm.

Paratypes. Length 15–19 mm; breadth 5.3–6.4 mm.

Holotype & (BISHOP 12,453), PNG: NEW GUINEA (NE): E Highlands, Okapa, 1700-2000 m, 19.I.1966, J. Sedlacek; allotype (BISHOP), Purosa, nr Okapa, 2000 m, 17.I.1966, Sedlacek; paratypes, 2, Purosa, 27.VIII.1963, Sedlacek; 1, Purosa, 17.V.1966, Gressitt & Tawi; 1, Owen Stanley Range, Goilala Distr, Loloipa, 2000 m, 1-15.II.1958, W.W. Brandt (BISHOP); 4, Wahnes, Franklin Müller Coll. (1909?), Deutsche Entomologische Institute.

Differs from *timorlautensis* in being more strongly costate, less pubescent, not banded, having median cephalic costae stronger and lateral costa less distinct and less complete, the prothorax more convex, more coarsely punctured, and with broader median strip.

82. Tmesisternus brandti Gressitt, new species

Pl. 6g

δ. Broad, subparallel-sided, convex. Pitchy brown, nearly black on head and reddish brown on antenna and tarsi; moderately clothed with ochreous buff pubescence, paler and dotted with brown beneath and on legs: head densely clothed with ochreous except medially, and between antennal insertions and a dark stripe behind each eye-lobe; antenna thinly clothed with reddish buff; prothorax moderately clothed with tawny; scutellum likewise; elytron evenly clothed with pale ochreous, but with small brown dots around punctures, and a vague narrow oblique pale line from behind humerus to suture just behind end of basal 1/3, a short oblique pale line at side just anterior to middle, a fine oblique line from external margin well behind middle to suture just behind middle, and suggestion of a less strongly oblique line, only near suture, near base of apical 1/4; ventral surfaces glabrous medially to middle of abdomen, finely dotted at side. Head strongly and subevenly bicarinate medially, slightly weaker between vertex and occiput; lateral carina not evident except for short oblique ridge by upper eye-lobe; vertex rugulose-punctate and a few punctures on occiput. Antenna as long as body; segment 3 slightly longer than 4, slightly shorter than 5 + 6. Prothorax 6/7 as broad as elytra, 3/5 as long as broad, narrowed anteriorly but anterolateral tubercle prominent, behind it shallowly emarginate, exposing strong lateral tubercle, behind which margin is obtusely broadened and then narrowed; disc weakly convex, subeven, coarsely punctured, with a narrow median impunctate strip, glabrous and subcarinate in anterior 3/5. Scutellum strongly arched forward, slightly concave, with a few fine punctures. Elytron evenly convex, very slightly narrowed in basal 3/4, then more narrowed, and truncate apically; disc with suture and next 3 interstices moderately raised and punctures largely regular; lacking a postscutellar glabrous or impunctate area. Ventral surfaces feebly punctured at side. Legs stout. Length 15 mm; breadth 4.8 mm.

Holotype & (BISHOP 12,454), PNG: NEW GUINEA (NE): W Sepik Prov, Eliptamin Val, nr Telefomin, 1200-1350 m, 16-31.VII.1959, W.W. Brandt.

Differs from *timorlautensis* in being more evenly ridged and punctured, in having median cephalic carinae stronger and more regular and outer carina hardly evident, and having pronotum less closely punctured.

XI. Convexus group

83. Tmesisternus convexus Gressitt, new species

 φ . Shiny reddish castaneous; pale reddish on antenna and tarsi; ochraceous on tibiae; sparingly clothed with golden buff pubescence: head with limited pubescence in depressions and very little on side; pronotum with a little near side of disc; scutellum with very little, at side; elytron with a distinct arc of golden commencing behind humerus, arching onto disc far short of midline and recurving to humeral ridge barely past end of basal 1/3, followed by 2 slightly oblique longitudinal stripes in line from humeral ridge, just behind middle and between that and apex, plus thin pubescence on apical area and some very small patches near midline opposite each of the 3 main stripes; venter feebly clothed with pale buff at side and on last sternite; legs thinly and incompletely clothed.

Head short, with broad smooth arched median carinae; lateral carina similar, sinuous to end of upper eye-lobe, but weak in area of vertex, with a few punctures. Antenna 7/8 as long as body; segment 3 longer than 1, subequal to 4, nearly as long as 5 + 6. Prothorax 8/9 as broad as elytra, nearly 2 × as broad as long; evenly arched anterolaterally and subparallel-sided in basal 1/2; lateral expansion far exceeding small subacute midlateral tubercle; disc relatively flattish, but with broad convex impunctate median strip, slightly widened at each end and bordered by large punctures which become smaller toward side and have an irregular smooth callosity not far from median strip. Scutellum smooth, quite convex in anterior outline. Elytron strongly and-unevenly convex in lateral view, depressed behind postbasal convexity; subparallel-sided basally except humerus very prominent; strongly narrowed in posterior 3/5; apex truncate and strongly toothed externally; disc unevenly punctured, with fairly large impunctate postscutellar area on top of convexity and a few ridges broad and distinctly raised. Venter minutely punctured. Legs slender. Length 14.5 mm; breadth 4.6 mm.

Holotype ? (LEIDEN), IRIAN: NEW GUINEA (NW): Expl. Bivak, 700 m, X.1926, W. Docters van Leeuwen (N New Guinea Exped. 1926).

Differs from members of the *latithorax* group in being broader, with prominent

Pl. 7i

humerus, more strongly convex and unevenly convex elytra and the broad lateral expansion of pronotum terminating before base. The cephalic ridges are unusually broad.

XII. Toxopei group

84. Tmesisternus toxopei Gressitt, new species

d. Body broad and short, somewhat flattened, but distinctly arched (in lateral view) on postbasal portion of elytron. Reddish ochraceous and reddish castaneous to pitchy, in part with pubescent markings; head shiny pitchy black, with an irregular patch of ochreous pubescence on each side of vertex between antennal insertions, as well as a small patch of the same on anterior corner of gena and a larger area on posterior portion of gena; antenna reddish brown, slightly duller distally, feebly pubescent; pronotum shiny castaneous, pitchy toward side and partly ochreous pubescent near side; suctellum black becoming reddish posteriorly, with a little pubescence at side; elytron dull ochreous with a paler median stripe and more brownish at side, with irregular small spots of tawny pubescence, mostly near side and much sparser on inner portion of disc, most of them concentrated to form 2 vague incomplete transverse bands, before and behind middle; ventral surfaces dark castaneous with tawny pubescence on side which is marked with glabrous dots; non-pubescent median portions of sterna with sparse pale suberect hairs; legs reddish brown with femoral clubs pitchy black.

Head short, ridged medially and along lateral borders of vertex and frons; occiput with a few strong punctures behind pubescent area; frons smooth and nearly impunctate; antenna 3/4 as long as body; scape short and somewhat flattened; segment 3 distinctly longer than 4; 5 much shorter than 4; following successively shorter. Prothorax fully $2 \times$ as broad as long, oblong, but deeply cleft at middle of side, with anterior and posterior lobes rounded and similar; lateral tubercle slightly behind cleft; disc raised medially and slightly raised near middle of side of disc, with strong punctures scattered on remainder of surface. Scutellum fairly large, smooth, protruding anteriorly over middle of base of pronotum. Elytron $4 \times$ as long as broad, slightly narrowed posteriorly, narrowed and weakly emarginate-truncate at apex; disc with most of interstices raised, but 2 and 4 more strongly raised than others; grooves somewhat punctured toward side. Ventral surfaces sparsely punctured at sides and nearly impunctate on median portion. Legs fairly short and femora moderately clubbed; hind tarsal segment 1 subequal to 2 + 3 and to 5. Length 11.7 mm; breadth 4.9 mm.

^Q. Antenna 2/3 as long as body; elytron more reddish medially and with fewer pubescent spots. Length 13.4 mm; breadth 5.2 mm. Paratypes: 9-14 mm \times 3-5 mm.

Holotype & (LEIDEN), IRIAN: NEW GUINEA (NW): Mt Wilhelmina, Scree Val Camp, 3600 m, 19.IX.1938, L.J. Toxopeus, Neth-Ind. Am. NG Exped (Third Archbold). Allotype & (LEIDEN), same data except 3800 m, IX.1938. 129 paratypes: 41 topotypes, 75 from camp E of Mt Wilhelmina, 3600 m, IX.1938; 6 from Letterbox Camp, 3600 m, 14.IX.1938; 7 from Lake Habbema, 3300 m, 4.IX.1938, all taken by Toxopeus (BISHOP, LEIDEN).

Differs from *ludificator* Hllr in being smaller, less convex, less carinate, and with pronotal margin incised at middle.

85. Tmesisternus maai Gressitt, new species

d. Pitchy brown to bright reddish brown, partly clothed with pale silvery gray to tawny

Pl. 7c

Pl. 7f

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pubescence: head very thinly clothed with buff in front, with carinae glabrous, denser on gena with glabrous punctures, and with 3 stripes on each side behind vertex and eye, 1 beside median carina, 1 oblique from eye toward hind terminus of former, and 3rd in form of upper edge (longitudinal) of genal area pubescence; antenna very finely clothed and with a few suberect dark hairs beneath; pronotum thinly clothed with tawny pubescence, narrowly glabrous along median raised line; scutellum with tawny gray pubescence except medially; elytron glabrous on majority of surface, with silvery gray to golden buff pubescence in grooves, forming the following pattern: faint narrow lines on base, about 6 broken oblique bands (forward toward suture) from humerus to apex, 1st 2 only on side, 3rd only at side plus 1 spot by suture and 2 faint traces between, and 4th to 6th gradually more complete; ventral surfaces glabrous medially to end of 1st abdominal sternite with rest of abdomen and side gray-buff pubescent with puncture-dots; legs thinly clothed with silvery gray, denser on femora.

Head with very few punctures, strongly carinate medially and sinuately carinate at side, to upper margin of eye. Antenna nearly 4/5 as long as body, slender with scape stout-elliptical; segment 3 distinctly longer than 4 and slightly longer than 5 + 6; rest shorter. Prothorax not quite 5/6 as wide as elytra, subrectangular, not quite 2 x as broad as long, transverse anteriorly, with side projecting, rounded at corners, deeply incised at middle, showing lateral tubercle below incision; basal lobe a bit wider than anterior lobe; disc with median strip, a less distinct strip on each side of it, plus lateral margins, raised, with rest of surface finely and subdensely punctured. Scutellum minutely punctured. Elytron with 6 to 7 ridges with irregular punctures between them, or on some of the ridges, but the postscutellar area partly without grooves or punctures; apex transversely truncate with outer angle bearing a triangular, distinct tooth. Ventral surfaces with shallow callous punctures at side. Legs short and stout. Length 14 mm; breadth 5.3 mm.

 \mathcal{Q} . Prothorax trapezoidal, lateral margin with lobes fairly short and weakly developed. Length 14 mm; breadth 5.3 mm.

Holotype & (BISHOP 12,455), IRIAN: NEW GUINEA (NW): Wamena, Balim Val, 1700 m, 10-25.II.1960, T.C. Maa; allotopotype \Im (BISHOP), same data; paratopotype (missing head) same data; paratype, &, Baliem Camp, 1650 m, XII.1938, L.J. Toxopeus, Neth. Ind.-Am. Exped. (LEIDEN).

Differs from *toxopei*, n. sp., in being less pubescent on head, more pubescent on pronotum, with more distinct elytral bands, the prothorax more narrowly incised at side, more rectangular and the elytron more broadly and more evenly truncate apically.

86. Tmesisternus szentivanyi Gressitt, new species Pl. 7g

d. Pitchy reddish with most of elytral disc ochraceous, duller posteriorly; body largely glabrous. Head pitchy red, glabrous except for a few pale hairs on gena; antenna reddish brown, duller on scape, with fine golden brown pubescence and sparse dark erect hairs beneath; prothorax pitchy reddish, paler basally; scutellum red, duller anteriorly; elytron reddish brown, duller on basal triangle, lateral margin and apex, and paler (brick red) just behind basal triangle; disc with vestiges of 2 oblique bands consisting of short strips of whitish pubescence in some of grooves; ventral surfaces mostly shiny glabrous reddish, but with fairly dense tawny buff pubescence on parts of side bearing scattered brown dots; legs dull reddish brown with fine sparse pale pubescence.

Head short, almost impunctate; median carina single, uniform, with a fine median line which is not a groove; lateral carina prominent, oblique and approaching median carina both

anteriorly and posteriorly, reaching to hind margin of eye. Antenna nearly as long as body; scape not very stout; segment 3 longer than 4, slightly shorter than 5 + 6; rest subequal. Prothorax 7/9 as wide as elytra; lateral margin narrow, fully exposing midlateral tubercle, broadly emarginate in middle, with anterior lobe convex and posterior lobe nearly straight, slightly wider at latter; disc heavily and sparsely punctured, about 8 punctures in an approximate row from apex to base, impunctate median strip widened to base. Scutellum minutely punctured. Elytron short, convex, broadly and subobliquely truncate apically with outer angle slightly projecting; disc with 4 more distinct ridges posteriorly, lacking and impunctate on postscutellar area, and rest of surface subregularly punctured. Ventral surfaces almost impunctate. Legs with femora stout and minutely punctured. Length 10.6 mm; breadth 3.8 mm.

Holotype & (BISHOP 12,456), PNG: NEW GUINEA (NE): Enga Prov, Kepilam, 2420-2540 m, 21.VI.1963, J. Sedlacek.

Differs from *toxopei*, n. sp., in having lateral margin of prothorax much less expanded and more broadly emarginate in middle of side, with pronotum more sparsely punctured and elytron less carinate and less banded.

87. Tmesisternus paniae Gressitt, new species

d. Largely green, partly reddish to blackish, with tawny to whitish buff pubescence; head greenish black, reddish anteriorly, with tawny pubescence in depressed areas between lateral carina and eye and behind vertex. Antenna with scape green, segment 3 greenish red and rest red. Prothorax dark green with tawny pubescence except narrowly on median strip, incomplete parallel strip on each side and short transverse mark nearer to midlateral margin. Scutellum red with buff pubescence except medially. Elytron green with about 5 vague incomplete bands consisting of small spots of whitish buff pubescence: 1st basal, 2nd to 4th quite distant from base and apex, extending obliquely forward toward suture, but lacking on median portion of disc, last apical broader. Ventral surfaces reddish brown, glabrous and paler medially, tawny pubescent with glabrous dots at side. Legs red on femora and tarsi, green on tibiae, with fine buff pubescence.

Head short, hardly punctured on glabrous areas, broadly and uniformly carinate medially; lateral carina subarcuately approaching median carina both anteriorly and posteriorly, extending to hind margin of eye. Antenna 6/7 as long as body; scape stout; segment 3 longer than 4 and shorter than 5 + 6; 7-10 slightly shorter than 6. Prothorax nearly 7/8 as broad as elytra, not quite 2 × as broad as long, broadest near base; side expanded, emarginate and incised at middle, separately rounded anteriorly and posteriorly; disc grossly punctured and somewhat uneven, about 7 punctures in an approximate row from apex to base; median strip raised and impunctate. Scutellum minutely punctured except medially. Elytron subevenly narrowed, broadly truncate and distinctly toothed ectoapically; disc convex, with 5 ridges on posterior 2/3, subregularly punctured but more sparsely so at top of convexity by suture. Ventral surfaces impunctate medially, minutely punctured at side. Legs with femora stout, micropunctulate. Length 10.6 mm; breadth 3.5 mm.

9. Prothorax with lateral margin narrow, broadly and arcuately emarginate at middle of side; prothorax dull brown; elytron greenish brown, paler away from margins and postscutellar area. Length 11.4 mm; breadth 4 mm.

Paratypes. Varying from green to reddish brown, but elytral disc largely at least tinged with green, sometimes orange next to postscutellar area. Length 10-11.5 mm; breadth 3.1-4.3 mm.

Holotype & (BISHOP 12,457), IRIAN: NEW GUINEA (NW): Wissel Lakes, nr Enarotali, 1800-1850 m, 16.VII.1962, J. Sedlacek; allotopotype ? (BISHOP),

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Pl. 7e

1800-1900 m, 22.VIII.1962, Sedlacek; 2 paratopotypes, 1850-2050 m, 19.VII-6.VIII.1962, Sedlacek. 2, nr Baliem Val, Moss Forest Camp, 2600-3000 m, 5.XI.1938. L.J. Toxopeus, Neth Ind. Am. Exped. (LEIDEN).

Differs from *toxopei*, n. sp., in being more greenish than reddish, with pronotum more flat, elytron smoother basally and more broadly truncate and more toothed ectoapically.

88. Tmesisternus rubrus Gressitt, new species

d. Largely ferrugineous to paler reddish brown, pitchy red or ochraceous; largely glabrous. Head dull reddish pitchy, brighter red on neck; antenna ochraceous on scape, brownish red on remainder; prothorax dull brick red, darker on borders; scutellum paler brick red; elytron ferrugineous, duller on a basal triangle bounded by a line from humerus to suture, and along side and apex, some very thin pale pubescence on just a few short sections of discal grooves near suture before and behind middle and scattered along side; ventral surfaces thinly clothed with pale at side with a few vague darker spots; legs nearly glabrous except on the usual areas on tarsi and tibial apices.

Head very short anteriorly with short gena; surface impunctate; frons with median carina distinct, narrow, ungrooved but slightly thickened at vertex and lateral carina distinct, narrow and straight. Antenna about 4/5 as long as body, slender; scape stout in middle; segment 3 longer than 4 and equal to 5 + 6; rest shorter. Prothorax nearly 4/5 as broad as elytra, transverse anteriorly, deeply and narrowly incised at middle of side with corners rounded and anterior lobe narrower than posterior lobe; disc raised medially and slightly so on each side parallel to median strip and slightly raised at side margins; median strip impunctate and rest with punctures about as large as interspaces. Scutellum slightly frosted. Elytron short, distinctly convex, broadly truncate and weakly emarginate, but angles not projecting; disc distinctly carinate except on basal triangle which is largely impunctate, a few punctures among grooves on remainder. Ventral surfaces essentially impunctate, somewhat frosted at side. Legs with femora stout, frosted. Length 12.3 mm; breadth 4.2.

 \circ . Head with median carina not thickened at vertex, uniform; prothorax with side margin broadly and arcuately emarginate with basal lobe much broader than apical lobe and midlateral tubercle prominent; elytron with pubescent marks slightly better developed. Length 11.6; breadth 4.4 mm.

Holotype & (LEIDEN), IRIAN. NEW GUINEA (NW): 2250 m, upper Mamberamo Riv, Iebele Camp, XI-XII.1938, L.J. Toxopeus, Neth. Ind.-Am. Exped.; allotype (BISHOP 12,458a), Moss Forest Camp, 2800 m, 9.X-5.XI.1938, Toxopeus.

Differs from *toxopei*, n. sp., in lacking area of dense pubescence on each side of vertex, in having lateral margin of prothorax more narrowly incised at middle, with elytron less punctured and more ridged on basal triangle, less banded and broader apically.

89. Tmesisternus wauensis Gressitt, new species

Pl. 7h

Pl. 7d

¿. Reddish brown, paler on tarsi and antenna beyond scape, which is pitchy; postscutellar area pale green, darker near suture; body partly clothed with golden tawny pubescence, paler on legs; moderately clothed on head except on carinae and 2 oblique strips behind eye; pronotum sparingly clothed, denser toward side and glabrous medially; scutellum glabrous medially; elytron striped with golden in sulci to form 5 incomplete oblique bands; postscutellar area glabrous; postmedially some pubescence between bands; venter unevenly clothed, irregularly glabrous medially and dotted with brown at side; legs moderately clothed.

Head with median carinae largely fused, with hardly any groove except briefly behind vertex; lateral carina fairly narrow and prominent in front, weaker by eye. Antenna a little shorter than body; segment 3 longer than 1, slightly longer than 4, as long as 5 + 6. Prothorax 4/5 as broad as elytra, just over 3/5 as long as broad; lateral carina oblique, sinuate, broadly emarginate at middle, broadly rounded anteriorly and more weakly convex behind; midlateral tubercle small but visible from above; disc with a moderately raised impunctate median strip of moderate width and irregular deep punctures with a convex impunctate (poorly defined) area between middle and side. Scutellum smooth, strongly and subobtusely convex in anterior outline. Elytron slightly and subevenly narrowed to near apex, broadly truncate and distinctly toothed ectoapically; disc evenly convex, smooth, with moderate punctures mostly in interstices between 4 distinctly raised ridges and 2 lesser ones, but punctures partly on ridges and present but small on glabrous postscutellar area. Venter finely punctured. Legs with femora smooth and strongly swollen. Length 8.7 mm; breadth 3.3 mm.

 \bigcirc . Elytron olive green with much of postscutellar area reddish; elytral bands narrower and less complete, with glabrous postscutellar area very broad, extending nearly to side; prothorax with lateral carina nearly obsolete except for fairly strong anterolateral tubercle (obtuse) and vestige near base; pronotum more pubescent with narrow glabrous strip. Length 9.6 mm; breadth 3.6 mm.

Holotype & (BISHOP 12,459), PNG: NEW GUINEA (NE): Morobe Prov, Wau, 1200 m, 3.XII.1961, J.H. Sedlacek; allotopotype ? (BISHOP), 1750-1900 m, 19.VIII.1965, J. & M. Sedlacek. A specimen from Gimi Val, W of Okapa, 1450 m, 1.VI.1967, G.A. Samuelson, has lateral carina of prothorax a little better developed and ectoapical angle of elytron more weakly toothed.

Differs from *toxopei*, n. sp., in being less oblong, more convex, with prothorax much more broadly emarginate at side.

XIII. Subchlorus group

90. Tmesisternus subchlorus (Heller)

 Arrhenotus subchlorus Hllr, 1914, Nova Guinea 9: 659 (Heuvel-Biwak, 750 m, NW; DRESDEN).
 Tmesisternus (Arrhenotus) subchlorus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 558 (Torricelli Mts, NE).

Pitchy brown, paler beneath, tinged with dull green; finely grayish pubescent; head grooved medially; prothorax unevenly obtuse at side, not quite 2 × as broad as long, grossly punctured, with smooth, slightly raised median strip evenly and strongly broadened to base; scutellum smooth medially; elytron with 4 raised ridges (except basally and apically), emarginate-truncate apically with short sutural and long ectoapical spine; surface very finely gray pubescent with large glabrous postscutellar area and vague stripe at side of denser pubescence; punctures sublineate. Length 15 mm.

Distribution. Irian: New Guinea (SW): nr Hellwig Mts. PNG: New Guinea (NE): Torricelli Mts.

91. Tmesisternus flavescens Breuning

Tmesisternus (Arrhenotus) flavescens Br., 1940, Folia Zool.-Hydrobiol. 10(1): 131 (Ogelbeng, NE; SCHEIN); 1945, Novit. Entomol. 15-16, Suppl. 3: 559.

Reddish brown, with fine pale yellowish pubescence, on elytron limited to grooves but with a broad vague band at middle, broadened toward suture; prothorax with lateral margin obtuse, and median smooth strip less widened basally than in *subchloris;* elytron with about 7 ridges and grooves, truncate apically with outer angle broadly toothed; disc finely and irregularly punctured. Length not stated in either description.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Ogelbeng, nr Mt Hagen town, 1700 m.

92. Tmesisternus postglaber Breuning

Tmesisternus (Arrhenotus) postglaber Br., 1966, Mitt. Zool. Mus. Berl. 42(2): 254 (Hunsteinspitze, 1350 m, NE; ZMB).

Close to *subchlorus* but lateral tubercles less prominent; pronotal disc less closely punctured, postscutellar area larger; elytron more coarsely punctured, with yellowish pubescence, finely mottled with brown and without lateral stripe; side of venter with many small brown dots. Length not given.

Pl. 8i

Distribution. PNG: New Guinea (NE): SW Sepik, Mt Hunstein.

93. Tmesisternus lacustris Gressitt, new species

 δ . Narrow, relatively deep-bodied. Reddish castaneous, slightly darker on head and sides of prothorax, paler on antenna and beneath; pale on legs with femoral swellings only slightly darkened; partly clothed with white or grayish white pubescence: head thinly clothed, largely glabrous on occiput; antenna very weakly clothed with golden buff; prothorax thinly clothed with grayish white near side of disc and on lower side; scutellum barely clothed at side; elytron with a white patch on base near humerus, an oblique patch on side of disc near end of basal 1/3, a slightly zigzag almost complete oblique band just before apical 1/3, and less distinct patches before and at apex; outer margin partly pubescent; ventral surfaces glabrous medially, unevenly white-pubescent at side with subglabrous spots; legs very thinly pale pubescent.

Head with median carinae broad, low, partly pubescent or punctured, slightly arched apart on middle of frons; outer carina similar, arched, sinuate and continuing to parallel upper eyelobe; depressed areas sparsely punctured, but more densely on postocciput. Antenna 5/6 as long as body; scape weakly swollen; segment 3 nearly as long as 4; 4 shorter than 5 + 6. Prothorax 4/5 as broad as elytra, 2/3 as long as broad; lateral margin slightly convex in outline, widest behind middle, not quite hiding acute midlateral tubercle; disc subevenly convex with median impunctate strip slightly raised, subparallel-sided and suddenly widened at base; rest of surface somewhat densely punctured, slightly uneven with an irregular slightly raised less punctured area, and about 11 punctures in an approximate row. Scutellum smooth. Elytron subparallel-sided at first, weakly narrowed to apical 1/4, then more strongly narrowed, obliquely truncate and strongly toothed externally; disc moderately convex on postscutellar glabrous/impunctate area, slightly depressed in middle, with 3 slightly raised lines posteriorly and punctures fairly fine and subregular. Ventral surfaces very shallowly punctured at side. Femora moderately swollen. Length 11.2 mm; breadth 3.5 mm. 9. Prothorax straight at side, slightly narrowed distally; elytron with pale patches slightly more extensive. Length 12.2 mm, breadth 3.8 mm.

Holotype & (BISHOP 12,460), IRIAN: NEW GUINEA (NW), Okaitadi, Wisselmeren, Lake Paniai, 1800 m, 7.VIII.1955, Gressitt; allotopotype (BISHOP), same data.

Differs from *gracilis*, n. sp., in having prothorax longer, scutellum less pubescent, elytron with larger postbasal smooth area, more distinct patterns and apex oblique.

XIV. Luteostriatus group

94. Tmesisternus luteostriatus Heller

Tmesisternus luteostriatus Hllr, 1912, Entomol. Mitt. 1: 172, fig. 2 (Sattelberg; DRESDEN).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 571.

Tmesisternus (Arrhenotus) elongatipennis Br., 1966, Senckenbergiana Biol. 47(5): 408, fig. 6 (Sattelberg, NE; SENCKENBERG). New Synonymy.

Reddish brown, partly clothed with tawny buff pubescence; head streaked with denser and thinner pubescence and fine median glabrous line; pronotum mottled with tawny and dotted with brown, with narrow median glabrous stripe; elytron with narrow stripes in grooves, regular except interrupted by partial oblique band at side and end of basal 1/3 and nearly complete arcuate-oblique band behind middle and zigzag band just before apex; prothorax with weak lateral margin but distinct obtuse anterolateral tubercle and subacute midlateral tubercle; elytron narrow, parallel-sided, subobliquely truncate apically, with distinct ridges and grooves. Length 15-18 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Huon Penin., Sattelberg; 1, without locality, Wahnes (DEI): 1, Finschhafen, L. Wagner (SAM); NEW GUINEA (SE): Mt Lamington, 400 m, I-II. 1929, C.T. McNamara (AM).

95. Tmesisternus denticollis Gressitt, new species Pl. 9b

d. Slender, subparallel. Reddish brown to pitchy with tawny buff pubescence, which is fairly dense on head except for carinae, thin on antenna, moderate on pronotum except denser on 4 vague stripes and glabrous medially; glabrous medially on scutellum; thin in depressions on elytron, with denser partial oblique band starting at margin at end of basal 1/3 and extending forward to middle of disc, and another more distinct and complete one, anteriorly arcuate, near beginning of apical 1/3, with apex largely pubescent and basal carinae broadly glabrous; ventral surfaces pale tawny at side with a few brown dots, glabrous medially to apex of abdomen; legs moderately clothed.

Head diverging on vertex, coming closer again near apex; lateral carina complete, slightly sinuate; punctures hidden by pubescence. Antenna nearly as long as body, slender; scape elliptical; segment 3 slightly shorter than 4 which is slightly shorter than 5 + 6; rest shorter. Prothorax narrower than elytra, nearly $2 \times as$ broad as long; lateral margin prominent and slightly hooked at anterolateral tubercle, gradually constricted at middle and broadened again to near base, slightly broader basally above, but with midlateral tubercle prominent; disc fairly even, slightly raised medially, finely punctured, but median impunctate strip much wider than

glabrous strip. Scutellum slightly raised medially, impunctate. Elytron long, gradually slightly narrowed to near apex, then more strongly narrowed, truncate and slightly toothed externally; disc with sutural, lateral and 4 discal ridges, slightly unequally raised, 2 and 4 stronger, and 1 and 2 broadened basally. Length 16.2 mm; breadth 4.9 mm.

Q. Length 14.5 mm; breadth 4.8 mm. Paratypes 14.5-17.5 mm × 4.8-5.8 mm.

Holotype & (BISHOP 12,461), PNG: NEW GUINEA (NE): Morobe Prov, Mt Kaindi, 2385 m, 28.I.1963, J. Sedlacek; allotopotype & (BISHOP), 5.XII.1976, W. Gagné; 3 paratopotypes: 28.I.1963, J. Sedlacek; 27.I.1963, J. & M. Sedlacek; 28.V.1973, on *Pittosporum*, Gewise Otaweto. Paratypes: NEW GUINEA (SE): 1, Dimifa, SE of Mt Giluwe, 2200 m, 12.X.1958, Gressitt; 1, Mendi, 1660 m, 8.X.1958, Gressitt; NEW GUINEA (NE): 1, Karamuki, Bismarck Range, 2600 m, 3.IX.1973, R. Straatman.

Differs from *luteostriatus* in having prothorax with anterolateral tubercle stronger and hooked, elytron more strongly ridged, and bands less complete and less distinct.

XV. Irregularis group

96. Tmesisternus irregularis Gestro

Tmesisternus irregularis Gest., 1876, Ann. Mus. Civ. Genova 9: 165 (Mansinum, nr Dorey, Vogelkop; GENOVA).-Aurivillius, 1922, Coleopt. Cat. 73: 226.

Tmesisternus (Arrhenotus) irregularis: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 567 (Moroka, SE).

Black with reddish-brown pubescence, limited to grooves on elytron; elytron convex, deeply grooved, without spots or bands. Length 15-19 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Vogelkop. PNG NEW GUINEA (SE): Moroka. Latter record may be questionable.

97. Tmesisternus pseudirregularis Breuning

Tmesisternus (Arrhenotus) pseudirregularis Br., 1939, Festschr. E. Strand 5: 167 (Ekeikei, SE; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 567.

Similar to *irregularis* but head broader, lateral margin of pronotum more prominent; pronotal disc with denser and finer punctures and elytron more parallel, with humerus less prominent, and disc less convex anteriorly.

Distribution. PNG: New Guinea (SE): Central Prov, foothills.

98. Tmesisternus margaretae Gilmour

Tmesisternus (Arrhenotus) margaretae Gilm., 1949, Entomol. Mon. Mag. 85: 112, fig. 12 (Cyclops Mts, NW; BMNH).

Black, shiny, partly clothed with ochraceous yellow pubescence; elytra strongly carinate.

with pubescence in grooves; pronotum pubescent with median glabrous stripe; elytral apex truncate with outer angle rounded. Length 14.5-17.0 mm.

Distribution. Irian: New Guinea (NW): Cyclops Mts.

99. Tmesisternus rotundipennis Breuning

Tmesisternus (Arrhenotus) rotundipennis Br., 1948, Bull. Mus. R. Hist. Nat. Belg. 24(38): Hollandia; BMNH).

Near *irregularis;* elytron rounded apically and lacking carinae on outer 1/3; humerus less prominent. Length 20 mm.

Distribution. Irian: New Guinea (NW): Humboldt Bay (Jayapura).

100. Tmesisternus ludificator Heller

Arrhenotus ludificator Hllr, 1914, Dtsch. Entomol. Z. 1914: 315, fig. 4 (Torricelli Mts; DRESDEN).

- Tmesisternus (Polyxo) bialbatus Gahan, 1915, Trans. Zool. Soc. Lond. 20: 543, pl. 39, fig. 22; 1916, Rep. B.O.U. & Wollaston Exped. Dutch NG, 1, Coleopt. 3: 8.
- Tmesisternus (Arrhenotus) ludificator: Bruening, 1945, Novit. Entomol. 15-16 Suppl. 3: 566, fig. 326.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): 1200-2200 m; Wau; Upper Watut Val; Lake Trist; Okapa; Finisterre Mts; Chimbu Val; Mt Otto; Mt Piora; Telefomin; Moife. Coll: Brandt, Gressitt, Samuelson, Sedlacek, Smith. 16 specimens.

101. Tmesisternus pseudosulcatus Schwarzer

Tmesisternus pseudosulcatus Schw., 1924, Nova Guinea 15: 59 (Pionierbivak, NW; LEIDEN).

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Mamberamo Riv. PNG: NEW GUINEA (NE) questionably placed here: 1, Black Cat, 1500 m, nr Wau, 13.II.1966, H. Stevens; 1, Mt Shungol, 1550 m, V.1967, on *Piper*, Mena (BISHOP).

102. Tmesisternus sedlaceki Gressitt, new species Pl. 7a

d. Black to reddish pitchy, partly clothed with buff to tawny pubescence. Head pitchy black, thinly clothed with tawny, denser at apex of frons and at side external to lateral carina, glabrous on carinae and on a strip behind eye; antenna blackish becoming reddish distally, moderately pubescent; prothorax nearly black, with thin tawny pubescence, lacking on median strip and lateral margin; scutellum reddish pitchy; elytron nearly black with thin gray-buff in grooves, crossed by 3 weak bands, oblique anteriorly toward suture, 1st anterior to middle, 2 and 3 closer, behind middle; ventral surfaces reddish to pitchy, glabrous medially to apex of 1st abdominal sternite, tawny at side with small blackish dots; legs black with tawny speckled with black.

Head moderately punctured, with median pair of carinae separating slightly toward apex of frons and lateral carina curving slightly inward at apex, forking slightly near antennal insertion and continuing to near hind edge of eye. Antenna 6/7 as long as body; segment 3 much longer than 4, subequal to 5 + 6; 6-11 subequal. Prothorax just over 3/4 as broad as elytra, 2/3 as long as broad; lateral margin moderately developed, slightly concave in outline; disc moderately punctured except on smooth and slightly raised medial strip. Scutellum strongly sinuate in anterior outline. Elytron strongly arched, evenly narrowed posteriorly; apex narrowly truncate with outer angle subrounded; disc deeply and regularly grooved between rounded or flattish ridges. Ventral surfaces shallowly punctured at side, smooth medially. Legs moderately stout. Length 21 mm; breadth 6.9 mm.

?. Prothorax similar to d at side but slightly more narrowed; disc with an irregular raised strip parallel to median strip, subglabrous. Length 15.5 mm; breadth 5.6 mm.

Paratypes. Length 13.6-19 mm; breadth 4.8-6.6 mm.

Holotype & (BISHOP 12,462), IRIAN: NEW GUINEA (NW): Wissel Lakes (Wisselmeren), Enarotali, 1800-1900 m, 10.VIII.1962, J. Sedlacek; allotopotype & (BISHOP), 23.VII.1962; 2 paratopotypes, 1900-2000 m, 14,30.VII.1962; 5 paratypes, Moanemani, 1500 m, Kamo Val, nr Wissel Lakes, 13-19.VIII.1962, Sedlacek; 1 paratype, Waghete, Tigi Lake, 1700 m. 17.VIII.1955, Gressitt.

Differs from *ludificator* in lacking white elytral patch and in having prothorax less rectangular and somewhat constricted at side.

103. Tmesisternus fumatus Gressitt, new species Pl. 7b

9. Strongly convex in lateral view; elliptical in dorsal view. Dark reddish castaneous to pitchy, with limited thin pale pubescence. Head reddish pitchy, nearly glabrous; antenna reddish brown, darker on scape, thinly clothed; prothorax reddish castaneous, pitchy at side, glabrous above; scutellum reddish, pitchy at base; elytron dark castaneous with ridges brighter red except on postscutellar area, with fine pubescence in grooves, more evident at side and posteriorly, nearly forming 2 or 3 vague bands between middle and apex; ventral surfaces reddish pitchy, broadly glabrous medially, pale pubescent at side; legs thinly pale pubescent in part only.

Head with median pair of ridges pronounced, but a bit uneven, slightly separating in middle of frons; lateral carina slightly arcuate, reaching to middle of upper eye-lobe; depressions moderately punctured. Antenna 7/8 as long as body, slender; scape subcylindrical; segment 3 longer than 4 and subequal to 5 + 6. Prothorax 3/4 as broad as elytra, fully 3/4 as long as broad, with a strong, almost hooked anterolateral tubercle and triangular midlateral tubercle; disc flattish, smooth with distinct punctures except on median strip which is broader at middle and base. Elytron strongly arched, distinctly narrowed, briefly truncate apically with outer angle rounded; disc with distinct smooth-topped ridges, especially 1st (sutural), 2nd, 3rd, 5th and posthumeral ridges; grooves feebly punctured near suture, but broad strip between 5th and posthumeral densely and irregularly punctured. Ventral surfaces largely impunctate, shiny on glabrous areas. Legs slender, largely smooth. Length 18.4 mm; breadth 5.5 mm.

Paratype 2. Slightly more reddish; postmedian elytral bands slightly more evident, 1st band angulate anteriorly nearer to suture than to margin. Length 22.5 mm; breadth 6.8 mm.

Holotype ? (LEIDEN), IRIAN: NEW GUINEA (NW): Top Camp, upper Mamberamo, 2100 m, 8.II.1939, L.J. Toxopeus, Neth. Ind.-Am. Exped.; paratype (BISHOP), Mist Camp, 1800 m, I.1939, Toxopeus (same expedition and area).

Differs from *ludificator* in lacking lateral white patch, in having lateral margin of \circ more reduced, and elytral ridges less regular, and in being reddish instead of black.

XVI. Sulcatus group

104. Tmesisternus sulcatus Aurivillius

Tmesisternus sulcatus Aur., 1911, Ark. Zool. 7(19): 7 (NE NG; STOCKHOLM).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 570 (NW, SE).

Tmesisternus pseudosulcatus Schwarzer, 1924, Nova Guinea 15: 59 (Pionier Bivak, NW; LEIDEN).-Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 571. New synonymy.

Elytron deeply grooved, with a large triangular or quadrangular white patch at side anterior to middle. Length 11-22 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Cyclops Mts. PNG: NEW GUINEA (NE): hundreds of specimens from many areas of central ranges, plus Finisterres; NEW GUINEA (SE): Owen Stanleys, 900-1700 m; 3 reared from *Disoxylum parasiticum*, Bulolo, X, Ivongai (BULOLO).

105. Tmesisternus sulcatellus Gressitt, new species Pl.

 \bigcirc . Short, strongly convex, sulcate. Reddish brown to pitchy, paler reddish on tarsi, femoral bases and distal portion of antennae; moderately clothed with whitish pubescence: head with narrow stripes between the broad carinae; genae thinly clothed; pronotum with 3 distinct glabrous stripes and another pair less distinct and with 4 pale stripes on 1 side visible from above: 1st distinct, 2nd distinct in anterior 1/2; others broader and less distinct; scutellum narrowly clothed around side; elytron with large white patch at side not quite as distinct from above as in *sulcatus* and narrow white stripes in grooves except for glabrous triangular postscutellar area pointing posteriorly and slightly oblique broad glabrous band behind white patch, not quite reaching suture; venter glabrous medially with mottled tan pubescence at side; legs thinly clothed with pale buff.

Head with carinae broad, rounded and smooth, median pair diverging on frons and rejoining anteriorly; lateral carina complete to hind margin of eye, subsinuous; a few punctures on frons; minute punctures on occiput. Antenna slightly longer than body; segment 3 as long as 4, shorter than 5 + 6. Prothorax 4/5 as broad as elytra, 3/5 as long as broad; lateral tubercles both subacute; disc with smooth raised median strip; strip beside it distinct anteriorly and posteriorly merging with the less distinct 3rd strip, which is punctured as is the connection; grooves with pubescence hiding punctures which are weaker. Scutellum smooth. Elytron short; apex truncate and strongly spined externally; disc strongly ridged and grooved except on subtriangular glabrous postscutellar area; less strongly ridged on postmedian glabrous band; latter with some weak punctures. Ventral surfaces finely punctured at side and on last sternite. Legs with femora moderately swollen and finely punctured. Length 11.6 mm; breadth 4.1 mm.

d. Elytral white patch a bit more conspicuous; postmedian band less glabrous; more punctures visible on ridges. Length 10.9 mm; breadth 4 mm.

Paratypes. Some individuals green instead of brown; postmedian glabrous band evident or not. Length 8.6-14.0 mm; breadth 3-5 mm.

Holotype 9 (BISHOP 12,463), PNG: NEW GUINEA (NE): Mt Kaindi, nr Wau, 1750 m, 5.II.1966, Gressitt; allotopotype 3, Wau, 1200 m, 26.II.1965, Gressitt; 51 paratopotypes, Wau, including slopes of Mt Kaindi and summit area of Mt Kaindi, 1150-2350 m, various dates, mostly by J. & M. Sedlacek, also by P.

Fig. 2b

Pl. 9d

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Colman, J.L. & M. Gressitt, A.B. Mirza, P. Shanahan; paratypes: 1, Bulolo, 700 m, XI.1959, Sedlacek; 1, Garaina, 900-1200 m, J. & M. Sedlacek.

Differs from *sulcatus* in having elytron distinctly spined ectoapically and in being much smaller than average size for *sulcatus*, though within its size range; the elytral white patch is less distinct, merging into white groove-stripes on disc.

106. Tmesisternus arabukae Gressitt, new species

Pl. 9e

d. Pitchy black on head and prothorax; reddish on scutellum; greenish on elytron and reddish castaneous on sternum; antenna reddish beyond base; legs pitchy with tarsi reddish; body partly clothed with whitish buff pubescence, goldish on head and pronotum, more whitish on elytron: head with carinae conspicuously glabrous; pronotum with 3 glabrous stripes, lateral one suddenly broadened anterior to middle; also a small glabrous spot external to this broadened stripe; anterolateral tubercle conspicuously glabrous but midlateral pubescent; scutellum glabrous medially; elytron with pubescence in grooves forming mostly complete stripes except for arrowhead-shaped postscutellar area and narrow suboblique submedian band which does not reach suture; venter glabrous medially and dotted with brown at side; legs finely pale gray pubescent.

Head with carinae broad and smooth, median pair slightly divergent on frons, rejoining apically; lateral carina straight anteriorly, curving around eye not quite to latter's apex; punctures not obvious. Antenna barely longer than body; segment 3 slightly longer than 4 and shorter than 5 + 6. Prothorax just over 3/4 as broad as elytra, not quite 2/3 as long as broad; lateral tubercles distinct, both subacute; disc with 3 smooth strips, only a very few punctures on outer one, which is broader in central portion; glabrous sublateral callosity impunctate; rest with moderate punctures largely hidden by pubescence. Scutellum smooth with a small depression at center. Elytron short, truncate apically with strong external spine; disc strongly ridged and grooved except on postscutellar area and submedian band which are weakly punctured. Venter hardly punctured. Legs with femora broad and minutely punctured. Length 10.4 mm; breadth 3.5 mm.

Q. Antenna a bit shorter than body; dorsum brown. Length 11.9 mm; breadth 4.1 mm.
Paratypes brown. Length 10.2-13.4 mm; breadth 3.5-4.8 mm.

Holotype & (BISHOP 12,464), PNG: NEW GUINEA (NE): N slope Mt Strong, Owen Stanley Mts, Saureli to Arabuka, 1500–1800 m, 6.1.1968, J. Sedlacek; allotype ? (BISHOP), Arabuka, 1500–2000 m, 7.1.1968, J. & M. Sedlacek; paratypes: 1, same data as holotype, 2, same data as allotype; NEW GUINEA (SE): 1, Keparra to Sengi, nr Kokoda, 550 m, 27.III.1956, Gressitt.

Differs from *subvirescens* Breuning in being much smaller, with elytron strongly spined ectoapically, median pronotum stripe less broadened basally and postscutellar area of elytron not grooved.

107. Tmesisternus japeni Gilmour

Tmesisternus (s. str.) japeni Gilm., 1949, Entomol. Mon. Mag. 85: 108, fig. 11 (Japen I; BMNH).

Similar to sulcatus Aur. and pseudosulcatus Schw. but ectoapical angle of elytron strongly toothed. Length 16.5-17.0 mm. I have not vertified this species from the type specimen.

Distribution. Irian (NW): Japen I.

108. Tmesisternus subvirescens Breuning

Tmesisternus (Tmesisternus) subvirescens Br., 1966, Senckenbergiana Biol. 47(5): 405 (Kumba, NE; SENCKENBERG).

Greenish bronzy or bronzy reddish with fine white lines in grooves, denser, nearly forming a premedian lateral patch, and partly missing on postscutellar triangle and postmedian band which broadens toward suture. Length 15-19 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Huon Penin., Cromwell Range, VII.1929 (AMNH); Finisterre Mts, Komba (DEI).



FIG. 3. Tmesisternus costiceps.

109. Tmesisternus costipennis Breuning

Tmesisternus costipennis Br., 1940, Folia Zool.-Hydrobiol. 10(2): 417 (NG; Tippmann in USNM); 1945, Novit. Entomol. 15-16, Suppl. 3: 590.

Dark brown with ochreous pubescence; elytron with 7 grooves, interrupted on postscutellar area; stripes lacking there and on narrow postmedian incomplete band; close to *sulcatellus* but with elytron simply truncate. Length 13 mm.

Distribution. "New Guinea," probably NE.

110. Tmesisternus costiceps Breuning

Tmesisternus (s. str) costiceps Br., 1968, Opusc. Zool. 103: 2 (Mumeng; MUNCHEN).

Elytron with postscutellar smooth area very broad, nearly reaching side, followed by a narrow white band which widens toward external margin. Length 12-19.0 mm.

Fig. 3

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Mumeng; Kuper Range, Mt Shungol, 1550 m, VI.1967, on Piper, Gressitt; Kuper Range, Mt Missim, 1700 m, XI.1974, A.D. Hart; 1600 m, V.1966, Gressitt; Mt Missim, 1400 m, XII.1966, G.A. Samuelson; Mt Missim, 2000 m, IX.1964, M. Sedlacek; Mt Missim, 1600 m, III, J. & M. Sedlacek; Mossy Knoll, nr Mt Missim, 2000 m, 5.V.1966, Gressitt; 1, Dowalo to Zenag, 1800 m, II, Gressitt; 1, Saruwaged Range, Boinding Vill, 900 m, III, T.L. Fenner. (All but last in Kuper Range.)

111. Tmesisternus nami Gressitt, new species Pl. 9f

d. Reddish castaneous, darker pitchy on head, side of prothorax, venter and legs; antenna pitchy; body partly clothed with creamy white to pale buff pubescence; head thinly clothed, patchily on gena; glabrous on carinae; pronotum thinly clothed in depressed areas, glabrous on 3 smoothish strips and more coarsely punctured areas; scutellum narrowly clothed on side; elytron narrowly striped in grooves except glabrous on a large triangular poscutellar area and with a narrow band of goldish flecks bordering base of triangle just anterior to middle; ventral surfaces mottled golden buff with brown dots at side; legs with femora partly gold-buff pubescent.

Head with carinae broad, partly punctured; median pair distinctly spreading and evenly reapproaching on frons but not rejoining; lateral carina straight anteriorly and sinuous by upper eye-lobe; intervals not distinctly punctured. Antenna nearly as long as body; segment 3 distinctly longer than 4, nearly as long as 5 + 6. Prothorax nearly 4/5 as broad as elytra, less than 3/5 as long as broad; lateral tubercles moderately strong, midlateral rather flat; disc with median raised strip strongly broadened to base and strip beside it narrower, less regular, and merging into generally punctured area from middle; punctures dense and irregular with sublateral callosity shiny and distinctly raised. Scutellum smooth. Elytron broad, subtransversely truncate apically, strongly carinate with 6 grooves basally and 8 posteriorly leaving a triangular (glabrous) area ungrooved; rather densely punctured at side, more sparsely so toward suture, especially on postscutellar area. Ventral surfaces weakly punctured at side. Legs with femora stout and subcarinate and finely rugulose-punctate in distal halves. Length 19 mm; breadth 6.9 mm.

^Q. Length 18.5 mm; breadth 6.8 mm.

Paratypes. Dark reddish brown to slightly bronzy with band of spots always evident and never a continuous line. Length 10-20 mm; breadth 3-7 mm.

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Holotype & (BISHOP 12,465), PNG: NEW GUINEA (NE): Mt Kaindi, upper Nami Crk, 1750 m, nr Wau, 5.II.1966, J. Sedlacek; allotopotype ? (BISHOP), same data; many paratopotypes and paratypes: Nami Crk, lower Kaindi and Wau Ecology Institute, 1150-1850 m, I, II, III, VIII, IX, XII, Sedlacek, Gressitt; 6, Mt Kaindi, summit area, 2200-2350 m, IV, VII, X, Gressitt, Sedlacek; 6, Bulolo Riv, 1000 m, IV, Gressitt; 1, S slope Bulldog Rd, 2000 m, III, Gressitt; 1, Bulldog Rd, 2100 m, V, Sedlacek; 1, Mt Amungwiwa, 1650-2000 m, IX, Gressitt; 1, S of Garaina, 900-1800 m, I, J. & M. Sedlacek.

Differs from *sulcatus* in having a narrow band of pale spots instead of a large lateral white spot and in having the ridges and grooves sometimes complete at side and with pronotum less completely 3-striped (smooth glabrous strips).

112. Tmesisternus brassi brassi Gressitt, new species

Reddish castaneous; legs pitchy reddish on femora, tibiae and basal portion of antenna, latter paler reddish distally; partly clothed with ochreous to golden buff pubescence. Head moderately clothed, glabrous on carinae and on stripe behind eye; pronotum moderately clothed in depressed areas; scutellum clothed on side; elytron clothed with more golden, less ochreous, in grooves, glabrous on a postscutellar triangle pointing posteriorly, with a broad incomplete glabrous band at middle, interrupted before suture anteriorly, but meeting suture behind, besides a partial incomplete oblique band at side before latter and another behind it; venter golden buff dotted with brown; legs thinly buff to brown pubescent on femora.

Head with carinae broad, low, irregular; median pair strongly diverging on frons, then suddenly reapproaching and then narrow and parallel to apex; lateral carina slightly discontinuous and sinuate anteriorly, reaching almost to end of eye above; feebly punctured. Antenna not quite as long as body; segment 3 longer than 4, shorter than 5 + 6. Prothorax 5/6 as broad as elytra, 3/5 as long as broad; lateral tubercles stout, but hind one flat in horizontal plane; disc fairly even, with 3 slightly raised, largely impunctate strips, outer one bifurcating anteriorly from middle; 3 glabrous patches on upper side: 1st including anterolateral tubercle, 2nd a small callosity and 3rd less distinct, toward base. Scutellum smooth, slightly convex. Elytron broad, transversely truncate apically; disc with strong ridges and grooves: 5 grooves of different lengths at base, 8 posteriorly, interrupted by a posteriorly pointing common postscutellar triangle, almost impunctate; glabrous areas at side more punctate. Ventral surfaces sparsely and weakly punctured. Legs with femora strongly swollen, minutely punctured. Length 12.5 mm; breadth 4.2 mm.

Paratype. Elytral glabrous bands slightly wider. Length 15 mm; breadth 5.2 mm.

Holotype & (AMNH), PNG: d'ENTRECASTEAUX IS: Fergusson I, mts between Agamoia and Ailuluai, 900 m, 5-17.VI.1956, L.J. Brass; paratype & (BISHOP), same data.

Differs from *nami* in having cephalic carinae less regular, pronotum less punctured and with more extensive smooth strips and elytra with common glabrous triangle farther forward and pointing posteriorly, and without a transverse line of spots at middle, but with irregular stretches of heavier pale lines and a postmedian glabrous band. Named for the late Mr L. J. Brass, leader of several of the Archbold Expeditions.

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113. Tmesisternus brassi koresi Gressitt, new subspecies

Pl. 9g

d. Pitchy brown tinged with reddish; elytron olive green but paler in middle of disc and reddish behind humerus and along middle of suture; tarsi reddish and antenna reddish distally; partly clothed with ochreous, with elytral spots partly silvery white: head densely clothed with ochreous, with median carinae partly very broadly glabrous and with a broad glabrous area on occiput connecting with median and lateral carinae, plus a partial glabrous stripe behind upper eye-lobe; prothorax broadly glabrous on central area of pronotum with only a narrow ochreous intrusion anteriorly and another posteriorly, both some distance from median line; and side of disc and upper side ochreous with 3 glabrous lines at different angles, 1st consisting of anterolateral tubercle; scutellum golden ochreous at side; elytron with 4 short golden ochreous strips at base, about 5 pairs of ochreous spots (longitudinal) at side and a single larger patch at apex, plus a few smaller silvery white spots on disc, forming continuations of lateral spots (bands), forming a vague triangle near impunctate (and glabrous) postscutellar area, an incomplete band toward middle, and a more complete band (more transverse) of ochreous spots before apex; venter glabrous medially, ochreous irregularly dotted with pitchy at side; legs with ochreous pubescence distally on femora and tibiae.

Head with median carinae low (but grooved) on occiput, broad at top of frons, then separating, joining lateral carina with glabrous area, then narrowing and almost parallel to apex; lateral carina irregular, sinuous above and joining glabrous area on occiput. Prothorax with 5 smooth strips largely merged, outer 2 separate anteriorly and median and 2nd separate basally; almost no punctures visible. Elytron with grooves short at base, but 2 near humerus almost connecting with uninterrupted grooves to near apex; grooves and ridges with a few punctures toward side. Venter with very weak punctures at side. Legs with femora broad, fairly smooth. Length 12.5 mm; breadth 4.6 mm.

 $\hat{\varphi}$. Median pronotal strip more extensively bordered with pubescence; elytron with preapical band incomplete. Length 13.8 mm; breadth 4.7 mm.

Paratypes. Like holotype or allotype except 1 with postmedian oblique band (of spots) almost reaching suture. Length 13-15 mm; breadth 4.6-5.3 mm.

Holotype & (BISHOP 12,466), PNG: d'ENTRECASTEAUX IS: Goodenough I, NE slope, 1900 m, 24-25.VIII.1977, P. Kores; allotype ? (AMNH), Goodenough I, E slope, 1600 m (No. 9), 7-23.X.1953, K.M. Wynn; 6, paratypes (AMNH, BISHOP), same data as allotype.

Differs from *brassi* in having more extensive smooth glabrous areas on head and pronotum and shorter and slightly broader, and more ochreous, marks on elytron, partly forming narrower and more isolated (and less complete) bands. Named for Paul Kores of Bishop Museum.

114. Tmesisternus humeralis Aurivillius

Tmesisternus humeralis Aur., 1923, Ark. Zool. 25(25): 31, fig. 131 (Amberbaki, NW; STOCKHOLM.-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 592 (Arfak).

Elytron strongly carinate except on basal 1/4; a depressed parahumeral oblique white band. Length 12-13 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Vogelkop: Arfak Mts, van Lansberge (BMNH, PARIS, BISHOP).

115. Tmesisternus obliquefasciatus Breuning

Tmesisternus (Tmesisternus) obliquefasciatus Br., 1939, Festschr. E. Strand 5: 174 (Mt Tafa, SE; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 592, fig. 359.

Strongly arched in lateral view, distinctly narrowed posteriorly; elytron with humeral ridge and about 5 discal ridges except on postscutellar smooth area; base of elytron and 2 distinct lateral oblique bands of goldish pubescence, 1st meeting edge of postscutellar area; also a weak preapical band. Length 11-16.5 mm.

Larva (Fig. 9c). About 5 x as long as broad; nearly white, partly transparent; pronotum with anterior 1/2 (except for a central triangle) largely pale ochraceous but with a pale intrusion on each side from behind, besides central pale triangle; pronotum with only a few fine (testaceous) setae, except on anterior and lateral margins where there are a number; head-capsule $1.4 \times as$ long as broad, colorless on posterior (hidden) 1/2, red-brown in 2nd quarter and pitchy black anteriorly, with a pale arcuate-transverse suture anterior to middle, bending obliquely (slightly) backward at outer ends; antenna black, barely longer than broad; labrum nearly as broad as clypeus; metanotum with 2 transverse rows of close fleshy nodes and terga of abdominal segments 1-7 each with a complex area of 2 complete and 2 partial rows of nodes; abdominal tergite 8 with a transverse row of 6 setae besides lateral setae; tergite 9 with 3 pair of long setae on disc besides lateral and apical setae; 10th segment with 6 setae.

Pupa (Fig. 9 f, g). White to very pale testaceous; dorsum smooth on thoracic terga, with many testaceous hairs on anterior margin and sides of pronotum, a few smaller ones on sides of disc; mesonotum and metanotum with only a few minute hairs near midline; wing-pads and antenna without hairs above; abdominal tergites with 1 (1st), 2 (2nd-6th) or 3 (7th) transverse rows of short tubercles to very short spine-hairs across discs and several long hairs on each side. Ventral surfaces with about 16 hairs on each side of head including vertex, gena, labrum and mandible; palpi, antenna and wing-pads without hairs; legs with long hairs largely on distal halves of femora; abdominal sternites with long sublateral and lateral testaceous hairs. Length 12 mm; in *Cyathea* tree-fern petioles, Mt Kaindi 1800-2365 m.

Material examined. PNG: NEW GUINEA (NE): many, Mt Kaindi-Wau, 1700-2380 m, Sedlacek, Gressitt (K-1075); reared from Cyathea and Pteridium, 2365 m, A.A. Kirk, Gressitt; Bulldog Rd, 2400-2950 m; Mt Shungol, 1200-2730 m, Sedlacek; Edie Creek, 2000-2300 m; Mt Piora, 2600 m, Gressitt; Arabuka, 2100 m, Sedlacek (all BISHOP); 2 on Eugenia log, Marafunga (BULOLO); NEW GUINEA (SE): Mt St Mary, 1900 m, Abid Mirza (BISHOP). Questionable specimens from Mt Michael, Daulo Pass, Mt Wilhelm, Lake Ivivi (Sirunki) and Kagaba.

116. Tmesisternus quadriplagiatus Breuning

Tmesisternus (Tmesisternus) quadriplagiatus Br., 1939, Festschr. E. Strand 5: 173 (Orrori, SE; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 591, fig. 358.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Bulldog Rd, 2300 m, VII, on Rapania, Gressitt; NEW GUINEA (SE): Iongai, 10 km E of Mt Albert Edward, 1450 m, XI, J. Sedlacek.

117. Tmesisternus paracyclops paracyclops Breuning

Tmesisternus (Tmesisternus) paracyclops Br., 1980, Bull. Soc. Entomol. Fr. 85(5-6): 133 (Owgarra; PARIS).

Distribution. PNG: New Guinea (SE): Owgarra.

Fig. 9c, f, g

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118. Tmesisternus paracyclops pormontis Gressitt, new subspecies Pl. 3h

♂. Shiny reddish castaneous with a slight olive tint on elytron; venter, legs and antenna more reddish; moderately clothed with golden pubescence: head evenly clothed except on costae and a short distance behind upper eye-lobe; pronotum thinly pubescent with a moderately broad median glabrous strip, slightly broader anteriorly; scutellum narrowly clothed at side; elytron distinctly golden in 3 depressed areas on base, a strongly oblique band from side before middle to midline of disc at end of 1st 1/4; a 2nd oblique discal band, just behind middle, less strongly oblique, slightly broken and not quite reaching suture; a very vague 3rd oblique band and apical area and parts of side very thinly clothed; venter thinly golden buff at side with brown dots; legs thinly clothed with golden buff.

Head with carinae broad and smooth, median pair only slightly more widened at vertex and at middle of frons, narrowed apically; lateral carina nearly straight anteriorly and longitudinal beside upper eye-lobe. Antenna about as long as body; segment 3 longer than 4, nearly as long as 5 + 6. Prothorax 3/4 as broad as elytra, just over 3/5 as long as broad; lateral tubercles prominent, similar in size but anterior less flat; disc rather smooth, slightly depressed on side of median strip, irregularly and quite sparsely punctured. Scutellum smooth. Elytron strongly narrowed, truncate and distinctly toothed ectoapically; disc with 2 short ridges between pubescent depressions with a few punctures on extreme base, 5 ridges posteriorly, and side rather shallowly, in part sparsely, punctured. Venter with weak punctures or weak callosities at side. Legs with femora moderately swollen, smooth. Length 14.2 mm; breadth 5.3 mm.

9. Bands less distinct. Length 14 mm; breadth 5 mm. Paratypes same. Length 14 mm; breadth 5.3 mm.

Holotype & (BISHOP 12,514), PNG: NEW GUINEA (NE): Morobe Prov, between Wau Val and Garaina Val: Biaru-Waria divide, Mt Por, 2300-2500 m, 2-3.XII.1979, Gressitt. Allotype & (BISHOP), NEW GUINEA (SE): Owen Stanley Range, Mt St Mary, 1900 m, 23-31.VII.1968, Abid Mirza & Mena; 2 paratypes, same data as allotype except 2500 m, 15-21.VII and 2600 m, 1-7.VIII.1968.

Differs from *obliquefasciatus* in having median pronotal strip broader, rest less densely pubescent, the elytron with basal pubescence more restricted in 3 depressions, and discal bands narrower, 2nd more oblique.

119. Tmesisternus schraderi Kriesche

Tmesisternus schraderi Kr., 1926, Stettin. Entomol. Ztg 87: 380 (Schrader Mt, 1900m; ZMB).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 571 (subgenus Tmesisternus).

Prothorax rather small and elytra rather long, shiny and largely glabrous except for distinct subrounded parascutellar pubescent patch in depression; pronotum with narrow glabrous median strip; elytron with 5 ridges behind postscutellar smooth area: largely pitchy brown. Length 18 mm; breadth 6 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Schrader Range, S of Ramu Riv; 1, Okapa, on Araucaria, VI, Gray. Some questionable specimens from Mt Kaindi, Edie Creek and Bullog Rd, 1800-2400 m.

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120. Tmesisternus nitidus Gressitt, new species Pl. 10b

d. Shiny pale reddish castaneous, a little paler and less shiny on tarsi, tibiae, femoral bases and distal portions of antenna; partly clothed with bright golden yellow pubescence: head thinly clothed and broadly glabrous medially with only a narrow strip bordering upper eyelobe; prothorax broadly glabrous above with only a narrow golden strip along side of disc, upper side glabrous and lower side clothed with silvery gray; scutellum nearly glabrous; elytron largely glabrous, with a narrow golden stripe from middle of base (continuing, but narrower, from pronotal stripe) to end of basal 1/5 then bending obliquely to side just before middle, an arcuate oblique (also narrow) band just behind middle; a brief oblique line at side 1/2 way between preceding and apex and infrahumeral area of side pubescent; venter and legs with very sparse whitish pubescence.

Head with carinae broad and low, median pair weakly elliptical on frons with just a few punctures in groove; lateral carina slightly curved and irregular, confused with some punctures beside upper eye-lobe. Antenna a little shorter than body; segment 3 barely longer than 4 and nearly as long as 5 + 6. Prothorax just over 3/5 as wide as elytra, just over 2/3 as long as broad; lateral tubercles fairly weak, about same size and almost obtuse, anterior more so; disc even and smooth, with sparse fine punctures on outer 2/3 only. Scutellum smooth, depressed midbasally. Elytron strongly narrowed, subsinuately truncate and strongly spined ectoapically; disc smooth with sparse weak to moderate punctures on extreme base and rest mostly on outer 1/2, a few vague ones nearer suture postmedially. Venter feebly and sparsely punctured. Legs with minute punctures on femora which are only moderately stout. Length 11.9 mm; breadth 4.2 mm.

Holotype & (BISHOP 12,467), PNG: NEW GUINEA (NE): Enga Prov (5°43'S,143°33'E), Lavani Val, 2450 m, nr Wabag, 11-18.I.1968, J. Sedlacek.

Differs from *obliquefasciatus* in being narrower, more glabrous and shiny, and less punctured, with only a narrow stripe on side of pronotum, continuing onto elytron and then bending to side; also elytral apex more spined.

121. Tmesisternus bioculatus Gressitt, new species

d. Dark reddish castaneous on head and prothorax, bright red on elytron and intermediate on venter, legs and antennal base, paler reddish on tarsi and distal portion of antenna; with limited golden buff pubescence: head only partly and sparsely clothed with paler; prothorax with sparse minute pale hairs, a bit denser on side; scutellum nearly glabrous; elytron with oval golden patch beside scutellum but only minute sparse hairs on rest of basal depressions, and only vaguest suggestions of 2 or 3 partial oblique bands; venter glabrous medially to abdominal sternite 3, rest with very sparse pale pubescence; legs with femora largely glabrous.

Head with carinae broad, smooth and fairly prominent throughout; median pair forming narrow ellipse on frons; lateral carina slightly irregular anteriorly and fairly straight beside upper eye-lobe; depressions very sparsely punctured. Antenna slightly shorter than body; segment 3 longer than 4, as long as 5 + 6. Prothorax just over 2/3 as broad as elytra, 2/3 as long as broad; lateral tubercles moderate, subobtuse, anterior one asymmetrical; disc slightly uneven, weakly raised medially, the strip broadened to base; punctures moderate, smaller than interspaces. Scutellum smooth, projecting subacutely forward onto pronotum. Elytron slightly broadened in middle portion, narrowed apically, truncate and moderately toothed ectoapically; disc rather strongly punctured on outer 3/5 and beyond basal 2/5 suturally, but punctures becoming reduced well before apex; about 7 moderate to weak ridges. Venter hardly punctured. Femora smooth. Length 13.7 mm; breadth 4.8 mm. ?. Head and pronotum with more punctures, rather dense on each side of pronotal median impunctate strip; elytron with 3 or 4 ridges continuing to base, but smooth behind parascutellar patch. Length 16.3 mm; breadth 6.3 mm.

Paratypes. Agreeing with holotype and allotype in medially broadened elytron and vague suggestions of elytral bands. Length 12.2-16.0 mm; breadth 4.3-5.9 mm.

Holotype & (BISHOP 12,468), PNG: NEW GUINEA (SE): S Highlands Prov, Dimifa, 2200 m, SE of Mt Giluwe, 9.X.1958, Gressitt. Allotype ? (BISHOP) PNG: NEW GUINEA (NE): Mt Hagen town (S of), 2200-2300 m, 20.V.1963, J. Sedlacek. Paratypes. PNG: NEW GUINEA (SE): 1 paratopotype, same data as holotype: 2, same data except 10.X.1958; 1 SHP, Mendi, 1660 m, 13.X.1958, Gressitt; NEW GUINEA (NE): 1, 11 km S of Hagen town, 2300 m, 20.V.1963, Sedlacek; 1, Kamaga, WHP, VIII.1967, Wylie.

Differs from *bifoveatus* in being much more glabrous, with pronotum more coarsely punctured and uneven and elytron more coarsely punctured at side but less punctate apically, and in being more reddish.

122. Tmesisternus bifoveatus Aurivillus

Tmesisternus bifoveatus Aur., 1926, Ark. Zool. 18A(9): 8, fig. 145 (Bolan Mts; NE: STOCK-HOLM). – Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: Tmesisternus).

Reddish brown, largely clothed with thin buff pubescence with vague oblique bands and with conspicuous oval parascutellar patch of dense buff. Length 13-18 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): many, Simbai, 2000 m, Gressitt; Mt Wilhelm, 2500 m; near Banz, 2100 m; Nondugl, 1900 m; Sinofi, nr Kainantu, 1590 m; Daulo Pass, 3500 m; Yaibos, 2000 m; Miramar (Asaro), 1900 m; Akivitana Riv, 1550 m; Kassem Pass, 1460 m; Gressitt, Sedlacek; Okapa, 1900 m; upper Chimbu, 2200 m; Aiyura, 1800 m, Samuelson; Nondugl (N), 2300-2700 m, C.D. Michener; Mt Kaindi, 2300 m, Sedlacek; Simbai, 1800 m, Krauss; Saruwaged Mts nr Kabwum, 2500 m, Samuelson; NEW GUINEA (SE): Dimifa, 2200, S of Mt Giluwe, Gressitt. Additional uncertain specimens from Enga Prov and elsewhere.

123. Tmesisternus bifoveatipennis Breuning

Tmesisternus (s. str.) bifoveatipennis Br., 1965, Ann. Mus. Nat. Hung. 67: 170 (Keglsugl; BUDAPEST).

Characterized by 2 distinct pubescent depressions at base of each elytron and 3 oblique bands.

Distribution. PNG: New Guinea (NE): Mt Wilhelm.

124. Tmesisternus parasulcatus Breuning

Tmesisternus (s. str.) parasulcatus Br., 1975, Ann. Mus. Nat. Hung. 67: 171 (Mt Wilhelm; BUDAPEST).

Pl. 9h

Elytron red to pitchy with incomplete bands formed of short pale lines. Length 12-15 mm.

Distribution. New Guinea.

Material Examined. PNG: NEW GUINEA (NE): Bulldog Rd, 2400-2700 m, 31.V.1974, A.D. Hart; Bullog Rd, 2000-2700 m, Gressitt & Hart; Mt Wilhelm, 3120 m, 23.VIII. 1974, Hart; Mt Wilhelm, 2800-2900 m, Sedlacek; Mt Kaindi, 2360 m, Gressitt; 1800 m, Sedlacek; Mt Michael, Saddle Camp, 3050 m, Samuelson; Owen Stanley Mts, N Slope of Mt Strong, 2600-3000 m, I.1966, Sedlacek. PNG: NEW GUINEA (SE): S Highlands, above Tigobi, nr Tari, 2400 m, 2.VI.1966, Gressitt.

125. Tmesisternus arfakianus Gestro

Tmesisternus arfakianus Gest., 1876, Ann. Mus. Civ. Genova 9: 158 (Hatam, NW: GENOVA).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 590 (subgenus Tmesisternus).

Yellowish green, brown beneath; pronotum with a partial raised line on each side of median raised smooth strip surrounded by punctures; elytron finely punctured at side, marked with fine pale lines, mostly at extreme base, along side, part of suture, and posteriorly, only partly forming incomplete vague bands. Length 11 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW). Questionable specimens from (NE): Lake Ivivi (Sirunki), 2570 m, and Mt Kaindi, 2360 m.

126. Tmesisternus joliveti Breuning

Tmesisternus (s. str.) joliveti Breuning, 1970, Bull. Mus. Paris 42: 479 (Mt Wilhelm; PARIS).

Reddish brown to pitchy; head and pronotum usually pitchy; dorsum nearly glabrous, sometimes ochreous pubescence at side of pronotum and faint elytral bands before apex. Length 11-16 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): many, Lake Aunde and Lake Piunde, 3400-3800 m, Mt Wilhelm, VI,VII, Sedlacek, Samuelson, Rice, Gressitt, Brass; pass between Asaro and Chimbu valleys, 3000 m, E of Keglsugl, VI, Gressitt. 1, questionable, NEW GUINEA (SE): Iongai, Mt Albert Edward.

127. Tmesisternus giluwe Gressitt, new species

d. Dark shiny reddish castaneous, paler reddish brown on elytron; paler reddish on distal portion of antenna; partly clothed with golden buff pubescence: head nearly glabrous, very fine pubescence on gena; prothorax glabrous above, partly pubescent at side; scutellum nearly glabrous; elytron with a few small patches of pale golden buff: a small nearly round patch near scutellum, a few other flecks in basal depressions, a quite incomplete oblique row from just anterior to middle of side to postscutellar smooth area (which is not bordered), a slightly more complete oblique row behind middle and 2 longitudinal flecks well behind it near suture; venter with a very little fine pubescence on upper side; legs very feebly clothed.

Head with carinae very broad, smooth and evenly convex, occupying much of front, vertex and occiput, with almost no punctures. Antenna much shorter than body; segment 3 distinctly

Fig. 4a

Pl. 10a

longer than 4, nearly as long as 5 + 6. Prothorax 3/4 as broad as elytra, not quite 2/3 as long as broad; lateral tubercles strong, both broad-based and obtuse; disc fairly smooth, with weak narrow depression on each side of median smooth strip, which gradually widens basally and is slightly constricted anterior to middle; rest of surface very sparsely and weakly punctured. Scutellum smooth, concave in center, subacutely produced over base of pronotum. Elytron very slightly narrowed behind humerus, subparallel, then strongly narrowed apically with apex obliquely subrounded; disc with about 5 weak ridges postmedially, with weak punctures on outer 1/2 and just a few postmedially on inner 1/2. Venter not distinctly punctured. Legs with femora slender and smooth. Length 11.9 mm; breadth 4.1 mm.

Q. A few long fine erect hairs from apex and side of frons; elytral bands even less obvious; suture and external margin pitchy. Length 14.5 mm, breadth 5.1 mm.

Paratypes. Elytral bands variable, from almost completely lacking to partly complete; parascutellar pubescent patch always present. Length 10.6-15.3 mm; breadth 3.8-5.6 mm.

Holotype & (BISHOP 12,469), PNG: NEW GUINEA (SE): Mt Giluwe, 3300-3550 m, 2-4.VI.1963, J. Sedlacek; allotopotype & (BISHOP), 2500-2600 m, 31.V.1963, Sedlacek; 23 paratopotypes, 2500-3550 m, various dates V-VI.1963, Sedlacek; 1 paratopotype, 3750 m, 29.VI.1961, J.L. & M. Gressitt. Paratype (DPI), PNG: NEW GUINEA (NE): WHP, Tambul, 2500 m, from *Pipturus* foliage, 13.VII.1976, Thistleton (KK 356).

Differs from *joliveti* in being more glabrous on head and pronotum, with elytron usually duller red and with a distinct small parascutellar pubescent spot and apex narrower, more rounded and usually slightly oblique; side of elytron a little more weakly punctured.

Pl. 9i

128. Tmesisternus pteridophytae Gressitt, new species

Å. Reddish brown to somewhat tawny or grayish brown, slightly tinged with pitchy; pronotum palest, somewhat grayish brown; tarsi reddish; antenna dark red; partly clothed with golden buff: very fine and insignificant on front and top of head, thin and dotted with brown on gena; very fine and almost invisible on pronotum, lacking on smooth median strip; scutellum pubescent only on edge of middle of side; elytron with a fine frosting of minute pubescence in depressed and smooth areas except postscutellar area, with 3 very incomplete oblique bands of denser pubescence: premedian, postmedian and preapical, and some mottling on side; venter glabrous medially, buff dotted with brown at side; legs finely pubescent, slightly speckled with darker.

Head with costae very broad, smooth and largely impunctate, median pair flat on occiput, narrow at apex of frons; lateral carinae oblique and straight anteriorly, partly weak beside upper eye-lobe; remainder hardly punctured. Antenna 3/4 as long as body; scape stout; segment 3 considerably longer than 4, and longer than 5 + 6. Prothorax fully 5/6 as broad as elytra, nearly 2/3 as long as broad; lateral tubercles prominent: anterolateral broad on front face, short on hind face; midlateral subacute; side of notum almost with a margin, but rounded vertically and sinuate longitudinally; disc relatively flat; median impunctate strip depressed medially; rest of surface sparsely and rather weakly punctured. Scutellum large, concave but with a slightly raised point in center, subacutely produced over base of pronotum. Elytron oddly shaped: slightly widened to end of basal 1/3 and at that point suddenly deflexed from strongly convex postscutellar area, producing an obtuse outline in both dorsal and lateral views; humeral ridge very prominent throughout and side bent under; apex obliquely rounded-

truncate; disc with 5 broad ridges basally but only 2 of these, plus humeral ridge, extending almost to apex and all 3 merging and terminating; surfaces finely punctured on postscutellar area and moderately punctured on remainder. Venter feebly punctured. Legs with femora not very stout and fairly smooth. Length 16 mm; breadth 6.5 mm.

⁹. More glabrous, with only a few flecks, suggesting more transverse bands on elytron behind middle. Length 17.3 mm; breadth 7.3 mm.

Paratypes. Pronotum more reddish; elytral base sometimes with distinct oval parascutellar patch of pubescence. Length 13.2–15.7 mm; breadth 5.4–6.3 mm.

Holotype & (BISHOP 12,470), PNG: NEW GUINEA (NE): Mt Wilhelm, 3450 m, reared from *Pteris* fern, A.A. Kirk (7377), 2.VII.1976; allotopotype \Im (BISHOP), Lake Aunde, 3400-3500 m, 4.VII.1963, J. Sedlacek; paratopotype &, same data as holotype; paratopotype &, lower Aunde Val, 3300 m, 15.VI.1967, from *Cyathea atrox*, G.A. Samuelson. Two specimens, with stripes on head and pronotum and oblique bands on elytron, from pass between Asaro and Chimbu valleys, E of Keglsugl, 3000 m, 29.VI.1955, Gressitt.

Differs from *bifoveatus* in being much broader, obtuse in top and side views, much less pubescent, rounded-oblique at apex of elytron and with 3 much stronger ridges on elytron. One of the most divergent members of the genus, but stages in its evolution are demonstrated among several of the preceding species, with gradually a broadening of elytra in middle, a more obtuse outline, a more rounded elytral apex, with stronger carinae (3) and shorter antennae.

129. Tmesisternus prasinatus Heller

Tmesisternus prasinatus Hllr, 1914, Nova Guinea 9: 661, pl. 16, fig. 14 (Etna Bay; SW; DRESDEN).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 558 (subgenus Arrhenotus) (Fly Riv).

Elytron fairly smooth and not very convex, but with grooves basally and weak ridges preapically; apex oblique toward sutural angle, obtuse at outer angle; olive green with pale stripes on head, pronotum and elytral base and a large spot at side of middle of elytron, nearly forming a band, plus a few other spots or lines. Length 12.5-14.0. This species has a lateral margin to the prothorax no more developed than the preceding species or many others in species groups considered typical *Tmesisternus* "s. str."

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (SW). PNG: NEW GUINEA (SE). NEW GUINEA (NE): 2, Karimui, nr SE border, 1000 m, VII.1963, J. Sedlacek.

130. Tmesisternus beehleri Gressitt, new species Pl. 10c

d. Reddish brown, pitchy on head and prothorax; brown on scutellum, ochraceous tinged slightly with olive on elytron but olive to pitchy posteriorly; reddish castaneous on venter and legs, darker on femora, gradually paler distally on antenna; partly clothed with whitish buff; largely glabrous on head but with moderately dense pubescence on peripheral depressed areas of frons and on gena; prothorax largely pubescent at side and with a bit in depressed sublateral portions of disc; scutellum nearly glabrous; elytron narrowly pubescent in grooves but glabrous on large postscutellar area, some partial bands suggestive at side, and apex largely pubescent; venter glabrous medially, unevenly pubescent at side; legs with femora and bases of tibiae nearly glabrous.

Head with carinae broad, smooth and glabrous, median pair weak on occiput, widening somewhat on frons and narrowing apically; lateral carina slightly bent in front, obtuse by upper eye-lobe; remainder hardly punctured. Antenna nearly as long as body; scape stout-elliptical; segment 3 distinctly longer than 4, equal to 5 + 6. Prothorax 4/5 as broad as elytra, 7/12 as long as broad; lateral tubercles prominent: 1st stout and almost hooked; 2nd subacute; disc fairly even, with a few punctures on each side of broad median impunctate strip, which widens to apex and base; 2 irregular-shaped slightly raised areas across middle of side; remainder with only a few punctures. Scutellum broad, smooth, convex; anterior margin weakly convex. Elytron distinctly and subevenly narrowed posteriorly, broadly truncate apically with outer angle briefly toothed; disc convex and with only minute punctures on broad postscutellar area, somewhat deeply grooved with about 7 ridges on remainder, with modest punctures. Venter very feebly punctured. Legs with femora stout, slightly wrinkled and punctured. Length 16.7 mm; breadth 6.1 mm.

Holotype & (BISHOP 12,471), PNG: D'ENTRECASTEAUX IS: Goodenough I, Milne Bay Prov, 8 km W of Bolu Bolu, 23-26.III.1976, Bruce Beehler.

Differs from *sulcatus* in being less arched above, less narrowed posteriorly and in having a much smoother pronotum and different coloration. This is an isolated species, but related to some of the preceding. Named for Bruce Beehler, formerly of Wau Ecology Institute.

131. Tmesisternus kaindi Gressitt, new species Fig. 4b

d. Deep brick red, more castaneous on head, prothorax and venter; antennae paler reddish distally; nearly glabrous above; venter unevenly clothed with buff at side; antenna fringed with fairly long setae beneath on segments 2-8; elytron with some very fine, barely visible pale pubescence in depressed areas but not on postscutellar area (not bordered); head with a little pubescence anteriorly and around lower eye-lobe.

Head with carinae very broad and smooth; median pair obsolete on occiput, forming a fairly broad ellipse on frons, narrow distally; lateral carina arcuate, barely reaching hind margin of upper eye-lobe; remainder hardly punctured. Antenna not quite as long as body; segment 3 as long as 4, not quite as long as 5 + 6. Prothorax nearly 4/5 as wide as elytra, just over 5/8 as long as broad; lateral tubercles prominent: anterolateral stronger, almost hooked; midlateral obtuse; disc slightly uneven, weakly raised along middle of median impunctate strip which is broadened postmedially, but unevenly bordered by punctures which are few in number and irregular in size and disposition. Scutellum smooth, slightly depressed on each side, feebly convex in anterior outline. Elytron long, narrow, subparallel-sided, narrowed and truncate apically with outer angle briefly toothed; disc with 5 or 6 broadly raised lines, slightly raised on postscutellar area which is impunctate nearly to midline, then rather deeply but not very closely punctured and gradually more weakly so to apex. Venter hardly punctured. Legs with femora moderately swollen and smooth. Length 14 mm; breadth 4.3 mm.

Holotype & (BISHOP 12,472), PNG: NEW GUINEA (NE): Morobe Prov, Mt Kaindi, 2350 m, 28.V.1978, on *Pittosporum*, Gewise Otaweto of Wau Ecology Institute.



FIG. 4. a, Tmesisternus joliveti; b, TM. kaindi.

Differs from *viridis* in being still narrower and in having cephalic carinae very different (much broader), and in being reddish with stronger elytral carinae.

132. Tmesisternus triangularis Breuning

Tmesisternus (s. str.) triangularis Br., 1953, Ann. Hist.-Nat. Mus. Hung. ser 2, 4: 109 (Arfak Mts; BUDAPEST).

Elongate; dark brown; head, pronotum and venter densely marbled with yellowish brown; elytron with some basal yellowish brown spots and with a large posthumeral white area and some vague postmedian bands and ridges on sutural 1/2 postmedially, with apex weakly emarginate. Length 10 mm; breadth 3 mm.

Distribution. Irian: New Guinea (NW): Vogelkop.

133. Tmesisternus subtriangularis Breuning

Tmesisternus (Tmesisternus) subtriangularis Br., 1966, Senckenberg. Biol. 47(5): 407, fig. 4 (Prauenbiwak, Idenberg Riv, NW; SENCKENBERG).

Blackish with dull pubescence except for a prominent oblique white band from side just

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behind humerus to middle of disc anterior to center plus 2 very fine sinuous white lines behind middle; elytron feebly ridged, subsinuate-truncate apically. Length 14-17 mm; breadth 4.2-5.75 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Idenberg Riv. PNG: NEW GUINEA (NE): W Sepik highlands, Eliptamin Val, 1200-1300 m, nr Telefomin, 1-15.IX.1959, W.W. Brandt.

XVII. Excellens group

134. Tmesisternus excellens excellens Aurivillius

Pl. 3e

Tmesisternus excellens Aur., 1908, Dtsch Entomol. Z. 1908: 214, pl. 3, fig. 5 (Sattelberg, NE; STOCKHOLM).-Bruening, 1945, Novit. Entomol. 15-16, Suppl 3: 592 (part) (subgenus Tmesisternus).

Very broad. Shiny black with pearly white pubescence in depressions, 2 stripes each on head and pronotum; elytron with 4 irregular bands, 2nd and 3rd somewhat zigzag. Length 14-19 mm; breadth 6.0-7.5.

Albosignatus is not a synonym.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Araucaria Camp, 800 m, III.1939, L.J. Toxopeus, Neth. Ind.-Am. Exped. (LEIDEN). PNG: NEW GUINEA (NE): E Highlands, Daulo Pass, 2400 m, VI.1955, Szent-Ivany; Morobe Prov, Mt Kaindi, IV,V, Gressitt (BISHOP); Madang Prov, Yandera, VIII (WILDLIFE).

135. Tmesisternus excellens albosignatus Gahan, new status

Tmesisternus albosignatus Gah., 1916, Rep. B.O.U. & Wollaston Exped. Dutch NG 1, Coleopt. 3: 12 (Utakwa Riv, SW; BMNH).

Tmesisternus excellens: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 592 (part).

Broad; black with white marks; elytral band narrow and quite sinuous; 3rd and 4th bands forming a continuous quite sinuous line, open externally. Length 15 mm; breadth 5 mm.

Distribution. Irian: New Guinea (SW).

XVIII. Speciosus group

136. Tmesisternus speciosus speciosus Pascoe

Tmesisternus speciosus Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 479, pl. 19, fig. 1 (Mysool; BMNH).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 593 (subgenus Tmesisternus).

Body broad. Shiny blue-black and bright reddish orange: head and prothorax orange, latter with 2 black spots anterior to middle; elytron black anteriorly, orange posteriorly with 3 black spots; ventral surfaces red clothed with orange at side with a few black spots. Length 14-18 mm; breadth 5.0-6.5 mm.

Distribution. Misool; New Guinea.

Material examined. PNG: NEW GUINEA (SE): Kiunga, Fly Riv, 50 m, VIII.1957, W.W. Brandt; Balimo, lower Fly, 9 m, VIII.1964, H.W. Clissold.

137. Tmesisternus speciosus jobiensis Gestro, new status

- Tmesisternus jobiensis Gest., 1876, Ann. Mus. Civ. Genova 8: 164 (Jobi = Yapen; GENOVA): 1877, op.cit. 9: 164.-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 593 (subgenus Tmesisternus).
- Tmesisternus socius Gahan, 1916, Rep. B.O.U. & Wollaston Exped. Dutch NG 1, Coleopt. 3: 12 (Mimika Riv, SW; BMNH).

Very similar to s. speciosus but with elytral base, including humerus, with an orange triangle and posterior elytral spots closer. Length 13-19 mm, breadth 4.5-6.2 mm.

Distribution. Yapen; New Guinea.

Material examined. IRIAN (NW): Yapen I; NEW GUINEA (SW): upper Digul (Boven Digoel), II.1958, R.T. Simon Thomas. PNG: NEW GUINEA (NE): Lae, VII.1944, F.E. Skinner (possibly to be questioned). NEW GUINEA (SE): Kiunga, Fly Riv, 50 m, VIII-X.1957, W.W. Brandt, VIII.1969, J. Sedlacek.

This and *speciosus* are too close to be called separate species, and the fact that both were taken at Kiunga raises a question as to whether 2 taxa are in fact involved. Both sexes are represented in both series.

XIX. Rafaelae group

138. Tmesisternus rafaelae Lansberge

Tmesisternus rafaelae Lansb., 1885, Bull. Soc. Entomol. Belg. 29: 20 (Menado, Celebes; BRUXELLES).

Tmesisternus (Arrhenotus) rafaelae: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 560.

Black; covered with bluish or greenish metallic scales with a golden area in middle, and with narrow lines of glabrous strips: 1 longitudinal and 1 transverse on pronotum, 1 subbasal and 2 preapical on elytron. Length 20 mm.

Distribution. Sulawesi: Manado.

139. Tmesisternus subraphaelae Breuning

Tmesisternus (Arrhenotus) subraphaelae Br., 1954, Ann. Hist.-Nat. Mus. Hung. ser 2, 5: 267 (Lariang, Celebes; BUDAPEST).

Black; head, pronotum, scutellum, venter and legs clothed with gray-blue pubescence; pronotum with median glabrous impunctate strip; scutellum glabrous medially; elytron with small scales of gray-green, mixed on outer portion of anterior 1/2 with yellowish; elytral disc with 3 moderately broad glabrous bands: 1st oblique, near base, 2nd transverse at middle and broader near suture; 3rd oblique, preapical. Length 21 mm.

Distribution. Sulawesi: Lariang.

Pl. 3f

140. Tmesisternus fulgens Breuning

Tmesisternus (Tmesisternus) fulgens Br., 1939, Festschr. E. Strand 5: 171 (loc. unknown; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 576.

Shiny black; head and pronotum striped, and elytron with large patches of metallic goldgreen scales. Length 14 mm.

Distribution. New Guinea (SE?).

XX. Atrofasciatus subgroup

Pl. 2g

141. Tmesisternus atrofasciatus Gressitt, new species

 φ . Shiny pitchy black, tinged with olive on elytron which becomes pale brownish at apex; venter, antenna and legs reddish brown; moderately clothed with silvery buff pubescence; head moderately clothed with golden buff, largely missing medially and on occiput; pronotum densely clothed with silvery buff on outer 1/2 of each side of disc and on upper side; scutellum nearly glabrous; elytron with silvery buff in grooves except for smooth slightly arched band at middle, which is glabrous, largely pubescent at apex; venter broadly glabrous medially, with slightly tawny white pubescence at side with glabrous dots or patches; legs unevenly clothed with golden buff.

Head short with median carinae represented by broad swollen stripes with a few punctures; lateral carina more defined but also broad and smooth by upper eye-lobe; punctures irregularly scattered. Antenna 8/9 as long as body; segment 3 a bit longer than 4, shorter than 5 + 6. Prothorax 6/7 as broad as elytra, not quite 2/3 as long as broad; lateral tubercles prominent, 1st broad-based, rounded, and 2nd prominent but blunt; suggestion of lateral margin; disc flat in broad shiny central area which has only a few minute punctures; punctures hardly evident on pubescent portion. Scutellum smooth, depressed in center, evenly and not very strongly arched in anterior outline. Elytron subparallel-sided to near the rounded apex; disc with about 6 distinct grooves which are obsolete on the smooth band at middle, almost impunctate except between grooves 5 and 6 which are widely spaced; a postscutellar area only suggested by a weakening (and lack of pubescence) is 1st groove some distance behind scutellum. Venter feebly punctured at side. Legs smooth; femora not very stout. Length 19.2 mm breadth 5.6 mm.

Holotype \mathcal{Q} (LEIDEN), IRIAN: NEW GUINEA (NW): Iebele Camp, 2250 m, XI-XII.1938, L.J. Toxopeus (Neth. Ind.-Am. Exped. = Third Archbold).

Differs from most groups in being oblong, rounded behind, weakly convex, with pronotum very flat and nearly impunctate, with a suggestion of lateral carina, and with elytron with distinct grooves from base but interrupted on a broad smooth band at middle.

XXI. Ruficornis subgroup

142. Tmesisternus ruficornis (Thomson)

Ichthyosomus ruficornis Th., 1865, Syst. Ceramb., p. 545 (Timor; PARIS). 1990 JULIU JULIU Idsuut, 1001, 114115. EHUUHUUI. JUL. LUHU. SUI J, J. 40J (AHUUUHUA, BMNH).-Gestro, 1876, Ann. Mus. Civ. Genova 8: 153 (Seran).

punctures in incomplete rows and minute irregular punctures. Ventral surfaces weakly punctured. Legs in part finely punctured. Length 20.5 mm; breadth 6.9 mm.

2. Pronotum with glabrous area more limited; elytron with basal marks partly longer; posthumeral patch in line with a partial band of spaced short longitudinal flecks; a few marks at margin behind middle; preapical pubescence less distinct. Length 22.9 mm; breadth 7.1 mm.

Paratypes. Pattern varying between those of holotype and allotype, only 1 with slightly more extensive pubescence. Length 16.8-22.6 mm; breadth 5.3-7.6 mm.

Holotype & (BISHOP 12,473), PNG: BISMARCK ARCH: NEW IRELAND: Lelet Plateau, Schleinitz Mts, 1500 m, X.1959, W.W. Brandt; allotopotype & (BISHOP), same data; 8 paratopotypes, same data; 1 paratype, NEW IRELAND, IV.1937, C.E. Pemberton.

Differs from *schaumi yorkensis* in being less evenly arched in lateral view, with elytron more raised behind base and purple instead of green, with bands almost lacking.

147. Tmesisternus schaumi obscurus Heller

Tmesisternus yorkensis subsp. obscurus Hllr, 1934, Verh. Nat. Ges. Basel 45: 9 (Bougainville I; BASEL).

Tmesisternus schaumi m. obscurus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 575, Fig. 344 (Bougainville, Guadalcanal).

Bronzy black to bluish or greenish, with 2 narrow to moderately broad bands of creamy pubescence bounding middle 1/3 of elytron; elytral apex usually obliquely truncate. Length 16-23 mm.

Distribution. Solomon Is.

Material examined. PNG: N SOLOMON IS: Bougainville: many, Mutahi, 700 m, S of Tinputz, Straatman; Soraken, Straatman; Mt Balbi, 2000 m, Straatman; Kukugai, 150 m, Brandt; Togerao, 600 m, Straatman; Empress Augusta Bay, Franclemont; Aropa Plant'n, on cacao, W. Smith; Boku, 30 m, Gressitt; Mosigeta, 25 m, Gressitt; Torpanos, 200 m, Straatman; Buka I: Ganan, 40 m, Gressitt. SOLOMON IS: New Georgia: Roviana, W.M. Mann; Munda, 0-25 m, Krauss. Choiseul I: Kitipa, 80 m, Shanahan; Isabel I: Hageulu, 600 m, Straatman; Tamatahi, 450 m, O'Brien; Sukapisu, 900 m, O'Brien; Kolotuve, O'Brien coll; Malaita I: E of Kwalo, 350 m, Gressitt; Tangtalau-Kwalo, 200 m, Gressitt; Florida (Nggela) I: Haleta, 0-20 m, Straatman; Guadalcanal I: Honiara, Straatman; Gold Ridge, 800 m, Gressitt; Betikama Riv, Brandt coll; Sutakiki, 300 m, Gressitt; Kiwi Crk, Milliron coll.; Metanikau Riv, Milliron; Guadalcanal, Reimschiissel coll.; San Cristobal I: Wairabu Riv, 0-100 m, Sedlacek.

148. Tmesisternus schaumi bifasciatus Breuning, new status

Tmesisternus (Tmesisternus) bifasciatus Br., 1939, Festschr. E. Strand 5: 172 (Bougainville; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 575, fig. 345; 1969, Bull. Mus. Paris 40: 699.

Pronotum rather sparsely punctured; elytron very finely punctured posteriorly and rounded ectoapically; premedian elytral goldish white band farther forward at side than at suture. Length 19-25 mm.

The characters given in describing this as a separate species prove rather variable in a series. Further study of this superspecies is required.

Distribution. Solomon Is.

Material examined. PNG: N SOLOMONS: Bougainville I: Kokure, Crown Prince Range, 900 m, Ford; Mutahi, 700 m, Straatman & Tawi; Togerao, 600 m, Tawi; Tokinoitu, 20 m, Ford (BISHOP); Buin, 20 m, F. Parker (DPI). SOLOMON IS: some questionable specimens are at hand from Choiseul and Isabel.

149. Tmesisternus aeneofasciatus Breuning

Tmesisternus aeneofasciatus Br., 1948, Bull. Mus. R. Hist. Nat. Belg. 24 (38): 32 (Kulambanga, Salomon; BMNH).

Similar to schaumi but with partly continuous broader stripes of golden scales: 1st short, by scutellum, next 2 continuous from base to middle, next 2 at side behind humerus; also a broad preapical band of similar stripes and a few apical spots; elytron broadly truncate apically; legs stout. Length 21 mm.

Distribution. Solomon Is: New Georgia group: Kolombangara.

150. Tmesisternus politus Blanchard

Tmesisternus politus Bl., 1853, Voyage Pôle Sud, Zool. 4: 288; Atlas, pl. 16, fig. 17 (Triton Bay, SW; PARIS).-White, 1855, Cat. Coleopt. Br. Mus. 8: 338.-Pascoe, 1867, Trans. Entomol. Soc. Lond. ser. 3, 3; 461.-Gestro, 1876, Ann. Mus. Civ. Genova 9: 152 (Aru, Yule I).-MacLeay, 1886, Proc. Linn. Soc. N.S.W. ser. 2, 1: 200.-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 573, fig. 399 (Dorey, Mimika, Utakwa).-Szent-Ivany, 1961, Papua N. Guin. Agric., J. 13 (4): 127.-Simon Thomas, 1962, Meded. Econ. Zak. (Landb.) 1: 53.

Ichthyosoma dejeani Montrouzier, 1855, Ann. Soc. Agric. Lyon ser 2, 7: 59 (type lost?).-Montr. & Perroud, 1864, Ann. Soc. Linn. Lyon ser 2, 11: 199.

Ichthyosomus politus: Thomson, 1861, Classif. Ceramb., p. 358.

- Tmesisternus equestris Pascoe, 1867, Trans. Entomol. Soc. Lond. ser. 3, 3: 462 (Dorey, NW; BMNH).
- Tmesisternus aruensis Gahan (var. of politus), 1916, Rep. B.O.U. & Wollaston Exped. Dutch NG 1, Coleopt. 3: 46 (Aru; BMNH).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 573 (as politus m.). New synonymy.

Shiny brassy green-black with moderately pale pubescence on head and prothorax; elytron wth lacy bands on base, end of basal 1/3, behind middle and before apex, 1st 2 bands broader externally. Length 15-25mm; breadth 5-9 mm.

As some Southern coast specimens have the bands broadened and joined at margins, *aruensis* is probably untenable.

Distribution. Aru; New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Nabire, 5 m, VIII,IX, Gressitt, Sedlacek; Hollandia, Jewett coll.; Bernhard Camp, 100 m, Toxopeus; Vogelkop, Kebar, Quate coll.; APO
159 (probably Sansapor, N Vogelkop), Frost; NEW GUINEA (SW): S coast, low altitude. PNG: NEW GUINEA (NE): Lae, 30 m, Straatman; Busu Riv, 50 m, Gressitt, Sedlacek; Singaua Riv, 30 m, Lippert; Bubia, 80 m, Gressitt; Saidor, 20 m, Graham; Torricelli Mts, to 750 m, Brandt; Sepik lowlands, Straatman coll.; Adelbert Mts, 800 m, Abid Mirza; Utai, Bewani Mts, Gaya; Karimui, 1000 m, Sedlacek; Morobe, Watut Riv, (WILDLIFE); 3 on *Trema* (BULOLO); Wau, 1000–1200 m, Sedlacek; Gressitt; Busu Riv, 200 m, Hart; Bupu Riv, 30 m, Spencer; Markham Riv, 20 m, Sedlacek; Maprik, 160 m, Hardy; Pindiu, 300 m, Sedlacek; Garaina, 830 m, Sedlacek; NEW GUINEA (SE): Kokoda, 400 m, Gressitt, Sedlacek; Popondetta, 25 m, Shanahan, Lippert; (BISHOP); Tapini (WILDLIFE); Port Glascow, 5 m, Straatman; Daradae, 300 m, Gressitt; Brown Riv, 30 m, Gressitt, Sedlacek; Murua, Kerema, 5 m, Gressitt; Goilala, Owen Stanley Mts, 1400 m, Brandt; Kiunga, 50 m, Sedlacek; Olsobip, 400 m, Sedlacek (BISHOP); Brown Riv, 20 m, Monteith (UQ).

151. Tmesisternus cupreosignatus Aurivillius

Tmesisternus cupreosignatus Aur., 1907, Ark. Zool. 3 (18): 15 (Sattelberg, NE; STOCKHOLM). -Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 575.

Tmesisternus cupreosignatus m. olivescens, cuprescens, rufofemoralis Br., 1950, Longicornia 1:529-9 (all Wareo, NE; LEPESME).

Large and broad; black with side of pronotum gold-pubescent and 3 broad oblique greengold bands on elytra. Length 23-28 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Karimui, VI, Gressitt; Karimui, VII, Sedlacek (BISHOP); Karimui, II; Lae, X; Bulolo, II (WILDLIFE); NEW GUINEA (SE): Mt Lamington, VIII, McNamara; 1 without data (AM); Popondetta, X (WILDLIFE).

152. Tmesisternus dohertyi Jordan

Tmesisternus dohertyi Jord., 1894, Novit. Zool. 1: 500, pl. 13, fig. 11 (Humboldt Bay; BMNH). -Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 575, fig. 347.

Shiny black with blue to green scales on head and legs, golden on most of side of pronotal disc and 4 areas on elytron: basal apical, median transverse and postmedian oblique of greenish-gold scales. Length 24–28 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Jayapura (Hollandia), XI.1944, H. Hoogstraal. PNG: NEW GUINEA (NE): Mobitei, Torricelli Mts, 750 m, III.1959, W.W. Brandt; Wanuma, Adelbert Mts, 800 m, III.1974, Abid Mirza (BISHOP); Maprik (WILDLIFE).

153. Tmesisternus isabellae Vollenhoven

Sphingnotus sp. Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 483 (Dorey).

Tmesisternus isabellae Voll., 1871, Tijdschr. Entomol. 14: 107, pl.4, fig.7 (Salawatti; ?LEIDEN).
 -Gestro, 1876, Ann. Mus. Civ. Genova 9: 152 (Wa Samson).-Breuning, 1945, Novit.
 Entomol. 15-16, Suppl. 3: 575 (subgenus Tmesisternus).

Pl. 3b

Pl. 3a

Pl. 3c

Greenish black, almost entirely clothed with greenish-gold scales; a bluish median stripe on pronotum; elytron with a greenish-black band at middle and irregular oblique band between it and apex, followed by greener scales. Length 22-30 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): W Vogelkop, Mar Vil, XI-XII.1944, V.S. Mallory (AMNH); A.P.O. 159 (probably Sansapor, N Vogelkop), 1944, H. Frost (BISHOP).

154. Tmesisternus helleri Kriesche

Tmesisternus helleri Kr., 1926, Stettin. Entomol. Ztg 87: 379 (Aroa Riv, SE; DRESDEN).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 576 (subgenus Tmesisternus).

Black with bright greenish-brown silky pubescence, striped on head and prothorax; elytron with oblique glabrous band from margin anteriorly to suture; carinae glabrous basally and apically. Length 25 mm.

Distribution. PNG: New Guinea (SE): Central Prov.

155. Tmesisternus gabrieli Schwarzer

Tmesisternus gabrieli Schw., 1931, Senckenbergiana 13(1): 69, fig. 19 (Mamberano, prob. Mamberamo Riv, NW; SENCKENBERG).

Tmesisternus (Tmesisternus) gabrielae: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 576.

Bluish black with metallic pubescence; head with 2 golden yellow stripes; pronotum golden except for median glabrous stripe; elytron with 7 blue lines on basal 1/3 followed by a broad blackish gray band, then a blue line and posterior 2/5 yellow. Length 26 mm.

Distribution. Irian: New Guinea (NW).

156. Tmesisternus elegans Heller

Tmesisternus elegans Hilr, 1914, Nova Guinea 9: 662, pl. 16, fig. 9 (Biwak I, SW; (LEIDEN, DRESDEN).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 583, fig. 349 (subgenus Tmesisternus).

Tmesisternus taeniatus Gahan, 1916, Rep. B.O.U. & Wollaston Exped. Dutch NG 1, Coleopt. 3: 11; Trans. Zool. Soc. Lond. 20: 541, pl. 39, fig. 16 (Utakwa Riv, SW; BMNH).

Black with yellow and gray pubescence: head, pronotum and hind 2/5 of elytron yellow with stripes or spots; basal 3/5 of elytra blue-black with fine blue-gray lines. Length 20-25 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (SW). PNG: NEW GUINEA (SE): Kiunga, Fly Riv, 50 m, X.1957, W.W. Brandt.

157. Tmesisternus phaleratus (Thomson)

Ichthyosomus phaleratus Th., 1865, Syst. Ceramb., p. 545 (Morty = Morotai; PARIS). Tmesisternus phaleratus: Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 479.-Breuning,

1945, Novit. Entomol. 15-16, Suppl. 3: 589, fig. 355 (Gilolo) (subgenus Tmesisternus).

Pl. 3d

Rich brown, paler on legs, with broad stripe of pale gray pubescence from head to apex of elytron, covering outer 1/2 of dorsal portion of latter. Length 15-20 mm.

Distribution. N Maluku: Morotai; Halmahera (Djailolo).

Material examined. Morotai: IX.1944, Darlington; Morotai, 1944, Reimschiissel.

XXIII. Trivittatus group

158. Tmesisternus trivittatus Guerin-Ménéville

Tmesisternus bizonulatus Gray, 1832, Griffith Anim. Kingd. 15, Insects 2: pl. 95, fig. 7 (nom. nud.).-Guer., 1844, Icon. Regne Anim. 7, Insects, p. 250, pl. 45, fig. 7a.

- Tmesisternus trivittatus Guer., 1835, Voyage Coquille, Zool. 2(2): 130; Atlas Insectes, pl. 7, fig. 12 (Dorey, NW; PARIS).-Blanchard, 1856, Voyage Pôle Sud, Zool 4: 284, pl. 16, fig. 15.-White, 1855, Cat. Coleopt. Br. Mus. 8: 336.-Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 464 (Aru).-MacLeay, 1886, Proc. Linn. Soc. N.S.W. ser. 2, 1: 200 (Fly Riv).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 568.-Szent-Ivany & Dun, 1964, Proc. Conf. Mir. Oth. Pests Cacao: 8.-Szent-Ivany, Pac. Insects Monogr. (in prep.).
- Tmesisternus bicinctus Boisduval, 1835, Voyage Astrolabe, Insects 2: 473 (New Guinea; PARIS).
 Tmesisternus bizonatus Blanchard, 1853, Voyage Pôle Sud, Zool. 4: 285; Atlas, pl. 16, fig. 16 (New Guinea).—White, 1855, Cat. Coleopt. Br. Mus. 8: 336.—Szent-Ivany, 1961, Papua N. Guin. Agric. J. 13(4): 127.
- Tmesisternus restrictus Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 464 (Mysol; BMNH). -Gestro, 1876, Ann. Mus. Civ. Genova 9: 155.

Brown to blackish with thin buff or ochreous pubescence, often mottled; elytron with 2 narrow whitish bands, before and behind middle, often 1st transverse and 2nd oblique, but variable; elytral apex produced at or near suture. Length 11-18 mm.

Distribution. Misool; Waigeo; Aru; New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): many, from Nabire, Sentani, Waris, etc. PNG: NEW GUINEA (NE): hundreds from many localities, especially lowlands, but occasionally to 1200 m (Telefomin area; Wau); NEW GUINEA (SE): hundreds from many localities in lowlands, rarely above 500 m.

Recorded several times as a pest of cacao. Also found in coffee plantations and subsistence gardens; 2 reared from *Xanthophyllum*, Bulolo, Roberts no. 743; 1 taken on *Tectona* (BULOLO).

159. Tmesisternus divisus Aurivillius

- Tmesisternus divisus Aur., 1927, Ark. Zool. 19A(17): 541, fig. 175 (Tami Riv, mouth; AMSTERDAM).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 588; Simon Thomas, 1962, Meded. Econ. Zak. (Landb.) 1: 36, 53.
- Tmesisternus (Tmesisternus) indistinctus Br., 1939, Festschr. E. Strand 5: 177 (Humboldt Bay; BMNH).

Similar to *trivittatus* but 2nd elytral band reduced or not evident, its place taken by sinuate anterior border of a more or less enclosed mottled area. Length 15-18 mm.

Fig. 1c

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Cyclops Mts, Ifar, 400 m, VI, Sedlacek (BISHOP); Tami Riv, nr Hollandia (AMSTERDAM); Sentani, 150 m. IV, Simon Thomas (stemborer of *Citrus* spp.).

160. Tmesisternus oblongus Boisduval

Tmesisternus oblongus Bdv, 1835, Voyage Astrolabe Insectes 2: 474 (New Guinea; BMNH).-White, 1855, Cat. Coleopt. Br. Mus. 8: 338.-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 568.

?Tmesisternus rugosicollis Blanchard, 1853, Voyage Pôle Sud, Zool. 4: 283; Atlas, Zool. 2: pl. 16, fig. 11 (Triton Bay, SW).-White, 1855, Cat. Coleopt. Br. Mus. 8: 339 (Ceram).

Tmesisternus analis Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 465 (Dorey; BMNH). Tmesisternus agnatus Pasc., 1867, loc. cit (Gagie; BMNH).

Easily confused with *trivittatus* but elytral apex more prominent externally than sutural angle, or transversely truncate to slightly emarginate. Length 8-16 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Salwatti I, VI, Toxopeus (LEIDEN). PNG: NEW GUINEA (SE): specimens from Popondetta and Milne Bay assigned here with uncertainty.

161. Tmesisternus cyclopsi Gilmour

Tmesisternus cyclopsi Gilm., 1949, Entomol. Mon. Mag. 85: 107, fig. 4 (Cyclops Mts; BMNH).

Similar in appearance to *trivittatus* but 1st elytral band strongly oblique, pointing to just behind scutellum; elytral apex truncate with outer angle a bit more prominent. Length 13 mm.

Distribution. Irian: New Guinea (NW): Cyclops Mts.

162. Tmesisternus trilineatus Breuning

Tmesisternus (s. str.) trilineatus Br., 1966, Mitt. Zool. Mus. Berl. 42(2): 254 (Lordberg; ZMB).

Similar in form of 1st elytral band to cyclopsi but 2nd band forming a common "M." No measurements given.

Distribution. PNG: New Guinea (NE): Sepik.

163. Tmesisternus pulvereus Pascoe

Tmesisternus pulvereus Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 466 (Dorey; BMNH). -Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 569, fig. 300.

Brown with gray pubescence; elytron oblong-ovate, weakly 2-banded, with a glabrous postscutellar area and narrowly obliquely emarginate apically. Length 16 mm.

Distribution. Irian: New Guinea (NW): Vogelkop: Manokwari (Dorey).

164. Tmesisternus pulvereoides Breuning

Tmesisternus (s. str.) pulvereoides Br., 1975, Ann. Mus. Nat. Hung. 67: 170 (Gogol, Madang; BUDAPEST).

Elytron mottled with yellow, with premedian obtuse band and postmedian oblique band (both narrow) of yellow bordered with dark brown; elytral apex obliquely emarginate-truncate with outer angle subacute. Length 10 mm.

Distribution. PNG: New Guinea (NE): Madang Prov: Gogol Riv.

165. Tmesisternus tersus Pascoe

Tmesisternus tersus Pasc., 1862, J. Entomol. 1: 365 (Goram, Maluku; BMNH); 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 463.—Gestro, 1876, Ann. Mus. Civ. Genova 9: 153).— Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 569 (subgenus Tmesisternus).—Simon Thomas, 1961, Meded, Econ. Zak. (Landb.) 2-3: 13 (attacking cacao).

Ichthyosomus quadrifasciatus Thomson, 1865, Syst. Ceramb., p. 545.

Black with 2 narrow widely separated bands of white pubescence on elytron, 1st transverse and 2nd slightly obliquely arched (anteriorly toward suture); antenna somewhat reddish. Length 16-20 mm.

Distribution. Maluku; ?New Guinea.

Material examined. MALUKU: Goram, Manowello, Batjan. IRIAN: NEW GUINEA (SW). The latter datum seems questionable. CERAM: W Ceram, E. Stresemann coll. (ZMB); Wahaai, T. Barbour coll. (MCZ).

166. Tmesisternus latifascia Heller

- Tmesisternus latifascia Hllr, 1914, Nova Guinea 9: 660 (Sabang, etc, SW; DRESDEN).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 588 (subgenus Tmesisternus).
- Tmesisternus cinctus Gahan, 1915, Trans. Zool. Soc. Lond. 1915: 541, 543, pl. 39, fig. 17.–
 Mimika Riv; SW; BMNH; 1916, Rep. B.O.U. & Wollaston Exped. Dutch NG 1, Coleopt. 3: 48.

Black with gray pubescence; a broad median elytral band of tawny yellow and finely mottled with same on remainder. Length 14.5-20 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (SW): Low altitude nr S coast.

167. Tmesisternus vinculatus Heller

- Tmesisternus vinculatus Hilr, 1914, Dtsch. Entomol. Z. 1914: 316, pl. 12, fig. 10. (Kani Mts, NE; DRESDEN).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 568, fig. 329 (subgenus Tmesisternus).
- Tmesisternus (Tmesisternus) pseudovinculatus Br., 1970, Bull. Mus. Paris 42: 480 (Wonenara; PARIS).

Black to reddish brown, clothed above with ochreous brown, mottled with black punctures

Fig. 5



FIG. 5. Tmesisternus vinculatus.

(or raised lines posteriorly on elytron); elytron crossed by a moderately broad band of creamy white pubescence just anterior to middle, gradually narrowed to suture bordered by black before and behind which gradually merges with mottling. Length 12-17 mm; breadth 4-6 mm.

Distribution. New Guinea.

Material examined. IRIAN, NEW GUINEA (NW): Sibil Val, Star Mts, X, Quate. PNG: NEW GUINEA (NE): Purosa, 1800-2000 m, VIII, Okapa (20 km SW), 2100-2200 m, VIII, J. & M. Sedlacek; Karimui, S Chimbu, VI, Gressitt; Morobe Prov, Yaningya (S slope Bulldog), 1200 m, X, on Prunus, Evodia, Pipturus, Gressitt & Reni; Mt Kaindi, 1500-1750 m, II,V,XI, Sedlacek; Mt Missim, 1100 m, IX, Sedlacek; Bulolo, 750 m, VIII, Ford; Aseki, 1200 m, IV, Hart.

168. Tmesisternus subvinculatus Breuning

Tmesisternus (s. str.) subvinculatus Br., 1961, Mitt. Zool. Mus. Berl. 17(2): 314 (Sattelberg, NE; ZMB).

Close to *vinculatus* but larger; entire dorsum more sparsely punctured; elytron rounded apically; elytral pale band narrower. Length 22 mm.

Distribution. PNG: New Guinea (NE): Huon Peninsula.

XXIV. Lotor subgroup

169. Tmesisternus lotor lotor Pascoe

Tmesisternus lotor Pasc., 1859, Trans. Entomol. Soc. Lond. ser 2, 5(Proc.): 84 (Batjan, Maluku;
BMNH); ser. 3, 3: 468.—Gestro, 1876, Ann. Mus. Civ. Genova 9: 156 (Halmahera).—Waterhouse, 1885, Aid Identif. Insects 2: pl. 15, fig. 3.—Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 571, fig. 333 (subgenus Tmesisternus).

Reddish brown to pitchy, with buff pubescence; elytra with 3 pale gray bands, 1st consisting of a large spot at side near end of basal 1/3 and one by suture a bit farther forward; 2nd a moderately oblique band behind middle; 3rd a narrow, less even band 1/6 before apex; femora reddish brown. Length 16-22 mm.

Distribution. Maluku: Halmahera (Gilolo); Bacan (Batjan).

170. Tmesisternus lotor externemaculatus Breuning & de Jong, new status

Tmesisternus externemaculatus Br. & de J., 1941, Zool. Meded. 23: 73, fig. 11e (Morotai, Maluku; LEIDEN).

Tmesisternus rufofemoratus Breuning, 1945, Novit. Entomol. 15–16, Suppl. 3: 572 (Morotai; LEIDEN) (subgenus Tmesisternus). New synonymy.

Similar to *lotor* but pronotum more densely punctured; elytron without the pale spot anteriorly by suture (but faintly suggested in cotype in AMSTERDAM); preapical band vague. Length 16-24 mm.

The second name, *rufofemoratus*, is based on part of the material of the first; in fact, the *rufofemoratus* type in LEIDEN and cotype in AMSTERDAM agree in labels with the Morotai holotype [Bernstein] and the Halmahera paratype [van Diejen] cited in the description of *externemaculatus*. The several preceding and following closely related forms from Maluku need restudy.

Distribution. N Maluku: Morotai, Halmahera.

Material examined. The type-specimens.

171. Tmesisternus lotor gebehensis Breuning & de Jong, new status

Tmesisternus (Tmesisternus) gebehensis Br. & de J., 1941, Zool. Meded. 23: 73 (Gebe, Maluku; LEIDEN).

Tmesisternus gebehensis Br. 1945, Novit. Entomol., 15-16, Suppl. 3: 572 (subgenus Tmesisternus) (redescription as n. sp. based on same material).

Very close to *externemaculatus* and *lotor*, but anterior elytral spot placed slightly closer to middle and postmedian band consisting of 2 spots. Length 18 mm; breadth 6 mm.

Distribution. Maluku: Gebe I (between Maluku and New Guinea).

172. Tmesisternus lotor mortyanus (Thomson)

Ichthyosomus mortyanus Th., 1865, Syst. Ceramb., p. 545 (Morotai; PARIS).

Tmesisternus mortyanus: Pascoe, 1867, Trans. Entomol. Soc. Lond., ser 3, 3: 469.-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 572, fig. 335 (subgenus Tmesisternus).

Very close to *lotor*; elytron with an oblique mark from well behind scutellum, broadening to base, instead of scutellar spot of 1st band, and with 2 whitish areas behind postmedian white band. Length 16-20 mm.

Distribution. Maluku: Morotai; Ternate; Halmahera; Bacan (Batjan).

173. Tmesisternus lepidus Pascoe

Tmesisternus lepidus Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 469 (Ceram; BMNH). Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 573, fig. 336 (subgenus Tmesisternus).
 Tmesisternus amoenus Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 470 (Ceram; BMNH).

Dark brown with brown pubescence; a glabrous median stripe on head and pronotum; elytron with basal pale patch, incomplete premedian band, large postmedian patch, narrow preapical band and apical spot; elytral apex subrounded externally; length 16-20 mm.

Distribution. Seram.

Material examined. S MALUKU: Seram: Piroe, I.1906, F. Muir (BISHOP); Wahaai, T. Barbour coll. (MCZ).

174. Tmesisternus elongatus Breuning

Tmesisternus elongatus Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 572 (Arfak Mts; LEIDEN) (subgenus Tmesisternus).

Close to *mortyanus* but elytron more narrowed posteriorly and with sutural angle rounded; premedian spot placed more anteriorly, as is postmedian band; no preapical spots. Length 21 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Vogelkop.

175. Tmesisternus petechialis petechialis Pascoe

Tmesisternus petechialis Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 466 (Kaioa, Maluku; BMNH).—Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 570, fig. 332 (subgenus Tmesisternus).

Dorsum heavily punctured with brown pubescence marbled with gray; elytron with 3 broken bands of white (1st and 3rd greatly reduced in *plumbeus*). Length 16-20 mm.

Distribution. N Maluku: Kaioa, Makian.

Material examined. 1, Halmahera: Dodinga, VIII, Doherty (ANSP) probably assignable here.

176. Tmesisternus petechialis plumbeus Pascoe, new status

- Tmesisternus plumbeus Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 470 (Makian, Maluku; BMNH).
- Tmesisternus petechialis m. plumbea: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 570 (subgenus Tmesisternus).

Distribution. N Maluku: Makian.

177. Tmesisternus wiedenfeldi Aurivillius

Tmesisternus wiedenfeldi Aur., 1911, Ark. Zool. 7(19): 8 (Sattelberg, NE; STOCKHOLM, MÜNCHEN).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 573, fig. 337 (subgenus Tmesisternus).

Shiny pitchy brown, tinged with olive; head and pronotum with thin gray pubesence with wide median glabrous stripe; elytron with large rounded triangular posthumeral whitish gray patch, sometimes consisting of 3 nearly separated patches, followed by a broken suboblique band behind middle and another more transverse broken band between it and apex; apex more thinly pale pubescent. Length 15-19 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Idenburg Riv, W.C. van Heurn, XI.1920 (DEI). PNG: NEW GUINEA (NE): many, Torricelli Mts, 750-900 m, XII, Brandt; Feramin, 1200 m, V, Brandt; Feramin, 1450 m, VII, Straatman; Adelbert Mts: Wanuma, 800 m, X, Gressitt; Morobe Prov: Aseki, 1260 m, IV, on Symplocos, Gressitt & Hart; Mt Karimui, 1050 m, IV, Gressitt; Wau: Mt Kaindi, 1700 m, II, Sedlacek (BISHOP); Finschhafen, L. Wagner (SAM); Bundi, 1400 m, I (WILDLIFE); NEW GUINEA (SE): Mt Bosavi, 800-900 m, VII, Gressitt & Gaya (BISHOP).

178. Tmesisternus affinis Breuning

Tmesisternus (Tmesisternus) affinis Br., 1939, Festschr. E. Strand 5: 172 (Snow Mts, SW; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 573, fig. 338.

Very similar to *wiedenfeldi* but elytron more triangular, strongly narrowed, and posthumeral patch more angular, postmedian band more oblique and not reaching suture. Length 18 mm; breadth 5.5 mm.

Distribution. Irian: New Guinea (SW): Snow Mts, 1700-2000 m.

179. Tmesisternus opalescens Pascoe

Tmesisternus opalescens Pasc., 1867, Trans. Entomol. Soc. Lond. ser. 3, 3: 467, pl. 19, fig. 3 (Maluku; BMNH).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 572 (subgenus Tmesisternus).

Pale brown, tinged with yellowish, partly clothed above with pale opalescent green: on most of head and pronotum except for median strip, somewhat vaguely on base of elytron (mottled with brown punctures as is pronotum), and with 3 distinct bands: 1st just anterior to middle and broken, with inner part farther anterior; 2nd postmedian, a bit irregular; 3rd preapical. Length 21.5 mm.

Distribution. S Maluku: Seram.

180. Tmesisternus torridus Pascoe

Tmesisternus torridus Pasc., 1867, Trans. Entomol. Soc. Lond. ser. 3, 3: 467 (Gilolo = Halmahera, Maluku; BMNH).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 572, fig. 334 (subgenus Tmesisternus).

Reddish brown with patterns of gray-buff pubescence: moderately clothed on head and pronotum, latter with median bare stripe; elytron with broad irregular stripe from base in basal 1/4, then large patch at side, and postmedially 3 progressively smaller bands. Length 16-23 mm.

Distribution. N Maluku: Halmahera, Bacan (Batjan).

Material examined. BACAN: 1, questionable, Xulla-Mangoli, X-XI, Doherty (ANSP).

181. Tmesisternus obiana Gressitt, new name

Tmesisternus (Arrhenotus) obiensis Breuning, 1969, Bull. Mus. Paris 40: 700 (Obi I; PARIS) (nec Breuning, tom.cit. 699, Tmesisternus (s. str.) obiensis Br.).

Slender; dark brown, clothed with reddish brown, mixed with pale yellow pubescence on basal portion of pronotum; elytron marked with areas of pale yellowish: (1) basal discal area with dark dots; (2) transverse postbasal band, oblique at side and narrow at suture; (3) broad postmedian band, emarginate posteriorly and not reaching suture; (4) vague apical spot. Elytral apex truncate with outer angle pointed. Length 20 mm.

This species was only compared with *lotor*, which according to Breuning's system was in a quite distinct subgenus.

Distribution. Maluku: Obi I.

182. Tmesisternus obiensis Breuning

Tmesisternus (s. str.) obiensis Br., 1969, Bull. Mus. Paris 40: 699 (Obi major; PARIS).

It will be interesting to see if this proves to be the female of T. (Ar.) obiensis Br. (obiana, new name, above).

Distribution. Maluku: Obi I.

XXV. Agriloides group

183. Tmesisternus agriloides agriloides Pascoe

Tmesisternus agriloides Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 481 (New Guinea: BMNH).-Breuning, 1945, Novit Entomol. 15-16, Suppl. 3: 580.

Elongate, gradually tapered posteriorly; elytron convex behind scutellum, often abraded, but normally pubescent brown with 2 or 3 narrow weak oblique pale bands on elytron, first 2 bending back angularly near suture. Length 14-19 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Finisterre Mts, VII, Brandt; Deutsch Neu-Guinea, C. (Wahnes (DEI); nr Kainantu, I, Barrett; Melambi Riv, nr Lae, 1800 m, XII, Ardley (DPI); Wau, 1200 m, II,XII, Sedlacek; Edie Creek, 2050 m, VII, Sedlacek; Mt Missim, 1650 m, I, Sedlacek; NEW GUINEA (SE): SHP, Mendi, 1660 m, X, Gressitt.

184. Tmesisternus agriloides persimilis Breuning, new status

Tmesisternus (Arrhenotus) persimilis Breuning, 1968, Opusc. Zool. 103: 2 (Mumeng; MUNCHEN).

Distribution. PNG: New Guinea (NE): Mumeng (type examined).

185. Tmesisternus elateroides Gestro

Tmesisternus elateroides Gest., 1876, Ann. Mus. Civ. Genova 9: 160 (Hatam GENOVA).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 580.

Slender, tapering gradually; prothorax with a lateral brown stripe; elytron yellowish brown with 2 small dark brown spots at side, before and behind middle, and probably often with an abraded (punctured) raised area behind scutellum; obliquely truncate apically. Length 16 mm.

Distribution. Irian: New Guinea (NW): Vogelkop, Hatam.

186. Tmesisternus demissus Breuning

Tmesisternus demissus Br., 1939, Festschr. E. Strand 5: 170 (Mimika Riv; BMNH); 1945 Novit. Entomol. 15-16, Suppl. 3: 580.

Relatively broad, narrowed posteriorly; clothed with grayish yellow pubescence; pronotum without a dark stripe; elytron with 2 vague oblique brown bands near middle and few dark spots along side. Length 16 mm.

Distribution. Irian: New Guinea (SW): Mimika River.

187. Tmesisternus vagefasciatus Breuning

Tmesisternus (Tmesisternus) vagefasciatus Br., 1939, Festschr. E. Strand 5: 178 (Kokoda; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 581.

Similar in form to *agriloides*; elytron with impunctate area behind scutellum, bare in all specimens seen; elytral apex obliquely emarginate-truncate; elytron with 3 oblique pale bands, 1st slightly angulate forward near suture and last bending back with a sutural stripe to apex. Length 16-19 mm.

Distribution. New Guinea.

Material examined. PNG: New Guinea (SE): Kokoda, III, Gressitt; Popondetta, 25 m, V,VI, Shanahan & Lippert; questionable: Karimui, VI, Gressitt; Mt Bosavi, 900 m, V, Gressitt.

188. Tmesisternus mamberamo Gressitt, new species

d. Dark pitchy brown; reddish brown on bases of femora; duller reddish brown on tarsi and antenna; largely clothed with silky gray pubescence of varying shades or reflections: glabrous medially on head and a narrow glabrous line behind upper eye-lobes; pronotum with a straight median glabrous strip; scutellum a little more narrowly glabrous medially; elytra with a large common subsquarish convex smooth glabrous impunctate area, angularly indented on each side of anterior margin and connecting on outer side to raised line which goes to base and to near apex, and may be glabrous or abraded; disc with vague suggestions of partial oblique band at side anterior to middle and 2 postmedian oblique bands, which vary in appearance with angle of light; venter narrowly glabrous medially to base of last abdominal sternite, gray to tawny at side with blackish dots; legs thinly clothed with gray.

Head with median carinae strongly raised, nearly fused, with very slight groove on top of ridge on frons, but distinctly grooved and carinae depressed on occiput; lateral carina distinct oblique and nearly straight anteriorly, low and curved near upper eye-lobe. Antenna with segment 3 much longer than 1, subequal to 4, shorter than 5 + 6. Prothorax 5/6 as broad as elytra, 3/5 as long as broad; both lateral tubercles distinct, 1st obtuse, 2nd subacute; disc smooth, flat medially, finely punctured on each side of median smooth strip. Scutellum smooth, obtusely rounded anteriorly. Elytron strongly and subevenly narrowed, truncation arcuate-oblique with outer angle spined; disc convex and smooth behind scutellum (see above), with 2 modest ridges and subregular fine punctures. Venter feebly punctured at side. Legs smooth; femora only moderately swollen. Length 18.8 mm; breadth 5.4 mm.

 \heartsuit . Somewhat more reddish castaneous with tarsi and antenna paler reddish. Length 19.1 mm; breadth 5.8 mm. Paratypes 17.7–19.3 \times 5.1–6.3 mm.

Holotype & (LEIDEN), IRIAN: NEW GUINEA (NW): Lower Mist Camp, 1500 m, 28.I.1939, L.J. Toxopeus; allotopotype ? (LEIDEN), 24.II.1939, Toxopeus; paratypes: 6, Sigi Camp, 1500 m, Toxopeus, II.1939; 2, same data as holotype; 1, Rattan Camp, 1150 m, II.1939, Toxopeus (Neth. Ind.-Am. Exped.).

Differs from *agriloides* in having smooth pronotum, large smooth postscutellar area and elytral apex emarginate-oblique and spined.

189. Tmesisternus reductus Gressitt, new species Pl. 10d

d. Reddish brown, paler reddish on legs, side of venter and antennae beyond segment 2; darker castaneous on median strip of venter; thinly clothed with silvery gray-buff to brown pubescence with varying shades according to light; head glabrous medially and with brown stripe behind upper eye-lobe; pronotum with narrow median glabrous stripe uneven and incomplete, as if abraded; scutellum entirely pubescent; elytron entirely pubescent, but thin and brown on postscutellar area; a vague sinuous postmedian band, behind which gray-buff pubescence is more silvery; venter narrowly glabrous medially to start of last sternite, pale and lightly dotted with brown at side; legs thinly silvery-buff pubescent.

Head with median carinae broad, raised and with weak groove, lower and more deeply grooved behind vertex; lateral carina broad; interspaces sparsely punctured. Antenna as long as body; segment 3 longer than 1, shorter than 4; 4 shorter than 5 + 6. Prothorax 5/7 as broad as elytra, 3/4 as long as broad, subtrapeziform, sinuate at side; tubercles subequal; disc very smooth, feebly punctured with impunctate median strip partly wide, but not well defined. Scutellum smooth, outline weakly convex anteriorly. Elytron evenly narrowed, obliquely truncate and acutely angulate ectoapically; disc finely punctured, with 2 interstices slightly

Pl. 3g

raised basally and 3 more strongly raised postmedially. Venter weakly punctured. Legs with femora stout and smooth. Length 17.8 mm; breadth 6.1 mm. Paratypes, $14.4-15.3 \text{ mm} \times 4.6-4.8 \text{ mm}$.

Holotype & (BISHOP 12,474), IRIAN: NEW GUINEA (NW): Wissel Lakes, Enarotali, 1800-1900 m, 10.VIII.1962, J. Sedlacek; 1 paratype, Star Mts, Sibil Val, 1250 m, X-XI.1961, L. Quate; 2 paratypes (BISHOP), PNG: NEW GUINEA (NE): Sepik highlands, Eliptamin Val, 1200-1350 m, 16-30.VIII.1959, W.W. Brandt.

Differs from *agriloides* in having lateral cephalic carina broad and smooth, pronotum flatter in middle and both pronotum and elytron smoother and more weakly punctured.

190. Tmesisternus samuelsoni Gressitt, new species Pl. 10e

⁹. Reddish brown; pitchy black on head and prothorax; dull olive brown on femora, tibiae and antenna, latter more reddish distally; moderately clothed with pale gray-buff pubescence: head sparingly clothed, extensively glabrous in front and above; prothorax moderately clothed at side and side of disc; scutellum thinly clothed; elytron thinly clothed except on large vaguely bordered postscutellar area and on ridges with a weak denser oblique band at side pointing toward postscutellar area and another behind middle bending to almost transverse at suture, and vague suggestion of a preapical oblique band; venter sparingly clothed at side, with vague subglabrous spots; legs sparingly clothed.

Head with median carinae strong but not sharp, with deep groove between; lateral carina strong but interrupted well before antennal support, moderate by upper eye-lobe; occiput with a few punctures. Antenna 8/9 as long as body; segment 3 shorter than 4; 4 as long as 5 + 6. Prothorax nearly 3/4 as broad as elytra, just over 2/3 as long as broad, oblique at side with tubercles distinct but small and a fairly distinct lateral ridge; disc weakly ridged medially with impunctate strip narrow; punctures moderate, fewer in middle of each side of disc. Scutellum smooth, obtusely rounded in anterior outline. Elytron narrow, only moderately narrowed to apical 1/4 which is strongly narrowed with apex subobliquely emarginate and strongly toothed at outer angle; disc impunctate on much of postscutellar area, distinctly ridged postmedially but with weak punctures. Venter not distinctly punctured. Legs with femora smooth and slender. Length 15.7 mm; breadth 4.8 mm.

d. Dorsum similarly but slightly more densely clothed than . Length 15 mm; breadth 4.9 mm. Paratypes 9.9-15.7 mm x 3.1-4.8 mm.

Holotype \mathcal{P} (BISHOP 12,475), PNG: NEW GUINEA (NE): Huon Penin.: Kalalo, 750 m, nr Kabwum, 20-30.VIII.1966, Mena for G.A. Samuelson; allotype & (BISHOP), E end Saruwaged Rå, 20 km SSW of Kabwum, 2550 m, 5-12.VIII.1966, Mena & Samuelson; 2 paratopotypes, same data as holotype; paratypes: 4, same data as allotype; 1, Salawaket Ra, Sepalakambang, 1920 m, 11-14.IX.1956, E.J. Ford, Jr; 1, Finchhafen, 80-200 m, 13.IV.1963, J. Sedlacek; 2, Pindiu, 870-1300 m, 21-22.IV.1963, Sedlacek; 23, Finisterre Ra, Saidor Distr, Funyende, 1200 m, 24-30.IX.1958, W.W. Brandt; 2, same area, Kiambavi Vill., 22-29.VII. 1958, Brandt; 1, same area, Sibog Vill, 6-16.VI.1958, Brandt; 1, same area, Matoko Vill, 6-24.IX.1958, Brandt.

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Differs from *agriloides* in being much more slender, less evenly tapered, with postscutellar area less punctured and elytral apex more oblique and more sharply toothed.

191. Tmesisternus goilalae Gressitt, new species Pl. 10f

 $\ensuremath{\mathbb{Q}}$. Bright grass green on elytron and tibiae, paler green on femora; head and pronotum pitchy green; antenna dull green basally, reddish distally; venter ochraceous, tinged with red or greenish medially; prothorax green at side; tarsi greenish basally, pale reddish distally; body partly clothed with silvery buff pubescence: head clothed except on carinae, some visible punctures and strip behind upper eye-lobe; pronotum moderately clothed, with narrow median glabrous strip and many punctures visible; scutellum with medial glabrous line not reaching apex; elytron glabrous on basal 2/3 except for thin pubescence on base, side and a weak partial sinuous line at middle of side, barely reaching upper part of disc; apical 1/3 with distinct suboblique (arched) band followed by partly bare area and remainder to apex largely pubescent; venter narrowly glabrous medially (serrately and incompletely on abdomen), moderately pubescent at side with glabrous dots; legs nearly glabrous.

Head with median carinae strongly raised, separated by deep narrow groove which nearly disappears with apical narrowing; lateral carina slightly sinuous, distinct; remainder sparsely punctured. Antenna 4/5 as long as body; segment 3 as long as 4, shorter than 5 + 6. Prothorax 3/4 as broad as elytra, 2/3 as long as broad; side weakly obtuse with anterior tubercle stout and hind tubercle moderate, acute; suggestion of a lateral margin; disc fairly flat, weakly raised on median line which is narrowly impunctate; remainder with numerous moderate punctures. Scutellum flat, obtusely rounded in anterior outline. Elytron narrow, feebly narrowed to near apex which is subtransversely truncate, weakly emarginate acutely toothed externally, and minutely toothed internally. Venter weakly punctured. Legs with femora moderately swollen. Length 15.3 mm; breadth 4.9 mm.

Holotype \mathcal{Q} (BISHOP 12,476), PNG: NEW GUINEA (SE): Goilala Distr, Owen Stanley Mts, Bome, 1950 m, 24.II-7.III.1958, W.W. Brandt.

Differs from *elateroides* in being more slender and parallel, with elytron smoother, less punctured and subtransverse apically, besides being largely green and differently marked.

192. Tmesisternus transversevittatus Breuning

Tmesisternus (s. str.) transversevittatus Br., 1956, Longicornia 1: 684 (Alexander Mts, NE; LEPESME).

Elongate, moderately convex; head with 4 fine carinae; pronotum with median impunctate strip narrow anteriorly; lateral tubercles small; elytron truncate apically with outer angle obtusely toothed, largely glabrous basally, with a transverse premedian narrow band and another preapical, latter bordered with mottling. Length 9 mm.

The placement of this species is tentative. Distribution. PNG: New Guinea (NE): Alexander Mts.

193. Tmesisternus batchianensis Breuning

Tmesisternus (s. str.) batchianensis Br., 1954, Bull. Soc. Entomol. Fr. 59: 68, fig. 1 (Batchian I; PARIS).

Slender; dark brown clothed with yellowish pubescence; pronotum with a narrow median brown stripe; elytron with some preapical mottling of brown; prothorax with anterior tubercle conical and hind tubercle acute; elytron oblique apically with sutural angle projecting and outer angle subacute. Length 20 mm.

Distribution. Maluku (N): Bacan (Batjan) I.

194. Tmesisternus metalliceps Breuning

Tmesisternus metalliceps Br., 1940, Folia Zool.-Hydrobiol. 10(2): 416 (Wareo, NE; FREY); 1945, Novit. Entomol. 15-16, Suppl. 3: 584 (subgenus Tmesisternus).

Prothorax with tubercles slender; elytron with smooth postscutellar area, 4 bands of metallic pubescence and apex truncate and spined externally; ventral pubescence silky and finely mottled. Length 15 mm.

Distribution. PNG: New Guinea (NE): Huon Penin.

XXVI. Viridipennis subgroup

195. Tmesisternus viridipennis Breuning

Tmesisternus (Tmesisternus) viridipennis Br., 1940, Folia Zool.-Hydrobiol. 10: 131 (Ogelbeng, NE; SCHEIN, ?ZMB); 1945, Novit. Entomol. 15-16, Suppl. 3: 585.

Fairly deep-bodied; cephalic carinae very broad; prothorax fairly long, with bulbous anterolateral tubercle and acute midlateral tubercle; pronotum very flat in middle; elytron smooth, emarginate and bispinose apically, green. Length 16-17 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Hagen (Ogelbeng); Mt Kaindi, 2350 m, X, Gressitt; NEW GUINEA (SE): S Highlands, Mendi, 1800 m, VIII, on tree fern, Hart; SW of Wau, 1800 m, on Alstonia, Gewise.

196. Tmesisternus asaroanus Gressitt, new species Pl. 10h

d. Largely dull olive above, more pitchy on head and pronotum, largely reddish castaneous beneath, sparingly clothed with thin silvery gray or dense white pubescence: head thinly clothed with silvery gray, broadly glabrous medially, more widely so posteriorly; pronotum silvery gray with broad median glabrous area, wider anteriorly; scutellum nearly glabrous; elytron with 2 round spots of dense white pubescence, each side of scutellum, at side before and behind middle and a few small flecks and patches on base, near apex, near scutellum before apex and very small ones (3) near postmedian white spot; venter broadly glabrous medially, gray-white at side with brown dots; legs reddish, largely glabrous.

Head with carinae very broad and low, partly punctured, not evident by upper eye-lobe where there are more punctures than on frons. Antenna slightly longer than body; segment 3

distinctly longer than 4, shorter than 5 + 6. Prothorax 3/4 as broad as elytra, nearly 3/4 as long as broad; side convex, with distinct tubercles: rounded (anterior) and subacute; disc smooth, flat in side view, with very broad impunctate strip and punctures to side small and largely sparse. Scutellum flat, not very strongly arched forward. Elytron weakly sinuate at side, with humerus slightly prominent; apex obliquely truncate with sharp tooth at outer angle almost a spine; disc smooth with irregular weak punctures and a single weakly raised line posteriorly. Venter smooth, weakly punctured only at side. Legs smooth; femora moderately stout. Length 18.3 mm; breadth 6.3 mm.

Holotype & (BISHOP 12,477), PNG: NEW GUINEA (NE): EHP, Asaro Val, Miramar, 1800 m, N of Goroka, 27.VI.1955, Gressitt.

Differs from *viridipennis* in having elytron strongly oblique apically instead of emarginate and bispinose, with elytral disc less convex, with larger white spots, and pronotum with much finer pubescence, rendering median strip less distinct.

197. Tmesisternus habbemanus Gressitt, new species Pl. 10g

2. Reddish ochraceous, olive green on elytron with ochraceous borders; antenna reddish ochraceous; legs ochraceous with greenish tinge; body largely glabrous or subglabrous: head with very sparsely silvery gray pubescence, largely glabrous above except in depressed areas of frons; pronotum very broadly glabrous in middle, sparsely pubescent toward side; scutellum glabrous; elytron glabrous except for fine oblique pale hairs posteriorly and a distinct brown marginal fringe on hind 1/3; venter thinly clothed with pale at side; femora glabrous.

Head raised medially on frons with a minute groove along crest, flat and shallowly grooved on occiput; lateral carina represented by broad smooth slightly raised area, to upper eye-lobe; nearly impunctate. Antenna 7/8 as long as body; segment 3 shorter than 4; 4 shorter than 5 + 6. Prothorax 3/4 as broad as elytra, nearly 2 × as broad as long; both tubercles well developed with strong suggestion of lateral ridge; disc slightly concave in side view, almost impunctate; anterior margin slightly emarginate at middle. Scutellum smooth, rather convex in anterior outline. Elytron strongly narrowed posteriorly, subobliquely emarginate-truncate and strongly toothed ectoapically; disc convex and smooth, with 4 broad evenly depressed strips postmedially. Venter micropunctulate at side, smooth medially. Legs smooth with femora relatively slender. Length 17.4 mm; breadth 5.5 mm. Paratype 18 mm × 6.4 mm.

Holotype ? (LEIDEN), IRIAN: NEW GUINEA (NW): Lake Habbema, 3250-3300 m, ult.VII-ult.VIII.1939, L.J. Toxopeus (Neth. Ind.-Am. Exped. = Third Archbold); paratopotype ? (BISHOP), same data.

Differs from *viridipennis* in being more glabrous, with shorter prothorax, concave in lateral view and nearly impunctate, and elytron more evenly and strongly narrowed and oblique apically instead of bispinose.

198. Tmesisternus lucens Breuning

Tmesisternus (s. str.) lucens Br., 1970, Bull. Mus. Paris 42: 478 (Mt Jimi, Baiyer Riv, Jimi Riv; PARIS).

Antenna distinctly shorter than body in \Im ; elytral base with depression near scutellum; elytral apex rather narrowly subemarginate-truncate, with sutural angle barely projecting and outer angle projecting and subacute. Pronotum with golden pubescence on side of disc; elytron with 2 pale yellow spots; posterior prothorax tubercle slender. Length 19 mm.

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Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Mt Jimi, between Baiyer Riv and Jimi Riv, 1200-1600 m.

199. Tmesisternus meeki Breuning

Tmesisternus (Arhenotus) meeki Br., 1980, Bull. Soc. Entomol. Fr. 85: 133 Owgarra, SE; PARIS).

Antenna shorter than body in $\hat{\varphi}$; elytral base without distinct depression near scutellum; elytral apex subtransversely truncate with outer angle obtusely projecting; posterior prothoracic tubercle fairly long and acute. Length 17 mm.

Distribution. PNG: New Guinea (SE): Owgarra.

XXVII. Bruijni subgroup

Usually oblong, not very strongly narrowed posteriorly; elytron not very long; thoracic tubercles not very strong.

200. Tmesisternus modestus Gahan

Tmesisternus modestus Gah., 1915, Trans. Zool. Soc. Lond. 20: 543, pl. 39, fig. 20; 1916, Rep. B.O.U. & Wollaston Exped. Dutch NG 1, Coleopt. 3: 10 (47) (mimika Riv, SW; BMNH). -Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 581 (subgenus Tmesisternus).

Blackish brown; head and pronotum with gray pubescence; elytron pale reddish brown with humerus and apex dark brown; elytron truncate apically. Length 14 mm.

Distribution. Irian: New Guinea (SW): Mimika River.

201. Tmesisternus cinnamomeus Gilmour

Tmesisternus (s. str.) cinnamomeus Gilm., 1950, Tijdschr. Entomol. 92: 234, fig. 12 (Mansuela, Ceram; BMNH).

Black, clothed with yellowish-orange pubescence; pronotum with a narrow median glabrous line; elytron bisinuate-truncate apically. Length 18.5 mm.

Distribution. S Maluku: Seram: Mansuela.

202. Tmesisternus dubius dubius Montrouzier

Tmesisternus dubius Montr. 1855, Ann. Soc. Agric. Lyon ser 2, 7: 58 (Woodlark).-Montrouzier
& Perroud, 1864, Ann. Soc. Linn. Lyon ser 2, 11: 199.-Lacordaire, 1869, Genera Coleopt.
9: 249.-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 584.

Dark reddish brown; femora bright reddish; dorsum with tawny pubescence with narrow brown streaks; elytron relatively short, truncate apically with outer angle toothed. Length 11-16 mm.

Distribution. Woodlark I.

Material examined. PNG: Woodlark I (Murua): many, Kulumadau Hill, IV, Brandt.

203. Tmesisternus dubius rufithorax Breuning

Tmesisternus (s. str.) dubius m. rufithorax Br., 1956, Bull. Inst. R. Sci. Nat. Belg. 32(25): 3 (Russel I; BRUXELLES).

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Tmesisternus (s. str.) rosselli Br., Bull. Soc. Entomol. Fr. (in press) (Rossel I; PARIS). New synonymy.

Paler reddish, with less pubescence on pronotum. Length 11-15 mm.

Distribution. PNG: Louisiade Arch: Rossel I.

Material examined. ROSSEL I, 3, Abaleti, 0-50 m, 10.VI.1956, Brass (AMNH).

204. Tmesisternus dubius saintaignani Breuning, new status

Tmesisternus (Tmesisternus) saintaignani Br., Bull. Soc. Entomol. Fr. (in press) (St Aignan; PARIS).

Distribution. Louisiade Arch: Misima I (= St Aignan I).

Material examined. PNG (SE): 2, Misima, II.1978 (WILDLIFE).

205. Tmesisternus obsoletus Blanchard

- Tmesisternus obsoletus Bl., Voyage Pôle Sud, Zool. 4: 282; Atlas Insectes, pl. 16, fig. 20 (New Guinea; PARIS).—White, 1855, Cat. Coleopt. Br. Mus. 8: 339.—Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 579.
- Tmesisternus obsoletus Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 474. (Aru; BMNH). -Gestro, 1876, Ann. Mus. Civ. Genova 9: 159 (Aru, Beccari).

Reddish brown with pale and dark brown pubescence, the former forming longitudinal lines and some narrow oblique bands, leaving a number of longitudinal dark brown areas, partly in oblique bands; elytral apex slightly emarginate; antenna longer than body. Length 15-18 mm.

Pascoe redescribed the species, using the name from the Paris museum specimen, but not citing Blanchard.

Distribution. Aru; New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): probable specimens from Nabire.

206. Tmesisternus bolanicus Breuning

Tmesisternus (Tmesisternus) bolanicus Br. 1939, Festschr. E. Strand 5: 178 (Bolan Mts; STOCKHOLM); 1945, Novit. Entomol. 15-16, Suppl 3: 577.

Very similar to agriloides; perhaps a race of that species. Length 21 mm.

Distribution. PNG: New Guinea (NE): Bolan Mts.

207. Tmesisternus teragrammus Gilmour

Tmesisternus (s. str.) teragrammus Gilm., 1950, Tijdschr. Entomol. 92: 235, fig. 13 (Aru; BMNH).

Rather short-bodied; largely mottled pale and brown, with a partial dark band on base of pronotum, another behind scutellum and a short oblique dark band at side of middle of elytron.

Distribution. Aru Is.

208. Tmesisternus strigosus Pascoe

Tmesisternus strigosus Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 480 (Morty; BMNH).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 582.

Dark brown with dull gray pubescence; head and pronotum weakly punctured, latter convex; elytron densely punctured and distinctly ridged, obliquely truncate apically. Length 13-14 mm.

Distribution. N Maluku: Morotai.

209. Tmesisternus avarus Pascoe

Tmesisternus avarus Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 477 (Key; BMNH).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 580.

Pale grayish yellow; elytron reddish brown along suture; sides dark brown with paler mottling; antenna and legs reddish brown. Length 13-14 mm.

Distribution. Kai (Kei, Key) Is.

210. Tmesisternus bilineatus (Aurivillius)

Arrhenotus bilineatus Aur., 1927, Ark. Zool. 19A(17): 15 (539), fig. 173a (New Guinea; STOCKHOLM).

Tmesisternus (Arrhenotus) bilineatus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 567, fig. 327 ("type Mt Cyclops: BMNH").

Dark brown with brown pubescence; spots of yellow pubescence beside and beneath eye; pronotum coarsely punctured and with a glabrous median strip; elytron with small black postscutellar area, a yellow patch behind humerus and 2 fine sinuous yellow lines postmedially; elytral apex transversely truncate. Length 18-20 mm.

Distribution. Irian: New Guinea (NW): Cyclops Mts.

211. Tmesisternus bruijni Gestro

Tmesisternus bruijni Gest., 1876, Ann. Mus. Civ. Genova 9: 154 (Salwati, Sorong; GENOVA).
 Tmesisternus (Tmesisternus) bruijni: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 569, fig. 331.

Dark reddish brown, largely clothed with thin fawn-buff pubescence, with a somewhat sinuate "M" of fine pale buff lines anterior to middle of elytra, and on each a subsinuous

arcuate-oblique line behind middle and another slightly zigaag one between latter and apex; elytral apex subtransversely truncate to slightly emarginate. Length 15-20 mm.

Distribution. Salawati; New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Vogelkop: Sorong; Arfak Mts, van Lansberge (ANSP); Nabire, IX.1962, J. Sedlacek (BISHOP); Maffin Bay, X.1944, Ross & Skinner, and VII.1944, E.S. Ross; Hollandia, XII.1944, H. Hoogstraal (CAS).

212. Tmesisternus subbilineatus Breuning

Tmesisternus (Arrhenotus) subbilineatus Br., 1966, Mitt. Zool. Mus. Berl. 42(2): 255 (Mäanderberg, Sepik; ZMB).

Similar to *bilineatus* with elytra without postscutellar bare area; pronotum lacking median glabrous strip; median elytral band curving forward to suture at level of posthumeral spot. Length 16 mm.

Distribution. PNG: New Guinea (NE): Sepik.

XXVIII. Herbaceus group

Form somewhat oblong, parallel-sided and deep-bodied.

213. Tmesisternus herbaceus Pascoe

Tmesisternus herbaceus Pasc, 1862, J. Entomol. 1: 365 (Mysol; BMNH); 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 471, pl. 19, fig. 4.—Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 584.

Brownish green, varied with brown; pronotum dark green uniformly covered with thin pubescence; elytron greenish with a postmedian white area surrounded by brown; femora and tibiae green. Length 10-14 mm.

Distribution. Misool; New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Vogelkop: Ramoi; Kebar Val, 550 m, I, Quate; NEW GUINEA (SW): Nordrivier, Lorentz, 1909.

214. Tmesisternus albovittatus Breuning

Tmesisternus (Tmesisternus) albovittatus Br., 1939, Festschr. E. Strand 5: 172 (Moari; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 586.

Dorsum dark brown, with a conspicuous white band just behind middle; pronotum and elytron deeply punctured; elytron spined ectoapically. Length 12-13 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (SW): Bomberai Penin., Bomberi, 700-900 m, VI, Gressitt, Maa. PNG: NEW GUINEA (SE): Moari.

215. Tmesisternus lugubris Breuning

Tmesisternus (Tmesisternus) lugubris Br., 1939, Festschr. E. Strand 5: 176 (Mimika Riv, SW; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 580.

Tmesisternus (Tmesisternus) lugubris m. confluens Br., loc. cit. (Utakwa Riv; BMNH).

Black; dorsum clothed with reddish brown; occiput with 5 brown stripes; pronotum with 3 brown stripes; elytron mottled with dark reddish brown anteriorly, with transverse brown band and another at middle that reaches middle of disc. Length 14-16 mm.

Distribution. Irian: New Guinea (SW): Mimika Riv; Utakawa River.

216. Tmesisternus bosaviensis Gressitt, new species Pl. 10i

d. Slender; dark reddish brown above, paler on scutellum and anterior margin of pronotum; tinged with olive and reddish on antenna; venter reddish castaneous, paler red at side; legs olive green beneath, darker above; tarsi reddish; body largely clothed with gray-buff to yellowish pubescence, largely thin leaving most of dorsum dark; head with silvery buff, narrowly glabrous on carinae and with a triangular dark patch behind upper eye-lobe; pronotum clothed with pale varying to brownish, with narrow median brown stripe, narrow sublateral brown stripe and brown side; scutellum pale, browner at side; elytron with a large round spot of dense yellowish pubescence a short distance behind humerus, occupying more than 1/2 width of elytron; area around this is brown, but otherwise disc vaguely streaked with pale brown on basal 1/2 and with paler brown posteriorly but in irregular fashion, with vague spots but with a more distinct, though incomplete, narrow oblique yellow band 1/5 from apex; venter unevenly glabrous medially, pale at side with glabrous dots; legs thinly clothed with pale pubescence.

Head with carinae distinct, not very broad; median groove deep but somewhat irregular on frons; remainder moderately punctured. Antenna slightly longer than body; segment 3 shorter than 4; 4 shorter than 5 + 6. Prothorax nearly 4/5 as broad as elytra, nearly 2/3 as long as broad; both lateral tubercles small and obtuse; disc weakly convex, slightly raised along median line, deeply but not very closely punctured on remainder. Scutellum flat, weakly convex in anterior outline. Elytron narrow, evenly narrowed to near apex; apex truncate, slightly oblique, with outer angle strongly spined; disc completely punctured and with 1 strong ridge. Venter feebly punctured. Legs smooth with femora moderately swollen. Length 11.9 mm; breadth 3.6 mm.

Holotype & (BISHOP 12,478), PNG: NEW GUINEA (SE): Mt Bosavi, 800-900 m, 11.V.1973, Gaya for Gressitt.

Differs from *albovittatus* in having smaller dorsal punctures, weaker anterolateral thoracic tubercle and in having a round postbasal yellow spot on elytron instead of a postmedian white band.

XXIX. Pseudintricatus group

217. Tmesisternus pseudintricatus Breuning

Tmesisternus (Tmesisternus) pseudintricatus Br., 1939, Festschr. E. Strand 5: 175 (Orrori, 1000 m, SE; BMNH); 1945, Novit. Entomol., 15-16, Suppl. 3: 577.

Rather strongly convex in lateral view; elytral carinae fairly strong, in part bounding smooth

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postscutellar area; about 3 suboblique irregular brown bands alternating with paler bands; elytral apex subobliquely truncate and spined externally. Length 10-15 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Araucaria Camp, 800 m, III.1939, Toxopeus (Neth. Ind.-Am. Exped.). PNG: NEW GUINEA (NE): Feramin, 1500 m, III, Brandt; Okapa, 1400 m, I, Sedlacek; Lufa, I, Sedlacek; Karimui, VII, Sedlacek; Kassem Pass, 1350 m, X, Maa; I, Sedlacek; Wau, 1200 m, I, Sedlacek; NEW GUINEA (SE): Mt Bosavi, 2000 m, V, Gressitt.

XXX. Griseus group

This group, formerly in Arrhenotus, is very close to the monticola group.

218. Tmesisternus griseus griseus (Thomson)

Ichthyosomus griseus Th., 1865, Syst. Ceramb., p. 546 (Aru; PARIS). Tmesisternus griseus: Pascoe, 1867, Trans. Entomol. Soc. Lond. ser. 3, 3: 472. Tmesisternus (Tmesisternus) griseus: Breuning, 1945, Novit. Entomol., 15-16, Suppl. 3: 581.

Black or pitchy brown, clothed with gray pubescence; prothorax with a subglabrous dark stripe medially, sublateral and lateral stripes not distinct; elytron speckled and mottled with gray and dark brown, with a slightly oblique paler-bordered black band just behind middle. Length 12.0-14 mm.

Distribution. Aru.

Material examined. A questionable specimen from SE NEW GUINEA: Kiunga, Fly River.

219. Tmesisternus griseus agrarius Pascoe, new status

Tmesisternus agrarius Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 472 (Dorey, Vogelkop; BMNH).

Arrhenotus humilus Gestro, 1876, Ann. Mus. Civ. Genova 9: 167 (Ramoi, etc, Vogelkop; GENOVA).

Tmesisternus (Arrhenotus) agrarius: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 567.

Black, partly clothed with pale gray pubescence; head with median glabrous stripe; prothorax with median and lateral glabrous or subglabrous stripes and sublateral less distinct pubescent dark stripe; elytron with 4 or 5 partly merging longitudinal gray stripes on basal 1/2 followed by a moderately broad suboblique black band bordered by gray behind and sometimes enclosing some gray spots, and posterior portion of disc confusedly mottled, dotted and striped with gray. Prothorax less than 1/2 again as broad as long; lateral margin weak, slightly rough, indistinct; elytron weakly narrowed except near apex, smooth, sparsely punctured and with apex truncate and strongly toothed ectoapically. Length 12–18 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Vogelkop; Nabire, 5 m, VIII-IX.1962, Sedlacek; Bernhard Camp, 100 m, IV.1939, Toxopeus (Neth. Ind.-am. Exped.; LEIDEN); Z. Nieuw Guinea, Kloofs, X.1910, Versteeg (AMSTERDAM). PNG: NEW GUINEA (SE): Kiunga, Fly Riv, 50 m; Mt Bosavi, 800-900 m, V.1973, Gaya & Gressitt.

XXXI. Monticola subgroup

220. Tmesisternus monticola monticola Gestro

Tmesisternus monticola Gest., 1876, Ann. Mus. Civ. Genova 9: 161 (Mt Epa, SE; GENOVA).-Breuning, 1945, Novit Entomol 15-16, Suppl. 3: 583 (subgenus Tmesisternus).

Green to brown; pronotum with 5 stripes; elytron with many pale pubescent patches, mostly longitudinal and postmedially forming 2 or 3 irregular oblique bands, partly of angulate spots. Length 9-17 mm.

Distribution. New Guinea (E).

Material examined. PNG: NEW GUINEA (NE): many: Adelbert Mts, 800 m, X, Gressitt; Finschhafen, 80 m, IV, Sedlacek; Wum, 840 m, Jimi Val, VII, Gressitt; Karimui, 1000 m, VI, Gressitt; Bulolo, 700 m, II, IV, Sedlacek; Wau, 1100-1200 m, Sedlacek, Gressitt; Lae, 10 m, Busu Riv, 50 m, Sedlacek (BISHOP); 1 on *Castanopsis*, 1 on *Hopea*, 6 on *Araucaria*, Bulolo, V, Gray; 1 on *Xanthophyllum*, Bulolo, II, Roberts (BULOLO). NEW GUINEA (SE): Popondetta, 60 m, IX, Sedlacek, X, Shanahan; Dobodura, III-VII, Darlington; Bisianumu, 500 m, nr Port Moresby, IX, Gressitt; Kokoda, III, Gressitt; Brown Riv, X, Gressitt; Gulf Prov, Kakoro, 50 m, III, on *Ficus calopilina*, Andrew.

221. Tmesisternus monticola continentalis Breuning, new status

Tmesisternus (Tmesisternus) continentalis Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 583 (Cairns; BMNH).

Elytral spots reduced postmedially. Length 12 mm.

Distribution. Australia: NE Queensland: Cairns.

222. Tmesisternus pseudomonticola Breuning

Tmesisternus (Tmesisternus) pseudomonticola Br., 1939, Festschr. E. Strand 5: 176 (Ferguson I; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 583.

?Tmesisternus (Tmesisternus) fergussoni Br., 1970, Bull. Mus. Paris 42: 478 (Fergusson I; PARIS).

Differs from *monticola* in having dorsum more densely punctured; usually only 3 pronotal stripes; elytral pubescence largely in fine longitudinal stripes, often partly merging on basal 3/5; posterior spots similar to those of *monticola*. Length 9-16 mm.

T. fergussoni might be the same as this species, agreeing in type-locality and pattern (from photograph).

Distribution. D'Entrecasteaux Arch.

Material examined. PNG: D'ENTRECASTEUX: Normanby I: Wakaiuna, Sewa Bay, XI.1956, W.W. Brandt (BISHOP); Fergusson I: Agamoia, 200 m, VI.1956, L.J. Brass (AMNH).

223. Tmesisternus pseudagrarius Breuning

Tmesisternus (Arrhenotus) pseudagrarius Br., 1948, Bull. Mus. R. Hist. Nat. Belg. 24(38): 33 (Moroka, SE; BMNH).

Fig. 6a

Fig. 6b



FIG. 6. a, Tmesisternus monticola; b, Tm. pseudomonticola; c, Tm. monteithi.

Reddish brown, with reddish pubescence; gena, side of pronotum and side of venter with dense pale yellowish pubescence; elytron with scattered small irregular patches of pale yellowish pubescence, sparser in anterosutural area; femora reddish yellow. Length 12-16 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Japen I, XI, Holtmann; Nabire, VIII. Sedlacek; Hollandia, IX, Hoogstraal. PNG: NEW GUINEA (SE): Moroka nr Sogeri; Kura, VIII, Clissold; Brown Riv, 30 m, XI, Sedlacek; Balimo, 9 m, VIII, Clissold; Oriomo, 20 m, X, Gressitt; Otomata, 10 m, XI, Gressitt; Daradae, 400 m, X, Gressitt.

224. Tmesisternus insularis Gressitt, new species

d. Reddish castaneous, slightly paler reddish brown on antenna and elytron; femora pale olive green; tibiae reddish basally and somewhat olive distally; body partly clothed with golden buff pubescence; head moderately clothed, with carinae and median strip glabrous and 2 postocular stripes not glabrous near eye and not parallel-sided; antenna thinly clothed with golden buff; prothorax moderately clothed with golden buff with an irregular median glabrous stripe, a broad brown stripe at side visible from above and hardly a suggestion of a midlateral discal stripe; scutellum with golden, glabrous medially; elytron with a number of longitudinal

patches of golden, partly thinner but continuous on basal 1/2, more distinctly in patches at side and on posterior 2/5, latter in 2 oblique bands and apical patch; ventral surfaces broadly glabrous medially, glabrous areas broadening toward apices of abdominal sternites 1-4; a few fine dots on dense golden buff at side; legs glabrous on femora.

Head with carinae conspicuous but median pair low, slightly irregular and partly punctured on middle of frons; lateral carina nearly straight, partly punctured, hardly evident around upper eye-lobe; punctures sparse. Antenna slightly longer than body; segment 3 nearly as long as 4, much shorter than 5 + 6. Prothorax 3/4 as broad as elytra, nearly 2/3 as long as broad; lateral tubercles both very low and obtuse; disc weakly convex, fairly even; impunctate strip narrow and slightly raised in anterior 1/2; punctures partly larger than interspaces, about 15 in an approximate row from apex to base. Scutellum short, slightly raised basally. Elytron weakly narrowed to apical 1/4; apex truncate and strongly spined externally; disc weakly convex postbasally, with 1 weak raised line and punctures rather dense and partly in rows. Ventral surfaces smooth, very sparsely and weakly punctured only at side. Legs with femora stout and smooth. Length 15 mm; breadth 5 mm. Paratype $13.2-16.2 \text{ mm} \times 4.1-5.0 \text{ mm}.$

Holotype & (BISHOP 12,479), PNG: NEW IRELAND: Gilgil (Gilingil) Plantation, SW coast, 2 m, 6.VII.1956, Gressitt; 2 paratypes & (BISHOP), same data except 4,16.VII.1956, Gressitt & E.J. Ford, Jr; 1 paratype, Camp Bishop, 240 m, 10.VII, Ford; paratype & (BULOLO), NEW IRELAND: Le Mus Mus, 25.IV.1969, B. Gray.

Differs from *monticola* in having postocular stripes incomplete and not parallel, pronotum with sublateral stripes almost lacking and punctures more numerous and elytron more extensively pubescent with basal stripes mostly joined, punctures closer and apex more narrowly spined.

225. Tmesisternus subuniformis Gressitt, new species Pl. 11a

d. Reddish castaneous, darker on head and prothorax, paler on distal portion of antenna and basal 4/5 of elytral disc; legs pale olive green on femora, duller on tibiae and reddish on tarsi; body moderately clothed with yellowish buff, whitish buff, or slightly golden pubescence; head with yellowish buff with carinae glabrous; occiput dull and 2 brown stripes behind eye: lower one anteriorly first brown-pubescent then glabrous, upper entirely glabrous; antenna thinly clothed with golden buff; prothorax moderately and evenly clothed with tawny buff above except on irregular median strip, with lateral margin slightly darkened but only set off by denser pale pubescence of lower side; scutellum with pale at side and median glabrous strip as broad as that of pronotum; elytron almost entirely, and in large part evenly, clothed with buff slightly tinged with golden, denser and more silvery on 3 vague oblique bands in apical 2/5 with suggestion of a similar spot at side at end of basal 1/4; ventral surfaces broadly glabrous medially with bare areas widened to apices of abdominal sternites 1–4; side densely clothed with yellowish buff with a few minute brown dots large pare bare.

Head with carinae broad and conspicuous, median pair low on occiput, more swollen on frons, diverging at middle of frons and reuniting to form a diamond-shaped punctured depression; lateral carina slightly bent, extending (weakly) around upper eye-lobe; weakly punctured on occiput. Antenna nearly as long as body; segment 3 practically as long as 4, shorter than 5 + 6. Prothorax 4/5 as broad as elytra, 3/4 as long as broad; lateral tubercles weak: anterior long and low, posterior very small; lateral margin slightly developed: sinuate, widest near base; disc fairly smooth, hardly raised on median line (anteriorly only); punctures smaller than inter-

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spaces. Scutellum smooth, slightly raised basally. Elytron subevenly narrowed, slightly emarginate-truncate with outer angle more prominent and triangularly toothed; disc slightly convex postbasally then weakly depressed, with 2 very weakly raised lines and moderately punctured, partly in rows. Ventral surfaces smooth with very few punctures at side. Legs with femora stout and smooth. Length 14.3 mm; breadth 4.1 mm. Paratype 12 mm \times 3.7 mm.

Holotype & (BISHOP 12,480), PNG: NEW GUINEA (NE), Morobe Prov, Wau, 1150 m, 9.II.1968, J. Sedlacek. Paratype & (DPI), Gulf Prov, Kapore Forest, (SE), 17.VI.1969, R. Aoae.

Differs from *monticola* in having pronotum with a single stripe and elytron slightly projecting at sutural angle and subuniformly pubescent.

226. Tmesisternus olivaceipes Gressitt, new species

Pl. 11c

d. Pitchy reddish brown, paler reddish brown on inner 1/2 of basal 3/5 of elytral disc and on postocciput, distal portion of antenna, trochanters and tarsi; partially clothed with pale buff pubescence: head moderately clothed, but glabrous on carinae, median strip, postocciput and 2 stripes behind eye; antenna minutely clothed with reddish buff; pronotum nearly glabrous on disc; scutellum nearly glabrous; elytron nearly glabrous on basal 1/2 except at side, but with a few scattered hairs or patches, including some where a postscutellar glabrous area is present in many other species; lateral margin and posterior 2/5 of disc with longitudinal patches of golden buff, those on disc forming 2 slightly confused oblique bands, with suggestion of 2 more at side near middle; ventral surfaces glabrous medially, with glabrous area broadened to hind margin of abdominal segments 1-4; sides densely clothed with whitish buff with a goldish tinge; legs with femora olive green and tibiae brown tinged with green, feebly pubescent.

Head with broad carinae, median pair low, spreading and punctured on middle of frons, then somewhat narrowed again; lateral carina nearly straight, very weak where recognizable around anterior part of upper eye-lobe; only a few punctures on vertex and occiput. Antenna slightly longer than body; segment 3 = 4, much shorter than 5 + 6. Prothorax 5/6 as broad as elytra, not quite 3/4 as long as broad; lateral tubercles moderate, anterior broader and blunter than posterior; disc convex; median impunctate strip narrowed just anterior to middle; punctures smaller than interspaces. Scutellum depressed preapically. Elytron gradually narrowed, subsinuate truncate and triangularly toothed externally; disc even, weakly raised behind base; veins not raised except 2nd near apex; punctures varying in size, not very dense, partly in rows. Ventral surfaces smooth. Legs with femora stout and smooth. Length 17.5 mm; breadth 4.6 mm.

Holotype & (LEIDEN), IRIAN: NEW GUINEA (SW): S coast of SW New Guinea, Aiudoea Riv, 50-70 km from mouth, E. Lundquist.

Differs from *monticola* in being longer-bodied with median cephalic carinae broadened and punctured on middle of frons, 3rd antennal segment as long as 4th, prothorax longer and more strongly punctured and elytron likewise and with only 1 carina posteriorly.

227. Tmesisternus subaureus Gressitt, new species Pl. 11b

d. Very narrow, parallel-sided. Reddish brown, darker on head, part of prothorax, antennal segments 2-5; somewhat greenish testaceous on femora and tibiae, duller greenish on scape; body partly clothed with pale golden buff pubescence; on head clothed on gena, around eye, on

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apex and base of side of frons and irregularly behind eye; antenna thinly clothed with pale golden brown; prothorax thinly clothed with golden except on most of impunctate strip; scutellum clothed only at side; elytron largely glabrous, with flecks of golden widely spaced in 4 rows (1 sutural, 1 marginal) on basal 3/5, then 2 incomplete oblique bands and partial apical area golden; ventral surfaces glabrous medially, serrately on abdomen, with side golden buff with a few vague dots; legs glabrous on femora.

Head with carinae conspicuous, median pair broad, slightly widened and punctured in groove on middle of frons with glabrous, sparsely punctured area between this and lateral carina, but narrowed apically; lateral carina slightly bent distally, weak around upper eye-lobe; punctures few but broad. Antenna slightly longer than body; segment 3 slightly longer than 4, slightly shorter than 5 + 6. Prothorax nearly 3/4 as broad as elytra, 2/3 as long as broad; anterior tubercle rounded-obtuse, very low; posterior small and briefly acute; disc even, with broad flat median impunctate strip; rest moderately punctured with about 8 punctures in an approximate row. Scutellum smooth, broad behind. Elytron narrow, weakly and gradually narrowed posteriorly; apex truncate and triangularly toothed externally; disc weakly convex, with 2 weakly raised lines, deeply punctured, partly in rows, but sparsely so basally and apically. Ventral surfaces feebly punctured at side. Legs with femora only moderately stout, smooth. Length 11.6 mm; breadth 3.2 mm.

Holotype & (BISHOP 12,481), PNG: NEW BRITAIN: Gazelle Penin., Gaulim, 130 m, 28.XI.1962, J. Sedlacek.

Differs from *monticola* in being much narrower, with dorsum much less pubescent, without distinct stripes on pronotum, the pronotal punctures larger and elytral punctures much denser in central portion.

228. Tmesisternus inermis Breuning

Tmesisternus (Tmesisternus) inermis Br., 1939, Festschr. E. Strand 5: 172 (Kokoda, SE: BMNH); 1945, Novit. Entomol. 15-16, Suppl 3: 583.

Prothoracic tubercles both lacking. Elytral spots in 5 regular rows. Length 10 mm.

Distribution. PNG: New Guinea (SE): Kokoda.

229. Tmesisternus monteithi Gressitt, new species

 δ . Dark chocolate brown, shiny; antenna red-brown beyond scape; tibiae and tarsi redbrown; surfaces with extensive golden pubescence: head largely clothed except on carinae and 2 dark stripes behind each eye; pronotum moderately clothed except for broad median glabrous stripe, narrow glabrous stripe on lateral ridge and a vague partly pubescent stripe between; scutellum pubescent only at side; elytron with about 5 stripes of irregular patches of golden to just behind middle, more or less interrupted by an incompletely glabrous postscutellar area extending to inner 1/2 of basal margin and subarcuate mark at side behind a short humeral dark stripe; an irregular oblique band behind middle, extending forward to suture, followed by 3 uneven goldish bands, progressively narrower, each forming a forward-pointing chevronlike mark externally, last just before apex; venter broadly glabrous medially (uneven border) and golden at side with glabrous dots; legs with femora subglabrous.

Head with median carinae low and punctured; lateral carina suboblique, nearly straight; a few punctures on vertex. Antenna not quite as long as body; segment 3 subequal to 4, much longer than 1 or 5. Prothorax nearly 4/5 as broad as elytra, nearly 3/4 as long as broad; side

Fig. 6c

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with midlateral tooth short, subacute; anterolateral tubercle broad and blunt, continuing as a weak ridge. Scutellum smooth, short. Elytron gradually and weakly narrowed to apical 1/4; apex transversely truncate with outer angle with a short subacute tooth; disc moderately punctured on basal 3/4, only a few weak punctures on postscutellar area. Venter (medially) and femora impunctate; side with sparse punctures. Length 12.8 mm; breadth 3.9 mm.

 \heartsuit . Postscutellar area (longitudinally suboblong) darker; postmedian dark band almost at middle. Length 11.5 mm; breadth 3.6 mm.

Paratypes. Length 10-13 mm; breadth 3.2-4.0 mm.

Holotype & (QM), AUSTRALIA: N Queensland: Cape York Penin., Iron Range, 1-9.VI.1971, G.B. Monteith; allotopotype ? (QM), 27.IV-4.V.1973, Monteith; 1 paratopotype (UQ), same data as allotype; 1 paratopotype (QM), 12.VIII.1978, G. Szechura; 2 paratypes (BISHOP, WEI), Cape York Penin., Capt Billy Creek, 142°50' E, 11°40' S, 9-11.VII.1975, D.L. Hancock.

This species has median pronotal stripe broader than sublateral stripes and has a moderately developed lateral margin in male. Differs further from m. monticola in being darker brown with the pubescence more golden; and differs further from m. continentalis in having elytral stripes complete except for postscutellar area.



FIG. 7. Tmesisternus conicicollis.

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XXXII. Conicicollis group

230. Tmesisternus conicicollis (Thomson)

Apolia conicicollis Th., 1864, Syst. Ceramb., p. 34 (Salwati I; PARIS).

Tmesisternus conicicollis: Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 480 (Aru).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 582 (subgenus Tmesisternus).

Tmesisternus strandi Br., 1939, Festschr. E. Strand 5: 174 (Yule I, SE; Itzinger: FREY); 1945, Novit. Entomol. 15-16, Suppl. 3: 582. New synonymy.

Tmesisternus humboldti Gilmour, 1949, Entomol. Mon. Mag. 85: 109, fig. 13 (Humboldt Bay, NW; BMNH). New synonymy.

Tmesisternus (Tmesisternus) curtulus Br., 1966, Senckenbergiana Biol. 47(5): 406 (NE; SENCKENBERG). New synonymy.

Tmesisternus (Tmesisternus) subcurtulus Br., 1966, loc. cit, 407 (Aru; SENCKENBERG). New synonymy.

Brown, green or red-brown with pale buff pubescence; pronotum with 5 dark stripes; elytron with several weak bands of narrow pale lines, heavily punctured. Length 7.0-11.5 mm.

This is a variable species and is found all over New Guinea except at high altitudes.

Distribution. Maluku; Salawati; Aru; Yapen; New Guinea.

Material examined. IRIAN: Yapen I: SSE Sumberbaba, Dawai Riv, XI, Holtmann (BISHOP); NEW GUINEA (NW): Bernhard Camp, 50 m, VII, Olthof (Archbold: LEIDEN); Hollandia, Jewett coll. (CAS). PNG: NEW GUINEA (NE): many, Lae, Busu, Bubia, Madang, Karimui, Wau, Mt Kaindi, Edie Creek, Garaina, Mt Missim, etc, 1-2300 m; NEW GUINEA (SE): many, 1-400 m, Kokoda, Mt Lamington, Milne Bay, Mamai Plant'n nr Port Glasgow, Oriomo Riv, Kiunga, Bisianumu. MALUKU: Halmahera I: Tolewang, 50 m, X.1951, native coll'r.

231. Tmesisternus mediovittatus Breuning

Tmesisternus mediovittatus Br., 1973, Mitt. Zool. Mus. Berl. 49: 43 (Humboldt Bay; ZMB).

Distribution. Irian: New Guinea (NW): Humboldt Bay.

232. Tmesisternus viridis Gestro

Tmesisternus viridis Gest., 1876, Ann. Mus. Civ. Genova 9: 157 (Hatam, NW; GENOVA).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 589 (subgenus Tmesisternus).

Slender, weakly convex; elytron fairly long, weakly sulcate, toothed ectoapically and with 4 weak broad bands of fine pale lines. Length 9-13 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Vogelkop; many, Wisselmeren: Lakes and Kamo Val, 1500-1900 m, VII,VIII, Gressitt, Sedlacek (BISHOP). PNG: NEW GUINEA (NE): Eliptamin Val., 1200 m, Brandt; Mt Missim, 1600-2000 m, Stevens, Beehler (MCZ; BISHOP).

Fig. 7

233. Tmesisternus benjamini Breuning

Tmesisternus (s. str.) benjamini Br., 1966, Mitt. Zool. Mus. Berl. 42(2): 253 (Mäanderberg; ZMB).

Pronotum unmarked; elytron brown with many testaceous spots covering most of disc. Length 10-11 mm.

Distribution. PNG: New Guinea (NE): Sepik.

XXXIII. Distinctus group

234. Tmesisternus distinctus distinctus Boisduval

Tmesisternus distinctus Bdv., 1835, Voyage Astrolabe, Insectes 2: 471 (New Guinea; BMNH); Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 585 (fig. 350).

Brown with large blackish triangle somewhat behind scutellum; 2 large angular patches at side, and all bordered largely with ochreous. Length 12-16 mm.

Breuning's figure is actually of *distinctus electus* Hllr. *Distribution*. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Lae, IV,V,VII, Sedlacek, Wilkes; Busu Riv, 50 m, IX, Gressitt; Bubia, 50 m, IX, Gressitt; Kuper Range, IV, Sedlacek; NEW GUINEA (SE): Mamai Estate, I, Straatman; Milne Bay, II, Sedlacek (BISHOP); Milne Bay (ANSP).

235. Tmesisternus distinctus contraversus Pascoe, new status

- Tmesisternus contraversus Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 478 (Dorey, etc; BMNH).—Breuning, 1966, Mitt. Zool. Mus. Berl. 42(2): 254 (as controversus: revived from synonymy of distinctus, possibly as race).
- Tmesisternus (Tmesisternus) distinctus (part): Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 585.

Elytron with postscutellar and 2 postmedian dark spots, edged with pale. Length 12-14 mm.

Distribution. Maluku: Ambon. Aru. Irian: New Guinea (NW): Vogelkop, Dorey. PNG: New Guinea (NE): Sepik.

236. Tmesisternus distinctus electus Heller, new status

Tmesisternus electus Hllr, 1914, Nova Guinea 9: 662 (Etna Bay, SW; LEIDEN); Breuning, Novit. Entomol. 15-16, Suppl. 3: 585, fig. 350 (as synonym of distinctus).

Elytron with common black triangle touching scutellum; infrahumeral patch 2 \times as long as broad. Length 14 mm. My photograph of the type shows it to be different from *distinctus*.

Distribution. Irian: New Guinea (SW): Etna Bay.

237. Tmesisternus nigrotriangularis Heller

Tmesisternus nigro-triangularis Hllr, 1914, Dtsch. Entomol. Z. 1914: 316, pl. 12, fig. 9 (NE

NG; DRESDEN).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 585, fig. 351 (subgenus *Tmesisternus*).

Brown with black triangle on middle of suture; lateral pale-edged black band extending to level of base of common triangle, followed by (sometimes joining) an oblique black spot. Length 10-15 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Busu Riv, nr Lae, IX, Gressitt; VIII, Sedlacek; Bupu Riv, IV, Spencer; Bubia, X. Ardley; Gabumi, Finisterre Mts, VII, Brandt; Finschhafen, 150 m, IV, Sedlacek; Lae, III, Sedlacek; Bulolo, 700 m, V, XII, Sedlacek.

238. Tmesisternus transversefasciatus Breuning

Tmesisternus (Tmesisternus) transversefasciatus Br., 1938, Festschr. E. Strand 5: 171 (Kokoda, SE; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 586, fig. 352.

Brown with a broad pale-bordered black band across elytra a short distance behind base followed by a similar lateral patch behind middle. Length 11-16 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (SE): Kokoda, 400 m, III, Gressitt; Popondetta, 40 m, IX,X, Sedlacek; Jumbora, X, Clissold; Mt Lamington, X, McNamara; Wakaiuna, Normanby I, II, Brandt; Dobodura, III-VII, Darlington.

XXXIV. Nigrofasciatus subgroup

239. Tmesisternus nigrofasciatus Aurivillius

Tmesisternus nigrofasciatus Aur., 1908, Dtsch. Entomol. Z. 1908: 214, pl. 3, fig. 8 (NE NG; ZMB).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 586 (Astrolabe Bay).

Brown with a transverse black rectangle across suture, reaching middle of disc, and a smaller common patch near start of apical 1/4, followed by a smaller ochreous patch and 2 smaller black/ochreous double patches at side before and behind former. Length 11.5-15.5 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Maprik, 160 m, X.1957, Gressitt; Adelbert Mts: Wanuma, 800 m, X. 1958, Gressitt.

240. Tmesisternus marginalis Breuning

Tmesisternus (Tmesisternus) marginalis Br., 1939, Festschr. E. Strand 5: 179 (Cyclops Mts, NW; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 586.

A lateral black stripe from behind eye to behind middle of elytra, bordered above with ochreous, followed by short oblique black and ochreous marks with similar marks on suture and margin before apex. Length 12-15 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Bodem, Sarmi, VII, Maa; Ifar, Cyclops Mts, 400 m, VI, Maa, Gressitt; Bernhard Camp, 100 m, IV.1939, Toxopeus; Cyclops Mts, 400 m, VI, Toxopeus; Waris, 450 m, VIII, Maa.

241. Tmesisternus assimilis Breuning

Tmesisternus (s. str.) assimilis Br., 1975, Ann. Mus. Nat. Hung. 67: 171 (Baiyer Riv; BUDAPEST).

Similar to *dissimilis* Pasc. but partial oblique bands less distinct. Possibly belonging to the *pseudintricatus* group.

Distribution. PNG: NEW GUINEA (NE): Baiyer River.

242. Tmesisternus dissimilis Pascoe

Tmesisternus dissimilis Pasc., 1867, Trans. Entomol. Soc. Lond ser 3, 3: 476 (Saylee; BMNH).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 584 (subgenus Tmesisternus).

Tmesisternus subcinctus Gestro, 1876, Ann. Musc. Civ. Genova 9: 163 (Jobi = Japan I; GENOVA).

Elytron with 2 conspicuous oblique yellow bands from side to middle of disc: before and behind middle, former directed posteriorly, latter slightly anteriorly. Length 12-16 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): 16, Nabire, VII, VIII.1962, Gressitt, Sedlacek; 3, Japen I, Sumberbabi, X.1962, N. Wilson; 1, Sewan, Sarmi, III.1958, R. T. Simon Thomas; 2, Bodem, SE of Oeberfaren, VII.1959, T.C. Maa; 3, Waris, S of Jayapura, XIII.1959, Maa; 2, Bernhard Camp, 50 m, VII-IX, J. Olthof, Neth. Ind.-Am. Exped. PNG: NEW GUINEA (NE): Torricelli Mts, Nengiang, VIII.1959, Brandt; 2, Madang, 5 m, on palm and rattan, X.1958, Gressitt; 2, Saidor Distr, Finisterre Mts, Gabumi, VII.1959, Brandt; 2, Adelbert Mts, Wanuma, 800 m, Gaya.

243. Tmesisternus laterimaculatus Gilmour

Tmesisternus (s. str.) laterimaculatus Gilm., 1949, Entomol. Mon. Mag. 85: 106 (Japan I; BMNH).

Similar to *dissimilis* but with elytra broader basally and more narrowed posteriorly, with 1st band directed forward from side instead of backward, and 2nd band usually longer. Length 12-17 mm.

Distribution. Yapen; New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Bernhard Camp B, 1000 m, IV.1939, Toxopeus; Bernhard Camp, 50 m, VII-XI.1938, Olthof; Araucaria Camp, 800 m, IV.1939, Toxopeus; Neth. Ind.-Am. Exped. (LEIDEN); W Sentani, 250 m, VI.1959, T.C. Maa; Ifar, VI.1959, Gressitt; Waris, 500 m, VIII.1959, Maa; Yapen I, Sumberbaba, V.1962, Wilson (BISHOP); Hollandia, II.1933, W. Stüber (AMNH); Hollandia, V.1945, Malkin (USNM). PNG: NEW GUINEA (NE): Torricelli Mts, XI.1958, Brandt; Bubia, X.1956, Ardley; Lae, Melambi Riv, XII.1956, Ardley; 32 km SW of Lae, 100 m, III.1963, Sedlacek.

Pl. 8f

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244. Tmesisternus laterivittus Breuning

Tmesisternus (Tmesisternus) laterivitta Br., 1939, Festschr. E. Strand 5: 175 (Mimika Riv, SW; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 587 (Paumomu Riv; Mt Epa).

Similar to marginalis but narrower and more convex; pale stripes buff instead of ochreous and preapical spots less distinct and paler. Length 11.0-11.5 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): 5, Bernhard Camp, 50 m, VII-XI.1938, J. Olthof; 1, Hollandia, VII.1939, Toxopeus; PNG: NEW GUINEA (NE): Siaute, 5 m, nr Torricelli Mts, XI.1958, Brandt.

245. Tmesisternus bifuscomaculatus Breuning

Tmesisternus (Tmesisternus) bifuscomaculatus Br., 1939, Festschr. E. Strand 5: 178 (Milne Bay, SE; STOCKHOLM); 1945, Novit. Entomol. 15-16, Suppl. 3: 587.

Depressed; prothorax subtrapeziform; pronotum largely flat, closely punctured; elytron weakly narrowed, obliquely truncate apically; disc with a smooth narrow area by suture somewhat behind scutellum; reddish brown with 2 angular pale-edged dark brown areas at side, before and behind middle. Length 14 mm.

Distribution. PNG: New Guinea (SE): Milne Bay.

246. Tmesisternus fuscosignatus Breuning

Tmesisternus fuscosignatus Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 587 (New Guinea; LEIDEN).

Third antennal segment as long as 4th; similar to preceding but more coarsely punctured; elytron with similar marks, but first pale-edged dark-brown lateral patch starts obliquely from below humerus, ending in a corner short of midline of disc; 2nd patch behind middle, ending less angularly at midline; elytral apex a little less obliquely truncate than in *bifuscomaculatus*. Length 14 mm.

Distribution. New Guinea (probably NW or SW).

247. Tmesisternus flavovittatus Breuning & de Jong

Tmesisternus (Tmesisternus) flavovittatus Br. & de J., 1941, Zool. Meded. 23: 74, fig. 11b (Dutch New Guinea; LEIDEN).

Tmesisternus (Tmesisternus) flavovittatus Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 579 (as n. sp.) (Dutch New Guinea; LEIDEN).

Brownish yellow mottled with darker; elytron with 2 narrow, transverse yellow bands. Length 17.5 mm.

Distribution. Irian: New Guinea: probably NW.

248. Tmesisternus subsimilis Breuning

Tmesisternus (s. str.) subsimilis Br., 1966, Mitt. Zool. Mus. Berl. 42: 254 (New Guinea; ZMB).

Distribution. PNG: New Guinea (NE): probably Sepik or Huon Peninsula.

249. Tmesisternus quadrimaculatus Aurivillius

Tmesisternus quadrimaculatus Aur., 1908, Dtsch. Entomol. Z. 1908: 214 (Herbertshohe; ZMB). -Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 587 (subgenus Tmesisternus).

Grayish brown with 2 large brown spots and apex of elytron dark brown. Length 20 mm.

Distribution. PNG: Bismarck Arch: New Britain: Gazelle Penin.: Taliligap (Herbertshöhe).

XXXV. Marmoratus group

250. Tmesisternus marmoratus Guerin-Ménéville

Tmesisternus marmoratus Guer., 1835, Voyage Coquille 11(2): 131, Atlas Insectes, pl. 7, fig. 13 (Dory, NW; BMNH).—White, 1855, Cat. Coleopt., Br. Mus. 8: 337.—Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 473.—Gestro, 1876, Ann. Mus. Civ. Genova 9: 156 (Salwatti; Japen).—Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 577 (Gilolo, etc).

Ichthyosomus viridipes Thomson, 1865, Syst. Ceramb., p. 546.

Gray-brown with several oblique and subtransverse dark and pale bands or lines; postmedian black band usually broken or irregular. Length 9-16 mm; breadth 2.4-4.6 mm.

Distribution. Maluku; Salawati; Yapen; New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Bernhard Camp, 100 m, VII-XI; Araucaria Camp, 800 m, IV, Toxopeus; Rattan Camp, 1100 m, II-III, Toxopeus; Hollandia, VII, Toxopeus (LEIDEN); Bodem, Sarmi, VII, Maa; Nabire, 5 m, VIII-IX, Sedlacek; Waris, VIII, Maa (BISHOP); Vogelkop: Arfak Mts, 1575 m, VI, Howcroft. PNG: NEW GUINEA (NE): Torricelli Mts, XI, Brandt; Finisterre Mts, V, Brandt; Lae, VII, Sedlacek; Adelbert Mts, 800 m, I, Gaya (BISHOP); Wewak, F.H. Taylor (AM); Karimui, VI, Gressitt, VII, Sedlacek; NEW GUINEA (SE): Kokoda-Pitoki, III, Gressitt; Port Moresby, IX, Maa; Olsobip, Fly Riv, VIII, Sedlacek; Kiunga, X, Brandt. Also Maluku; Vogelkop; Yapen I.

251. Tmesisternus tesselatus Boisduval

Tmesisternus tesselatus Bdv., 1835, Voyage Astrolabe, Insectes 2: 471 (New Guinea; BMNH).— White, 1855, Cat. Coleopt. Br. Mus. 8: 339.—Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 578.

Lateral dark stripe of elytron partly broken into irregular patches; postmedian elytral band slightly arched; femora usually green with yellowish pubescence. Length 10-15 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Korop & Tsenga, Jimi Val, 1500 m, VII. 1955, Gressitt; Madang, 5 m, X.1958, Gressitt; Bulolo, 1000 m, VIII.1956, Ford; Garaina, 850 m, I.1968, Sedlacek; NEW GUINEA (SE): Kokoda, 350 m, III.1956, Gressitt.

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252. Tmesisternus pseudotesselatus Breuning

Tmesisternus (Tmesisternus) pseudotesselatus Br, 1939, Festschr. E. Strand 5: 175 (Kokoda, SE; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 578.

Elytra with a common postscutellar glabrous shiny area; postmedian elytral band somewhat oblique; femora usually green. Length 10-15 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Kebar Val, I, Quate; Bomberai, nr Fak Fak, VI, Gressitt; Bokondini, nr Balim Val, 1300 m, XI, Quate; Sibil Val, XI, Quate (BISHOP); Bernhard Camp, 50 m, VII-IX, Olthof; Araucaria Camp, 800 m, IV, Toxopeus; Rattan Camp, 1050 m, II-III, Toxopeus; Sigi Camp, 1500 m, II, Toxopeus (LEIDEN). PNG: NEW GUINEA (NE): Feramin, 1200 m, V. Brandt; Eliptamin, 1200 m, Brandt; Karimui, 1080 m, VII, Sedlacek; Arau, nr Kainantu, 1400 m, X, Maa; Kassem, 1350 m, XI, Maa; Lufa, I, Sedlacek; Adelbert Mts, X, Gressitt; Finisterre Mts, IX, Brandt; Wau, 1200 m, XII, Sedlacek; Purosa, X, Sedlacek; New Guinea (SE): Oriomo, VIII, Clissold (BISHOP).

253. Tmesisternus villaris Pascoe, resurrected from synonymy

Tmesisternus villaris Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 474 (Dorey, NW; BMNH). -Gestro, 1876, Ann. Mus. Civ. Genova 9: 159.

Tmesisternus tesselatus: Breuning, 1945, Novit, Entomol. 15-16, Suppl. 3: 578 (part: villaris synonymized with tesselatus Bdv.).

Gray to black with many fine gray lines on basal 3/5 of elytron, which has a postscutellar black glabrous area; a distinct narrow pale oblique line from side before middle to postscutellar area, bordered behind by a similar black band; a broader, somewhat arcuate postmedian blackish band followed by a narrower pale line bordering it; short oblique pale line then dark line from suture before apex; apex largely pale. Length 9–15 mm.

Distribution. New Guinea (NW).

Material examined. IRIAN: NEW GUINEA (NW): 2, Nabire, 10 m, IX, Sedlacek.

254. Tmesisternus vagus (Thomson)

Ichthyosomus vagus Th., 1865, Syst. Ceramb., p. 546 (Batjan, Moluccas; BMNH).

Tmesisternus vagus: Pascoe, 1867, Trans. Entomol. Soc. Lond. ser. 3, 3: 473.-Gestro, 1876, Ann. Mus. Civ. Genova 9: 159 (Ternate).

Tmesisternus tesselatus m. vagus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 578.

Body fairly broad, reddish brown with pale buff pubescence; pronotum with a weak brown median strip; elytra with postscutellar brown pubescent patch and 3 or 4 partly incomplete irregular bands of brown, partly zigzag and partly vague. Length 12–15 mm.

Distribution. Maluku.

Material examined. MALUKU: Halmahera: Goa Plains, 50-100 m, IX; Mt Senbilan, 600 m, X, native collr; Mt Siu, 600-700 m, IX-X, native collr; Mumar Riv, 250 m, IX, native collr; Akilamo, 50-100 m, IX, native collr (LEIDEN; BOGOR). Batjan, VIII.1906, A. Kollar; Wajaua, VII, Wegner. Ternate, Kannegieter (AMST.).

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255. Tmesisternus immitis Pascoe, resurrected from synonymy

Tmesisternus immitis Pasc., 1867, Trans. Entomol. Soc. Lond. ser. 3, 3: 482 (Mysol; BMNH). Tmesisternus tesselatus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 578 (part: immitis synonymized with tesselatus).

Reddish brown with dull mottled gray pubescence; pronotum without a median stripe; elytra with a postscutellar glabrous patch but without distinct bands. This species is quite distinct from *tesselatus*.

Distribution. Mysool I.

256. Tmesisternus andaii Gilmour

Tmesisternus (s. str.) andaii Gilm., 1952, Entomol. Bl. 47-48: 180, fig. 2 (Andai; Doncaster Mus.).

Reddish brown with pale yellowish pubescence; pronotum with small glabrous areas; elytron with black band behind middle, followed by a yellow band and then less distinct yellowish spots; elytron obliquely truncate apically. Length 9 mm.

Distribution. IRIAN: NEW GUINEA (NW): Vogelkop, Andai.

257. Tmesisternus papuanus Breuning

Tmesisternus (Tmesisternus) papuanus Br., 1942, Folia Zool.-Hydrobiol 11(2): 124 (Wareo, NE; FREY); 1945, Novit. Entomol. 15-16, Suppl. 3: 581.

Pronotum subcarinate medially and with a groove on each side of median strip; elytron with a large smooth postscutellar area; ectoapical angle slender and acute; elytron mottled with reddish brown and yellowish brown. Length 16 mm.

Distribution. PNG: New Guinea (NE): Wareo, Huon Penin.

258. Tmesisternus pullus Breuning

Tmesisternus (Tmesisternus) pullus Br., 1942, Fol. Zool.-Hydrobiol. 11(2): 124 (Key Is; FREY); 1945, Novit. Entomol. 15-16, Suppl. 3: 582.

Head with median carina in form of an oval swelling; prothorax with tubercles almost obsolete; elytron with smooth postscutellar area; elytral apex with a short tooth ectoapically; dark brown with fine yellowish brown pubescence (markings obscured). Length 13 mm.

Distribution. Kai (Kei, Key) Is.

259. Tmesisternus obliquevittatus Breuning

Tmesisternus (s.s.) obliquevittatus Br., 1973, Mitt. Zool. Mus. Berl. 49: 44 (Cameron Mts; BERLIN).

Head with large yellow spots on frons, occiput and gena; pronotum with narrow impunctate median strip; elytron with postscutellar glabrous area and yellow mottling as well as 3 vague sinuous pale bands; elytral apex emarginate with outer angle more prominent. Length 17 mm.
Distribution. PNG: New Guinea (SE): Cameron Mts.

260. Tmesisternus aubrooki Gilmour

Tmesisternus (s. str.) aubrooki Gilm., 1949, Entomol. Mon. Mag. 85: 106, fig. 3 (New Guinea; BMNH).

Dark brown with yellowish pubescence covering basal 1/7 and a line from base curving posteriorly to middle of disc in middle of broad dark band and then turning at right angle and extending obliquely backward to near middle of side; a pale spot at side enclosed internally by preceding angulate lines; pale posteriorly with 2 irregular dark bands, latter with a triangular yellow spot near suture before apex and a curved mark at side; elytron toothed ectoapically. Length 19 mm.

Distribution. New Guinea. No type-locality stated; possibly from Cyclops Mts (NW).

261. Tmesisternus lineatus MacLeay

Tmesisternus lineatus Macl., 1886, Proc. Linn. Soc. N.S.W. ser 2, 1: 201 (Fly Riv; MacLeay: AM).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 579.

Body with a lateral stripe; elytron with 4 interrupted stripes of pale near apex; latter with some oblique spots and lines, partly encroaching on lateral stripe. Length 14 mm.

Distribution. PNG: New Guinea (SE): Fly River.

262. Tmesisternus lateralis MacLeay

Tmesisternus lateralis Macl., 1886, Proc. Linn. Soc. N.S.W. ser 2, 1: 202 (Fly Riv; Macleay: AM).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 578.

Body with lateral brown band but with a large round yellow spot near middle of this on elytron and crossed by 2 pale bands near apex of elytron; pronotum with a broad smooth median stripe. Length 9 mm.

Distribution. PNG: New Guinea (SE): Fly River.

263. Tmesisternus variegatus Gressitt, new species Pl. 11h

⁹. Dark brown, reddish on abdomen and parts of antenna, paler reddish on trochanters, tarsi and bases of femora; largely clothed with dark brown to pale ochreous pubescence; head densely clothed with tawny buff except on glabrous median line (dark pubescent on occiput) plus narrow wedge behind upper eye-lobe and broad stripe of dark brown behind lower eye-lobe, latter continuing as lateral stripe onto elytron; antenna thinly clothed with golden buff; prothorax clothed with tawny buff dotted with dark punctures and narrowly striped with brown medially and broadly with darker brown at side; scutellum clothed with pale but dark at side except apically; elytron clothed with tawny buff, partly pinkish, with a subhexagonal dark area behind scutellum, obtuse behind where it is bordered by denser ochreous buff (also along suture between it and scutellum); lateral brown stripe irregular, extending a bit onto disc near hind corner of postscutellar area and again with a much larger postmedian irregular band, nearly interrupted near suture and almost broken up by 3 irregular tawny buff patches within

it, outermost nearly reaching lateral margin; also preapical and apical tawny spots and stripe of same along lateral band in basal 1/2; ventral surfaces glabrous medially, pale buff at side with brown spots; legs thinly clothed with golden buff without spots. Patterns somewhat variable in different lights.

Head bicarinate medially, with groove slightly widened and punctured on upper part of frons, then with a punctured subglabrous extension to lateral carina and then strongly narrowed to apex; lateral carina oblique, straight, nearly hidden by pubescence; a few punctures by eye and on occiput. Antenna slightly longer than body; segment 3 distinctly shorter than 4; 4 shorter than 5 + 6. Prothorax 3/4 as broad as elytra, nearly 2/3 as long as broad; anterolateral tubercle very small, obtuse; midlateral larger, acute; disc evenly convex, slightly raised and narrowly glabrous medially, with punctures mostly smaller than interspaces. Scutellum flat, smooth. Elytron slightly convex behind base, hardly narrowed till apical 1/3; apex oblique and broadly toothed externally; disc with 3 weakly raised lines and punctures mostly in rows. Ventral surfaces feebly punctured. Legs with femora swollen and smooth. Length 11.6 mm; breadth 3.6 mm.

d. Antenna slightly longer than body. Length 1.4 mm; breadth 3.5 mm.

Paratypes. Postscutellar spot often pentagonal, sometimes transversely diamond-shaped, almost always obtuse and pale bordered behind. Length 8.5-14 mm; breadth 2.6-4.5 mm.

Holotype 9 (BISHOP 12,482), PNG: NEW GUINEA (NE): Morobe Prov, Wau, 1200 m, 18.XII.1961, L.W. Quate; allotopotype & (BISHOP), 8-10.I.1963, J. Sedlacek; 19 paratopotypes, Wau including lower slopes of Mt Missim, 880-1200 m, various dates, H.W. Clisshold, J., J.H., M. Sedlacek; paratypes: 21, Bulolo, Bulolo Riv, Bulolo-Watut, 680-800 m, various dates, P. Colman, J. & M. Sedlacek; 1, Mumeng, 600 m, III.1962, Sedlacek; 1, Garaina, XI-XII.1969, A.B. Mirza; 1, 32 km SW of Lae, 100 m, III.1963, Sedlacek; 14, Lae, Lae-Busu Riv, 15-100 m, various dates, T.C. Maa, Sedlacek; 5, Huon Penin, Finchhafen, 80-200 m, IV.1963, Sedlacek; 1, Huon Penin, Pindiu, 1200-1450 m, IV. 1963, J. & M. Sedlacek; 1, Finisterre Ra, Kiambavi Vill, VIII.1958, W.W. Brandt; 1, Adelbert Mts, Wanuma, 800-1000 m, X.1958, J.L. Gressitt; 1, S Chimbu, Karimui, 1000 m, VI.1961, Gressitt; 1, Wum, Jimi Vall, 840 m, VII.1955, Gressitt; 1, Madang, 5 m, X.1958, on palm, Gressitt; 1, Wewak, 2-20 m, X.1957, on palm, Gressitt; 1, Bainyik, nr Maprik, 225 m, VI.1961, J.L. & M. Gressitt. PNG: NEW GUINEA (SE): 1, Popondetta, 25 m, V.1966, P. Shanahan & G. Lippert. IRIAN: NEW GUINEA (NW): 2, Waris, 450-500 m, VII-VIII.1959, Maa; 2, Nabire, S Geelvink Bay, 5-50 m, VIII-IX.1962, Gressitt, Sedlacek.

Differs from *distinctus* in being narrower, with triangular dark patches much smaller, especially at side, the latter not even triangular.

264. Tmesisternus replicatus Gressitt, new species

d. Dark pitchy brown, partly tinged with reddish, paler reddish on antenna and legs; largely clothed with dark brown to whitish buff pubescence: head densely clothed with pale, with narrow median dark strip, narrow dark strip behind upper eye-lobe and wider one behind lower lobe; antenna very finely clothed with golden brown; prothorax moderately clothed with tawny buff, dotted with brown punctures and with narrow median brown stripe and broader lateral

dark brown stripe; scutellum with pale hairs, dark at side except apically; elytron clothed with pale buff dotted with brown with common postscutellar triangular brown patch, reaching scutellum; lateral brown stripe much interrupted, with whitish buff oblique band coming from along front side of postscutellar patch nearly to margin (a similar stripe from humerus meeting it at an angle to form somewhat of a "Y") and a narrow brown line behind and bordering former pale band plus a wider oblique brown band anteriorly from margin and curving to almost transverse, meeting suture just behind middle; latter bordered behind unevenly with whitish buff and a less even and broken oblique whitish buff band preapically and apex duller buff; ventral surfaces glabrous medially (triangular patch on each middle abdominal sternite), pale buff dotted with brown at side; legs unspotted.

Head narrowly bicarinate medially, weakly so above and slightly confused with punctures at middle of frons, then very narrow to apex; lateral carina oblique, slightly irregular, largely pubescent; moderately punctured. Antenna 1/8 longer than body; segment 3 shorter than 4; 4 nearly as long as 5 + 6. Prothorax 4/5 as broad as elytra, nearly 4/5 as long as broad; anterolateral tubercle broadly obtuse; midlateral short, subobtuse; disc subeven; median strip weakly raised, unevenly impunctate; punctures irregularly spaced, partly about as large as interspaces. Scutellum with preapical depression. Elytron weakly narrowed to apical 1/4, subsinuate truncate with sutural angle rounded and outer angle broadly toothed; disc weakly convex behind base, punctures mostly in rows. Ventral surfaces shallowly and sparsely punctured. Legs smooth. Length 12.5 mm; breadth 3.8 mm.

^Q. Pale "Y" near base less distinct but last 3 oblique pale bands more even and more golden buff. Length 11.7 mm; breadth 3.3 mm.

Paratypes. Elytral oblique pale bands often gray instead of tawny or golden. Length 9.6-15 mm; breadth 2.8-4.6 mm.

Holotype & (BISHOP 12,483), PNG NEW GUINEA (NE): Lae, Didyman's Crk, 15 m, 12.V.1963, J. Sedlacek; allotype & (BISHOP), Markham Val, Bubia, nr Lae, 50 m, 19.IX.1955, Gressitt; paratopotypes: 3, same data as holotype; 1, Lae, VII.1963, Sedlacek. Paratypes: 3, 56 km SW of Lae, 150 m, III.1963, Sedlacek; 2, Bubia, X.1956 and I.1958, J.H. Ardley (DPI); 1, Busu Riv, 50-100 m, III.1963, Sedlacek; 1, Huon Penin, Manga, 750 m, I.1977, Tawi Bukam; 1, Mumeng, 600 m, III.1962, Sedlacek; 2, Garaina, 550-830 m, I.1968, J. & M. Sedlacek; 3, Finisterre Ra, Kiambavi Vill, VII.1958, W.W. Brandt; 3, same area, Funyende, 1200 m, IX.1958, Brandt. PNG: NEW GUINEA (SE): 1, Mt Lamington, 400 m, C.T. McNamara (SAM).

Differs from *marmoratus* in having postscutellar patch punctured and pubescent and postmedian bands more complete and more contrasted.

265. Tmesisternus nabirensis Gressitt, new species Pl. 11i

d. Reddish brown, largely clothed with brown to golden buff pubescence; head pitchy on occiput, largely clothed with silvery buff except medially and on 2 postocular stripes, the upper 1 triangular; antenna paler reddish distally, thinly clothed with golden buff; prothorax clothed with buff to tawny with incomplete fine median stripe and stripe on upper side, of dark brown; scutellum clothed with tawny, but brown at side; elytron clothed with tawny buff, marked by 5 separate angular dark brown spots at side, 2nd and 3rd largest, a common triangular dark brown patch pointing toward and not quite touching scutellum and bordered with golden buff,

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the line on front continuing in straight line to border back of 2nd lateral patch, next 3 brown lateral patches bordered behind by irregular gold-buff patches, continuing, narrower or wider, to suture and zigzag except last which occupies part of apical area; also a short oblique mark at suture almost touching 3rd lateral dark patch; ventral surfaces paler reddish and pale-pubescent at side, glabrous medially; legs reddish with femora clubs pitchy, clothed with thin golden buff.

Head with median carinae fairly distinct and regular on vertex and upper frons, then broadened, depressed and partly punctured, resuming again in narrower, carinate form to apex; lateral carina oblique and straight on frons, obsolete by upper cyc-lobe; very few punctures. Antenna 1/6 longer than body; segment 3 shorter than 4; 4 shorter than 5 + 6. Prothorax 5/6 as broad as elytra, not quite 3/4 as long as broad; lateral tubercles small, midlateral larger and more acute; disc with impunctate median area very narrow anteriorly, much wider behind middle, and remainder with punctures mostly smaller than interspaces, about 11 in an approximate row from apex to base. Scutellum smooth, minutely punctured. Elytron gradually narrowed to near apex which is truncate and strongly toothed externally; disc slightly raised behind base and with 2nd interstice distinctly raised, many of punctures in rows. Ventral surfaces hardly punctured. Legs with femora stout and smooth. Length 10 mm; breadth 3.1 mm.

⁹. Head more distinctly striped with brown on occiput and pronotum with complete median stripe; postscutellar triangle not straight on hind margin. Length 11 mm; breadth 3.5 mm.

Paratypes. Length 9.4-13.7 mm; breadth 2.8-4.5 mm.

Holotype & (BISHOP 12,484), IRIAN: NEW GUINEA (NW): Nabire, S end Cenderawasi (Geelvink) Bay, 5 m, 2-9.VII.1962, Gressitt; allotopotype & (BISHOP), same data; 11 paratopotypes, same data, partly 25.VIII-1-4.IX.1962, J. Sedlacek and 1-5.X.1962, N. Wilson; 1 paratype, SW Coast of Irian, R. Arja, E. van Oemar & E. Lundquist colls; 2 slightly differing specimens, Bernhard Camp, 700 m, III.1939 and Araucaria Camp, 800 m, III.1939, L.J. Toxopeus, Neth. Ind.-Am. Expedition.

Differs from *electus* Heller in being narrower, with more dark patches at side and with more complicated pattern posteriorly.

266. Tmesisternus popondettae Gressitt, new species

Pl. 11g

δ. Dark brown, reddish on trochanters and tarsi, slightly reddish on antennae; largely clothed with tawny to brown pubescence: head with tawny buff pubescence except medially, on lateral carina and 2 narrow stripes behind eye; antenna very thinly clothed with golden brown; prothorax moderately clothed with tawny buff with a narrow median and wider lateral brown stripe; scutellum with denser tawny hairs posterolaterally; elytron largely clothed with golden buff, partly denser and more golden posteriorly; a common postscutellar spot somewhat rounded-triangular, with blunt angle pointing toward suture and rounded behind; lateral brown stripe widened onto disc in middle and crossed by 2 oblique golden bands, before and behind middle and almost joined to form an arc and also almost connected to gold band, posteriorly oblique, to suture; penultimate oblique gold band at side joining to a larger discal area; last gold patch terminal; ventral surfaces glabrous medially, pale gray-buff dotted with brown at side; legs thinly and subevenly gold-pubescent.

Head with median carinae glabrous and raised but partly punctured, narrow apically; lateral carina broad and partly punctured, not extending above vertex. Antenna as long as body; segment 3 nearly as long as 4, much shorter than 5 + 6. Prothorax 4/5 as broad as elytra, nearly 3/4 as long as broad; lateral tubercles small, midlateral more acute; disc evenly punctured with

impunctate strip only on posterior 1/2. Scutellum with small median depressions. Elytron evenly narrowed to near apex, then strongly narrowed, truncate and strongly toothed externally; disc moderately raised behind scutellum, with 2nd interstice strongly raised and other less so, with deep, largely seriate punctures. Ventral surfaces sparsely punctured at side. Legs with femora stout and smooth. Length 11.9 mm; breadth 3.6 mm.

2. Elytron with penultimate gold band narrow but preceded by a buff area. Length 12.7 mm; breadth 4.2 mm.

Paratypes. Postscutellar brown patch bordered behind with gold or buff. Length 10.0-12.5 mm; breadth 2.5-4.0 mm.

Holotype & (BISHOP 12,485), PNG: NEW GUINEA (SE), Northern Prov, Popondetta, 60 m 3-4.IX.1963, J. Sedlacek; allotopotype & (BISHOP), 24.IX. 1963, H. Clissold; paratopotypes: 2, same data as holotype; 4, VI.1966, P. Shanahan & G. Lippert; 1, II.1966, G.B. Monteith (UQ); paratypes: 1, Kokoda, 400 m, 19.XI.1965, J. & M. Sedlacek; 2, Mt Lamington, 400 m, 1927, C.T. McNamara (AM).

Differs from *electus* in being much narrower, with different pattern.

267. Tmesisternus semivittatus Breuning, new status

Tmesisternus nigrovittatus Aurivillius m. semivittatus Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 586 (NW: Mt Bougainville; BMNH).

Lateral brown stripe from eye to apex of elytron except interrupted by 2 oblique gold bands just before apex of elytron, with extreme apex paler and more thinly pubescent, the brown stripe bordered above by a tawny gold stripe to brown extension of former just behind middle of elytron. Length 10.5-12.5 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Jayapura (Hollandia), II.1933, Stüber (AMNH); Holandia, B. Malkin (USNM); 3, Bernhard camp, 50-100 m, VII-XI.1938, J. Olthof, IV.1939, L.J. Toxopeus; 1, Hollandia, VII.1938, Toxopeus (LEIDEN). PNG: NEW GUINEA (NE): Torricelli Mts, Wantipi, XII.1958, Brandt; W Sepik, May Riv Patrol Stn, sago swamp, 100 m, V.1963, Straatman. Breuning also recorded a specimen from Papua (SE).

I am raising this to species status.

268. Tmesisternus sylvanicus Gressitt, new species Pl. 11f

δ. Dark pitchy brown, reddish on coxae, trochanters, knees and tarsi, reddish pitchy on antenna and ventral surfaces; largely clothed with tawny brown and dark brown pubescence; head with tawny, glabrous medially and on 2 postocular stripes; antenna thinly clothed with golden buff; prothorax with tawny and with 3 incomplete discal stripes and lateral stripe of dark brown; scutellum with tawny, dark at side; elytron clothed with tawny dotted with dark brown with glabrous triangular postscutellar patch and 2 very fine longitudinal brown lines plus irregular oblique dark brown bands: 1st 2 parallel, joined at margin well behind humerus, 2nd reaching postscutellar patch; 2nd pair wider, separate at margin, starting behind middle, the forward 1 almost divided, but reaching suture at middle, the latter incomplete and broken into dots and flecks; also a brown stripe below humerus; pattern variable according to angle of light; ventral surfaces glabrous medially, whitish buff dotted with brown at side; legs evenly clothed with pale buff. Head somewhat strongly bicarinate, the groove widened slightly on frons; lateral carina narrow and straight, swollen by antennal insertion, not continuing posteriorly; punctures sparse. Antenna slightly longer than body; segment 3 shorter than 4; 4 shorter than 5 + 6. Prothorax 3/4 as broad as elytra, nearly 3/4 as long as broad; lateral tubercles similar, but midlateral more acute; disc slightly uneven, slightly raised medially, with punctures slightly smaller than interspaces. Scutellum smooth. Elytron very slightly narrowed; apex subemarginate-truncate with outer angle strongly spined; disc moderately raised on and near narrow triangular impunctate postscutellar area; 2nd interstice distinctly raised; punctured partly in rows. Ventral surfaces weakly punctured. Legs with femora stout, smooth. Length 11.9 mm; breadth 4 mm.

^Q. Frons with glabrous connection between carinae distally nearly forming a "W" and carinae not uniform throughout. Length 13.5 mm; breadth 4.3 mm.

Paratypes. Elytral bands somewhat variable. Length 10.2-14.5 mm; breadth 3.1-4.6 mm.

Holotype & (BISHOP 12,486), PNG: NEW GUINEA (NE): S Chimbu Prov, Karimui, 1080 m, 8-10.VII. 1963, J. Sedlacek; allotopotype ? (BISHOP), same data; 15 paratopotypes, 2-3.VI.1961, J.L. & M. Gressitt and 8-15.VII.1963, J. Sedlacek. One specimen, W Sepik, Feramin, 23-31.V.1959, W.W. Brandt.

Differs from *tesselatus* in having postscutellar glabrous spot more triangular and elytral bands less regular and less transverse (postmedian), and lacking arcuate mark just behind humerus.

269. Tmesisternus geelvinkianus Gestro, resurrected from synonymy

- Tmesisternus geelvinkianus Gest., 1876, Ann. Mus. Civ. Genova 9: 159 (Ansus, Jobi = Japan I; GENOVA).
- Tmesisternus tesselatus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 578 (part: geelvinkianus synonymized with tesselatus).

Obscure brown, pubescent with ochreous lines; elytron obliquely truncate apically with outer angle not produced; venter shiny black, yellowish pubescent at side; legs yellowish red. Length 16 mm.

This is a valid species.

Distribution. Japan I.

270. Tmesisternus flavolineatipennis Breuning

Tmesisternus (s. str.) flavolineatipennis Br., 1975, Ann. Mus. Nat. Hung. 67: 170 (Kiunga, SE; BUDAPEST).

Elytron with oblique yellow line from base near humerus to suture and met at middle by a more slender oblique line and a slender band behind middle; apical marking preceded by 2 fairly large pale spots; elytral apices oblique, toothed externally.

Distribution. PNG: New Guinea (SE): Kiunga.

271. Tmesisternus intricatus Pascoe

Pl. 12c

Tmesisternus intricatus Pasc., 1876, Trans. Entomol. Soc. Lond. ser. 3, 3: 471 (Mysool, Dorey; BMNH).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 577.

Greenish brown with gray pubescence; elytron lacking common postscutellar bare patch and with a separate small patch away from suture; 2 zigzag postmedian dark bands. Length 8-11 mm.

Distribution. Mysool; Salawati; Waigeo; New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Vogelkop. A specimen possibly to be assigned here: vic. Hollandia, VII-IX, 1944, Darlington.

272. Tmesisternus pseudohieroglyphicus Breuning

Tmesisternus (Tmesisternus) pseudohieroglyphicus Br., 1939, Mem. Soc. Entomol. Ital. 18: 58.

Narrower than *hieroglyphicus*, but with similar pattern; pronotum without median stripe; elytron without lateral brown stripe and with median dark band feeble; ectoapical angle acutely spined. Length 13 mm.

Distribution. PNG: New Guinea (SE): Fly River.

273. Tmesisternus postfasciatus postfasciatus Breuning & de Jong

Tmesisternus (Tmesisternus) postfasciatus Br. & de J., 1941, Zool. Meded. 23: 73 (NW NG; LEIDEN).

Tmesisternus (Tmesisternus) postfasciatus Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 588 (as n. sp.) (NW NG: LEIDEN).

Elytron with a postmedian black oblique band followed by a pale line and then pale spot at side. Length 10 mm.

Distribution. Irian: New Guinea (NW).

274. Tmesisternus postfasciatus postmaculatus Breuning & de Jong

Tmesisternus (Tmesisternus) postfasciatus var. postmaculata (sic) Br. & de J., 1941, Zool. Meded. 23: 74 (Salawati; LEIDEN).

Tmesisternus (Tmesisternus) postfasciatus m. postmaculatus Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 488 (as new) (Salawati; LEIDEN).

Differs from the preceding in lacking the pale line to suture between the dark band (which bends posteriorly toward suture) and pale patch. Length 8 mm.

Distribution. Irian: Salawati I.

275. Tmesisternus multiplicatus Gahan

Tmesisternus multiplicatus Gah., 1915, Trans. Zool. Soc. Lond. 20: pl. 39, fig. 19; 1916, Rep. B.O.U. & Wollaston Exped. Dutch NG 1, Coleopt. 3: 10 (Mimika, SW; BMNH).

Tmesisternus (Tmesisternus) pleurostictus m. multiplicatus: Br., 1945, Novit. Entomol. 15-16, Suppl. 3: 578.

Somewhat of an X-shaped common mark on elytra, with a number of other dark or pale marks. Length 12 mm; breadth 4 mm.

Distribution. New Guinea.

Material examined. IRIAN (SW). PNG: NEW GUINEA (SE): 1, Olsobip, 400 m, VIII.1969, J. Sedlacek. S New Guinea lowland.

I am reviving this to a full species.

276. Tmesisternus hieroglyphicus Blanchard

Tmesisternus hieroglyphicus Bl., 1853, Voyage Pôle Sud, Zool. 4: 286 (SW: Triton Bay; BMNH).-White, 1855, Cat. Coleopt. Br. Mus. 8: 338.-Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 477 (Aru I).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 579 (subgenus Tmesisternus).

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): 3, Nabire, 5 m, VII.1962, Gressitt, VIII. 1962, Sedlacek; 2, Kebar Val, W of Manokwari, 550 m, I.1962, L. & S. Quate; 1, Bernhard Camp, 50 m, VII-XI.1938, J. Olthof; NEW GUINEA (SW): 1, Lak Lak, VII.1939, R.G. Wind; 1, S coast, R. Siera, W.V. Oeta, & E. Lundquist coll'rs; 1, Bomberai Penin., Bomberi, 700-900 m, VI.1959, T.C. Maa.

277. Tmesisternus ochrostictus Gressitt, new species

Pl. 11d

d. Pitchy reddish brown above, paler reddish brown on antenna and ventral surfaces; partly pitchy on femoral clubs; largely clothed with ochreous to dark brown pubescence: head densely clothed with ochreous, brown on narrow median stripe (slightly widened posteriorly), narrow stripe behind upper eye-lobe and wider stripe behind lower eye-lobe; antenna thinly clothed with golden buff; prothorax striped with dark brown at side, with dense ochreous on side of disc, with slightly duller pubescence on rest of disc, not hiding brown punctures and with narrow median brown stripe; scutellum reddish with ochreous pubescence but dark medially and laterally; elytron entirely pubescent, varying from dull tawny to dark brown, but with 2 large oval bright ochreous spots, before and behind middle, 1st not quite touching margin and 2nd touching, both fully 1/2 as wide as disc; and similar but irregular oblique patch from margin to suture before apex, and small ochreous area by suture at apex; ventral surfaces narrowly glabrous medially, with ochreous spotted with brown; legs evenly gold-buff pubescent.

Head bicarinate medially, weakly so on occiput, slightly interrupted and broadened on frons and narrower toward apex; lateral carina slightly oblique, pubescent; a few scattered punctures. Antenna (incomplete) about as long as body; segment 3 shorter than 4; 4 shorter than 5 + 6. Prothorax just over 3/4 as broad as elytra, 7/10 as long as broad; anterolateral tubercle obtuse; mid-lateral subacute; disc subevenly convex; median strip narrowly raised, unevenly impunctate, pubescent; punctures deep, mostly smaller than interspaces. Scutellum even. Elytron gradually narrowed to apical 1/4; apex subtruncate with strong outer tooth; disc weakly convex near base, with 2 somewhat-raised interstices and punctures deep and partly in rows. Ventral surfaces shallowly and sparsely punctured. Legs smooth; femora strongly swollen. Length 14.2 mm; breadth 5 mm.

9. Cephalic carinae more even in front; elytral apex more extensively ochreous. Length 14.7; breadth 5.1 mm.

Holotype & (BISHOP 12,487), PNG: NEW GUINEA (SE), Kiunga, Fly Riv, 50 m, 26-28.X.1957, W.W. Brandt; allotopotype Q (BISHOP), same data.

Differs from *pleuristictus* Pasc. in being stouter with elytral spots much larger, followed by 2 bands, and elytral punctures stronger.

278. Tmesisternus quadripustulatus Gressitt, new species Pl. 11e

d. Dark reddish brown, paler reddish on antenna, tarsi, femoral bases and tibial apices; clothed with tawny yellow to whitish buff and dark brown pubescence: head densely clothed with golden buff except on glabrous median stripe (broadened posteriorly and expanded below middle of frons), narrow glabrous stripe behind upper eye-lobe and broader dark brown pubescent stripe behind lower eye-lobe; antenna thinly clothed with golden buff; prothorax with dark brown stripe at side and yellowish stripe along side of disc with remainder thinly clothed and with narrow median glabrous stripe; scutellum with yellow pubescence, duller and thinner at side; elytron mostly with thin dull brown speckled with yellow; somewhat of a vague yellow ring around postscutellar area including a broader and denser slightly oblique stripe just internal to humerus; 2 large oval yellow spots on upper side, before and behind middle (well visible from above), a vaguer patch behind 2nd, followed by a zigaag yellow band well before apex and patch immediately before apex; ventral surfaces glabrous medially with glabrous patch on each of abdominal sternites 1–4 broadly triangular, broadened to apical margin, with white pubescence at side; legs with silvery clothing.

Head grooved medially and bicarinate on frons with glabrous strip widened just below middle of frons, widened area triangular, punctured and reaching lateral carina which is fairly straight and narrow; a few punctures on occiput. Antenna slightly longer than body; segment 3 slightly shorter than 4; 4 distinctly shorter than 5 + 6. Prothorax 3/4 as broad as elytra, 5/7 as long as broad; anterolateral tubercle small; midlateral tubercle only slightly larger; disc with median impunctate strip narrow, extremely narrow and slightly carinate anteriorly, widened at base; rest of surface with punctures partly as large as interspaces. Elytron slightly narrowed to apical 1/5; truncate and broadly toothed ectoapically; disc moderately raised postbasally, punctured on postscutellar area, with 2 slightly raised lines and punctures deep and partly in rows. Ventral surfaces and legs impunctate. Length 12 mm; breadth 3.8 mm.

2. Elytron with discal flecks numerous and larger; humeral and premedian patches tinged with iridescent golden green. Length 13.4 mm; breadth 4.3 mm.

Paratypes. Often parahumeral yellow stripe clearly continuous with pronotal stripe; and often hind part of this swollen and preapical band broken to give appearance of 4 large yellow spots along side of elytral disc. Length 10.2-14.9 mm; breadth 3.2-4.8 mm.

Holotype & (BISHOP 12,488), PNG: BISMARCK ARCH: New Britain: Gazelle Penin.: Mt Sinewit, 900 m, 5-14.XI.1962, J. Sedlacek; allotopotype & (BISHOP), same data; 5 paratopotypes, same data as holotype and same data but 1100-1200 m, 15-16.XI.1962; paratypes: 6, Warangoi Val, Illugi, 200-230 m, XI-XII.1962, J. & M. Sedlacek; 3, Gaulim, 120-150 m, X-XI.1962, J. & M. Sedlacek; 1, St Paul's, Baining Mts, 350 m, 5.IX.1955, Gressitt.

Differs from *pleurostictus* Pascoe in having frontal carinae joined antemedially by a glabrous punctured area, pronotum less distinctly striped with brown but with yellow stripe more conspicuous and elytron less carinate midbasally and with usually 4 sublateral yellow spots instead of 2.

279. Tmesisternus pleuristictus Pascoe

Tmesisternus pleuristictus Pasc., 1867, Trans. Entomol. Soc. Lond. ser. 3, 3: 478 (Aru; BMNH).

Tmesisternus (Tmesisternus) pleurostictus (sic): Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 578 (NE: Torricelli Mts; DRESDEN).

Brown mottled with buff; 3 dark stripes on head and pronotum; elytron mottled with dark and pale brown, with 2 distinct ochreous spots at side, often surrounded by extension of dark brown lateral stripe; often a 3rd spot posteriorly, usually smaller and often whitish instead of ochreous. Length 10-13.5 mm; breadth 2.6-3.8 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): 37, S Chimbu, Karimui, 1080 m, VII.1963, J. & M. Sedlacek; NEW GUINEA (SE): 22, Kiunga, Fly Riv, VIII.1957, W.W. Brandt; 1, Olsobip, 400 m, VIII.1969, J. Sedlacek.

280. Tmesisternus bilaterimaculatus Breuning

Tmesisternus (Tmesisternus) bilaterimaculatus Br., 1966, Senckenbergiana Biol. 47(5): 407 (SW New Guinea; SENCKENBERG).

Dark brown partly with pinkish brown pubescence above, with 2 yellow spots on side of elytron surrounded by extension of lateral dark brown stripe, and often with a pale area from disc between them and a smaller pale lateral spot before apex. Length 11.0-14.5 mm; breadth 3.2-4.1 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (SE): 3, Kiunga, VIII.1957, Brandt, VIII.1969, J. & M. Sedlacek; 1, Olsobip, 400 m, VIII.1969, J. & M. Sedlacek; NEW GUINEA (NE): 1, Karimui, 1080 m, VII.1963, J. Sedlacek; 1, Morobe Prov, Engabena, 1700 m, on Macaranga (euphorb), IV.1974, Gressitt. S slopes of main ranges and southward.

XXXVI. Transversus group

281. Tmesisternus thomsoni Pascoe, resurrected from synonymy

Ichthyosomus dejeanii Thompson (nec Montrouzier), 1865, Syst. Ceramb., p. 546 (Aru; PARIS). Tmesisternus thomsoni Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 475 (Dorey; BMNH) (new name for dejeanii).

Tmesisternus oblongus: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 568 (part).

Very similar in appearance to *oblongus* but narrower in build, with postmedian elytral band weaker and more oblique and anterior band more arcuate, as well as parametes very different and fused. Length 8-15 mm.

This species has been synonymized with *trivittatus*. Distribution. Aru; New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Vogelkop, Kebar Val, Quate; Nabire, 5 m, Gressitt & Sedlacek; Wissel Lakes, Gressitt coll.; Swart Val, Gressitt coll.; Waris, Maa coll. (BISHOP); Sarmi, Simon Thomas; Maffin Bay, Ross coll. (CAS). IRIAN: NEW GUINEA (SW): Tarera, nr Lakahia Bay, Lundquist (LEIDEN). PNG: NEW GUINEA (NE): upper Watut Val, 760 m, Sedlacek; Wau, 1200 m, Sedlacek. NEW GUINEA (SE): Olsobip, 400 m, Sedlacek.



FIG. 8. a, Tmesisternus transversus; b. Tm. virescens pteridii.

282. Tmesisternus transversus Pascoe

Fig. 8a

Tmesisternus transversus Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 476, pl. 19, fig. 5 (Aru; BMNH).—MacLeay, 1886, Proc. Linn. Soc. N.S.W. ser 2, 1: 201 (Fly Riv).—Gahan, 1915, Rep. B.O.U. Wollaston Exped. Dutch NG 1(3): 47 (Mimika Riv).—Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 290 (subgenus Tmesisternus).

Postscutellar area black, broad, often reaching to elytral margin, bordered behind by an obtuse pale line; elytron long, with vague marks posteriorly. Length 9-13 mm.

Distribution. Aru; New Guinea.

Material examined. IRIAN: NEW GUINEA (SW): Mimika Riv. PNG. NEW GUINEA (NE): Finschhafen, Ross coll. (CAS); Lae, Bubia, M. Nango coll.; Busu Riv, Gressitt coll; Kunkaneng Grove, on cacao, Ardley; Finisterre Range, Brandt coll.; Pindiu, 500 m, Sedlacek; Bulolo, 750 m, Sedlacek; Wau, 1200 m, Sedlacek; Garaina, 750 m, Sedlacek; NEW GUINEA (SE): Mt Lamington, McNamara coll. (AM); Kokoda, 400 m, Sedlacek; Milne Bay, Sedlacek coll.; Mamai,

Port Glasgow, Straatman coll.; Bisianumu, 500 m, Gressitt; Oriomo, Clissold coll.; Kura, Clissold; Murua Riv, Sedlacek; Kiunga, Sedlacek; Olsobip, Sedlacek.

283. Tmesisternus transversatus Breuning

Tmesisternus (Tmesisternus) transversatus Br., 1939, Festschr. E. Strand 5: 176 (Yule I, SE; Itzinger: FREY); 1945, Novit. Entomol. 15-16, Suppl. 3: 591.

Similar to *transversus* but postscutellar black band bounded behind by transverse buff line, which bends posteriorly at side. Length 7.5-13.0 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (SE): Yule I; Vanapa Riv, Sedlacek coll.; Brown Riv, Sedlacek; Kura, Clissold coll.; Koitakinumu, Zimmer coll; Oriomo, Clissold coll.; Mamai, Port Glasgow, Straatman coll.; Subitana, Brandt coll. (BISHOP).

284. Tmesisternus apicalis Aurivillius, reinstated

- Tmesisternus apicalis Aur., 1927, Ark. Zool. 19A(17): 17 (541), fig. 174 (Alkmaar; STOCK-HOLM).
- Tmesisternus unipunctatus m. apicalis: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 590 (subgenus Tmesisternus).

Postscutellar area black, diamond-shaped, connecting with a black band to side; 3 oblique bands, blackish behind former, last often vague. Length 8-12.5 mm.

Distribution. New Guinea.

Material examined. IRIAN: NEW GUINEA (SW): NS coast. PNG: NEW GUINEA (SE): Kiunga, Fly Riv, 50 m, Brandt, Sedlacek; Olsobip, 400 m, Sedlacek.

285. Tmesisternus virescens virescens Breuning

Tmesisternus (Tmesisternus) virescens Br., 1939, Festschr. E. Strand 5: 173 (Mondo, SE; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 589.

Elytra strongly narrowed, postscutellar area with a rounded right angle behind; disc distinctly striped. Length 8-12 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (SE): S side Owen Stanley Mts. (A questionable specimen from Huon Penin., NE.)

286. Tmesisternus virescens pteridii Gressitt, new subspecies Fig. 8b, 9a, b, d, e

 δ . Pitchy black, clothed with golden buff pubescence: head glabrous on carinae and a narrow triangular area behind upper eye-lobe; pronotum with median glabrous strip 1/4 as broad as long, constricted somewhat anterior to middle; a fine sinuous line at lateral margin of disc, through anteriolateral tubercle, and 2 stripes lower on side; elytron with postscutellar smooth area shiny, rounded behind; disc with 6 lines including suture, 6th on basal 1/3 only, and oblique marks and patches at side and before apex; venter dotted at side.



FIG 9. a, larva of *Tmesisternus virescens pteridü*, dorsal view; b, head capsule of same, dorsal; c, *Tm. obliquefasciatus* dorsal new of posterior end of abdomen of larva; d, *Tm. virescens pteridü*, ventral view of posterior end of abdomen of pupa; e, dorsal view of same; f, *Tm. obliquefasciatus*, dorsal view of posterior end of abdomen of pupa; g, ventral view of pupa of same.

Head with median carina nearly fused on vertex, widely diverging on frons with punctured area, then resuming and close apically; lateral carina slightly sinuate, not reaching hind margin of eye, where surface is punctured. Antenna as long as body; segment 3 slightly longer than 4, slightly shorter than 5 + 6. Prothorax just over 3/4 as broad as elytra, 3/4 as long as broad, nearly straight at side, with tubercles small; disc with median strip impunctate; rest with deep punctures smaller than interspaces. Scutellum smooth. Elytron strongly narrowed, subobliquely truncate and strongly spined externally; disc nearly impunctate on postscutellar area, otherwise deeply punctured in grooves on basal 2/3. Venter with side weakly subasperate-punctate. Length 10.9 mm; breadth 3.6 mm.

^Q. Greenish to reddish brown; postscutellar area very shiny. Length 1.2 mm; breadth 3.6 mm. Paratypes. Brown to black, very rarely greenish. Length 7-13.4 mm; breadth 2.4-3.8 mm.

Larva (Fig. 9a, b). About 5 \times as long as broad; white to colorless or pale testaceous; a large testaceous area on each side of pronotum; head-capsule 1.5 \times as long as broad; pale behind but portion visible without dissection is broader than long and pale reddish brown, becoming pitchy at anterior margin; mandible nearly black; antenna hardly longer than broad. Tergum and sternum of metathorax with a transverse swollen area with small callosities; similar but more prominent structures on terga and sterna of abdominal segments 1–7. Segments from head-capsule to 10th abdominal segment each with 2 to 10 or so fine setae on each side, partly almost as long as 1/2 width of segment.

Pupa (Fig. 9d, e). White to creamy; pronotum with a number of testaceous hairs on disc; meso- and metanotum with several very short scattered hairs; abdominal tergite 1 with a very few small tubercles; tergites 2-6 with 2 rows each of short bristles; tergites 7-8 with slightly longer short bristles. Venter with about 12 hairs on each side of head including labrum and mandible; each femur with several hairs on lower distal 1/2; abdomen with just 3-4 long hairs at side of each segment, but no long hairs on distal portions of last 2 segments, which latter have a number of short spines on apical portions. Length 10 mm. In *Pteridium aquilinum*; Mt Kaindi, 1300-2365 m.

Holotype & (BISHOP 12,489), PNG: NEW GUINEA (NE): Morobe Prov, Wau Ecology Institute, 1150 m, on foliage of tree tomato (*Cyphomandra betacea*), 11.111.1974, J.J.H. & M.L. Szent-Ivany; allotopotype & (BISHOP), 1200 m, 3.V.1976, reared from *Pteridium* (bracken), A.A. Kirk; 566 paratopotypes, Mt Kaindi, to 2362 m 227 paratypes from many other localities in eastern part of central ranges (NE and SE); 1 on *Araucaria cunninghamii*, 1 on *Ficus* (BULOLO).

Differs from v. virescens in its narrower prothorax and more rounded postscutellar area, and in rarely being truly green.

287. Tmesisternus montanus Gressitt, new species

Pl. 12d

d. Pitchy black, reddish castaneous beneath, paler reddish on tarsi, bases of legs and antennae beyond scape; moderately clothed with pale tawny buff pubescence: head unevenly clothed, with costae glabrous and 2 black stripes behind eye; pronotum thinly clothed on disc and thus median glabrous strip vague; side of thorax more densely clothed, with 3 partial narrow dark stripes; scutellum pubescent except on base and center; elytron with postscutellar area well set off by pubescence, mostly arranged in weak lines or rows of flecks, with 3 or 4 vague oblique dark lines; venter glabrous medially, the strip serrate on abdomen, with side evenly pale pubescent with subglabrous dots; legs moderately clothed with olive buff.

Head with carinae strong, median pair diverging and reuniting to form an ellipse on frons;

lateral carina slightly sinuate in front, not reaching hind margin of eye; punctures rather few. Antenna a little longer than body; segment 3 as long as 4, shorter than 5 + 6. Prothorax just over 3/4 as broad as elytra, 4/5 as long as broad: lateral tubercles weak and similar; disc fairly smooth, with median strip unevenly bounded by punctures, which are mostly smaller than interspaces. Scutellum smooth with a slight depression at center. Elytron strongly margined, subcuneiform truncate and strongly spined ectoapically; disc with postscutellar area convex, smooth and shiny, essentially impunctate; remainder moderately punctured on basal 3/4. Venter weakly and sparsely punctured. Legs with femora moderately swollen and fairly smooth. Length 11.7 mm; breadth 3.3 mm.

 $\ref{2}.$ Tinged with olive; elytral stripes consisting more of subglabrous dots. Length 10.6 mm; breadth 3.1 mm.

Paratypes. Pubescence often denser and quite pale, contrasting with glabrous postscutellar area. Length 7.5-13.2 mm; breadth 2.1-4.0 mm.

Holotype & (BISHOP 12,490), PNG: NEW GUINEA (NE): W Sepik highlands, Eliptamin Val, 1200-1350 m, 1-15.IX.1959, W.W. Brandt; allotopotype & (BISHOP), same data; 126 paratopotypes, same data as holotype and also 1350-1665 m, 1665-2530 m, VI-IX.1959. Paratypes. PNG: NEW GUINEA (NE): 14, Feramin, 1050-1200 m, nr Telefomin, V-VI.1959, Brandt; 4, Swart Val, Karubaka, 1300-1550 m, XI.1958. J.L. Gressitt. IRIAN: NEW GUINEA (NW): 1, Kutsime, 1500 m, XI.1958, Gressitt; 1, Bokondini, 40 km N of Baliem Val, ca. 1300 m, XI.1961, L.W. Quate; 2, Star Mts, Sibil Val, 1245 m, X-XI.1961, S. Quate (BISHOP); 1, Araucaria Camp, 800 m, III.1939, Toxopeus (Neth. Ind.-Am. Exped.; LEIDEN).

Differs from *virescens* in being more elongate and more evenly narrowed to elytral apex, with pubescence paler and less distinctly striped, and with post-scutellar area more angulate behind.

288. Tmesisternus subalpinus Gressitt, new species Pl. 12e

d. Dark reddish castaneous, paler beneath, with legs and antenna largely reddish brown and tarsi paler; moderately clothed with golden buff pubescence: head with carinae partly covered, but with median glabrous strip greatly broadened on occiput and a small triangular patch behind eye; prothorax closely clothed, with median glabrous strip distinct, 1/3 as broad as long, with 3 very narrow, or partial lines at side; scutellum nearly glabrous; elytron with postscutellar area distinctly set off, with 2 connections to base and a forward projection from outer corner, somewhat rounded behind; remainder with golden pubescence denser around postscutellar area and on 3 oblique bands, with 2 fine merging dark lines and 2 less distinct oblique brown lines; venter glabrous medially, golden at side with sparse dots; legs thinly clothed.

Head with median pair of carinae broad, forming an ellipse on frons; lateral carina slightly irregular, not nearly reaching hind margin of eye; few punctures visible. Antenna not quite as long as body; segment 3 as long as 4, shorter than 5 + 6. Prothorax 3/4 as broad as elytra, 3/4 as long as broad; disc even, smooth on median strip, sparsely punctured on rest. Scutellum depressed along median line in center. Elytron weakly narrowed except near apex; obliquely truncate and stoutly spined ectoapically; disc convex, smooth and almost impunctate on postscutellar area, somewhat deeply punctured in middle section. Venter feebly punctured. Legs with femora stout and smooth. Length 8.1 mm; breadth 2.5 mm.

². Elytron with 4 partial stripes beside suture and short humeral stripe. Length 7.9 mm; breadth 2.8 mm.

Paratypes. Pubescence sometimes more ochreous. Length 7.4-11.7 mm; breadth 2.3-3.6 mm.

Holotype & (BISHOP 12,491), PNG: NEW GUINEA (SE): Mt Giluwe, 2500 m, 2.VI.1963, J. Sedlacek; allotopotype ? (BISHOP), 2500 m, 1.V.1963, Sedlacek; 7 paratopotypes, 2500-2550 m, 27.V-6.VI.1963, Sedlacek. Paratypes. NEW GUINEA (SE): 1, Aiyurop, nr Mendi, 1530 m, X.1958, J.L. Gressitt; 3, Dimifa, SE of Mt Giluwe, 2200 m, X.1958, Gressitt; 2, Mt Bosavi, 1800-2300 m, V-VI.1973, Gaya & Gressitt; NEW GUINEA (NE): 1, Koribuga, 1500 m, VII.1963, H.W. Clisshold; 1, Kepilam, 2420-2490 m, VI.1963, Sedlacek; 3, Lake Ivivi (Sirunki), 2570 m, VI.1963, Sedlacek; 2, Yaibos, ca. 2200 m, VI.1963, Sedlacek; 1, Daulo Pass, 2400 m, V.1963, Sedlacek.

Differs from preceding species in being shorter, less evenly narrowed, and with broader median pronotal strip; differs from *virescens* in having pronotal stripe broader and postscutellar area more broadly connected with elytral base.

Pl. 3i

289. Tmesisternus rufotriangularis Gressitt, new species

d. Reddish castaneous, paler on tarsi and distal portion of antenna; partly clothed with ochreous pubescence; head thinly and irregularly clothed, broadly glabrous on occiput; prothorax more evenly clothed but median glabrous strip nearly 1/2 as broad as long, lateral lines vague or incomplete; scutellum glabrous; elytra with postscutellar smooth area large, forming an equilateral triangle from humeri to suture and covering most of basal margin; remainder with fairly close even pubescence, with 2 weak narrow bands, 1st oblique to near end of postscutellar area, 2nd arched, behind middle; venter unevenly glabrous medially, paler ochreous at side with faint dark dots; legs thinly clothed.

Head with median carina separated on most of frons, forming a narrow ellipse; lateral carina slightly arched anteriorly, incomplete behind; occiput with a few punctures. Antenna barely longer than body; segment 3 longer than 4, shorter than 5 + 6. Prothorax not quite 4/5 as broad as elytra, not quite 3/4 as long as broad; lateral tubercles very small, but subacute; disc smooth, only finely punctured toward side, the punctures much smaller than interspaces. Scutellum smooth, raised on hind margin. Elytron with postscutellar area convex, smooth and with only a few minute punctures; remainder with a few modest punctures; apex truncate and very strongly spined externally. Venter hardly punctured. Legs with femora stout and fairly smooth. Length 12.7 mm; breadth 4.2 mm.

Q. A larger patch of pubescence on base beside humerus; lateral lines more distinct on prothorax. Length 12.5 mm; breadth 3.8 mm.

Paratypes. Lateral prothorax stripes distinct and elytron partly brown at side. Length 10.6-13.2 mm; breadth 3.1-4.1 mm.

Holotype & (BISHOP 12,492), PNG: NEW GUINEA (NE): Morobe Prov, Mt Kaindi, Nami Crk, 1700 m, 22-30.VI.1968, J. Sedlacek; allotype & (BISHOP), Telefomin, 1600 m, 14.VIII.1963, R. Straatman; paratypes: 1, Tsenga, 1200 m, Jimi Val, 13.VII.1955, J.L. Gressitt; 2, Karimui, 1080 m, 2-3.VI.1961, Gressitt, 14-15.VII.1963, Sedlacek (BISHOP); 1, Mt Dayman, Maneau Range, 700 m, 13-20.VII.1953, G.M. Tate (AMNH).

Differs from *virescens* in being red with ochreous pubescence, with very broad pronotal stripe and no distinct elytral stripes; and from *subalpinus* in being larger, in having more triangular postscutellar area and more even pubescence on rest of elytral disc.

290. Tmesisternus flavolineatus Breuning

Tmesisternus (Tmesisternus) flavolineatus Br., 1939, Festschr. E. Strand 5: 177 (Mt Tafa, SE; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 591, fig. 357.

Slender, subparallel, greenish, with long postscutellar area, narrow pale yellowish stripes and a broad postmedian glabrous band; median pronotal stripe broad. Length 11.5–13 mm; breadth 3.4–3.75.

Distribution. New Guinea (SE).

Material examined. PNG: NEW GUINEA (SE): Goilala Distr, Iemi No. 1 village, 1800 m, resting on Solanum tuberosum, 22.VIII.1963, J.J.H. Szent-Ivany.

291. Tmesisternus longicollis Gressitt, new species Pl. 12f

d. Pitchy black, reddish beneath, paler on tarsi and distal portions of antenna; irregularly clothed with ochreous: head densely clothed anteriorly, sparsely so on vertex and occiput; prothorax moderately clothed at side, without any complete stripe, sparsely on disc with median strip not distinct; scutellum glabrous medially; elytron with postscutellar glabrous area not very large, transversely diamond-shaped; remainder patchily clothed with vague longitudinal lines and 2 oblique narrow bands of dark brown; venter densely clothed with paler at side, dotted with brown; legs largely clothed.

Head with median carinae widely diverging on frons and nearly hidden by pubescence before rejoining near apex; lateral carina nearly straight anteriorly, suppressed before end of eye; sparsely punctured. Antenna slightly longer than body; segment 3 as long as 4, shorter than 5 + 6. Prothorax 4/5 as broad as elytra, 5/6 as long as broad, nearly straight at side; tubercles very small, subequal, acute; disc even, median impunctate strip narrow, wider near base; punctures deep, partly smaller than interspaces. Scutellum depressed in middle of apex, obtuse in outline basally. Elytron long, subevenly narrowed, convex and partly punctured on postscutellar area, deeply punctured on central portion, truncate and strongly toothed ectoapically. Venter feebly punctured. Legs with femora stout and smooth. Length 11.7 mm; breadth 3.8 mm.

Q. Length 13 mm; breadth 4 mm.

Paratype δ . Pubescence paler, denser, covering head and pronotum except for narrow stripes. Length 12 mm; breadth 3.5 mm. Other paratypes 8.6–12.2 × 2.6–3.6 mm.

Holotype & (BISHOP 12,493), PNG: NEW GUINEA (NE): Huon Penin., Kalolo, nr Kabwum, 750 m, 20-30.VIII.1966, Mena for Samuelson; allotopotype (BISHOP), same data as holotype; 1 paratopotype, same data; 6 paratypes, Wum, 840 m, Jimi Val, 16-18.VII.1955, Gressitt; 2 paratypes, Tsenga, 1200 m, Jimi Val, 15.VII.1955, Gressitt. IRIAN: NEW GUINEA (NW): Star Mts, Sibil Val, 1245 m, 18.X-8.XI.1961, S. Quate, 2 paratypes.

Differs from the preceding species in having prothorax longer, with its median impunctate strip narrower and elytron less narrowly spined ectoapically.

292. Tmesisternus griseovittatus Breuning

Tmesisternus (Tmesisternus) griseovittatus Br., 1939, Festschr. E. Strand 5: (Fauro I; BMNH); 1945, Novit. Entomol. 15-16, Suppl 3: 589, fig. 356.

Dark brown with golden gray pubescence, more or less striped medially on elytron for nearly basal 1/2, then with 2 or 3 oblique bands of mostly longitudinal spots; sometimes reddish instead of dark brown. Length 11-17 mm.

Distribution. Solomon Is.

Material examined. PNG: N SOLOMONS: Bougainville: Mutahi, 700 m, Tawi; Mosigeta, 25 m, Gressitt; Kokure, 900 m, Gressitt; Boku, 30 m, Gressitt (BISHOP); Empress Augusta Bay, G. Downs, A.B. Gurney (USNM). SOLOMON IS. Fauro. Vella Lavella: Ulo Crater, 10 m, Shanahan. Kolombangara: Sandfly Harbor, 2 m, Sedlacek. New Georgia: Munda, 1-30 m, Gressitt (BISHOP); Munda Pt, Franclemont (USNM). Choiseul: Kitipi Riv, 80 m, Shanahan. Fulakora: W.M. Mann (MCZ). Guadalcanal: Gold Ridge, 500 m, Gressitt; Betikana Riv, Brandt; Honiara, Straatman.

293. Tmesisternus tolai Gressitt, new species

d. Reddish brown to dark brown; tarsi and distal portions of antenna paler reddish brown; femora grayish olive; moderately clothed with golden buff pubescence; head except for blackish brown carinae and 2 stripes behind eye; pronotum except for fairly narrow median glabrous stripe, partly edged with brown pubescence and brown-pubescent side; scutellum on side only; elytron gold-pubescent on broad median stripe to behind middle and several lateral spots, 2nd and 3rd connecting with former and next 3 forming parts of 3 irregular bands, 5th terminal; ventral surfaces broadly glabrous medially (serrate on abdomen) and evenly gold-pubescent on side; legs practically glabrous on femora.

Head with broad low median carinae, distinctly grooved, but slightly broadened and distinctly punctured on center of frons, then carinae narrowed distally; lateral carina very slightly arched, weak behind antennal insertion; a few punctures between eyes. Antenna slightly longer than body; segment 3 a bit shorter than 4; 4 shorter than 5 + 6. Prothorax 3/4 as broad as elytra, not quite 3/4 as long as broad; disc slightly uneven, partly punctured on median stripe anterior to center; punctures on remainder about as large as interspaces; lateral tubercles small, hind one more distinct. Scutellum with a fovea in center. Elytron weakly narrowed to near apex, which is truncate and acutely spined externally; disc moderately convex postbasally with 2 slightly raised lines posteriorly; punctures largely irregular and partly as large as interspaces in middle. Ventral surfaces weakly punctured at side. Legs with femora smooth. Length 13.2 mm; breadth 4 mm.

Q. Length 11.6 mm; breadth 3.6. Paratypes 10.7-15.5 × 3.2-4.6 mm.

Holotype & (BISHOP 12,494), PNG: BISMARCK ARCH.: New Britain, Gazelle Penin., Mt Sinewit, 900 m, 5-14.XI.1962, J. Sedlacek; allotype & (BISHOP), Gazelle Penin., Keravat, 30 m, 29.V. 1956, E.J. Ford, Jr; paratopotypes: 1, same data as holotype; 1, same data but 7-16.XI, 1 same but no date, 1 same but 1100-1200 m, 15-16.XI; paratypes: 6, Keravat, 60 m, 31.VIII-2.IX.1955, J.L. Gressitt; 2, Gazelle Penin, Warongoi Val, 100 m, 24.V.1956, Gressitt; 2, same loc., 200-250 m, 1-2.XI.1962, Sedlacek; 350 m, 3.IX.1955, Gressitt.

Differs from *griseovittatus* in being more brown and less black, with dorsal pubescence more golden and more extensive, with only a narrow glabrous stripe on pronotum; patches on elytron more extensive and partly fused.

Tolai are the people of the north coast of the Gazelle Peninsula.

294. Tmesisternus unipunctatus Guerin-Ménéville

Tmesisternus unipunctatus Guer., 1835, Voyage Coquille Zool. 2(2): 132 (New Ireland; PARIS).
Boisduval, 1935, Voyage Astrolabe, Insectes 2: 471.-White, 1855, Cat. Coleopt. Br. Mus.
8: 337.-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 590.

Tmesisternus (Tmesisternus) densepunctatus Br., 1939, Festschr. E. Strand 5: 175; 1945, Novit. Entomol. 15-16, Suppl. 3: 590 ("New Guinea"; BMNH)). New synonymy.

Tmesisternus (s. str.) interruptevittatus Br., 1975, Ann Mus. Nat. Hung. 67: 171 (Keravat, New Britain; BUDAPEST). New synonymy.

Pitchy with antenna largely reddish; extensively clothed with goldish pubescence except for 3 narrow pronotal stripes and on elytron a large subbasal black triangle, 2 narrow oblique discal bands and humerus, external margin and some weak discal lines of brown. Length 7.5-13.5 mm.

Distribution. Bismarck Archipelago.

Material examined. PNG: 2, Umboi I (between New Guinea and New Britain), 300 m, II.1967, Samuelson. BISMARCK ARCH.: New Britain: many, various localities on Gazelle Penin.; 1, Linga Linga Plantn, W of Willaumez Penin., IV, Gressitt; New Ireland: 9, Lelet Plateau, Schleinitz Mts, X, Brandt; 2, Kavieng, Gressitt. ADMIRALTY IS: Manus I, 4, Momote, XII, Maa; 1, Lorengau, A.W. Harrington; 1, Manus, VIII.1924 (MCZ).

295. Tmesisternus brevis Gressitt, new species

2. Reddish brown to pitchy, darkest on head, scape and humerus; largely clothed with pale golden brown pubescence and some darker brown: head glabrous on carinae and on dark narrow triangle behind upper eye-lobe; prothorax largely pale with a narrow median glabrous stripe, narrower anteriorly and posteriorly; scutellum with pale, glabrous medially; elytron largely pale with humerus, top of postscutellar convexity (briefly) and part of submedian carina it touches, glabrous or abraded; disc with 2 oblique narrow dark brown bands at middle, fairly close, 1st not reaching suture anteriorly plus 2 weak narrow brown lines on 2 interstices: inner 1 same as is glabrous near base; venter glabrous medially, serrately on abdomen, densely pale at side with sparse minute dark dots; legs largely clothed with pale.

Head with median carinae fairly narrow, diverging moderately in middle of frons and reuniting; lateral carina narrow, distinct, slightly arched, nearly reaching hind end of eye. Antenna as long as body; segment 3 as long as 4, shorter than 5 + 6. Prothorax just over 3/5 as long as broad, subevenly narrowed anteriorly with midlateral tubercle small and anterolateral tubercle stouter; disc even; median line slightly depressed toward middle, narrowly impunctate, a bit more widely so in middle; remainder moderately and subevenly punctured. Scutellum short with 2 median pits near apex. Elytron short, narrowed near apex, which is subsinuately truncate and bluntly toothed externally; disc fairly even, moderately punctured including postscutellar area, finely so near apex. Venter feebly punctured. Legs with femora moderately stout. Length 11.7 mm; breadth 3.8 mm.

Paratype 9. Two partial lateral stripes on prothorax; humeral glabrous stripe continuing

Pl. 12b

slightly as brown stripe and turning to margin parallel to 1st oblique band; another partial oblique brown band behind postmedian band. Length 10 mm; breadth 3.2 mm.

Holotype & (BISHOP 12,495), PNG: BISMARCK ARCH.: New Britain: Illugi, upper Warongoi Val, 230 m, 12–15.XII.1962, J. Sedlacek; paratype & (BISHOP), Gazelle Penin., Keravat, 30 m, 1.V.1956, Gressitt.

Differs from *unipunctatus* in having the body shorter and more depressed, and with postscutellar dark area much shorter, transverse behind.

296. Tmesisternus bougainvillensis Breuning

Tmesisternus (Tmesisternus) bougainvillensis Br., Bull. Soc. Entomol. Fr. (in press).

This is probably a subspecies of *ornatus*. *Distribution*. PNG: N Solomons: Bougainville I.

297. Tmesisternus ornatus ornatus Breuning

Tmesisternus (Tmesisternus) ornatus Br., 1939, Festschr. E. Strand 5: 176 (Guadalcanal; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 591.

Tmesisternus aeneovittatus Br., 1948, Bull. Mus. R. Hist. Nat. Belg. 24(38): 31 (Isabel I: BMNH). New synonymy.

Pitchy brown to reddish; pronotum with a large, often squarish, dark area; elytron with goldish to bronzy pubescence around large postscutellar triangle and on most of rest of surface, with 3 oblique dark bands and with metallic patches sometimes partly broken into longitudinal spots. Length 9-14 mm.

Distribution. Solomon Is.

Material examined. SOLOMON IS. Vella Lavella: 20, XI-XII, Shanahan. Kolombangara: 0-30 m, Shanahan. New Georgia: Munda, XI, Krauss. Choiseul: Kitipi, 80 m, III, Shanahan. Guadalcanal: Sutakiki, 300 m, VI, Gressitt; Metanikau Riv, V, Milliron.

298. Tmesisternus ornatus kraussi Gressitt, new subspecies Pl. 12a

d. Reddish castaneous, somewhat more pitchy on head and thorax; antenna and legs paler reddish brown; moderately clothed with dense golden pubescence: missing on central portion of frons, middle of vertex and most of occiput; on prothorax only on borders of disc, upper side, and sternum, leaving glabrous most of disc and a narrow sublateral dark stripe and broader lateral dark stripe, scutellum clothed only at side; elytron very briefly gold-pubescent except on large glabrous postscutellar area (broadly scutate), and with bands of dense golden pubescence (1) from base curving around postscutellar area, (2) oblique band from well behind humerus meeting former near midline of disc, (3) sutural stripe continuing from a short distance then turning oblique and parallel to margin, and (4) a slightly interrupted preapical oblique band; ventral surfaces broadly glabrous medially, incompletely clothed with gold pubescence at side; legs very finely clothed.

Head with broad low carinae medially, distinctly grooved, broadened and with a few punctures on middle of frons and moderately broad apically; lateral carina slightly irregular, weak by upper eye-lobe beside strong punctures. Antenna as long as body; segment 3 as long as

4, shorter than 5 + 6. Prothorax 4/5 as broad as elytra, nearly 3/4 as long as broad; both lateral tubercles very weak; disc subevenly convex, narrowly impunctate medially; with punctures partly larger than interspaces, about 16 in an approximate longitudinal row. Scutellum smooth. Elytron moderately narrowed, obliquely truncate apically without teeth or spines; disc swollen behind scutellum, strongly but not very closely punctured on postscutellar area, densely punctured on central portion; punctures partly in rows with 2nd interstice somewhat raised. Ventral surfaces indistinctly punctured. Legs with femora smooth. Length 12.5 mm; breadth 4 mm.

♀. Length 14.5 mm; breadth 4.5 mm. Paratypes: 11.9–13.2 mm × 3.8–4.3 mm.

Holotype & (BISHOP 12,496), SOLOMON IS: Gizo I, Gizo, 0-150 m, XII.1976, N.L.H. Krauss; allotopotype (BISHOP), Gizo I, 50-120 m, 16-26.IV.1964, J. Sedlacek; paratopotypes: 2, Gizo, 0-200 m, XII.1975, Krauss; 2, same data as holotype.

Differs from ornatus ornatus in having impunctate stripe of pronotum narrower and more parallel-sided and elytron obliquely truncate instead of toothed ectoapically and in having 3 oblique gold bands at side, 2nd connected with sutural stripe from peripostscutellar stripe. Named for Mr Noel L. H. Krauss of Honolulu, who has collected very many Pacific island insects for Bishop Museum.

13. Genus Trigonoptera Perroud

 Trigonoptera Perr., 1855, Ann. Soc. Linn. Lyon ser 2, 2: 336 (type-species: T. maculata Perr.; New Guinea).—Aurivillius, 1917, Ark. Zool. 10(23): 31; 1922, Coleopt. Cat. 73: 229.— Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 597 (revision).

Arsysia Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 441 (type-species: Trigonoptera maculata Perr.).-Lacordaire, 1872, Genera Coleopt. 9: 480.-Gestro, 1876, Ann. Mus. Civ. Genova 9: 142.

Frons with a forked carina in form of a "Y"; antenna shorter or slightly longer than body; prothorax broader than long with a single tubercle at side, usually fairly small; elytron broad at base and usually quite strongly narrowed; humerus fairly prominent and sometimes distinctly produced; elytral apex usually oblique or emarginate, often with outer angle forming a tooth or spine (sometimes both angles); femora often pedunculate-clavate.

This genus is largely restricted to New Guinea, Bismarcks, Moluccas and the Lesser Sunda Is, with 2 species in NE Australia. A questionable species was described from Sumatra.

As with *Tmesisternus*, this genus has not been divided into species-groups previously. Here a preliminary attempt is made with provisional assignments. This has been done without my having seen all of the species, and without my having type-compared material of many of them together at one time. However, good photographs of most of the type-specimens are at hand. Nineteen species are here described as new and that is nearly as many species as Breuning included in his 1945 revision. Quite a few additional species are at hand, so there will be much to add in this genus which has penetrated the high mountains of New Guinea (see last section).

TENTATIVE ASSIGNMENT OF *TRIGONOPTERA* SPECIES TO SPECIES GROUPS (New species are asterisked. Numbers in parentheses refer to couplet numbers in key that follows.)

I. GUTTULATA (3, 20)	31. flavipicta
1. g. guttulata	32. albocollaris
2. g. hannoveriana	33. lateplagiata
3. olivacea	34. breuningiana
4. muscifluvis*	35. cincta*
5. maculifascia*	36. iriana*
6. woodfordi	37. perspicax*
7. muruana*	38. monticorum*
8. gracilis	39. nigrofasciata*
9. japeni	40. f. flavicollis
10. immaculata	41. f. stictica
II. TESSELATA (20)	42. grisea*
11. tesselata	43. margaretae
III. MACULATA (6)	44. amboinica
12. maculata	45. paravittata
13. s. spilonota	46. neja
14. s. albonotata	47. acuminata*
15. pseudomaculata	48. annulicornis*
16. leptura	VII. VITTATA (4)
17. bimaculata	49. vittata
18. transversefasciata	VIII. ORNATA (5)
19. flavoscutellata	50. ornata
20. fergussoni	IX. COMPLICATA (55)
21. s. sulcata	51. complicata*
22. s. reversa	X. MARMORATA (55)
IV. NERVOSA (3, 31)	52. marmorata
23. sumbawana	53. nothofagi*
24. trobriandensis	54. humeralis*
25. nervosa	55. harlequina*
26. laevipunctata	56. trikora*
27. obscura	57. montana*
28. isabellae	58. sumptuosa*
V. REGINA (30)	XI. QUADRIMACULATA (?) (1)
29. regina*	59. ?quadrimaculata
VI. SORDIDA (31)	
30. sordida	

KEY TO SPECIES OF Trigonoptera

1.	Elytra not with 4 conspicuous square spots	2
	Elytra with 4 conspicuous square spots; length 18 mm	
	(Sumatra)	ta
2(1).	Dorsum almost unmarked; brown to blackish	3
	Dorsum distinctly marked	4

3(2).	No clear markings; blackish; length 8 mm10. immaculata
	Vague spots and short stripes on elytron; length 13 mm27. obscura
4(2).	Frons with distinct Y-carina
5(4)	Flytron without conspicuous red marks
5(1).	Flytron with red marks: hasal spot median hand and nostmedian
	stripes: length 10–13 mm
6(5)	Flytron with a conspicuous transverse whitish hand or large pale
0(0).	spot anterior to middle (maculata group) 7
	Flytron usually with spots or longitudinal stripes, or mottled
7(6)	Elytron with premedian hand narrow much longer than wide
,(0).	Elytron with premedian band broad triangular strongly oblique or
	forming a large snot
8(7).	Scutellum dull or only partly clothed with pale pubescence
-(.).	Scutellum covered with vellow pubescence: premedian elvtral pale
	band straight and very narrow; length 13 mm (SE)
9(8).	Elytron with stripes basally and postmedially 10
	Elytron with spots (or very short stripes) basally and postmedially;
	length 8.9-16.5 mm (guttulata group) 5. maculifascia, n. sp.
10(9).	Pronotum with broad median black area, wider behind; elytron
	with basal and postmedian stripes of differing lengths, not equi-
	valent facing premedian brand; length 14 mm12. maculata
	Pronotum with a subbasal median dark spot surrounded by pale,
	preceded by inverted black "Y"; elytral stripes uniform, equiva-
	lent facing premedian band; length 12.5–17.5 mm
11/7)	
11(7).	Elytron with postmedian lateral pale spot and spots or marbling on
	Electron with a source postmedially
	Elytron with narrow stripes or spots basally and postmedially with-
10(11)	out large spots or mottling along suture
12(11).	transverse, weakly toothed; length 9.5–13.0 mm21. s. sulcata
	Premedian elytral band broader at side; elytral apex somewhat
	toothed, especially externally; length 11.5 mm 22. sulcata reversa
13(11).	Elytron with premedian band more or less complete, subsinuous or
	oblique, reaching suture; postmedian stripes mostly short, in-
	complete 14
	Elytron with premedian band forming large spot, not closely
	approaching suture, sometimes triangular 16

14(13).	Elytron with several unevenly placed short longitudinal stripes
	Elytron with a partly sinuous parasutural stripe postmedially plus
	only a very few small marks; length 12.0-16.5 mm 13. s. spilonota
15(14).	Elytron with premedian band subsinuous, very distinct; gena thinly
	pale; length 12-16 mm 15. pseudomaculata
	Elytron with premedian band sinuous and oblique at side, less
	distinct: gena white
16(13).	Elytron with several postmedian pale marks, at least a longitudinal
()	spot behind middle and another near apex, both near suture and
	another between and external to them
	Elytron with a partly sinuous parasutural stripe postmedially plus
	only a few small marks
17(16).	Pronotum with broad white area at side of disc; elvtron with post-
_ (_),	median stripes fairly extensive: length 15 mm
	Pronotum with narrow white stripe on side of disc: elytron with
	narrower postmedian stripes: length 11.0-14.5 mm 17. himaculata
18(16)	Flytron with only minute snots basally: length 12 0-16 5 mm
10(10).	13 s spilonota
	Flytron with a curved white line from base beside scutellum
	bending outward toward humerus 14 spilonota albonotata
19(6)	Elytron with distinct isolated more or less roundish spots
15(0).	Elytron with stripes stripes and spots hands of short stripes or
	mottled 29
20(19)	Elytron with spots usually much smaller than intervening spaces:
10(10).	elvtral apex often oblique-emarginate with outer angle more
	prominent; pronotum often spotted (guttulata group) 21
	Elytron with pale spots larger than interspaces; elytron with outer
	and inner apical angles subequally spined; pronotum striped;
	length 12 mm (tesselata group) 11. tesselata
21(20).	Elvtral spots mostly distinct and isolated
()	Elytral spots partly forming an obliquely transverse hand anterior
	to middle: rest of spots small or narrow: 2 distinct and 2 weak
	spots on pronotum: length 8.9–16.5 mm
22(21)	Elytral spots mostly of very short narrow stripes: pronotum partly
().	striped
	Elytral spots mostly small, or partly broad and partly forming short
	stripes: pronotum usually spotted
23(22).	Pronotum with incomplete (2) or confused (2) pale stripes; pre-
(/-	median elytral spot nearest suture short with slight external
	process: elytron with postbasal black band: length 9.6–12.4 mm.
	4 muscifluvis. n. sp.
	······································

0.4(0.0)	Pronotum with complete pale stripes (4); premedian elytral spot nearest suture longer, produced on sutural side (posteriorly); humeral stripe not interrupted; length 11 mm 43. margare	etae
24(22).	Premedian elytral spots fairly broad or most of elytral spots fairly large Premedian elytral spots not especially larger than others; spots small	25
25(24).	Premedian elytral spots close, nearly forming an oblique band Premedian elytral spots isolated, not almost forming a band; elytral	27 26
26(25).	apex with obtuse outer tooth; length 12.0-17.5 mm 6. woodfor Postmedian elytral spots fairly large; elytron quite broad with	ordi
()	ectoapical angle; length 10.9–13.5 mm7. muruana, n. Postmedian elytral spots quite small; elytron narrower, with toothed ectoapical angle: length 11–13 mm	sp.
27(24).	Pronotum with 2 small discal spots and part of base white Pronotum with much of side of disc ochraceous; spots on middle	28
	section of elytron forming a subequilateral triangle; length	
28(27)	Proportium with distinct pair of spots just anterior to center: elytron	eni
20(27).	with round premedian spot near suture; length 10-16 mm	
	Pronotum with 1 or 2 spots well to side of midline, near base; elytron lacking round premedian spot near suture; length 11 mm	lata
29(19).	Elytron with stripes, stripes and spots, or bands of short stripes	ilis 30
	Elytron mottled, usually with long hairs from front of vertex and long pale hairs beneath, especially on femoral petioles	55
30(29).	Elytron with several stripes, stripes and spots, or bands of stripes Elytron with only broad sutural (double) pale stripe, starting	31
	behind postscutellar swelling; pronotum almost glabrous with a central transverse reddish green band; length 16-21 mm (<i>regina</i>	
	group)	sp.
31(30).	Elytron with spots and stripes, the latter predominant but not very regular or even, partly or mostly very short; pronotum not	
	Elytron with stripes or bands of short stripes, more or less regular;	32
	pronotum often broadly pale at side, without narrow stripes,	87
32(31).	Pronotum with pale stripes or pale areas; elytron striped in part,	51
	with a dark postscutellar area bearing a short suture stripe	33
	Pronotum black with brown pubescence except on narrow median	
	stripe; elytron with several spots or short lines barely visible; length 13 mm 27. obsc	ura

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Pac	Insects	Monogr.	4
- uc.			-

33(32).	Pronotum with pale areas mostly vague, at least not with 2 com- plete pale stripes on each side of disc
	longitudinal pale stripes and short transverse bar at end of post-
	scutellar dark area; length 12.5 mm
34(33).	Pronotum with patches on side of disc or incomplete discal stripe 35
0 × (0 4)	Pronotum with vague pale mottling on anterior portion of disc 36
35(34).	Central portion of elytral disc with broad pale stripes mottled and
	Central portion of elytral disc with 2 irregular patches anterior to
	middle and an oblique median-nostmedian dark band (slightly
	interrupted by pale line) followed by short longitudinal stripes
36(34).	Elytral disc with 4 or 5 stripes extending most of elytral length
```	except for modest breaks anterior to middle; length 12.5-16.0
	mm (Timor)
	Elytral disc with reduced stripes; length 9 mm (NE: Huon
/	Penin.)
37(31).	Pronotum partly or entirely pale at side
	Pronotum black at side; elytron with narrow stripes; length 15 mm
28(27)	Side of proposal disc with pale pubescence of vague marks incom-
58(57).	plete stripes, or general, but not dense and conspicuously white
	or vellow, and not in 2 distinct stripes on each side
	Side of pronotal disc with 2 distinct pale stripes or broadly and
	densely clothed with white or yellow (which may nearly cover
	disc) 45
39(38).	Pronotum with pubescent marks distinct but incomplete 40
( . ( )	Pronotum with pale pubescent marks mostly vague 41
40(39).	Pronotum with ochreous triangle on each side of midline and
	atvines of achronys and gravy elytron truncate anically length
	14.5 mm 48 annulicornis n sp
	Pronotum with weak spot on each side of midline and distinct
	triangular buff spot at base of side; elytron with interrupted
	brick red stripes, partly edged with gray; elytron sharply spined
	ectoapically; length 12.8 mm
41(39).	Pronotum with vague pale marks 42
	Pronotum with a narrow pale line at side and a round spot on each
	side of median line; elytron with 3 narrow discal stripes, meeting
	before apex; length 15 mm

42(41).	Pronotum with pale or gray pubescence partly arranged in 4 or 5
	Pronotum with vague spots and short stripes of whitish yellow; elytron with some short basal stripes and posterior 4/5 with 4
	pale stripes, 1st 2 double at anterior ends; length 10 mm (SE)
43(42).	Elytron dark with stripes or spots but with complete transverse
	postbasal black band; pronotum with yellowish pubescence 44
	oblique postbasal band; pronotum black with dull gray-brown pubescence: length 10.4–13.4 mm
44(43).	Elytron with 4 incomplete pale discal stripes; length 12-13 mm
	Electron with a place for male anota (upper short strings)
	41 flavicollis stictica
45(38)	Pronotum with 2 pale stripes at side of disc sometimes partly fused 46
10(00).	Pronotum with side of disc broadly and densely yellowish or white . 48
46(45).	Pronotum with 2 separate pale stripes at side of disc; elytron with
	sinuous black band at middle 47
	Pronotal disc with 2 lateral pale stripes often partly fused; elytron with oblique black band at middle; length 11-16 mm 30. sordida
47(46).	Elytron with pale sutural stripe for 1/5 elytral length behind
	scutellum; compound sutural stripe in middle portion hooked
	backward anteriorly/externally (and forward behind); length
	14.5-15.0 mm
	nound sutural stripe in midnortion not backed anteriorly and
	nosteriorly: length 11 mm
48(45).	Elytron with complete or nearly complete black band at middle 49
	Elytron without black band at middle 50
49(48).	Elytron with 4 double stripes of ochreous, partly fused; tooth at
	elytral apex shorter than truncation; length 14.6 mm
	35. cincta, n. sp.
	Elytron with broad tawny (or gray) stripes and a black square near
	suture behind middle; spine at elytral apex as long as truncation
50(48)	Elytron vaguely striped (with puncture dots) or generally gray 51
50(40).	Elytron with distinct nale or reddish stripes
51(50).	Elytron vaguely striped, with many puncture-dots: elytral apex with
	outer spine slender; length 10 mm
	Elytron generally gray, with black stripes if ridges abraded; elytral

	apex with outer tooth triangular; length 10–12 mm
52(50).	Elytron with pale stripes nearly complete, or interrupted by black
( )	postbasal band; elytron weakly spined or toothed ectoapically 53
	Elvtral pale (or red) stripes largely lacking on base and partly
	interrupted near middle: elvtron strongly spined or toothed
	ectoapically
53(52).	Elvtral pale stripes hardly interrupted near base; elvtral apex
()-	weakly toothed externally; length 11.5 mm
	Elytral pale stripes nearly complete except for black band behind
	base; elytral apex hardly toothed; length 9-10 mm . 34. breuningiana
54(52).	Pronotum largely yellow-pubescent; elytral stripes red; length 11.6-
( )	12.8 mm
	Pronotum with broad median glabrous area; elytral stripes tawny
	yellow; length 10-13 mm 36. iriana, n. sp.
55(29).	Pronotum more or less broadly reddish, ochreous or paler at side of
( )	disc; elytron with markings of red, tawny, ochreous, gray and/or
	white (marmorata group) 56
	Pronotum not ochreous at side, mottled; elytron with gray and
	brown bands, black puncture-dots and fine black lines; elytron
	emarginate apically; length 11.9-17.0 mm (complicata group)
56(55).	Elytron lacking strong midbasal carina or fairly strong postmedian
	carina
	Elytron with strong midbasal carina and postmedian carina, marked
	with ochreous-red, black and a little white; humerus very pro-
	minent; length 16.5 mm 58. sumptuosa, n. sp.
57(56).	Pronotal disc largely pubescent, with 3 incomplete narrow glabrous
	lines and some puncture-dots 58
	Pronotal disc broadly subglabrous medially or with scattered
	patches of pubescence 59
58(57).	Elytron with many patches of ochreous and gray pubescence with
	intricate fine black lines or dots; elytral apex with outer tooth
	only slightly stronger than inner; length 9-15 mm 52. marmorata
	Elytron with extensive tawny buff and white-gray pubescence with
	broad incomplete black band at middle of side of disc, black spot
	nearer suture behind middle, and smaller mark (short stripe) near
	apex; length 7.9-11.5 mm 53. nothofagi, n. sp.
59(57).	Pronotum with median area more or less glabrous; elytral apex
	spined externally
	Pronotum with median area with patches of pubescence; elytral
	apex briefly toothed at each angle, or with sutural longer

60(59). Pubescence on head rusty brown; on pronotum white; on elytron narrow interrupted ochreous stripes; length 12.2-14.2 mm .....



FIG. 10. a, Trigonoptera guttulata; b, Tr. muscifluvis.

# I. Guttulata group

# 1. Trigonoptera guttulata guttulata (Gestro)

Fig. 10a

Arsysia guttulata Gest., 1876, Ann. Mus. Civ. Genova 8: 521 (Jobi = Yapen I; GENOVA); op. cit. 9: 145.

Trigonoptera guttulata: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 602 (Fly Riv, Humboldt Bay).

Gray-black with 2 small discal spots on pronotum and several small elytral spots, of pale tawny. Length 10-16 mm.

Distribution. Yapen; New Guinea.

Material examined. IRIAN: NEW GUINEA (NW): Jayapura (Hollandia), I, Maa. PNG NEW GUINEA (NE): Wantipi, Torricelli Mts, XI, Brandt; Tapibuga, Jimi Val, on Schuurmansia, VII, Gray & Dobunaba; Garaina, 750 m, XII, Sedlacek; NEW GUINEA (SE): Bisianumu, nr Sogeri, 500 m, IX, Gressitt; Central Prov, Red Shield Farm, XI, on Zea mays, R. Stevens.

# 2. Trigonoptera guttulata hannoveriana Breuning

Trigonoptera guttulata ssp. hannoveriana Br., 1973, Bull. Soc. Entomol. Fr. 9(3): 663 (New Hannover I; PARIS).

Elytron more densely and coarsely punctured on basal 1/2; ectoapical spine longer; pronotal and elytral spots slightly larger.

Distribution. PNG: Bismarck Arch.: New Hanover I.

#### 3. Trigonoptera olivacea Aurivillius

Trigonoptera olivacea Aur., 1908, Dtsch. Entomol. Z. 1908: 221, pl. 3, fig. 4 (Simbang, NE; ZMB).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 602.

Distribution. Biak; New Guinea.

Material examined. IRIAN: BIAK I: Kampong Landbouw, V, Gressitt; Mokmer, VIII, Gressitt. PNG: NEW GUINEA (NE): Green Riv, Sepik, 200 m, VI, Straatman; Garaina, 750 m, I, Sedlacek.

# 4. Trigonoptera muscifluvis Gressitt, new species

Fig. 10b

d. Black, largely clothed with thin gray or denser yellow-buff pubescence: head thinly clothed, glabrous on ridges; pronotum largely clothed with thin gray with vague denser yellowish in 5 incomplete stripes; scutellum thinly pubescent; elytron with ochreous spot near scutellum and area beside humerus whitish, rest of basal 1/5 black, followed by band of yellowish buff spots; rest thinly pale gray with vague partial stripes of denser yellow-buff; venter medially glabrous, rest gray, denser and more yellowish toward side; legs thinly gray.

Head with Y-carina weak above, sharper below; vertex closely punctured except at median line. Antenna 1/3 longer than body; 3rd segment 1/5 longer than 1 or 4. Prothorax 3/4 as broad as elytra, nearly as long as broad, finely and closely punctured except on postmedian part of median line; lateral tubercle very small, acute. Scutellum rounded-triangular. Elytron short,

cuneiform, subemarginate-truncate apically with outer angle slightly more prominent, obtuse; disc evenly convex behind scutellum, finely punctured on basal 3/4. Venter and legs smooth; femora not very stout. Length 9.9 mm; breadth 3.6 mm.

9. Spots a bit more yellowish, partly a bit larger. Length 10.2 mm; breadth 3.6 mm. Paratypes: 9.6-12.4 mm.

Holotype & (BISHOP 12,497), PNG: NEW GUINEA (SE): Kiunga, Fly Riv, 35 m, 1-3.VIII.1957, W.W. Brandt; allotopotype ? (BISHOP), same data but 7-8.IX.1957; 4 paratopotypes (BISHOP, DPI), same data but 8-10.VIII-, 11-13. VIII-, 6.X.1957; paratypes: 2, Oriomo Agric. Stn, nr Daru, 5 m, 28-29.X.1960, on shelf fungus, Gressitt; 1, Oriomo Riv, 6 m, 25.II.1964, H. Clisshold; 2, Ruka, 9 m, 12.VIII.1964 and Balimo, 9 m, 7.III.1964, Clisshold; 1, Mt Lawson, N of Kakoro, 16.III.1974, Gressitt & Reni.

Differs from *olivacea* in being smaller, with shorter elytron, with less distinct pronotal spots, a broad black band just behind base of elytron and behind this a band of close spots and remainder with at least thin pale pubescence overall.



FIG. 11. a, Trigonoptera maculifascia; b, Tr. woodfordi.

# 5. Trigonoptera maculifascia Gressitt, new species

Fig. 11b

Å. Black, clothed with thin olive-brown pubescence above and marked with yellow-buff spots; head with interrupted median stripe and border around eye; apex of frons with yellowbuff at side; gena with thinner gray-buff; pronotum with a small spot on each side of midline just anterior to center, a partial lateral stripe anterior to middle and some narrow weak basal marks; scutellum dark; elytron with 2 small basal marks, 2 smaller ones just behind base, an irregular subtransverse bar not nearing suture or margin, 2 postmedian spots, outer more posterior, an interrupted line near suture, less distinct anteriorly and posteriorly and widely spaced weak lines on lateral declivity; venter glabrous medially, rest evenly clothed with graybuff, denser at side and on hind margins of sterna 1-4; legs thinly clothed with gray.

Head with carinae widely separated on vertex, meeting on middle of frons and continuing as narrow median ridge, with a weak ridge extending from base of upper arm to lateral corner of frons; punctures mostly on vertex. Antenna 1/5 longer than body; 3rd segment 1/4 longer than 1 or 3. Prothorax 3/4 as broad as elytra, nearly as long as broad, with short acute lateral tubercles; disc smooth, finely punctured across anterior portion, no punctures at center, some near base but not on basal portion of median line. Scutellum smooth. Elytron triangular, briefly emarginate-truncate with outer angle more prominent; humerus slightly prominent; disc slightly convex postbasally near suture, distinctly punctured on basal 1/2. Venter and legs smooth. Length 12.7 mm; breadth 4.4 mm.

^Q. Elytron with postbasal spots slightly larger, preapical stripe diverging more from suture. Length 15.2 mm; breadth 5.3 mm. Paratypes 8.9-16.5 mm.

Holotype & (BISHOP 12,498), PNG: NEW GUINEA (SE): Kiunga, Fly River, 35 m, 1-3.VIII.1957, W.W. Brandt; allotopotype & (BISHOP), same data except 26-28.X.1957; 60 paratopotypes (BISHOP, WEI, DPI), same data except various dates VII-X.1957, Brandt, and VIII.1969, J. Sedlacek; 2 paratypes, Olsobip, 400-600 m, VIII.1969, Sedlacek.

Differs from *olivacea* and *guttulata* in having a subtransverse irregular incomplete band anterior to middle of elytron and other spots shorter than in *olivacea* and less rounded than in *guttulata*.

## 6. Trigonoptera woodfordi Gahan

Trigonoptera woodfordi Gah., 1888, Ann. Mag. Nat. Hist. ser 6, 1: 193 (Fauro I; BMNH).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 601, fig. 367 (Russell Is; Isabel I).

Black with large oval spots on elytron and pair of smaller spots on pronotum. Length 12.0-17.5 mm.

Distribution. Solomon Is (Bougainville, Fauro, New Georgia, Isabel, Gela, Russell).

Material examined. PNG: N SOLOMONS: Bougainville: Kokure, 900 m, VI, Ford & Gressitt; Mutahi, 700 m, III, Straatman. SOLOMON IS: New Georgia: Munda, XII.1943, Franclemont (USNM); Florida I (Gela): Tulagi, Mann coll. (MCZ); Fulakora, Mann coll. (MCZ).



FIG. 12. a, Trigonoptera muruana (body drawn too narrow); b, Tr. pseudomaculata.

## 7. Trigonoptera muruana Gressitt, new species Fig. 12a

5. Dorsum black with spots of white pubescence: head with eye bordered with white, a transverse white spot at side of apex of frons and an incomplete median white stripe; pronotum with oblique white spot on each side of median line anterior to middle, vague spot closer to midline at base and marked at side of disc before and behind middle with a subangular spot; scutellum black; elytron with 2 basal marks, short postscutellar line, band of longitudinal spots at end of basal 1/3, 2 distinct and 2 vague, the distinct ones followed behind middle with similar, more lineate marks with a small longitudinal line between, and 2 vague stripes in apical 1/4 (outer one submarginal, extending forward to below humerus with some interruptions); venter partly glabrous medially, rest thinly clothed with white, denser at side; legs thinly clothed with grayish white.

Head with carinae on vertex and upper frons strong, fairly sharp, forming a broad ellipse joining on middle of frons and carinate medially on remainder, with an oblique crease from base of median carina to lower corner of frons. Antenna 1/4 longer than body; segment 3 a bit longer than 1, distinctly longer than 4. Prothorax 2/3 as broad as elytra, 3/4 as long as broad, smooth, with fine punctures irregularly placed, lacking on median strip (more broadly near base). Scutellum smooth. Elytron cuneiform, convex behind scutellum; humerus slightly projecting; apex slightly emarginate, outer angle more acute; disc punctured on basal 3/5, slightly

raised medially behind middle (not quite carinate). Venter and legs smooth. Length 11.6 mm; breadth 4.6 mm.

 $\mathbb{Q}.$  Pubescent patches a bit denser, larger and more yellowish. Length 13 mm; breadth 5.4 mm. Paratypes 10.9-13.5 mm.

Holotype & (BISHOP 12,499), PNG: MURUA (Woodlark I): Kulumadau Hill, 150 m, 7-13.IV.1957, W.W. Brandt; allotopotype & (BISHOP), same data except 23-30.III.1957; 6 paratopotypes (BISHOP, WEI), same data except various dates III-IV.1957.

Differs from *woodfordi* in having shorter and more triangular elytron, with distinctly more prominent (laterally projecting) humerus and more acuminate elytral apex. The elytral spots are larger and more distinctly forming subtransverse bands than in *woodfordi*.

## 8. Trigonoptera gracilis Aurivillius

Trigonoptera gracilis Aur., 1917, Ark. Zool. 10(23): 31, pl. 3, fig. 11 (Malanda, Qld; STOCK-HOLM).

Black with just a few pale spots on side of pronotal disc and middle portion of elytron. Length 11 mm.

Distribution. Australia: Queensland: Malanda; Kuranda.

## 9. Trigonoptera japeni Gilmour

Trigonoptera japeni Gilm., 1949, Entomol. Mon. Mag. 85: 114, fig. 15 (Japen I; BMNH).

Black with broad ochreous stripe on each side of pronotal disc and several small white spots on elytron, central ones forming a common hexagon. Length 10-11 mm.

Distribution. Irian: Yapen I.

#### 10. Trigonoptera immaculata Gilmour

Trigonoptera immaculata Gilm., 1950, Tijdschr. Entomol. 92: 225, fig. 6 (Japen I; BMNH).

Pitchy brown with brown pubescence; a little white pubescence on head; pronotum and elytron with only very vague marking at side and posteriorly, respectively. Length 8 mm.

Distribution. Irian: Yapen I.

## II. Tesselata group

#### 11. Trigonoptera tesselata (Pascoe)

Arsysia tesselata Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 445 (Ceram; BMNH). Trigonoptera tesselata: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 602.

Prothorax long and weakly tuberculate; black with a pair of broad white stripes on pronotum and about 11 large white spots on elytron; spots larger than interspaces. Length 12 mm.

Distribution. S Maluku: Seram I (Ceram).

# III. Maculata group

## 12. Trigonoptera maculata Perroud

Trigonoptera maculata Perr., 1855, Ann. Soc. Linn. Lyon ser 2, 2: 338 (New Guinea); 1855, Mél. Entomol. 3: 18.–Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 600.

Arsysia maculata: Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 442 (Mysol). Gestro 1876, Ann. Mus. Civ. Genova 9: 143 (Aru).

Broad, gray-black with narrow premedian elytral band and fine white incomplete lines (longitudinal) posteriorly. Length 14 mm.

Distribution. Misool; Aru; ?New Guinea.

## 13. Trigonoptera spilonota spilonota (Gestro)

Arsysia spilonota Gest., 1876, Ann. Mus. Civ. Genova 8: 521 (Jobi = Japen I; GENOVA); op. cit. 9: 143.

Trigonoptera spilonota: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 598.

Pronotum with a pair of small white spots anterior to center, disc largely bordered with pale; elytron with small spots on base, a large angular white patch just anterior to middle and a sinuous parasutural stripe postmedially. Length 12–16.5 mm.

Distribution. Irian: Yapen I; New Guinea.

Material examined. PNG: NEW GUINEA (NE): Sugoitei, 900 m, Torricelli Mts, II.1959, Brandt; Madang Prov, Gogol, III, on foliage Eucalyptus deglupta, Dobunaba; Madang Prov, Baku Stn, I, on E. deglupta foliage, Fairlamb.

## 14. Trigonoptera spilonota albonotata Gahan

Trigonoptera albonotata Gah., 1915, Trans. Zool. Soc. Lond. 20: 543, pl. 39, fig. 23 (Mimika Riv, SW; BMNH); Rep. B.O.U. & Wollaston Exped. Dutch NG 1, Coleopt. 3: 15.

Trigonoptera spilonota m. albonotata: Breuning, 1945, Novit. Entomol. 15-16, Suppl 3: 598, fig. 365.

Differs from s. spilonota in having a curved white line on base of elytron and an angulate line behind middle, pointing forwards.

Distribution. Irian: New Guinea (SW): Mimika River.

## 15. Trigonoptera pseudomaculata Breuning

Arsysia maculata: Pascoe (nec Perroud), 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 442 (Mysol; Aru).

Trigonoptera pseudomaculata Br., 1939, Mem. Soc. Entomol. Ital. 18: 59 (Bulolo, NE; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 597, fig. 364 (Yule I).

Gray-black with broad premedian white band and a number of very short white longitudinal lines on base and hind 1/2 of elytron; pronotum with 2 oblique white stripes on side of disc. Length 12-16 mm.

Fig. 12b

Distribution. Misool; Aru; New Guinea.

Material Examined. PNG: NEW GUINEA (NE): Bulolo, XI, Sedlacek; Bulolo, on Sonchus, X, Howcroft; Boku, Madang, on Eucalyptus deglupta, 1975, Fairlamb; many other localities. NEW GUINEA (SE): Daradae, nr Javarere Riv, X, Gressitt; Itikinumu Pl'n, 500 m, XI, Szent-Ivany.

## 16. Trigonoptera leptura (Gestro)

Arsysia leptura Gest., 1876, Ann. Mus. Civ. Genova 8: 521; op. cit. 9: 144 (Ramoi, NW; GENOVA).

Trigonoptera leptura: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 599.

Black with side of pronotal disc, large premedian spot on elytron, and some short postmedian stripes, whitish. Length 15 mm.

Distribution. New Guinea: Roon I.

Material examined. IRIAN: NEW GUINEA (NW): Vogelkop. Roon I, nr Sorong (ANSP).

#### 17. Trigonoptera bimaculata Thomson

Trigonoptera bimaculata Th., 1865, Syst. Ceramb., p. 546 (Waigeu; PARIS).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 598.

Arsysia bimaculata: Pascoe, 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 442 (Mysol, Waigeu).-Gestro, 1876, Ann. Mus. Civ. Genova 9: 143 (Ramoi, Salwati).

Pronotum with some incomplete pale marks; elytron with short basal stripes, a large transverse oval white spot in start of 2nd 1/3, followed by some irregular pale stripes. Length 11-14.5 mm.

Distribution. Misool; Salawati; Waigeo; New Guinea.

Material examined. IRIAN: Yapen I: Dawai Riv, X, Holtmann; NEW GUINEA (NW): Vogelkop: Ramoi. Japen I. PNG: NEW GUINEA (NE): Morobe Prov, Aseki, 1200 m, IV, Reni.

## 18. Trigonoptera transversefasciata Gilmour

Trigonoptera transversefasciata Gilm., 1949, Entomol. Mon. Mag. 85: 113, fig. 14 (New Guinea; BMNH).

Black with pronotum striped with pale and with black spot near middle of base surrounded by pale; elytron with narrow premedian white band and interrupted white stripes. Length 12.5-17.5 mm.

Distribution. New Guinea.

Materials examined. IRIAN: NEW GUINEA (NW): Aiman (AMNH). A questionable specimen from PNG: NEW GUINEA (SE): Kiunga, Fly Riv, VIII, Sedlacek.

## 19. Trigonoptera flavoscutellata Breuning

Trigonoptera flavoscutellata Br., 1939, Mem. Soc. Entomol. Ital. 18: 59 (Paumomu Riv, SE; GENOVA); 1945, Novit. Entomol. 15-16, Suppl. 3.
Narrower than the preceding species; scutellum yellow pubescent and other markings yellow. Length 13 mm.

Distribution. PNG: New Guinea (SE): Paumomu River.

# 20. Trigonoptera fergussoni Breuning

Trigonoptera fergussoni Br., 1970, Bull. Mus. Paris 42: 477 (Fergusson I, SE; PARIS).

Similar to preceding but premedian elytral band sinuous, elytral base more heavily punctured and gena with denser white pubescence.

Distribution. PNG: D'Entrecasteaux Is: Fergusson I.

# 21. Trigonoptera sulcata sulcata Aurivillius

Trigonoptera sulcata Aur., 1924, Ark. Zool. 17A(12): 13 (Astrolabe Bay, NE; STOCKHOLM).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 599.

Black with markings of whitish yellow pubescence: vague and mottled on pronotum, more distinct on elytron with broad premedian band, quite wide near suture; several postmedian spots. Length 9.5-13 mm.

Distribution. PNG: New Guinea (NE): Astrolabe Bay.

# 22. Trigonoptera sulcata reversa Gilmour

Trigonoptera sulcata var. reversa Gilm., 1950, Tijdschr. Entomol. 92: 226 (Waigeu; BMNH).

Similar to preceding but premedian elytral band broader externally instead of the reverse; pronotum largely pale with a pair of small black spots. Length 11.5 mm.

Distribution. Irian (NW): Waigeu I.

# IV. Nervosa group

### 23. Trigonoptera sumbawana Breuning

Trigonoptera sumbawana Br., 1948, Bull. Mus. R. Hist. Nat. Belg. 24(38): 37 (Sumbawa I; BMNH).

Pronotum somewhat striped with pale and dark; elytron with extensive uneven pale pubescence with many puncture-dots and narrow ridge-stripes of dark.

Distribution. Lesser Sunda Is: Sumbawa I.

#### 24. Trigonoptera trobriandensis Breuning

Trigonoptera trobriandensis Br., 1948, Bull. Mus. R. Hist. Nat. Belg. 24(38): 37 (Trobriand Is; BMNH).

Broad, strongly narrowed behind. Dark brown with markings of whitish gray forming several spots on pronotum and on elytron some basal spots, not very distinct, a premedian band of 2 spots, and some short variously placed narrow lines posteriorly.

Distribution. PNG (SE): Trobriand Is.

#### 25. Trigonoptera nervosa (Pascoe)

Arsysia nervosa Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 443 (Timor; BMNH). Arsysia flavipicta: Gestro (nec Pascoe), 1876, Ann. Mus. Civ. Genova 9: 146 (Ambon). Trigonoptera flavipicta: Aurivillius (nec Pascoe), 1926, Treubia 7: 105 (Buru). Trigonoptera nervosa: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 599.

Black clothed with brown pubescence, marked with areas of ochreous: mottled on pronotum and on elytron with 4-5 stripes interrupted behind base.

Distribution. Lesser Sunda Is: Timor. Maluku: Ambon, Buru.

### 26. Trigonoptera laevipunctata Breuning

Trigonoptera laevipunctata Br., 1950, Longicornia 1: 529 (Wareo, NE; LEPESME).

Similar to preceding but elytral stripes reduced somewhat.

Distribution. PNG: New Guinea (NE): Huon Peninsula.

### 27. Trigonoptera obscura Gilmour

Trigonoptera obscura Gilm., 1949, Entomol. Mon. Mag. 85: 114, fig. 16 (Setakwa Riv, SW; BMNH).

Black; legs and antenna red-brown; with dense pubescence and erect hairs; markings very vague, consisting of spots and short lines on elytron; length 13 mm.

Distribution. Irian: New Guinea (SW): Setakwa River.

#### 28. Trigonoptera isabellae Gilmour

Trigonoptera isabellae Gilm., 1949, Entomol. Mon. Mag. 85: 116, fig. 17 (Wetter I, nr Timor; BMNH).

Similar to *nervosa* but pronotum more distinctly striped with pale and elytron with postbasal black band only on inner 1/2 and actually longer than broad on 1 elytron, followed by a transverse pale spot; elytron acute ectoapically. Length 12.5 mm.

Distribution. Lesser Sunda Is: Wetter I.

# V. Regina group

Pl. 4b

#### 29. Trigonoptera regina Gressitt, new species

d. Large, strongly narrowed posteriorly. Black to red or brown, with some pale hairs; head black, thinly fringed with white hairs around eye, along median groove and on side of apex of frons; antenna brown, darker on scape, thinly fringed beneath; pronotum black to pitchy, with center transversely brick red, glabrous except for fringe of pale hairs on apical and basal margins; scutellum dark, nearly glabrous; elytron brownish black, thinly clothed with dull pubescence, with denser tawny buff along suture for posterior 4/5, more widely in middle portion; venter castaneous with very sparse long pale hairs; legs red-brown, paler on tarsi and

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basal halves or more of tibiae; femora with some long pale hairs; tibiae and tarsi (fore, mid) with brown hairs; hind tarsus clothed with dense creamy pubescence.

Head with carinae strong, forming narrow ellipse, merging below center of frons, with median carina continuing on anterior projection over clypeus; punctures mostly on frons except depressed side of apical portion. Antenna 1/3 again as long as body; 3rd segment 1/3 longer than 1 or 4. Prothorax nearly 3/4 as broad as elytron, 2/3 as long as broad, strongly tuberculate at middle of side but basal 1/2 nearly as broad as at tubercles; disc moderately punctured, but median portion and red area largely impunctate. Scutellum smooth. Elytron cuneiform; apex narrowly and deeply emarginate, with outer spine longer than inner; disc evenly convex behind scutellum, deeply punctured on basal 1/2 (except near suture), with a few smaller punctures behind middle. Venter and femora-sparsely punctured; tibiae densely punctured. Length 20.7 mm; breadth 6.5 mm. Paratypes: 16-21 mm.

Holotype & (LEIDEN), IRIAN: NEW GUINEA (NW): Iebele Camp, 2250 m, XI.1938, L.J. Toxopeus (Neth. Ind.-Am. Exped. = Third Archbold); 4 paratopotypes (LEIDEN, BISHOP), same data.

Differs from *vittata* in being larger, more attenuated, with pronotum and elytral base and side lacking pubescent spots, and in having elytron more punctate, more strongly and narrowly spined apically.

# VI. Sordida group

#### 30. Trigonoptera sordida (Pascoe)

Arsysia sordida Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 444 (Misol; BMNH).-Gestro, 1876, Ann. Mus. Civ. Genova 9: 146 (Mansinam).

Arsysia papuana Gestro, 1876, op. cit., p. 147 (Hatam, Arfak; GENOVA).

Trigonoptera sordida: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 600 (Dorey, NW).

Black, largely clothed with tawny pubescence leaving black stripes on pronotum and fine black lines on elytron as well as a subtransverse black band at middle of elytron, a black post-scutellar spot and black preapical spot. Length 11–16 mm.

Distribution. Misool; New Guinea.

Material examined. MISOOL I. IRIAN: NEW GUINEA (NW): Vogelkop: Arfak Mts. PNG: NEW GUINEA (NE): Morobe Prov: Mt Kaindi, 2350 m, V, Tawi; Wau, 1270 m, III, V, Sedlacek; Aseki, 1200 m, IV, Gressitt; Mt Missim, 1800 m, H. Stevens (MCZ); NEW GUINEA (SE): Tapini, 1000 m, Owen Stanley Mts, XI, Brandt.

#### 31. Trigonoptera flavipicta (Pascoe)

Arsysia flavipicta Pasc., 1867, Trans. Entomol. Soc. Lond. ser 3, 3: 443, pl. 18, fig. 1 (Batjan; BMNH).

Trigonoptera flavipicta: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 600 (Wetter I; Key Is).

Pronotum with 4 pale stripes and 3 black stripes; scutellum pale; elytron with 3-4 pale stripes separated by narrow black lines and with 3 partial black bands, that at middle most

Pl. 4e

nearly complete. Breuning stated that this might just be a 'morpha' of *nervosa* but presumably he meant of *sordida*.

Distribution. Maluku; Lesser Sunda Is (Wetter). Kai (Kei) Is.

Material examined. MALUKU: Ambon: Waai, I, Wegner (BISHOP).

#### 32. Trigonoptera albocollaris Gilmour

Trigonoptera albocollaris Gilm., 1950, Tijdschr. Entomol. 92: 226, fig. 8 (Japen I; BMNH).

Pitchy black; pronotum with broad white area on each side of disc; scutellum yellowish; elytron black with 4-5 yellow stripes, partly interrupted; elytral apex emarginate with outer tooth more prominent. Length 11.5 mm.

Distribution. Irian (NW): Yapen I.

# 33. Trigonoptera lateplagiata Breuning

Trigonoptera lateplagiata Br., 1940, Folia Zool.-Hydrobiol. 10: 132 (Moari; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 601.

Reddish brown with brown pubescence, marked by a large ochreous area at side of pronotal disc; elytron with weak yellow stripes, interrupted by numerous punctures; grayish yellow beneath. Length 10 mm.

Distribution. PNG: New Guinea (SE): Moari.

#### 34. Trigonoptera breuningiana Gilmour

Trigonoptera breuningiana Gilm., 1950, Tijdschr. Entomol. 92: 227, fig. 9 (Mimika, SW; BMNH).

Shiny black; side of frons white; pronotum with very broad yellow area on each side of disc; scutellum partly pale; elytron with 4-5 distinct white stripes, each interrupted by a postbasal black band. Length 9-10 mm.

Distribution. Irian: New Guinea (SW): Mimika River.

#### 35. Trigonoptera cincta Gressitt, new species

Pl. 12h

 $\bigcirc$  Pitchy brown, paler brown on antenna, tibiae and tarsi; marked with ochreous tawny pubescence; head thinly clothed in front, glabrous behind, except for narrow fringe to eye, median strip and apex of frons; antenna with sparse long fringe beneath; pronotum largely glabrous on median 1/3, broadly and densely clothed with ochreous tawny at side of disc (not quite to apex); scutellum thinly clothed; elytron with 4 pairs of narrow stripes on anterior 1/2 and nearly merged to 4 stripes posteriorly, with broad subtransverse black band at middle, the stripes denser and more ochreous adjacent to median band; merging costae reflected in reduction to 3 and then to 2 stripes apically; venter glabrous medially to base of last sternite, subevenly gray-buff at side except for duller stripe on side of metasternum. Legs thinly clothed with tawny gray, white on tarsal segments, especially 1–2.

Head with carinae obtuse, punctures few and inferior eye-lobe 2  $\times$  as deep as gena. Antenna about as long as body (incomplete); 3rd segment 1/5 longer than 1 or 4. Prothorax 3/4 as broad as elytra, nearly 3/4 as long as broad; side slightly obtuse; lateral tubercle short; disc even, with

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scattered small punctures, not on median line. Scutellum short, rounded behind. Elytron stout, subevenly narrowed (weakly convex at side); humerus slightly tuberculate on top; apex narrow, subemarginate with outer angle acute and inner hardly projecting; disc weakly convex and finely subasperate-punctate basally with a few punctures continuing to median band; carinae weak, a bit stronger postmedially. Venter nearly impunctate. Legs moderately stout. Length 14.6 mm; breadth 5.2 mm.

Holotype  $\mathcal{Q}$  (BISHOP 12,500), PNG: NEW GUINEA (NE): Sepik highlands, Feramin, 1300 m, E of Telefomin, 11-22.V. 1959, W.W. Brandt.

Differs from *sordida* in having mandibles much larger, prothorax broader and with single wide stripe at side of disc, and in having elytron more triangular, more continuously striped, with postbasal band lacking and median black band broader and straighter and ectoapical angle more produced.

# 36. Trigonoptera iriana Gressitt, new species Fig. 13a

 $\mathcal{Q}$ . Black, tibiae red-brown; antenna red-brown beyond middle; dorsum marked with stripes of creamy buff to tawny gray pubescence: head fringed with yellow-buff around eye, medially and on apex of frons; antenna with short sparse fringe beneath; pronotum with very thin pubescence on central 2/3, from apex to base, with broad creamy buff stripe at side of disc, not quite reaching apex and with just a few puncture-dots; partly glabrous medially and near pale stripe; scutellum thinly clothed with tawny; elytron with 4 fairly broad stripes of tawny buff to gray, interrupted with oblique narrow band behind humerus, partial irregular narrow black band at middle and 2 enlargements of black ridge-stripes posteriorly: thus innermost pale stripe not quite completely severed at middle, this and 2nd severed and resumed as 1 stripe at start of apical 1/4, 3rd terminated before apex (by ridge merger) and lateral stripe not quite severed at middle and below humerus; venter glabrous medially, moderately clothed with tawny whitish at side except for glabrous stripe along metasternum/metepisternum border; legs unevenly clothed with pale buff, darker on tibial apices and whitish and denser on tarsal segments 1-2.

Head with carinae distinct and lower eye-lobe more than 2  $\times$  as deep as gena; punctures weak. Antenna not quite as long as body; 3rd segment 1/4 longer than 1 or 4. Prothorax 2/3 as broad as elytra, nearly 3/4 as long as broad; side obtuse with lateral tubercle very small; disc with a small convexity on each side anterior to middle, with scattered fine punctures except along median line. Scutellum broader than long, narrowed and rounded. Elytron stout, slightly convex at side; humerus slightly projecting; apex narrowly emarginate, strongly toothed externally; disc moderately swollen at base, finely subasperate-punctate; behind basal swelling, punctures few, disappearing just behind middle; ridges slightly raised. Venter feebly punctured. Legs not very stout. Length 11.7 mm; breadth 4.3 mm.

d. Elytron narrower with postbasal black band broader and median band narrower. Length 10.2 mm; breadth 3.5 mm. Paratypes: length 10-13 mm.

Holotype  $\circ$  (BISHOP 12,501), IRIAN: NEW GUINEA (NW): Swart Val, Karubaka, 1500 m, 20.XI.1958, Gressitt; allotopotype  $\circ$  (BISHOP), Swart Val, W side, 1400-2000 m, 10.XI.1958, Gressitt; 9 paratopotypes, Karubaka, 1300, 1450, 1500, 1550 m, various dates in XI.1958, Gressitt.

Differs from *sordida* in having pronotum largely glabrous with only broad pale tawny stripe at side and elytral bands paler with median black band narrower and less straight; also cephalic carinae sharper, prothoracic tubercle smaller, elytron more triangular and more strongly toothed ectoapically.

Pl. 4g

# 37. Trigonoptera perspicax Gressitt, new species

d. Dark pitchy brown, more reddish on antenna and tarsi, pitchy brown on femora, brown on distal 1/2 of antenna; moderately clothed with tawny to yellow pubescence; head narrowly fringed with tawny around eye, thinly clothed medially and more densely on apex of frons; antenna sparsely fringed beneath; pronotum glabrous medially for just over 1/3 of disc, broadly yellow pubescent at side of disc; scutellum subglabrous; elytron with 4 stripes or double lines of tawny buff, commencing near base and hardly interrupted, reducing to 2 stripes at apex; venter glabrous medially, thinly clothed with tawny buff at side; legs very thinly clothed with pale, whiter on tarsi.

Head feebly punctured, with arms of Y-carina long; eye  $3 \times as$  deep as gena. Antenna 1/5 longer than body; 3rd segment 1/4 longer than 1 or 4. Prothorax 2/3 as broad as elytra, 3/4 as long as broad; side obtuse; tubercle small, subacute; disc smooth, with rather few punctures, lacking medially, near apex and just behind center. Scutellum as long as broad. Elytron strongly narrowed, with humerus prominent, evenly convex basally, moderately punctured with few punctures on convexity, hardly any punctures behind middle; apex narrow with outer angle acuminate and inner angle hardly produced; ridges moderately raised behind middle. Venter hardly punctured. Legs with femora moderately swollen. Length 11.6 mm; breadth 4 mm. Paratypes: 10-12 mm.

Holotype & (BISHOP 12,502), PNG: NEW GUINEA (NE), Sepik Highlands, Feramin, 1300 m, nr Telefomin, 11-22.V.1959, W.W. Brandt; 1 paratopotype, same data; 2 paratypes, Telefomin, 1500 m, VIII.1971, Abid Beg Mirza; 1, Tifalmin, 11.II.1970, Abid; 1, Oksapmin, IV--VI.1971, Abid; 2 paratypes, Sigi Camp, 1300 m, II.1939, Toxopeus (Neth. Ind.-Am. Exped.; LEIDEN).

Differs from *lateplagiata* in having pronotum more evenly pale on side of disc, elytron more triangular, more sparsely punctured near middle and more narrowly and regularly striped.

# 38. Trigonoptera monticorum Gressitt, new species Pl. 4h; fig. 13b

6. Black; antenna brownish distally; clothed with pale yellow and ochreous pubescence; head subevenly clothed with pale yellow in front except for carinae, glabrous above except for very narrow fringe to upper eye-lobe; antenna thinly fringed beneath; pronotum largely clothed with pale yellow, with only an apical triangle thinly clothed and part of medial line glabrous (middle and very narrowly behind middle); scutellum nearly glabrous; elytron partly glabrous basally and on 3 discal ridges plus 1 close to sutural margin; remainder largely ochreous, with nearly continuous stripes; suture narrowly whitish buff; venter narrowly glabrous medially, evenly pale yellow at side; legs thinly pale gray, whiter on tarsi.

Head with Y-carina narrow, with short basal stem, feebly punctured; eye over  $3 \times as$  deep as gena. Antenna 1/5 longer than body; segment 3 distinctly longer than 1 or 4. Prothorax 2/3 as broad as elytra, 2/3 as long as broad; side weakly convex; lateral tubercle small, acute; disc even, with only a few punctures. Scutellum short. Elytron strongly narrowed; humerus slightly projecting; apex narrow, emarginate with outer tooth  $5 \times as$  long as inner; disc moderately convex postbasally, distinctly punctured on base with a few punctures in 2nd 1/4 and no more;



FIG. 13. a, Trigonoptera iriana (punctures shown on right hand side); b, Tr. monticorum (paratype).

ridges moderately raised postmedially. Venter feebly punctured. Legs with femora moderately swollen. Length 12 mm; breadth 4.1 mm. Paratypes: 11.6-12.8 mm.

Holotype & (BISHOP 12,503), IRIAN: NEW GUINEA (NW): Itouda, 1500 m, Kamo Val, nr Wissel Lakes, 13.VIII.1955, Gressitt; 2 paratopotypes, same data as holotype; 1 paratype, Urapura, Kamo Val, 11.VIII, Gressitt; 1 paratype, Moanemani, 1500 m, Kamo Val, 14.VIII.1962, Sedlacek.

Differs from *flavicollis* in having elytron more strongly narrowed, ectoapical spine of elytron long, elytral stripes partly broken, etc.; differs from *breuningiana* 



FIG. 14. Trigonoptera nigrofasciata.

in same points and has pronotum more completely pubescent, and differs from *albocollaris* in having pronotum more extensively pubescent and ectoapical angle of elytron more strongly spined.

# 39. Trigonoptera nigrofasciata Gressitt, new species Fig. 14

 $\bigcirc$ . Shiny black, pitchy to red on antenna; legs olive-brown (except tarsi black but claws red); clothed with pale ochreous to gray-buff pubescence: head moderately clothed with tawny buff; antenna thinly pubescent with weak fringe beneath; pronotum with thin ochreous buff on central portion of disc, narrowly glabrous medially and more broadly at middle of lateral 1/2 of disc, broadly and densely pale ochreous on nearly outer 1/4; scutellum thinly clothed; elytron largely clothed with gray-buff except on postbasal convexity, narrowly on costae and on median band (slightly irregular) and angular black spot on inner 1/2 at start of apical 1/4; venter glabrous medially to basal 1/3 of last sternite; subevenly pale tawny to gray at side; legs thinly clothed with pale, denser white on tarsal segments, especially 1–2.

Head with Y-carina rather narrow, obtuse in cross section; punctures few; eye  $2.5 \times$  as deep as gena. Antenna barely longer than body; segment 3 barely longer than 1, a bit longer than 4. Prothorax 2/3 as broad as elytra, 3/4 as long as broad; side weakly convex; lateral tubercle

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slender, acute; disc smooth, depressed in middle, finely punctured but not on median line. Scutellum nearly as long as broad. Elytron with humerus slightly projecting, side somewhat convex, apex strongly spined externally; sutural angle not projecting; disc sparsely and finely punctured on postbasal convexity, only a few weak punctures behind middle; ridges weak anteriorly, moderately raised postmedially but almost eliminated before apex. Venter weakly punctured. Legs slender. Length 11.9 mm; breadth 4.1 mm.

d. Elytron more strongly narrowed, with black bands broader. Length 9.4 mm; breadth 3.1 mm. Paratypes: 10-14 mm.

Holotype (BISHOP 12,504), IRIAN: NEW GUINEA (NW): Enarotali, 1800-1900 m, Wissel Lakes, 25.VII.1962, J. Sedlacek; allotopotype (BISHOP), and 11 paratopotypes, same data, VII-VIII; 1 paratype, Sigi Camp, 1500 m, 28.II.1939, Toxopeus (Neth.Ind.-Amer. Exped.; LEIDEN).

Differs from *sordida* in having narrow "Y" on head, weaker prothoracic tubercle, blacker dorsum with only lateral ochreous stripe on pronotum, briefer postbasal band, more transverse median band, besides having preapical angular spot on elytron as well as ectoapical angle more acuminate.

# 40. Trigonoptera flavicollis flavicollis Breuning

Trigonoptera flavicollis Br., 1940, Folia Zool.-Hydrobiol. 10: 132 (Moari; BMNH); 1945, Novit. Entomol. 15-16, Suppl. 3: 601.

Black; pronotum largely covered with unevenly dense ochreous pubescence; elytron with 4 ochreous stripes, all interrupted by black postbasal band, and partly reduced preapically. Length 12-13 mm.

Distribution. PNG: New Guinea (SE): Moari.

# 41. Trigonoptera flavicollis stictica Breuning

Trigonoptera flavicollis m. stictica Br., 1940, Folia Zool.-Hydrobiol. 10: 132 (Cyclops Mts, 1200 m; BMNH).

Similar to preceding but with elytral stripes much reduced to a few narrow spots or short stripes; elytral apex more emarginate.

Distribution. Irian: New Guinea (NW): Cyclops Mts.

# 42. Trigonoptera grisea Gressitt, new species

δ. Black, with gray pubescence: head with whitish gray fringing eye, on gena, median line and apex of frons; antenna with very thin gray pubescence and a weak fringe beneath; pronotum with yellow-gray pubescence except for narrow incomplete median line and 2 slightly oblique narrow stripes between middle and side of disc (strips not very distinct); scutellum subglabrous; elytron clothed with thin gray — innermost only in middle, 2nd ending at start of last 1/4, and humerus and basal swelling partly glabrous; venter broadly glabrous medially, legs thinly clothed with gray, more whitish on tarsal segments 1-2.

Head with carinae prominent; frons and vertex largely punctured. Antenna about as long as

#### Fig. 15a



FIG. 15. a, Trigonoptera grisea (punctures shown on right hand side); b, Tr. annulicornis (paratype).

body; 3rd segment 1/5 longer than 1 or 4. Prothorax nearly 3/4 as broad as elytra, nearly 4/5 as long as broad; lateral tubercle small but acute; disc even, moderately punctured except medially. Scutellum subtrapeziform, nearly as long as broad. Elytron strongly narrowed; humerus slightly projecting; apex narrowly emarginate, with outer angle more produced; disc moderately swollen and subasperate-punctate near base, rest moderately punctured, to end of 2nd 1/3; costae incomplete or weak posteriorly, not clearly merging and thus forming straight lines of pattern, only 4th almost reaching apex. Venter not distinctly punctured. Legs with femora smooth, not very stout. Length 13.4 mm; breadth 4.4 mm. Paratypes: 10.4–13.0 mm.

Holotype & (BISHOP 12,505), PNG: NEW GUINEA (NE): Mt Missim, nr Wau, 1120 m, 13.II.1963, J. Sedlacek; 2 paratopotypes: 1700 m, III.1968, Colman; 1600 m, I.1979, Beehler; paratypes: 11, Wau, 1090–1300 m, XII.1961, I,III,VII. 1963, IX,XII.1965, J. & M. Sedlacek; 2, Wau, 1050–1300 m, I–IV.1966, L. & M. Gressitt; 1, Wau, 1350 m, I.1974, on *Macaranga*, T. Bukam.

Differs from margaretae in being a little more slender, with humerus slightly

projecting, elytral apex narrower and more emarginate, pronotal stripes less distinct and different (5 dark lines on disc) and elytral stripes narrow straight dark lines on gray.

# 43. Trigonoptera margaretae Gilmour

Trigonoptera margaretae Gilm., 1949, Entomol. Mon. Mag. 85: 117, fig. 18 (Batjan; BMNH).

Dark brown with brown pubescence, marked by yellow pubescence forming 4 arcuate stripes on pronotum, scutellar spot and 3-4 interrupted elytral stripes, inner 2 fused and with 3 interruptions, subhumeral stripe with a median break and abbreviated apically; elytral apex emarginate with outer angle acutely toothed. Length 11 mm.

Distribution. Maluku (N): Bacan (Batjan); ?Biak.

Material examined. Questionable specimens from IRIAN (NW): Biak I, III, XI, Straatman (BISHOP, LEIDEN).

#### 44. Trigonoptera amboinica Breuning

Trigonoptera amboinica Br., 1969, Bull. Mus. Paris 40: 699 (Ambon; PARIS).

Pronotum black with a narrow pale line at side and a round spot on each side of median line; elytron black with a lateral stripe and 3 narrow discal stripes which merge to 1 before apex. Length 15 mm.

Distribution. Maluku: Ambon.

#### 45. Trigonoptera paravittata Breuning

Trigonoptera paravittata Br., 1970, Bull. Mus. Paris 42: 477 (Moroka; PARIS).

Black with dark brown pubescence, marked with white or whitish yellow pubescence; front of head with 3 whitish yellow stripes; pronotum with somewhat vague spots and stripes; elytron with some basal spots and 4 stripes on posterior 4/5, 1st 2 from suture double anteriorly. Length 10 mm.

Distribution. PNG: New Guinea (SE): Moroka.

#### 46. Trigonoptera neja Gilmour

Trigonoptera neja Gilm., 1950, Tijdschr. Entomol. 92: 229 ("Koberi;" BMNH).

Shiny black; pronotum with almost no pale pubescence; elytron clothed with gray pubescence except on humeral area, a large circum- and postscutellar area and a short narrow stripe in middle close to suture; carinae narrowly black; elytral apex emarginate with outer angle more acute. Length 15 mm.

Distribution. ?PNG: New Guinea (SE): Koberi (?Sogeri).

### 47. Trigonoptera acuminata Gressitt, new species

d. Pitchy black to dark chocolate brown, in part clothed with brick red, yellowish or whitish

Pl. 4f

pubescence; head black with fine pubescent border to eye, pale yellow below, tawny buff above, also thinly on frons and median line; antenna dark brown with sparse fringe beneath; prothorax pitchy with lateral yellowish stripe quite incomplete, a vague patch on each side anterior to center and some scattered pale hairs; scutellum with ochreous in middle; elytron dark chocolate brown with thin brown pubescence and partial bands of short stripes, mostly of brick red pubescence but partly gray-white; a few small spots or short lines on base, longer stripes in 2nd 1/5, innermost in form of inverted "V" and postmedian band less even, with 3rd stripe longer than others and overlapping with parasutural stripe which reaches apex; a buffy lateral stripe extending most of length; venter in large part narrowly glabrous, pale yellowish at side; legs thinly clothed with whitish or yellowish.

Head short; carina moderately raised, sharp anteriorly; punctures few. Antenna slightly longer than body, slender; 3rd segment 1/4 longer than 1 or 4. Prothorax 2/3 as broad as elytron, nearly 3/4 as long as broad; lateral tubercle slender, acute; disc smooth with fine punctures, lacking on center. Scutellum as long as broad. Elytron with humerus moderately prominent, side strongly narrowed; apex narrowly emarginate, strongly spined externally; disc moderately convex postbasally, fairly even, depressed between some ridges (low), densely punctured near humerus, sparsely on swelling, lacking on apical 1/3. Venter smooth. Legs slender. Length 12.8 mm; breadth 4.3 mm.

Holotype & (LEIDEN), IRIAN: NEW GUINEA (NW): Mist Camp, 1800 m, I.1939, L.J. Toxopeus (Neth. Ind.-Am. Exped. = Third Archbold).

Differs from *flavipicta* in being narrower, with prothorax not striped and elytral stripes shorter with dark areas near base and at middle, elytral stripes red instead of yellow and elytron more spined ectoapically.

## 48. Trigonoptera annulicornis Gressitt, new species Pl. 12g; fig. 15b

9. Dark chocolate brown, more pitchy on head, scape and legs; extensively clothed with tawny, whitish gray and brown pubescence; head with eye-fringe, partial median stripe and apical pair of spots tawny ochreous, remainder largely with thin whitish; antenna with pale pubescence on segments 1–2, basal 1/2 of 3–4 and bases/apices of rest; pronotum with incomplete narrow median glabrous line, a triangular tawny ochreous area on each side of it, anterior to center, irregular apical and basal patches and incomplete lateral stripe of same, dotted with dark or pale-edged puncture-dots; scutellum ochreous and pale; elytron with short stripes of pale-edged tawny, partly in bands: basal, premedian and postmedian (inner and outer parts not at same level, inner shorter and more anterior, outer reaching apical 1/7) plus apical sutural and marginal stripes (later connected to outer branch of outer postmedian stripe); venter incompletely glabrous medially, with close pubescence, partly yellowish and partly silvery, at side; legs partly yellowish and partly silvery gray.

Head with carinae low, only a few small punctures on frons. Antenna not quite as long as body; segment 3 distinctly longer than 1; 1 slightly longer than 4. Prothorax 2/3 as broad as elytra, not quite 3/4 as long as broad; lateral tubercle slender, subacute; disc with scattered moderate punctures, few close to median line. Scutellum short. Elytron broad, narrowed apically with apex subobliquely truncate and briefly toothed at each angle; humerus slightly prominent; disc moderately convex behind scutellum, fairly even, with weak ridges; punctures deep and moderately strong basally, smaller and sparser behind basal 1/3, some extending into last 1/3. Venter smooth. Femora moderately swollen. Length 14.5 mm; breadth 5.4 mm.

Holotype 9 (BISHOP 12,506), PNG: NEW GUINEA (NE): WSP: Torricelli Mts,

Sugoitei, 900 m 10-28.II.1959, W.W. Brandt. A questionable specimen from IRIAN: NEW GUINEA (NW): Kutsime, Swart Val, 1500 m, 14.XI.1958, Gressitt.

Differs from *nervosa* in being less stout, with pronotum bearing distinct pair of triangular spots, elytron with shorter and broader stripes, partly forming bands, and weaker ectoapical spine.

# VII. Vittata group

### 49. Trigonoptera vittata (Gestro)

Arsysia vittata Gest., 1876, Ann. Mus. Civ. Genova 8: 522 (Somerset, Cape York; GENOVA); op. cit. 9: 148.

Trigonoptera vittata: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 600.

Stout; Y-carina on frons poorly developed; shiny blackish brown with white eye-ring; pronotum with lateral white stripe on disc plus partial basal band and sublateral discal spots; scutellum dark; elytron with partial basal band and brief extensions, narrow sublateral stripe, partial lateral stripe, broader sutural stripe behind middle and 2 short narrow stripes at middle, of white. Length 11-19 mm.

### Distribution. NE Australia.

Material examined. AUSTRALIA: NE Queensland: Somerset, other localities: Mossman, J.F. Illingworth (BISHOP).

#### VIII. Ornata group

#### 50. Trigonoptera ornata (MacLeay)

Aegomomus ornatus Macl., 1886, Proc. Linn. Soc. N.S.W. ser 2, 1: 197 (Fly Riv; MacLeay: AM).

Trigonoptera erythrospila Heller, 1912, Entomol. Mitt. 1: 172, fig. 3 (NE NG: ?ZMB).

Prosoplus ornatus: Aurivillius, 1922, Coleopt. Cat. 73: 263.

Trigonoptera ornata: Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 602, fig. 368.

Elytron rather short, slightly exceeded by hind femur; dark chocolate brown with very little pale pubescence on head or pronotum; elytron truncate apically, slightly oblique, with 3 red spots, one round, basal, 2nd subtransverse, median, 3rd small, postmedian near suture; plus 2 short pale stripes before apex. Length 10-13 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (SE): Fly Riv., NEW GUINEA (NE): ?Huon Penin., C. Wahnes & F. Müller colls. (possible syntype of *erythrospila* in CNC).

# IX. Complicata group

#### 51. Trigonoptera complicata Gressitt, new species

Fig. 16a

 $\hat{\varphi}$ . Black; antenna, legs and venter reddish brown, darker on femora; largely clothed with pubescence of ochreous, grayish white and dull brownish gray; head thinly to densely clothed

with ochreous or whitish, except on carinae; antenna with a sparse fringe beneath; pronotum with many irregular flecks of ochreous mixed with some paler hairs; scutellum largely with pale hairs; elytron almost entirely clothed except for partly glabrous carinae and puncture-spots (glabrous black ring around puncture), thus consisting of various-shaped patches of ochreous usually bordered with whitish, but crossed by 3 broad transverse bands (behind base, at middle and well behind middle) of dull brownish gray; venter largely glabrous medially, moderately clothed at side with gray with ochreous patches; legs moderately clothed with brownish gray above and more whitish gray beneath, whiter on tarsal segments 1-2.

Head with carina strong, moderately punctured on frons; lower eye-lobes  $1.6 \times as$  deep as gena. Antenna 1/6 shorter than body; segment 3 a little longer than 1 or 4. Prothorax 2/3 as broad as elytra, nearly 3/4 as long as broad, slightly convex at side; lateral tubercles small, subacute; disc with scattered moderate punctures, not on median line. Scutellum as long as broad. Elytron moderately narrowed, slightly convex at side; humerus slightly projecting; apex emarginate with angles similarly toothed; disc convex postbasally, moderately punctured almost to apex, with moderate ridges. Venter finely punctured. Legs moderately stout. Length 14.2 mm; breadth 5.3 mm.

d Elytron more triangular, elytral dark bands more pronounced. Length 13.9 mm; breadth
 4.8 mm. Paratypes: Length 11.9-17 mm.

Holotype  $\Im$  (BISHOP 12,507), PNG: NEW GUINEA (NE): Wau (Mt Kaindi), 1700 m, II.1963, J. Sedlacek; allotype d (BISHOP), Yakawa L.A., Watut Val, nr Wau, on fallen log, 30.X.1969, F.R. Wylie; 2 paratopotypes, same data as holotype, 1700-1750 m, I.1966, I. 1969; 6 paratypes (BULOLO, DPI, BISHOP, MCZ), Bulolo, upper Manki L.A., 7.XI.1973, J. Dobunaba; Mt Kaindi, 18.I.1970, on leaf of shrub, Wylie; Mt Missim, 1900 m, ex stomach of *Pitohui nigrescens*, 1933, H. Stevens; 1, Daulo Pass, 2500 m, 2.V.1959, C.D. Michener; 1, Dimifa, 2200 m, SE of Mt Giluwe, 13.X.1958, Gressitt; 1, Lake Trist, 1600, 21-26.XI.1966, G.A. Samuelson.

Differs from *marmorata* in having elytron more even on disc, more strongly spined apically, and elytral pubescence more in long stripes crossed by broad dull dark bands.

#### X. Marmorata group

#### 52. Trigonoptera marmorata Aurivillius

Trigonoptera marmorata Aur., 1908, Dtsch. Entomol. Z. 1908: 221, pl. 3, fig. 6 (Simbang, NE; STOCKHOLM).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 600.

Pronotum unevenly striped at side; largely pale pubescent with some puncture-dots; elytron largely pubescent with interrupted stripes of gray, white and ochreous with many puncturedots, and partial irregular dark bands near base, near middle and before apex, plus a few fine black longitudinal lines. Length 9-15 mm.

Distribution. New Guinea.

Material examined. PNG: NEW GUINEA (NE): Huon Penin.; Mt Kaindi, 2350 m, on Nothofagus carri, II,III, Gressitt.

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#### 53. Trigonoptera nothofagi Gressitt, new species

Q. Pitchy black to brown, extensively clothed with tawny buff to whitish gray pubescence: head pitchy, largely clothed with tawny to creamy except on carinae and continuation to neck on each side of median stripe; antenna reddish brown, somewhat ringed at bases/apices of segments and with weak dark fringe beneath; pronotum pitchy brown with thin pale pubescence except on median line anterior to middle and an uneven stripe at side of disc plus narrower basal band; scutellum largely pale pubescent; elytron with basal spots and partial stripes of pale tawny to gray covering much of surface except ridges and partial dark bands at middle, start of last 1/4 (near suture) and preapically (latter 2 on merging ridges); venter largely glabrous medially, evenly clothed at side with tawny buff; legs unevenly clothed with pale tawny, but more brown on apices of tibiae and hind femur and more whitish on 1st 2 tarsal segments.

Head with Y-carina distinct, but not sharp, arms gradually lowering between upper eyelobes; some punctures on upper frons. Antenna 4/5 as long as body, with segment 3 only slightly longer than 1 or 4. Prothorax 2/3 as broad as elytra, 3/5 as long as broad; lateral tubercle small but acute; disc even, with only a few punctures evident on sides of basal portion. Scutellum triangular. Elytron stout, narrowed apically, with outer angle prominent, acute and inner angle barely produced; humerus slightly prominent; disc moderately convex behind base, with 3 unequal ridges merging at start of last 1/4 and before apex, at both places connecting with suture; punctures sparse, distinct, extending nearly to apex. Venter feebly punctured. Legs relatively short and slender. Length 11 mm; breadth 4.2 mm.

d. Narrower; elytral stripes marked with larger puncture-dots. Length 8.4 mm. Paratypes: length 7.9-11.5 mm.

Holotype ? (BISHOP 12,508), PNG: NEW GUINEA (NE): Morobe Prov, Mt Kaindi, 2350 m, 10.V.1971, in crown of tall *Nothofagus carri*, malaise trap, Gressitt & Tawi; allotopotype & (BISHOP), same data except 5.IV.1971; 14 paratopotypes, same data or various dates II-V.1971; 1, same loc., 3-4.IX.1972, at light, Gressitt (BISHOP, WEI, DPI).

Differs from *marmorata* in having prothorax shorter with smaller lateral tubercle, elytron with humerus a bit less prominent, and surface a bit more even, with 2 branches of carinae reaching suture posteriorly, outer apical angle more produced and pubescence more in stripes and more tawny.

# 54. Trigonoptera humeralis Gressitt, new species Fig. 16b

d. Black, slightly brownish on legs, last sternite and antenna beyond scape; partly clothed with ochreous, creamy or gray-white pubescence: head fringed around eye and in depressions with mostly white anteriorly and on most of gena and mostly ochreous behind and above; antenna with long sparse fringe of dark hairs beneath on basal segments; pronotum glabrous or nearly glabrous on most of disc with a lateral stripe of buffy cream just above lateral tubercle (broader near base); scutellum narrowly ochreous at side; elytron with many irregular patches of ochreous pubescence scattered all over surface, but partly gray-white on base, behind basal convexity, just behind middle, between that and apex, and at apex—no distinct glabrous areas except humerus, parts of basal convexity, ridges and puncture-dots; venter broadly glabrous or thinly clothed with gray-white, denser and whiter on undersides of tibiae (except apices) and on 1st 2 tarsal segments.

Head with carinae distinct but not sharp, forming narrow "Y" and glabrous; punctures very

Pl. 12i

few. Antenna 1/10 longer than body; 3rd segment 1/4 longer than 1 or 4. Prothorax 2/3 as broad as elytra, 4/5 as long as broad; lateral tubercle moderate, blunt; disc smooth, with sparse small punctures on side of glabrous area. Scutellum smooth, longer than broad. Elytron long, subevenly narrowed; humerus projecting, arched in front; apex emarginate-truncate with outer angle more produced and acute, inner angle hardly produced; disc strongly convex behind scutellum, with a strong ridge which arches outward and terminates before apex; surface with spaced, deep punctures becoming minute before apex. Venter feebly punctured; tibial apices moderately punctured. Length 10.7 mm; breadth 3.8 mm.

Holotype & (BISHOP 12,509), PNG: NEW GUINEA (NE): Asaro-Chimbu divide, above Daulo Pass, 3000 m, 13.VI.1955, Gressitt.

Differs from *sumptuosa* in being much narrower, lacking the basal crest on elytron and having pronotal stripe narrower, elytron more evenly covered with patches of pubescence and elytral apex shallowly emarginate with sutural angle not toothed.

# 55. Trigonoptera harlequina Gressitt, new species Fig. 16c

d. Black except antennal segments 1-5 castaneous except for bases and apices; femora and basal 3/5 of tibiae paler castaneous; extensively marked with ochreous, white-gray and tawny buff pubescence: head largely pubescent except along each side of middle of vertex/occiput and behind eye, mostly ochreous above and partly whitish or tawny in front; antenna with short sparse fringe beneath; pronotum with large area partly glabrous but irregularly flecked with ochreous or paler and an uneven sublateral stripe of creamy mixed with tawny buff to ochreous with a few puncture-dots showing; scutellum with ochreous on base; elytron with many patches of reddish ochreous and gray-white, partly touching, with humerus, carinae and partial band on postbasal swelling and another at middle only partly glabrous; paler pubescence almost forming bands before and behind middle and before apex; venter broadly glabrous medially, partly densely creamy white at side; legs unevenly clothed with whitish hairs, denser at middle of femora and on 1st 2 tarsal segments, black on tibial apices.

Head with Y-carina distinct, fairly sharp, but partly pubescent, hardly punctured; antenna slightly longer than body; segment 3 slightly longer than 1, which is a bit longer than 4. Prothorax 2/3 as broad as elytra, 2/3 as long as broad; lateral tubercle prominent, slightly blunt; disc slightly depressed, smooth, finely punctured away from midline. Scutellum about as long as broad. Elytron fairly long, subevenly narrowed; humerus projecting, arched anteriorly; apex emarginate with sutural angle more prominent than outer angle; disc strongly convex postbasally, with ridges irregular, partly joining preapically; surface sparsely punctured on basal 2/3. Venter hardly punctured. Legs slender. Length 12.7 mm; breadth 4.9 mm.

Holotype & (BISHOP 12,510), PNG: NEW GUINEA (NE): Morobe Prov, Mt Missim, 2300-2370 m, 10.V.1967, Gressitt.

Differs from *humeralis* in having more pubescence on head and pronotum, slight suggestion of banding on elytron, with elytron stouter, with ridges less regular, more numerous, with more mergers; in having sutural angle more prominent than outer angle, and legs and antennal bases largely red. Differs from *marmorata* in having prothorax shorter and more strongly tuberculate, elytron with humerus more projecting, disc less even and apex more emarginate, and having more ochreous pubescence and more glabrous areas. Gressitt: Systematics and biogeography of the Tmesisternini

### 56. Trigonoptera trikora Gressitt, new species

¿. Reddish to pitchy brown, partly clothed with white or tawny pubescence: head reddish brown narrowly fringed with tawny around eye, along median groove and at apex of frons; antenna red, duller distally, weakly fringed beneath; pronotum with broad white area at side of disc, not reaching apex, rest with very sparse fine brown hairs; scutellum largely reddish, thinly clothed with tawny; elytron pitchy brown with small flecks of tawny in depressions between costae, not quite forming broken stripes; venter paler reddish brown, largely glabrous medially, thinly clothed at side with partly long whitish hairs; legs brown with very sparse pale pubescence and erect hairs.

Head with carinae low; frons distinctly punctured. Antenna as long as body; segment 3 distinctly longer than 1 or 4. Prothorax 2/3 as broad as elytra, 3/4 as long as broad; lateral tubercle moderate, subacute; disc smooth, with very few punctures. Scutellum subtrapeziform, depressed in center. Elytron long, subevenly narrowed; humerus slightly projecting; apex emarginate with sutural tooth nearly as strong as outer one; disc moderately swollen postbasally with 3 strong carinae, merging at apical 1/5 (2) and remaining 2 at apical 1/10, continuing to outer angle; punctures small to medium, very few in inner groove. Venter feebly punctured. Legs slender. Length 14.2 mm; breadth 4.7 mm. Paratype:  $12.2 \text{ mm} \times 3.6 \text{ mm}$ .

Holotype & (LEIDEN), IRIAN: NEW GUINEA (NW): Camp E of Mt Wilhelmina (Trikora), 3450 m, 8.VIII.1938, L.J. Toxopeus; paratype & (BISHOP), Moss Forest Camp, 2600-2800 m, 9.X-5.XI.1939; 1, Rattan Camp, II-III.1939, 1150 m; 1, Lake Habbema, 3250-3300 m, VII-VIII.1938, Toxopeus (Neth. Ind.-Am. Exped. = Third Archbold).

Differs from *sordida* in being narrower, with less sharp cephalic carinae, larger prothoracic tubercle, more strongly carinate elytron with narrower more spined elytral apex and in having white sided prothoracic disc and spotted elytron.

#### 57. Trigonoptera montana Gressitt, new species

Fig. 16d

 $\mathbb{Q}$ . Black to pitchy with basal 3/5 of antenna dull red-brown, darker on scape and apices of segments; legs with basal 1/2 of femora and basal 2/3 of tibiae pale castaneous; body partly clothed with pale ochreous buff pubescence; head with buff to creamy around eye and in depressions; antenna with very sparse dark fringe beneath; pronotum largely glabrous on disc with vague flecks forming hexagon and with lateral stripe of tawny buff; scutellum nearly glabrous; elytron with many flecks of tawny buff, partly in incomplete stripes by reason of glabrous ridges, paler on base; venter glabrous medially, thinly gray-white at side with modest patches of dense tawny buff; legs unevenly clothed with gray-white but black on apices of femora, tibiae and tarsi.

Head with Y-carina distinct but not sharp, almost impunctate. Antenna not quite as long as body; segment 3 only slightly longer than 1 or 4. Prothorax 2/3 as broad as elytra, 2/3 as long as broad; lateral tubercle moderately strong, subacute; disc smooth, finely and unevenly punctured, impunctate medially. Scutellum nearly as long as broad, smooth. Elytron stout, IIUUII UUIIUI III IUUIUI UUIIIIU IIUIIUUU IIIgIUUI IIUUUU UUIUII IIUUUU UUIUII IIUUUU outer angle a little more prominent than inner; disc with moderate postscutellar swelling, and 4 carinae, 3 stronger and uniting preapically; surface with sparse strong punctures on basal 4/5. Venter nearly impunctate. Legs not very stout. Length 12.9 mm; breadth 5 mm.

Holotype 9 (BISHOP 12,511), PNG: NEW GUINEA (NE): EHP, Mt Piora, 3150

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Pl. 4d



FIG. 16. a, Trigonoptera complicata (punctures shown on right hand side); b, Tr. humeralis; c, Tr. harlequina (drawn too broad); d, Tr. montana.

m, Kratke Range, 12.VI.1966, Gressitt & Tawi. Paratype ? (BISHOP), WSP, Tifalmin, nr Telefomin, 2000 m, 11.II.1970, Abid Mirza. Another ? (LEIDEN), not designated paratype, IRIAN: NEW GUINEA NW): Moss Forest Camp, 2800 m, 9.X-5.XI.1938, L.J. Toxopeus (Neth. Ind.-Am. Exped.).

Differs from *marmorata* in having prothorax shorter and more strongly tuberculate, elytron more even and more equally toothed apically, with spots more isolated, smaller and almost all tawny and pronotum more glabrous. The Tifalmin and Moss Forest Camp specimens have antenna and legs largely red and elytral flecks partly merging and more ochreous, or paler, respectively.

#### 58. Trigonoptera sumptuosa Gressitt, new species

Pl. 4c

d. Black, intricately marked with ochreous and cream pubescence; head largely glabrous, with narrow ochreous to yellow fringe around eye, narrow ochreous median stripe on occiput, wider and sparser yellow stripe in median ellipse and patch of yellow on side of apex of frons;

stripe of dense creamy yellow at side; scutellum with narrow line of ochreous at side; elytron with many patches of ochreous partly bordered with creamy, mostly lobed or perforated with black puncture-dots, forming 3 partial bands on outer 1/2 of disc, behind humerus, at middle and at end of 3rd 1/4, but more continuous on sutural 1/2; venter broadly glabrous medially, with patches of creamy white at side, a large one on metasternum/metepisternum; legs olivegreen except on black tarsi and apices of tibiae, with some whitish hairs.

Head with carinae broad, strong but not sharp, forming a "Y"; punctures few. Antenna

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slightly shorter than body; 3rd segment 1/5 longer than 1 or 4. Prothorax 2/3 as broad as elytra, 3/5 as long as broad, strongly tuberculate at middle; disc smooth with a few small punctures mostly near apex and base. Elytron narrowed and emarginate with outer angle more near base with strong median carina at extreme medially; surface with scattered moderate punctures on basal 3/5. Venter, femora and tibial apices moderately sparsely punctured. Length 16.5 mm; breadth 6.4 mm.

Holotype  $\mathcal{Q}$  (LEIDEN), IRIAN: NEW GUINEA (NW): Moss Forest Camp, 2800 m, 9.X-5.XI.1938, L.J. Toxopeus (Neth. Ind.-Am. Exped. = Third Archbold).

Differs from *marmorata* in being much larger and broader, with stronger thoracic tubercles, less punctured disc, much more prominent humerus, carinate elytral base and more glabrous areas on pronotum and elytron and more and deeper ochreous markings.

# XI. Quadrimaculata group (?)

# 59. ?Trigonoptera quadrimaculata Nonfried

Trigonoptera quadrimaculata Nonfri., 1894, Dtsch. Entomol. Z. 1894: 211 (Tebing-Tinggi, S Sumatra; ?ZMB).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 603.

Dark brown-olive green, shiny; thickly clothed with pale ochreous yellow; pronotum coarsely punctured, ochreous pubescent with blackish brown dots; elytron rounded apically; disc with distinct ridges, coarsely punctured, shiny dark olive with ochreous pubescence except for 2 square spots, 1 before, other behind, middle. Length 18 mm (after Nonfried). This species is questioned as a member of this genus. Neither Breuning nor I have seen the type-specimen.

Distribution. Sumatra (S): Tebing-Tinggi.

# 14. Genus Blapsilon Pascoe

Blapsilon Pasc., 1860, J. Entomol. 1: 129 (type-species: B. irroratum Pasc.; New Caledonia).— Thomson, 1860, Classif. Ceramb., p. 353.—Lacordaire, 1869, Genera Coleopt. 9: 250.— Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 603.—Hayashi, 1961, Bull. Osaka Mus. Nat. Hist. 13: 50.

Very broad and strongly convex, thus differing from the rest of the genera of the tribe.

Distribution. New Caledonia and Loyalty Is.

# KEY TO SPECIES OF *Blapsilon* (MODIFIED AFTER HAYASHI)

 1.
 Abdomen and legs with pale yellowish or whitish fine erect hairs
 2

 Abdomen and legs without pale hairs
 yellowish or whitish fine erect hairs
 3

2(1). Scutellum overlapping base of pronotum for more than 1/3 its length; head almost impunctate on occiput; pronotum finely punctured; bronzy, venter somewhat greenish along middle; length

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	15 mm 4. montrouzieri
	Scutellum overlapping pronotal base by 1/4 of its length; head
	coarsely and densely punctured; pronotum strongly punctured;
	bronzy, venter bronzy along middle; length 9-15 mm
	3. austrocaledonicum
3(1).	Body metallic blue or violet; partly clothed with gray-buff
	pubescence
	Body reddish brown, with some tinges of purple or violet; partly
	clothed with fine to dense ochreous pubescence
4(3).	Bright steely blue, tinged with green or purple; elytron with 2 narrow
	gray bands: postmedian and preapical; length 13-15 mm . 2. viridicolle
	Metallic purple, red and green; elytron with a transverse whitish band
	behind middle which bends obliquely at side; length 11 mm
	8. purpureum
5(3).	Legs reddish 6
	Legs purplish or violet; pronotum greenish; elytron bronze; head
	densely punctured; pronotum closely and coarsely punctured,
	with median cupreous line; lateral tubercle long; scutellum narrow;
	elytron with weakly raised lines; length 12.5 mm; breadth 5.5 mm
	6. cyanipes
6(5).	Elytron with a preapical transverse whitish to ochreous band 7
	Elytron lacking a preapical transverse pale band; scutellum prolonged
	forward over base of pronotum; head almost impunctate between
	eyes; elytron coarsely punctured; length 11 mm; breadth 4 mm
7(6).	Pronotum sparsely and coarsely punctured; scutellum narrow; body slender; length 16 mm; breadth 5 mm 5. elongatum
	Pronotum densely and coarsely punctured, especially in middle of
	disc; scutellum diamond-shaped, its anterior 2/5 overlapping base
	of pronotum; length 10.5–15.0 mm; breadth 5.0–6.5 mm
	1. irroratum

# 1. Blapsilon irroratum Pascoe

Blapsilon irroratum Pasc., 1860, J. Entomol. 1: 129, pl. 5, fig. 8 (New Caledonia; BMNH).-Fauvel, 1906, Rev. d'Entomol. 25: 60 (Ile des Pins; Art).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 603.-Hayashi, 1961, Bull. Osaka Mus. Nat. Hist. 13: 51.
Lamia (Penthea?) scutellata Montrouzier, 1861, Ann. Soc. Entomol. Fr. ser 4, 1: 297 (Art).

Distribution. New Caledonia; Ile des Pins; Art I.

Material examined. NEW CALEDONIA: Huailou, X.1925, W.H. Ford; Foret de Thy, III. 1961, J. Sedlacek; La Crouen, III, Sedlacek, 100-300 m.

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### 2. Blapsilon viridicolle (Chevrolat)

Tmesisternus viridicollis Ch., 1858, Arch. Entomol. 1: 414 (New Caledonia; PARIS).
Lamia (Penthea?) metallica Montrouzier, 1861, Ann. Soc. Entomol. Fr. ser 4, 1: 297.
Blapsilon viridicolle: Fauvel, 1906, Rev. d'Entomol. 25: 60, 62 (Ile des Pins).—Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 604.—Hayashi, 1961, Bull. Osaka Mus. Nat. Hist. 13: 51.

Distribution. New Caledonia; Ile des Pins.

Material examined. NEW CALEDONIA: Yahoue, I.1963, Krauss.

#### 3. Blapsilon austrocaledonicum (Montrouzier)

Lamia (Penthea?) austrocaledonica Montr., 1861, Ann. Soc. Entomol. Fr. ser 4, 1: 296 (Balade, Lifu).

Blapsilon austrocaledonicum: Fauvel, 1906, Rev. d'Entomol. 25: 60, 61.-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 604.-Hayashi, 1961, Bull. Osaka Mus. Nat. Hist. 13: 50, 51.

Distribution. New Caledonia; Loyalty Is (Lifu).

Material examined. NEW CALEDONIA: Mt Koghis, 250 m, III.1960, Gressitt; Foret de Thy, 550 m, III, Gressitt; Mouriance Pass, II.1962, Krauss; Foret de Thy to Hamma, 700-800 m, Malkin & Rageau; Foret de Thy, II.1963, Yoshimoto; III.1961, Sedlacek; 10 km S of Koh, 300 m, I.1963, Kuschel; Mt Koghi, I, Yoshimoto; Col des Roussettes, 450 m, II, Yoshimoto; La Crouen, III, Sedlacek; Col des Pirogue, II, Yoshimoto (BISHOP). LOYALTY IS: Lifu; Mare: Cengeite, X.1958, B. Malkin (USNM).

#### 4. Blapsilon montrouzieri Thomson

Blapsilon montrouzieri Th., 1865, Syst. Ceramb., p. 545 (New Caledonia).-Fauvel, 1906, Rev. d'Entomol. 25: 60, 61 (Lifu).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 604.-Hayashi, 1961, Bull. Osaka Mus. Nat. Hist. 13: 50, 51 (Ile des Pins).

Distribution. New Caledonia; Loyalty Is (Lifu).

Material examined. NEW CALEDONIA: Paita. LOYALTY IS: Lifu: We, II.1963, Yoshimoto.

#### 5. Blapsilon elongatum Fauvel

Blapsilon elongatum Fauv., 1906, Rev. d'Entomol. 25: 60, 61 (New Caledonia).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 604; 1951, Bull. Inst. R. Sci. Nat. Belg. 27(32): 7.-Hayashi, 1961, Bull. Osaka Mus. Nat. Hist. 13: 51 (Pins).

Distribution. New Caledonia: Mt Mou. Ile des Pins.

# 6. Blapsilon cyanipes Fauvel

Blapsilon cyanipes Fauv., 1906, Rev. d'Entomol. 25: 60, 62.—Breuning, 1945, Novit. Entomol. 15–16, Suppl. 3: 605; 1951, Bull. Inst. R. Sci. Nat. Belg. 27(32): 7.—Hayashi, 1961, Bull. Osaka Mus. Nat. Hist. 13: 50, 51.

Distribution. New Caledonia: Paita, Yahoue, Kanala.

# 7. Blapsilon scutellare Fauvel

Blapsilon scutellare Fauv., 1906, Rev. d'Entomol. 25: 60, 61 (New Caledonia).-Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3: 405; 1951, Bull. Inst. R. Sci. Nat. Belg. 27(32): 7.-Hayashi, 1961, Bull. Osaka Mus. Nat. Hist. 13: 50, 52.

Distribution. New Caledonia (no localities given).

# 8. Blapsilon purpureum Fauvel

Blapsilon purpureum Fauv., 1906, Rev. d'Entomol. 25: 60, 62 (New Caledonia).—Breuning, 1945, Novit. Entomol. 15-16, Suppl. 3:405; 1951, Bull. Inst. R. Sci. Nat. Belg. 27(32): 6.—Hayashi, 1961, Bull. Osaka Mus. Nat. Hist. 13: 51 (key only).

Distribution. New Caledonia (no localities given).

### 15. Genus Epiblapsilon Gressitt, new genus

Broad-bodied, rounded behind; scape very long; prothorax with 2 prominent tubercles at side. Head convex in front; vertex and occiput shallowly grooved medially; antenna ( $\vec{o}$ ) slightly longer than body, slender; scape nearly as long as segment 3, as long as 4, slender in basal 1/2, thickened preapically; 4 nearly 2 × as long as 5; prothorax convex above, with a very strong anterolateral tubercle which is slender, acute and somewhat forward-projecting; scutellum declivitous; elytra short, conjointly rounded, coarsely punctured with irregular raised lines; humerus with a strong blunt lateral projection; femora pedunculate-clavate.

Type-species: Epiblapsilon tuberculatum, n. sp.

Range: New Caledonia.

Differs from *Blapsilon* in having midlateral tubercle of prothorax very large and broad-based and another slender acute tubercle anterior and inferior to it, as well as having scape reaching midlateral tubercle and humeral projection strongly tuberculate. Gender neuter.

### 1. Epiblapsilon tuberculatum Gressitt, new species Pl. 4i

δ. Reddish castaneous, slightly paler on antenna and legs; in part clothed with tawny buff pubescence: on head only forming a border around eye, plus a patch of anterior corner of frons; lacking on antenna except for a weak suberect fringe beneath (of darker hairs); on pronotum forming only a few irregular patches near side of disc and on upper and lower sides of base of larger tubercle, plus a few isolated hairs; lacking on scutellum; on elytron forming a collection of small flecks near humerus, a large collection on side of disc behind humerus, an arcuate-transverse band of flecks or U-shaped spots just before apical 1/3, with less distinct bands of flecks before apex, plus scattered single hairs; ventral surfaces partly clothed with tawny at side.

Head somewhat rugulose-punctate in front and strongly punctured on vertex. Antenna with segments 1, 3 and 4 much longer than rest. Prothorax 3/4 as long as breadth at base, convex and subrugulose-punctate on disc; mid-lateral tubercle  $2 \times a$  long as anterior tubercle and with base  $3 \times a$  the diameter of latter's. Scutellum smooth, rounded behind. Elytron convex, densely

subrugose-punctate, with 2 or 3 subregular raised lines; humeral tubercle evenly arched anteriorly. Ventral surfaces with some sparse strong punctures. Length 12 mm; breadth 6.3 mm.

Holotype & (BISHOP 12,512), NEW CALEDONIA: Col des Roussettes, 550 m, 4-6.II.1963, Gressitt.

Differs from species of *Blapsilon* in having 2 strong prothoracic tubercles, long antennal scape and prominently tuberculate humerus.

# BIOGEOGRAPHY AND EVOLUTION OF THE TMESISTERNINI

The tribe Tmesisternini, of the longicorn beetle (Cerambycidae) subfamily Lamiinae, represents one of a number of groups that are centered on the island of New Guinea, and of which close relatives seem to be largely lacking in other than quite nearby regions. The origin of the Tmesisternini seems rather obscure, just as the origin of some much better-known groups, such as even the birds of paradise, seems obscure. One answer to this problem may be the extinction of ancestral links.

Fifteen genera and 422 species are treated in the above review, of which 1 genus and 99 species are described as new.

# Paleogeography and paleobiogeography

Perhaps nowhere else in the world has a region had such a complicated logical and geographical history as the New Guinea area. Moreover, the biota of the region has been derived from different biogeographical regions, making the biogeography of New Guinea very complex. Consequently the islands have been associated with various biogeographic regions: Oriental, Australian, Papuan and even "Oceanic," with disagreement as to the affinities depending upon the history of the group under study and in relation to the complex geological history of the area.

To approach the subject of the biogeography and evolution of the tmesisternines, a brief review of the history of the area is presented. Most of the range of the tribe comprises areas currently and formerly insular, which are the result of tectonic activity, much of which took place during the later periods of the Tertiary. The evolution of many of these islands, which include some of the older or more stable parts of Melanesia (New Guinea in part, Bismarcks, Solomons and New Caledonia), is largely related to the drifting of the Australian plate since the end of the Mesozoic when it separated from Gondwanaland, ca. 50 m.y. BP (= before present) (see Gressitt, ed. 1982). However, it has been also stated that New Caledonia, with Lord Howe Island, New Zealand and the Chatham Islands, separated from Antarctica as a unit at 62 m.y. BP (Holloway 1979).

As the Australian plate approached the present Melanesian and eastern Indonesian areas in its northeastwards drift, the pressures resulted in the pushing up of masses of plutonic rocks to form the main cordillera of the backbone of New Guinea. The elevation of other shallow seas or older islands formed other ranges and plateaus of New Guinea as well as islands of the various chains. There was also much lateral movement in the northcentral New Guinea "mobile belt," and some parts of New Guinea were shifted westward almost to Sulawesi (Hamilton 1980).

During the same periods there was much volcanic activity along the main cordillera. Currently it is mostly along the N coast of New Guinea and through the Bismarck and Solomons island chains, as well as in Indonesia and Vanuatu (New Hebrides). New Caledonia is one of the oldest of the various elevated land masses and is said to have had connections to New Guinea along the inner Melanesian Arc in the Eocene. At periods of low sea level (repeated in the Pleistocene ice ages), there were stepping stones between Australia and New Caledonia. In some of its early phases, New Caledonia was more isolated than it is at present, and more recently it has moved closer to Vanuatu from tectonic activity. Some of these geological hypotheses seem well-supported biogeographically, as revealed by the great differences in the fauna (and flora) of New Caledonia on one hand and of Fiji, Tonga and Samoa on the other, and also by the much higher generic endemicity of New Caledonia as opposed to that of the others. Moreover, many of the genera of beetles in Fiji, Samoa, etc. also occur in Vanuatu and/or the Solomons and quite a few of these are lacking on New Caledonia and replaced by endemic genera. This signals both age and isolation for New Caledonia (Holloway 1979). This picture is reflected with the Tmesisternini and relatives. as discussed below. However, there are differing opinions regarding possible land connections between New Guinea and New Caledonia, and different groups may suggest different histories, reflecting different ages, origins, dispersal ability or other factors.

The relative poverty of Vanuatu, emphasized here by its apparent lack of Tmesisternini, stresses the youth and volcanic nature of that island group, which consists mainly of coral limestone covered with lava, or vice versa. This testifies to cycles of elevation and subsidence and a fauna generated from overseas dispersal, as in Micronesia and Polynesia.

### Geographical range and relationships

The Tmesisternini occur mainly from Sulawesi and the Lesser Sunda Is to New Caledonia and south to NE Australia, apparently excluding Vanuatu (New Hebrides), as shown in Fig. 17-19. There are 2 species recorded from the Sunda Is. The tribe is not as limited in geographical occurrence as the birds of paradise (or the cassowaries or tree-kangaroos). The Tmesisternini occur from New Caledonia to Sumatra, whereas those vertebrate groups are largely limited to New Guinea, Maluku, Aru and NE Cape York Peninsula. Those familiar groups are in turn not as restricted in range as some large endemic New Guinea genera, as for

instance the weevil genus Gymnopholus of about 100 species, known only from above 750 m on mainland New Guinea (Gressitt 1982a,b). Table 2 shows relative occurrence and relative endemism for parts of the range of the Tmesisternini.

The greatest concentration of the group is on the mainland of New Guinea, where about 60% of the species occur, the great majority of which are endemic. About 2% occur in Sulawesi, 3% in the Lesser Sunda Is, and 8% in Maluku. Sulawesi species are all endemic, but nearly 30% of the Maluku species occur in western New Guinea (Irian Jaya) or the Lesser Sundas.

From material on hand which is incompletely studied and not included in the above review, it seems obvious that all of these percentages of occurrence, except that for mainland New Guinea, will decrease in the future, as more of the montane New Guinea fauna is studied.

For a tribe of this size, Tmesisternini has a very limited geographical range, being essentially limited to Melanesia and Wallacea in the original restricted sense, which excludes the Philippines. Although relatives of this tribe are well represented in the Philippines, apparently no true Tmesisternini occur there. The closely related tribe Homonoeini is concentrated in the same Melanesian-Wallacean (broad sense including Philippines) area, but also extends to Japan, SE Asia, Sri Lanka, Micronesia, Fiji and Samoa. Other related tribes are partly concentrated in New Caledonia (Enicodini), and others less closely related are in New Zealand, SE Asia, or in between. However, very few seem to occur in Australia.

The Tmesisternini and its close relatives are unusual in respects other than their distribution. Their body form conflicts with some of the basic characteristics of their large subfamily, the Lamiinae. Lamiines have as 1 of their prime characteristics an angularly and vertically down-bent front of the head (which may be directed obliquely backward below). This means that the normal lamiine mandibles are directed downward at right angles to the axis of the body (hypognathous), or even pointing slightly backwards. The Tmesisternini and relatives, however, have the head pointing obliquely forward (prognathous), very much as in most members of the subfamily Cerambycinae as well as members of the subfamilies Prioninae, Aseminae and Lepturinae. The larvae, in particular, prove that they are lamiine.

Although largely Melanesian in range, the Tmesisternini can hardly be spoken of as having a Melanesian Arc distribution, since the group is apparently absent from Vanuatu, Fiji and New Zealand (also lacking from Norfolk I and Lord Howe I).

Of the 15 genera, *Tmesisternus*, the largest, occurs throughout the range of the tribe, excepting New Caledonia. With 222 (74%) of the 298 species of *Tmesisternus* on the mainland of New Guinea, an imposing example of diversification in many environments is provided. As elaborated below, members of the genus occur in numbers on the island, from sea level to the edges of the highest forests, probably to above 4000 m.



FIG. 17. Map of ranges of the tribes Tmesisternini and Homonoeini and the related tribe Enicodini.



FIG. 18. Map of ranges of tmesisternine genera: 1, Buprestomorpha; 2, Arrhenotoides; 3, Sphingnotus; 4, Sepicana; 5, Elaidius; 7, Temnosternopsis; 8, Falsapolia; 9, Temnosternus; 10, Karadinia; 13, Trigonoptera; 14, Blapsilon; 15, Epiblapsilon (7-10 NE Australia only; 1, 2, 14, 15 New Caledonia only).



FIG. 19. Map of ranges of tmesisternine genera: 6, Pascoea; 11, Tmesisternopsis; 12, Tmesisternus.

Pascoea extends from Maluku to New Guinea and the Bismarcks, Sepicana is only in New Guinea (perhaps also Woodlark I); Sphingnotus occurs from Maluku, Kei and Aru to the Solomon Is. Tmesisternopsis occurs in Sulawesi and New Guinea. Four genera, Temnosternus, Temnosternopsis, Falsapolia and Karadinia, occur only in Australia (NE part). Four genera, Buprestomorpha, Arrhenotoides, Blapsilon and Epiblapsilon, occur only in New Caledonia (except that Blapsilon occurs also in the Loyalty Is). The New Caledonian and Australian genera are not at all closely related. Nor are the Australian genera or New Caledonian genera very close to the primarily Papuan genera.

In Trigonoptera, 39 of the 59 species (66%) are known from the mainland of New Guinea. The rest of the species extend from Sumatra to the Solomons and NE Australia. But as in *Tmesisternus*, the percentage for mainland New Guinea will increase in the future, as the montane fauna is studied further. Many of the lowland and insular species belong to 4 of the 5 larger species-groups, but another 4 groups are known only from mainland New Guinea. (See Fig. 17-19 and Table 3.) (In the geographic discussions subspecies are treated as equal to species.)

# Comparison of occurrence of tmesisternine genera

*Tmesisternus*, with 298 known species (plus ca. 40 unidentified species on hand), and *Trigonoptera*, with 59 known species (plus ca. 25 unidentified on hand), are by far the largest genera of the Tmesisternini. The other 13 genera of the tribe have an average of less than 5 species per genus and a maximum of 16. Five of the latter genera have only 1 known species each. Three of the latter are

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endemic to New Caledonia, 1 to Australia and 1 to New Guinea. Another has 3 of its 4 species in Sulawesi (4th in New Guinea). Four of the genera are restricted to New Caledonia, 4 are limited to Australia and 2 to the New Guinea mainland (but 1 of these, *Sepicana*, may also occur on Woodlark I). Of the remaining smaller genera, *Sphingnotus* (3 spp., 13 sspp.) occurs from the Maluku Is through the Solomon Is, but not in Australia; and *Pascoea* (16 spp.) has the same distribution except for not being known from the Solomons. There are no species known from Vanuatu.

*Tmesisternus* occurs from islands off Java and on Sulawesi, through the Lesser Sunda Is and Maluku Is through New Guinea, all the larger offshore islands and Bismarcks to the end of the Solomons; only 3 species of the 298 are known from Australia. The great majority of the species occur on mainland New Guinea, but 5 occur on Sulawesi, 11 on Aru, 2 on Biak (no doubt more), 6 on Yapen, 4 in the SE isles, 12 in the Bismarcks and 9 in the Solomons.

Trigonoptera occurs from Sumatra (needs verification) through the Lesser Sundas (3 spp.), Maluku Is (5), New Guinea (45), offshore islands (4), Bismarcks (2), Solomons (1), with 2 in NE Australia (see Table 3 and Fig. 17-19).

#### Endemism

In general there is high local species endemism per major island or island group. Some endemism figures are presented above under "Geographical range and relationships," and in Table 2. In Table 4 figures are presented which show numbers of species in common as between the different major segments of the tribal range. This demonstrates high endemicity for most sections, but somewhat lower endemicity for Lesser Sunda, Maluku and, especially, Aru. It also shows higher endemicity for the eastern, than western, offshore New Guinea isles. The notes to the table also show that a few species have wider distribution, but some of these may be partitioned in subspecies later. It is striking that Kai has no species common to Aru or New Guinea, showing its relationship to the Lesser Sundas and other isles to the west of New Guinea — in other words that it is part of Wallacea and not on the Sahul shelf.

RANGE	% OCCURRENCE	% SPECIES ENDEMISM
New Guinea & adjacent islands	72	82
Wallacea and Maluku	13	90
Sunda Is	0.5	100
Bismarck Archipelago	5	94
Solomon Islands (incl. Bougainville)	3	100
New Caledonia	3	100
Australia	4	95

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The endemism figures in Table 2 are based on the occurrence of species or allopatric subspecies. On the full species level, figures are approximately 80% endemism for New Guinea, 86% for Wallacea and Maluku together, 50% for Sunda Is, 80% for Bismarck Archipelago, 83% for Solomons and 90% for Australia.

On the generic level, only New Caledonia has 100% endemism, and for New Guinea it is 14% or 28% (depending on clarification of range of *Sepicana*), for Australia 67% and for the other areas there is no generic endemism. Although New Guinea has the great majority of the species, with high species endemism, most of the genera are shared with adjacent areas.

# Evolution and biogeographic factors

Adaptive radiation has proceeded to the point where there is a very great range in body size, form, color and appearance. If there had been more extinction during the Pleistocene ice ages, as in Europe and North America, we would surely have more genera in New Guinea, rather than a few hundred species of *Tmesisternus* (with many more species remaining to be identified or collected). Although that genus includes species of diverse form and size, in many cases there are annectent species between the various species-groups.

The present range of the Tmesisternini (Sulawesi to New Caledonia and south to NE Australia), with only a few questionable or peripheral records from outside this area, suggests that the group may have evolved rather recently and done so east of Wallace's Line. Whether the group originated in Australia or New Guinea is uncertain, but certainly the great bulk of the species occur in the predominantly humid parts of the Papuan Subregion, from Maluku to the Solomons. Only about 18 species (mostly in 4 genera) are endemic to Australia (plus 1 in common with New Guinea), and the members of the 4 endemic genera do not show very close ties with any of the 320 species (of 8 genera) comprising the Papuan fauna. The New Caledonia fauna, similarly, comprises about 11 species of 4 endemic genera, none of which are very closely related to either the Papuan genera or the Australian genera. Sulawesi has 1 almost endemic genus plus 6 species of Tmesisternus. The Lesser Sunda Is have no endemic genera and about 14 species of Tmesisternus and Trigonoptera. Within the Papuan Subregion in the strict sense, 280 species occur on New Guinea and adjacent isles, about 10 are limited (or probably limited) to Maluku, 20 occur in the Bismarcks and only about 12 occur in the Solomons.

Because of the almost exclusive rain-forest-occurrence of the known species of the group, it seems reasonable to assume that the tribe originated and evolved in a humid vegetation context. As the New Caledonia members and the present Australian members of the tribe show no close relationships, and since both of these groups appear to be somewhat specializations, whereas many of the Papuan and Wallacean members appear more generalized and more similar to members of

	SPP + SSPP	JAVA, SUMATRA	LESSER SUNDA	SULAWESI	MALUKU	KEI	ARU	W OFFSHORE IS	NEW GUIN MAIN LANI	E HOHSHICH	BISMARCKS	SOLOMONS	NEW CALEDONIA	AUSTRALIA
Buprestomorpha	1					U							1	
Arrhenotoides	1												1	
Sphingnotus	13				2	1	1	2	22	2 1	5	2		
Sepicana	6								44	3 1				
Elaidius	1								11	1				
Pascoea	16				1		4		55	9	2			
Temnosternopsis	4													4
Falsapolia	3													3
Temnosternus	6													6
Karadinia	1													1
Tmesisternopsis	4			3						1				
Tmesisternus (298)														
costatus (group)	1			1										
rufipes	13		5	2	2	1	1	1	1	2	1			
venatus	5	1	2	1					1					
salomonus	3										1	2		
trapezicollis	4								3	2				
latithorax	9		1						6	3				
adspersus	14				3		2		9	10				
jaspideus	26					1		2	13	18				
olthofi	1								1					
timorlautensis	6		2							4				
convexus	1								1					
toxopei	6								4	2				
subchlorus	4								2	3				
luteostriatus	2									2				
irregularis	8								6	4				
sulcatus	30							1	4	23	3			
excellens	2								2	1				
speciosus	2							2	2	2				
rafaelae	3			2						1				
atrofasciatus	1								1					

TABLE 3. Geographical summary of the Tmesisternini.

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	SPP + SSPP	JAVA, SUMATRA	LESSER SUNDA	SULAWESI	MALUKU	KEI	ARU	WOFFSHORE IS	NEV GUI MAI LAN W	V INEA IN- ID E	E OFFSHORE IS	BISMARCKS	SOLOMONS	NEW CALEDONIA	AUSTRALIA
ruficornis	1		1		1										
schaumi	15				2	1	2		5	5		3	3		1
trivittatus	11				1		1		7	6					
lotor	14				11				3	1					
agriloides	12				1				4	8					
viridipennis	5								1	4					
bruijni	13				2	1	2		4	3	3				
herbaceus	4								3	1					
pseudintricatus	1								1	1					
griseus	2						1		1	2					
monticola	10								2	4	1	2			2
conicicollis	4				1		1		3	3					
distinctus	5				1		1		2	4					
nigrofasciatus	11							1	6	7		1			
marmoratus	31				2	1		4	11	19		1			
transversus	18						2		4	11		3	4		
Trigonoptera (59)															
guttulata (group)	10							3	1	4	1	1	1		1
tesselata	1				1										
maculata	11						1	4	4	6	1				
nervosa	6		3		1				1	1	1				
regina	1								1						
sordida	19		1		3			3	7	9					
vittata	1														1
ornata	1									1					
complicata	1									1					
marmorata	7								3	5					
? quadrimaculata	1	1													
Blapsilon	8													8	
Epiblapsilon	1													1	
Totals	422	2	14	9	35	6	19	16	118	166	10	20	12	11	19

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TABLE 3. Continued.

	SUNDA	LESSER SUNDA	SULA- WESI	MALUKU	KEI	ARU	W OFF- SHORE ISLANDS	NEW GUINEA S	E OFF- SHORE ISLANDS	BIS- MARCKS	SOLO- MONS	AUST- RALIA	NEW CALE- DONIA
Sunda	2												
Lesser Sunda		12		2	1								
Sulawesi			9										
Maluku		2		23	1	1	2	3		1			
Kei		1		1	3		1			1			
Aru				1		2	1	10		1			
W off- shore islands				2	1	1	13	15					
New Guinea				3		10	15	239	2	1		1	
E off- shore islands								2	12				
Bismarcks				1	1	1		1		19			
Solomons											12		
Australia								1				18	
New Caledonia	L												11

TABLE 4. Numbers of species in common between different areas or endemic.*

*Note. This table indicates species in common between pairs of islands or Australia, but does not show total distributions of some of these species. For instance, there are 3 species with distribution Maluku-Aru-New Guinea; 1 Maluku-Lesser Sunda-Kei; 1 Aru-Mysool; 2 Mysool-New Guinea; 1 Aru-Mysool-New Guinea; and 1 Maluku-Kei-Aru-New Guinea-Manus. In the Bismarcks: 1 species each occurs on Manus only (Admiralty Is are part of Bismarcks), on New Hanover, on Umboi I and on New Britain plus Duke of York Is; 4 occur only on New Ireland; 8 on New Britain alone; and 2 occur throughout most of the Bismarcks. the related tribes in the SE Asia-SW Pacific Region, it seems logical to make one of the following assumptions: a) that the Tmesisternini arose from the Homonoeini or a common ancestor in the Wallacean-Papuan area; or, b) that it, or both, originated in Asia, and became largely extinct there while evolving profusely east of Wallace's Line during the Pliocene and the Pleistocene. There is also the possibility that the group arose in Australia during a more humid period, perhaps in the Miocene, and became almost entirely extinct there as Australia became more arid, leaving a few survivors in New Caledonia and N Queensland while the mainstream evolved in New Guinea.

It is difficult to point to the most primitive of the Tmesisternini. If the group had evolved in Australia one might expect some of the more primitive forms to be relics in Australia or New Caledonia. But some in those regions appear to be specializations, i.e, *Blapsilon, Epiblapsilon* and *Karadinia*. Possibly *Buprestomorpha* and *Arrhenotoides* are ancestral, but these also seem more like specializations. Some groups of *Tmesisternus* appear to be the most generalized (granting that the head form is a specialization within the subfamily). Perhaps members of the *trivittatus* group are among the most generalized. *Trigonoptera* probably represents a more recent specialization, and until recently had been placed in a separate tribe of its own. Some of its species groups, also, are endemic to montane mainland New Guinea. Part of the Australian fauna represents recent entry or re-entry from New Guinea with Pleistocene land connections, as the *Tmesisternus* in Australia belong to New Guinea species groups. Moreover, one is conspecific and another subspecific with New Guinea forms.

There is a general tendency for relationships within the Papuan Subregion to follow certain patterns, as also observed in studies of some other groups Gressitt 1982a, b). For instance, some species have ranges starting from the southern Moluccas or the Vogelkop lowlands or nearby islands and extending along the northern coast of New Guinea and its offshore islands as far as the Sepik-Madang area or on out to the Admiralty Islands (Manus) and other islands of the Bismarcks, such as New Britain and New Ireland. This trend usually terminates at New Ireland, and fewer, and different, species (or genera) occur eastward, in the Solomons. But Bougainville to some extent has occasional intermixtures of Bismarck and Solomon elements. It is no doubt partly richer in representation than on both sides, both because of its location and because it is the largest and highest of the Solomons (and higher than the Bismarcks).

Proceeding eastward on the mainland of New Guinea, the Huon Peninsula (especially the Finisterre and Saruwaged ranges, over 4000 m) often has local endemic species, usually related to those of the N coast ranges, or to those of the main cordillera highlands. Again to the east, there are often local endemics between the "highlands" and the Owen Stanley Mts, as in the Wau-Bulolo-Bulldog areas, also in the N coastal ranges. And again there are other local species in the N coast lowlands of the Popondetta and nearby areas. Still again there are local endemics in the eastern islands: D'Entrecasteaux Is, Louisiade Is and Woodlark I. In the Tmesisternini there appears to be some impoverishment in the Owen Stanley Mts and eastward, whereas in some groups there is extensive speciation in that range. To the south of the main cordillera, again, there are species that range from the Vogelkop area lowlands around the S coastal strips. But there are many species that have only been collected in the Fly River area; perhaps with further sampling they will prove to have wider occurrence.

In the mountains on the New Guinea mainland many species have evolved locally. Populations moved higher as the mountains were pushed to higher altitudes and as the forests pushed upward. But apparently this trend failed to produce new genera in this group, and the species now occurring up to about 4000 m are congeneric with the coastal species of *Tmesisternus*. However, some form endemic montane species-groups. During the Pleistocene, populations with their associations would have moved upward and downward with the glacial and interglacial periods in the climatic cycles, which also provided alternating connections and separations of New Guinea with Australia. The sea level receded in the glacial periods, at which time populations were pushed downward again. Then the reverse situation developed with the melting glaciers, reflooding of the Torres Straits, and resumed upward movement of forests in the mountains. With each period the mountains would be higher from the results of the tectonic displacements.

# Evolution and altitudinal occurrence

It has been stated frequently before (see Gressitt 1982b) that New Guinea lacks a rich alpine biota. Relatively few elements from other temperature areas have colonized the temperate high altitude areas of New Guinea (Smith 1982). These areas represent an extremely "insular" situation, as these high areas are twice as high as the highest mountains of Australia and of most other S Pacific islands. The nearest high mountain (though not as high as New Guinea mountains) is Mt Kinabalu in Sabah (N Borneo), and mountains on mainland SE Asia are still lower. Thus, temperate immigrants readily adaptable to alpine New Guinea environments had to span very great distances, such as from New Zealand (itself extremely isolated) or a few peaks scattered in Borneo, the Philippines, Taiwan or farther away on the fringes of the Himalayas and W China. Most of the higher peaks in the southern string of Indonesian islands (Sumatra, Java, Lesser Sunda Is and off-lying smaller islands) are volcanoes currently or recently active, so that alpine environments and populations have been of distinctly limited nature and the peaks could not often have been available for "island hopping" for alpine insects.

Climatic changes during the Pleistocene ice ages required the movement of ecosystems up and down with the changing cycles of glaciation and melting, which took place in a dynamic way in New Guinea as in the N temperate/arctic and antarctic areas. Evidence for this remains in the form of the 3 remaining ice caps on higher mountains in western New Guinea (Irian Jaya) and extensive evidence in the form of cirques, glacial valleys, lakes and moraines, left by the ice caps and glaciers that covered about 2000 km² of highlands during the last glacial period, up to 15,000 years BP.

However, in spite of the up and down movement of ecosystems resulting from the ice age cycles, the effect on evolution and dispersal of species in New Guinea was by no means catastrophic, as it was to some groups in temperate areas that suffered much extinction, with small relic populations of some surviving in protected valleys, caves, etc. New Guinea's tropical location moderated the situation, so that plants and animals had only to move downward a bit to escape the cold. Those living at low altitudes during the warm periods between ice maxima were apparently not pushed into the ocean or exterminated, but were able to survive in their habitats because the temperature at sea level was only lowered a matter of 2 or 3° C, whereas at medium high altitudes the change ranged about 6° C (Löffler 1982, Smith 1982, Walker & Hope 1982). These cyclical changes also probably did not have a great effect on the ability of temperate elements to colonize higher altitude areas of New Guinea (given the obstacles mentioned above). With a considerable fraction of New Guinea mainland consisting of mountains, there were more or less favorable areas available for colonization, whether at altitudes of 4000-5000 m at times of minimum ice-cover or at 2500-3000 m at times of glacial maxima.

Sphingnotus, Sepicana, Pascoea, Elaidius and Tmesistemopsis occur primarily at low altitudes, though a few species may occur up to 1500 or 1700 m in the bottoms of the broad highland valleys of New Guinea. The New Caledonian and Australian species are naturally limited by the highest summits: 1936 m in New Caledonia and about 1586 m in NE Australia. There are as yet no records for the higher altitudes of the Solomons (2960 m on Bougainville and ca. 2250 m on Guadalcanal). Several species probably reach the higher altitudes of the Bismarcks (Gazelle Penin. of New Britain, to ca. 2300 m).

Both *Tmesisternus* and *Trigonoptera*, however, extend to the fringes of the highest forests on the New Guinea mainland (probably to 4200 m), with definite records to 3800 m in the west and 3600 m in the east. However, the 2 genera do not have equivalent ratios of altitudinal occurrence. Though both extend up to the same altitudes at the forest fringes, *Trigonoptera* has a higher percentage of its species known only from above 2000 m. For *Tmesisternus* 34 species and for *Trigonoptera* 20 species are known from above 2000 m. This is also reflected in the respective numbers of new species described in this paper (this being the first paper to report on extensive collections from the higher interior mountains of the Central Ranges). Of the 298 *Tmesisternus*, 72 are here described as new, and 21 of these are known only, or primarily, from above 2000 m (7% of total). Of the 59 known *Trigonoptera*, 19 are here described as new, and 8 of these are known

only, or primarily, from over 2000 m (14% of total). Altitudinal zonation of principal genera is shown in Table 5.

ALT. ZONES	Sphingnotus	Sepicana	Pascoea	Tmesisternus	Trigonoptera
Upper montane to subalpine 2300–4000 m	_	—		16	7
Mid montane 1300-2300 m	1	1	-	65	14
Lower montane 660-1300 m	3	1	3	82	12
Lowland & hill forest 1-660 m	12	4	14	192	39

TABLE 5. Altitudinal zonation of principal Wallacean-Papuan genera.*

* Zones as outlined in Gressitt & Nadkarni (1978). Numbers of species are partly inflated, as some species occur in more than 1 zone.

One species-group of *Tmesisternus* and 2 of *Trigonoptera* are known only, or almost solely, from over 2000 m. However, 5 species-groups of *Tmesisternus* and 4 of *Trigonoptera* occur above 2000 m. Most of the high altitude *Tmesisternus* are of small or medium-small size, whereas the high altitude *Trigonoptera* include the largest members of the genus. It would appear that *Trigonoptera* may have moved earlier to medium-high altitudes, whereas *Tmesisternus* may have reached higher altitudes more recently. In either case the evident success of the genus *Tmesisternus* seems to reflect great genetic flexibility and adaptability. The extreme diversity within *Tmesisternus* – reflected in number of species, variety of size and form, wide range of host-plants, and occurrence – seems to suggest a rapid rate of evolution.

Unfortunately, very little ecological information is available relating to *Trigonoptera*, except the interesting fact that 2 of its species have been collected in series in the crown of a tall *Nothofagus* tree.

# Relatives of the Tmesisternini

The closest relatives of the tmesisternines are probably members of the tribes Homonoeini (including Bumetopiini) and Enicodini. The former occur from Japan and China to India, Sri Lanka, Micronesia, Fiji and Samoa, with again slight representation in NE Australia. The main concentration of Homonoeini occurs in the area from the Philippines to the Solomons, but the entire range of the tribe completely envelops that of the Tmesisternini. However, Homonoeini has fewer species than Tmesisternini.

The related tribe Enicodini is essentially limited to New Caledonia and the
Loyalty Is. Some related groups occur in New Zealand. Thus, the tmesisternines and their close relatives are largely insular, occurring from New Zealand and Samoa to Japan and Sri Lanka, with rather limited occurrence on the mainlands of Asia and Australia. This may suggest that they are fairly old and somewhat primitive, and that they have survived largely on islands and have not competed successfully with younger groups that evolved on the Asian mainland or the Australian continent. If this is true, then they probably did not originate in these islands, which are mostly younger than mid-Tertiary.

It might be said that the Tmesisternini and relatives may play the ecological role on the islands that is played by the tribes Mesosini, Xylorhizini, Rhodopinini, Saperdini and others in Asia and by the tribes Ancitini, Zygocerini and others of Australia, the Crossotini, Sternotomini, Tragocephalini, Ceroplesini and Phrynetini of Africa and the Adetini, Acanthoderini and Onciderini of tropical America. Note. Since the manuscript was submitted, I learned from R.C. Marinoni of Curitiba that for his doctoral thesis he made a numerical taxonomy study of the type-species of 59 tribes of Lamiinae, using 192 characters. He found the Tmesisternini (*Tmesisternus*) closest to the Mesosini (*Mesosa*). This, again, suggests Asian origin for the group. Unfortunately, Marinoni had no material of the Homonoeini for his study.

## Relationships among species-groups of Tmesisternus

The former division of the genus into Arrhenotus and Tmesisternus s. str. created considerable deception and distorted actual relationships. Thus, some very closely related species-groups were put in separate subgenera. Also, there are a number of species which could not be placed with certainty in one subgenus or the other, having intermediate characteristics. Likewise, males of some were assigned to the former and females to the latter. Below is a list of some of the species-groups, showing close relationships between groups which were formerly in the separate subgenera:

"Arrhenotus"			"Tmesisternus s. str."
rafaelae salomonus			schaumi
adspersus	s	>	ruficornis
jaspideus timorlautensis	1 		trivittatus obsoletus
irregularis	2 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -		sulcatus
latithorax			agriloides
subchlorus trapezicollis			viridipennis
griseus			monticola

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Also, the *ruficollis*-group may be related to the *monticola*-group. Some of the "intermediate" or difficult species or species-groups include *atrofasciatus, dubius, rafaelae, bruijni, vagefasciatus, torridus* and *olthofi. Pseudosulcatus* may represent a link with *Trigonoptera*, and perhaps more intermediates may come to light.

## Origins

The Tmesisternini and the related tribes, having a strongly Wallacean-Papuan concentration (plus tropical Inner Melanesian Arc & E Australia), suggests the possibility of the groups having originated from Gondwanan ancestors. Thus, they might have proliferated on the leading edges of the northward-drifting Australian tectonic plate. However, if that were the case their relatives in South America, Africa or Madagascar are not at all obvious. Thus, this theory would have required extensive extinction in those areas as well as in Australia.

As the majority of the genera of these tribes are centered in New Guinea, and the great majority of the species of the 2 largest genera of tmesisternines occur on New Guinea, the situation seems strongly suggestive of active and rapid evolution on the island. As New Guinea has a great variety of environments and the greatest altitude range of any island, with some of the highest altitude forests, and a diverse flora, it is obvious that a great range of ecological niches is available. Thus, an active and successful group here can exercise the potential of diversifying to meet the challenge of ecological opportunity in a favorable environment.

The high concentration on New Guinea suggests that much of the evolution in the group is recent and is actively in progress. This relates closely to the geological youth of many of the major New Guinea mountain ranges. The large numbers of closely related species and closely related species-groups also suggests that there may have been relatively little extinction on New Guinea during the ice ages of the Pleistocene. The ecosystems were obviously moving up and down in altitudinal range during the period and there is a fair amount of documentary evidence of this already (see Gressitt, ed. 1982). Some of the apparent evidence of rapid evolution is that some of the apparent species-groups, as well as some of the groups previously designated as genera or subgenera, are not completely distinct, but are connected by intermediate species. This again suggests relatively little extinction.

#### Phylogeny

The phylogeny of the tribe has not become clarified in the studies to date. In some ways *Tmesisternus* seems to be the most generalized genus and seems to have some of its divisions modified to point toward various other genera of the tribe, even though it lacks distinct subgenera. Other possibilities might be that *Sphingnotus, Arrhenotoides* or *Buprestomorpha* might be representative of the most primitive line. Still another possibility might be that *Elaidius* (lacking thoracic tubercles) might be an offshoot of the intermediate step between Homonoeini and Tmesisternini, whether the latter evolved from the former, or vice versa. Or another hypothesis might be that the group evolved from still other lamiines through ancestors of *Karadinia* or *Falsapolia*. If that were the case, then the Homonoeini might have derived from the Tmesisternini rather than the reverse. The accompanying diagram (Fig. 20) represents a very tentative proposal for a phylogeny of the group. The diagram shows the above alternative theories by dashed lines and question marks to stress its tentative nature. Perhaps *Blapsilon* and *Epiblapsilon* are the most specialized and divergent, with their short stout bodies, broad and rounded behind. They must be relics of a long divergent line, now well separated by extinctions.

## Structural adaptations

In addition to the conspicuous characteristic of the head projecting forward instead of vertically downward as in other lamiines, there are a number of special adaptations of form in some of the genera of tmesisternines. Usually the prothorax is armed at the side with 1 or 2 tubercles, or a tubercle and a lateral margin. The latter may be greatly expanded in the male. The lateral margin is also unusual for this subfamily, most members of which have a more or less cylindrical prothorax (though often tuberculate near middle of side). But in some tmesisternines there are added male sexually dimorphic characters involving extra processes on the head or prothorax (see below). As compared with many lamiines, the antenna is relatively short in the male, only a little longer than the body, and often shorter than the body in the female.

In spite of the above largely common characters, there is great variation in form, especially among some of the genera occurring in New Caledonia and Australia, as well as in *Sepicana* and *Pascoea*, largely of New Guinea or nearby islands.

The most prevalent form, that of many of the members of *Tmesisternus*, and also of *Sphingnotus, Sepicana* and *Pascoea*, may be said to be "buprestiform"—elliptical both in dorsal outline and in crosssection. They are thus shaped more like some groups of Cerambycinae, such as Glaucytini or Purpuricenini (from relatives of which they might possibly have formed a remnant of the link between Cerambycinae and Lamiinae). Two of the "buprestiform" shape, though relatively broader, whereas the other 2 New Caledonia genera are quite different and unlike the rest of the tribe, with very short deep bodies, rounded behind. *Trigonoptera* is somewhat different from the rest, being deeper-bodied than most and with the elytron quite triangular and strongly narrowed posteriorly. Though formerly placed in a separate tribe, they have much in common with the rest, and are logically put in the same tribe.

#### Sexual dimorphism

Various sections of this tribe have moderate to extreme sexual dimorphism.



FIG. 20. Diagram of possible phylogeny of Tmesisternini, with some less likely alternative possible origins indicated by -? -.

The dimorphism is expressed in several ways. Most frequent dimorphism is in the shape of the lateral margin of the prothorax. In several of the genera, and nearly 1/2 of the species-groups of *Tmesisternus*, males have a broader pronotum, with the lateral prothoracic margin modestly to extremely expanded. This expansion may be straight-sided, forming a square or rectangular pronotum (Pl. 7a, 8h), or it may be expanded in a broad transverse oval (Pl. 2c, d), a near circle, a 2-lobed flange (Pl. 7d-f), a trapeziform shape (Pl. 2a, 8c, d), or wider anteriorly (Pl. 2b, 4a, 9a). The females of many of these have the prothorax sinuate (Pl. 7b) or oblique at side (Pl. 7g, h), irregularly trapeziform (Pl. 8e) or unevenly rectangular (Pl. 5f, right). In some the prothorax has merely 2 small lateral tubercles, as in males and females of groups lacking the strong dimorphism (Pl. 2i, 10c, f, etc).

Another form of sexual dimorphism involves an extra process from the side of the prothorax of the male. In almost all *Tmesisternus*, and in *Pascoea*, there are 2 lateral tubercles ("anterolateral" and "midlateral" = "lateral") and in many of the species in the male the "anterolateral" tubercle is continued posteriorly as the expanded pronotal margin, as mentioned in several forms above. In males of species of *Sepicana* there is sometimes a very long flat extra process. It points obliquely forward from the side of the prothorax and may extend almost as much as the basic pronotal width on each side (Pl. 5g). In larger males of some species of *Pascoea* there is another process, extending obliquely forward from the genal angle of the head (Pl. 5c, j). These processes are completely lacking in the females.

The explanations for the purposes and functions of these processes are lacking. One may conjecture that being forward (obliquely) protruding processes on the somewhat maneuverable prothorax, or still more maneuverable head, and occurring only in males, they may be involved as probes or levers used in fighting between males. They seem clearly to be in the category of the horns of male rhinoceros beetles and the mandibles of male stag beetles, which are used in male fighting. They apparently also represent the degree of development of the males in a similar manner. That is, the processes may be very large in some males of a species, but may be weakly developed or intermediate in others. The degree of development presumably relates to the amount of food and favorable circumstances available to the beetle larva during development and the genetics involved. The result of the major development of the structure is sexual selection: the larger males (with longer processes) are more successful in mating with females after turning away smaller males. Thus the genetic make-up of newly developing offspring presumably favors the greater development of longer processes, pushing the dimorphism to greater extremes. The processes in some individuals would seem to have almost reached the point where they would become hazardous to the activities of the owners. The expanded lateral prothoracic margins probably serve a similar function, which suggests an advantage for males with the prothorax more expanded anteriorly.

The former subgenus Arrhenotus (still earlier called a genus) was based on sexual dimorphism of the prothoracic margin. This served as an excellent prime character for a subgenus, even though occurring only in the male. Unfortunately, many species or groups are on the borderline between Arrhenotus and Tmesisternus, rendering Arrhenotus redundant. Some species were described with the male in Arrhenotus and the female in Tmesisternus, when found separately and as isolated individuals.

In examining individuals of a large series of members of various species-groups of which species were formerly assigned to subgenus *Tmesisternus* s. str., some minor sexual dimorphism may be observed. This usually takes the form of a roughening or thickening of the lateral edge of the pronotum; that is, the margin behind the anterolateral tubercle, or continuation of latter. This suggests that there may be an active tendency in the tribe as a whole toward sexual dimorphism. Thus, many specimens may be found in species assigned to *Tmesisternus* s. str., which show the tendency to shift to "Arrhenotus." This fact,

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plus the existence of apparent species-groups spanning the supposed separation between the 2 subgenera, provides strong evidence for abandoning "Arrhenotus."

#### Mimicry

The Tmesisternini include many species with cryptic coloration of greens and browns, with or without disruptive lines or patterns. Some cryptic patterns are of oblique lines or bands, stripes, or oblique bands and stripes, or other marks. The tribe also includes some of the most colorful insects in the world, with species 20-40 mm long of brilliant metallic colors of varying shades of green, blue, purple or red. The reasons for, and functions of, these brilliant colors have not yet been assessed, but they suggest warning coloration.

More puzzling still is some remarkable mimicry among species which are related both ecologically and taxonomically. Three species of the same size collected on logs at the same locality (Kiunga, Fly River) have identical patterns and almost identical form. The resemblance, to minute details of pale pubescent patches in surface depressions coextensive with the spots, and in small puncture-spots and identical areas of pubescence of the same shade, ventrally as well as dorsally, is remarkable. The 3 species belong to 2 genera, *Pascoea* and *Sepicana*, 2 to the former. Series of both sexes of each species have been examined. All 3 species are sexually dimorphic, especially the *Sepicana* (albomaculata). For the 2 species of *Pascoea* (degenerata and mimica), genitalia were examined (Fig 1a, b). The 2 differ in secondary as well as primary sexual characters. The reasons for this mimicry remain baffling.

Another similar case of apparent mimicry is the remarkable resemblance of both sexes of *Tmesisternus ruficornis* to the females of the sympatric T. *viridescens* (a former "Arrhenotus"). The former is not conspicuously dimorphic, but the latter is, with the strong lateral margins of the male prothorax. Again, these are large, beautiful species with a complex pattern of pubescence of various shades of blue to gray-blue.

## ECOLOGY

In spite of the size of this group, very little is known about the ecology. Nothing at all is known for most of the species. Most of the economic records relate a few common larger species to cacao. Some of the data are presented in Table 6.

The role of Tmesisternini in the rain forest ecosystems is definitely considerable in terms of the break-down of dead wood, the pruning of excess branches and the culling of unhealthy trees. This statement is based on the numbers of species and individuals occurring in all rain forest areas. Such areas cover about 75% of the land of the New Guinea region. In the Maluku Is, Sulawesi and Lesser Sunda Is, there has been more extensive loss of forests over centuries, and over recent decades for New Caledonia.

The Tmesisternini comprise about 16% of the biomass of the longicorns (Cerambycidae s. lat.) of the Wallacean-Papuan-Melanesian region and about 18% of the biomass of the longicorns for the rain forest areas. This study is based on 6000 specimens of the tribe out of about 90,000 specimens of longicorns from the areas comprising the geographical range of the Tmesisternini. Their relatives the Homonoeini comprise far fewer species and a far smaller fraction of the biomass.

The span of size-range of the tmesisternines (7-43 mm) is somewhat medial to the size-range of the longicorns of the area (3-100 mm). The average size for the tmesisternines is slightly larger than that for the longicorns of the areas as a whole. The longicorns, in turn, comprise over 50% of the wood-boring beetles of the area in terms of biomass.

In NE Australia the tmesisternines comprise only about 1% of the longicorn biomass. The species there are relatively small, and the group is absent from most of Australia. These and other facts presented above suggest that the tmesisternines evolved in rain forests.

Additional to records in Table 6, adults of *Tmesisternus politus* and *T. schaumi* yorkensis were collected on oil palm (*Elaeis guineensis*) in eastern New Guinea and New Britain, respectively, in addition to cacao.

In various records (by W. W. Froggatt, J. L. Froggatt, G. Dun, B. A. O'Connor, R. T. Simon Thomas, J.J.H. Szent-Ivany, etc.) cited by Szent-Ivany (in prep.), larvae were found in stems and branches of living cacao trees, and adults were found, sometimes in numbers, on cacao stems. Rather little information is available on original native hosts. Adults of many of the species listed in Table 6 are commonly found on fresh logs resulting from the clearing of lowland rain forest.

Tmesisternines are active flyers and often are rapid in their motions, running at times, though much less active than the clerid beetles and zygopine weevils which occur with them on the newly felled logs. They are commonly found on logs and branches resulting from the felling of rain forest trees. Though abundant at low altitudes, some species have been found close to the treeline in New Guinea, which is often at around 4000 m. This group is more strongly diurnal than most lamiines.

In view of the large number of species in this tribe in New Guinea, it is assumed that many species of rain forest trees serve as hosts. Several of the species are apparently restricted to ferns. Perhaps the majority of the species are not monophagous, but also not grossly polyphagous.

#### Immature stages

Larvae of Cerambycidae may be recognized by being pale, slender-elongate,

TABLE 6.	List of host or plant collection records for Tmesisternini.	
(Those asterisk	ed are rearings or verified; see in main text for documentation.)	

SPECIES	PLANTS	AREA
Sphingnotus m. mirabilis	Ficus, Terminalia, Dioscorea	NG (NE: SE)
S. insignis albertisi	Ficus, Alphitonia, Polyscias, Castanopsis acuminatissima	NG (NE): Bulolo
S. dunningi gazellus	Theobroma cacao	New Britain
Pascoea spinicollis	*Artocarpus	NG (SE): Milne Bay
Temnosternopsis dissimilis	Araucaria cunninghamii	Australia (NE): Old
Tem'ps. quadrituberculatus	*Baloghia lucida	······································
Temnosternus planiusculus	*Agathis robusta	<i>11 11</i>
Tem'us imbilensis	*Araucaria cunninghamii	11 11
Tmesisternus denticollis	Pittosporum	NG (NE): Kaindi
Tm. sulcatus	*Dysoxylum parasiticum	NG (NE): Bulolo
Tm. costiceps	Piper	NG (NE): Mt Shungol
Tm. obliquefasciatus	*Cyathea, *Pteridium, Eugenia	NG (NE): Mt Kaindi
Tm. quadriplagiatus	Rapanea	NG (NE): Bulldog Rd
Tm. schraderi	Araucaria	NG (NE): Okana
Tm. pteridophytae	Cyathea atrox. Pteris	NG (NE): Mt Wilhelm 3300 m
Tm. schaumi yorkensis	*Theobroma cacao, Pterocymbium, Terminalia brassi	New Britain
Tm. schaumi obscurus	*Theobroma cacao	N Solomons: Bougainville
Tm. politus	Carica papaya, Trema	NG (NE): Bulolo
Tm. trivittatus	*Theobroma cacao, Xanthophyllum, Tectona	NG (NE): many locs.
Tm. vinculatus	Prunus, Evodia, Pipturus	NG (NE): Bulldog Rd
Tm. wiedenfeldi	Symplocos	NG (NE): Aseki
Tm. viridipennis	Alstonia, Cyathea	NG (NE): Kaindi: (SE): Mendi
Tm. monticola	Ficus calopilina, Xanthophyllum, Araucaria, Castanopsis acuminatissima	NG (NE): Bulolo
Tm. variegatus	palm	NG (NE): Madang
Tm. transversus	*Theobroma cacao	NG (NE): Lae area
Tm. virescens pteridii	*Pteridium aquilinum, *Cyathea, Dennstaedtiaceae, Ficus, Cyphomandra	NG (NE): Mt Kaindi; Bulolo
Tm. flavolineatus	Solanum	NG (SE): Goilala
Trigonoptera g. guttulata	Schuurmansia	NG (NE): Jimi val
Tr. s. spilonota	Eucalyptus deglupta	NG (NE): Gogol Riv $(2x)$
Tr. pseudomaculata	Eucalyptus deglupta. Sonchus	NG(NE): Bulolo
Tr. marmorata	Nothofagus carri	NG (NE): Mt Kaindi
Tr. nothofagi	*Nothofagus carri	11 11 11

* Reared or reasonably verified.

depressed-cylindrical, or nearly cylindrical with head and pronotum flattened. They are usually creamy white to yellowish with the anterior portion of the head brown to pitchy; the pronotum may have a pigmented pattern and the first 7 or so abdominal segments each have a transverse swelling with callosities, above and below, for locomotion. Larvae of Lamiinae are legless but members of other subfamilies may have minute true legs. Larvae of Lamiinae differ from those of

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the other subfamilies in having the head-capsule longer than broad and not indented behind. The head-capsule is deeply imbedded in the prothorax; the mandibles point forward. The larva when mature is usually almost 1/2 again as long as the adult will be.

The pupa is close in size to the adult, is white to pale testaceous, and has the legs and antenna as well as wing-pads external and distinct. The antenna in the Lamiinae is usually coiled in the distal portion, whereas in other subfamilies it is usually simply arched or nearly straight at the side of the body. The pupae have short spines on the terminal segments of the abdomen, mostly oblique or sub-transverse. (See Fig 9 and *Tmesisternus* species 115 and 286.)

# SUMMARY

'This work recognizes 422 species or allopatric subspecies in 15 genera of the lamiine tribe Tmesisternini. The tribe occurs from Sumatra to New Caledonia through Wallacea and the Papuan Subregion. It is represented in northeasternmost Australia and appears to be absent from Vanuatu (New Hebrides). This represents a very limited distribution for a tribe of this size. The great majority of the species occur on the island of New Guinea and the percentage of the total species of the tribe limited to New Guinea will increase as the montane fauna becomes better known. Most of the genera on New Guinea also occur on some of the nearby islands, whereas 4 genera are endemic to New Caledonia and 4 may be endemic to Australia. The genera *Tmesisternus* and *Trigonoptera*, the largest by far (together 84% of the tribal species), are nearly as widespread as the tribe, both being represented in Australia, but neither is known from New Caledonia, the only geographical unit in the tribal range with 100% generic endemism.

Evidence of Gondwanan origin for this tribe has not been forthcoming, and relationships appear to be with Asia in spite of 99.6% of the species occurring east of Wallace's Line. However, this subject must be investigated further.

Members of this tribe are abundant in New Guinea and occur to the highest forests at over 4000 m altitude. Ecologically they replace some of the dominant tribes of lamiines of Australia and SE Asia. They are associated with various groups of dicot plants, including the economically important introduced crop cacao, but they are also associated with ferns. At least some members of the next related tribe, Homonoeini, are associated with monocot plants. The Homonoeini have a similar but wider range, extending to Sri Lanka and Samoa, but have far fewer species and smaller populations. Both of these tribes have a body form different from typical lamiines and more closely resemble some cerambycines, with forward projecting mouthparts.

Sexual dimorphism is conspicuous in parts of some of the genera, but this has masked some actual relationships and led to some unnatural taxonomic assignments. There are some striking cases of close mimicry between related dimorphic sympatric species, which is not yet explained. Also there is at least 1 case where 1 sex of a dimorphic species is readily confused with a nondimorphic sympatric species in a separate species-group. Much remains to be learned about the origin and ecology of this group.

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PLATE 1. a, Sphingnotus m. mirabilis; b, S. mirabilis splendens; c, S. m. mirabilis; d, S. insignis albertisi; e, S. i. insignis; f, S. d. costipennis; g, S. d. gazellus; h, Elaidius biplagiatus; i, Sepicana albomaculata.



PLATE 2. a, Tmessisternus costatus, type-specimen (BMNH); b, Tm. renii; c, Tm. stellae; d, Tm. planicollis,  $\Im$ ; e, Tm. bosavi; f, Tm. salomonus vellalavellae; g, Tm. atrofasciatus; h, Tm. schaumi interruptus; i, Tm. schaumi leleti.



PLATE 3. a, Tmesisternus dohertyi; b, Tm. cupreosignatus; c, Tm. isabellae; d, Tm. elegans; e, Tm. e. excellens; f, Tm. speciosus jobiensis; g, Tm. mamberamo; h, Tm. paracyclops pormontis; i, Tm. rufotriangularis.



PLATE 4. a, Temnosternus flavolineatus; b, Trigonoptera regina; c, Tr. sumptuosa; d, Tr. trikora; e, Tr. sordida (ssp?); f, Tr. acuminata; g, Tr. perspicax; h, Tr. monticorum; i, Epiblapsilon tuberculatum.



PLATE 5. a, Tmesisternopsis pauli; b, Pascoea undulata; c, P. idae; d, Tmesisternopsis ochraceosignatus; e, Pascoea brunneoalba; f, P. mimica  $\delta$ ; g, P. mimica  $\varphi$ ; h, Pascoea torricelliana; i, Tmesisternus finisterrae; j, Sepicana albomaculata; k, Pascoea spinicollis.



PLATE 6. a, Tmesisternus kapauku; b, Tm. renii; c, Tm. angae; d, Tm. laensis; e, Tm. flyensis; f, Tm. lamingtonus; g, Tm. brandti; h, Tm. karimui; i, Tm. niger.



PLATE 7. a, Tmesisternus sedlaceki; b, Tm. fumatus; c, Tm. toxopei; d, Tm. rubrus; e, Tm. paniae; f, Tm. maai; g, Tm. szentivanyi; h, Tm. wauensis; i, Tm. convexus.



PLATE 8. a, Tmesisternus olthofi; b, Tm. rossi; c, Tm. anomalus; d, Tm. cuneatus; e, Tm. obtusatus; f, Tm. assimilis, type specimen (BUDAPEST, kindness of Dr Z. Kaszab); g, Tm. gracilis; h, Tm. attenuatus; i, Tm. lacustris.



PLATE 9. a, Tmesisternus virens; b, Tm. denticollis; c, Tm. dubius rufithorax; d, Tm. sulcatellus; e, Tm. arabukae; f, Tm. nami; g, Tm. brassi koresi; h, Tm. parasulcatus; i, Tm. pteridophytae.



PLATE 10. a, Tmesisternus giluwe; b, Tm. nitidus; c, Tm. beehleri; d, Tm. reductus; e, Tm. samuelsoni; f, Tm. goilalae; g, Tm. habbemanus; h, Tm. asaroanus; i, Tm. bosaviensis.



PLATE 11. a, Tmesisternus subuniformis; b, Tm. subaureus; c, Tm. olivaceipes; d, Tm. ochrostictus; e, Tm. quadripustulatus; f, Tm. sylvanicus; g, Tm. popondettae; h, Tm. variegatus; i, Tm. nabirensis.



PLATE 12. a, Tmesisternus ornatus kraussi; b, Tm. brevis; c, Tm. flavolineatipennis, type specimen (BUDAPEST, kindness of Dr Z. Kaszab); d, Tm. montanus; e, Tm. subalpinus; f, Tm. longicollis; g, Trigonoptera annulicornis; h, Tr. cincta; i, Tr. nothofagi.