

NEW GENERA, SPECIES AND RECORDS OF ADRAMINI (DIPTERA: TEPHRITIDAE: TRYPETINAE) FROM THE SOUTH PACIFIC AND SOUTHERN ASIA

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Abstract

Papuadrama buna gen. n., sp. n. is described from Papua New Guinea. *Kedadrama* gen. n. is proposed for the Malaysian *K. bifasciata* (Hardy), comb. n., transferred from *Euphranta* Loew. *Coelotrypes luteifasciatus* (Senior-White), comb. n. is transferred from *Euphranta* and newly recorded from India, while *C. flavinus* (Hering) and *C. punctilabris* (Bezzi) are newly recorded from Solomon Islands and *C. latilimbatus* (Enderlein) is newly recorded from southern Thailand. *Crinitisophira* Hardy and *Cr. bicolor* Hardy are newly synonymised with *Cyclopsia* Malloch and *Cy. inscripta* (Walker) respectively, while *Cyclopsia univittata* Hardy is newly recorded from Papua New Guinea and West Malaysia. *Hardyadrama excoecariae* Lee and *H. magister* (Lee) are newly recorded from Papua New Guinea and *H. presignis* (Hardy) is newly recorded from East Malaysia. *Acinoeuphranta* Hardy and *A. zeylanica* Hardy are newly synonymised with *Piestometopon* de Meijere and *P. luteiceps* de Meijere respectively. The Indian genus *Indophranta* Agarwal & Kapoor is transferred to the Pyrgotidae. A key to genera is provided.

Introduction

Following our recent study of Australian and Pacific Trypetinae (Hancock and Drew 2003), a small collection of adramine fruit flies was sent to us from the University of Hawaii. This collection, containing several new species and records, had provisionally been sorted and studied by the late D. Elmo Hardy. Here we deal with genera other than *Euphranta* Loew, which was treated by Hancock and Drew (2004). Several additional Indo-Malayan genera and species are also discussed, including two removed from *Euphranta*.

The following collection acronyms have been used: AMS - Australian Museum, Sydney; ANIC - Australian National Insect Collection, Canberra; BMNH - The Natural History Museum, London; BPBM - Bernice P. Bishop Museum, Honolulu; NMNH - National Museum of Natural History, Washington D.C.; PSU - Prince of Songkla University, Hat Yai, Thailand; QMB - Queensland Museum, Brisbane; SASB - Slovak Academy of Sciences, Bratislava; UH - University of Hawaii, Honolulu.

Systematics

Coelopacidia sp.

Material examined. INDIA: 1 ♂, 'India, W.W. Saunders, 1868-4' (BMNH).

Comments. Previous reports of '*Coelopacidia cylindrica*' from India (Hardy 1977, Kapoor 1993), based on the lectotype of *Trypeta cylindrica* Walker (in BMNH), actually refer to *Chyliza cylindrica* (Walker) (= *pallidipes* Lamb) [family Psilidae]. However, there is a specimen of *Coelopacidia* Enderlein in BMNH with identical collection data plus a label '*cylindrica*' in Walker's handwriting, an apparent manuscript name. It resembles the African *C. strigata* Bezzi but the wing has the apical brown spot broader and there is a

faint yellow band over DM-Cu crossvein. In Africa, species of *Coelopacidia* use the stems of *Senecio* (Asteraceae) and *Polemannia* (Umbelliferae) as larval hosts.

Coelotrypes flavinus (Hering)

Material examined. SOLOMON ISLANDS: 1 ♀, Santa Isabel, Kolotuve, 20.vi.1960, C.W. O'Brien, light trap; 1 ♀, New Georgia group, Ghizo I., Gizo, 0-200 m, i.1974, N.L.H. Krauss (both BPBM).

Comments. This species is newly recorded from the Solomon Is, being known previously from mainland Papua New Guinea and the Bismarck Archipelago.

Coelotrypes latilimbatus (Enderlein)

Material examined. THAILAND: 2 ♀♀, Prince of Songkla University, Hat Yai, Songkhla District, 22.iv.1993, S. Permkam (PSU).

Comments. This is a very variable species and the above specimens (Fig. 1) appear to belong here. It is separated from *C. circumscriptus* (Hering) by the hyaline rather than fulvous costal cells and the largely black thorax and abdomen. Known previously from Sumatra and the Philippines, it is newly recorded from southern Thailand.

Coelotrypes luteifasciatus (Senior-White), comb. n.

Material examined. SRI LANKA: Holotype ♀, Suduganga, 17.viii.1921, R. Senior-White, on window, BM 1924-100; 1 ♀, same data except 25.vii.1922 (both BMNH). INDIA: 1 ♀, Dohnavur, 350', Tinnevely Dt, 3.x.1938, BM-CM Expedn to South India, Sept-Oct 1938; 1 ♀, Kerala, sp. 9, no date, ex sweet potato weevil [*sic*], CIE A20272 (both BMNH).

Comments. *Staurella luteifasciata* Senior-White has characters typical of *Coelotrypes* Bezzi (Permkam and Hancock 1995, Senior-White 1922) and is transferred from *Euphranta*. Known previously from Sri Lanka, it is newly recorded from southern India. Species in genus *Coelotrypes* Bezzi breed in the flower buds of *Ipomoea* (Convolvulaceae) and sweet potato (*I. batata*) is a likely host.

Coelotrypes punctilabris (Bezzi)

Material examined. SOLOMON ISLANDS: 1 ♂, Santa Cruz group, Nendo I., Graciosa Bay, 0-70 m, i.1977, N.L.H. Krauss (BPBM).

Comments. This species, known previously from Fiji, Tonga and Western Samoa, is newly recorded from the Santa Cruz group, eastern Solomon Is.

Cyclopsia inscripta (Walker)

Comments. *Crinitisophira* Hardy shows no characters differentiating it from *Cyclopsia* Malloch (Hardy 1974, 1983, 1986) and is placed here as a new synonym of the latter. Its type species, *Crinitisophira bicolor* Hardy, is placed as a new synonym of *Cyclopsia inscripta* (Walker). This species occurs from Maluku in Indonesia to the Bismarck Archipelago in Papua New Guinea. A hyaline indentation in wing cells m or m+r₄₊₅ is present or absent.

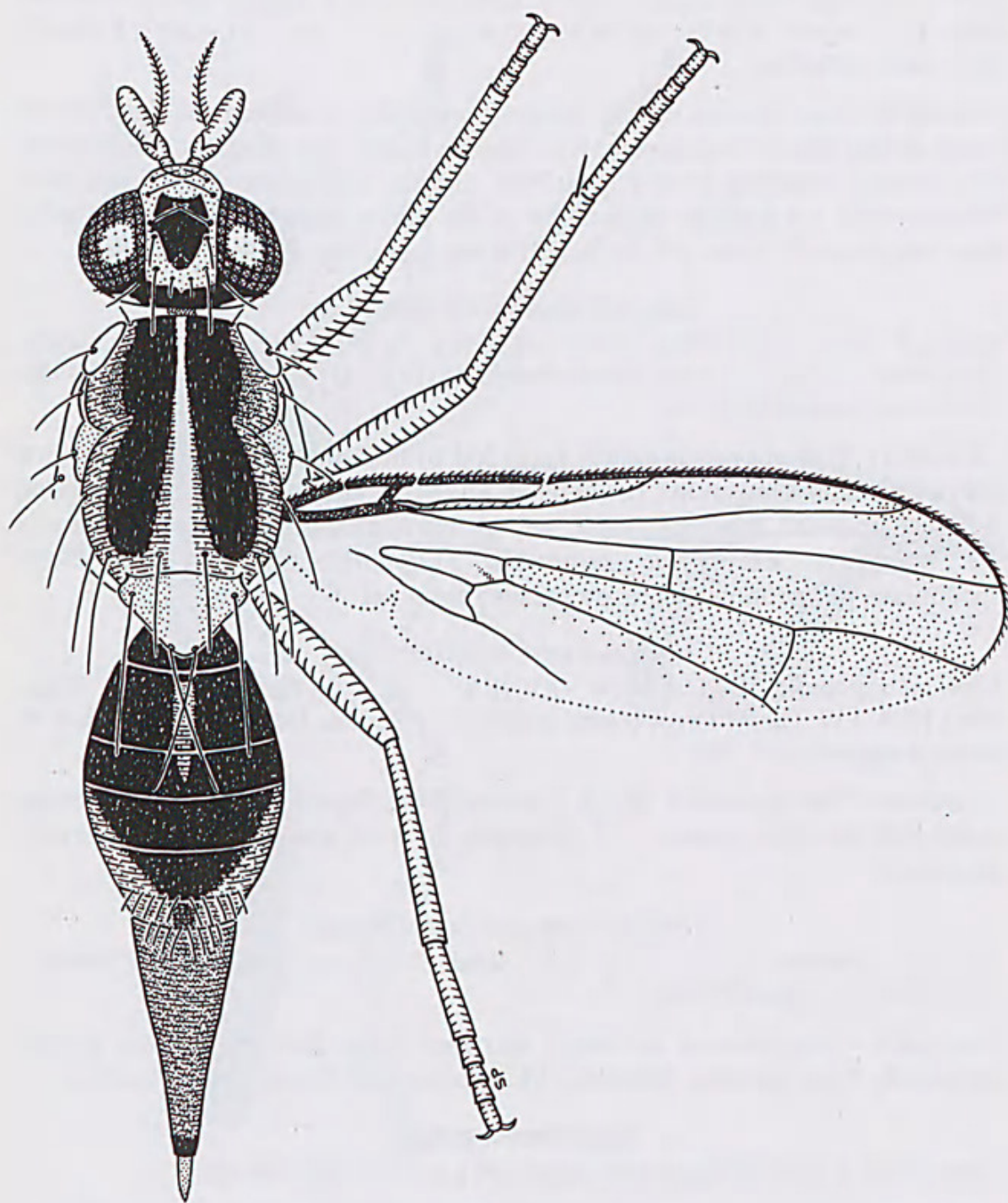


Fig. 1. *Coelotrypes latilimbatus*, female.

Cyclopsia univittata Hardy

Material examined. PAPUA NEW GUINEA: 1 ♂, New Britain, Mt Sinewit, 3500', 27.vi.-17.ix.1963, W.W. Brandt (ANIC). MALAYSIA: 1 ♀, Pahang Distr., 30 km NE Raub, Lata Lembik, 3°56'N, 101°38'E, 200-400 m, 22.iv.-1.v., 8-15.v.2002, E. Jendek & O. Sauša (SASB).

Comments. This species differs from *C. inscripta* in lacking the dark brown patch across the R-M crossvein. Known previously only from the Philippines, it is newly recorded from Papua New Guinea and Malaysia. In the New Britain male, the hyaline indentation in the apical brown patch on the wing does not extend beyond cell m, but all other characters appear typical.

Hardyadrama excoecariae Lee

Material examined. PAPUA NEW GUINEA: 1 ♂, Central Province, Hisiu, 22.iii.1986, J.W. Ismay, swept coastal pandanus (UH); 1 ♂, same locality, 22.iii.1986, J.W. Ismay, mangroves (UH).

Comments. This species is newly recorded from Papua New Guinea. Known previously from Singapore, Brunei and Australia, Hardy (1974) also recorded it from Mindanao, Philippines (as 'new genus near *Adrama*'). Its host plant is the mangrove *Excoecaria agallocha* (Euphorbiaceae). In the above specimens, postpronotal setae are present but weak.

Hardyadrama magister (Lee)

Material examined. PAPUA NEW GUINEA: 1 ♂, 1 ♀, Central Province, Hisiu, 22.iii.1986, J.W. Ismay, swept coastal pandanus; 1 ♀, same locality, 22.iii.1986, J.W. Ismay, mangroves (all UH).

Comments. This species is newly recorded from Papua New Guinea. Known previously from Singapore and Australia, its host plant is also *Excoecaria agallocha*.

Hardyadrama presignis (Hardy)

Material examined. MALAYSIA: 1 ♀, Sabah, Tenompok [near Kota Kinabalu], 13.ii.1959, T.C. Maa (BPBM).

Comments. This species is newly recorded from Borneo. It was known previously from southern Thailand, Philippines and Torres Strait, Australia.

***Kedadrama* gen. n.**

Type species *Euphranta bifasciata* Hardy, 1981, by present designation.

Diagnosis. Head with 2 pairs of frontal and 1 pair of orbital setae; postocellar setae present and black; ocellar setae vestigial; third antennal segment elongate, as long as face; arista pubescent; face with 2 large, shining black spots; frons with an oblong medial black spot situated between frontal and orbital setae. Thorax with presutural setae absent; postpronotal, dorsocentral and prescutellar acrostichal setae present; 4 scutellar setae; anatergite with fine, long pale hairs; metathoracic postcoxal area semimembranous medially.

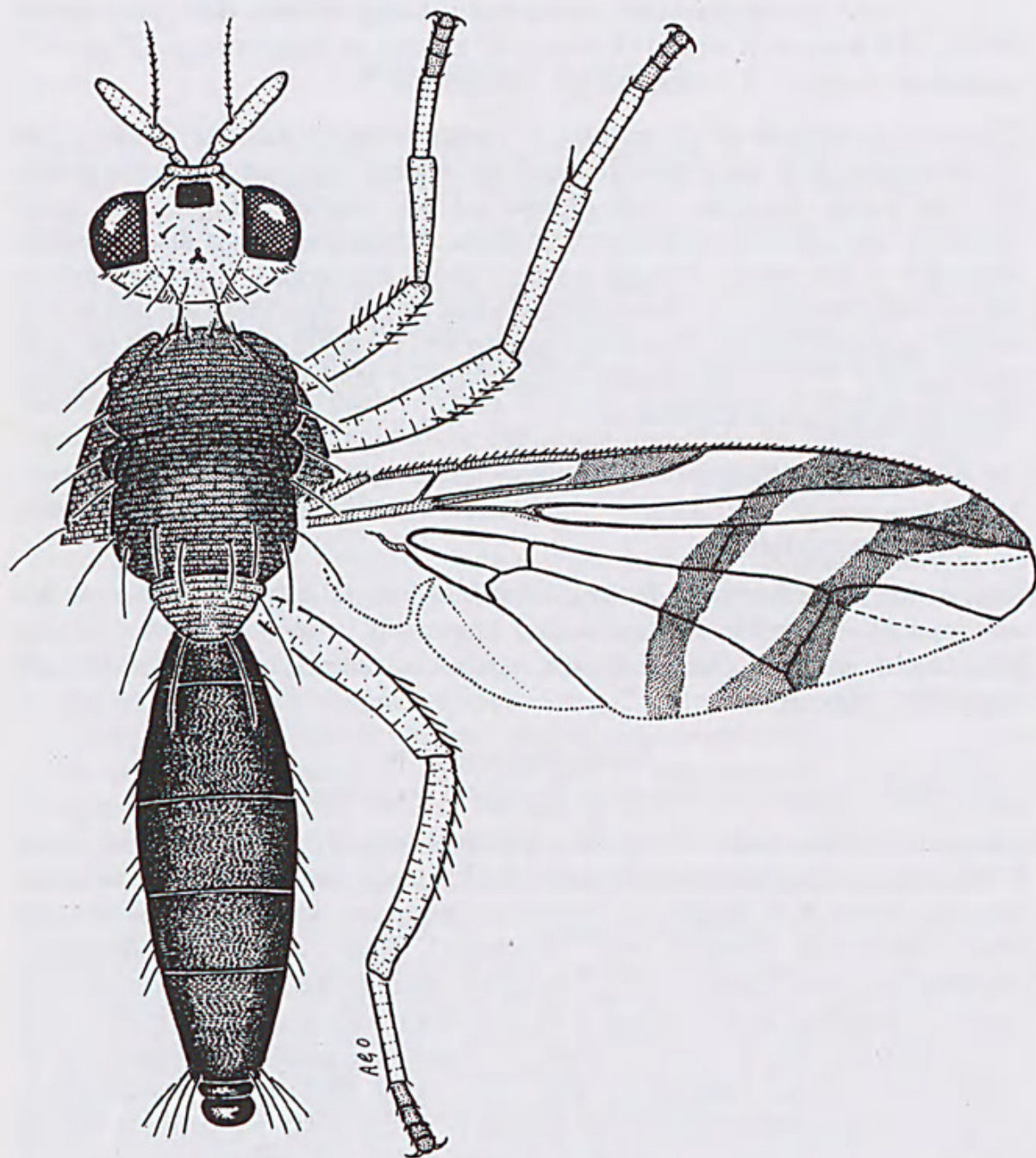


Fig. 2. *Kedadrama bifasciata*, male.

Wing with pterostigma relatively narrow and elongate; R-M crossvein placed near apical two-thirds of cell dm and well beyond apex of pterostigma; cell bcu apically produced and acute. Legs fulvous; fore femur with two rows of small but distinct anteroventral and posteroventral spines over apical three-fifths. Abdomen with terga I+II elongate, at least as long as terga III plus IV combined; tergite V 1.5 times longer than tergite IV.

Comments. *Kedadrama* is similar in appearance to *Adrama* Walker and *Hardyadrama* Lee but postocellar and acrostichal setae are present and only the fore femur has two rows of short, black, ventral spines. This latter character has not been seen elsewhere in the Adramini and is a distinguishing character of the genus, also excluding it from *Euphranta*. In related genera where two rows of short ventral spines occur on the legs, these are on the mid or mid and hind femora. The wing pattern and elongate abdomen of the type species (Fig. 2) resemble those of *Adrama* and *Hardyadrama* more closely than anything seen in *Euphranta*.

Kedadrama bifasciata (Hardy), comb. n.

Material examined. MALAYSIA: Holotype ♂, Kedah Peak, 3300 ft, 22.iii.1928, H.M. Pendlebury (QMB).

Comments. Described from Kedah, West Malaysia (Hardy 1981), this species was placed originally in *Euphranta*. The wing is hyaline with a brown pterostigma and two oblique brown bands enclosing the R-M and DM-Cu crossveins respectively.

Papuadrama gen. n.

Type species *Papuadrama buna* sp. n., by present designation.

Diagnosis. Head with 2-3 pairs of frontal and 1 pair of orbital setae; postocellar setae present and black; ocellar setae vestigial; third antennal segment about half length of face; arista plumose; face and frons without black markings. Thorax with presutural setae absent; postpronotal, dorsocentral and prescutellar acrostichal setae present, the dorsocentrals weak; 4 scutellar setae; scutum and scutellum with a medial yellow vitta; Anepisternum with a broad yellow posterodorsal patch, not extending to postpronotal lobes; anatergite with fine, long pale hairs; metathoracic postcoxal area semimembranous medially. Wing with pterostigma longer than broad; R-M crossvein placed near apex of cell dm and well beyond apex of pterostigma; cell bcu apically produced and acute. Legs fulvous; mid femur with two rows of small but distinct anteroventral and posteroventral spines. Abdomen elongate; oviscapae very long, the apical half narrowed and cylindrical.

Comments. *Papuadrama* is most similar in appearance to *Hardyadrama* but the antennae are shorter, postocellar and acrostichal setae are present and only the mid femora have two rows of short, black, ventral spines. This latter character also occurs in *Adramoides* Hardy (tribe Acanthonevrini) and

Scolocolus Hardy but those genera differs in several other characters. The medial yellow vitta on the scutum and scutellum of the type species also resembles that seen in *Coelotrypes* but the shorter antennae, spinose mid femora and different biology exclude it from the latter genus.

***Papuadrama buna* sp. n.**

(Figs 3-4)

Types. *Holotype* ♂, PAPUA NEW GUINEA: 24 km W. Lae, Morobe District, 19.xi.1972, G.A. Holloway (AMS). *Paratypes*: 3 ♂♂, 1 ♀, Nawatabanda logging area, nr Bulolo, 1.vii.1979, H. Roberts, 1331 (AMS); 1 ♀, Saputa, near Buna, Papua Terr., 1943-44, Robert B. Sperry (NMNH).

Description. Male (Fig. 3). Length of body 9.5 mm, of wing 8.0 mm. Head slightly higher than long; fulvous; face yellow, concave; epistome produced; antennae fulvous, third segment apically rounded, about half length of face; arista plumose. Setae black: 2 pairs frontals (sometimes 3 on one side), the upper pair widely separated from the lower and close to line of orbitals; 1 pair orbitals; ocellars vestigial; postocellars and inner and outer verticals well developed; postoculars thin; genal thin.

Thorax fulvous, with a narrow yellow-white medial vitta from suture to end of scutellum, broadest posteriorly; a triangular yellow-white patch on upper portion of anepisternum; katatergite yellow-white; anatergite with long, fine hairs; metathoracic postcoxal bridge semimembranous. Setae black: outer scapulars (inner pair absent); postpronotal; 2 pairs notopleural; supra-alar; postalar; intra-alar; acrostichal prescutellar; dorsocentrals thin, weak, placed close to line of postalars; 4 long scutellars; 1 anepisternal; 1 anepimeral; 1 katepisternal; presuturals absent. Haltere fulvous. Legs fulvous; fore femur with preapical brown setae; mid femur with anteroventral and posteroventral rows of short, stout black spines; mid tibia with a long, apical black spine.

Wing elongate; veins R_1 and R_{4+5} setose; pterostigma fulvous, about 2.5 times longer than broad and gradually tapered; R-M crossvein near apex of cell dm, about half its own length from DM-Cu crossvein and well beyond apex of pterostigma; cell bcu apically produced and broadly acuminate. Pattern very pale yellow over basal and median two-thirds, leaving cell c almost hyaline and separated from apical brown patch by a transverse hyaline band; apical brown area encloses both RM and DM-Cu crossveins; apex of cell r_{4+5} hyaline; cell m with a hyaline indentation posteriorly.

Abdomen fulvous to pale brown; elongate; terga I+II about as long as terga III plus IV combined; tergite V about 1.8 times length of tergite IV and with a terminal row of 6 black setae; surstylus short.

Female. Length of body (excluding oviscapae) 8.0 mm, of wing 8.0 mm, of oviscapae 3.5 mm. As for male except abdominal characters: tergite VI about 0.7 length of tergite V; ovipositor (Fig. 4) with oviscapae about as long as rest of abdomen, conical at base, tapering abruptly and with apical half narrow

and cylindrical; base fulvous, narrow apical part brown; aculeus apically acute with a pair of small preapical dentations.

Host plant. This species was reared from fruit [possibly seeds] of *Dysoxylum gaudichaudianum* (Meliaceae) by H. Roberts (AMS data).

Etymology. Named after the village of Buna.

Distribution. Known only from eastern Papua New Guinea.

Comments. As noted in the generic comments, this species is distinctive. The biology of *P. buna* also differentiates it from species placed in related genera such as *Hardyadrama* (which breed in mangroves) and *Coelotrypes* (which breed in flower buds of *Ipomoea*: Convolvulaceae). The wing pattern is very similar to that of *Euphranta bilineata* Hardy but the two are not allied.

Undescribed genus and species

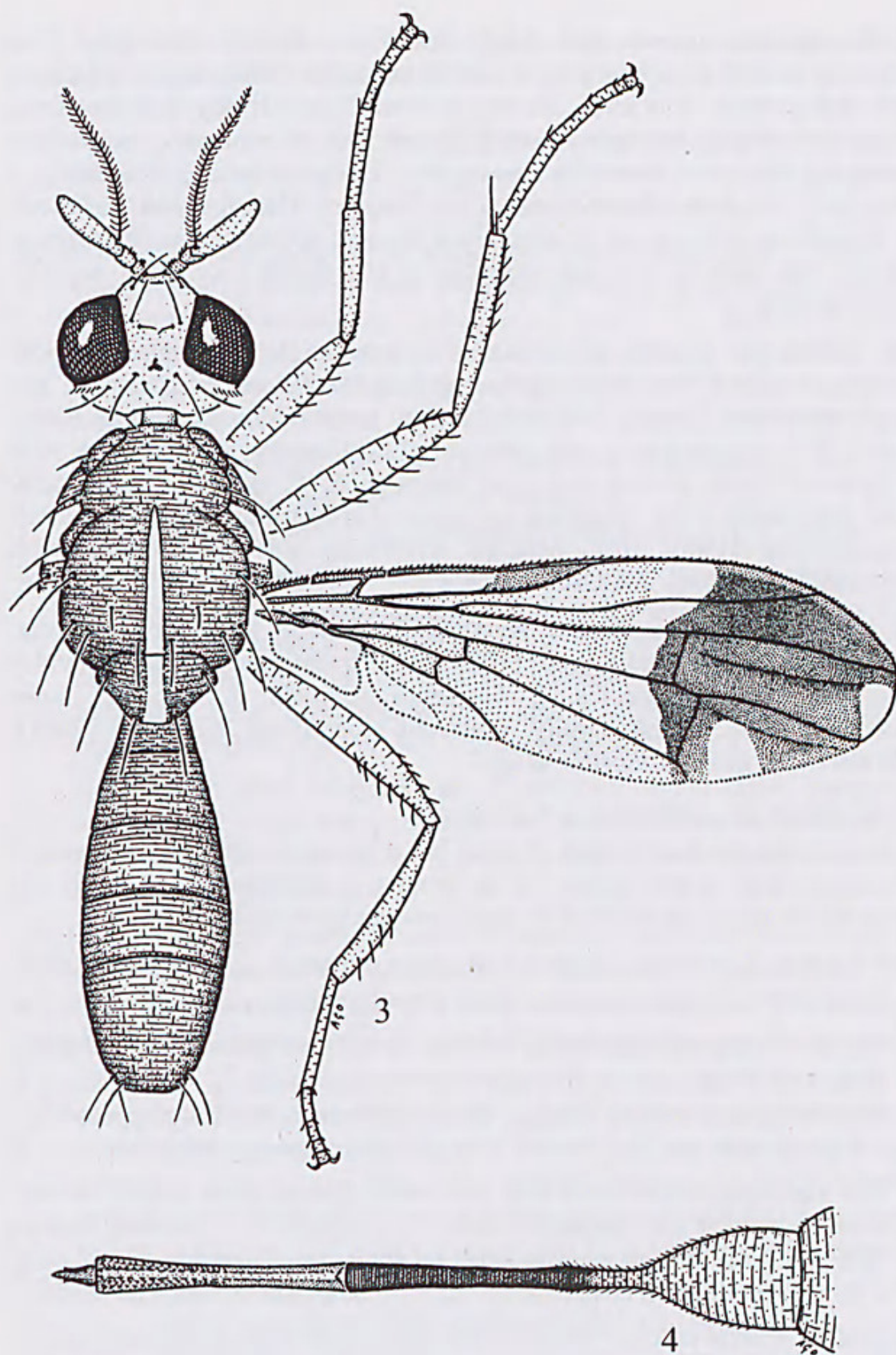
Material examined. SOLOMON ISLANDS: 1 ♀, Choiseul I., Kitipi R., 80 m, 13.iii.1964, P. Shanahan, malaise trap (BPBM).

Comments. This taxon resembles *Cyclopsia* and *Brandtomyia* Hardy in the vertical face and *Euphranta* in thoracic setal characters and the extensively brown wing pattern (similar to that of *E. vitabilis* Hardy but without the hyaline costal indentation beyond the pterostigma), whereas the relatively elongate third antennal segment is similar to that of *Adrama ismayi* Hardy.

The following combination of characters distinguishes it from all described genera in the Adramini: largely black in colour, with no yellow prescutellar or scutellar medial markings; face vertical, not concave; third antennal segment elongate, a little longer than face and with the arista plumose; wing cell dm not hatchet-shaped, R-M crossvein placed below apex of pterostigma and vein Cu₁ bare; metathoracic postcoxal bridge semimembranous medially; no stout spines on fore, mid or hind femora; genal, postocellar, postpronotal and dorsocentral setae present and 4 scutellar setae. The specimen is in too poor a condition to describe.

Discussion

One undescribed and thirteen described genera of Adramini (= Euphrantini) are now known from the region from southern [peninsular] Thailand to Australia and the South Pacific: *Adrama* Walker, *Brandtomyia* Hardy, *Coelotrypes* Bezzi (= *Staurocneros* Hering), *Cyclopsia* Malloch (= *Crinitisophira* Hardy, syn. n.), *Dimeringophrys* Enderlein, *Euphranta* Loew (= *Paraeuphranta* Hardy), *Hardyadrama* Lee, *Ichneumonosoma* de Meijere, *Kedadrama* nov., *Papuadrama* nov., *Piestometopon* de Meijere (= *Elleipsa* Hardy; = *Acinoeuphranta* Hardy, syn. n.), *Scolocolus* Hardy and *Soita* Walker (= *Phantasmilla* Hendel). Most are small (1-4 species), with only *Adrama*, *Coelotrypes* and *Euphranta* containing a larger number of described species (12, 17 and 102 respectively).



Figs 3-4. *Papuadrama buna* gen. n., sp. n. (3) male; (4) female ovipositor.

All Australasian genera have long, fine hairs on the anatergite. Five additional genera from this region or the southern Philippines, all lacking these hairs, were included in the Adramini by Hardy (1986). One, *Adramoides* Hardy, has spinose mid femora and an apparently non-setose aculeus but otherwise resembles *Antisophira* Hardy, *Heterosophira* Hardy [a synonym of *Sophira* (*Kambangania*) de Meijere], *Pseudosophira* Malloch and *Terastiomyia* Bigot, all of which lack femoral spines and have preapical setae on the aculeus. All are referable to the *Sophira* complex in tribe Acanthonevrini.

Four additional genera of Adramini occur in the Oriental Region: *Coelopacidia* Enderlein, *Meracanthomyia* Hendel, *Pelmatops* Enderlein and *Pseudopelmatops* Shiraki. The Sri Lankan genus *Acinoeuphranta* Hardy (Hardy 1971) is placed as a new synonym of *Piestometopon* de Meijere, with *A. zeylanica* Hardy placed as a new synonym of *P. luteiceps* de Meijere, known previously from Singapore to Tonga (Permkam and Hancock 1995). *Paraeuphranta* Hardy, from Maluku, Indonesia, was synonymised with *Euphranta* by Hancock and Drew (2004).

The Indian genus *Indophranta* Agarwal & Kapoor was placed in tribe Adramini by Agarwal and Kapoor (1989) but is transferred here to the family Pyrgotidae. Its sole species, *I. humerata* Agarwal & Kapoor, shows characters typical of that family, reviewed recently by Korneyev (2004), particularly the genus *Adapsilia* Waga.

Key to genera of Australasian Adramini

Coelopacidia is not known east of India but might occur. It keys to couplet 7 but has no stout ventral spines on the femora, a micropubescent arista and two midtibial apical spines (one in other genera except *Soita*).

- 1 Wing vein Cu₁ setose; scutum with presutural setae *Soita* Walker
- Wing vein Cu₁ bare; scutum without presutural setae 2
- 2 Metathoracic postcoxal bridge broadly sclerotised; postocellar and genal setae both absent; two or four scutellar setae 3
- Metathoracic postcoxal bridge semimembranous medially; postocellar and genal setae not both absent; four well developed scutellar setae 4
- 3 Mid and hind femora each with two rows of short, stout ventral spines; wing with apical area largely brown *Adrama* Walker
- Mid and hind femora without rows of short, stout ventral spines; wing with a narrow brown costal band *Ichneumonosoma* de Meijere
- 4 Scutum with a medial yellow-white vitta continuing over scutellum; if indistinct then postocellar and prescutellar acrostichal setae absent and mid and hind femora with two rows of short, stout ventral spines 5
- Not as above; scutum with medial yellow-white vitta often absent, if present then not continuing over scutellum 7

- 5 Anepisternum with a subtriangular yellow dorsal patch not reaching postpronotal lobe or wing base; mid femora with two rows of short, stout ventral spines; postocellar setae present *Papuadrama* nov.
- Anepisternum with a yellow dorsal band joined to postpronotal lobe and extending to wing base; if mid femora with rows of stout ventral spines then hind femora also spined and postocellar setae absent 6
- 6 Postocellar and prescutellar acrostichal setae absent; face yellow; arista at most short-pubescent; mid and hind femora with or without two rows of stout ventral spines *Hardyadrama* Lee
- Postocellar and prescutellar acrostichal setae present; face usually with a large black spot on lower margin; arista pubescent to plumose; mid and hind femora without stout ventral spines *Coelotrypes* Bezzi
- 7 One or more of fore, mid and hind femora with two rows of short, stout ventral spines; arista almost bare or pubescent 8
- Femora without rows of stout ventral spines; arista usually plumose ... 10
- 8 Only fore femora with stout ventral spines; wing without a short transverse band from pterostigma and with two oblique brown bands over R-M and DM-Cu crossveins *Kedadrama* nov.
- Mid and often hind femora with stout ventral spines; wing with a short transverse band from pterostigma and a large brown subapical area enclosing both R-M and DM-Cu crossveins 9
- 9 Hind femora with ventral spines; 3 pairs of frontal setae; postpronotal setae present; arista almost bare *Piestometopon* de Meijere
- Hind femora without spines; 2 pairs of frontal setae; postpronotal setae absent; arista pubescent *Scolocolus* Hardy
- 10 Wing cell dm hatchet-shaped, distinctly narrowed basad of R-M crossvein; dorsocentral setae absent *Brandtomyia* Hardy
- Wing cell dm normal, not distinctly narrowed basad of R-M crossvein; dorsocentral setae present though sometimes weak 11
- 11 Antennae a little longer than face; face vertical; postocellar and postpronotal setae present; wing pattern brown and R-M crossvein placed below apex of pterostigma Undescribed genus
- Antennae shorter than face; face usually concave medially, if almost vertical then postocellar and postpronotal setae absent, wing pattern yellow and brown and R-M crossvein placed beyond apex of pterostigma 12
- 12 Face almost vertical, slightly concave near oral margin; dorsocentral setae rudimentary; postocellar, postpronotal and prescutellar acrostichal setae all absent; two pairs of frontal setae placed close together *Cyclopsia* Malloch

- Face concave in medial portion; dorsocentral setae often well developed; postocellar setae present; postpronotal and prescutellar acrostichal setae often present, if both absent and two pairs of frontal setae then these are widely spaced 13
- 13 One pair of frontal setae; orbital setae often absent; wing pattern reduced and faint, little more than a costal band *Dimeringophrys* Enderlein
- Two or more pairs of frontal setae; one pair of orbital setae present; wing pattern usually extensive and distinct *Euphranta* Loew

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