

THE GENUS *EVAZA* IN THE PHILIPPINES
AND THE AUSTRALASIAN REGION
(Diptera : Stratiomyidae)^{1, 2}

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Abstract: The genus is reviewed as it occurs in the Philippine Islands, New Guinea, and near-by areas. Four species groups are proposed, a key is presented, and the taxonomy and distribution of 10 previously known species is discussed; new species are described from the Territory of Papua and New Guinea (19), the Philippine Islands (7), Celebes (1), and New Britain and New Ireland (1).

The pachygastrine genus *Evaza* Walker is widely distributed through the Oriental, eastern Palearctic, and northern Australasian Regions, but is known nowhere else in the world. It was reviewed by Kertész (1906), who presented a key to the then known species; later Brunetti (1923), in his "Second Revision of the Oriental Stratiomyidae" translated it into English and expanded it. Additional species have since been described by Lindner, Curran, and James. Satisfactory identifications, however, have been difficult to make. There are two chief reasons for this. First, two common species, *scenopinoides* (Walker) and *bipars* Walker have been confused with each other and with other species; both Kertész and Brunetti have used unreliable characters for separating these, as well as overlooking other characters of diagnostic value. Secondly, as this paper will illustrate, there has been a multiplicity of undescribed species. This is contrary to Brunetti's supposition that there may be doubts as to the validity of some of the described species.

This paper covers the known species of the Australasian Region, together with those of the Philippine Islands. Aside from one distinctive species, *E. scutellaris*, new species from North Celebes the rest of the Oriental Region is not included because of lack of adequate material. The Wallace Line seems quite effective in geographically separating many of the species of the genus; though several common ones cross it, most of the more localized species described from Indonesia and the rest of the Oriental Region could not be recognized in the New Guinea material at hand. Also, there seems to be an effective separation of the Philippine species, with one exception, from those of the

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East Indies.

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MORPHOLOGY

The terminology used in the descriptions and keys is more or less standard; however, some special terms need to be defined and some standards of comparison need clarification.

In *Evaza* the eyes are contiguous for a considerable distance in the males and the upper facets are distinctly larger than the lower ones, although there is no definite line of separation of the two areas. The frons of the female is relatively narrow, much more so in some species than in others, and the breadth of the frons at its narrowest is of taxonomic importance; the standard used here for indicating minimum breadth is its comparison with the head width. The term *callus* is used here to designate the usually poorly defined area at the narrowest part of the frons. In some of the Stratiomyidae the callus is well-defined; in many others, as in *Evaza*, the term will have to refer to an indefinite area. In a few *Evaza* species, however, this area is differently colored and consequently stands apart somewhat more clearly, e.g. it may be castaneous, whereas the areas both above and below it will be black. When not defined, the callus will be considered merely as the frontal constriction. The area above the frontal constriction which in this genus always gradually widens to the vertex, is here designated as the *upper frons*, whereas the area below it is called the *lower frons*. The latter, or its equivalent, the *frontal triangle* of the male, always bears an area of white or whitish tomentum, which may occupy almost all of the area, a part of it usually in the form of a triangle, or a narrow transverse band above the antennal bases. The form and extent of this tomentose area is of taxonomic importance. The occipital orbits are undeveloped in the male, well developed in the female, where their width may vary, however, with the species. The posterior margin of the occipital orbit is usually sharp in profile, though it may be rounded.

The *antennal ratio* used in the descriptions is the ratio of the lengths of the scape (1st antennal segment), pedicel (2nd antennal segment), flagellum, and arista. This is usually given for the male only; in the female it is hard to state since the pedicel is extended, on its inner side, more or less deeply into the flagellum (much as in the genus *Plecticus*); in the male, the pedicel is almost transverse apically. When given for the female, measurements are taken from the external surface of the antenna. The arista is slender and elongated; in some species it may be somewhat thickened, but it is never style-like. The apical $1/4$ or $1/5$ of the arista is always completely bare and attenuated; the rest of

it, beyond its small basal flagellomere, is usually very short-pubescent, though sometimes it is almost completely bare (though scabrous), even under high magnifications (e.g. 120 \times). The pubescence is considered long when the microhairs are as long as the diameter of the arista.

The palpi provide taxonomic characters that have been completely overlooked. There is some sexual dimorphism here, the palpi usually being more strongly developed in the female. The length of the palpus may be made in comparison with that of the labella, since the latter structures lie flat in preserved specimens and are at least usually extended to about their full length. The ratio of the 2 palpal segments is of taxonomic significance, also the form of the 2nd segment, whether flattened or cylindrical, and if the latter, how much it is broadened.

Two terms referring to colored areas of the thorax are the *pronotal ridge*, which extends from the lower part of the humerus toward the center of the pronotum, and the *notopleural line*, a more or less defined yellow line or narrow stripe extending along the notopleural suture from the humerus to the wing base. These terms are proposed here only to simplify and clarify descriptions and not with the intention of proposing any morphological terms. In dealing with thoracic vestiture, some standard is needed to determine whether hairs should be indicated as long or short. In *Evaza*, the mesonotal and scutellar pile is always short, according to certain standards, but in some species this pile is relatively long for the genus, and this is of taxonomic significance. Mesonotal pile is always abundant and evenly distributed, but the appressed hairs may be very inconspicuous. If one looks at the surface of the mesonotum, however, particularly the prescutellar area, with a high magnification (preferably about 120 \times), the punctures from which the hairs rise tend to line up transversely in approximate rows (usually arched in transverse profile). Long hairs are considered those which are longer than the distance from one row to the second one behind it, that is, 2 \times the distance between adjacent rows of hairs. In cases in which the rough alignment into rows is undeterminable or hard to determine, an estimate of the distance will have to suffice.

The wings are usually pale-brown-hyaline with an area of much more intense browning at the apex or near it, particularly along the anterior margin. The most common pattern is for the stigma (cell R₁ alone or in conjunction with the apex of cell Sc), and cells R₃ and R₄, also usually the anterior part of R₅, to be most intensively brown, with the color fading out toward the middle of the wing (from anterior to posterior margin) or sometimes distinctly brown or brownish to the posterior margin. Variants from this pattern, in the form of an interrupted apical clouding, or dilutely clouded, or even completely hyaline wings, occur in certain species. Wing microtrichia offer taxonomic characters that have not previously been used in the Stratiomyidae except by me. The cell 1st M is always largely free of microtrichia, sometimes entirely so, sometimes with an apical patch which may occupy most of the apex. The 3 anal cells, 2nd M, and even the discal cell may be partly bare of microtrichia; when the 1st anal cell is bare more than at its base, the bare area always extends farther anteriorly than posteriorly. The alula is always completely beset with microtrichia, but the membrane above it, which appears to be a pinched-off base of cell 2nd A, is always bare.

Coloration of the legs and abdomen requires some comment. When the front tibiae and tarsi are designated as yellow, this is a clear color; the term brown or brownish is used

if there is a deviation from the bright yellow coloration, specifically if the tibial-tarsal coloration contrasts with a distinctly yellow femoral coloration. Black pile may intensify the clouding, though black pile may occur on a bright yellow tarsus without obscuring its color. Some species, at least *scenopinoides* and *bipars*, may cause a little difficulty here, where apparently there is a range in coloration from yellow to brown. This is obviated by tracing these two species to two exits in the key. Abdominal coloration indicated as yellow, castaneous, etc., refers to what appears to be true coloration. Discoloration in this genus, probably due either to a teneral or partly teneral condition or to deterioration resulting from exposure of specimens to a moist tropical climate, must always be considered a possibility in identifying specimens.

Characters based on male genitalia are of limited value. The genitalia have been cleared only in *E. scenopinoides*; in that species the aedeagus is bifid. The surstyli are simple in structure; a variant from the usual form occurs in *gressitti*, in which a digitate process arises from the inner side of each surstylus (cf. Fig. 15). The dististyles are flattened; from the dorsal view each one is subovate, usually tending to become somewhat enlarged apically, with the apex rounded; when the genitalia are viewed from the ventral aspect, the dististyles appear narrow, but their flattening is usually quite apparent; the vestiture varies from one species to another, but commonly there is a noticeably loose tuft of hairs on the under side apically. In the female the term "ovipositor" is used to designate the telescoping apical segments which serve that function, as in the other Diptera; of course, no true ovipositor is present.

The initial description is based on the holotype, with variation, such as may exist in the material studied, being indicated farther along in the description. A male is chosen as the holotype unless this sex is not available or is represented only by inferior specimens. All holotypes and allotypes are the property of Bishop Museum, unless otherwise stated.

TAXONOMY

Genus *Evaza* Walker

Evaza Walker, 1857, *Proc. Linn. Soc. Lond.* **1**: 109.—Kertész, 1906, *Ann. Mus. Nat. Hung.* **4**: 276.—Brunetti, 1923, *Rec. Indian Mus.* **25**: 75. Type-species, *E. bipars* Walker, monotype.

Nerua Walker, 1859, *Proc. Linn. Soc. Lond.* **3**: 81. Type-species, *N. scenopinoides* Walker, monotype.

Nerna Walker, 1860, *Proc. Linn. Soc. Lond.* **4**: 97, *lapsus*.

Pseudoevaza Kertész, 1916, *Ann. Mus. Nat. Hung.* **14**: 146. Type-species, *Evaza argyroceps* Bigot, monotype.

The synonymy is that given by Brunetti, 1923, and I have had to accept that of *Pseudoevaza* on his authority, since I have not had any specimens of the type-species for study. The synonymy of *Nerua* and *Evaza*, however, is very clear; the type-species are very closely related to each other and certainly congeneric.

The genus is easily distinguished from other known Pachygastrinae. The antenna is aristate, the arista being either bare or short-pubescent; the flagellum is compact, no longer than broad. The scutellum is 4-spined. Vein R_{2+3} arises beyond cross-vein r-m. The

abdomen is elongated, distinctly longer than wide, and flattened; its shortest form in the genus is in *Evaza fulviventris* Bigot, but even in this species the abdomen does not have the compactness of such genera as those of *Pachygaster* complex. The closest relative of *Evaza* is probably the genus *Tinda* which has much the same general appearance, but the terminal antennal flagellomeres form a broadened, elongated style, not an arista; there are other structural differences of consequence between the 2 genera.

KEY TO SPECIES OF EVAZA OF THE PHILIPPINES AND AUSTRALASIAN REGION

1. Discal cell to a considerable extent devoid of microtrichia; vein R_{2+3} but gently diverging at origin from vein R_{4+5} , running almost parallel to R_1 2
 Discal cell uniformly set with microtrichia..... 3
- 2 (1). Mesonotum largely or wholly castaneous **varia**
 Mesonotum largely black, wholly so before suture **fenestrata**
- 3 (1). Mesonotum entirely yellow or almost so 4
 Mesonotum wholly black, at most somewhat yellowish at postalar slopes or indistinctly yellow laterally; humeri and notopleural line may be yellow..... 6
- 4 (3). Wing light brown, stigma and either an apical spot or anterior margin before stigma dark brown..... 5
 Wing wholly subhyaline..... **lutea**
- 5 (4). Stigma and an apical spot, covering all of cell R_4 , clouded; cell R_3 mostly subhyaline..... **interrupta**
 A continuous anterior margin including stigma and all of cell R_3 , as well as R_4 , clouded **flava**
- 6 (3). Scutellum from lateral view strongly convex, the spines set definitely below its dorsal surface; eyes from side view distinctly narrowing anteriorly; legs orange-yellow, hind tibia usually mostly brown; abdomen orange yellow to orange-brown, sometimes discolored but not margined definitely with a darker color laterally...
 **fulviventris**
 Scutellum not strongly convex, only slightly so or flattened dorsally, the spines almost on a plane with dorsal surface; eyes rounded from side view..... 7
- 7 (6). Wing with a distinct isolated cloud on apical 1/2; that is, either no strong infuscated border from stigma to wing apex, or that border distinctly interrupted by hyaline or yellow stigma..... 8
 Wing usually with broad anterior margin, at least, darkened but without a definitely separated apical cloud 10
- 8 (7). Cloud at wing apex faint and restricted to apex parts of cell R_4 and R_5 ; the stigma brown..... **javanensis**
 Cloud at apex of wing intense, involving all of cell R_3 and basal part of R_4 , the stigma translucent or yellow 9
- 9 (8). Abdomen mainly orange-yellow; scutellum, including strong apical spines, blackish-brown, but its side margin, including weaker lateral spines, contrastingly yellow
 **scutellaris**
 Abdomen black, at most with a castaneous tinge; scutellum black, spines all yellow except at base **nubifera**
- 10 (7). Sides of mesonotum and scutellum, and upper parts of pleura, castaneous, but blending into blackish areas of disc of mesonotum and scutellum and upper pleura; vein R_{2+3} but gently diverging at origin from vein R_{4+5} , running almost parallel to R_1 **brandti**
 Pale areas of thorax much less extensive and usually better defined, sides of mesonotum always black before suture; vein R_{2+3} much more angular at its origin ex-

- cept in *aterrima* 11
- 11 (10). Antennal flagellum black to brownish on its basal 1/2, strongly contrasting to yellow of its apex and of basal 2 antennal segments **picticornis**
 Antennal flagellum wholly yellow to orange-yellow 12
- 12 (11). Legs wholly yellow, at most tarsi slightly darkened toward apex 13
 Legs marked with brown or black, at least front tarsus wholly brown and either distinctly darker than its tibia, or else both front tibia and tarsus darkened, or else distinct black to blackish markings on some femora or tibiae or both 19
- 13 (12). Abdomen orange-yellow to reddish-yellow, the margins sometimes more or less blackened narrowly 14
 Abdomen unicolorous, black or blackish 15
- 14 (13). Scutellum black, its narrow apex yellow **discolor**
 Scutellum wholly castaneous to brownish-yellow **dimidiata**
- 15 (13). Mesonotal hairs dark brown to black, those of lateral slopes of mesonotum approaching golden brown under certain lights **funerea**
 Mesonotal hairs yellow to golden yellow 16
- 16 (15). Frons in both sexes with a transverse band of whitish tomentum just above antennal bases, leaving an upper triangle on lower frons shining 17
 Frons with a triangular patch of shining tomentum above antennal bases, apex of which is directed upward, leaving lower sides of frons shining 18
- 17 (16). Tomentose band above antenna broader than length of bare area above it (in ♀ broader than area between it and callus); scutellum margined with yellow not only apically but also laterally to its base; appressed mesonotal hairs long and shaggy, more than 2× as long as distance between punctures, and with semi-erect hairs distinctly interspersed among them **lanata**
 Tomentose bands above antenna narrow, the bare triangle taking up most of lower frons; scutellum margined with yellow only apically, or at least margin not reaching laterally to its base; mesonotal hairs much less than 2× as long as distance between punctures and without prominent semi-erect hairs scattered among them **scenopinoides**
- 18 (16). Frons of ♀ relatively wide, at narrowest about 0.11 to 0.16 width of head **bipars**
 Frons of ♀ narrower, at narrowest about .05 to .06 width of head **similis**
- 19 (12). All femora wholly yellow or, if partly brownish yellow, or with narrow longitudinal vittae, this color not in form of a band 20
 At least 1 femur with a black or brown band, or largely or wholly dark brown or black 33
- 20 (19). Scutellum broadly margined laterally and apically with yellow, in sharp contrast to the black disc, the lateral margin reaching broadly to the scutellar base; if somewhat discolored (sometimes in *aurivestis*) the long golden mesonotal pile is diagnostic; fore tibia and tarsus brown, legs otherwise yellow 21
 Scutellum wholly black except spines or margined apically with yellow, at least without contrasting yellow lateral margins that extend to its base 23
- 21 (20). Arista unusually thick, its pubescent part strongly tapering (Micronesia) **discalis**
 Arista thickened only at base and otherwise not distinctly tapering 22
- 22 (21). Mesonotal hairs golden, longer than 2× distance between punctures; palpus strongly inflated, as wide or wider than antennal flagellum in ♂ and almost as wide in ♀; shining frontal orbits of ♀ not reaching level of antennal bases **aurivestis**
 Mesonotal hairs whitish to pale yellow, shorter than 2× distance between punctures; palpus only moderately inflated, less than width of antennal flagellum in both sexes; shining frontal orbits of ♀ descending to level of antennal bases **gressitti**

- 23 (20). Arista black, unusually thickened, densely pubescent, hairs as long as diameter of arista; 2nd segment of palpus almost as broad as antennal flagellum..... **atripluma**
 Arista yellow to brownish black, slender, with only short hairs..... 24
- 24 (23). Palpi elongated, inflated, 2nd segment flattened and fully as broad as antennal flagellum, blackened, approximately as long as labella 25
 Palpi at most moderately inflated and if so both segments distinctly narrower than antennal flagellum, 2nd segment not noticeably flattened..... 27
- 25 (24). Frontal triangle of ♂ (♂ unknown in *cordata*), or lower frons of ♀, with a broad, shining lateral margin extending to or almost to base of antennae, leaving only a median area tomentose.....26
 Frontal triangle of ♂ shining only on upper angle, most of the area consequently tomentose; shining area of lower frons of ♀ extending only narrowly on sides and not reaching the level of antennal base..... **rossi**
- 26 (25). Tomentose frontal area triangular, upper angle acute, in ♀ distinctly separated from callus **inflata**
 Tomentose frontal area cordate, broadly reaching callus in ♀ (♂ unknown)..... **cordata**
- 27 (24). Abdomen yellow or yellowish medially **quatei**
 Abdomen uniformly reddish brown, black or blackish..... 28
- 28 (27). Larger species, 8-9 mm in length; a few erect hairs mixed with appressed hairs of mesonotum and scutellum 29
 Smaller species, 5-6 mm in length; hairs of mesonotum and scutellum all appressed 30
- 29 (28). Halteres yellow; pile of 2nd to 4th abdominal sterna yellow; 2nd palpal segment clavate..... **yoshimotoi**
 Halteres with knobs black; pile of sterna mostly brown to black; 2nd palpal segment filiform..... **aterrima**
- 30 (28). Lower frons with a narrow transverse band of whitish tomentum, reaching from eye to eye, just above antennal bases **scenopinoides**
 Lower frons with a triangularly shaped patch of tomentum, apex pointed upward, usually not reaching eye, or else larger part of lower frons pale-tomentose..... 31
- 31 (30). Palpi and haletres bright yellow **flavipalpis**
 Palpi brown 32
- 32 (31). Eyes of ♀ separated by not more than .06 head width **philippinensis**
 Eyes of ♀ separated by 0.10 to 0.15 head width **bipars**
- 33 (19). White-tomentose area above bases of antennae in form of a narrow transverse band reaching from eye to eye and restricted to lower 1/2 of frontal triangle 34
 White-tomentose area above bases of antennae triangular or filling more than lower 1/2 of frontal triangle..... 35
- 34 (33). Femora largely yellow, the fore pair entirely so and strongly contrasting with their black tibiae, the blackened apical areas of the mid and hind femora definitely delimited..... **varipes**
 Femora black to brown with poorly defined yellow apices; front femur usually black, sometimes brownish, but when so the contrast with the tibia is not marked **impedens**
- 35 (33). Mesonotal pile conspicuous, in part semi-erect, especially on scutellum, partially masking background, particularly in prescutellar area, all pale except along anterior margin; palpi elongated, reaching at least 3/4 way to tips of labella 36
 Mesonotal pile appressed, very short and inconspicuous, frequently more extensively black than merely on anterior margin 37
- 36 (35). Palpus strongly inflated, its 2nd segment distinctly broader than antennal flagellum **fortis**

- Palpus elongated but not inflated, its 2nd segment no broader than antennal flagellum **hardyi**
- 37 (35). Femora not distinctly banded transversely, either longitudinally vittate or dark coloration blending into pale..... 38
- Femora yellow, with apical 1/3 to 1/2 of each brown or black, the division between color areas sharp, thorax and abdomen, except sometimes humeri and notopleural strip, black; palpi short, not reaching tips of labella (Solomon Is. species) 39
- 38 (37). Thorax and abdomen black; palpus long reaching tips of labella, its 2nd segment flattened and inflated **gracilis**
- Lower pleura, median area of abdominal dorsum, and most of venter reddish yellow; palpus short and not inflated **ventralis**
39. All tibiae black..... **incidens**
- Middle and hind tibiae whitish yellow..... **whitneyi**

Evaza solomonensis Curran is not included in the above key; for its status, see the discussion of that species in relation to *E. incidens* and *E. whitneyi*.

The *Evaza varia* group

Three species which appear to form a natural group share a characteristic pattern of wing venation; in particular, vein R_{2+3} diverges very gently at its base from R_{4+5} and runs almost parallel with R_1 , cell R_1 consequently being only slightly narrowed at its apex (fig. 9). An approach to this type of venation is seen in *E. aterrima*, but in that species R_{2+3} is straight, whereas in the *varia* group it is distinctly bowed; in all other species treated in this paper, the angle formed by the separation of the branches of the radial sector is much greater. The discal cell, also is long and tapers to its apex, the basal part of vein M_2 being little or no longer than cross-vein r-m. Specimens are of moderate to large size for the genus and tend toward bicoloration, but without a clear pattern, the paler color (usually castaneous or brownish-yellow) blending into blackish or black; at least, the upper parts of the thoracic pleura and the postsutural borders of the mesonotum are pale.

Evaza varia James, new species Fig. 1, 9, 16.

This species is distinctly larger than members of the *lutea* group; it differs from other known species of *Evaza* in the wholly castaneous thorax except for the lower pleura and, in the ♀ at least, the postsutural median area of the mesonotum. The 3♀ before me, one of them unfortunately headless, show considerable variation; the specific name *varia* refers to the varied pattern of the thorax, though a specific epithet meaning "variable" might also quite aptly have been used.

♀. Head black; frons, vertex, and occipital orbits strongly shining, the frontal pile very short, inconspicuous and scattered, restricted to median 1/2 (or slightly more above) of upper frons; 2 crescent-shaped spots of dense whitish tomentum on lower frons, separated medially; face dulled with pale yellow tomentum and, along orbits, with yellow hairs which become brownish below; lower occiput with yellow hairs. Frons and occipital orbits unusually wide for genus; frons at narrowest 0.23 head width; vertex across posterior corner of eyes 0.34 head width; occipital orbits at broadest 0.15, at narrowest 0.10, head width. Antennae castaneous, basal segments with yellow hairs, flagellum with a yellowish bloom; arista brown, becoming whitish apically, rugulose but without pubescence even at a magnification of 120×; antennal

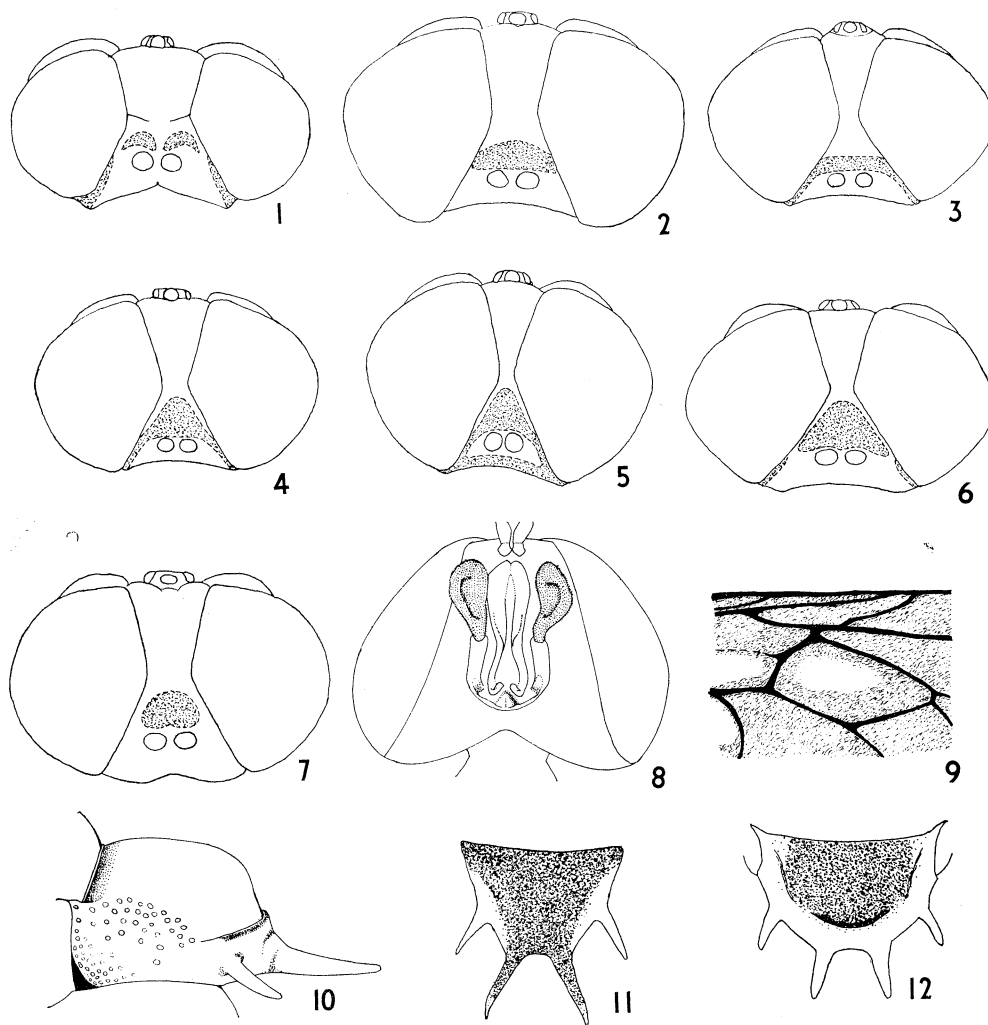


Fig. 1-7, *Evaza*, head of ♀, anterior view; pollinose areas shown by stippling. 1, *varia*; 2, *dimidiata*; 3, *scenopinoides*; 4, *bipars*; 5, *rossi*; 6, *gressitti*; 7, *cordata*. Fig. 8, *Evaza rossi*, head of ♀, ventral view. Fig. 9, *Evaza varia*, area of wing surrounding discal cell, showing pattern of microtrichia and contour of venation. Fig. 10, *Evaza fulviventris*, scutellum from lateral view. Fig. 11-12, *Evaza*, scutellum, dorsal view. 11, *scutellaris*; 12, *rossi*.

ratio 20 : 10 : 40 : 95, the 2nd figure not reflecting extension of the pedicel into flagellum. Proboscis yellowish brown; palpus brown, about 0.60 as long as labella, 2nd segment lanceolate, not inflated or flattened but a little wider and 2× as long as the 1st.

Thorax dark castaneous; mesonotum on median 1/3 behind suture, and scutellum except lateral and apical margins and spines blackish, the castaneous and blackish areas not clearly defined and blending into each other at their margins; prothorax, postscutellum, swollen posterior parts of mesopleuron, and uppermost part of sternopleuron blackish. Pile inconspicuous, yellow to golden on pale areas of mesonotum, becoming blackish on blackish dorsal areas and

paler yellow on pleura. Legs yellow to castaneous, with yellow hairs; fore tarsus darkened, brownish to brownish black, with black hairs above. Wings brown, more intensely so anteriorly but gradually becoming paler brown posteriorly; microtrichia missing from a large central area of discal cell, most of cells 2nd M, 1st A, all of 1st M, and base of 2nd and 3rd A; in 2nd M there is a patch of microtrichia along anterior margin, broadening at contact of this cell with discal cell to fill entire end of 2nd M; in 1st A microtrichia confined to lower apical 1/4 of cell. Knob of halteres black; stalk brown, almost yellow at base.

Abdomen black dorsally and ventrally, tending slightly to castaneous at apex dorsally and on median 1/2 ventrally; pile inconspicuous, black dorsally, mostly yellow ventrally but with some black laterally. Length: 6.5 mm.

Variation. The paratype, which is slightly teneral, and the headless specimen are much less melanic than the holotype. In the former the pale coloration of the thorax and the entire abdomen are orange-yellow, probably the result of the teneral condition, although the abdomen would most probably be at most castaneous rather than black if fully colored. The black median area appears to run the full length of the mesonotum, rather than being only postsutural, but extends only onto the base of the scutellum. A castaneous transverse area on the lower frons is almost certainly due to the teneral condition. The headless ♀ has the abdomen castaneous, with only very narrow transverse bands of black at the anterior margins of the terga; the median mesonotal area, which does not quite reach the suture, is brown, and there is a narrow median and a pair of narrow dorsocentral vittae extending from it to the anterior margin of the mesonotum; the scutellum is only slightly darkened basally. Despite these color differences, all these specimens appear to be conspecific.

♂. Frontal triangle small, a shining castaneous diamond-shaped area above, the lower angle of which reaches to the antennal base and very narrowly interrupts the tomentose area; pile less conspicuous than in the ♀ and entirely yellow. Antennae, including arista, entirely orange-yellow; flagellum much smaller than in ♀; antennal ratio 20 : 20 : 20 : 100. Second palpal segment $1.5\times$ length of 1st. Thorax castaneous, without blackened dorsal areas except on prothorax and with the black of pleural areas restricted mainly to lower parts of mesopleura and sternopleura; prosternum and much of propleuron black. Mesonotal pile more than conspicuous than in ♀. Wing much less uniformly brown than in ♀, the anterior margin deep brown, suddenly becoming paler in cell R_5 , posterior 1/2 more dilutely infuscated. Abdomen largely castaneous; 4th tergum with a rather ill-defined large area on each side at base, also median part at apex, blackish, sides of tergum connecting basal spots with apical one darker than mediobasal area of tergum; base of 5th tergum, apex and sides of 4th sternum, and base of 5th sternum blackened; abdominal pattern indefinite and asymmetrical, and possibly due to discoloration. Genitalia pale castaneous; dististyle as in fig. 16, rounded at apex.

Holotype ♀ (BISHOP 7876), SE New Guinea, Malgi, Mt. Giluwe, N side, 25-30.V.1961, J. L. Gressitt. Allotype ♂, NE New Guinea, Daulo Pass, Asaro-Chimbu Div., 2500 m, 12.VI.1955, Gressitt. Paratype ♀, NE New Guinea, above Kerowagi, 2300 m, 6.VII.1955, Gressitt. A headless ♀, not designated a type, bears the same data as the allotype except 2400 m, 15.VI.1955.

Evaza fenestrata James, new species Fig. 17.

Close to *varia* but differing from it in the almost wholly black mesonotum. In view of the color variations in *varia*, this species might have been considered one of these except that the ♂ genitalia, though closely similar, show what appears to be a significant difference in the form of the dististyle.

♂. Head brownish black, very much as described for *varia*, a little higher arched and not quite so flat above. Antennal ratio 20 : 15 : 16 : 100. Palpus 2/3 length of labella, 1st segment

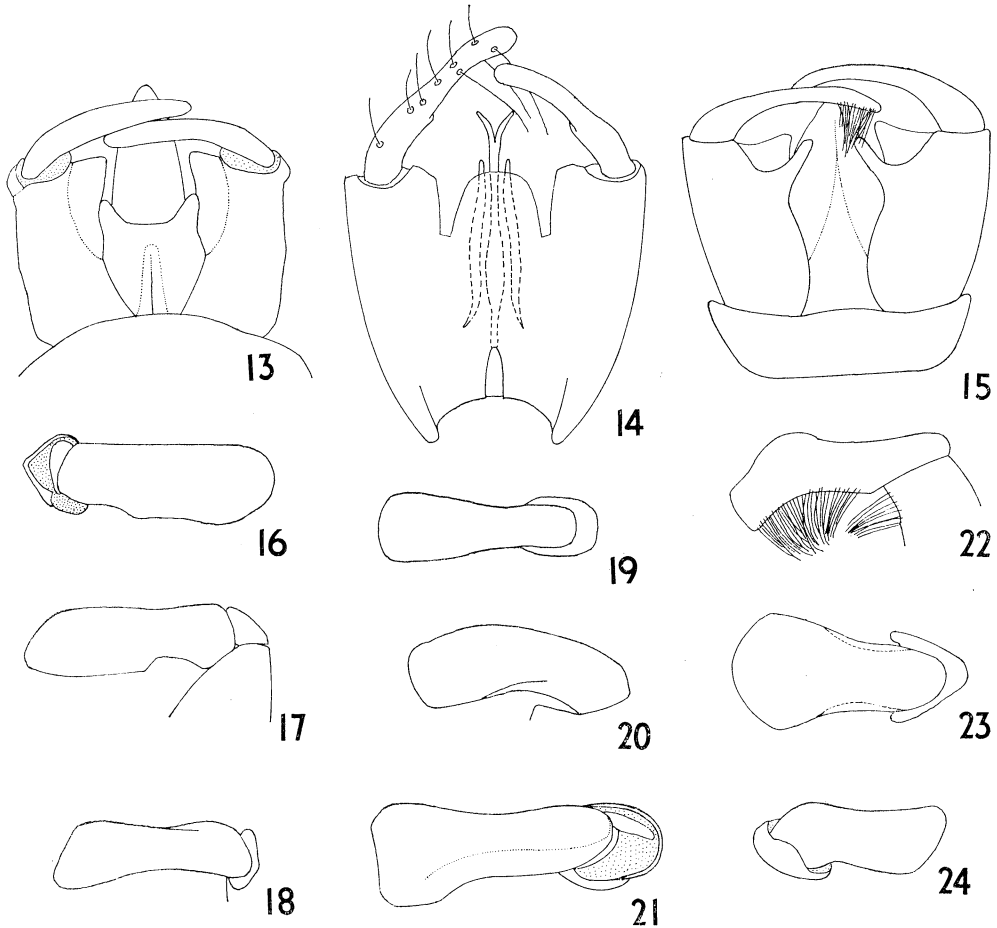


Fig. 13-15, *Evaza*, ♂ genitalia. 13, *rossi*, not cleared; 14, *scenopinoides*, cleared; 15, *gressitti*, not cleared. Fig. 16-24, *Evaza*, dististyli. 16, *varia*, dorsal; 17, *fenestrata*, lateral; 18, *atripluma*, lateral; 19, *rossi*, dorsal; 20, *rossi*, lateral; 21, *aterrima*, dorsal; 22, *aurivestis*, lateral; 23, *aurivestis*, dorsal; 24, *hardyi*, lateral.

darker brown than 2nd. Thorax mainly black, supra-alar and postalar regions to base of scutellum, also swollen posterior area of mesopleuron, pteropleuron, and hypopleuron castaneous, the latter becoming dark brown above. Scutellum blackish brown at base, gradually merging through brown to pale yellow on extreme lateral and apical margins and on spines. Notopleural line narrowly, lower humerus, and pronotal ridge orange-yellow. Mesonotal and scutellar pile golden, much more conspicuous than in *varia*, appressed; semi-erect light golden pile on castaneous parts of mesopleura, pleural pile otherwise pale yellow to white, mostly appressed. Halteres brown, stalk bright yellow. Legs, including coxae, wholly yellow, becoming orange on front tarsus and tips of others, these areas with some black hairs mixed with yellow ones. Wing colored more as in ♀ than as in ♂ of *varia*, the membrane of the areas devoid of microtrichia being more hyaline and consequently more conspicuous. Distribution of microtrichia as in *varia*. Abdomen black; pile mostly short, black, appressed and inconspicuous; sides with some erect short yellow pile; appressed pile of middle of sterna 2-4 inclusively golden in cer-

tain lights. Genitalia orange with yellow hair, similar to those of *varia* but dististyle truncated apically. Length: 7 mm.

Holotype ♂ (BISHOP 7877), NE New Guinea, Banz, Wahgi Valley, 1800 m, 11.VII.1955, J. L. Gressitt.

***Evaza brandti* James, new species**

This species differs from other members of the group in that the discal cell is completely set with microtrichia, and, among other characters, the long lateral hairs of the abdomen, which are as long as the scutellar spines.

♂. Head black. Frontal triangle shining on about upper 1/2, the shining area but little extended along eye orbits; lower 1/2 white tomentose. Tomentum and hairs of face whitish. Antenna, antennal hairs, and arista yellow, latter becoming brownish beyond basal 1/3; antennal ratio 25 : 15 : 25 : 105; arista virtually bare. Proboscis brownish-yellow, labella and 2nd segment of palpus becoming brownish toward apex; palpus slender, about 1/2 length of labella, 2nd segment 1.5 length of 1st but no wider, tapering toward apex; hairs yellow.

Thorax black to brownish black but broad sides of mesonotum (broader behind suture) and upper parts of pleura, including a considerable area below notopleural suture, posterior bulge of mesopleuron, all of pteropleuron, and upper parts of sternopleuron and hypopleuron, castaneous; scutellum largely castaneous but darker medially; the areas not well defined but merging from castaneous to blackish. Humeri yellow. Pile of mesonotum golden, appressed and fairly long, that of pleura more yellowish. Legs yellow, mostly with yellow hairs; front tarsus brown with black hairs. Wing pale yellowish hyaline, pale brownish yellow along costal margin but not showing the distinct clouding characteristic of most members of the genus; evenly set with microtrichia except at base; cell 1st M almost completely bare; bases of anal cells bare, in 1st A the bare area extending submarginally along anterior part of cell almost to furcation of cubitus; 2nd M and discal cell completely set with microtrichia. Halteres with blackish-brown knob and yellow stalk.

Abdomen dark castaneous, paler at base and becoming brownish on last segment, darker along sides both dorsally and ventrally but without any sharp division of colored areas, one somewhat blending into the other; pile appressed, brown medially on terga, yellow laterally and ventrally; lateral and sublateral pile of terga erect to semi-erect, much longer and more abundant than usual for genus. Genitalia yellow, yellow-haired; dististyle rounded at apex. Length: 8.5 mm.

Holotype ♂ (Australian Nat. Ins. Coll.), NE New Guinea, West Highlands, Murmur Pass, Mt. Hagen Ra, 2675 m (8700 ft), XI.1961, W. W. Brandt.

The *Evaza lutea* group

The 3 species described below as belonging to this complex constitute a distinctive group of *Evava* characterized by their small size, overall bright yellow coloration, and the narrow occipital orbits of the ♀. From the material at hand, the 3 appear to be allopatric: *lutea* occurs in the highlands of NE New Guinea, at elevations of 1200 m or more; *flava* and *interrupta* are lowland forms of NW New Guinea, *flava* occurring in the Hollandia area and *interrupta* in the Nabire area of Geelvink Bay. This indicates the pattern of either a polytypic species or a superspecies; more collecting will be necessary to elucidate the status of the complex. The 3 forms are clearly separable from one another. The Wau specimen may represent a 4th member of the complex, but it is undesirable to describe a separate taxon from a single, incomplete specimen.

***Evaza lutea* James, new species**

♂. Head black. Ocellar triangle shining, the narrow wedge-like upper frons white pollinose; frontal triangle with lower 1/2 white tomentose, upper 1/2 shining, this area descending slightly along eye margins; face subshining, white tomentose along eye margins and otherwise with scattered white hairs; occiput shining with white hairs. Antenna brownish yellow with yellow hairs, flagellum orange-yellow. Proboscis white with yellow hairs; palpi yellow, slender, about 0.5 length of labella (difficult to measure in the type because of the position of the labella); 2nd segment about as long and a little broader than the 1st, tapering on apical 1/2 but rounded apically.

Thorax including scutellum, legs, and halteres bright yellow and yellow-haired; mesonotum with somewhat of a reddish-yellow tinge; front tarsus pale brown or yellowish brown. Thoracic pile short and appressed. Wing hyaline; stigma yellow; veins yellow; microtrichia uniformly distributed except at base, missing only at base of anal cells and on 1st M except at its apex.

Abdomen yellow; broad sides of terga 2-5, also most of sternum 4 and a subapical transverse area on sternum 3, brownish-yellow, these areas not sharply defined; tergum 5 except for sides more orange-yellow than preceding terga; pile of terga 1-4 appressed, black, inconspicuous, that of 5 black and yellow intermixed; lateral pile and that of sterna yellow. Genitalia yellow; dististyle flattened, ovate, parallel-sided, rounded at apex; pile yellow. Length: 4.5 mm.

Variation. Since the antennal arista is missing in the holotype, the following antennal ratio is based on a paratype: 15 : 11 : 17 : 83. Arista brownish black, micropubescent. Variation in ♂ paratypes involves particularly the abdominal coloration; the brownish sides of the terga may be more expanded, particularly apically, and darker than in the holotype; in an extreme case the last 2 terga and sterna, aside from narrow lateral margins, and almost 1/2 of the 3rd sternum and tergum, are virtually black; the 4th sternum, on the other hand, may be only slightly darker than the preceding sterna. Length: 4.5-5 mm.

♀. Frons at narrowest 0.06 head width; hairs short, few in number and scattered. Occipital orbits well developed but narrow, at maximum hardly broader than posterior ocellus. Fore tarsus usually a little darker brown than in ♂. Abdominal terga similar to those of ♂ but paler and dark areas more restricted, typically a sublateral longitudinal area on each side from base to apex brownish; middle of 5th tergum never darker than that of other terga; terga sometimes wholly yellow; sterna entirely yellow.

Holotype ♂ (BISHOP 7878), NE New Guinea, Kassam, 1350 m, 48 km E of Kainantu, 28.X.1959, sweeping, T. C. Maa. Allotopotype, ♀, same but 30.X.1959. Paratopotypes, 23♂, 9♀, same as holotype. Paratypes: 2♀♀, Arau, 1400 m, 40 km E of Kainantu, 15-16.X.1959, Maa; 4♀♀, NW New Guinea, Star Mts., Sibil Val., 1245 m, 18.X-8.XI.1961, L. Quate.

***Evaza interrupta* James, new species**

♀. Head black. Frons at narrowest 0.05× head width; pile as in *lutea*; occipital orbits narrowly developed, as in *lutea*, but almost evanescent below. Tomentose area of lower frons produced angularly upward in middle but broadly reaching eye margins above base of antennae and contiguous with tomentose area on face and lower ocular orbit; shining area of lower frons in form of a narrow inverted V; facial pile and tomentum more conspicuous than in *lutea* or *flava*. Antenna yellow, flagellum more orange, all hairs yellow; arista brown, micropubescent; antennal ratio 20 : 13 : 21 : 70. Proboscis and palpi yellow; palpus about 1/2 length of labella, slender, the 2 segments subequal in length and width, the 2nd tapering on apical 1/2 but with rounded apex.

Thorax, including halteres and legs, yellow; front and hind tibiae, except at base, and front and hind tarsi brown, the fore pair more distinctly so than the hind one. Wing subhyaline; stigma dark brown; an apical spot including cell R_4 and adjacent part of R_5 brown, the brown extending, though strongly diluted, across wing apex; cell R_3 subhyaline, distinctly contrasting to stigma and apical brown area. Microtrichia as in *lutea*.

Abdomen, including pile, wholly yellow; under certain lights appressed pile appears brownish but not black as in *lutea* and *flava*. Length: 5.5 mm.

The paratype conforms with the description of the holotype.

♂. Unknown.

Holotype ♀ (BISHOP 7879), NW New Guinea, Nabire, S. of Geelvink Bay, 13.IX.1962, light trap, R. Holtman. Paratopotype ♀, same data.

A ♀, Wau, Morobe Dist., 1200 m, 9.XII.1962, J. Sedlacek, Malaise trap, is very similar to this species but the legs are wholly yellow except the front tarsus, the apical spot fills the apex of cell R_3 , and the black appressed pile of the abdomen, though very short, is quite evident. The status of this specimen can be determined only after more material is available for study.

***Evaza flava* James, new species**

Very similar to *lutea* and differing from the description of that species in the following respects.

♂. Ocellar triangle and wedge-like upper frons subshining. Front tibia and tarsus wholly, and hind tibia except basal 1/4, brown. Wing mostly pale brownish hyaline, the stigma, cells R_3 and R_4 , and anterior margin of R_5 , especially toward wing apex, deep brown. Abdomen with terga and sterna 3-5 and posterior corners of 2nd tergum and sternum blackish brown. Length: 5 mm.

The extent of the blackish-brown abdominal area is variable, as in *lutea*; all paratypes have the 5th segment wholly this color, however, and the preceding segments are more or less margined by it.

♀. Coloration of wings and legs as in the ♂. Pile of frons as in *lutea*. Abdomen mostly yellow; 5th tergum usually blackish-brown, 5th sternum usually at least largely so; 1 paratype with 5th sternum wholly yellow and 5th tergum with a large yellow circular area taking up most of the middle 1/3.

Holotype ♂ (BISHOP 7880), NW New Guinea, Bodem, 100 m, 11 km SE of Oerberfaren, 7-17.VII.1959, sweeping, T. C. Maa. Allotype ♀, NW New Guinea, Waris, S of Hollandia, 450-500 m, 16-23.VIII.1959, Maa. Paratypes: 3♀♀, 3♂♂, same data as allotype; 1♂, same data but 1-17.VIII.1959; 1♀, Japen I., SSE Sumberbaba, Dawai R., 5.XI.1962, N. Wilson.

The *Evaza fulviventris* group

Of the species known to me, *Evaza fulviventris* Bigot stands alone. The most diagnostic character of this species, and consequently of its group, is the strongly arched scutellum, with its prominent rim, and its spines rising distinctly from the ventral margin. In all other species of *Evaza* dealt with in this paper the scutellum is flattened and the spines arise approximately in line with its flattened dorsal face.

***Evaza fulviventris* Bigot** Fig. 10.

Evaza fulviventris Bigot, 1879, *Ann. Soc. Ent. France* ser. 5, 9: 220.

Frons of ♀ narrow, at its narrowest 0.03× head width; above the callus slightly but distinctly elevated into a ridge on each side of median line, inner slope of these ridges bearing scattered small hairs. Black thorax and red abdomen contrasting with each other; abdomen shorter proportionately to its length than usual in this genus. Color of the hind tibia variable; sometimes dark castaneous, as Bigot described it, blackish, or entirely reddish yellow. Wing uniformly colored except for stigma; microtrichia absent from cell 1st M, filling apices but lacking in basal 1/3 to 1/2 of 2nd M and 1st A; in cell 2nd M they fill the upper apical area and in 1st A the lower apical area, gradually disappearing at or before middle of each cell; they are broadly lacking on basal part of cell 2nd A and basal 1/2 or more of 3rd A.

Described from the Moluccas. Widespread and apparently common in NW & SW (Neth.) and NE New Guinea, from sea level to 1250 m; records from all months of the year. Recorded from the following localities: SW New Guinea: Vogelkop, Fak-Fak, E coast of Bomberai. NW NEW GUINEA: Biak; Bodem, 11 km SE Oberfaren; Vogelkop (Kebar Valley, W of Manokwari); Lake Sentani; Maffiin Bay; Oransbari, N. Geelvink Bay; Toem; Hollandia; Genjam, 40 km W of Hollandia; Batanta Island (Wailibit); Japen I. NE NEW GUINEA: Lae; Wewak; Wau; Saidor, Finisterre Range; Toricelli Mts (Walwali and Mokai Villages); Karimui, S of Goroka; Wanuma, Adelbert Mts; Busu; Huon Peninsula (Findiu; Finischhafen).

The *Evaza scenopinoides* group

Perhaps this complex should be subdivided, but there seem to be no good characters that show sufficient consistency to define other than perhaps superspecies. Consequently, despite the fact that it must remain in part a residue grouping, it seems best to consider it as a unit on a par with the previously well defined groups.

***Evaza javanensis* de Meijere**

Evaza javanensis de Meijere, 1911, *Tijds. Ent.* 54: 274.

There may be more than one species going by this name, but adequate specimen material will be necessary to determine its status in various parts of its range. The pattern of the wing clouding is distinctive. This species was described from Java and later recorded from Sumatra, Malaya and Hawaii. New records are: AMBOINA: 1♂, 1♀, no data, F. Muir. PHILIPPINE IS.: 2♂♂, Zamboanga del Sur, Lemesahan, 600 m, 7. IX.1958, light trap, H. E. Milliron.

***Evaza scutellaris* James, new species** Fig. 11.

Easily distinguished from all other *Evaza* species known to me by the interesting color pattern of the scutellum. The clouded wings, pale abdomen, and black tibiae contrasting with its yellow femur and tarsus, are outstanding characteristics. In Brunetti's (1923) key this species traces to *mollis* Osten Sacken, from Sumatra.

♂. Head black with white pile and tomentum. Frontal triangle tomentose, only the upper angle bare; face uniformly tomentose, also with scattered pile, denser below. Proboscis and palpi yellow with yellow hairs. Palpi small, hardly 1/2 length of labella, very slender, segments subequal in length, 2nd tapering. Antenna including arista yellow, with yellow hairs;

arista fairly thick, becoming attenuated beyond base, very short pubescent. Antennal ratio 20 : 15 : 15 : 75.

Thorax black, posterior supra-alar and postalar regions, also notopleural line very narrowly, yellow. Pile pale golden on mesonotum, relatively abundant and appressed, thinner along median line, pale yellow to white on pleura. Scutellum, including apical spines to their tips, black, but a lateral area on each side, from about basal 4th of scutellum to base of apical spine, and including lateral spines, yellow; especially when seen against the abdominal background this at first glance gives the impression that the scutellum is 2-spined and unusually long and slender; apical spines much stouter, about 0.75 length of scutellum, lateral spines about 0.50 length of scutellum. Legs yellow; front tibia somewhat brownish toward base; front tarsus and hind tibia blackish brown; hind tarsus becoming brownish yellow toward apex. Halteres yellow. Wing yellow, the stigma intensely so; vein R for a distance before stigma brown; an intense brown cloud taking in extreme apex of cell R_1 , all of R_3 and base of R_4 , then extending across wing to posterior margin and including all of cell Cu_1 ; this cloud darkest anteriorly and becoming more dilute posteriorly; veins as well as membrane darkened in areas covered by the cloud. Wing evenly set with microtrichia except at base, where they are lacking in cell 1st M and at bases of the 3 anal cells.

Abdomen orange yellow; extreme bases of 3rd and 4th terga narrowly bordered with brown on median 1/2; 5th tergum largely brown to blackish except on anterior corners, the dark coloration poorly defined and variable in intensity; the coloration gives the impression of a basal anterior border similar to those of the preceding terga but wider, a darkened area covering apical 1/2, and a poorly defined paler area between the two. Fifth sternum with a very indefinite transverse brownish area on apical 1/2. Terga mostly with appressed inconspicuous black hairs; pile of sterna yellow, appressed; some semi-erect yellow hairs laterally. Genitalia yellow, with yellow pile. Length: 6.5 mm.

♀. Frons at narrowest $0.12\times$ head width; occipital orbits well developed, at broadest about $0.11\times$ head width, becoming somewhat narrower and not so sharply margined below; occipital orbits and frons shining, pile of upper frons very short and inconspicuous, white, set in about 2 irregular rows; frons just above callus narrowly dark castaneous. Lower frons with a distinct white-tomentose triangle, widely separated from the ocular orbits to antennal base but narrowly confluent on each side with tomentose area of face. Palpi small but 2nd segment longer and distinctly broader than the 1st, elongated-oval. Humerus and pronotal ridge more extensively yellow than in ♂. Golden mesonotal pile forming 2 broad vittae from anterior margin to base of scutellum, the median area with much thinner pile, as in ♂, but the lateral areas also appearing more thinly pilose, particularly from dorsal view, and the pile paler in color. Front tibia brown. Wing veins basad of stigma much more extensively brown than in ♂. Brown areas of abdomen more extensive; basal 1/4 of terga 3-5 dark brown; broad sides of second tergum, apical 1/3 of 4th, and all the rest of 5th except a very small anterior corner on each side, as well as the apical 3/5 of the 5th sternum, a dilute brown. Ovipositor and cerci yellow, their hairs mostly yellow, a few brown ones at apex of cerci.

Holotype ♂ (California Academy of Sciences), North Celebes, Tondano, 25.V.1940, R. G. Wind. Allotopotype, ♀, same data but 30.V.1940.

***Evaza nubifera* James, new species**

This species is readily separable from other described species of the genus except *scutellaris* by the clouding of the wing in the form of a transverse band which leaves the apical part and the basal 1/2 of the wing subhyaline. The contrasting darkened tibiae and yellow femora, also, are characteristic; *E. tibalis* Walker and *E. nigripennis* Kertész are similar in that respect but are larger species, with differently colored wings.

♂. Wholly black except as otherwise indicated, the abdomen tending somewhat toward castaneous. Antenna yellow, yellow haired; flagellum somewhat darker except at base, slender, but little broader than apex of 2nd segment; arista yellow, bare; antennal ratio 24 : 13 : 20 : 90. Proboscis wholly yellow, yellow haired; palpi about 1/2 length of labella, brown, 2nd segment blackish-brown; 2 segments subequal, 2nd somewhat shorter and more flattened. Frontal triangle with tomentose area lacking on upper angle and narrowly at sides to just above bases of antennae; face with similar tomentum, more conspicuous in narrow facial orbits; occiput with short yellow appressed pile.

Mesonotum rather strongly arched, the scutellum set at an angle with it; notopleural line nearly obsolete, but lower humerus and pronotal ridge orange; anterior margin of mesonotum broadly bare, median part almost half way to suture with only a few scattered hairs, mesonotum otherwise with short, golden appressed hairs, more yellowish laterally; dorsal hairs of scutellum short, appressed, black; pile of prothorax, pleura of mesothorax, and metapleura whitish, appressed to semi-appressed. Scutellar spines mostly yellow, their bases blackish, their apices minutely black-tipped; no trace of black otherwise on scutellum. Legs mostly yellow; all tibiae, front tarsus, middle and hind tarsi except their basitarsi, brown to brownish black. Wing mostly subhyaline; stigma yellow; cell R largely brownish; a brown transverse band, more intense at costal margin, taking in extreme end of stigma, all of cell R₃, base of R₄, and extending across apical half of discal cell and basal parts of the posterior cells but leaving wing apex broadly clear; microtrichia lacking in cell 1st M and basal 1/3 to 1/2 of cells R, 2nd M, and the anal cells, otherwise evenly distributed. Halteres yellow.

Pile of abdomen blackish dorsally, some yellow on the sides; that of venter yellow medially; color of abdominal pile rather difficult to determine because of its variability in different lights. Genitalia yellow, yellow haired; dististyle rounded apically. Length: 5 mm.

The paratypes do not differ significantly from the above. In one the hind femur is somewhat darkened at the extreme apex; in another the rim of the scutellum is castaneous in the area of the spines.

♀. Frons at narrowest 0.12× head width, glossy, with only a few short scattered hairs; shining black, the shining area extending laterally to a plane just below antennal insertion and broadly touching the antennal sockets, thereby isolating the tomentose triangle of the frons. Occipital orbits well developed, maximum width, 0.14 head width, narrowing somewhat below, shining, its posterior edge sharp. Thoracic pile somewhat darker than in male and slightly longer. Hind femur varying from wholly yellow to dark brown at extreme apex. Otherwise as described for the ♂.

Holotype ♂ (BISHOP 7881), Philippines, Negros Or., Lake Balinsasayao, 1-7.X.1959, L. W. Quate and C. M. Yoshimoto, allotype ♀, same data but Yoshimoto. Paratypes: 1♂, 4♀♀, same data, some light or Malaise trap; 1♂, Mindanao, Zamboanga del Sur, 11 km NW of Milbuk, 390 m, 5.VIII.1958, H. E. Milliron; 1♀, Camarines Sur, Mt. Isarog, 750-850 m, 10-12.V.1963, H. M. Torrevillas.

Damaged specimens not included in the type series are 2♀♀, same data as holotype, and 1♂, 1♀, San Francisco, 10 km SE, 14-17.XI.1959, Yoshimoto.

Evaza discolor de Meijere

Evaza discolor de Meijere, 1916, *Tijd. Ent.* **58**, suppl.: 15.

This sp. was described from Sumatra. The following New Guinea specimens seem to be the same, although a comparison of material from the two islands would be desirable.

NW NEW GUINEA: 1♂, Bivach, X.1918, Sten Bergman. NE NEW GUINEA: 1♂,

Wau, Morobe Distr., 1200 m, 9.XII.1961, Malaise trap, J. Sedlacek.

Evaza dimidiata James, new species Fig. 2.

♂. Head black. Lower 1/2 of frontal triangle white tomentose to eye margin, upper 1/2 shining, division between the 2 a transverse straight line; face and lower occiput with whitish tomentum and yellow hairs. Proboscis yellow; palpi slender, about 0.65 length of labella, 2nd segment about 2.5× as long but no wider than 1st; 1st segment and apical 1/3 of 2nd brownish, rest of 2nd segment yellow. Antenna bright yellow, yellow haired; arista brown, slender and with very short pubescence; antennal ratio 20 : 16 : 20 : 100.

Thorax black; narrow notopleural line, lower part of humerus, and pronotal ridge reddish yellow; supra-alar and postalar areas and entire scutellum castaneous, pleural areas below and behind wing bases brownish black to black and appearing partly castaneous in certain lights; pile moderately long and dense, yellow dorsally, pale yellow to whitish on pleura. Entire legs yellow and yellow haired. Halteres yellow. Knob in part pale brownish dorsally. Wing pale brown, almost hyaline posteriorly; anterior margin distinctly darkened, including stigma and cells R₃, R₄ and R₅. Microtrichia evenly distributed except at wing base; 1st M except at apex and bases of anal cells bare.

Abdomen pale brownish yellow, brown on sides from middle of 2nd to apex of 4th tergum, brownish on all of 5th; pile appressed except laterally, black on terga and 1st sternum, yellow otherwise on sterna; some yellow semi-erect hairs on sides of 1st tergum, lateral hairs brownish to black on other terga. Genitalia bright yellow with yellow hairs. Length: 7 mm.

Variation. The palpi are smaller in the paratypes and wholly yellow; the thoracic markings may be either more extensive than in the holotype or less so and may vary from yellow to castaneous; the halteres may be wholly yellow. The abdominal areas described as brown in the holotype may be black, and the entire margin of the 4th tergum may be brown or black.

♀. Frons and occipital orbit shining, former sparsely punctate and with short inconspicuous whitish hairs, set mostly in 2 irregular rows; frons at narrowest 0.13× head width, occipital orbit at widest 0.08× head width; tomentose spot of frons crescentic, that is, retreating a little along each ocular orbit but not nearly to antennal base. Castaneous areas above and below wing base reduced to a small supra-alar spot and upper part of pteropleuron. Abdomen as in holotype; ovipositor yellowish, with a tinge of brown on penultimate segment; cerci bright yellow. Length: 7 mm.

Holotype ♂ (BISHOP 7882), Papua, Owen Stanley Range, Goilala, Tororo, 1560 m, 15-20.II.1958, W. W. Brandt. Allotype ♀, NE New Guinea, Wau, Morobe Dist., 1250 m, 17. II.1961, Malaise trap, J. & M. Sedlacek. Paratypes: 1♂, NE New Guinea: Karamini, 14. VIII.1963, M. Sedlacek; 1♂, Butemi, Finisterre Range, Madang, Central Dist., X.1964, R. Pullen.

Evaza funerea James, new species

The combination of the wholly yellow legs, black abdomen, and wholly or almost wholly dark mesonotal pile distinguishes this species from any other known to me.

♂. Wholly black except as otherwise indicated. Vertical triangle, from ocellar triangle to point of contiguity of eyes, microscopically roughened and appearing somewhat whitish as a result of light reflection; frontal triangle shining, but a transverse band of short, white, semi-erect hairs on lower 1/2 replacing the usual tomentose area. Face and proboscis with yellow hairs. Occiput black, pile appressed, dark brown. Antenna yellow, mostly with yellow hairs but with some black at apex of 2nd segment; arista blackish except at base, with abundant

short pubescence; antennal ratio 22 : 18 : 20 : 100. Proboscis and palpi discolored in type and true color difficult to determine but apparently proboscis brown and palpus yellow on basal, darkened on apical segment; palpus about 1/2 length of labella, both segments slender.

Mesonotum slightly arched, scutellum continuing arch but directed slightly downward; humerus with only an obscure yellowish area. Pile of mesonotum and scutellum rather abundant but short and appressed, that of scutellum and median 1/2 of mesonotum blackish, that of outer slopes of mesonotum dark brown, appearing golden under certain lights; pleura mostly yellowish brown pilose. Scutellar spines and rim brownish yellow. Legs brownish yellow, tips of tarsi no darker; all basitarsi, 2nd tarsomere of middle and hind, and 3rd tarsomere of hind leg, yellow; hairs of legs all yellow. Halter brownish yellow, knob blackish above. Wing brown, pale posteriorly, more intense toward apex and anterior of discal cell, most intensely brown on stigma; microtrichia lacking at extreme base of anal cells, also, in the 1st anal, for a distance along vein 1st A, and in basal 1/2 of 1st M.

Pile of abdomen almost wholly short and appressed, black dorsally and on sides ventrally, yellowish brown on approximately median 1/2 of venter. Genitalia brownish yellow. Length: 6.5 mm.

Holotype ♂ (BISHOP 7883), Philippines, Camarines Sur, Mt. Isarog, 750-800 m, 26.IV. 1963, H. M. Torrerellas.

The color of the mesonotal hairs is sometimes difficult to determine, since it appears to change with the light incidence. In many *Evaza* species, however, the hairs along the anterior margin are distinctly black or brown, whereas most of the mesonotal hairs are white to golden. In *funerea* there is no such contrast.

***Evaza lanata* James, new species**

Readily recognizable by its large size, entirely yellow legs, relatively densely-haired mesonotum, complete yellow margin of the scutellum which extends broadly to the base, and small yellow palpi.

♂. Wholly black except as otherwise indicated. Frontal triangle tomentose on a little more than lower 1/2, the remaining triangular area shining; face with whitish tomentum and black pile. Antenna yellow, flagellum more orange; arista micropubescent; 1st 2 segments of antenna with black hairs dorsally and outwardly, yellow-haired inwardly; antennal ratio 25 : 15 : 25 : 140. Proboscis and palpi yellow, with golden hairs; palpus very small, less than 1/2 length of labella, 2nd segment tapering apically, no longer and no wider at base than 1st.

Mesonotum with white pile which becomes yellow on supra-alar and postalar slopes and blackish on anterior margin; mostly appressed but with fairly abundant erect to semi-erect hairs interspersed; individual hairs longer than in most members of the genus, 2 to 3× as long as distance between punctures; pleural pile likewise relatively long and dense, yellowish. Humerus with an orange-yellow lower margin which is prolonged as an almost evanescent notopleural line; scutellum with spines and apical and lateral margins extending broadly to base yellow; scutellar pile as on mesonotum. Legs entirely yellow and yellow-haired except for a few black hairs at apex of fore tarsus. Wing pale brown, apex distinctly brown, particularly stigma and cells R₃, R₄, and most of R₅; microtrichia uniformly distributed except at extreme base, lacking in basal 1/2 of cell 1st M and at extreme base of 2nd and 3rd anal cells; 1st A completely clothed with microtrichia. Halteres yellow.

Abdomen basically black but with somewhat of a castaneous tinge. Pile whitish on 1st and all but lateral margins of 2nd and 3rd sterna, otherwise black; mostly appressed except at sides of abdomen. Genitalia yellow; dististyle oval, rounded apically, rather abundantly long-haired, pile blackish toward its base, becoming yellowish apically. Length: 8 mm.

♀. Frons at narrowest $0.09\times$ head width. Occipital orbits rather sharply margined above, shining. Palpus about 0.50 length of labella. Facial pile not as prominent as in ♂. Otherwise, except sexually, as described for the ♂. Length of allotype 7.5 mm.

The paratypes do not differ significantly from the holotype and allotype. In 1♂ (Finschhafen) the brown coloration at the apex of the wing is more intense bordering the veins, the middle of cells R_3 and R_4 and the lower part of R_5 being a little (but noticeably) paler.

Holotype ♂ (BISHOP 7884), NE New Guinea, Moaom, Salawaket Range, 750 m, 20.IX.1956, E. J. Ford, Jr. Allotype ♀, Pindiu, Huon Pen., 860 m, 22.IV.1963, J. Sedlacek. Paratypes: NW New Guinea: 1♂, Maffin Bay, IV-19.XI.1944, E. S. Ross; 1♂, 1♀, Finschhafen, 3-6.V.1944, Ross; 1♀, Biak I., 25 km NE of Biak Town, \pm 50 m, 18.III.1963, Malaise trap, R. Straatman.

Evaza scenopinoides (Walker) Fig. 3, 14.

Nerua scenopinoides Walker, 1859, *Proc. Linn. Soc. Lond.* 3: 81.

What is here considered as a single species may actually be a complex, though I have no reliable characters for separating the populations studied. There is variation in the coloration of the fore tarsus, as indicated in the key to species, and that of the halteres, the knob of which may range from wholly yellow to extensively dark, but the material at hand indicates no correlation between these characters or between them and geographic distribution or demal composition that would appear to be of taxonomic significance. The genitalia are uniform; they are yellow, the surstylus being simple, the dististylus flattened as usual for the genus and elongated oval in dorsal outline.

Described originally from the Aru Islands and widely distributed through New Guinea, the Bismarck Archipelago, and the Philippine Islands. I have records from every month of the year and from elevations ranging from sea level to 1900 m; specimens may be taken in light or Malaise traps. Records are from the following localities: PHILIPPINE ISLANDS: Palawan, Mantalingajan Range, Pinigisan; Tawi Tawi, Tarawakan, N of Batu Batu. AMBOINA: no locality. NW NEW GUINEA: Waris, S of Hollandia; Hollandia-Binnen; Finschhafen; Ifar; Sentani; Kulima; Nabire, S Geelvink Bay; Vogelkop (Kebar Val., W of Mankowari; Ransiki); Wisselmeren, Enarotadi; Star Mts., Sibil Val.; Central Mts., Archbold Lake; Japen I., SSE of Sumberbaba, Dawai River. SW NEW GUINEA: Vogelkop, Fak Fak, S coast of Bomberi. NE NEW GUINEA: Wau, Morobe Dist.; Maprik, Sepik Distr.; Sepik River, Pagwi Area; Upper Jimmi Val. (Kumur; Tsenga); Kari-mui; Nondugl; Madang; Bainyuk; Bubia; Dreikikir; Goroka; Bulolo; Kubo Range; Toricelli Mts., Mokai Vill.; Huon Pen., Pindiu; Lae; Didyman's Creek, Lae; Sangeman Vill., nr. Buso River, NE of Lae. PAPUA: Popondetta; Brown River; Murua River, nr. Kerewa; Western Dist., Oriomo Government Station; Cape Rodney; Kokoda; Minj, Western Highlands. DUKE OF YORK: Manuau. MUSSAU: Malakata. NEW BRITAIN: Rabaul Area (Bitu Paka; Kokopa); S of Cape Hoskins Aerdrome; Kwalakessi, Cape Hoskins Area; Linga Linga Pen., W of Willaumez; Gazelle Pen., (Kerawat; Gaulim; Warongoi Val.; Vunabakan, 30 km (18 miles) E Kerawat; Malmalwan-Vunakanau; Yalom; Banning, St. Paul's). NEW IRELAND: Lemkamin; Kandan; 5-50 km from Kavieng; Camp Bishop, 12 km up Kant River; Schleinitz Mts., Lelet Plateau.

***Evaza picticornis* James, new species**

Similar in size and appearance to *scenopinoides* but differing from all other *Evaza* species known to me in the coloration of the antenna.

Wholly black except as otherwise indicated. First and 2nd antennal segments yellow, hairs yellow except several brown ones on underside of scape; basal three flagellomeres black, apex of flagellum yellow; arista yellow, becoming brownish apically, short-pubescent; antennal ratio 18:16:20:100. Proboscis brown; palpus brown, 1st segment subshining, blackish; slender, 0.70 as long as labella; 2nd segment 2× as long and somewhat more robust than 1st. Tomentose area of frons forming a transverse band from eye to eye, somewhat broader than in *scenopinoides* but leaving upper 1/2 to 3/5 of frontal triangle bare; facial tomentum white in middle, hair on sides of face and more particularly on genae blackish brown.

Mesonotum but slightly arched; scutellum on a level with it; lower margin of humerus and a distinct, though very narrow notopleural line yellow; mesonotum with blackish-brown hairs on anterior margin, otherwise pale yellow-haired, the hairs longer and more conspicuous than in *scenopinoides*; no semi-erect hairs intermixed with them. Scutellum with hairs as on mesonotum; spines yellow; apex and lateral margin about 1/2 way from lateral spine to base of scutellum broadly yellow. Legs including coxae entirely yellow except front tarsus which is pale brown and contrasts distinctly with the bright yellow front tibia; front tarsus black haired except a yellow fringe on under side of basitarsus, legs otherwise with yellow hair. Wing pale brown, much more intensely so at apex; stigma and cells R₃, R₄, and R₅ darkest; lighter brown areas gradually merging into the darker ones; microtrichia absent over triangular patch extending from base almost to middle, along anterior margin, of cell 1st A, over most of 1st M, and at base of 2nd and 3rd A. Halter brown, stalk on basal part yellow.

Abdomen black but with a reddish-brown tinge; pile yellow and appressed on middle 1/2 of 1st 3 sterna, otherwise black, mostly appressed but with some semi-erect to erect on sides of abdomen. Genitalia brown. Length: 6 mm.

The paratypes do not differ significantly from the holotype. One has the hind tarsus reddish beyond the basitarsus on one side (missing on the other), but this appears to be due to discoloration.

♀. Unknown.

Holotype ♂ (BISHOP 7885), NE New Guinea, Dreikikir, Sepik Distr., 350 m, 23.VI.1961, J. L. & M. Gressitt. Paratypes: 1♂, NE New Guinea, Maprik, 29.XII.1959 to 17.I.1960, T. C. Maa. NW New Guinea: 1♂, Waris, S of Hollandia, 450-500 m, 1-7.VIII.1959, M. V. light trap, Maa.

***Evaza bipars* Walker** Fig. 4.

Evaza bipars Walker, 1857, *Proc. Linn. Soc. Lond.* 1: 110.

This species has been confused with *scenopinoides*, which it closely resembles; the tomentose area of the frons, however, is triangular, the apex pointed upward, in both sexes, in contrast to the transverse band of *scenopinoides*, and the frons of ♀ is wider, 0.11-0.12× head width (0.05-0.06× head width in *scenopinoides*). As in *scenopinoides* the color of the fore tarsus varies; the knob of the halter is usually brown. This species, like *scenopinoides*, may actually be a complex. I can make out no significant differences in ♂ genitalia either within each species or between them.

This species was described from Sarawak. It has been recorded by Brunetti from Papua, Sumatra, and Darjeeling and by Kertész from New South Wales, but the material on which these records were based needs to be re-examined; the same is true of records

from the Philippines. I have the following new records:

SW NEW GUINEA: 1 ♀, Vogelkop, Bomberi, 700-900 m, 8.VI.1959, J. L. Gressitt. NE NEW GUINEA: 53 ♀♀, 5 ♂♂, Wau, Morobe Dist., 1000-1300 m, various dates, VI to III, many by Malaise trap, J. Shanahan, J. & M. Sedlacek; 4 ♀♀, 1 ♂, Eliptamin Val., 1200-1350 m, 19.VI-31.VII.1959, W. W. Brandt; 2 ♀♀, Karimui, 4.VI.1961, J. L. & M. Gressitt, and 1080 m, 13.VII.1963, M. Sedlacek; 2 ♂♂, Karimui, S of Goroka, 1000 m, 5-7.VI.1961, J. L. & M. Gressitt; 1 ♀, Mt. Piora, 6° 45' S, 146° E, 2100 m, 12.VI.1966, Malaise trap, J. L. Gressitt.

Evaza similis James, new species

This species is very much like *philippinensis* and *flavipalpis*; it differs from both of these in that the legs are entirely yellow, only the claws being black; in the ♂ genitalia the dististyle is unusually long and slender and is not as flattened as is usual in the genus; from the side view it appears almost cylindrical. Tomentose area of frons triangular in both sexes; in the ♂ polished areas of the frontal orbits not reaching antennal bases. Frons of ♀ about 0.06× head width; polished, with 2 rows of minute setulae. Notopleural stripe very narrow; pronotum wholly black. Halteres yellow in ♀, with knob brown in ♂. Wing lacking microtrichia only at extreme base; cell 1st M with microtrichia in apical part; anal cells bare only at bases, the bare area extending somewhat along anterior margin of 1st A. Otherwise the description of *philippinensis* applies; the palpi and antennae are as in that species, and the 5th sternum has only dark colored pile.

Holotype ♂ (University Museum, Copenhagen), Philippine Is.: Palawan, Mantalingajan Range, Pinigisan, 600 m, 8.IX.1961, Noona Dan Expedition. Allotype ♀, same but 5.IX.1961, Malaise trap, inside forest. Paratopotypes: 1 ♀, same as allotype but 9.XI.1961; 1 ♂, same as holotype but 7.XI.1961, mercury light, 23:30-05:00.

Evaza discalis James

Evaza discalis James, 1962, *Ins. Micron.* **13**: 95.

Described from Peleliu and so far as known restricted to the Palau Islands. The palpi are about 0.50× as long as the labella and slender; the 2nd segment is 3× as long and a little stouter than the 1st.

Evaza aurivestis James, new species Fig. 22, 23.

Four species treated here, namely *lanata*, n. sp., *discalis* James, *aurivestis*, n. sp., and *gressitti*, n. sp., have the scutellum bordered with yellow, extending broadly to base and contrasting with the black disc. Of these 4 species, which are separable from one another by the structure of the palpus, *aurivestis* has the 2nd segment much more strongly inflated than in the other 3 species.

♂. Head black. Frons white tomentose, only its extreme upper angle shining; face white tomentose, with whitish to yellowish hairs below and on occiput. Antennae bright yellow, flagellum somewhat orange-yellow; arista but slightly darker than flagellum and completely bare. Antennal ratio 18:10:17:100. Proboscis yellow, labella becoming brown apically; 1st segment of palpus and base of 2nd yellow, rest becoming blackish; palpus about 0.85× as long as labella, 2nd segment 2.5× as long as 1st, strongly inflated, 1.5× as wide as antennal flagellum.

Thorax black, an indefinite spot on pteropleuron and a very small supra-alar spot, also the narrow notopleural line, lower part of humerus, pronotal ridge, and broad lateral and apical margins of scutellum, including spines, yellow to orange-yellow. Pile brownish black on an-

terior margin of mesonotum, otherwise yellow dorsally and on scutellum; pleural hairs and a presutural mesonotal tuft white; pile mostly appressed, a few semi-erect ones on postsutural mesonotum and scutellum; pile relatively conspicuous, when viewed laterally largely masking ground color of much of mesonotum. Fore tibia and tarsus brown, tarsi darker, largely with black hairs; legs otherwise yellow and yellow pilose. Halter yellow. Wing pale brown, darker on anterior border from base of stigma to apex of wing, the darkened area then spreading over apical part of wing, stigma and cells R_3 and R_4 the darkest. Microtrichia absent only at wing base; 1st M with microtrichia on apical part; anal cells lacking microtrichia only at base, the bare area extending somewhat along anterior margin of 1st A.

Abdomen dark castaneous, almost blackish brown, on 1st 3 terga; sides of 2nd and 3rd terga, however, also all of 4th and base and sides of 5th, black; coloration of venter similar except sides of 1st sternum also black; the darker and pale areas more or less blending together. Pile of abdomen inconspicuous and black, appressed except laterally, a few yellow hairs on sides at base. Genitalia bright yellow, mostly black haired above; dististyle apparently as in paratype described below, but details less clearly evident. Length: 5.5 mm.

Genitalia (based on paratype). Dististyle robust, pear-shaped from dorsal view, becoming enlarged on apical 1/2; from lateral view strongly humped; a strong tuft of golden hairs on ventral surface of dististyle and one on ventral surface of hypopygium adjacent to base of dististyle.

Variation. Black areas of abdomen usually much more extensive than in holotype. Knobs of halter may be discolored. Length: 6-7 mm.

♀. Frons and occipital orbits shining; frons at narrowest $0.12\times$ head width, transversely concave, with a few short scattered whitish hairs arranged in 2 rows on each side; occipital orbit sharply margined above, at widest $0.10\times$ head width. Palpus as in ♂, but about equal in width to that of flagellum because of the greater proportionate breadth of the latter. Abdomen much as in ♂ but darker dorsally along incisures; color pattern variable as in ♂, however; abdomen sometimes virtually wholly black. Knob of halter variable from brownish black to distinctly brown.

Holotype ♂ (BISHOP 7886), NE New Guinea, Gewak, Salawaket Range, 1530 m, 7.XI.1956, E. J. Ford, Jr. Allotype ♀, Wau, Morobe Dist., 1210 m, 29.VIII.1963, light trap, J. Sedlacek. Paratypes: 3♂♂, 7♀♀, Wau, 1200-1250 m, 14.VI, 8.VII, 11-15.X.1961; 5-13.X.1962; 12-15.IV.1963; 3.VIII.1964; 18.XII.1965; 3.II.1966; some light or Malaise trap; J. & M. Sedlacek.

***Evaza gressitti* James, new species** Fig. 6, 15.

Readily distinguishable from *discalis*, which it most closely resembles, by the slender arista, with its short, scattered pubescence.

♂. Head black. Frontal triangle white tomentose, only its upper 1/3 or less shining; the transverse separation between the shining and tomentose areas straight, only the slightest indication of descent of the shining area along eye margins. Face largely white tomentose, face and lower occiput whitish to yellow pilose. Antenna yellow with yellow hairs; arista brown, slender, with scattered short hairs; antennal ratio 20 : 12 : 17 : 95. Proboscis yellow, labella becoming brown toward tips; palpus about $0.65\times$ as long as labella; 1st segment brownish yellow, 2nd brown, a little longer and distinctly wider than 1st but only 1/2 the width of antennal flagellum.

Thorax black; a yellow border on lower pronotal ridge and lower humerus, notopleural line obsolete; some reddish brown on postalar region; scutellum with broad lateral and apical margins, also spines, yellow. Mesonotal pile short, inconspicuous, appressed, mostly yellow, becom-

ing brown along anterior and on lateral margins of presutural area; pleural pile more whitish. Legs yellow and yellow-haired; front tibia and tarsus with mostly brown hairs; hind tibia brownish yellow on apical 2/5; last 2 tarsomeres of middle and hind tarsi brownish yellow, with some black to brown hairs which extend dorsally onto 3rd and 2nd tarsomeres of hind tarsus. Halter brown, stalk orange. Wing brownish hyaline, anterior margin with usual brown area extending from base of stigma to wing apex and including anterior part of cell R_5 but gradually fading posteriorly in that cell. Wing uniformly set with microtrichia except at extreme base, cell 1st M with microtrichia along apical margin, anal cells bare only at base, the basal area extending somewhat along anterior margin of 1st A.

Abdomen black with a reddish tinge; pile inconspicuous, mostly black and appressed, some erect pile laterally, tending to brownish black on 1st segment; 2nd to 4th sterna with pile yellowish to whitish medially. Genitalia yellow, hairs mostly yellow, blackish basally, brownish on dorsal surface of dististyle; dististyle flattened, elongated-oval in dorsal view, ventrally with a prominent tuft of golden hairs at apex; hypopygium with a pair of digitate lobes pointing inwardly at an angle near its apex (fig. 15). Length: 5.5 mm.

Variation. Lateral marginal hair usually pale, the blackish to brownish-black mesonotal hairs being confined to anterior border. Hind tibia sometimes blackish brown apically; middle tibia sometimes brownish-yellow toward apex. Length: 6-7 mm.

♀. Frons and occipital orbits shining black, former with very few, short, scattered inconspicuous hairs on upper part arranged in 2 irregular rows. Frons at narrowest 0.07 head width. Occipital orbits at widest $0.10\times$ head width, distinctly keeled above, narrower below. Frontal callus castaneous. Lower frontal orbits distinctly though narrowly shining to base of antenna, the tomentose triangle of frons, however, connected with facial tomentose area. Palpi larger than in ♂, almost as long as labella, 2nd segment broader than in ♂ but still much narrower than antennal flagellum, about $2.5\times$ as long as 1st. Pile of thorax a little more conspicuous than in ♂, the lateral pile pale. Ovipositor and cerci brown. Length: 6-6.5 mm.

Holotype ♂ (BISHOP 7887), New Britain, Vunabakan, 180 m, 10 km S of Keravat, 16-20.XI.1959, T. C. Maa. Allotype ♀, Vunabakan, Gazelle Pen., 22.V.1956, reared ex *Pandanus* head. Paratypes: 1♂, same data as holotype; 1♂, Keravat, 20-25.XI.1959, Maa; 1♂, Gazelle Pen., Bainings, St. Paul's, 350 m, 9.IX.1955, J. L. Gressitt; 1♀, Malmalwan-Vunakanau, Gazelle Pen., 4.V.1956, light trap, Gressitt; 1♀, same data as allotype; 1♂, Gazelle Pen., Kerawat, 60 m, 31.VIII.1955, Gressitt; 1♂, Yalom, 17.V.1962, Noona Dan Exp. 1961-62. NEW IRELAND: 1♂, Kandan, 1.I.1960, W. W. Brandt; 1♀, Lemkamin, 18.IV.1962, Noona Dan Exp. 1961-62.

***Evaza atripluma* James, new species** Fig. 18.

This species differs from all other known to me, except *E. discalis*, in the somewhat thickened, densely short-pubescent, black arista. It is a much larger species than *E. discalis* and may be distinguished from that species by several other characters, including the clavate, bicolored palpi, the more extensive brown coloration of the wings, and the more extensively black scutellum.

♂. Wholly black except as otherwise indicated. Antenna yellow, with yellow hairs except a few blackish ones on apex of 2nd segment; slender, flagellum slightly broader than maximum width of 2nd segment; arista relatively thick and appearing even thicker as a result of the dense, though short, black pubescence; antennal ratio 38 : 20 : 25 : 130. Proboscis wholly yellow. Palpus about $0.90\times$ length of labella; 1st segment yellow, with yellow hair; 2nd slender and yellow at base, becoming clavate, black, and black haired on apical part; at maximum about as broad as antennal flagellum. Frontal triangle polished black above and laterally almost to level

of antenna, leaving a tomentose triangle which connects with whitish tomentum of face; facial orbits more densely white tomentose than rest of face. Occiput with scattered yellow hairs; lower part of head with yellow erect hairs.

Mesonotum not arched, almost in line with scutellum. Humerus mostly and slender notopleural line yellow. Scutellar rim and spines yellow. Pile of mesonotum short, mostly appressed, yellow to golden; a short area of semi-erect black hairs merging into a mixture of black and yellow along anterior margin; a few semi-erect hairs strewn elsewhere among the appressed ones of the mesonotum and scutellum; prothorax, pleura of mesothorax, and metapleura with yellowish to whitish, mostly semi-erect hairs. Legs mostly yellow and yellow-haired; front tarsus brownish, apex of front tibia slightly brownish; other tarsi yellow to apex, last tarsomere of each with some black hairs. Wing pale brown, becoming deep brown beyond discal cell and particularly in stigma and cells R_3 , R_4 , and R_5 ; no sharp division between paler and deeper areas, however. Halter wholly yellow.

Pile of abdomen black dorsally, mostly yellow ventrally. Genitalia yellow, with yellow hairs; dististyle flattened, from dorsal view slightly constricted medially, obliquely truncated apically. Length: 8 mm.

Variation. The paratypes conform closely with the above description; length: 8-8.5 mm.

♀. Unknown.

Holotype ♂ (BISHOP 7888), Philippines Camarines Sur, Mt. Iriga, 500 m, 29.III.1962, H. Holtmann. Paratypes: 1♂, same but 27.IV.1962, H. M. Torrevillas; 1♂, Mt. Makiling, 27.III.1960, T. C. Maa; 1♂, Negros Or., L. Balinsasayao, 1-7.X.1959, L. W. Quate.

Evaza rossi James, new species Fig. 5, 8, 12, 13, 19, 20.

Similar in appearance to *scenopinoides* and *bipars* but readily distinguishable from both those species by the inflated palpi.

♂. Head black. Frontal triangle entirely white tomentose except a small, inverted V-shaped area at its extreme upper angle; face white tomentose, hairs of face and lower occiput mostly white, a few yellow. Antenna yellow, 1st and 2nd segments paler than flagellum; hairs wholly yellow; arista brown at base, becoming yellow on apical 1/2, with scattered, very short pubescence; antennal ratio 20 : 15 : 20 : 90. Proboscis brown, labella yellowish beneath; palpus as long as labella, 2nd segment expanded, fully as broad as antennal flagellum, 1.5× as long as 1st; 1st palpal segment yellow at base, becoming blackish on apical expanded part.

Thorax largely black; humerus yellow, becoming castaneous above; pronotal ridge and notopleural line yellow; supra-alar and postalar areas indefinitely blackish-castaneous; pteropleuron yellow to light castaneous, hypopleuron and posterior border of mesopleuron dark castaneous; apex of scutellum and spines yellow. Pile of mesonotum short, inconspicuous, appressed, mostly whitish, brownish at anterior margin; that of pleura more noticeable, white. Legs yellow with pile yellow except front tibia, which is brownish with mostly brown hairs anteriorly, and front tarsus, which is brown with mostly black hairs. Wing brownish hyaline, anterior margin including stigma and cells R_3 and R_4 brown; microtrichia evenly set except at base, cells 1st M with microtrichia on apical 1/2; anal cells with no bare areas except a small one in 2nd A. Halter with brown knob and yellow stalk.

Abdomen castaneous, anterior margins of 3rd to 5th terga except at sides, narrowly blackish; hairs microscopic, black, short, appressed except laterally, some yellowish hairs on 1st 2 sterna. Genitalia bright yellow, hairs yellow to brown; dististyles cylindrical, from side view narrow at base and gradually enlarging toward apex where they are rounded; a few long golden hairs toward apex ventrally. Length: 6.5 mm.

Variation involves chiefly darkening of the coloration; the humerus may become blackish,

but is almost always different in coloration from the mesonotum; the thoracic yellow to castaneous areas may be reduced in extent, in the extreme limited to the pteropleuron; the wing may be more brownish than in the type, and the abdomen may become brownish black or almost black. Length: 5-6.5 mm.

♀. Frons very narrow, at narrowest $0.04-0.05\times$ head width. Occipital orbits at widest $0.08\times$ head width, sharp posteriorly, becoming considerably narrower below. Frons with minute scattered inconspicuous whitish hairs arranged in 2 rows on each side. Shining area of lower frons a distinct inverted V, its arms narrow, each with parallel sides, extending along eye margin but not reaching plane of base of antenna; the frontal tomentose area consequently broadly confluent with that of face. Otherwise very much as in the ♂, with the same range of variation. Ovipositor castaneous to black.

Holotype ♂ (California Academy of Sciences), NE New Guinea, Finschhafen, 10. V. 1944, E. S. Ross. Allotype ♀, same but 6.V.1944. Paratypes: 8♀♀, 16♂♂, same but 12, 14, 15, 20, 21.V.1944, and no date; 1♂, Finschhafen, IV.1944, F. E. Skinner; 1♀, 2♂♂, Lae, VIII.1944, Skinner.

***Evaza inflata* James, new species**

This species is close to *fortis* Walker but the femora are wholly yellow and the mesonotal hairs, particularly the semi-erect ones, are not so prominent. The strongly inflated palpi, reaching to the tip of the labella, are characteristic of both species, as well as of *cordata*, new species.

♂. Wholly black, except as noted. Sides of frons broadly shining to antennal bases, leaving a median tomentose triangle which however, connects narrowly with the tomentose area of face; face white tomentose and narrowly whitish pilose above, most facial pile dark brown to black; lower occipital pile yellow, rest white. Antenna yellow with yellow hairs; arista brown, pubescence abundant but very short; antennal ratio 30 : 22 : 22 : 120. Proboscis brownish black, more brownish at base of labella; palpus elongated, fully as long as labella; 1st segment brown; 2nd black, $1.5\times$ as long as 1st, maximum width 0.75 length of 1st segment and as wide as 3rd antennal segment.

Thorax with no pale notopleural line; lower humerus obscurely castaneous below; apex of scutellum and spines yellow. Mesonotal pile yellow except along anterior margin where it is blackish brown; somewhat longer than in most species; some scattered semi-erect hairs, especially on scutellum. Legs mostly yellow, with yellow pile; front tibia pale brown and front tarsus brown, both largely black haired; middle tibia and basitarsus and hind tarsus except apical tarsomeres almost white. Wing pale brown, anterior margin from base of stigma intensely brown, this area extending to wing apex and becoming lighter, though still distinctly brown, through cells R_5 , M_1 , part of M_2 , and apex of discal cell, as well as extending, somewhat more diluted, through most of cell R (first basal cell). Microtrichia lacking only at wing base; 1st M with a patch of microtrichia at apex; about basal $2/5$ of 1st A, delimited diagonally, and bases of 2nd and 3rd A bare.

Abdominal hairs black, appressed except laterally, 2nd sternum with yellowish hairs on median $1/2$. Genitalia brownish yellow, with brown hairs; surstyli simple, essentially as in *fortis*, with a tuft of yellowish-brown hairs beneath at apex. Length: 9 mm.

Variation. The ♂ paratype is essentially like the holotype. The humerus is more extensively castaneous and there is an obsolete notopleural line. Length: 8 mm.

♀. Frons and occipital orbits shining; frontal pile scant and inconspicuous, arranged in one row on each side of center. Frons at narrowest 0.07 head width; occipital orbit at widest 0.10 head width, narrowing below; posterior margin sharp. Semi-erect mesonotal pile less abundant

than in male. Notopleural line more distinct; lower margin of humerus and, sometimes, pronotal ridge castaneous. Cell M not included in infumated area. Ovipositor brown, cerci castaneous. Length: 7-9 mm.

Holotype ♂ (BISHOP 7889), NE New Guinea, Karimui, 1080 m, 13.VII.1963, J. Sedlacek. Allotype ♀, Karimui, S of Goroka, 2-3.VI.1961, Malaise trap, J. L. & M. Gressitt. Paratypes: 1♂, Karimui, S of Goroka, 1000 m, 8.VI.1961, J. L. & M. Gressitt. NW New Guinea: 1♀, Central Mts., Archbold L., 760 m, 26.XI-3.XII.1961, L. W. Quate; 1♀, Genjam, 40 km, W of Hollandia, 100-200 m, 1-10.III.1960, T. C. Maa. Papua: 1♀, Brown River, 20.VIII.1959, Maa.

***Evaza cordata* James, new species** Fig. 7.

The palpus is as greatly elongated and as strongly inflated in this species as in *fortis* and *inflata*; the frons of the ♀ is wider, the tomentose areas of a different shape, and there are a number of color differences.

♀. Wholly black except as noted. Frons and occipital orbits shining; frons transversely concave above, at narrowest 0.14× head width, sharply margined behind, narrowing markedly below; row of fine inconspicuous erect white hairs on each side of center; tomentose spot on lower frons cordate, broadly reaching callus and rounded there, distinctly separated from eye margins and from tomentose areas on face and facial orbits. Facial pile black, that of lower occiput yellow. Antenna yellow; arista brownish yellow, virtually bare, its pubescence showing as very minute hairs at magnification of 60×; 2nd antennal segment with some black hairs dorsally, otherwise yellow. Proboscis and palpi black; palpus reaching apex of labella, its 2nd segment 3× as long as 1st and as wide as antennal flagellum.

Thorax without trace of a notopleural line; anterior lower corner of humerus and a small supra-alar spot castaneous; apex of scutellum narrowly and lateral spines yellow, median spines brown; mesonotal pile yellow, relatively long, mostly appressed, a few semi-erect hairs especially behind suture and on scutellum; some blackish hairs on anterior margin and a tuft of more silvery ones on each side just before suture. Pleura white pilose. Legs chiefly yellow and yellow-haired; front tibia brown, front tarsus blackish, both with black hairs; middle femur somewhat brown-tinged dorsally toward tip; hind femur with an indefinite very narrow blackish anteroventral vitta. Wing dilute smoky, a little more so in stigma, cells R_3 , R_4 , and anterior part of R_5 , but this clouding not nearly as intense as in most species of the genus. Wing with evenly set microtrichia except at base; microtrichia distributed as in *inflata*. Halter, including stalk, blackish, stalk yellowish at base.

Abdomen with appressed, microscopic black hairs dorsally and ventrally; some semi-erect hairs laterally, especially on basal 2 segments, where they are brown. Ovipositor and cerci black. Length: 7 mm.

♂. Unknown.

Holotype ♀ (Australian Nat. Ins. Coll.), NE New Guinea, Madang, Finisterre Range, Central Subdistrict, X.1964, R. Pullen.

***Evaza quatei* James, new species**

In addition to the species included in the key, 2 others with a yellowish abdomen are known from Indonesia, namely, *mollis* Osten Sacken from Mt Singalang, Sumatra, and *floresina* Lindner, from Flores Island. Because of the differences in coloration, particularly of the thorax, between these and *quatei*, and in view of the fact that so few *Evaza* species occur on both sides of the Wallace Line, it is virtually certain that the present

species is distinct from the Oriental ones.

♂. Head black. White tomentose area of frontal triangle filling its lower 1/2, reaching broadly from eye to eye, extending higher medially than laterally, leaving a crescentic shining area; face white tomentose with brownish pile on lower parafacials, yellow pile below and on lower occiput. Antenna yellow with yellow pile, arista brown, yellow at extreme base only, and with extremely short pubescence, virtually bare; antennal ratio 20 : 18 : 20 : 110. Proboscis brown, labella yellowish at base and inwardly; palpus brown, 0.75× length of labella; 2nd segment a little more than 2× as long as 1st, somewhat broader than 1st but cylindrical and not inflated.

Thorax black, supra-alar, postalar in part, and a pleural area including pteropleuron and posterior part of bulge of mesopleuron brownish; notopleural stripe obsolete, lower part of humerus narrowly brown. Scutellum on apex and extending narrowly along sides, about 1/2 way to base, also spines, yellow. Pile short, appressed, inconspicuous, yellow dorsally, whitish on pleura; anterior margin of mesonotum with brownish pile. Wing pale brownish hyaline, darker so from base of stigma, along anterior margin, to wing apex, the color gradually becoming fainter in cell R₅; microtrichia evenly distributed except at extreme base, a few at apex of 1st M; 1st A bare on approximately basal 1/2, delimited diagonally; 2nd A and 3rd A bare only at base. Legs yellow, yellow-haired; anterior tibia and tarsus pale brown, latter with brownish hairs predominating, which become blackish toward apex. Halter brown, stalk yellow.

Abdomen yellow, narrow sides of 2nd and 3rd terga brownish, 4th and 5th segments becoming brownish yellow both dorsally and ventrally. Pile short, appressed, inconspicuous, black except on second and 3rd sterna where it is mostly yellow. Some semi-erect hair on sides. Genitalia (described from paratype) yellow with yellowish hairs; dististyle flattened, elongated-oval in outline; a few long golden hairs on apical 1/2 inwardly. Length: 6.5 mm.

Variation. The arista may be wholly black or wholly yellow. The intensity of the brown of the front tibia and tarsus is variable; it is more intense in the paratypes than in the holotype. The extent of the brown on the abdomen may be either greater or less than in the holotype; the abdomen, however, is always predominantly and distinctly yellow. Length: 6.5-7 mm.

♀. Unknown.

Holotype ♂ (BISHOP 7890), NE New Guinea, Arau, 1400 m, 40 km E of Kainantu, 13. X.1959, T. C. Maa. Paratypes: 1♂, NE New Guinea, Finisterre Range, Saidor, Maibang Vill., 21-22.VII.1958, W. W. Brandt; 1♂, Karimui, S of Goroka, 1000 m, 6.VI.1961, J. L. & M. Gressitt. NW New Guinea: 1♂, Archbold L., Central Mts., 760 m, 26.XI-3.XII. 1961, L. W. Quate.

***Evaza yoshimotoi* James, new species**

Very similar in appearance to *E. atripluma*, but the arista, though black, has only extremely short pubescence which does not create the impression of the arista being thickened. The species differs from the description of *atripluma* otherwise in the following respects.

♂. Antennal ratio 40 : 20 : 25 : 160. Second palpal segment clavate but only about 1.5× as wide as 1st, yellowish at base, gradually becoming brown on inflated part; palpus about 0.80× length of labella. Upper 1/2 or less of frontal triangle shining, the sides extending only a little onto lower tomentose area. Last 2 or 3 tarsomeres of middle and hind tarsi brownish, contrasting distinctly to basal tarsomeres; fore tarsus wholly brown; fore tibia gradually becoming pale brown toward its apex. Bare area of wing as in *atripluma* but more extended, the bare stripe in cells 1st A and 2nd M reaching almost to furcation of Cu but base of 2nd M completely filled with microtrichia; 1st A free of microtrichia on basal 1/3. Length: 8 mm.

♀. Eyes narrowly separated, frons at narrowest about 0.035 head width; a single irregular row of small hairs on each side of middle; upper part of frons but little broader than ocellar triangle; polished area of lower frons extending laterally almost to base of antenna, leaving a pollinose triangle which is broadly in contact with pollinose area of face; occipital orbit at its widest about 0.07 width of head, its posterior edge rounded. Antenna much more robust than in ♂, especially flagellum, which is about as wide as combined lengths of 1st and 2nd segments and 1.25× as long as wide. Second segment of palpus likewise enlarged, ovate, 2.5× as wide as 1st and 2× as long as wide. Length: 9 mm.

Holotype ♂ (BISHOP 7891), Philippine Is., Misamis Or., Balason, 4-5.IV.1960, W. Torre-villas. Allotopotype ♀, same data. Paratypes: 1♂, 1♀, Mindanao, Agusan, 10 km SE of S. Francisco, 15 & 17.XI.1959, C. M. Yoshimoto; 1♀, Tawi Tawi, Tarawakan, N of Batu Batu, 28.X.1961, Noona Dan Exp., 1961-1962; 1♀, Palawan, Mantalingajan Range, Pinigisan, 600 m, 11.XI.1961, Noona Dan Exp., 1961-1962.

***Evaza aterrima* James, new species** Fig. 21.

♂. Black except as otherwise noted. Frontal triangle tomentose on most of lower 1/2, from eye to eye, tomentose area produced angularly in middle, leaving an inverted V-shaped glossy area on upper frontal triangle, the arms of which extend about 2/3 way to level of antennal base. Pile of face dark brown to black, that of lower occiput yellow. Antenna yellow with mostly yellow hairs, some black ones apically on 1st and 2nd segments; arista brownish yellow, slender, pubescence minute and scattered. Antennal ratio 30 : 17 : 25 : 140. Proboscis brownish black, labella brownish yellow basally; palpus elongated but slender, reaching apex of labella, 2nd segment a little more than 2× length of 1st, both segments black, becoming brownish yellow at base of 1st, hairs black and short on 2nd segment, mostly brown and long on 1st.

Thorax wholly black except apex of scutellum and spines, which are yellow. Pile short, inconspicuous, appressed; mostly dull yellowish, but black on anterior 1/3 to 1/2 of presutural area, a broad indefinite median prescutellar area, and base of scutellum; pleural pile short, whitish to yellowish. Legs yellow and yellow-haired except front tibia and tarsus which are brownish and predominantly black-haired; tibia and basal 2 tarsomeres of hind legs paler yellow than other areas. Wing pale brownish, stigma and cells R_3 and R_4 , to a lesser extent R_5 , more strongly infumated, this area not as clearly defined as usual. Wing evenly set with microtrichia except at base; microtrichia lacking in cell 1st M except at apex, on basal 1/3, diagonally delimited, of 1st A, basal part of 2nd A and basal 1/2 of 3rd A. Halter with yellowish stalk and brownish-black knob.

Abdomen with a slightly castaneous tinge. Pile short, appressed except laterally, all black except a few brownish hairs on sides of 1st segment. Genitalia yellow with mostly yellow hairs; dististyle flattened, a few golden hairs near apex ventrally; 2 or 3 long brownish ones medially along outer edge. Length: 8.5 mm.

♀. Unknown.

Holotype ♂ (BISHOP 7892), NE New Guinea, Eliptamin Val., 1200-1350 m, 1-15.VIII. 1959, W. W. Brandt.

***Evaza flavipalpis* James, new species**

♂, ♀ (composite description). Very close to *philippinensis*, n. sp. Palpi in both sexes yellow; in the ♂ more slender, especially 2nd segment, which is slightly narrower than the 1st and tending to taper apically; palpi 2/3 length of labella. Antenna of ♀, particularly flagellum, more robust than in *philippinensis*. Frontal triangle of male tomentose on lower 1/2 from eye

to eye, upper margin of tomentose area, however, convex. Frons of female $0.075\times$ head width, with rather abundant, scattered, yellowish hairs. Yellow notopleural, humeral and pronotal stripes barely noticeable; 5th sternum of ♀, like the preceding ones, yellow pilose. Cell 1st M with a patch of microtrichia covering its apical $1/3$; 2nd M bare on anterior $1/2$ for almost $1/2$ its length; anal cells bare basally, the bare area extending anteriorly to about $1/3$ length of cell in 1st A. Otherwise as described for *philippinensis*. The ♂ genitalia seem to be the same.

Holotype ♂ (BISHOP 7893), Philippine Is., Camarines Sur, Mt. Iriga, 100 m, 23.III.1962, H. M. Torre Villas. Allotopotype ♀, same data. Paratopotypes, 1♂, 1♀, same data.

***Evaza philippinensis* James, new species**

This species traces to *indica* Kertész in Brunetti's (1923) key but differs from Kertész' description in several respects, for example, the arista is not black nor unusually short, as in *indica*, and the antennae are orange-yellow rather than brown-yellow.

♂. Wholly black except as otherwise indicated. Vertical triangle shining. Frontal triangle shining on upper margin and along eyes to level of base of antenna, leaving a tomentose triangle which fills most of the area but which is truncated, though somewhat rounded, above; face whitish tomentose, orbits more densely so. Occiput with scattered yellowish hairs. Antenna yellow, with mostly yellow hairs but some black at apex of 1st and 2nd segments; slender, flagellum but little broader than 2nd segment; arista yellow with but microscopic pubescence; antennal ratio 21 : 10 : 16 : 75. Proboscis yellow; palpus slender, $2/3$ length of labella, brown, 2nd segment a little broader and about $1.5\times$ as long as 1st.

Mesonotum not arched, almost in line with scutellum; narrow anterior margin of pronotum, pronotal ridge, median part of humerus, and notopleural line, narrowly, brownish yellow to yellow; scutellar rim and spines yellow. Mesonotum and scutellum with short, appressed hairs, mostly yellow, a few brown to brownish on anterior margin of mesonotum. Pile of pleura yellow but a little paler than on mesonotum. Legs yellow; front tarsus and last 3 tarsomeres of middle and hind legs brown; hind basitarsus very pale yellow. Halter yellow, knob brown dorsally. Wing pale brown, becoming deep brown on stigma and cells R_3 , R_4 , and R_5 ; the intensification gradual, without a line of division between areas, however. Cell 1st M with a patch of microtrichia at apex; 2nd M about $1/2$ set with microtrichia, a single row running entire length along vein Cu_1 , then expanding into a large patch to fill apical part of cell and also into a small base patch; base of anal cells free from microtrichia, on 1st A the bare area extending apicad almost to furcation of Cu , on 3rd A bare almost to apex of cell, 1st and 3rd A consequently each about $1/2$ bare.

Abdomen black but with somewhat of a castaneous reflection; pile appressed, short, reddish black dorsally and on sides and on all of 5th sternum, yellow on middle $1/2$ or more of 2nd to 4th sterna. Genitalia yellow; dististyle flattened, parallel-sided, set with comparatively long setulae. Length : 5 mm.

Variation. The ♂ paratypes vary from the above mainly in that the yellow areas of the thorax may be more reduced; the scutellar rim and pronotum may be black and the notopleural line may be very fine. The glabrous frontal orbits may be broader than in the holotype.

♀. Frons at narrowest 0.06 to 0.065 head width, upper frons with short hairs on its upper part arranged in 2 irregular rows. Antenna somewhat more robust than in ♂, flagellum distinctly broader than 2nd segment and fully as broad as long. Occipital orbits at broadest about $1.5\times$ as wide as narrowest part of frons. Polished frontal orbits broader than in ♂, the tomentose frontal area consequently more distinctly triangular. Palpus similar to that of ♂ but more robust, particularly the 2nd segment.

Holotype ♂ (BISHOP 7894), Philippine Is., Mindanao, Sulu, Siasi I., nr. sea level, 24.

VIII.1958, light trap, H. E. Milliron. Allotopotype ♀, same data but 26.VIII.1958. Paratypes: 1♂, same data as allotype; 2♂♂, Mindanao, Sulu, Jolo I., Talipao, 15–30 m, 31.VIII.1958, Milliron; 1♀, Mindanao, Davao, Genitalan, 8 km NW of Mt. Apo, 690 m, in jungle, 17.VIII.1958, Milliron; 1♀, Mindanao, Bukidnon, 1480 m, 27–31.X.1959, Malaise trap, C. M. Yoshimoto; 1♂, Mindanao, Agusan, 10 km SE of S. Francisco, 14.IX.1969, L. W. Quate; 1♂, 2♀♀, Negros, Camp Lookout, Dumaguete, 15.III–15.V.1961, T. Schneirla, A. Reyes; 1♂, Samar I., Naval Base, IV.1945, G. E. Bohart; 8♀, Tarawakan, N of Batu Batu, 31.X, 5, 6, 12, 13, & 14.XI.1961, Noona Dan Exp., 1961–1962; 1♀, Mindoro, San Jose, V.1945, Ross and Skinner.

***Evaza varipes* James, new species**

This species traces to *maculifera* de Meijere in Brunetti's (1923) key, but there are too many discrepancies with de Meijere's description, as well as the smaller size (5 mm) and more westward distribution of *maculifera*, to justify considering the two to be the same. De Meijere describes the wing of *maculifera* as having a yellow subcostal cell which separates a darkened basal streak (Wisch) from the apical darkening of the wing; this is not true of *varipes*, and the pattern does not conform in other respects; neither does the description of the halteres as yellow. The description of *maculifera* at least gives the impression that the tibiae are entirely black, which is not true of *varipes*.

♀. Wholly black, except as otherwise indicated. Frons shining but distinctly more pilose than in most members of the genus, the pile yellowish, distributed over frons except at orbits and clearly visible from lateral view at moderate magnifications (20–30×); frons at narrowest 0.06× head width. Occipital orbits moderately sharp behind, at widest 0.10 head width, narrowing below. Lower frons with a transverse band of yellowish-white tomentum on its lower 1/3, reaching from eye to eye but a little narrower laterally; facial tomentum and pile whitish to yellow, that of facial orbits distinctly yellow. Antenna yellow, flagellum orange; pile mostly yellow, 2nd segment with black hairs apically on outer side; arista bare, yellow at base, becoming brown beyond basal 1/4. Proboscis brown, labella yellowish below; palpi blackish, 0.70 as long as labella, 2nd segment lanceolate, expanded but not flattened and distinctly narrower than antennal flagellum; 2nd segment about 3× length of 1st; 1st segment glossy.

Thorax with only a trace of castaneous on lower part of humerus and above wing base; notopleural line obsolete; apex of scutellum and spines yellow, the latter minutely black-tipped. Pile whitish, short and appressed; pleural pile whitish, mostly appressed. Coxae pale yellow; femora yellow, pale at base, becoming reddish yellow, apical 1/3 of middle and 1/4 on hind pair black, pile yellow. Front tibia and tarsus wholly black and black-haired, somewhat broader than the other 2 pairs; middle and hind tibia black, the basal 1/3 of each pale yellow; middle basitarsus and hind one except apical 1/3 yellow, apex of hind basitarsus and other tarsomeres of middle and hind legs mostly brownish to black, yellow-haired except on apical tarsomere of each leg. Wing subhyaline, the usual brownish area occupying cells R_1 (stigma), R_3 , R_4 , and most of R_5 , not clearly defined and fading gradually through R_5 ; area beyond discal cell in general darker than that basad of it. Microtrichia missing in cell 1st M except at apex, in basal 1/2 of 2nd M except at extreme base and an irregular row along vein Cu, in basal 1/2 of 1st A, and in basal parts of 2nd A and 3rd A; the bare area of the anal cells can be roughly defined as that area anterior to an imagined prolongation of vein Cu, basad to the wing margin. Halter with yellow stalk and blackish knob.

Abdominal hairs short and appressed; whitish ventrally and on sides, blackish dorsally; some semi-erect lateral hairs, as usual; cerci brown; ovipositor brown (in paratypes, only its terminal segment exposed in the holotype). Length: 6.5 mm.

Variation. The paratypes deviate but little from the holotype. The extent of black on the femora is variable but the pattern remains the same. The minute black tip of the scutellar spines is not evident in some. Length: 5.5-7 mm.

♂. Only the allotype and a specimen without an abdomen are available. Both lack the antennal flagellum. As described for ♀ except sexually; as usual, eyes contiguous and occipital orbits not developed; palpus smaller than in ♀, 0.6× length of labella, 1st segment blackish brown, 2nd yellowish brown, 2× as long and not much broader than the 1st. About 1/3 of middle and hind femora black. Genitalia brown. Length: 7 mm.

The ♀ is chosen as holotype because of the imperfect condition of the ♂♂.

Holotype ♀ (BISHOP 7895), NE New Guinea, Wau, Morobe Dist., 1200 m, 27.I.1966, Malaise trap, J. & M. Sedlacek. Allotype ♂, same but 1250 m, 13.X.1962, J. Sedlacek. Paratopotypes: 7♀♀, same as holotype but 25.II and 27 & 30.XII.1965 and 12, 14, & 27. I.1966; 12♀♀, same as holotype but 1, 9, & 14.XI.1965, P. Shanahan; 1♀, same as holotype but 25.III.1966, J. L. Gressitt.

***Evaza impendens* (Walker)**

Nerua impendens Walker, 1860, *Proc. Linn. Soc. Lond.* **4**: 97.

Described from Celebes and recorded by Brunetti (1923) from Celebes and Netherlands New Guinea.

I have examined no Celebes material but have no evidence to contradict Brunetti's reference of the New Guinea material to the same species, particularly in view of the fact that he had both Celebes and New Guinea specimens. In the specimens which I have examined the hind tarsus may be wholly black or its basitarsus may be yellow, but this seems to be of no significance since intermediates occur and since no other characters can be correlated with this difference. The following descriptive notes are pertinent.

Lower 2/5 of frontal triangle (lower frons of ♀) tomentose from eye to eye, the band somewhat convex above; frons of ♀ at narrowest 0.04 head width; palpus slender, blackish 0.60-0.70 length of labella; wing lacking microtrichia in cell 1st M except extreme apex, basal 1/3 of 2nd M and 1st A, base of 2nd A, and basal 1/2 of 3rd A; mesonotal pubescence short and appressed, black; scutellum wholly black or rim and spines yellow, if wholly black spines may be black briefly at base.

I have records from the following localities. NE NEW GUINEA: Wau; Gewak, Salawaket Range; Bulolo. W NEW GUINEA: Swart Val., Karubaka; Waris, S of Hollandia; Star Mts., Sibil Val.; Biak I., 25 km S of Biak Town (rain forest) and Mangrowawa; Japen I., SSE Sumberbaba, Dawai R., jungle; Bokondini, 40 km N of Baliem Val.; Wissel L., Enarotadi; Vogelkop, Bomberi; Guega, W of Swart Val.; Bodem, 11 km SE of Oerberfaren. PAPUA: Murua R., nr. Kerema; Kokoda; Owen Stanley Range, Gailala, Loloipa. Many Malaise trap, some light trap. Every month except January; altitude, 10-1530 m.

***Evaza fortis* (Walker)**

Sargus fortis Walker, 1865, *Proc. Linn. Soc. Lond.* **8**: 107.

Evaza pictipes Bigot, 1879, *Ann. Soc. Ent. France* ser. 5 **9**: 221.

I am accepting Brunetti's synonymy, given above, as most probably correct. *Sargus fortis* was described from Papua, *E. pictipes* from New Guinea, both without any further

designation of locality. Brunetti gives a number of Papuan records. In the material which I have examined, I find considerable variation in the extent and intensity of the black (or blackish, or brown) coloration of the legs, but there seems to be no more than one species involved. The following additional descriptive information is pertinent.

Frontal triangle of ♂, or lower frons of ♀, with a distinctly triangular tomentose spot, well separated from each ocular orbit by a glabrous area but confluent with the tomentose area of the face; palpus black, as long as labella or nearly so; 1st segment polished; 2nd $2\times$ length of 1st, flattened and inflated, distinctly broader than antennal flagellum in both sexes. Frons of ♀ transversely concave, completely devoid of hairs (a very distinctive character), at narrowest 0.08 head width. Mesonotal hairs relatively long, those on anterior part brown and semi-erect, semi-erect hairs elsewhere mixed among appressed ones, particularly behind brown hairs of anterior margin and on scutellum. Wing lacking microtrichia in 1st M except at apex, much of basal 1/2 of 2nd M, anterobasal 1/2, delimited diagonally, of 1st A and reaching along anterior margin almost to furcation of vein Cu, base of 2nd A, and basal 1/2 of 3rd A. Dististyle flattened, rounded at apex from dorsal view, apical corners rather squarish.

I have the following records. NW NEW GUINEA: 2♂♂, Ifar, 300-600 m, 30.VI.1959, J. L. Gressitt and 400-550 m, 23.VI.1959, T. C. Maa; 3♂♂, 1♀, Waris, S of Hollandia, 450-500 m, 1-23.VIII.1959, Maa; 1♀, Cyclops Mts., 300 m (1000 ft), 11.III.1945, J. Laffoon; 2♀♀, Maffin Bay, 9.X.1944, E. S. Ross; 1♂, Central Mts., Archbold L., 760 m, 26.XI-3.XII.1961, L. W. Quate; 1♀, Nabire, S Geelvink Bay, 10-40 m, jungle, 2.X.1962, Malaise trap, H. Holtman; 1♀, Japen I., SSE Sumberbaba, Dawai R., 28.X.1962, jungle, Holtman. NE NEW GUINEA: 1♀, Bulolo R., 850 m, 24.VII.1965, J. & M. Sedlacek; 1♀, Amok, 165 m, 6.I.1960, Maa; 1♀, Wewak, 2-20 m, 11.X.1957, J. L. Gressitt; 1♀, Finisterre Range, Saidor, Sibog Vill., 27.V-5.VI.1958, W. W. Brandt; 1♂, Adelbert Mts., Wanuma, 800-1000 m, 23.X.1958, J. L. Gressitt; 1♂, Busu Riv. E. of Lae, 100 m, 15.IX.1955, J. L. Gressitt. PAPUA: 1♀, Owen Stanley Range, Goilala, Loloipa, 1-15.II.1958, W. W. Brandt.

***Evaza hardyi* James, new species** Fig. 24.

♂. Head black. Frontal triangle white tomentose except extreme upper angle; face with white tomentum, some long black hairs on parafacials above; pile of lower face and lower occiput white. Antenna yellow, flagellum somewhat orange-yellow; arista yellowish brown, slender, with distinct short pubescence; antennal ratio 20 : 18 : 16 : 90; pile yellow, some brownish hairs apically on inner side of 2nd segment. Proboscis brown, labella yellow below on basal 1/2. Palpus $0.60\times$ length of labella, slender, 2nd segment $2\times$ as long and about $2\times$ as broad as 1st, 2nd segment brown, 1st brownish yellow, more yellowish at base.

Thorax black; lower part of humerus and pronotal ridge yellowish, notopleural line obsolete; supra-alar area brownish yellow; apical 1/3 of scutellum and spines yellow. Mesonotal pile conspicuous and relatively long, a more notable tuft above humerus and laterally before suture, from oblique lateral view hairs on prescutellar area almost obscuring background; pile of mesonotum yellow, mostly appressed but with scattered semi-erect hairs especially on scutellum; pleural hairs conspicuous, yellowish-white. Legs mostly yellow with yellow hairs; front tibia, except at base, and front tarsus black, with mostly black hairs; front basitarsus somewhat expanded; apical 1/3 to 1/4 of middle and hind femora and, more obscurely, of front femur, brown; middle and hind tibiae brown on apical 1/3; middle tarsus brown; last tarsomere of hind tarsus reddish yellow. Wing subhyaline; beyond discal cell brown, most intensely in cells R_1 , R_3 , and R_4 , the intensity diminishing through R_5 , but the brown color continuing to posterior margin of wing; anal cells free of microtrichia only at extreme base and along vein 1st

A basad of branching of Cu. Cell 1st M with a patch of microtrichia apically. Halter yellow with a pale brown tinge, except at base.

Abdomen black with a castaneous tinge; pile appressed, inconspicuous, mostly black except on sides of 1st 4 terga, where it is semi-erect, and on 2nd sternum. Genitalia yellow, with yellow hairs; dististyle oval in dorsal outline with golden hairs below. Length: 6 mm.

♀. Frons glossy, upper part (about halfway to callus) with a single irregular row, on each side of center, of 8-10 fairly long white hairs; frons at narrowest $0.09\times$ head width. Occipital orbits glossy, at widest $0.11\times$ head width, rather sharp behind, narrowing below. Callus castaneous; frons black below it, shining on sides for a short distance, leaving a crescentic or semi-oval tomentose spot which fills most of lower frons and, on lower $1/2$, reaches from eye to eye. Palpus larger than in ♂, 0.80 as long as labella, 2nd segment 2.5 as long as 1st; 2nd segment more than $2\times$ as wide as 1st but not at all flattened and much narrower than antennal flagellum. Middle tarsus variable, from brown, as in ♂, to almost wholly yellow; knob of halter variable, from pale brown to dark brown. Ovipositor brown to blackish; cercus with 1st segment yellowish, 2nd brown. Length: 6.5-7.5 mm.

Holotype ♂ (BISHOP 7896), NE New Guinea, Sepik, Maprik area, 160 m, 26.VIII.1957, D. Elmo Hardy. Allotype ♀, Huon Peninsula, Pindiu, 860 m, 22.IV.1963, J. Sedlacek. Paratypes: 1♀, same data as allotype; 1♀, Kalalo, 750 m, 20-30.VIII.1966, Malaise trap; 1♀, Bainyik, S of Maprik, 150 m, 12.I.1960, T. C. Maa; 1♀, NW New Guinea, Waris, S of Hollandia, 450-500 m, 1-7.VIII.1959, Maa.

***Evaza gracilis* James, new species**

The general body form is somewhat more slender than in most other species of *Evaza*.

♀. Wholly black except as otherwise indicated. Frons shining, on each side, close to eye margin, with an irregular row of minute hairs which extend from posterior ocellus almost to callus, also a number of scattered similar hairs between these and median line; these hairs might be considered as forming an orbital row plus a very irregular, more inward row; frons narrow, at narrowest 0.05 head width. Callus somewhat castaneous. Tomentose spot on lower frons almost filling that area, distinctly triangular, a distinct glossy orbital margin, however, reaching almost to antennal base on each side; pile and tomentum and face white, a few black parafacial hairs; hairs of lower occiput white to brown. Occipital orbits sharp posteriorly, at widest about 0.10 head width. First and 2nd antennal segments yellow, with yellow hairs except a few black ones outwardly at apex of 2nd segment; flagellum missing in type. Proboscis and palpi black, a little yellowish at base of labella; palpus fully as long as labella; 2nd segment $2\times$ as long as 1st, flattened and inflated; palpi and proboscis blackish to brown haired.

Thorax black; apex of scutellum and spines castaneous; a trace of castaneous on supra-alar area; no pale coloration on notopleural line, humerus, or pronotum. Pile short, inconspicuous, appressed; some brown along anterior margin of mesonotum, otherwise whitish; pleural pile likewise inconspicuous, whitish. Legs mostly brown to dark brown; front coxa more castaneous except at base; front femur, hind tibia, and middle and hind tarsi yellow; front tibia yellowish toward base and hind femur yellowish toward apex; middle basitarsus brownish to castaneous on basal part. Hairs mostly black on front tibia and tarsus, otherwise yellow. Wing more extensively brown than usual, most intensely so in cells R_1 , R_3 , R_4 , and anterior margin of R_5 , but the distinctly brown area occupying the apical portion of wing beyond middle of discal cell, as well as most of 1st basal cell; microtrichia absent only at wing base and along basal part of anal cells, the bare area extending about $2/5$ length of 1st A along its anterior margin; a distinct area covered with microtrichia along apex and apical $1/2$ of anterior margin of cell 1st M. Halter with dark castaneous stalk and black knob.

Abdomen black; ovipositor black, last 2 segments and cerci dark brown; pile of abdomen inconspicuous, yellow in middle of 2nd sternum, otherwise dark reddish brown to black; semi-erect pile of sides very short, black. Length (excluding ovipositor): 6 mm.

♂. Unknown.

Holotype ♀ (BISHOP 7897), Papua, Normanby I., Wakaiuna, Sewa Bay, 11-20.XII.1956, W. W. Brandt.

***Evaza ventralis* James, new species**

An interestingly bicolored species, unusual in its dark-colored antenna and predominantly black dorsal and castaneous ventral coloration.

♀. Head black. Frons shining, narrow, with 2 irregular rows of small, yellow hairs on each side of median line; frons at narrowest $0.05 \times$ head width. Occipital orbits shining, narrow, sharply margined behind, becoming narrow ventrally, at widest $0.08 \times$ head width. White tomentose area filling most of lower frons, a wedge-shaped glossy area, however, on each side on upper 1/2, converging toward callus; underside of head, as well as lower frons and left antenna, "greased" and consequently true colors and vestiture are not certain but face apparently white tomentose with yellow hairs. Right antenna dark brown on 1st and 2nd segments, with pale black hairs; flagellum castaneous at base, becoming darkened but yellow pollinose beyond basal flagellomere; arista brown, moderately thick, with abundant but very short pubescence. Proboscis apparently dark brown; palpus $0.67 \times$ length of labella; 1st segment and basal 1/3 of 2nd castaneous, rest of 2nd blackish; slender, 2nd segment but little broader than 1st and not flattened, $2 \times$ as long as 1st.

Pronotum, mesonotum, postscutellum, and metanotum black, only lower part of humerus and apex of scutellum, including spines, castaneous. Pleura largely yellow to yellowish brown or castaneous; propleura and hypopleura mostly black; a large blackish area on anterior part of mesopleuron, a small one on posterior slope of swollen pre-alar part of mesopleuron, a small pteropleural spot, and lower parts of sternopleura likewise black; the black to blackish areas not clearly defined. Prosternum black. Hairs short, inconspicuous; those of mesonotum yellow centrally but black on anterior 1/3 and broadly on sides, especially before suture; pile of scutellum yellow. Coxae dark brown (middle) to blackish (fore and hind); femora curiously longitudinally vittate, the dorsal and ventral surfaces being dark brown or castaneous to black, the anterior and posterior surfaces yellow or reddish yellow, these areas sharply contrasting and well defined except on middle femur; the black areas occur on front pair and on ventral surface of hind pair; front femur, consequently, when viewed from behind, has a central longitudinal reddish-yellow vitta, attenuated at each end, with both the dorsal and ventral surfaces appearing black. Middle and hind tibiae brown; all tarsi and fore tibia reddish yellow, latter brownish toward base. Hairs yellow. Wing brownish hyaline, anterior margin and apical part beyond discal cell brown; stigma and cells R_3 and R_4 , also anterior part of R_5 darkest, the color fading through R_5 and becoming less intense toward posterior margin. Microtrichia evenly distributed except at wing base; cell 1st M with microtrichia on apical part and most of anterior border; cell 1st A bare at base and along anterior margin about 4/5 way to furcation of Cu; 2nd and 3rd A bare only at base. Halter with stalk reddish yellow, knob black.

Abdomen black and castaneous dorsally, the colors fading one into the other; approximately median 1/2 of 2nd tergum, 1/3 of 3rd, and 1/5 of 4 castaneous, only a suggestion of this color on the 5th tergum; venter largely castaneous, paler on 2nd sternum and more inclined toward reddish on the 4th and 5th; 1st sternum and sides of 2nd somewhat discolored; broad lateral and apical margins of 5th blackish. Abdominal pile semi-erect but still very short; black dorsally, a few brownish hairs intermixed on sides of 4th and 5th terga; yellow on 2nd, 3rd, and most of 4th sterna, black mixed with yellow on sides and apex of 4th and black on 5th sternum.

Ovipositor brown, cerci dark yellow, with yellow hairs. Length: 6 mm.

♂. Unknown.

Holotype ♀ (BISHOP 7898), Papua, Woodlark I., Murua, Kulumadau Hill, 3.II.1957, W. W. Brandt.

Evaza solomonensis Curran, 1936, *Proc. Calif. Acad. Sci.* ser. 4, **22**: 12.

Evaza incidens Curran, 1936, *Proc. Calif. Acad. Sci.* ser. 4, **22**: 13.

Evaza whitneyi Curran, 1936, *Proc. Calif. Acad. Sci.* ser. 4, **22**: 13.

These species were treated as subspecies of *solomonensis* by James (1948). Lindner (1937) considered *solomonensis* and *incidens* as synonymous, and I have no further information that might clarify the status of the two. This problem, as well as the question as to whether these forms should have specific or subspecific status, must await more critical investigation. The complex, so far as is known, is restricted to the Solomon Islands.

LITERATURE CITED

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