

CHRYSOMELID BEETLES FROM THE PAPUAN SUBREGION, 8 (Chrysomelinae, 1)¹

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Abstract: This paper treats the genus *Promechus* only. The species are known from the mainland of New Guinea, the Aru Islands, Waigeu and Queensland. None have been seen from the Bismarck Archipelago or the Solomon Islands. Forty-one species are treated at this time, but some previously recorded ones have not been identified from material at hand. Twenty-four species are described as new in this paper. *Promechus* includes some of the largest and most beautiful Chrysomelidae.

This is the first installment in this series³ for the subfamily Chrysomelinae. It concerns only the genus *Promechus* which includes some of the largest and most beautiful members of the Chrysomelidae. The members of this genus are surface feeders on leaves of rainforest trees, in both larval and adult stages. They are very commonly associated with trees in the Araliaceae, especially *Schefflera* and *Boerlagiodendron*, but also with *Pittosporum* and other trees. The species occur from sea level up to nearly 3000 meters altitude.

Previously about 23 species had been recorded for the genus *Promechus*. They are known from New Guinea, Waigeu, the Aru Islands and Queensland. None have been recorded from the Bismarck Archipelago or the Solomon Islands, and none from those islands are represented in the material at hand. Some of the old species have not been recognized among the material at hand. In this paper 41 species are treated, of which 24 are described as new. Most of these latter are from the interior mountains of New Guinea.

The subfamily Chrysomelinae is moderately represented in New Guinea. The genera represented in this subregion are of mixed relationships, some deriving from Southeast Asia and some from Australia. At this stage it is not possible to state whether the Oriental or the Australian constituents form a more important part of the fauna. The subfamily is relatively of much less importance in New Guinea than it is in Australia, but it may be more important in New Guinea than it is in the Malaysian-Indonesian area. A key to the Papuan genera of the subfamily should appear in the next installment of this series.

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2. Bishop Museum, Box 6037, Honolulu, Hawaii 96818.
3. For preceding installment of this series see *Pacific Insects* 13 (3-4): 607-09, 1971.

Genus *Promechus* Boisduval

Promechus Boisd., 1835, Voy. l'Astrolabe, part 2, 585 (*P. splendidus* Boisd., Nouv. Guin., listed first; *P. aeneus* Boisd., Nouv.-Holl., listed second and last). — Chevrolat, 1843, in d'Orbigny, Dict. Univ. d'Hist. Nat. **3**: 656. — Gahan, 1915, *Trans. Zool. Soc. Lond.* (separate publication), 21 p. (p. 18) (*Aesernia* synonymized).

Promechus Dejean, 1835, Cat. Coleopt., ed. 2, 395; 1837, idem, ed. 3, 419 (type-species: *Promechus splendidus* d'Urville [= *splendidus* Boisd.], listed first; *P. aeneus* Dej. listed second and last).

Aesernia Stål, 1860, *Ofv. Vet. Ak. Förh.* **17**: 455 (type-species: *Phyllocharis splendens* Guér. listed first; *splendida* Boisd. listed second and last).

This genus is characterized by large size, elongate form, longitudinal puncture-rows and subtransverse depressions on side of elytron.

Promechus appears to have evolved in the Papuan area, or at least to have speciated extensively here if it originated elsewhere. Its relatives are in Australia, Indonesia and perhaps also in Chile. We have not followed this question sufficiently to decide the matter at this time.

The species of *Promechus* are here assigned to nine species-groups. Although the members of the genus are in general rather uniform in structure, those of 2 species-groups, *stygius* and *montanus*, diverge from the rest in being much rougher dorsally and in having the bodies wider and deeper, and thus very strongly convex, as well as strongly rugose or sulcate. Perhaps some of the forms described as new species at this time actually represent races of super-species of wide distribution through the island. Material from more areas is required as is much more study to establish this and other points which are uncertain at this time.

Biology. Both larvae and adults are leaf-feeders, and the larvae and adults of a species usually feed on the same species of host and are often found together on the same individual plants. The larvae of the larger species in this genus may possibly be the largest leaf-feeding beetle larvae which feed on the surfaces of leaves (as opposed to the larvae of large hispine beetles which mostly feed in more protected environments at the bases of large leaves of monocots). As far as the feeding habits of *Promechus* are known, a number of the species feed on members of the Araliaceae (especially *Schefflera*, and also *Boerlagiodendron*) and Pittosporaceae. *Schefflera* is attacked from high altitudes to sea level. The known records for *Pittosporum* as a host are mostly at middle and upper altitudes, and those for *Boerlagiodendron* at lower altitudes.

Taxonomy. The classification of the species of this genus has presented a number of puzzling problems. External adult characters are often quite variable within a species. This may apply to color, size and to some extent form and surface contouring. The aedeagus proves to be a much less useful character in this group than in most chrysomelids, there being very slight differences from species to species and remarkable uniformity throughout the genus. It is interesting that an aedeagal color character divides two portions of the genus. The spermatheca also proves not to be a very useful character here. There is frequent variation of form within a species, making the usefulness of this character, somewhat questionable. Some species appear to be fairly consistent and others highly variable. This may relate to the assumed active evolution referred to below.

Evolution and zoogeography. This genus occurs in northeastern Australia, and has some relatives (*Aesernioides*, *Phyllocharis*) there. However, *Phyllocharis* and other relatives

also occur in SE Asia, and this group may have entered Australia more recently than other lines of Chrysomelinae which evolved extensively in Australia. Since the genus *Promechus* itself is almost entirely restricted to the mainland of New Guinea (with outliers only in a few places such as Queensland, Aru Islands, Waigeu and Salwatti), it would appear that it speciated primarily on the land or islands which became further elevated to form the island of New Guinea in late Tertiary. With the union of those many probable former islands, there was no doubt much mixing of partially segregated species, to foster new trends in gene flow. Furthermore, with the geological elevation, new mountain ranges were generated, providing new fields for segregation of populations. Thus it is suggested that evolution has been proceeding very rapidly in new directions since the Pliocene upthrusts, and that many young and incipient species have been proliferating. This somewhat parallels the picture briefly discussed for the weevil genus *Gymnopholus* (Gressitt, 1966, *Pacific Ins.* 8: 221), although the latter situation differs in that *Promechus* is common at sea level whereas *Gymnopholus* does not seem to occur below about 800 meters altitude. Furthermore, *Promechus* occurs on neighboring lands to south and west of New Guinea, whereas *Gymnopholus* is restricted to the mainland of the island of New Guinea. Why *Promechus* occurs at sea level in New Guinea, Aru and Queensland but is absent from the Bismarck Archipelago is not readily explained. It suggests that *Promechus* proliferated very recently, and that the water separation of New Guinea and the Bismarcks has been fairly long-standing. Both *Gymnopholus* and *Promechus* include rather large and heavy-bodied insects. Members of *Gymnopholus* are flightless, and those of *Promechus* are smooth-bodied, compact and streamlined. Thus, members of both genera are unlikely to be transported by air currents as readily as are members of many other groups of insects.

GEOGRAPHICAL RECORDS

Under geographical records for each species, "Irian" stand for Irian Jaya (formerly Irian Barat, West Irian; earlier Netherlands New Guinea), with records subdivided for NW New Guinea and SW New Guinea. PNG stands for Papua New Guinea, formerly Territory of Papua and New Guinea, including NE New Guinea (Terr. of NG, earlier German NG) and Papua (SE NG, earlier British NG).

CHECK-LIST OF SPECIES KEYED

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| <p>Splendens-group</p> <p>1. <i>splendens</i> (Guér.)</p> <p>2. <i>pulcher</i>*</p> <p>3. <i>telefominus</i>*</p> <p>4. <i>orientalis</i>*</p> <p>Variicollis-group</p> <p>5. <i>variicollis</i>*</p> <p>6. <i>parentheticus</i>*</p> <p>7. <i>inflatus</i>*</p> <p>8. <i>schefflerae</i>*</p> <p>Magnificus-group</p> <p>9. <i>magnificus</i> (Baly)</p> <p>10. <i>lacustris</i>*</p> | <p>11. <i>moszkowskii</i> (Kuntzen)</p> <p>12. <i>giganteus</i>*</p> <p>Australicus-group</p> <p>13. <i>australicus</i> (Jac.)</p> <p>Whitei-group</p> <p>14. <i>whitei</i> (Baly.)</p> <p>15. <i>bimaculatus</i> (Ws.)</p> <p>16. <i>buprestoides</i>*</p> <p>17. <i>arcuatus</i> (Clav.)</p> <p>18. <i>shanahani</i>*</p> <p>19. <i>corallipes</i> (Gestro)</p> <p>20. <i>regalis</i> (Baly)</p> <p>21. <i>sumptuosus</i> (Gestro)</p> |
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* Described as new

22. <i>metallicus</i> *	31. <i>gestroi</i> (Jac.)
23. <i>latefasciatus</i> (Jac.)	32. <i>eburneocinctus</i> *
Parvus-group	33. <i>montanus</i> (Hllr)
24. <i>parvus</i> *	34. <i>stryatmani</i> *
Helleri-group	35. <i>costatus</i> (Jac.)
25. <i>helleri</i> (Clav.)	36. <i>abidi</i> *
Montanus-group	37. <i>subapicalis</i> *
26. <i>meeki</i> (Jac.)	38. <i>sulcatus</i> *
27. <i>paniae</i> *	39. <i>sculpturatus</i> (Hllr)
28. <i>toxopei</i> *	Stygicus-group
29. <i>sedlacekorum</i> *	40. <i>stygicus</i> *
30. <i>pittospori</i> *	41. <i>prosopon</i> *

KEY TO SPECIES OF PROMECHUS

1. Elytral base rather smooth, with rows of fine punctures which are not in deep grooves; abdomen usually pale distally; aedeagus usually reddish.2
- Elytral base rather distinctly corrugated with strong ridges between the grooved puncture-rows; abdomen often entirely dark; aedeagus often blackish.27
- 2(1). Elytral interstices very smooth, nearly level except between lateral foveae.3
- Elytral interstices somewhat convex and puncture-rows weakly, but not deeply, grooved.21
- 3(2). Elytron pale apically, at least externally; rarely entirely metallic.4
- Elytron metallic apically, with a preapical pale band or spot.13
- 4(3). Elytron entirely metallic.5
- Elytron pale apically.6
- 5(4). Elytral puncture-rows more or less continuous to apical quarter; femora and tibiae reddish; elytron deep blue.19. ? *corallipes* (Gestro)
- Elytral puncture-rows mostly confused at beginning of apical quarter; legs metallic; elytron usually largely golden green.1. *splendens* (Guér.)
- 6(4). Elytron with an arcuate pale mark, curving from suture just behind middle across elytron and along external margin to apex.7
- Elytron pale on apical 1/4 to 3/5.8
- 7(6). Pronotum not distinctly grooved medially, bronzy, pitchy or pale; elytral interstices not very even; body length 12-14 mm.6. *parentheticus**
- Pronotum finely grooved medially; purplish green; elytral interstices slightly raised; body length 16-18 mm.7. *inflatus**
- 8(6). Elytron with 3 transverse-oblique rows of foveae (depressions in puncture-rows) on lower part of side.9
- Elytron with 3rd row of depressions represented only in 3rd and 4th puncture-rows from suture, with minor exceptions in some individuals; nearly posterior 1/2 of elytron pale, with division sinuate; head red; pronotum and elytral bases green; length 16-20 mm.4. *orientalis**
- 9(8). Pronotum and base of elytron brilliant metallic, usually green to gold-green; length usually 16-21 mm.10
- Base of elytron submetallic green to purplish; pronotum sometimes pale.12
- 10(9). Head usually entirely reddish; elytron barely 3/5 metallic with metallic area distinctly bordered posteriorly.11

* Described as new.

- Head usually metallic basally; elytron usually at least 2/3 metallic, gradually becoming pale; abdomen metallic basally, usually reddish by apex of 2nd sternite.1. **splendens** (Guér.)
- 11(10). Pronotum and basal portion of elytron bright gold-green; 3rd elytral depression usually distinct; elytral base very smooth between puncture-rows.2. **pulcher***
- Pronotum and basal portion of elytron blue or dark green; 3rd elytral depression very feeble; elytral bases more convex between puncture-rows.3. **telefominus***
- 12(9). Pronotum bronzy to yellow; posterior 1/2 to 3/5 of elytron pale, rarely in part somewhat pitchy; body length 12-14 mm.5. **variicollis***
- Pronotum orange; posterior 1/4 of elytron pale, the pale area emarginate anteriorly; body length 17-19 mm.13. **australicus** (Jac.)
- 13(3). Pronotum with deep impressions near borders.14
- Pronotum with only some weak depressions and minute punctures near side; elytral punctures minute and lateral foveae uneven; elytral pale band near apex.24. **parvus***
- 14(13). Elytron usually green to bronzy, with postmedian elliptical or narrow pale band.15
- Elytron usually greenish blue to purplish blue with a usually transverse pale band.18
- 15(14). Elytral pale band narrow, transverse-subsinuate.16
- Elytral pale band consisting of an elliptical spot on each elytron.17
- 16(15). Prothorax about 2 × as broad as long; body length 16-19 mm.14. **whitei** (Baly)
- Prothorax less than 2 × as broad as long, subparallel-sided; pronotal foveae rather small; length 11-13 mm.16. **buprestoides***
- 17(15). Prothorax somewhat parallel-sided and narrowed at apex; body length 13-18 mm.15. **bimaculatus** (Ws.)
- Prothorax sinuate at side, widened anterior to middle, reddish at side; body length 11-16 mm.17. **arcuatus** (Clav.)
- 18(14). Prothorax metallic; elytral pale band at least partly in apical 1/3, and punctures of that portion usually not entirely minute; head dark or at least partly pitchy.19
- Prothorax orange; elytral pale band orange testaceous, situated just behind middle, with more than apical 1/4 of elytron metallic (sometimes extreme sutural angle pale) and with minute punctures; head pale to partly black; legs largely metallic.23. **latefasciatus** (Jac.)
- 19(18). Metallic blue to green; elytral band narrower, or not broader, than apical metallic portion.20
- Dark greenish blue; elytral pale band twice as broad as apical metallic area; tibiae dark basally.18. **shanahani***
- 20(19). Femora and tibiae entirely or largely reddish; elytral pale band 1/2 as wide as apical metallic portion.19. **corallipes** (Gest.)
- Femora and tibiae entirely dark metallic purplish to blue-green; elytral pale band slightly narrower than apical metallic portion.22. **metallicus***
- 21(2). Pronotum and humerus metallic or black.22
- Pronotum and humerus pale; elytron with sinuous pale band just behind middle; vertex and part of elytron metallic green; length 16 mm.20. **regalis** (Baly)
- 22(21). Elytron pale posteriorly.23
- Elytron broadly green apically; length 25 mm.21. **sumptuosus** (Gest.)
- 23(22). Few or none of elytral striae deeply sulcate for short distances in subtransverse depressions of side of elytron; body length 22-30 mm.24
- Usually 4 to 8 deeply sulcate grooves in subtransverse depressions of side of elytron;

- body length 12-23 mm.26
- 24(23). Pronotum highly metallic; elytron green to blue basally, its posterior 2/5 pale; length 17-26 mm.25
- Pronotum black, slightly brassy; elytron brassy to brassy green on basal 1/2, pale on posterior 1/2; length 27-30 mm (♀).12. **giganteus***
- 25(24). Pronotum green; elytron blue-green basally, with puncture-rows extending well into pale portion; length 26 mm.9. **magnificus** (Baly)
- Pronotum brilliant red-gold; elytron dark blue to gold-green, with puncture-rows hardly continuing into pale portion; length 17-27 mm.11. **moszkowskii** (Kuntzen)
- 26(23). Pronotum distinctly grooved medially; 1st elytral depressed band usually interrupted near middle; head and femora entirely dark; length 16-20 mm.10. **lacustris***
- Pronotum hardly grooved at center; 1st elytral depressed band not usually interrupted; head and femora often partly pale.8. **schefflerae***
- 27(1). Elytral grooves quite irregular, partly zig-zag, very strong, but punctures small; elytra strongly convex anterior to middle; largely black; length 18-23 mm.28
- Elytral grooves largely regular, sometimes deep; color usually black and yellow.29
- 28(27). Elytral grooves continuing to near apex; dorsum entirely black; antenna largely black; femora partly pale.40. **stygius***
- Elytral grooves terminating at end of 2nd 1/3, followed by smooth finely punctured area with a transversely subtriangular brown area on each, slightly smaller than dark area beyond it.41. **prosepon***
- 29(27). Elytron moderately convex in lateral view; body elongate-oval.30
- Elytron strongly convex in lateral view; body rather broad.33
- 30(29). Subtransverse depressions of elytron not very pronounced; elytron metallic with a fairly narrow or incomplete postmedian pale band.31
- Subtransverse depressions of elytron conspicuous; elytron black with slightly bluish tinge, and apical 2/5 yellowish; legs ochraceous; length 17-19 mm. ...25. **helleri** (Clav.)
- 31(30). Elytral grooves with large punctures or pits, about as wide as interspaces.32
- Elytral grooves with rather small punctures, much smaller than interspaces; dorsum blue; elytral band narrow, incomplete; femora and tibiae red; length 19-21 mm.33. **montanus** (Hillr)
- 32(31). Blackish green, pale band of elytron 1/2 as broad as apical dark area, which is closely punctured; legs greenish black; abdomen bluish black; length 17-20 mm.31. **gestroi** (Jac.)
- Purplish blue, pale band extremely narrow, distinct, with apical 2/5 of elytron closely and subrugosely punctured; legs yellow except for black tarsi; abdomen dark blue; length 21 mm.32. **eburneocinctus***
- 33(29). Elytral punctures fairly small, much narrower than interstices, even though often in deep grooves; elytron usually with broad pale band, or apical area largely or entirely pale.34
- Elytral punctures coarse, often as wide as grooves, or replaced by elongate pits; elytron largely blackish, sometimes with a narrow band, oblique mark, triangle, or extreme apex, pale.39
- 34(33). Elytron with posterior 1/2, or nearly 1/2, pale, usually without any pigmentation along suture.35
- Elytron with a postmedian pale band; if apical portion largely pale, the some pigmentation borders suture.36

- 35(34). Antenna and tarsi bluish black; pronotum brassy green; elytron golden green to purplish basally; last abdominal sternite pale; length 20 mm.26. **meeki** (Jac.)
 Antenna and tarsi pitchy, partly pale; pronotum black to purplish brown; elytron purplish basally; last sternite blackish; length 15–18 mm.28. **toxopei***
- 36(34). Elytron with pale band narrower than dark portion beyond it.37
 Elytron with pale area covering most of apical 2/5.38
- 37(36). Elytron black, slightly bluish or purplish, with interstices distinctly raised above; femora and tibiae yellow, former blackish on basal 2/5; last abdominal sternite blue-black; length 15–20 mm.27. **paniae***
- Elytron dark bronzy to bluish, with interstices weakly raised near suture; femora pale except extreme base; tibiae greenish; last sternite partly pitchy; length 14–16 mm. ...
29. **sedlacekorum***
- 38(36). Pale area of elytron subtransverse anteriorly; suture usually dark in apical 1/4 or most of apex dark but with dark area often irregularly and not very sharply bounded anteriorly; elytral depressions weak; tibiae yellow; last abdominal sternite often brown on border; length 15–20 mm.27. **paniae***
- Pale area of elytron strongly oblique anteriorly, minutely punctured and shiny; suture narrowly bordered with black in more than distal 1/3 except at extreme apex, where suture is pale; external margin very narrowly dark; elytral depressions strong and oblique; tibiae purplish; last abdominal sternite submetallic; length 13–21 mm; mostly 16–21 mm.30. **pittosperi***
- 39(33). Apical portion of elytron pale.40
 Apical portion of elytron black or metallic, at least in a broad band along external margin.41
- 40(39). Dorsum black; apical 1/3 of elytron yellowish and finely punctured; venter bluish black with last 2 sternites yellow; tarsi black; length 20 mm.35. **costatus** (Jac.)
 Dorsum slightly greenish bronzy; apical 1/5 of elytron testaceous, distinctly punctured; venter frosted green with slightly more than last 2 sternites pale; tarsi dull; length 20–22 mm.39. **sculpturatus** (Hillr)
- 41(39). Elytron entirely black to greenish, or with a preapical pale triangular area, or an incomplete oblique pale mark near suture behind middle.42
 Elytron purplish or greenish black, with a narrow pale brown band which is slightly raised and relatively smooth in comparison with deeply grooved anterior area and coarsely rugose-punctate posterior portion.34. **straatmani***
- 42(41). Elytron black with a brief oblique pale mark behind middle, or a large pale triangle, close to suture but not close to external margin or apex, in posterior 2/5.43
 Elytron purplish or greenish black, with deep grooves on basal 3/5 and densely rugose-punctate on remainder.38. **sulcatus***
- 43(42). Basal 1/6 of elytron with strong punctures but not very deep grooves; apical emargination of prothorax obtuse, not very deep.37. **subapicalis***
- Basal 1/6 of elytron with weak punctures but very strong grooves; apical emargination of prothorax deep and arcuate.36. **abidi***

SPECIES OMITTED FROM KEY

Promechus formosus (Gestro), new combination

Aesernia formosa Gestro, 1876, *Ann. Mus. Civ. Genova* 8: 524 (Humboldt Bay; GENOVA Mus.); 1877, op. cit. 10: 649 (NE NG).—Weise, 1912, *Nova Guinea* 9, Zool. 3: 428 (W NG).

Promethus pulchellus (Gestro), new combination

Aesernia pulchella Gestro, 1876, *Ann. Mus. Civ. Genova* **8**: 524 (Sorong, Vogelkop; GENOVA Mus.); 1877, op. cit. **10**: 650.

See also notes on Australian species not included in key, under *australicus*, species no. 13. Also *P. dimidiatus* Gahan and *P. wollastoni* Gahan, 1915, *Trans. Zool. Soc. Lond.* (separate publication, p. 18, 19, respectively).

Splendens - group

1. Promechus splendens (Guérin-Ménéville) Fig. 1a, 4a, 7a.

Phyllocharis splendens Guér., 1830, *Voy. Coquille* **2**: 244 (S Coast, New Guinea).

Phyllocharis tricolor Chevrolat, 1830, *Voy. 2, Zool.*: 145.

Promechus splendida Boisduval, 1835, *Voy. Astolabe, Col.*, 575 (Vogelkop, New Guinea).

Phyllocharis splendida: Blanchard, 1853, *Voy. Pole Sud Zool.* **4**: 333, pl. 19, f. 9.

Aesernia splendens: Baly 1867, *Trans. Ent. Soc. Lond.* (3) **4** (2): 290. — Maulik, 1935, *Mem. Mus.*

Roy. Hist. Nat. Belg. **4**: (11): 24 (*splendida* synonymized with *splendens*).

Aesernia splendida: Baly, 1867, l.c.

Aesernia tricolor: Lucas, 1882, *Ann. Soc. Ent. France* (6) **2** (Bull.): 165 (biol.).

Specimens are at hand as follows: Irian: 13 from Nabire, 2 m, Geelvink Bay, NW New Guinea, VII.1962, Gressitt & Sedlacek, on *Schefflera*. Also, Manokwari, Vogelkop, VIII.1948, A. J. Kostermans, 1953, and J. C. Bauwens; Kaimana, H. Eigner; Salwatty I., Bernstein (LEIDEN Mus.); Dobbo, Aru Is., 1883, C. Ribbe (BUDAPEST Mus.).

Host plant: *Schefflera* spp. (Araliaceae).

2. Promechus pulcher Gressitt and Hart, new species Fig. 4b, 7b.

♂. (Holotype). Brilliant metallic gold-green on thorax, slightly more than basal 1/2 of elytron, basal 2 abdominal sternites, and legs excepting tarsal claws; head reddish brown, pitchy at side of neck; antenna pale red to pitchy on segments 1-2, black with greenish reflections on remainder; elytron yellow on posterior 1/2; abdomen reddish ochraceous on last 3 sternites; tarsal claws reddish. Body glabrous except for a few pale hairs on anterior portion of head and some minute setae on apical margin of elytron; antenna with adpressed hairs and some fine suberect tawny setae; legs with sparse oblique or adpressed pitchy to buff hairs.

Head broader than long, obliquely narrowed behind eyes; rather smooth with only a few punctures in depressed areas and on lower side, with a row on upper side internal to eye; frontal area depressed medially, depression extending almost to level of hind margins of eyes; frontoclypeus rather flat; eye much deeper than long, suboblique. *Antenna* nearly 3/5 as long as body, somewhat uniform in width of segments beyond scape, latter stout and only slightly longer than broad, flattened-sub spherical, hardly punctured; segment 2 slightly longer than broad, subflattened; 3 and 4 subequal in length; 5 longer than 4 or 6, subequal to 7 and 11; others slightly shorter. *Prothorax* 7/10 as long as broad, arcuately concave anteriorly, somewhat sinuate at side, considerably narrower at apex than at base; disc smooth, largely impunctate on central convexity, very feebly depressed along median line, sublateral area impressed with large deep partly confluent punctures, the area broader anteriorly and narrowed posteriorly; basal margin strongly sinuate. *Scutellum* nearly as broad as long, broadly rounded behind, smooth and impunctate. *Elytron* moderately convex, slightly sinuate externally, widest near middle, with 2 suboblique-transverse depressions, and a partial third one, near middle, consisting of depressed or sulcate puncture-rows, which are otherwise hardly depressed, and only moderately punctured; on pale portion the rows become completely confused, and replaced by scattered shallow punctures. *Ventral surfaces* rather smooth, largely impunctate,

with some wrinkling at sides. *Aedeagus* pale ochraceous, slender, moderately sinuate in lateral view, gradually widened in dorsal view and acuminate apically, with apex upcurved. *Legs* moderately stout, smooth, sparsely and finely punctured; hind tarsal segment 1 nearly as long as 2 + 3, as long as last. Length 15 mm; breadth 6.5.

♀. Similar to ♂ but body slightly broader. Length 17.2 mm; breadth 7.8.

Paratypes. Pale portion of elytron varies from yellow to dull testaceous in dried specimens. Length 15.5–20.0 mm; breadth 6.3–8.6.

Holotype ♂ (BISHOP 10,156), PNG: Sugoitei, 900 m, Torricelli Mts, W. Sepik Distr., NE NG, 10–28.II.1959, W. W. Brandt; allotype ♀ (BISHOP), 24.I–5.II.1959, Brandt; 2 paratypes, Mokai, 750 m, Torricelli Mts, XII.1956, Brandt; Irian: 7 paratypes (LEIDEN, BOGOR, AMNH, BISHOP), Araucaria Camp, 800 m, NW NG, III.1939, L. J. Toxopeus (Neth. Ind. Amer. Exped.); others Hollandia, VII.1938, Toxpeus; Mt slopes above Bernhard Camp, III.1939; Ampas, 200 m, Bewani R. territ., NW NG, 1937, Stüber; ♀ Humboldt Bay, Pukusan Distr., West of Tami River, VI.1937, W. Stüber (BMNH); ♀ "Dutch New Guinea", Pratt, 1920 (BMNH 1932: 116), PNG: ♂ Road to Tabibuga, Jimi Valley, 18.VII.1972, on leaf of *Schizomeria* (Cunoniaceae), B. Gray & J. Dobunaba (Forestry, PNG).

Differs from *splendens* (Guér.) in having head red, more flattened in depressed central area, the pronotum less convex on disc, which is finely striate medially, elytron without blue or purplish tinges and with metallic portion distinctly set off from pale portion by a nearly straight line.

3. *Promechus telefominus* Gressitt and Hart, new species Fig. 16, 4c, 10d-e.

♂. (Holotype). Dark blue to dark metallic green, with parts of body yellowish or reddish testaceous: head reddish brown, more reddish testaceous anteriorly except on palpi which are reddish brown; antenna reddish testaceous with a few small pitchy marks on basal 2-1/2 segments and base of segment 4, pitchy black to bluish on remainder; pronotum dark green, slightly tinged with golden; scutellum darker green, slightly bluish; elytron dark bluish, slightly tinged with green, on slightly less than basal 3/5 (basal 1/2 at suture), remainder yellowish testaceous with a fairly straight and distinct separation between the 2 colors; ventral surfaces of thorax and abdominal segments 1–2 blue with greenish reflections; remainder of abdomen testaceous; legs dark green with tinges of golden or blue; tarsi black with apex of last segment, including claws, reddish. Body glabrous above except for some pale hairs on anterior portion of head and fine cilia on apical margin of elytron; antenna with minute adpressed hairs and a few oblique tawny hairs; venter with very sparse hairs except on apex of abdomen: legs with sparse pale adpressed hairs.

Head broader than long, distinctly and evenly narrowed behind eyes, fairly smooth, not distinctly punctured, strongly concave between antennal supports and posteriorly to well behind level of posterior margins of eyes; frontoclypeus fairly flat, declivous anteriorly; gena fairly even, with prominent lower front angle; eye oblique, nearly 2 × as long as wide. *Antenna* 1/2 as long as body, fairly uniform in width of segments beyond scape; latter slightly longer than broad, depressed, subrounded, finely punctured; segment 2 gradually widened, barely longer than broad, 3/5 as long as scape; 3 not quite as long as 1+2, barely longer than 4; 5 slightly longer than 3; 5–10 decreasing very slightly in length; 11 slightly longer than 10, constricted preapically and blunt apically; most segments about 1/4 again as wide near apex as near base. *Prothorax* nearly 3/4 as long as broad, subevenly and not very deeply emarginate apically, narrowed anteriorly and slightly sinuate at side, strongly sinuate on basal margin; disc with central 3/5 slightly convex, even and smooth except for a very weak median crease and a slight depression on each side both before and behind middle, sublateral stripe depressed internally and raised externally and declivous to

external margin, with about 10 subisolated deep large punctures anteriorly and 3 larger depressions posteriorly on left side which are merged on right side. *Scutellum* longer than broad, slightly narrowed, rounded behind and smooth and impunctate. *Elytron* slightly convex in central portion of side in dorsal view, evenly narrowed and rounded posteriorly to apex, evenly and not very strongly convex in lateral view; disc largely somewhat even, deeply depressed near middle of base, slightly convex between rows of punctures, which are about $1/3$ as wide as interspaces basally, smaller postmedially, and irregular and moderately fine on most of pale portion; lateral transverse depressions uneven, decreasing in intensity and regularity posteriorly, 3rd consisting mainly of deeper puncture-rows for some rows only, and otherwise obsolescent. *Ventral surfaces* largely smooth and weakly punctate to impunctate. *Aedeagus* brown, very slightly widened preapically, then strongly narrowed and with slender upcurved terminal projection. *Legs* smooth to minutely punctured, fairly stout; hind tarsal segment 1 about as long as 2+3 and as last. Length 14.7 mm; breadth 6.8.

♀. More distinctly blue on metallic portions except for green pronotum. *Spermatheca* as figured. Length 18 mm; breadth 7.7.

Paratypes. Of 2 specimens preserved in alcohol, 1 has bronze-green head and pronotum and purple elytral base; other has gold-green pronotum and dark green elytral base. Length 16–18 mm; breadth 6.6–7.8.

Larva (last or penultimate instar; fig. 10d-e). Largely pale, partly black or pitchy. Head largely black with pale suture; venter and thoracic tergites creamy white, with sclerotized areas of pronotum very slightly pigmented with brownish testaceous; abdominal tergites 6 and 7 fairly pale; tergites 1–5 pitchy brown around inner processes, bases of sublateral processes and on a small tubercle between, darker on spiracles; tergite 8 slightly darkened on central portion; tergite 9 entirely pitchy, darker toward posterior border; tergite 10 pale; lateral processes all pale; dorsal processes all pitchy except last pair and bases of outer ones on tergites 7 and 8, inner ones darker than outer; legs pitchy brown. *Head* slightly broader than deep in front view, smooth and shiny, with sparse suberect hairs. *Pronotum* with flat to slightly concave subsclerotized area, bordered by slight ridge with irregular row of erect pitchy hairs; thorax with 2 tapering slender processes at side, with obtuse tubercle on hind part of metapleuron; meso- and metaterga each with a pair of subcentral longer processes and 1 near side. *Abdomen* with lateral processes longer than lateral thoracic ones, about as long as metanotal processes, becoming shorter posteriorly, subtuberculate on segment 8; 2 pairs of dorsal processes on segments 1–7, outer ones less lateral than sublaterals on thorax; 1 pair on tergite 8, more internal than outer pair of 7; all processes with several setae, usually longer at apices of processes; abdominal sternites 6–8 and 10 each with a pair of fleshy lobes subcentrally. Length 17 mm; breadth 6 excluding processes. (Telefomin, 4.IX.1963, R. Straatman, T-3).

Holotype ♀ (BISHOP 10,157), PNG: Tifalmin, 1600 m, nr Telefomin, SW W. Sepik Distr., NE New Guinea, 11.XI.1970, Abid Beg Mirza; allotype ♀, same data; 4 paratopotypes, same data, as well as 8 larvae.

Differs from *splendens* Guér. in being less brilliant, less golden and less purplish, but more uniform blue-green on metallic portions, and with head largely reddish and pale area of elytron separated from metallic area by a straight line instead of a wavy line or gradual change in hue; elytral punctures also slightly stronger in the new species. Differs from *pulcher* n. sp. in some of the same respects, and in being bluish instead of bright gold-green. Differs from *orientalis* n. sp. in being less brilliant, with pronotal foveae forming more of a straight line internally, in having the lateral elytral depressions less pronounced and the pale area of elytron slightly less extensive and more truncate anteriorly.

4. *Promechus orientalis* Gressitt and Hart, new species Fig. 1c, 4d, 7c, 10f-g.

♂. Dark metallic green to reddish and testaceous. Head reddish; antenna greenish black with segments 1-2 reddish and 3 pitchy; pronotum dark metallic green; scutellum and just over basal 1/2 of elytron dark metallic green, rarely purplish black; remainder of elytron pale; ventral surfaces largely greenish black, last 3 abdominal sternites and apical margins of 1 and 2 reddish testaceous; legs dark green, slightly pitchy on tarsi. Body largely glabrous, a few pale hairs on ventral surfaces and legs.

Head fairly smooth, slightly punctured toward side, and with a few shallow foveae in frontal depression; grooves shallow; gena projecting slightly below, barely as deep as eye, which is about 2× as deep as wide. *Antenna* just over 1/2 as long as body, segments somewhat evenly decreasing in thickness beyond segment 2; segment 1 slightly flattened; 2 slightly longer than broad; 3 nearly as long as 1+2; 4 similar to 3; 5 slightly longer; 6 longer than 5; 7 longest; 8-11 slightly shorter and subequal. *Prothorax* 4/7 as long as broad, slightly sinuate at side, moderately obtusely emarginate apically; disc very shiny, with about 4 major depressions parallel to side, as well as a few lesser pits. *Scutellum* smooth, about as broad as long, rounded behind. *Elytron* moderately convex, slightly sinuate at side, widest just behind middle; disc largely smooth, with regular rows of modest punctures which are hardly depressed, and which become more or less irregular, with added punctures, in apical pale portion; side with 2 subtransverse bands of short longitudinal depressions in puncture-rows and upper end (2 grooves) only of 3rd row. *Ventral surfaces* fairly smooth, with a few wrinkles at side but almost no punctures; prosternum narrow and subacute anteriorly. *Aedeagus* testaceous, somewhat sinuate in lateral view, narrowly acuminate and upturned at tip. *Legs* rather stout and short; tibiae arched and thickened distally; hind tarsus with segment 1 as long as 2+3 and as long as last. Length 16 mm; breadth 8.

♀. Antenna 1/2 as long as body. Length 19 mm; breadth 8.6.

Larva (last or penultimate instar; fig. 10f-g). Differs from larva of *telefominus* in having all of tergites pigmented in part, with a distinct sublateral spot and smaller dot nearer middle, of pitchy, and all processes and sclerotized areas around bases of processes more or less pitchy, darker on central portions of abdominal tergites 1-5; tergites 8 and 9 largely pale; venter pale; many of processes dichotomous or 3-lobed distally. (Mamai, 29.I.1965, Straatman & Shanahan, M-5).

Holotype ♂ (BISHOP 10,158), PNG: Mamai Plantation, nr sea level, nr Port Glasgow, SE New Guinea (Papua), 18.I.1965, R. Straatman & P. Shanahan; allotype ♀ (BISHOP), 25.I.; 17 paratypes: 14 paratopotypes, 24-29.I. (also 10 larvae); 3, Oni Oni, Port Glasgow, 1.II.1965, Straatman & Shanahan.

Differs from *splendens* (Guér.) in being less brilliant, with a great portion of elytron pale, and with more pronounced and more regular impressions on side of elytron. Differs from *pulcher* n. sp. in being duller green anteriorly and less pale posteriorly and in having deeper lateral depressions on elytron.

Variicollis - group

5. *Promechus variicollis* Gressitt and Hart, new species Fig. 1d, 4e, 7d.

♂. (Holotype). Head largely testaceous orange and reddish with 2 elongate patches of dark green from middle to basal margin; antenna black, exterior margins of segment 1 and underside of 2 castaneous; pronotum shiny testaceous orange; anterior 3/8-1/2 of elytron submetallic dark green with reddish magenta and golden reflections, slightly shiny, entire remainder of elytron orange testaceous, the anterior margin of pale area subdiagonal and irregular; underside of body and legs primarily reddish pitchy tinged with dark green; anterior 1/2 of prosternum testaceous yellow; last 3 abdominal segments reddish and testaceous orange. Body nearly glabrous above, a

few pale hairs near mouthparts; antenna with brief oblique auburn hairs; ventral surfaces smooth, prosternum with sparse pale hairs anteriorly; abdominal segment 1 densely clothed in pale hair except basally, remaining sternites with fairly long hair, particularly on apical margins; legs with sparse short golden-buff hairs.

Head distinctly narrower than apex of prothorax, visible portion broader than long, smooth with several small foveae just interior of eye, feeble medial groove bisects shallow vertexal depression anteriorly and connects with obtuse frontal suture setting off frontoclypeus; gena 5/7 as deep as eye; eye subelliptical, nearly 2× as deep as wide. *Antenna* just over 1/2 as long as body, segments usually thickest apically, stoutest near middle except for segment 1 which is depressed-subglobose; segment 2 barely longer than broad; 3 fully 2× as long as 2; 4 similar to 3; 5 stouter and longer than 4; 6 slightly shorter than 5; 7 longer and stouter than 6; 7-11 similar in length gradually becoming more slender apically; 8 subparallel-sided, 11 subacute apically. *Prothorax* 5/7 as long as broad, subparallel-sided, narrowing at apex, deeply and arcuately emarginate anteriorly, convex medially in outline of basal margin; disc smooth and barely convex, with a short subdiagonal depression somewhat interior of apical margin containing several minute punctures; sublaterally a moderately deep posterior depression with sparse small foveae extends almost to basal margin, anterior portion somewhat depressed with sparse small punctures. *Scutellum* smooth with 1 punctum submedially, as long as broad, narrowing at sides, rounded apically. *Elytron* stout and elongate, moderately convex in lateral outline, lateral margin slightly sinuous in dorsal and side views; widest portion medially, subevenly narrowed apically; basal 3/8 of disc smooth, with regular rows of weak punctures which are hardly depressed, becoming largely irregular, with added punctures, in pale area; anteriorly, a deep discontinuous subtransverse band of 5-6 depressions in puncture rows after 3rd row from suture and incorporating interstitial spaces as well; medially, 4 moderately deep punctures or pits towards side, the largest sublaterally and rather long longitudinally. *Ventral surfaces* largely impunctate; prosternum narrowly triangular, acutely rounded apically, slightly obtuse-emarginate posteriorly; metasternum with postmedial groove; abdominal segments slightly depressed and wrinkled towards side. *Aedeagus* testaceous to orange; anteriorly, 2 short red-brown parallel strips border sides, equal in width to testaceous yellow strip mid-dorsally, sides slightly indented medially, strongly arcuate in lateral view, broadly acuminate, tip distinctly delimited and turned up. *Legs* not particularly stout, smooth to minutely punctured, femora thickest medially, tibiae thickened distally, hind tarsal segment 1 slightly shorter than 2+3, shorter than the last. Length 11.3 mm; breadth 5.4.

♀. (Allotype). Pale areas generally darker, last 3 abdominal segments and legs considerably more reddish; antenna approximately 1/2 as long as body; widest portion of elytron postmedially; a few short hairs on apical margins of sternites, depressions towards sides large and wrinkled. Length 13 mm; breadth 6.

Holotype ♂ (BISHOP 10,159), Irian: Enarotali (Enagotadi), 1800-1900 m, Wisselmeren, 22.VIII.1962, J. Sedlacek; allotopotype ♀ (BISHOP), 19.VIII.; 17 paratypes: 13 paratopotypes, 16-23.VII.1962, Sedlacek; 2, Okaitadi, 1800 m, Paniai, on *Schefflera*, 7. VIII.1955, Gressitt; 1, Moanemani, Kamo Valley, 1500 m, 15.VIII.1962, Sedlacek; 1, Itouda, Kamo Vall., 1500 m, 18.VIII.1962, Sedlacek. Two additional specimens from Moanemani and Itouda not designated paratypes.

Differs from *bimaculatus* Ws. in being smaller, less metallic, with posterior 1/2 to 3/5 of elytron pale, and pronotum often pale or reddish bronzy, and side of pronotum less strongly foveate.

6. *Promechus parentheticus* Gressitt and Hart, new species Fig. 1e, 4f, 7e.

♂. (Holotype). Head and pronotum primarily shiny reddish orange-brown, middorsal to basal margin of head dark metallic green, central disc of pronotum pale submetallic green; scutellum

metallic golden green; basal 1/2 of elytron melanistic with dark metallic green cast, a wide postmedian testaceous yellow band extends from suture subtransversely to lateral margin, arching apicad along outside margin to sutural apex and decreasing gradually in width, area between suture and interior margin of band same coloration as basal portion; antenna pitchy except for segments 1 and 2 reddish to orange-brown; ventral surfaces largely castaneous with dark green cast; anterior 1/2 of prosternum testaceous yellow; last 3 abdominal segments testaceous orange, anterior margin of 3 reddish; basal 1/2 of femora castaneous, remaining distal portion dark metallic green, tibiae red-brown, tarsi pitchy. Body above nearly glabrous; a few pale short hairs around mouthparts; antenna with pale brief oblique hairs. Ventral surfaces subglabrous with short hair mostly on apical margins of abdominal sternites; legs with sparse short golden buff hairs.

Head barely narrower than apex of prothorax, visible portion broader than long, surface smooth with several small pits and punctures just interior of eye, along longitudinal median line a small pit occurs ante-basally, anteriorly a moderately deep vertexal depression with 3 minute punctures is bisected by weak coronal suture which connects with obtuse frontal suture setting off frontoclypeus; gena 4/7 as deep as eye; eye subelliptical, nearly 2× as deep as wide. *Antenna* just over 1/2 as long as body, segments gradually and evenly increasing in thickness beyond segment 2; segment 1 thickest, depressed-subglobose; 2 slightly longer than broad; 3 over 2× as long as 2; 4 slightly longer than 3; 5 longest; 6 distinctly shorter than 5; 7 longer than 6; 8-10 similar in length, barely shorter than 7; 11 slightly longer than 10, subacute apically. *Prothorax* approximately 3/4 as long as broad, sinuate at side, convex medially in outline of basal margin, apical margin moderately and arcuately emarginate, disc smooth and slightly convex, with several minute punctures submedially; sublateral portion uneven, a deep depression from middle, to and along basal margin contains 7-8 small foveae, anteriorly, 1-2 small foveae occur in mild depression. *Scutellum* barely longer than broad, smooth and mildly convex, narrowed at side, acutely-rounded apically. *Elytron* modestly stout, elongate, slightly convex in lateral view, sinuous in side view, less so dorsally; widest just before middle, apex subevenly narrowed; disc smooth with regular rows of small punctures feebly depressed which weaken and terminate, with added punctures, in pale postmedian band and apical region; anteriorly, a weak subtransverse band of 4-5 short sublongitudinal depressions in puncture-rows after 3rd row from suture, at side 2 brief semi-transverse rows of 3-4 distinct depressions ante-medially and medially. *Ventral surfaces* smooth and nearly impunctate; prosternum sinuous at side and well-rounded anteriorly; metasternum obtusely emarginate posteriorly; abdominal segments with slight depressions and wrinkles sublaterally. *Aedeagus* testaceous, sinuous at side, strongly arcuate in lateral view, longitudinal depression mid-dorsally to apicad, apex strongly acuminate, tip delimited and upturned. *Legs* not particularly stout; femora thickest at middle; tibiae thickened distally; hind tarsal segment 1 barely shorter than 2+3, longer than the last. Length 12.75 mm; breadth 5.25.

♀. (Allotopotype). Antenna about as long as body; pronotum metallic golden green, sublateral area with larger and more numerous foveae; elytron with more reddish magenta, surface lustre subdued, pale postmedian band generally smaller and narrower above. Length 13.25 mm; breadth 6.

Holotype ♂ (BISHOP 10,160), Irian: Moanemani, Kamo Valley, 1500 m, Wisselmeren, NW New Guinea, 16.VIII.1962, J. Sedlacek; allotype ♀ (BISHOP), 19.VIII.; 33 paratypes: 2 paratopotypes, 15-19.VIII.; 3, Okaitadi, Paniai Lake, 7.VIII.1955, on *Schefflera*, Gressitt; 2, Itouda, Kamo Valley, 1500-2700 m, 18.VIII.1962, Sedlacek; 1, Obano, 1770 m, Wisselmeren, 9.VIII.1955, Gressitt; 1, Itouda, 15.VIII.1955, Gressitt; 10, Paniai, 14.IX.1939, K.N.A.G. Exped. 3, Araboubivak, 29.X.1939, K.N.A.G. Exped. (LEIDEN); 1, Enarotali, 26.II.1957, R. T. Sururai, SW of Lake Angi Giji, 1900 m, Vogelkop, 27.II.1963, R. Straatman.

Differs from *bimaculatus* Ws. in being smaller, less foveate on pronotum and with

elytron bearing an arcuate pale mark from suture behind middle to external margin and around to sutural apex.

7. ***Promechus inflatus*** Gressitt and Hart, new species Fig. 4g, 7f.

♀. (Holotype). Head, pronotum and basal 1/2 of elytron melanistic with metallic green cast and metallic magenta tinges, except for a moderately narrow postmedian orange-brown band which extends subtransversely from suture to lateral margin, widens slightly, then arches apicad along outside margin to sutural apex, gradually decreasing in width, area between suture and interior margin of band same coloration as basal portion; antenna black, undersides and apices of segments 1-3 castaneous; scutellum dark metallic magenta; ventral surfaces largely melanistic with vague metallic green cast; apical margins of abdominal segments 1 and 2 reddish orange-brown, 3, 4 and 5 orange-brown; legs largely brunnaceous, distal 1/2 of femora testaceous. Body above subglabrous; a few short pale hairs near eyes and mouthparts; antenna with brief oblique auburn hairs; anterior margin of prothorax with several short hairs; ventral areas largely glabrous; sparse short pale hairs on prosternum, metasternum and on apical margins of abdominal segments 2-5, particularly on last sternite; legs with sparse short golden buff hairs.

Head distinctly narrower than apex of prothorax, visible portion broader than long, surface uneven with minute to small punctures, especially anteriorly, several small foveae interior of eye, vague medial groove bisects moderately deep vertexal depression to connect with arcuate frontal suture setting off frontoclypeus; gena 3/4 as deep as eye; eye subelliptical, 2× as deep as wide. *Antenna* considerably less than 1/2 as long as body, stoutest near middle and just beyond, except for segment 1 which is depressed-subglobose, segment 2 longer than broad; 3 over 2× as long as broad, not quite twice as long as 2; 4 longer than 3; 5 similar to 4; 6-10 similar in length, shorter than 5 and gradually decreasing in width, 8 subparallel-sided; 11 longer than 10, subacute apically. *Prothorax* approximately 4/5 as long as broad, subparallel-sided, narrowing at apex, anterior margin arcuately and moderately emarginate, convex medially in outline of basal margin; disc smooth and uneven with a feeble medial groove, submedially, 2 moderately deep anterior and posterior depressions containing several small punctures, both depressions equidistant from respective margins; sublateral portion uneven and somewhat depressed longitudinally with 10-15 small-medium foveae and terminating posteriorly on basal margin, this area separated from lateral margin by a slightly convex sparsely punctured strip. *Scutellum* smooth and slightly convex, barely broader than long, basal 1/2 widens gradually, obtusely-angulate apically. *Elytron* stout, elongate, strongly convex in lateral outline, lateral margin sinuous in both side and dorsal views; widest portion ante-medially, subevenly narrowed apically; disc smooth and uneven, with regular rows of small punctures hardly depressed, interstices slightly raised laterally, rows weak or terminated by postmedian pale band, apical area somewhat rugose with many punctures, largely in an irregular fashion; anteriorly, small shallow depressed area adjacent to basal margin and suture; at side, 3 subtransverse to subdiagonal bands of short longitudinal depressions and pits in puncture-rows after 2nd row from suture, anterior band most deeply depressed and distinct, medial and postmedial bands irregular and inconsistent. *Ventral surfaces* largely smooth and nearly impunctate; anterior 1/2 of prosternum subparallel-sided, posterior portion strongly widened, anterior margin truncate, posterior margin rounded and arcuately emarginate; metasternum somewhat rugulose basally, finely grooved medially on posterior 1/2; lateral areas of abdominal segments depressed and wrinkled. *Spermatheca*, refer to Fig. 4g. *Legs* not particularly stout, femora thickest near middle, tibiae thickened distally, hind tarsal segment 1 slightly shorter than 2+3, distinctly shorter than the last. Length 17.9 mm; breadth 8.15.

Holotype ♀ (LEIDEN), Irian: Top Camp, 2100 m, NE New Guinea, Neth. Ind. Amer. New Guinea Exped., 20.I.1939, L. J. Toxopeus; 15 ♀ paratopotypes, XI.1938-II.1939.

Differs from *parentheticus* in being larger, relatively broader and more convex, with partly grooved elytra and with more metallic pronotum.

8. ***Promechus schefflerae*** Gressitt and Hart, new species Fig. 1f, 4h, 7g.

♂. (Holotype). Lateral-anterior margin of head castaneous, remainder of head, pronotum, scutellum and basal 5/12 of elytron melanistic with dark metallic green and magenta casts, remaining posterior portion of elytron ochreous; antenna pitchy black except for exterior margins of segment 1 and apices and undersides of 2 and 3 castaneous; ventral areas mostly dark with pale green, gold and magenta tinges; apical margins of abdominal segments 1 and 2 and segments 3-5 orange-brown; legs largely piceous with dark metallic green cast on femora and tibiae, underside of femora mostly testaceous-castaneous. Body above subglabrous; a few short pale hairs near eye and mouthparts and along apical margin of elytron; antenna with brief oblique auburn hairs; ventral surfaces with sparse short pale hair on prosternum and metasternum laterally; abdominal segments possess sparse short hair generally, slight fringe on apical margin of last sternite; short golden buff hairs on legs.

Head narrower than apex of prothorax, visible portion broader than long, surface uneven and punctate, several small foveae interior of eye-basad; vague medial groove bisects moderately deep anterior vertexal depression to join arcuate frontal suture setting off frontoclypeus, gena not as deep as eye, projecting slightly below; eye subelliptical, less than 2× as deep as wide. *Antenna* 1/2 as long as body, segments somewhat gradually and evenly decreasing in thickness beyond segment 2; segment 1 thickest, depressed-subglobose; 2 distinctly longer than broad, 3 over 2× as long as broad, twice as long as 2; 4 similar to 3 in length, barely less stout; 5 longest; 6-10 similar in length, 8 subparallel-sided, 11 longer than 10, subacute apically. *Prothorax* approximately 7/10 as long as broad, lateral margin sinuous, narrowed at apex, anterior margin transversely and moderately emarginate, sinuate on basal margin; central portion of disc smooth and uneven with 2 shallow medial depressions ante-basally and just interior of apical margin; submedially, 2 sparsely punctate depressions, anterior depression subdiagonal and shallow, posterior depression moderately deep, both approximately equidistant from respective margins, sublateral area longitudinally depressed and foveate, with small to large foveae extending posteriorly to, and along basal margin. *Scutellum* smooth, about as long as broad, with 1 punctum and a slight subdiagonal groove, lateral margin widens slightly in basal 1/2, acutely rounded apically. *Elytron* moderately stout and elongate strongly convex in lateral outline, lateral margin sinuous in both side and dorsal views; widest portion ante-medially, apex subevenly narrowed; basal 5/12 of disc smooth and uneven with regular rows of small moderately depressed punctures, interstices barely raised at side, rows rapidly weaken or terminate in pale portion, apical area highly punctate and semi-rugose; at side 2 distinct subtransverse bands of 4-5 short longitudinal depressions or pits in puncture-rows after 3rd row from suture, anterior band moderately deep and well defined, ante-medial band smaller and more shallow. *Ventral surfaces* smooth, nearly impunctate; prosternum narrowly triangular, acutely rounded anteriorly, acutely emarginate posteriorly, metasternum with a fine medial groove, dissipating before margin, apical margin obtusely emarginate, abdominal segments with slight depressions and wrinkles laterally. *Aedeagus* testaceous, strongly convex in lateral view, slender, strongly and narrowly acuminate apically, tip distinctly delimited and turned up. *Legs* rather stout, femora thickest near middle, tibiae slightly arched and thickened distally; hind tarsal segment 1 as long as 2+3, barely longer than the last. Length 15.3 mm; breadth 6.8.

♀. (Allotype). Antenna less than 1/2 as long as body; prothorax lacks anterior subdiagonal depression; medial groove pronounced posteriorly; sublateral area more deeply depressed and foveate; elytron more elongate proportionally. Length 17 mm; breadth 7.8.

Holotype ♂ (BISHOP 10,161), PNG: Wau (side of Mt Kaindi), 1800 m, NE New Guinea, 7.II.1966, J. & M. Sedlacek; allotype ♀ (BISHOP), same data; 47 paratypes: 17 paratopotypes; 6, Mt Kaindi, 2350 m, V.1973, Gressitt; VIII.73, Tawi; 5, Wau, 1200 m; 7,

Mt Missim, 1400-1600 m, Morobe Distr., J. & M. Sedlacek; 1, Aiyura, 1800 m, E. Highlands, 1800-1900 m, 6.I.1965, Sedlacek; 1 Kainantu, 4-8.V, E. Were; 2, Purosa nr Okapa, 1700-2000 m, 17-25.V.1966, Gressitt & Tawi; 2, Karimui, 1000 m, 15; VII.1963, Sedlacek; 2, Koibuga, 1500 m, 3.VII.1963, H. W. Clissold; 1, Pindiu, Huon Penin., 750-850 m, 21.IV.1963, Sedlacek. In pine (*Araucaria*) forest, Purosa, E. H. D., 17.V.1967, B. Gray; In sticky trap, Upper Manki logging area, Bulolo, 25.VIII.1972, F. R. Wylie & P. Shanahan (Forestry, PNG); Aseki, Morobe Dist., II.1952; Gadsup, IX.1952, H. Ohlmus.

Host plants: *Schefflera* spp. (Araliaceae).

Differs from *splendens* (Guér.) in being smaller, less metallic, and with more corrugated elytron.

Magnificus - group

9. *Promechus magnificus* (Baly), new combination

Aerernia magnifica Baly, 1863, *Trans. Ent. Soc. Lond.* (3) 1 (3): 618 (New Guinea — probably Dorey = Manokwari, Vogelkop); 1867, op. cit. (3) 4 (2): 287.

This species is not represented in the collections at hand. It may be restricted to the Vogelkop.

10. *Promechus lacustris* Gressitt and Hart, new species Fig. 1g, 4i, 7h.

♂. (Holotype). Anterior and lateral areas of head blackish, central portion of head, pronotum, scutellum and basal 1/2 of elytron moderately shiny metallic magenta with tinges of light metallic green, posterior 1/2 of elytron orange-brown, anterior margin of pale area subdiagonal and subserrulose; antenna black except for undersides of segments 1-5 and apices of 1-4 testaceous; ventral areas generally dark and tinged with metallic green and magenta; abdominal segments 3-5 and apical margins of 1 and 2 orange-brown; legs piceous, green and magenta casts on femora and tibiae. Body above nearly glabrous, a few short pale hairs on head and apical margin of elytron; antenna with sparse brief oblique hairs; ventral surfaces subglabrous; sparse short pale hair on prosternum and metasternum laterally, sparse short hairs on lateral and apical portions of abdominal segments, moderate fringe on apical margin of last sternite; short golden buff hairs on legs.

Head barely narrower than apex of prothorax, visible portion broader than long, surface fairly smooth and uneven, a few small punctures on frons and with several small foveae, interior of eye-basad, well defined and somewhat deep medial groove bisects moderately deep anterior vertexal depression joining with deeper arcuate frontal suture setting off frontoclypeus; gena as deep as eye, projecting slightly below; eye elliptical, 2× as deep as wide. *Antenna* about 1/2 as long as body, stoutest at middle and just beyond except for segment 1 which is strongly swollen and slightly depressed-subglobose; segment 2 approximately 3/4 as broad as long; 3 and 4 similar, 2× as long as 2; 5 longer than 4; 6 distinctly shorter than 5; 7 longer than 6; 8 subparallel-sided, slightly shorter and narrower than 7; 9 and 10 similar, barely longer and more slender than 8; 11 longer and narrower than 10, subacute apically. *Prothorax* 9/13 as long as broad, subparallel-sided, strongly narrowed at apex, anterior margin arcuately and moderately emarginate, convex medially in outline of basal margin; disc smooth and uneven with a vague medial groove; submedially, 2 punctate depressions, anterior "depression subdiagonal and shallow, posterior depression slightly broader and deeper, both equidistant from respective margins and merging with a deeply depressed longitudinal area sublaterally, containing many small punctures and 9-10 small-large foveae extending posteriorly to, and along basal margin. *Scutellum* smooth, about as long as broad, extremely shallow depression and 3 minute punctures mid-dorsally, obtusely rounded apically. *Elytron* rather stout, elongate, strongly convex in lateral outline, lateral margin sinuous in both side and dorsal views; widest portion medially, apex subevenly narrowed; disc smooth and some-

what uneven with regular rows of modestly depressed punctures, interstices scarcely raised at side, rows weakening and terminating in apical pale portion, terminal area highly punctate, largely in an irregular fashion; at side, one moderately deep subtransverse band of 4-5 short longitudinal depressions in puncture-rows after 3rd row from suture, approximately 6 random short longitudinal depressions in puncture rows below anterior band in medial area. *Ventral surfaces* largely impunctate except on abdominal segments, numerous minute grooves on posterior portion of metasternum and basal area of abdominal segment 1; prosternum anteriorly subtruncate, lateral margins gradually widen posteriorly, posterior margin deeply and acutely emarginate; metasternum with a fine medial groove, anterior portion concavely depressed, posterior margin obtusely emarginate; abdominal segments possess large and slightly rugose depressions sublaterally. *Aedeagus* dark testaceous, barely arcuate in lateral view, lateral margins sinuate, strongly acuminate apically, tip slightly turned up. *Legs* moderately stout; femora thickest near middle; tibiae slightly arched and thickened distally; hind tarsal segment 1 as long as 2+3, and as the last. Length 19 mm; breadth 9.

♀. (Allotype). Antenna less than 1/2 as long as body; elytron proportionately more elongate, dark coloration on dorsum shiny metallic green, with occasional tinges of golden green and magenta. Length 21.5 mm; breadth 9.3.

Holotype ♂ (BISHOP 10,162), Irian: Duroto, E of Enarotali, 1800 m, Wisselmeren, NW New Guinea, 21.VIII.1955, Gressitt; allotype ♀ (BISHOP), Enarotali, 10.VIII.1962, J. Sedlacek; 39 paratypes: 17, Enarotali, VIII.1962, Sedlacek; 3, Debei, 14.VIII.1955, Gressitt; 2, Itouda, Kamo Valley, 1500 m, 14.VIII.1955, Gressitt; (BISHOP); 9, Paniai, K.N.A.G. Exped., 19-20.IX.1939; 1, Sigi Camp, 1500 m, II.1939; 1, Top Camp, 2100 m; 2, Mist Camp, 1800 m, Neth. Ind. Amer. New Guinea Exped., I.1939, Toxopeus (LEIDEN). PNG: 1, Feramin, NE New Guinea, 1959, W. W. Brandt; 1, Nondugl, 2200-2700 m, V.1959, C. D. Michener; 1, Tifalmin, nr Telefomin, SW Sepik, 11.XI.1970, Abid Beg Mirza; 1, Koroba, 1700 m, 40 km W of Tari, SE New Guinea, 13.IX.1963, Straatman (BISHOP).

Differs from *pulcher* n. sp. in being more convex, less metallic, usually purplish instead of green, with pronotum more extensively sculptured and elytron more heavily punctured.

11. ***Promechus moszkowskii*** (Kuntzen), new combination Fig. 1h, 4j, 7i.

Aesernia moszkowskii Kuntzen, 1913, *Arch. Naturges.* 79A (2): 94 (Tua, W New Guinea; BERLIN).

PNG: NE New Guinea: 26 specimens from Sugoitei, 900 m, Torricelli Mts, W Sepik Distr., 10-28.II.1959, W. W. Brandt; Wanuma, 600-720 m, Adelbert Mts, Madang Distr., VII.1968, N. L. H. Krauss; Sibog, Finisterre Mts, Saidor Subdistr., Huan Penin., 27.-V.16. VI.1958, Brandt; Matoko, Saidor, 6-24.IX.1958, Brandt; Kiambavi, Saidor, 1-28.VIII.1958, Brandt (BISHOP).

Differs from *splendens* (Guér.) in being larger, more convex, less brilliant, with distinctly red-gold pronotum, and elytron more closely punctured and with puncture-rows in slight grooves.

12. ***Promechus giganteus*** Gressitt and Hart, new species Fig. 1i, 4k, 8a.

♂. (Holotype). Dorsum moderately shiny. Head atrovirens; pronotum bright metallic green; scutellum dark bluish-green; basal 2/5 to 1/2 of elytron metallic green with bluish tinge, remaining apical portion ochreous, anterior margin of pale area slightly irregular and subdiagonal; antenna largely black with dark greenish tinge on segments 1-4; apices of 1 and 2 testaceous, undersides of 1-4 castaneous; ventral surfaces dark metallic green, except abdominal segments 3-5 and apical margins of 1 and 2, testaceous orange; femora and tibiae dark metallic green, tarsi black.

Body above subglabrous; a few short pale hairs on head near eyes and mouthparts; antenna with sparse brief oblique auburn hairs; several pale hairs on lateral apices of prothorax; apical margin of elytron with a slight fringe of short pale hair. Ventral areas subglabrous; sparse pale hairs on lateral portions of prosternum and metasternum; abdominal segments with short pale hairs primarily laterally and on apical margins of segments 2-4, a moderate fringe on apical margin of last sternite, sparse short golden buff hairs on legs.

Head distinctly narrower than apex of prothorax, visible portion broader than long, surface generally smooth with extremely fine punctures centrally and small punctures anteriorly and laterally, 7-8 small foveae interior of eye and below, weak medial groove bisects deep and rather broad vertexal depression to connect with obtuse frontal suture, delimiting frontoclypeus; gena projecting slightly below, as deep as eye; eye subelliptical, $2\times$ as deep as wide. *Antenna* approximately $1/2$ as long as body, segments somewhat evenly and gradually decreasing in thickness beyond segment 2; segment 1 thickest, depressed-subglobose; 2 barely longer than broad; 3 similar to 4, approximately $2\times$ as long as 2; 5 substantially longer than 4; 6-10 similar in length, shorter than 5, 8 subparallel-sided, segments 8-10 somewhat flattened; 11 longest, subacute apically. *Prothorax* about $5/8$ as long as broad, slightly sinuous at side, strongly narrowed at apex, anterior margin arcuately and moderately emarginate, basal margin sinuate; central portion of disc fairly smooth and uneven with extremely fine punctures and a weak medial groove terminating closer to anterior margin than posteriorly, several shallow depressions basally; submedially, surface slightly rugulose with small random punctures, 2 shallow punctate depressions anteriorly and posteriorly, somewhat subdiagonal and both equidistant from respective margins; sublateral area deeply depressed longitudinally with small to large and often fused foveae, largest anteriorly, extending posteriorly to, and along basal margin, separated from lateral margin by a sparsely punctured and slightly convex strip. *Scutellum* smooth with 1 small shallow postmedial depression, barely longer than broad, sides gradually narrow, rounded-acute apically. *Elytron* rather stout, elongate, strongly convex in lateral view, lateral margin sinuous both dorsally and at side; widest portion at middle, apex subevenly narrowed; disc rather smooth with regular rows of moderately depressed small punctures, interstices contain random minute grooves and occasional punctures, rows slightly to moderately sulcate, most puncture-rows terminate in apical pale area, lateral rows terminating well before, terminal portion somewhat smooth and highly and randomly punctate; anteriorly at side, 1 weak semi-transverse band of 4 to 5 short longitudinal depressions in puncture-rows after 4th row from suture; medially at side, 2 short longitudinal depressions in puncture rows. *Ventral surfaces* largely smooth and nearly impunctate except for sparse punctures on abdominal segments; prosternum narrow, anterior margin slightly convex, posterior margin obtusely emarginate; metasternum with weak medial groove from near middle to posterior margin, surface with many minute horizontal grooves on either side of median, posterior margin obtusely emarginate; abdominal segments slightly depressed and wrinkled sublaterally. *Aedeagus* largely testaceous orange, reddish brown anteriorly and along apical margins, long and slender, lateral margins sinuous both in side and dorsal views, strongly acuminate, tip strongly turned up. *Legs* rather stout, femora thickest near middle, tibiae slightly arched and thickened distally, hind tarsal segment 1 as long as 2+3, and as the last. Length 23.5 mm; breadth 10.4.

♀. (Allotopotype). Antenna distinctly less than $1/2$ as long as body; subdued lustre on entire dorsum, dull to slightly shiny; head black; pronotum blackish and tinged with extremely pale sub-metallic green, basal $5/13$ of elytron pale metallic reddish and green to darker, pale area proportionately larger, elytron stouter; tibiae lacking greenish cast. Length 30.0 mm; breadth 13.5.

Paratypes. Length 29-29 mm; breadth 10-14.

Holotype ♂ (LEIDEN), Irian: Araucaria Camp, 800 m, NW New Guinea, Neth. Ind. Amer. New Guinea Exped., III.1939, L. J. Toxopeus; allotype ♀ (BOGOR), same data; 18 paratypes: 15 paratopotypes, same data as holotype (LEIDEN, AMNH, BOGOR, BISHOP); 1, Rattan Camp, 1200 m, Neth. Ind. Amer. Exped., II-III.1939, Toxopeus; 1, Mist Camp,

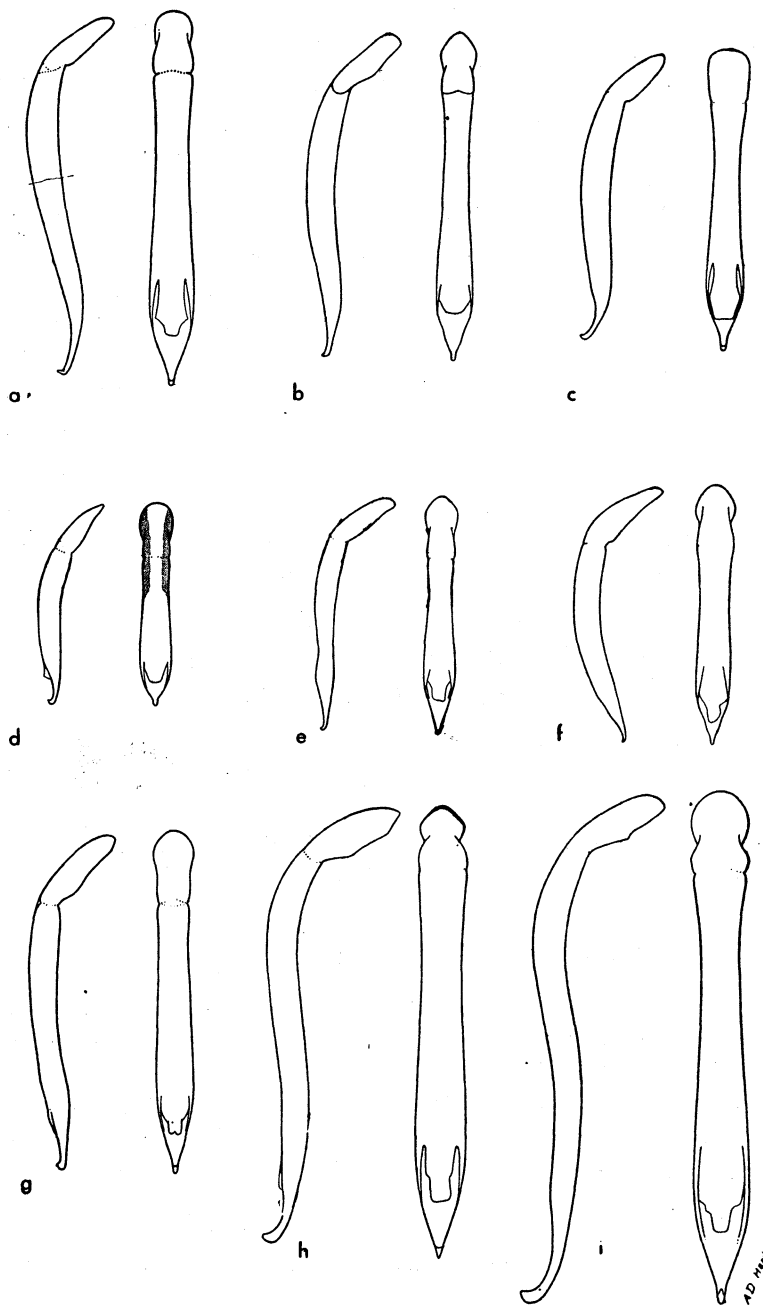


Fig. 1. Aedeagi of *Promechus* spp., left side and dorsal views: a, *splendens* (Guér.); b, *telefominus* n. sp.; c, *orientalis* n. sp.; d, *varicollis* n. sp.; e, *parentheticus* n. sp.; f, *schefflerae* n. sp.; g, *lacustris* n. sp.; h, *moszkowskii* (Kuntzen); i, *giganteus* n. sp.

1800 m, I.1939, N.I.A.E., Toxopeus; 1, Ampas, Bewani Mts, 1937, W. Stüber (LEIDEN). All NW New Guinea.

Differs from *magnificus* Baly in being larger, with elytron more extensively pale, and pronotum black.

Australicus - group

13. *Promechus australicus* (Jacoby), new combination Fig. 2a, 4l, 8b.

Aesernia australica Jac., 1887, *Notes Leyden Mus.* 9: 300 (Queensland; LEIDEN Mus.).

Australia: Queensland: A number of specimens are at hand from Mt Bartel Frere, east base, 25 m, 25.IV.1955, Morris & Common (CSIRO); Babinda, 1919, J. Illingworth; Mossman, 1910, J.C. Kershaw; Kuranda, 200 m, 14.III.1956, L. Gressitt; The Boulders, E of Babinda, 200 m, 13.V.1961, L. & M. Gressitt; Cairns, X.1962, J. Sedlacek (BISHOP).

Other species described from Australia area:

Promethatus bipunctatus (Weise), new combination

Aesernia bipunctata Weise, 1923; *Ark. Zool.* 15 (12): 60 (Queensland; STOCKHOLM Mus.).

We suspect that this may be the same as *australicus*. We have a photograph of the type-specimen, but have not studied the type recently.

Promethus mjobergi (Weise), new combination

Aesernia mjobergi Weise, 1923, *Ark. Zool.* 15 (12): 59 (Queensland; STOCKHOLM Mus.).

Same comments as for the preceding (*bipunctatus*).

Promethus tripartitus (Lea), new combination

Aesernia tripartita Lea, 1915, *Proc. Linn. Soc. NSW* 40: 520, pl. 48, fig. 8 (Australia; Australian Mus.).

We have not yet studied the type-specimen of this species. It is at least closely related to *australicus* and is similar to *latefasciatus*.

Whitei - group

14. *Promechus whitei* (Baly), new combination Fig. 5a, 8c.

Aesernia whitei Baly, 1862, *J. Ent.* 1: 293 (Waigeu; BMNH); 1867, *Trans. Ent. Soc. Lond.* (3) 4 (2): 289, pl. 52, fig. 6. — Chapuis, 1874, *Gen.* 10: Atl., pl. 123, fig. 6. — Gestro, 1875, *Ann. Mus. Civ. Genova* 8: 1027 (Ramo, or Sorong; Salwatty).

Irian: N. Guinea, Riedel (LEIDEN). PNG: A few specimens from Murua, nr Kerema, 2 m, XII.1964, Sedlacek & Gressitt; Wapenamunda, 1600 m, III.1960, J. H. Barrett (DASF); Erave, S.H.D., 7.VIII.1962, R. Wylie, on branchlet *Arcaucaria cumminghami* (Forestry, Bulolo); Aseki, II.1972, H. Ohlms; and other specimens referred here with some uncertainty; a paratype from BMNH in Bishop Mus.

15. *Promechus bimaculatus* (Weise), new combination Fig. 2b, 5b, 8d.

Aesernia bimaculata Ws., 1918, *Tijds. Ent.* 60: 197 (Hollandia, etc.; LEIDEN).

Many specimens from various parts of the island. Irian: NW New Guinea: Hollandia, VII.1938, Neth. Ind. Amer. New Guinea Exp., J. Toxopeus (LEIDEN); Hollandia, I.1937, E. Cheesman (BMNH); Ifar, Cyclops Mts, VI.1962, J. Sedlacek; Hollandia-Binnen,

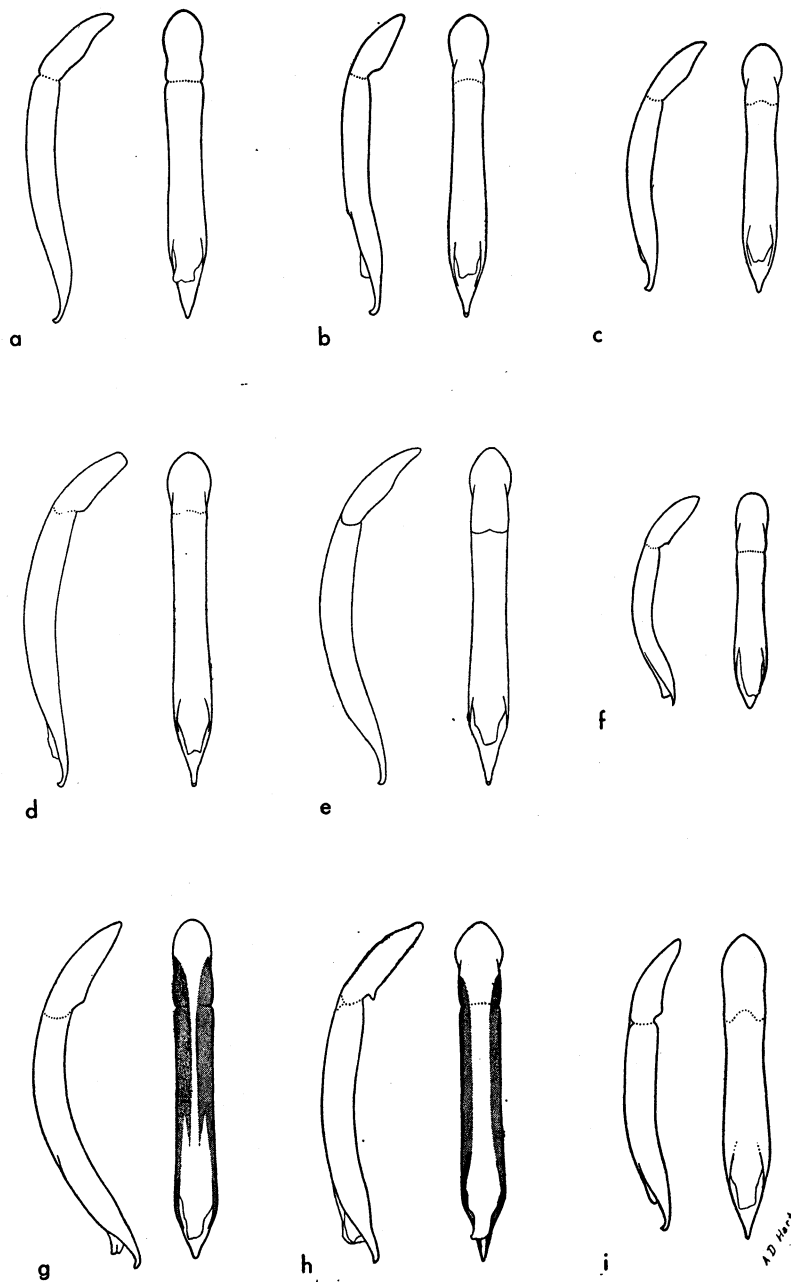


Fig. 2. Aedeagi of *Promechus* spp., left side and dorsal views: a, *australicus* (Jac.); b, *bimaculatus* (Ws.); c, *buprestoides* n. sp.; d, *shanahani* n. sp.; e, *metallicus* n. sp.; f, *parvus* n. sp.; g, *helleri* (Clav.); h, *paniae* n. sp.; i, *sedlacekorum* n. sp.

XI.1958, Gressitt; Bodem, SE of Oeberfaren, VII.1959, T. C. Maa; Nabire, X.1962, N. Wilson (BISHOP). PNG: NE New Guinea: Busu River, nr Lae, I.1965, J. Sedlacek; Wanuma, Adelbert Mts, 800-1000 m, X.1958, Gressitt; Sibog, and Kiambave, Saidor, Finisterre Mts, V-VI.1968, W. W. Brandt; Madang, X.1958, Gressitt; Dreikikir, Alexander Mts, 350 m, VI.1961, L. & M. Gressitt (BISHOP); Erima, Salao, Berlinhafen, etc. 1897, Biro (BUDAPEST); Kuper Range, 25 km SE of Salamaua, I.1969, Sedlacek, on *Boerlagiodendron*; Torricelli Mts, XII.1958-III.1959, W. W. Brandt; Lae, IX.1949, N.L.H. Krauss; Ulap, Mt Missim & Wau, 1100-1200 m, Morobe, XI.1961, I.1962, Sedlacek; Ambunti, V. 1963, R. Straatman (BISHOP); Buana, Morobe, IX.1964, J. Ardley; Komiatu Vill., Morobe, III.1967, T.L. Fenner; Imoda, W Sepik, 300 m, II.1965, Sir Alan Mann (DASF). SE New Guinea (Papua): Loloipa, Goilala, I.1958, W. W. Brandt (BISHOP).

Host plant: *Boerlagiodendron* (Araliaceae).

16. **Promechus buprestoides** Gressitt and Hart, new species Fig. 2c, 5c, 8e.

♂. (Holotype). Body shiny dark metallic green with magenta cast, except lateral area and anterior 1/2 of head orange to castaneous and a testaceous yellow postmedian subtransverse elytral band; antenna pitchy with segments 1-4 castaneous to darker; ventral surfaces primarily dark metallic green; anterior 1/2 of prosternum orangish; last 4 abdominal segments and apical margin of 1 castaneous to testaceous orange; basal 3/5 of femora castaneous, remaining distal portion, tibiae and tarsi brunneus with dark metallic green cast. Body largely glabrous above, a few pale short hairs on head; antenna with brief oblique auburn hairs. Subglabrous ventrally; sparse pale hairs on prosternum and metasternum; abdominal segments possessing a few short hairs on apical margins, extremely small fringe on apical margin of last sternite; sparse short golden buff hairs on legs.

Head slightly narrower than apex of prothorax, visible portion broader than long, sparse small pits and punctures interior of eye-basad, centrad vertexal area uneven and vaguely wrinkled with a fine medial groove which anteriorly connects with arcuate frontal suture setting off frontoclypeus; gena 2/3 as deep as eye; eye subelliptical, less than 2× as deep as wide. *Antenna* approximately 1/2 as long as body, segments gradually increasing in thickness beyond segment 2; segment 1 moderately swollen and depressed-subglobose; 2 barely longer than broad; 3 twice as long as broad and nearly 2× as long as 2; 4 similar to 3; 5-7 similar in length and slightly longer than 4; 8 subparallel-sided and shorter than 7; 9 and 10 similar, more slender than 8; 11 slightly longer than 10, subacute apically. *Prothorax* 2/3 as long as broad, weakly sinuate at side, anterior margin moderately obtuse-emarginate, basal margin sinuous; central portion of disc smooth with 2 separate and extremely vague longitudinal medial depressions; submedially, 2 shallow subdiagonal depressions, sparsely punctured; sublateral portion contains 5-6 well-spaced small-medium foveae longitudinally; deep depression on basal margin intermediate between medial and lateral margins with several lesser foveae. *Scutellum* smooth, barely broader than long, rounded-acute apically. *Elytron* not particularly stout, elongate, moderately convex in lateral view, slightly sinuate at side; widest portion ante-medially, subevenly narrowed apically; disc largely smooth with regular rows of small slightly depressed punctures which become largely irregular, with added punctures, in apical area; ante-medially, 2 subtransverse bands of 3-5 short longitudinal depressions in puncture rows after 3rd row from suture. *Ventral surfaces* fairly smooth, nearly impunctate; prosternum narrow and subacute anteriorly, angularly emarginate posteriorly; metasternum finely grooved, obtuse emarginate posteriorly; abdominal segments with slight wrinkled depressions sublaterally. *Aedeagus* pale testaceous, subparallel-sided, feebly arcuate in lateral view, somewhat acuminate with lateral margin slightly indented ante-apically delimiting distinct and rounded tip. *Legs* not particularly stout, tibiae thickened distally; hind tarsal segment 1 as long as 2+3, and as long as last. Length 12.3 mm; breadth 5.7.

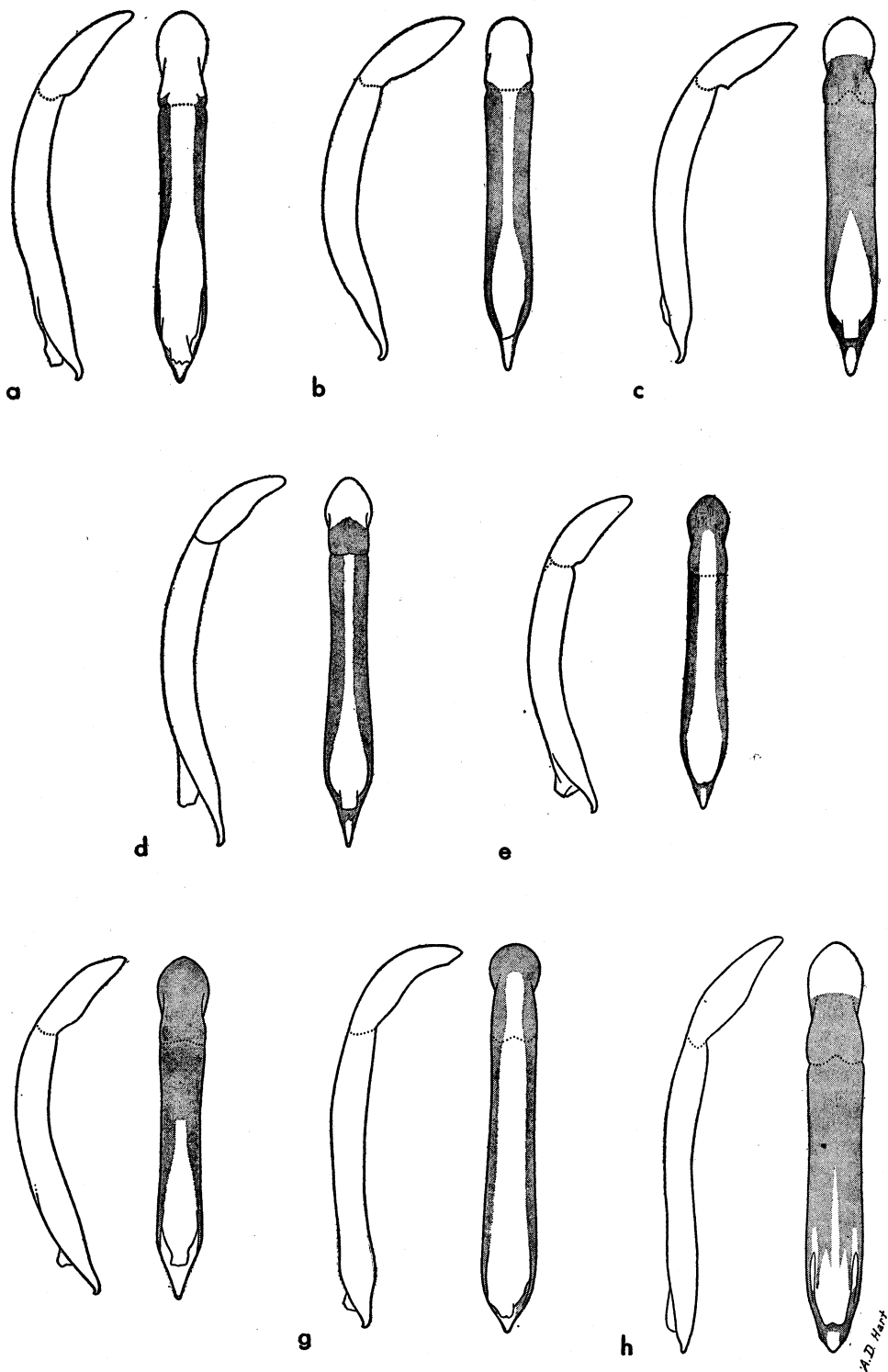


Fig. 3. Aedeagi of *Promechnus* spp., left side and dorsal views: a, *pittospori* n. sp.; b, *montanus* (Hllr); c, *straatmani* n. sp.; d, *abidi* n. sp.; e, *subapicalis* n. sp.; f, *sulcatus* n. sp.; g, *stygius* n. sp.; h, *prosopon* n. sp.

♀. (Allotype). Antenna not quite 1/2 as long as body; head pale metallic golden green; prothorax brunneus with bright green cast, gradually narrowed apically along lateral margin, medial depression more pronounced; elytron strongly elongate, small depressed and rugulose area adjacent to suture basally, postmedial band wider and darker; abdominal segments paler. Length 14 mm; breadth 6.

Holotype ♂ (BISHOP 10,163), Irian: Karubaka, Swart Valley, 1400 m, NW New Guinea, 6.XI.1958, Gressitt (host 3246); allotype ♀ (BISHOP), 1500 m, 11.XI.1958; 4 paratypes, 5-20.XI.1958, Gressitt.

Differs from *whitei* Baly in being smaller and more slender, with the prothorax relatively longer and with smaller foveae.

17. ***Promechus arcuatus*** (Clavareau), new combination Fig. 5d, 8f.

Aesernia arcuata Clav., 1912, *Ann. Soc. Ent. Belg.* 56: 294 (NE New Guinea; D. ESDEN Mus.).

PNG: Some specimens are tentatively referred to this species, from Feramin, Eliptamin Valley, and Telefomin, 1200-1700 m, NE New Guinea, VIII-IX.1959, W.W. Brandt, and VIII.1963, R. Straatman.

18. ***Promechus shanahani*** Gressitt and Hart, new species Fig. 2d, 5e, 8g.

♂. (Holotype). Head largely dark metallic green, reddish around apical and lateral areas; antenna black with segment 1 bright orange-brown and segment 2 castaneous; pronotum, scutellum and anterior 2/3 of elytron shiny dark metallic green, with a wide preapical subtransverse band pale-darker testaceous, apex dark metallic green; ventral surfaces largely dark green, apical margins of sternites 1 and 2 reddish, the last 3 segments testaceous; femora testaceous orange, tibiae dark green except for distal 1/3 which are orange, tarsi pitchy. Body above nearly glabrous, a few short hairs on head and apical margin of elytron; sparse oblique hairs on antenna; underside subglabrous with a few hairs on lateral margins of last 3 abdominal segments and a small fringe on apical margin of last sternite; legs with sparse short golden buff hairs.

Head fairly smooth with a few well-spaced minute punctures, a fine medial groove bisects moderately deep vertexal depression to connect with broadly arcuate frontal suture setting off frontoclypeus, gena projecting slightly below, not as deep as eye; eye subelliptical, slightly over 2× as deep as wide. *Antenna* over 1/2 as long as body, segments usually thickest apically, stoutest just beyond middle except for segment 1 which is depressed-subglobose; segment 2 as long as broad; 3 over 2× as long as 2, and 3/7 as broad as long; 4 slightly longer than 3; 5 longer than 4, slightly over 3× as long as broad; 6 shorter than 5; 7 longer than 6; 8 similar to 7; 9 and 10 similar, barely shorter and less stout than 8; 11 longer and more slender than 10, subacute apically. *Prothorax* 7/11 as long as broad, subparallel-sided, strongly narrowing at apex, moderately and arcuately emarginate anteriorly, sinuate on basal margin, disc smooth, largely impunctate and slightly convex, with a weak basal depression medially and several feeble pits submedially, a deeper depression lies along basal margin intermediate between medial and lateral margins containing several small foveae, this being adjacent to a sublateral longitudinal area with foveae of varying sizes. *Scutellum* smooth and barely convex, as long as broad, rounded apically. *Elytron* moderately stout, elongated, moderately convex in lateral outline, lateral margin sinuous dorsally and in side view, apex subevenly narrowed; disc largely smooth with regular rows of modest punctures becoming more or less irregular, with added punctures, in apical pale portion; and with an ante-medial subtransverse band of 4-6 short longitudinal depressions occurring in puncture-rows after the 3rd row from suture, postmedially an irregular and discontinuous series of depressions incorporates interstitial areas as well as puncture rows, rarely semirugose. *Ventral surfaces* fairly smooth with slight depressions sublaterally on abdominal segments; prosternum narrow and subacute anteriorly, acutely emarginate posteriorly; metasternum with a well-defined

medial groove, obtuse-emarginate posteriorly. *Aedeagus* testaceous, slightly arcuate in lateral view, narrowly acuminate with the tip distinctly delimited and slightly turned up. *Legs* rather stout and short, tibiae thickened distally, hind tarsus with segment 1 only $\frac{2}{3}$ as long as 2+3, barely shorter than the last. Length 16.5 mm; breadth 7.

♀. (Allotype). Antenna slightly over $\frac{1}{2}$ as long as body; elytron stout; head with small amount of dark metallic green on basal margin. Length 18 mm; breadth 7.6.

Holotype ♂ (BISHOP 10,164), PNG: Popondetta, 30 m, Northern Distr., SE New Guinea, VI.1966, P. Shanahan & G. Lippert; allotype ♀ (BISHOP), I.X.1963, J. Sedlacek; 14 paratypes: 11 paratopotypes; IX.1963, Sedlacek; X.1963, H. W. Clissold; 1 paratype, Mt Lamington, Northern Distr., X.1929, C. T. McNamara (Australian Mus.); 1, British New Guinea, I.1945, Murry Harris (AMNH); Ilava, nr Kokoda, 25.V.1956, J. Healy (DASF).

Differs from *latefasciatus* Jac. in having head largely pale and pronotum metallic, in having elytron bluish green instead of purplish, and with elytral pale band broader and placed closer to apex.

19. ***Promechus corallipes*** (Gestro), new combination Fig. 5f.

Aesernia corallipes Gestro, 1875, *Ann. Mus. Civ. Genova* 7: 1025 (Dorei = Manokwari; GENOVA Mus.).

—Weise, 1912, *Nova Guinea* 9, Zool. 3: 428.

One specimen (Australian Mus.) from an unknown locality is tentatively referred to this species; another from the type locality (BOGOR Mus.) lacks the pale band of elytra, which are entirely deep indigo (Manokwari, coll'n #1128).

20. ***Promechus regalis*** (Baly), new combination

Aesernia regalis Baly, 1863, *Trans. Ent. Soc. Lond.* (3) 1 (8): 618 (Aru; BMNH); 1867, op. cit. (3) 2 (4): 288.

This species is lacking in the material at hand.

21. ***Promechus sumptuosus*** (Gestro), new combination

Aesernia sumptuosa Gest., 1876, *Ann. Mus. Civ. Genova* 8: 523 (Korido, Misori; GENOVA Mus.); 1877, op. cit. 10: 647.

This species is lacking in the material at hand.

22. ***Promechus metallicus*** Gressitt and Hart, new species Fig. 2e.

♂. (Holotype). Metallic green with a slightly bronzy to golden tinge, more purplish to bluish beneath; elytron with a yellowish testaceous band $\frac{1}{3}$ length from apex, about $\frac{2}{3}$ as broad as elytral width, and narrowed to $\frac{1}{2}$ as broad at suture; antenna blackish blue; legs purplish to greenish black; tarsi purplish black. Body shiny and glabrous above, with sparse short hairs around mouthparts and on antenna; ventral surfaces less metallic, but also largely glabrous, with a few minute hairs on abdominal sternites and a single dense fringe on apical margin of abdomen; legs with very sparse minute hairs.

Head short, distinctly narrowed a short distance behind eyes; surface smooth, grooved medially, concave between antennal supports and eyes; gena angulately protruding anteriorly, width of head here distinctly narrower than at eyes; eye $2.5\times$ as deep as wide. *Antenna* distinctly over $\frac{1}{2}$ as long as body, fairly slender and uniform beyond scape, which is nearly as broad as long and somewhat flattened; segment 2 longer than broad, $\frac{1}{2}$ as long as 3; 3–11 subequal, but 5 and 11 slightly longer than others; 11 somewhat blunt apically. *Prothorax* not quite $\frac{2}{3}$ as long as broad; lateral margin weakly sinuate; apex narrowed and arcuately emarginate; disc largely smooth in

center, feebly creased medially, with anterior and posterior groups of confluent pits and depressions at side of middle, a few small scattered punctures, and a group of confluent punctures on basal margin at forward end of emargination. *Scutellum* smooth, slightly convex, longer than broad, narrowed and subrounded apically. *Elytron* subparallel, narrowed and jointly rounded apically, hardly sinuate in dorsal view; disc strongly convex and somewhat uneven; punctures fairly fine, in regular slightly depressed rows, with 3 transverse depressions at side, with the punctures and grooves deeper in them; area of pale band much smoother, with punctures minute and in very slightly depressed lines; area behind pale band less smooth, with punctures stronger and mostly not in regular rows. *Ventral surfaces* rather smooth, sparsely and minutely punctured, with a few creases and wrinkles; prosternum narrowed and bluntly rounded anteriorly, obtusely emarginate posteriorly. *Legs* somewhat flattened, sparsely and finely punctured; hind tarsal segment 1 nearly as long as 2+3, slightly shorter than last. *Aedeagus* pitchy brown, paler basally, medially and apically; subparallel-sided, slightly narrower in middle and slightly widened preapically, evenly narrowed and acute apically, strongly and subevenly arched in side view, with apex slightly upcurved. Length 17.3 mm; breadth 8.

Paratype, ♂. Dorsal coloration much more bluish on elytron; pale band more angulate behind; venter more greenish. Length 16.9 mm; breadth 7.9.

Holotype ♂ (BISHOP 10,165), PNG: Kiunga, 35 m, Upper Fly River, Western Distr., SE New Guinea (Papua), VIII.1959, J. Sedlacek; paratopotype, same data.

Differs from *corallipes* Gestro in having femora and tibiae dark metallic and elytral pale band only slightly narrower than apical metallic portion; also the new species has elytral punctures slightly stronger and grooves and lateral depressions more pronounced.

23. *Promechus latefasciatus* (Jacoby), new combination Fig. 5g, 8h.

Aesernia latefasciata Jac., *Notes Leyden Mus.* 9: 301 (Port Moresby; BRUXELLES Mus.).

Several from PNG: SE New Guinea (Papua): Moorhead, 18 m, VII.1964, H. W. Clissold; Ruka, VII.1964, Clissold (BISHOP); St. Joseph's River, Sir W. McGregor (Australian Mus.); Yule I (BUDAPEST); Brown River, X.1968, H. Rauber (DASF). Irian: SW New Guinea: Getenberi, Lower Digoel R., X.1957, R. T. Simon Thomas.

Parvus - group

24. *Promechus parvus* Gressitt and Hart, new species Fig. 2f, 8i.

♂. (Holotype). Body largely melanistic, slightly shiny, with a submetallic green and magenta cast, elytron with a preapical testaceous spot slightly interior to the suture and extending subtransversely, apex piceous to dark green; antenna pitchy, apical margins of segments 1 and 2 castaneous; ventral surfaces primarily melanistic; apical margins of abdominal segments 1-3 castaneous, segments 4 and 5 reddish to orange testaceous; femora testaceous with basal portions immediately adjacent to trochanters and distal margins reddish pitchy, tibiae and tarsi piceous. Body nearly glabrous above, a few short pale hairs on head; antenna with sparse oblique hairs; abdominal segments with short pale hair submedially and laterally on 1 and 2, posteriorly on 3-5 and a moderate fringe on the apical margin of last sternite; legs with short golden buff hairs.

Head barely narrower than apex of prothorax, distinctly broader than long, sparse minute to small punctures widely-spaced, the largest just interior of eye, medial groove bisects a deep and broad vertexal depression to connect anteriorly with obtuse frontal suture setting off frontoclypeus; gena 1/2 as deep as eye; eye subelliptical, 2× as deep as wide. *Antenna* over 1/2 as long as body, stoutest just beyond middle except for segment 1 which is moderately swollen and depressed-subglobose; segment 2 as long as broad; 3 fully 2× as long as 2; 4 similar to 3; 5 slightly longer; 6 shorter and stouter than 5; 7 longer than 6; 8 subparallel-sided, shorter and narrower than 7; 9

and 10 similar, longer than 8; 11 longer and more slender than 10, subacute apically. *Prothorax* 9/13 as long as broad, lateral margin gradually widens, strongly narrows at apex, moderately and arcuately emarginate anteriorly, sinuate on basal margin; disc smooth, largely impunctate, with an extremely shallow medial depression ante-basally and several irregular indentations submedially with sparse minute punctures; sublateral portion uneven longitudinally, a moderately deep punctate depression occurs on basal margin and several weak horizontal depressions medially, the anterior lateral area slightly swollen. *Scutellum* smooth and slightly convex, as long as broad, somewhat narrowed, rounded apically. *Elytron* stout, elongate, surface lustre subdued, strongly convex in side view, lateral margin sinuous in both dorsal and lateral views; widest portion medially, apex subevenly narrowed; disc smooth with extremely vague semi-regular puncture-rows, interstitial spaces with added punctures; several foveae occurring interior of basal margin, ante-medially a band of 6 moderately deep foveae of differing sizes extends subtransversely, at middle 2-4 foveae occur submedially and sublaterally, apical area fairly smooth. *Ventral surfaces* generally smooth, nearly impunctate, with a few mild depressions and wrinkles towards sides of abdominal segments; prosternum narrow and depressed posteriorly; metasternum with a fine medial groove, anterior portion deeply depressed, angularly emarginate posteriorly. *Aedeagus* testaceous, slightly arcuate in lateral outline, somewhat broadly acuminate apically, rounded at tip. *Legs* rather stout and short, femora thickest before middle, tibiae thickened distally, hind tarsal segment 1 about 5/7 as long as 2+3, last slightly longer than 1. Length 10.25 mm; breadth 4.75.

♀. (Allotopotype). Body robust, dark metallic green; antenna incomplete; prothorax subparallel-sided, elytron with 2 definite subtransverse bands of depressions. Length 11.5 mm; breadth 5.5.

Holotype ♂ (BISHOP 10,166), PNG: Wau, Nami Creek, 1700-1850 m, NE New Guinea, 7. II. 1966, J. Sedlacek; allotopotype ♀ (BISHOP), same data.

Differs from the other species treated here in having the pronotum feebly depressed and hardly foveolate near sides and with elytron minutely punctured and not sulcate, though with deep foveae in subtransverse bands. Smaller than most of the other species treated here.

Helleri-group

25. *Promechus helleri* (Clavareau), new combination Fig. 2g, 5h, 9a.

Aesernia helleri Clav., 1906, *Ann. Soc. Ent. Belg.* 56: 294 (Herkules River; DRESDEN Mus.).

PNG: A long series taken at Garaina, NE New Guinea, 800 m, I.1968, J. & M. Sedlacek (BISHOP); 1, Garaina, XI.1969, Samina Mirza (H. Ohlms coll'n).

Montanus-group

26. *Promechus meeki* (Jacoby), new combination

Aesernia meeki Jac., 1906, *Entomologist* 39: 1 (S. Papua: Owgarra; BMNH?).

This species is lacking from the material at hand.

27. *Promechus paniae* Gressitt and Hart, new species Fig. 2h, 5i, 9b, 10h-i.

♂. (Holotype). Black, moderately shiny, vaguely tinged with bronzy on basal 1/2 of elytron, with a moderately wide subtransverse postmedian band testaceous yellow to orange brown, posterior margin of band quite irregular, apical region pitchy; antenna black except beneath segments 1-5 and on apices of 1 and 2 testaceous; underside pitchy black; femora pale testaceous orange on apical 5/8, pitchy black basally; tibiae testaceous orange; tarsi pitchy. Body subglabrous above with a few short pale hairs near eyes and mouthparts and on apical margin of elytron; antenna

with brief oblique auburn hairs. Ventral region subglabrous; prosternum, metasternum and abdominal segments with sparse short hairs towards and on lateral margins, moderate fringe on apical margin of last sternite; legs with numerous short golden buff hairs.

Head narrower than apex of prothorax, visible portion approximately $5/7$ as long as broad, surface highly punctate with minute punctures, several small foveae extend from interior of eye to basal margin, a broad and moderately deep vertexal depression is bisected by a weak medial groove which connects with obtuse frontal suture setting off frontoclypeus; gena $7/9$ as deep as eye; eye subelliptical, slightly more than $2\times$ as deep as wide. *Antenna* slightly less than $1/2$ as long as body, stoutest just beyond middle except for segment 1 which is strongly swollen and depressed-subglobose; segment 2 barely longer than broad; 3 longer than 2 and about as broad; 4 barely longer than 3, not as wide basally; 5 longer than 4, over $2\times$ as long as broad; 6-10 similar in length, slightly shorter than 5 and gradually decreasing in thickness, 11 longer than 10, subacute apically. *Prothorax* $2/3$ as long as broad, subparallel-sided, narrowed at apex, anterior margin deeply and transversely emarginate, convex medially in outline of basal margin; central portion of disc slightly uneven and moderately convex with numerous minute punctures, weak medial groove mid-dorsally; 2 depressions submedially and nearly equidistant from apical and basal margins, with the posterior depression foveolate and the anterior depression shallow and finely punctate; sublateral portion with large deep irregular foveae, some being fused and semi-reticulate, separated from lateral margin by an irregular and slightly convex strip which is sparsely punctured. *Scutellum* barely longer than broad, smooth with several minute punctures, rounded-acute apically. *Elytron* moderately stout and elongate, strongly convex in lateral view, slightly sinuous in side view, weakly so dorsally; widest portion ante-medially, apex subevenly narrowed; anterior $1/2$ of elytron with regular rows of small punctures, weakly to moderately sulcate, interstices increasingly convex towards side, all grooves weaken or terminate in postmedian color band, terminal area slightly uneven and highly punctate, largely in an irregular fashion; ante-medially, 2 subtransverse bands of 5-8 short longitudinal depressions of varying depths in puncture-rows after 3rd row from suture. *Ventral surfaces* primarily smooth, feebly punctured; prosternum narrowly triangular, rounded-acute anteriorly, deeply emarginate posteriorly, metasternum finely grooved postmedially, obtusely emarginate posteriorly; abdominal segments slightly wrinkled and depressed sublaterally, except last sternite. *Aedeagus* pitchy black, castaneous mid-dorsally and apically, slender, subparallel-sided, moderately arcuate in lateral view, acuminate apically. *Legs* stout, smooth to finely punctured, femora thickest near middle, tibiae thickened apically; hind tarsal segment 1 considerably shorter than 2+3, last longer than 1. Length 18.5 mm; breadth 8.6.

♀. (Allotype). Head with deep, well-defined medial groove; antenna less than $1/2$ body length; elytron black anteriorly, lacks bronzy tinge, postmedian band narrower and more closely subparallel in shape. Length 20 mm; breadth 9.25.

Larva (last or penultimate instar; fig. 10h-i). Differs from larva of *telefominus* in being entirely pale except for pitchy spiracles, slightly pitchy apices of inner dorsal processes and brownish apices of sublateral processes; head and legs pale testaceous; inner dorsal processes mostly dichotomous distally; other processes variable but usually with 1 or more tubercles or short spines bearing setae. Length 20 mm; breadth 7 excluding processes. (Enarotali, 1900 m, 19.VI.1962, J. Sedlacek).

Holotype ♂ (BISHOP 10,167), Irian: Enarotali (Enagotadi), 1800-1900 m, Wisesmeren, NE New Guinea, 31.VII.1962, J. Sedlacek; allotype ♀ (BISHOP), 22.VIII.1962, Sedlacek; 82 paratypes: 63 paratopotypes, VII-VIII.1962, Sedlacek; 2, Moanamani, Kamo Valley, 1500 m, 15.VIII.1962, Sedlacek; 13, Paniai (Lake, near Enarotali), K.N.A.G. Exped., 6.IX.1939, LEIDEN Museum; 4, Itouda, Kamo Valley, 1500 m, VIII.1955, Gressitt and VIII.1962, Sedlacek. PNG: Additional specimens, probably this species, Eliptamin Valley, 1200-1300 m, NE New Guinea, VII.1959, W.W. Brandt, Betege, nr Koroba, IX.1963, R. Straatman, and Lavani, SE New Guinea, I.1968, Tawi. Still other questionable

specimens from Paniai, Enarotali and elsewhere in the central mountains.

Differs from *meeki* Jac. in usually having only a postmedian band of modest width pale, and from *pittospori* in the same character, and in having the subtransverse elytral impressions less pronounced and the foveate area at side of pronotum restricted to a narrow longitudinal strip.

Host plant: *Schefflera* sp. (Araliaceae).

28. ***Promechus toxopei*** Gressitt and Hart, new species Fig 5j, 9c.

♂. (Holotype). Body dark, moderately shiny except for pale apical 1/2 of elytron; head piceous; prothorax castaneous; basal 1/2 of elytron metallic reddish magenta, remaining apical portion ochreous to orange-brown except for a thin border of magenta on outside margin; antenna reddish pitchy with underside of segments 1-4 pale testaceous; underside brownish with pale magenta cast; femora castaneous with distal 1/3 testaceous orange, tibiae testaceous orange, tarsi pale castaneous. Body subglabrous above; head with a few short pale hairs; pale brief oblique hairs on antenna; apical margin of elytron with sparse short hairs; prosternum and metasternum possessing sparse longish hairs towards sides; abdominal segments with sparse hair primarily on apical margins except for a moderate fringe on apical margin of last sternite; sparse short golden buff hairs on legs.

Head distinctly narrower than apex of prothorax, visible portion broader than long, surface highly and finely punctate, several small foveae occurring interior of eye-basad, anteriorly, broad moderately deep vertexal depression bisected by weak medial groove connecting with arcuate frontal suture setting off frontoclypeus; gena 3/4 as deep as eye; eye subelliptical, 2× as deep as wide. *Antenna* approximately as long as body, stoutest near middle except for segment 1 which is strongly swollen and depressed-subglobose; segment 2 is longer than broad; 3 almost 2× as long as 2; 4 longer and stouter than 3; 5-10 similar in length, gradually decreasing in thickness and becoming more parallel-sided; 11 longer than 10, subacute apically. *Prothorax* 2/3 as long as broad, subparallel-sided, narrowed at apex, anterior margin deeply and transversely emarginate, basal margin sinuate and asymmetrical; disc uneven with many minute to small punctures and a deep well-defined medial groove on anterior 2/3, submedially 2 moderately deep depressions merge with sublateral longitudinal depression containing numerous small-medium foveae, often fused and semi-reticulated, fovea terminate posteriorly along basal margin. *Scutellum* smooth, broader than long, rounded-obtuse apically. *Elytron* stout, strongly convex in lateral outline, lateral margin sinuous in both dorsal and side views, subevenly narrowed apically: basal 1/2 of disc with regular rows of small punctures, slightly to moderately sulcate, interstices increasingly convex towards sides, puncture-rows rapidly dissipate in apical 1/2, terminal area highly and finely punctate in a largely irregular fashion; ante-medially, 2 weakly depressed subtransverse bands of short longitudinal and deep pit depressions in puncture-rows after 2nd row from suture, bands inconsistent and irregular. *Ventral surfaces* largely smooth and nearly impunctate; prosternum narrowly triangular, acutely rounded anteriorly, deeply obtuse emarginate posteriorly; metasternum finely grooved postmedially, obtusely emarginate apically; lateral portions of abdominal segments 1-3 moderately depressed and slightly wrinkled with sparse minute punctures. *Aedeagus* (extremely poor specimen) pale to darker testaceous, somewhat subparallel-sided, acuminate apically. *Legs* fairly stout, finely punctate; hind tarsal segment 1 slightly shorter than 2+3, only 4/5 as long as last. Length 16 mm; breadth 8.

♀. (Allotopotype). Head and pronotum black, slightly shiny with head punctures more numerous and somewhat larger, sublateral longitudinal depression on prothorax quite deep and containing large fovea; basal portion of elytron brighter metallic reddish magenta, and with a rather large but shallow depression submedially, pale postmedian portion occupies less than 1/2 of elytral area. Length 19 mm; breadth 10.

Holotype ♂ (LEIDEN), Irian: Moss Forest Camp, 2600 m, NW New Guinea, 21.X-5.XI.

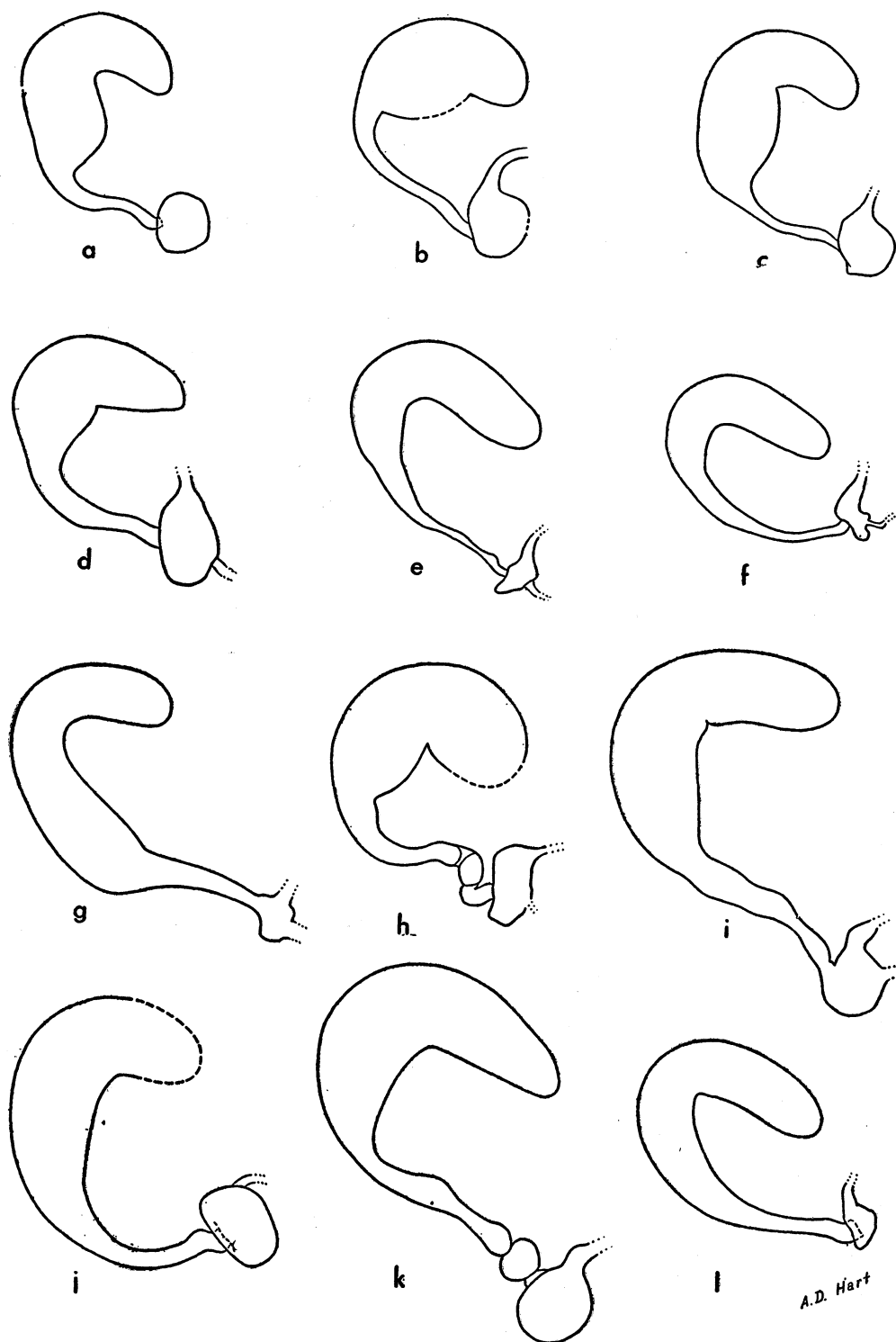


Fig. 4. Spermathecae of *Promechus* spp., lateral views: a, *splendens* (Guér.); b, *pulcher* n. sp.; c, *telefominus* n. sp.; d, *orientalis* n. sp.; e, *variicollis* n. sp.; f, *parentheticus* n. sp.; g, *inflatus* n. sp.; h, *schefflerae* n. sp.; i, *lacustris* n. sp.; j, *moszkowskii* (Kuntzen); k, *giganteus* n. sp.; l, *australicus* (Jac.)

1938, L.J. Toxopeus, Neth. Ind. Amer. New Guinea Exped.; allotopotype ♀ (BOGOR), same data.

Differs from *meeki* Jac. in having antenna and tarsi pitchy to pale instead of bluish black, pronotum black to purplish brown instead of brassy green, elytron lacking greenish tinge, and last abdominal sternite blackish instead of pale.

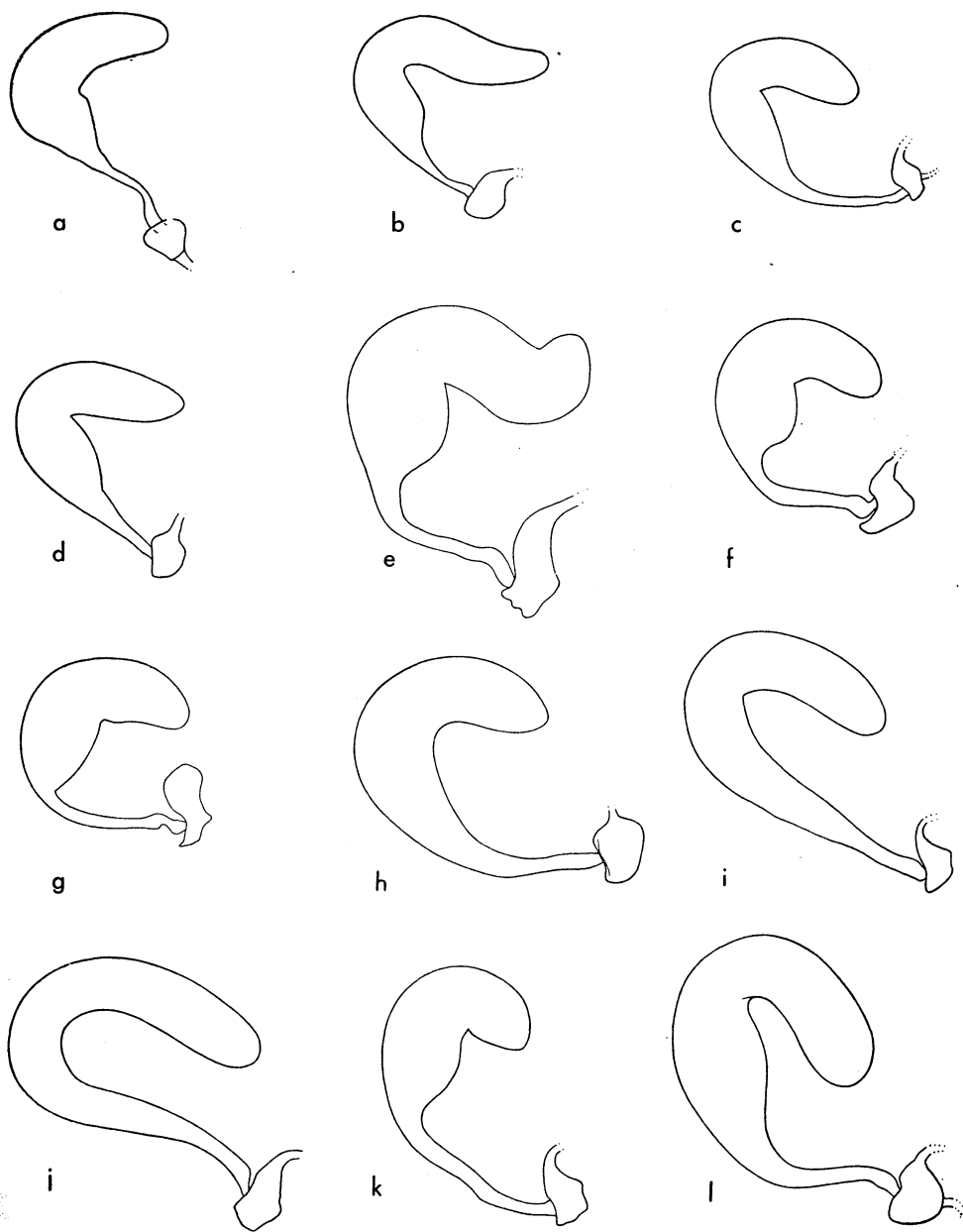
29. ***Promechus sedlaceorum*** Gressitt and Hart, new species Fig. 2i, 5k, 9d.

♂. (Holotype). Dorsum moderately shiny. Head and pronotum piceous tinged with pale metallic green; elytron largely metallic magenta-dark brown, with a rather narrow subtransverse postmedian band dull testaceous to orange-brown; antenna black except for undersides and apices of segments 1 and 2 testaceous orange; ventral surface melanistic with dark metallic green cast; femora largely pale testaceous yellow-orange except for dark green basal area immediately adjacent to and of subequal size with trochanter, tibiae dark metallic green, tarsi black. Body subglabrous above; a few short pale hairs near eyes and mouthparts; brief oblique hairs on antenna; subglabrous ventrally with a few pale hairs on lateral margin of prosternum and sparse short hairs towards and on lateral margins of abdominal segments, particularly on apical margin of last sternite; sparse short golden buff hairs on legs.

Head narrower than apex of prothorax, visible portion 2/3 as long as broad; surface somewhat rugulose with a few small foveae interior of eye, anteriorly, an extremely vague medial groove bisects moderately deep vertexal depression and joins with arcuate frontal suture setting off frontoclypeus; gena not as deep as eye; eye subelliptical, slightly over 2× as deep as wide. *Antenna* over 1/2 as long as body, stoutest just beyond middle except for segment 1 which is depressed-subglobose; segment 2 is about as long as broad; 3 is 2× as long as broad and 2× as long as 2; 4 similar to 3; 5 stouter and longer than 4; 6 slightly stouter but shorter than 5; 7 longer and stouter than 6; 8 shorter and more slender than 7; 9 and 10 similar, more slender than 8; 11 longer than 10, subacute apically. *Prothorax* 7/10 as long as broad, subparallel-sided, narrowed at apex, anterior margin deeply and transversely emarginate, sinuate on basal margin; disc rather flat, rugose and with a vague medial groove basally, 2 depressions submedially, equidistant from basal and apical margins, anterior depression shallow, subdiagonal and sparsely punctate, posterior pit moderately deep; sublateral area arcuately depressed containing 9-10 small to large foveae, some fused, terminating posteriorly along basal margin, separated from lateral margin by a thin sparsely punctured strip. *Scutellum* smooth, flat, slightly longer than broad, rounded-acute apically. *Elytron* stout, moderately convex in lateral outline, lateral margin sinuous in both side and dorsal views; widest portion medially, subevenly narrowed apically; disc with regular rows of small punctures, interstices weakly convex, rows weaken or terminate after postmedian band, terminal area highly punctate, largely in an irregular fashion. *Ventral surfaces* smooth; prosternum narrowly triangular and somewhat obtuse anteriorly, posteriorly moderately emarginate; metasternum with a fine medial groove, obtuse-emarginate posteriorly; abdominal segments sublaterally depressed, particularly on segment 1 which is also semi-wrinkled. *Aedeagus* brownish on anterior 1/2, testaceous on the remainder; barely arcuate in lateral view, subparallel-sided, acuminate apically. *Legs* not particularly stout, sparsely and finely punctured; hind tarsal segment 1 barely shorter than 2+3, last slightly longer than 1. Length 14.5 mm; breadth 6.8.

♀. (Allotype). Antenna slightly less than 1/2 as long as body; dorsum generally submetallic magenta except for pale elytral band, greenish tinge on basal portion of elytron; medial depression on head commences from basal margin anteriorly; central disc of prothorax smooth and without medial groove; elytron quite stout, widest portion postmedially. Length 16.75 mm, breadth 7.6.

Holotype ♂ (BISHOP 10,168), PNG: Purosa, 1800-2020 m, 20-26 km SE of Okapa, NE New Guinea, 28.VIII.1964, J. & M. Sedlacek; allotopotype, ♀ (BISHOP), same data; 9 paratypes: 4 paratopotypes, 25-28.VIII.1962, Sedlacek; 1, 8 km W of Okapa, 29.



A. D. Hart

Fig. 5. Spermathecae of *Promechus* spp., lateral views: a. *whitei* (Baly); b. *bimaculatus* (Ws.); c. *buprestoides* n. sp.; d. *arcuatus* (Clav.); e. *shanahani* n. sp.; f. *corallipes* (Gestro); g. *latefasciatus* (Jac.); h. *helleri* (Clav.); i. *pamiae* n. sp.; j. *toxopei* n. sp.; k. *sedlacekorum* n. sp.; l. *pittospori* n. sp.

VIII.1964; 2, Busu River, near Lae, 70 m, 7.VIII.1964, J. & M. Sedlacek. Irian: 2, Sibil Valley, Star Mts, NW New Guinea, 1870 m, 18.X-8.XI.1961, L. W. Quate.

Differs from *meeki* Jac. and *helleri* Clav. in having only a narrow postmedian elytral band pale, and from latter in having subtransverse elytral depressions less pronounced and pronotal foveae in part widely spaced.

30. ***Promechus pittospori*** Gressitt and Hart, new species Fig. 3a, 5l, 9e.

♂. (Holotype). Body largely black and moderately shiny, apical 1/2-3/8 of elytron ochreous, anterior margin of pale area subdiagonal, sutural and lateral margins finely bordered in black, suture irregularly so; antenna black except for underside of segment 1 and apices of 1 & 2 castaneous; ventral surfaces black; femora testaceous; tibiae and tarsi black. Body subglabrous above; sparse pale hairs on head, primarily on and near mouthparts; antenna with brief oblique pale hairs; abdomen possessing short pale hairs on all segments mostly towards and on lateral margins and a moderate fringe on apical margin of last sternite; sparse short golden buff hairs on legs.

Head narrower than apex of prothorax, surface fairly smooth with punctures anteriorly and laterally, several small foveae interior of eye-basad, finely and deeply grooved coronal suture bisects deep and broad vertexal depression to connect with arcuate frontal suture setting off frontoclypeus; gena not as deep as eye; eye subelliptical, about 2× as deep as wide. *Antenna* over 1/2 as long as as body, stoutest at middle and just beyond except for segment 1 which is depressed subglobose; segment 2 barely longer than broad; 3 about 2× as long as broad, slightly over 2× as long as 2; 4 similar to 3; 5 longer than 4; 6 narrower and shorter than 5; 7 longer and stouter than 6; 8 subparallel-sided, shorter than 7; 9 and 10 similar, slightly longer than 8; 11 longer than 10, subacute apically. *Prothorax* 4/5 as long as broad, subparallel-sided, narrowed at apex, anterior margin deeply and transversely emarginate, basal margin sinuate; disc moderately uneven with a weak medial groove terminating before anterior margin, submedial area with 2 punctate depressions, anterior depression subdiagonal and shallow, posterior pit deep, these merging with a deep uneven longitudinal depression sublaterally containing small-medium foveae, some fused and semi-reticulate terminating posteriorly along basal margin. *Scutellum* smooth and flat, as long as broad, lateral depression slightly above middle, rounded apically. *Elytron* stout, moderately convex in lateral outline, lateral margin more sinuous in side view than dorsally; widest portion ante-medially, apex subevenly narrowed; disc smooth and uneven with distinct rows of rather small deeply depressed punctures, grooves slightly to moderately sulcate, interstitial spaces gradually raised towards side, rows weaken or terminate by pale apical portion, terminal area somewhat uneven with many punctures, largely occurring irregularly; at side 3 transverse bands of 5-7 short longitudinal depressions each in puncture-rows after 2nd row from suture, deepest and longest depressions laterally, anterior band subhorizontal, median and antemedian bands subdiagonal. *Ventral surfaces* fairly smooth; prosternum subtriangular, acutely rounded anteriorly; deeply emarginate posteriorly; metasternum finely grooved medially; obtuse-emarginate posteriorly; sparse minute punctures on abdomen except basal portion of sternite 1, lateral areas of all segments except the last slightly depressed and wrinkled. *Aedeagus* black on sides and beneath, reddish-brown mid-dorsally and apically, slender, parallel-sided, slightly arcuate in lateral view, moderately acuminate apically with lateral margin slightly sinuous. *Legs* stout, smooth to sparsely and finely punctured; femora thickest near middle, tibiae thickened distally; hind tarsal segment 1 distinctly shorter than 2+3, the last slightly longer than 1. Length 18 mm; breadth 7.8.

♀. (Allotype). Antenna slightly over 1/2 as long as body; head deeply grooved medially, sides strongly swollen; prothorax shiny black, lateral margin gradually narrowed anteriorly, anterior margin obtusely and grossly emarginate to a depth nearly 1/2 medial length, extremely fine medial groove, very deep posterior depression closer to median than lateral margin merging with sublateral longitudinal depression; scutellum depressed apically and posterior 1/2 nearly semi-circular in configuration; anterior 1/2 of elytron black with a bronzy cast; metasternum with deep short

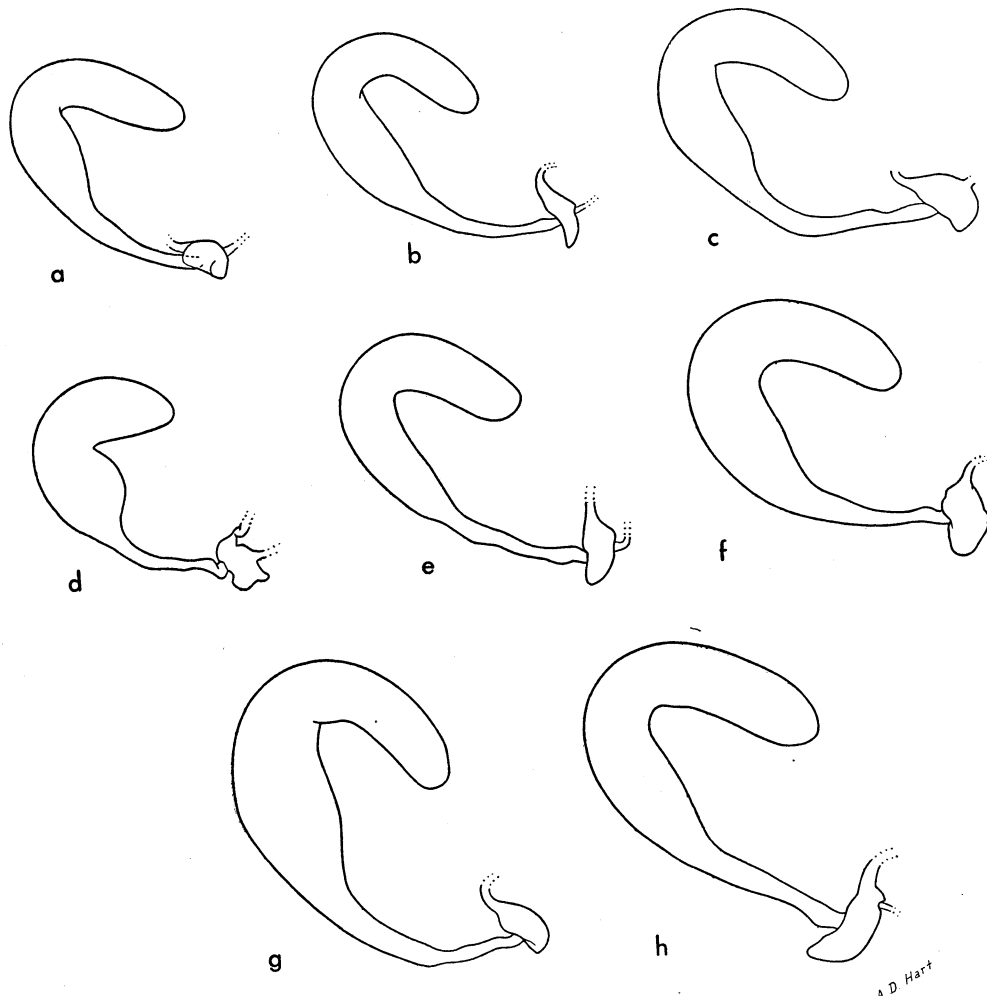


Fig. 6. Spermathecae of *Promechnus* spp., lateral views: a, *montanus* (Hllr); b, *straatmani* n. sp.; c, *abidi* n. sp.; d, *subapicalis* n. sp.; e, *sulcatus* n. sp.; f, *sculpturatus* n. sp.; g, *stygicus* n. sp.; h, *prosopeon* n. sp.

longitudinal depression anteriorly, posterior portion somewhat shallowly depressed. Length 20 mm; breadth 9.7.

Holotype ♂ (BISHOP 10,169), PNG: Wau (slope of Mt Kaindi), 1750 m, NE New Guinea, 5.II.1966, J. Sedlacek; allotopotype ♀ (BISHOP) same data; 73 paratypes: 4 paratopotypes; 7, Nami Ck, 1700–1850 m, 7.II.1966, J. & M. Sedlacek; 1500 m, X.1.1961; 1700 m, 26.I.1963, Sedlacek; 6, 1700 m, 28.I.1963, J. Sedlacek; 2, Edie Ck, 1850 m, 2.IV.1966, J.L. Gressitt; Edie Ck, 2050 m, 28.I.1963, Sedlacek; Edie Ck, 2050–2300 m, 31.III.1966, Gressitt; Edie Ck, 2100–2250 m, 2.V.1964, Sedlacek; Mt Missim, Morobe Distr., 1220 m, 13.II.1963, Sedlacek; Mt Missim, 2100 m, 15.III.1968, P. Colman; 19–29 km S of Wau, Bulldog Rd, 2200–2600 m, 28.V.1967, Gressitt; Bulldog Rd, 2, c 14 km S Edie Ck, 2405

m, 4-10.VII.1966, G.A. Samuelson; 3, 2100-2500 m, 25.VII.1969, Gressitt; 2450 m, 31.V.1962, Sedlacek; Mt Kaindi, 2, 2350 m, 24.III., 17.VI.1966, Gressitt; 3, 2000-2350 m, 17-19.VIII.1965, Sedlacek; 3, 2250 m, 24.VII.1969, Gressitt; 2, 2350 m, 24.VIII.1968, Mena; 3, 2350 m, 3.II., 4, 26.V.1967, Gressitt; 2350 m, 1.III.1971, Tawi; 6, 30 km E Goroka, 2400-2800 m, 2000-2100 m, 15-21.IV., 22-31.V.1968, Sedlacek; 2, Lake Sirunki, 2570 m, 17.VI., 2600-2700 15.VI.1963, Sedlacek; 2, Moife, 2100 m, 15 km NW of Okapa, 7-14.X.1959, T. C. Maa; E. Highlands, 10 km NE of Lufa, 1800-2100 m, 21.I.1966, Sedlacek; 2, Tomba, 38 km W of Mt Hagen, 2450 m, 21-24.V.1963, Sedlacek, 11 km S of Mt Hagen (town), 2000-2300 m, 20.V.1963, Sedlacek; W. Highlands, Tomba, 2500-2560 m, 24.V.1965, Sedlacek; 2100 m, 13.V.1973, on *Pittosporum*, Gressitt; Keglsugl, nr Mt Wilhelm, 2500-2720 m, 1.VII.1963, Sedlacek; 3000 m, VIII.1969, Gressitt; 2, Tambul; 2200-2250 m, 2200 m, 26.V., 8.VI.1963, Sedlacek; E. Highlands, Kainantu, 1500 m, 20.I.1966, Sedlacek; Mt Giluwe, 2500 m, 1.V.1963, Sedlacek; Chimbu Val., 1800 m, 16.V.1963, Sedlacek; Mt Otto, 2200 m, above Kabebe, 23.VI.1955, Gressitt; Owen Stanley Range, Goilala: Bome, 1950 m, 1-15.IV.1958, Brandt; Aiyura, 1550 m, 13.V.1966, Gressitt; S of Garaina, 900-1800 m, Sedlacek; 24-26 km SE Okapa, 1800-1900 m, 25.VIII.1964, Sedlacek; E. Highlands, Purosa, 1700 m, 17-25.V.1966, Gressitt & Tawi; Kainantu, 1650 m, 20-26.X.1959, Maa; Barapa Sawmill, 13 km WNW Kainantu, 2300-2400 m, 8.I.1965, Gressitt.

Host plants: *Pittosporum* spp. (Pittosporiaceae).

Differs from *meeki* Jac. in having less than posterior 1/2 of elytron pale, and with most of suture bordered with black posteriorly, with rest of dorsum black instead of brassy or greenish metallic, and with last abdominal sternite black instead of pale.

31. *Promechus gestroi* (Jacoby)

Aesernia gestroi Jac., 1906, *Entomologist* **39**: 25 ("British New Guinea"=Papua; GENOVA Mus.).

This species is lacking from the material at hand for study.

32. *Promechus eburneocinctus* Gressitt and Hart, new species Fig. 9f.

♀. (Holotype). Head and pronotum black with indigote cast, slightly shiny; scutellum black; elytron atropurpureous and moderately shiny, except for a narrow subtransverse postmedian band pale ochreous; antenna generally black, undersides of segments 1-4 and apical margins of 1 and 2 pale testaceous; ventral surfaces melanistic; femora pale ochreous, tibiae same but paler, tarsi black. Body subglabrous above, with a few short pale hairs near eyes and mouthparts and barely so on apical margin of elytron; antenna with brief oblique hairs; sparse short pale hairs on abdomen and a modest fringe on apical margin of last sternite; legs with short golden buff hairs, particularly on distal portion of tibiae.

Head slightly narrower than apex of prothorax, visible portion broader than long, surface minutely punctate with a series of small foveae just interior of eye to basal and lateral areas, well-defined medial groove bisects rather broad and shallow vertexal depression to connect with arcuate frontal suture setting off frontoclypeus; gena not as deep as eye; eye subelliptical, about 2× as deep as wide. *Antenna* less than 1/2 as long as body, stoutest beyond middle except for segment 1 which is strongly swollen and subglobose; segment 2 as long as broad, 3 over 2× as long as broad, 2× as long as 2; 4 slightly longer and barely broader than 3; 5 longer and more slender than 4; 6 shorter and stouter than 5; 7 longer and stouter than 6; 8-10 similar, slightly shorter and more slender than 7; 11 longer than 10, subparallel-sided and subacute apically. *Prothorax* 5/7 as long as broad, lateral margin sinuous and strongly narrowed at apex, anterior margin deeply and arcuately emarginate, sinuate on basal margin; disc somewhat convex but moderately uneven with a well-defined medial groove and 2 submedial depressions, the anterior depression subdiagonal,

shallow and finely punctate, posterior depression deep and subfoveate with fine punctures within; sublateral portion with a longitudinal strip of small to large foveae, some fused and semi-reticulate, largest posteriorly, separated from outside margin by sparsely punctured convex strip. *Scutellum* smooth, barely longer than broad, rounded apically. *Elytron* stout, moderately convex in lateral view, lateral margin sinuous in side view, nearly parallel-sided dorsally, apex subevenly narrowed; disc uneven, basal 1/2 with regular rows of small depressed punctures of unequal size, rows mildly-strongly sulcate, punctures often fused and occasionally entering interstitial spaces creating a slightly depressed and rugose appearance, puncture-rows weak or terminated by postmedian band, apical portion highly punctate and rugose, largely in an irregular fashion. *Ventral surfaces* in large part smooth, feebly punctured to impunctate; prosternum missing; metasternum with a fine medial groove, basal portion longitudinally depressed, posterior margin obtusely emarginate; basal area of abdominal segment 1 rugulose, slight depressions sublaterally on all segments. *Spermatheca* none present. *Legs* moderately stout, sparsely punctured, femora thickest near middle, tibiae thickened distally; hind tarsal segment 1 not as long as 2+3, last longer than 1. Length 21.5 mm; breadth 9.75.

Holotype ♀ (BISHOP 10,170), PNG: Purosa, 1900 m, 25.VIII.1964, J. & M. Sedlacek.

Differs from *gestroi* Jac. in being purplish blue instead of blackish green, in having elytral pale band extremely narrow, apical portion of elytron rugosely instead of finely punctured and legs largely yellow instead of greenish black.

33. ***Promechus montanus*** (Heller), new combination Fig. 3b, 6a, 9g.

Aesernia montana Hllr, 1910, *Abh. Mus. Dresden* 13 (3): 41 (Torricelli Mts, 900 m; DRESDEN Mus.).

One (BISHOP), PNG: Mokai, Torricelli Mts, 750 m, 8-15.XII.1958, W.W. Brandt. Irian: 1 (BOGOR), near Manokwari, Vogelkop, XII. 1955, G. den Hoed, feeding on leaves of forest tree.

34. ***Promechus straatmani*** Gressitt and Hart, new species Fig. 3c, 6b, 9h.

♂. (Holotype). Body atropurpureous with occasional tinges of magenta and green, except for a subtransverse orange-brownish postmedian elytral band, subparallel in configuration; antenna black, undersides of segments 1-4 testaceous; ventral surfaces black; femora and tibiae ochreous, tarsi pitchy black. Body subglabrous above; a few short pale hairs near mouthparts and eyes and on apical margin of elytron; antenna with short pale oblique hairs; sublateral areas of prosternum, metasternum and abdominal segments with sparse short hairs, moderate fringe on apical margin of last sternite; sparse short golden buff hairs on legs.

Head narrower than apex of prothorax, visible portion broader than long, somewhat flattened above, surface punctate, a series of small foveae extends from interior of eye-basad, fine medial groove bisects moderately deep vertexal depression to connect with arcuate frontal suture setting off frontoclypeus; gena as deep as eye; eye subelliptical, 2× as deep as wide. *Antenna* just over 1/2 as long as body, stoutest near middle and beyond except for segment 1 which is strongly swollen and depressed-subglobose; segment 2 barely longer than broad; 3 nearly 2× as long as broad, 2× as long as 2; 4 longer than 3; 5-7 similar, slightly longer than 4; 8 shorter and more slender than 7; 9 and 10 similar, shorter and more slender than 8; 11 longer and narrower than 10, subacute apically. *Prothorax* 2/3 as long as broad, lateral margin gradually narrowed, strongly narrowed at apex, anterior margin deeply and arcuately emarginate, sinuate on basal margin; disc slightly convex, uneven and highly punctate, extremely vague medial groove anterior to the middle, 2-3 moderately deep submedial depressions sparsely punctured; sublateral portion deeply depressed longitudinally with medium-large foveae, often fused and reticulate, lesser foveae along basal margin, area separated from lateral margin by sparsely punctured convex strip. *Scutellum* smooth, barely broader than long, slightly convex with several punctures laterally, well-rounded apically. *Elytron*

moderately stout, strongly convex in lateral outline, lateral margins sinuous dorsally, less so in side view; widest portion at middle, subevenly narrowed apically; disc uneven with distinct regular rows of small punctures, punctures increasingly fused and deepening towards side forming deep pits or longitudinal depressions, rows moderately-strongly sulcate, interstices slightly to strongly raised, grooves rapidly dissipate in postmedian band, apical region highly punctate and moderately rugose. *Ventral surfaces* fairly smooth, feebly punctured to impunctate, except for abdominal segments which are moderately and finely punctured; prosternum narrowly triangular, acutely rounded anteriorly, deeply emarginate posteriorly; metasternum finely grooved medially-basad, angularly emarginate posteriorly; abdominal segments with depressions and wrinkles laterally. *Aedeagus* black, pale testaceous postmedially, reddish apically, subparallel-sided, moderately arcuate in lateral view, acuminate apically. *Legs* stout, finely and sparsely punctured; hind tarsal segment 1 shorter than 2+3, the last slightly shorter than 1. Length 18.5 mm; breadth 8.5.

♀. (Allotype). Body melanistic, lacks magenta and green tinge; postmedian transverse band on elytron darker; basal 3/5 of femora luteous, also on underside of tibiae; medial depression on head deep with sides above quite swollen and somewhat wrinkled; prothorax with a definite medial groove, disc uneven and submedial depressions merge with sublateral depression; scutellum less convex. Length 20.4 mm; breadth 9.5.

Paratype: Length 17-21 mm; breadth 8-9.5.

Holotype ♂ (BISHOP 10,171), PNG: Telefomin, 1600 m, nr Star Mts, NE New Guinea, III.1971, Mena; allotype ♀ (BISHOP), Koroba, 40 km W of Tari, S Highlands, SE New Guinea, 1750 m, 15.IX.1963, Raymond Straatman; 9 paratypes: 1 paratopotype, 1550 m, 13.VIII.1963, Straatman; 2, Koroba, 19.IX.1963, Straatman; 3, Betego, 20 km NW of Koroba, 1700 m, 29.IX.1963, Straatman; 1, Eliptamin Vall., NE NG, 1300 m, 16-31.VII.1959, W. W. Brandt; 2, Lavani Vall., Papua, 2450 m, 11-18.I.1968, Tawi (BISHOP). Named for the principal collector.

Differs from *montanus* Hillr in being slightly more convex, more deeply grooved on elytron, with coloration more blackish, elytral band complete and legs paler.

35. *Promechus costatus* (Jacoby), new combination

Aesernia costata Jac. 1906, *Entomologist* 39: 2 (New Guinea; BMNH?).

This species is lacking from the material at hand for study.

36. *Promechus abidi* Gressitt and Hart, new species Fig. 3d, 6c.

♂. (Holotype). Black, somewhat shiny, in part tinged with greenish blue to purplish; elytron with a narrow ochreous triangle preapically, lying close to suture but distant from outer and apical margins, acute posteriorly; legs with femora and tibiae brick red and tarsi blackish with claws red. Body glabrous above with fairly short fine pale hairs on anterior portion of head and on antenna; ventral surfaces with short fine pale hairs, sparser on legs.

Head about as broad as long, gradually narrowed behind eyes, grooved medially, depressed between antennal insertions; groove between antennal insertions bifurcate at ends; gena fairly smooth; eye oblique, 1/2 as wide as long. *Antenna* just over 1/2 as long as body, somewhat flattened, slightly narrowed distally; scape slightly longer than broad, rounded anteriorly; segment 2 slightly broader than long; 3 not quite as long as 1+2; 3 and 4 similar; 5 longer; 5-11 subequal but 5 and 11 longest. *Prothorax* 2/3 as long as broad, narrowed anteriorly, deeply and arcuately emarginate apically, sinuate at side; disc irregular, convex in center and grooved medially, with several large partly confluent depressions near side. *Scutellum* longer than broad, convex, scutiform. *Elytron* strongly convex, swollen above anteriorly, somewhat unevenly declivitous posteriorly, slightly sinuate at side; disc deeply sculptured in fairly regular longitudinal grooves on basal 3/5, with grooves deep and punctures small on basal 1/6 and with larger punctures, or irregularly interrupted grooves

behind basal $1/6$; in posterior $2/5$ grooves mostly obsolete, punctures small, in part in regular rows and the rest quite irregular, sparser and partly regular on pale triangle. *Ventral surfaces* moderately smooth, feebly punctured, slightly wrinkled; prosternum narrowed and subacute anteriorly rounded-obtusely emarginate posteriorly. *Aedeagus* largely blackish, somewhat pitchy reddish at base and apex, narrowly pitchy brown medially; strongly narrowed and acute apically, weakly arched in lateral view and slightly sinuate apically. *Legs* smooth, flattened, fairly stout; tibiae slightly arched; hind tarsal segment 1 about as long as $2+3$, slightly shorter than last. Length 19.5 mm; breadth 8.7.

♀. Legs paler; eye narrower; dorsum fully as rough as in ♂. Length 20.8 mm; breadth 9.4.

Paratypes: Length 17–21.4 mm; breadth 8.5–9.8.

Holotype ♂ (BISHOP 10,172), PNG: Telefomin, 1600 m, W Sepik Distr., NE New Guinea, 30.VIII.1963, on toadstools, R. Straatman; allotopotype ♀ (BISHOP), 1500 m, 18. I.1970, Abid Beg Mirza; 21 paratopotypes: 3, 3.VIII.1963, Straatman; 17, I.1970 and III, VI.1971, Abid Beg Mirza; 1 paratype, Tifalmin, nr Telefomin, II.1970, another, Telefomin, X.1971, H. Ohlmus collection.

Differs from *subapicalis* n. sp. in being stouter, more convex above and much more strongly grooved on elytral bases.

37. *Promechus subapicalis* Gressitt and Hart, new species Fig. 3e, 6d, 9i.

♂. (Holotype). Body largely black, moderately shiny, with a postmedian subtriangular testaceous yellow mark on elytron, approaching suture more closely than lateral margin and completely bordered by black, apex pointing posteriorly; antenna black, underside of segment 1 and apices of 1 and 2 pale castaneous; ventral surfaces black; femora and tibiae testaceous orange to red-brown, tarsi black, claws reddish. Body subglabrous above; a few short pale hairs on head and elytral apex; antenna with brief oblique auburn hairs; prosternum and metasternum with a few hairs laterally; a few hairs centrally and along posterior margins of abdominal segments 1–4, a moderate fringe on apical margin of last sternite; sparse short golden buff hairs on legs.

Head narrower than apex of prothorax, visible portion broader than deep; surface smooth with sparse fine punctures, several minute foveae interior of eye-basad, weak medial groove bisects deep vertexal depression to join arcuate frontal suture setting off frontoclypeus; gena not as deep as eye; subelliptical, eye $2\times$ as deep as wide. *Antenna* slightly more than $1/2$ as long as body, stoutest just beyond middle except for segment 1 which is depressed-subglobose; segment 2 as long as broad; 3 approximately $2\times$ as long as broad, nearly $2\times$ as long as 2; 4 longer than 3; 5 longer than 4, 6 and 7 similar, slightly shorter than 5; 8–10 similar in length, 8 stoutest; 11 longer than 10, subacute apically. *Prothorax* $4/5$ as long as broad, subparallel-sided, narrowed at apex, anterior margin deeply and transversely emarginate, basal margin sinuous; disc moderately uneven with a weak medial groove, submedial area with 2 punctate depressions, anterior depression subdiagonal and shallow, posterior pit deep, both merge into a deep sublateral longitudinal depression containing small-medium foveae, some fused and semi-reticulate which terminate posteriorly along basal margin. *Scutellum* smooth, barely broader than long, slightly narrowed at the side, coming to a rounded point apically. *Elytron* moderately stout, elongate, strongly convex in lateral outline, lateral margin somewhat sinuous in side and dorsal views; widest portion medially, sub evenly narrowed apically; disc smooth and uneven, with regular rows of small moderately to deeply depressed punctures, many of which are fused creating short longitudinal depressions and pits, interstices slightly to moderately raised, grooves barely sulcate, rows weaken or terminate in apical area which is fairly smooth and moderately punctate in a somewhat irregular fashion. *Ventral surfaces* primarily smooth, feebly punctured, prosternum narrowly triangular, acutely rounded anteriorly, deeply emarginate posteriorly; metasternum finely grooved medially; angularly emarginate posteriorly; abdominal segments slightly depressed and wrinkled sublaterally. *Aedeagus* black,

apical portion testaceous, subparallel-sided, moderately arcuate in lateral view, strongly acuminate apically. *Legs* not particularly stout, feebly punctured, femora thickest from middle-basad, tibiae thickened distally; hind tarsal segment 1 shorter than 2+3, last segment slightly longer than 1. Length 17 mm; breadth 7.5.

♀. (Allotype). Antenna over 1/2 as long as body; surface of head semi-wrinkled anteriorly, vertexal depression broad and fairly shallow; scutellum distinctly broader than long and slightly convex; pale elytral mark touches suture above. Length 18.2 mm; breadth 8.

Holotype ♂ (BISHOP 10,173), PNG: Tifalmin, 1500 m, Telefomin Subd., W. Sepik, NE New Guinea, 11.XI.1970, Abid B. Mirza; allotype ♀ (BISHOP), Telefomin, 1600 m, 7.VIII.1963, R. Straatman; 129 paratopotypes, same data as holotype; 95 additional paratypes: 45, Telefomin 1550 m, 1600 m, 1650 m, 1700 m, 1750 m, 3-8.VIII.1963, Straatman; Telefomin, 1450 m, 4-7.IX.1963, Straatman; 7, Telefomin, 1700 m, 5-9.VIII.1963, Straatman; 8, Telefomin, III-VI.1971, Mirza; Tifalmin, II.1970, H. Ohlmus; Feramin, 1450 m, NE New Guinea, 28.VIII.1963, Straatman; Ambunti, Sepik R., 150 m, 29.IV.1963, Straatman. Irian: 6, Moss Forest Camp, 2600-2800 m, 9.X-5.XI.1938, Neth. Ind.-Amer. New Guinea Exped, L.J. Toxopeus; 2, Araucaria Camp, 800 m, III.1939, Rattan Camp, 1200 m, II-III.1939; Baliem Camp, 1700 m, 16-27.XI.1938; Ibele Camp, 2250 m, XI-XIII.1938, all Toxopeus; Museum Leiden, NG Exped. K.N.A.G., Araboebivak 2.XI.1939; 14, Star Mts, Sibil Vall., 1245 m, NW New Guinea 18.X-8.XI.1961, S. Quate & L. Quate; 4, Swart Vall., Karubaka, 1450-1500 m, XI-5, 11,12-1958, NW New Guinea, W side, Swart Vall., 1400-2000 m, 10.XI.1958; 3, Kutsime, W of Swart Vall., 14.XI.1958, Gressitt; 3, Wamena, 1700 m, Baliem, 11.X.1960, T.C. Maa; Wisselmeren, Enarotadi, 1800-1900 m, NW New Guinea, 10.VIII.1962, J. Sedlacek.

Differs from *sculpturatus* Heller in being more convex in lateral outline and in having shorter elytra, in having preapical instead of apical pale mark, with elytron less deeply impressed with subtransverse grooves.

Host plants: *Pittosporum* spp. (Pittosporiaceae).

38. *Promechus sulcatus* Gressitt and Hart, new species Fig. 3f, 6e, 10a.

♂. (Holotype). Dorsum entirely submetallic atrovirens, moderately shiny; antenna black except for undersides and apices of segments 1 and 2 which are orange-red brown; ventral surfaces melanistic; femora and tibiae orange to castaneous, tarsi black. Body subglabrous above; a few pale short hairs on head and near mouthparts and on apical margin of elytron; antenna with brief oblique auburn hairs; abdomen with sparse pale hairs towards sides and on apical margins of segments 1-4, a moderate fringe on apical margin of last sternite; sparse short golden buff hairs on legs.

Head narrower than apex of prothorax, visible portion broader than long, smooth and slightly punctate, weak medial groove connecting with deeper acute depression, anteriorly, setting off frontoclypeus; gena as deep as eye; eye subelliptical, approximately 2× as deep as wide. *Antenna* about 1/2 as long as body, stoutest at segments 3-7 except for segment 1 which is depressed-subglobose; segment 2 slightly longer than broad; 3 about 1.6× as long as 2, widest at apex; 4 longer than 3; 5-7 similar, longer than 4; 8-10 similar in length, shorter and more slender than 7, 8 subparallel-sided; 11 longer than 10, subacute apically. *Prothorax* 9/13 as long as broad, subparallel-sided, gradually narrowed at apex, anterior margin deeply and transversely emarginate, sinuate on basal margin; disc moderately convex, sparsely and finely punctured, medial groove weak; 2 depressions intermediate between medial and lateral margins, anterior depression shallow with few punctures, posterior pit deep and sparsely punctate; sublateral portion uneven with several moderately deep depressions longitudinally, containing small-medium foveae, some fused and semi-reticulate, foveae terminating posteriorly along basal margin. *Scutellum* smooth, slightly broader than long, rounded apically. *Elytron* elongate, moderately stout, strongly convex in lateral view, lateral margin

sinuous in both side and dorsal views; widest portion at middle, apex subevenly narrowed; disc moderately uneven, anterior 1/2 of elytron with regular rows of small punctures, many fusing and increasing in depth towards side creating transverse pits and longitudinal depressions, interstices slightly convex to strongly raised, rather costate, grooves weak or terminated in apical 1/3 which is coarsely punctured and subrugose. *Ventral surfaces* primarily smooth with sparse minute punctures; prosternum subtriangular, acutely rounded anteriorly, deeply and acutely emarginate posteriorly; metasternum slightly concave with a weakly defined medial groove, swollen posteriorly at side, obtusely emarginate posteriorly; abdominal segments depressed and wrinkled laterally. *Aedeagus* black, testaceous mid-dorsally to apex, subparallel-sided, acuminate apically. *Legs* stout, sparsely punctured, femora thickest from middle-basad, tibiae thickened distally; hind tarsal segment 1 not quite as long as 2+3, last considerably longer than 1. Length 19 mm; breadth 9.

♀. (Allotype). antenna slightly less than 1/2 as long as body. Length 20.5 mm; breadth 10.

Holotype ♂ (BISHOP 10,174), PNG: Lake Ivivi (Sirunki), W of Wabag, NE New Guinea, 2550 m, 14.VI.1963, J. Sedlacek; allotype ♀ (BISHOP), Purosa, 1900 m, S of Okapa, E Highlands, NE New Guinea; 19 paratypes: 2 paratopotypes; 10 from Kepilam, 2450 m, 22.VI.1963, J. Sedlacek; 4 from Laiagam, 2600 m, 10.VI.1963, Sedlacek; 1 from 6-12 km W of Wabag, 2020-2400 m, 13.VI.1963, Sedlacek; 1 from Wara-Kum, Mt Hagen, 2500 m, VIII.1973, N. Howcroft (Forestry, PNG). All from NE New Guinea. Additional specimens from S Highlands, Papua, not designated paratypes, are less metallic.

Differs from *sculpturatus* Heller in having dorsum entirely submetallic, elytron with much feeblar subtransverse depressions with interstices more regular costate, but with many transverse connections between ridges interrupting longitudinal grooves; apical portion of elytron more coarsely punctured than in *sculpturatus* and subrugose.

39. *Promechus sculpturatus* (Heller), new combination Fig. 6f.

Aesernia sculpturata Hllr, 1910, *Abh. Mus. Dresden* **13** (3): 41, fig. 16 (Aroa R., Papua; DRESDEN Mus.).

PNG: Four specimens, Bome, 1950 m, Goilala, Owen Stanley Range, SE New Guinea (Papua), 1-15.IV.1958, W.W. Brandt (BISHOP).

Stygicus - group

40. *Promechus stygicus* Gressitt and Hart, new species Fig. 3g, 6g, 10b.

♂. Body black, slightly shiny; antennal segment 1 testaceous, 2 and 3 slightly pitchy; femora with distal 2/5 of each yellowish testaceous; tarsal claws and apices of distal segments reddish pitchy. Body nearly glabrous above, with a few very short hairs on head; antenna with brief oblique auburn hairs; abdomen subglabrous, with some short hairs toward sides of abdominal sternites and a moderate fringe on apical margin of last sternite; legs with sparse short oblique golden-buff hairs.

Head distinctly narrower than apex of prothorax, visible portion broader than long, somewhat flattened above, deeply grooved medially, the groove obtusely bifurcating to set off frontoclypeus which is about 2× as broad as long; gena large, nearly as deep as eye; surface of head fairly smooth, with minute or sparse modest punctures; eye subvertical, elliptical, about 3× as deep as wide. *Antenna* just over 1/2 as long as body, stoutest just beyond middle except for segment 1 which is strongly swollen and subglobose; segment 2 about as broad as long; 3 fully 2× as long as broad; 4 about 3× as long as broad; 5 similar to 4; 6 and 7 slightly shorter and stouter; 8-11 becoming more slender and slightly longer. *Prothorax* 5/8 as long as broad, subparallel-sided, narrowed at apex which is deeply and transversely emarginate, convex medially in outline of basal margin; disc moderately even, weakly convex, with a grossly reticulate to punctate area parallel to each side and separated from margin by a convex strip which is sparsely and finely punctured;

central portion of disc finely grooved medially and finely and sparsely punctured, with 2 slight depressions, unevenly punctured, before and behind middle and slightly closer to median line than to outer margin. *Scutellum* barely longer than broad, rounded-obtuse apically, smooth. *Elytron* stout, strongly convex in lateral outline, somewhat sinuous at side, subevenly narrowed apically; disc almost completely seriate-punctate, moderately to grossly sulcate, the grooves usually with 1, but sometimes 2, puncture-rows included, the interstices moderately convex to strongly raised, the deeper and larger depressions roughly in 3 irregular bands, aside from mid-basal depression, with 3-4 depressions per band, 2 of those in 1st group incorporating 2 puncture-rows each; some of ridges with sparse minute punctures. *Ventral surfaces* fairly smooth, feebly punctured to impunctate; prosternum narrowly triangular, acute anteriorly; metasternum concave medially; swollen posteriorly at side, obtusely emarginate posteriorly; abdominal sternites slightly punctured or wrinkled toward sides. *Aedeagus* slender, parallel-sided, slightly arched, acuminate apically, black on sides and beneath, except reddish at apex, testaceous brown above with a pair of dichotomous sclerotized strips along each side of apical 1/3 above. *Legs* stout, sparsely punctured; femora thickest near middle; tibiae thickest apically; hind tarsus with segment 1 about as long as 2+3, nearly as long as 5. Length 19.2 mm; breadth 9.

♀. Antenna slightly less than 1/2 as long as body; pale areas reddish orange. Length 23 mm; breadth 11.6.

Paratypes: Length 18-22 mm; breadth 8.4-11.

Holotype ♂ (LEIDEN), Irian: Araboebivak, SW New Guinea, K.N.A.G. Exped., 2. XI.1939; allotopotype, 20.X.1939; 5 paratopotypes (LEIDEN, BOGOR, BISHOP), 11.X-3. XI.1939.

Differs from *montanus* Heller in being black instead of blue and in lacking an elytral pale band, and in having the elytral grooves less regular and partly encompassing 2 puncture-rows.

41. ***Promechus prosopon*** Gressitt and Hart, new species Fig. 3h, 6h, 10c.

♂. Black, vaguely tinged with bronzy on basal 2/3 of elytron, with a postmedian orange brown spot approaching closer to suture than to external margin and separated from apex by a space equal to its longitudinal width; antenna reddish to pitchy, palest on segment 1; femora reddish orange on distal 2/5; tibiae castaneous on basal 2/5 or more. Body nearly glabrous above, with a few short pale hairs on and near mouthparts and on apical margin of elytron; abdomen with short sparse pale hairs in part, but particularly on apical margin of last segment; legs with sparse short golden buff hairs.

Head narrower than apex of prothorax, broader than long, smooth and largely impunctate, feebly swollen above on each side and medially grooved, the groove connecting with deeper arcuate depression setting off frontoclypeus; gena not quite as deep as eye, which is nearly 3× as deep as wide. *Antenna* nearly 1/2 as long as body, stoutest near middle except for segment 1 which is depressed-subglobose; segment 2 slightly longer than broad; 3 nearly 2× as long as 2, widest near apex; 4 similar to 3; 5 longer and stouter than 4; 5-10 similar in length, gradually becoming more slender apically, with 10 nearly parallel-sided; 11 slightly longer than 10, subacute apically. *Prothorax* 5/8 as long as broad, gradually narrowed anteriorly, more strongly narrowed at apex, deeply and arcuately emarginate anteriorly, sinuate on basal margin; disc rather flat, without a median groove and with an irregular depressed longitudinal strip more or less parallel to side, with a few spaced punctures of different sizes anteriorly, just a few interiorly near middle, and closer, partly converging, larger punctures posteriorly. *Scutellum* slightly longer than broad, slightly narrowed, rounded apically, smooth. *Elytron* strongly convex in lateral view; lateral margin sinuous in both lateral and dorsal views, widest portion of elytron slightly anterior to middle; apex evenly narrowed; disc quite uneven, with distinct puncture-rows of rather weak punctures but in deep grooves after 3rd row from suture, the grooves of unequal depth and giving a strongly

wrinkled appearance, 3 subtransverse bands of depressions quite irregular, with 3 pairs of depressions in 1st row having grooves of each pair nearly merged as 3 broad concavities; last band with only 2 slight enlargements of grooves, all grooves weak or terminated before preapical pale band, with terminal area smooth and finely punctured, largely in an irregular fashion. *Ventral surfaces* in large part smooth, with sparse minute punctures on abdomen except basal portion of sternite 1, but becoming slightly stronger and closer terminally; prosternum narrowed and rounded anteriorly, deeply emarginate posteriorly; metasternum finely grooved postmedially, angularly emarginate posteriorly. *Aedeagus* black, reddish brown mid-dorsally and apically, subparallel-sided, weakly arcuate in side view, narrowed and rounded, but not acute, apically. *Legs* not particularly stout, smooth to finely punctured; hind tarsal segment 1 barely longer than 2+3, last slightly longer than 1. Length 19 mm; breadth 9.6.

♀. Pronotum quite shiny; antenna paler reddish; elytral pale spot smaller; prosternum and elytral epipleuron somewhat greenish. Length 21.4 mm; breadth 10.6.

Holotype ♂ (BISHOP 10,175), Irian: Lake Anggi Giji, 2000-2100 m, Vogelkop, NW New Guinea, 1-3.III.1963, along mountain stream, R. Straatman; allotopotype ♀ (BISHOP), same data; 11 paratopotypes (BISHOP, BOGOR, USNM, CAS), same data, 1 paratype (LEIDEN), Araboebivak-Kasiga, 9-14.IX.1939, K.N.A.G. Exped.

Differs from *montanus* Heller in most of the points given under *stygicus*. Differs from *stygicus* in having a preapical pale band on elytra, in having occasional tinges of metallic green, in having pronotum smoother and less deeply sculptured near side, and elytral sculpture more erratic and reduced posteriorly.

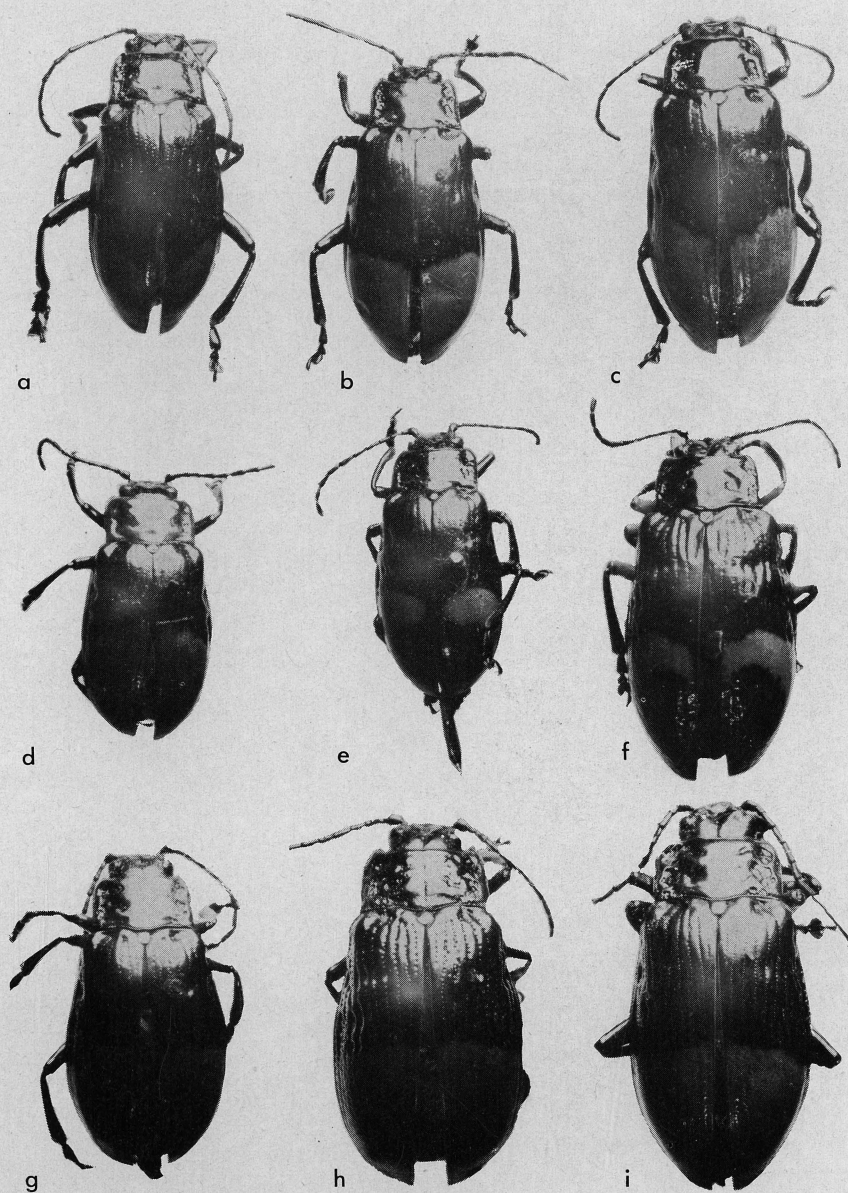


Fig. 7. Photographs of dorsal views of *Promechus* adults: a, *splendens* (Guér.); b, *pulcher* n. sp.; c, *orientalis* n. sp.; d, *variicollis* n. sp.; e, *parentheticus* n. sp.; f, *inflatus* n. sp.; g, *schefflerae* n. sp.; h, *lacustris* n. sp.; i, *moszkowskii* (Kuntzen).

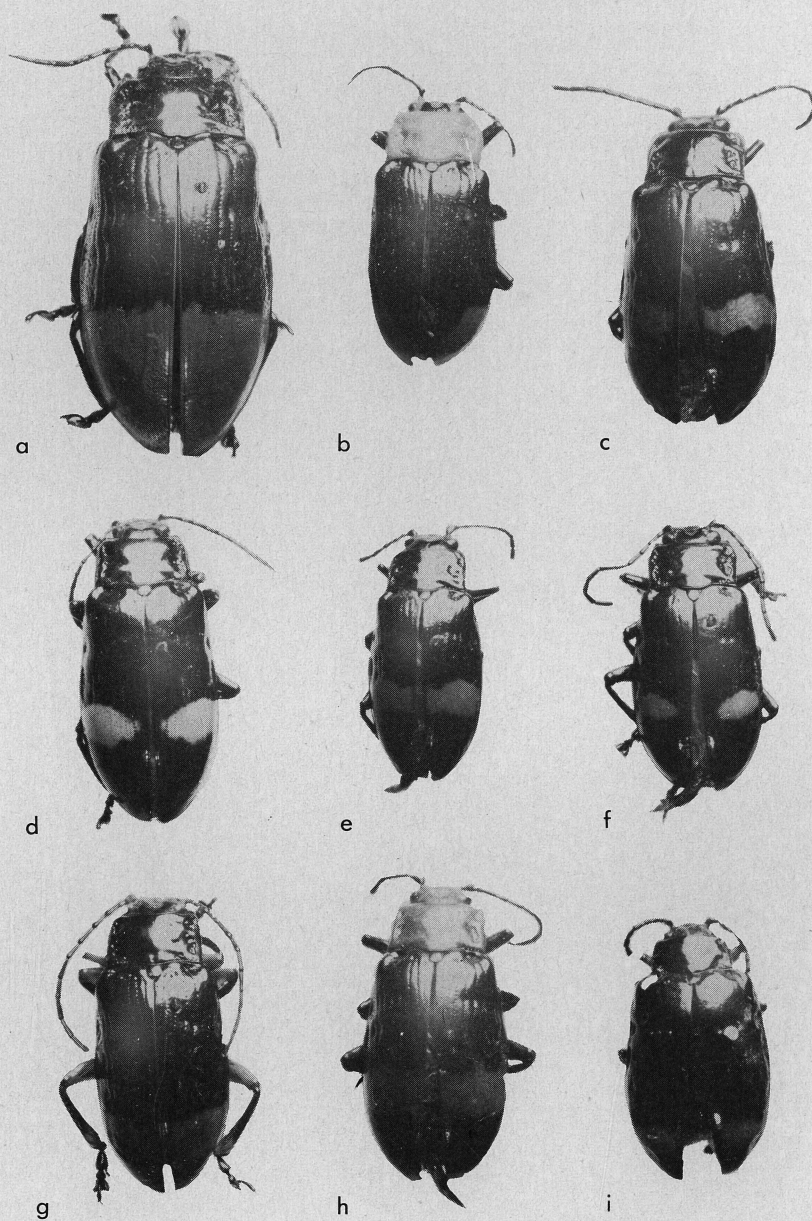


Fig. 8. Photographs of dorsal views of *Promechus* adults: a, *giganteus* n. sp.; b, *australicus* (Jac.); c, *whitei* (Baly); d, *bimaculatus* (Ws.); e, *buprestoides* n. sp.; f, *arcuatus* (Clav.); g, *shanahani* n. sp.; h, *latefasciatus* (Jac.); i, *parvus* n. sp.

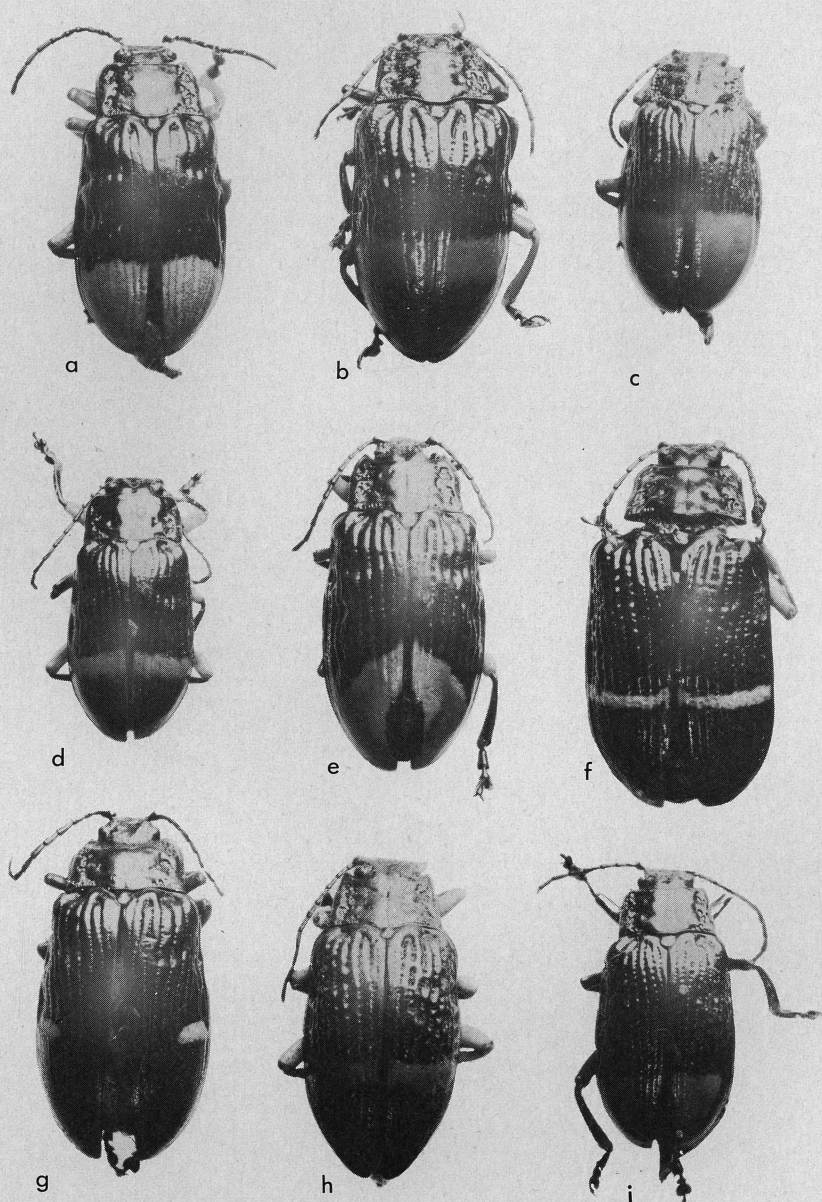


Fig. 9. Photographs of dorsal views of *Promechus* (adults): a, *helleri* (Clav.); b, *paniae* n. sp.; c, *toxopei* n. sp.; d, *sedlacekorum* n. sp.; e, *pittospori* n. sp.; f, *eburneocinctus* n. sp.; g, *montanus* (Hllr); h, *straatmani* n. sp.; i, *subapicalis* n. sp.

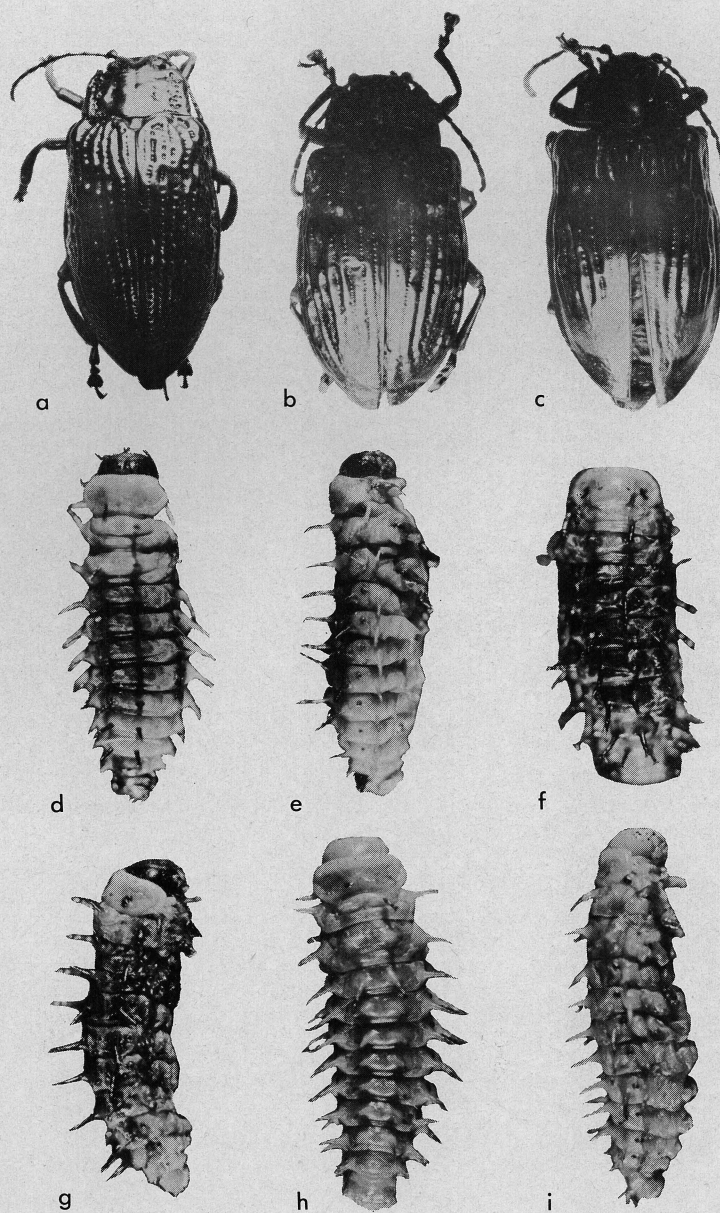


Fig. 10. Photographs of *Promechus*, dorsal views of adults (a-c) and dorsal (d, f, h) and lateral (e, g, i) views of larvae: a, *sulcatus* n. sp.; b, *stygius* n. sp.; c, *prosopton* n. sp.; d-e, *telefominus* n. sp.; f-g, *orientalis* n. sp.; h-i, *paniae* n. sp.