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NEW SPECIES AND RECORDS OF ASIAN TRYPETINAE (DIPTERA: TEPHRITIDAE)

D. L. Hancock and **R. A. I. Drew**

ABSTRACT. - Eight new species of Trypetinae are described from southern Asia, viz: *Felderimyia flavipennis*, new species, *Euphranta myxopyrae*, new species, *E. solaniferae*, new species, *E. songkhla*, new species, *E. turpiniae*, new species, *Philophylla indica*, new species, *Hoplandromyia antelopa*, new species, *Vidalia thailandica*, new species. The genus *Tetrameringophrys* Hardy is placed as a new synonym of *Dimeringophrys* Enderlein. Eleven species are newly synonymized: *Acanthonevra robusta* Zia with *A. vaga* (Wiedemann); *Diarrhegma eburata* Zia with *D. paritii* (Doleschall), revised status, *Themara yunnana* Zia with *T. hirtipes* Rondani, *Tritaeniopteron elachispilotum* Hardy with *T. tetraspilotum* Hardy, *Adrama media* Hering with *A. apicalis* Shiraki, *Tetrameringophrys parilis* Hardy with *Dimeringophrys pallidipennis* Hardy; *Euphranta ormei* Hardy with *E. maculifemur* (de Meijere), *Ptilona conformis* Zia with *P. persimilis* Hendel, *Carpomyia zizyphae* Agarwal and Kapoor with *C. vesuviana* A. Costa, *Acidiella mimica* Hardy and *Vidalia tuberculata* Hardy with *V. bidens* Hendel. *Ornithoschema flavum* (Hardy) and *Philophylla kraussi* (Hardy) are proposed as new combinations. New distribution and host records are provided for a further 24 species.

INTRODUCTION

Recent field collecting and host-fruit rearing in several Asian countries has yielded new species of Trypetinae, together with new information on several previously known taxa. In particular, this enables some updating of Hardy's (1973) monograph on the Tephritidae of Thailand and neighbouring countries.

As noted for the Afrotropical fauna (Hancock, 1986), Asian species of Trypetinae frequently show variation in the extent of wing and body markings and bristle development. In some cases sexual dimorphism is also evident. As a result of this variation, several new synonymies are proposed.

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Tribal classification used here follows Hancock (1986, 1991) except that the availability of more biological data on Asian Trypetinae suggests that reassessment of the relationship between the tribes Adramini and Phytalmiini may be warranted. The Adramini and Euphrantini share the derived characteristic of long hairs on the pleuroterga and several species in both groups utilize seeds as larval hosts. These two tribes are evidently closely allied. The Phytalmiini, on the other hand, appears closer to the Acanthonevrini, despite the sclerotized post-coxal bridge and reduction in bristle development. Species in both these groups utilize decaying matter as larval hosts, with both reported from beneath the bark of fallen trees, a specialized niche not known within the family outside these two groups.

ABBREVIATIONS

The following abbreviations have been used for specimen depositories. Where not stated, specimens are housed in QDPI.

APQS - Animal and Plant Quarantine Service, Guangzhou, China.
BPBM - Bernice P. Bishop Museum, Honolulu, Hawaii.
NHML - The Natural History Museum, London, England.
QDPI - Queensland Department of Primary Industries, Brisbane, Australia.
UASB - University of Agricultural Sciences, Bangalore, India.
UH - University of Hawaii, Honolulu, Hawaii.

SYSTEMATICS

SUBFAMILY TRYPETINAE

Tribe Acanthonevrini

Acanthonevra dunlopi (van der Wulp)

Ptilona dunlopi van der Wulp, 1880: 186.

Material examined. - MALAYSIA: 1 male, Ulu Langet [near Kuala Lumpur], 24.ix.1988, C.S. Ooi & R. Drew; 1 female, Pangsoon, Hulu Langat, 26.ix.1990, D.L. Hancock. THAILAND: 2 males, 4 females, N.R.D.C., Chiang Mai, 22.x.1991, Chantanee, bred from *Bambusa vulgaris*; 5 females, Trok Nong Waterfall, A. Khlung, Chanthaburi, 12.xi.1991, Yuthana, bred from *Bambusa* sp.

Distribution. - India to Peninsular Malaysia (newly confirmed). Records from Indonesia and Borneo require confirmation.

Remarks. - Malaysian specimens were attracted to cut bamboo shoots, Thailand specimens bred from the shoots of *Bambusa vulgaris* Schrod. and *Bambusa* sp. (new host records). Field observations suggest that infestation may be secondary, the shoots already decaying. Hardy (1986) suggested that Indonesian and previous Malaysian records may be misidentifications of *A. ochropleura* Hering.

Acanthonevra ochropleura Hering

Acanthoneura ochropleura Hering, 1951: 4.

Material examined. - MALAYSIA: 1 male, 3 females, Ulu Langet [near Kuala Lumpur], vii.1988, C.S. Ooi.

Distribution. - Malaysia to Indonesia and Borneo. Newly confirmed from Peninsular Malaysia. Records north of Malaysia appear to be based on misidentifications of *A. gravelyi:* Munroor (Hering, 1951) a locality error.

Remarks. - The above specimens were attracted to cut bamboo shoots.

Acanthonevra vaga (Wiedemann)

Trypeta vaga Wiedemann, 1830: 490.
Acanthonevra robusta Zia, 1963: 647 (males, females) (syn. nov.).

Material examined. - MALAYSIA: 3 males, 1 female, Ulu Langet [near Kuala Lumpur], vii.1988, C.S. Ooi; 3 males, 2 females, Pangsoon, Hulu Langat, 26.ix.1990, D.L. Hancock; 1 female, TN15 [near Thai border], 15.xii.1986, Yusof Salleh.

Distribution. - India and China (Yunnan) to Peninsular Malaysia (new record). Records from Indonesia require confirmation.

Remarks. - The above specimens (except the last) were attracted to cut bamboo shoots. *Acanthonevra robusta* Zia, described from Yunnan, China, is evidently a synonym.

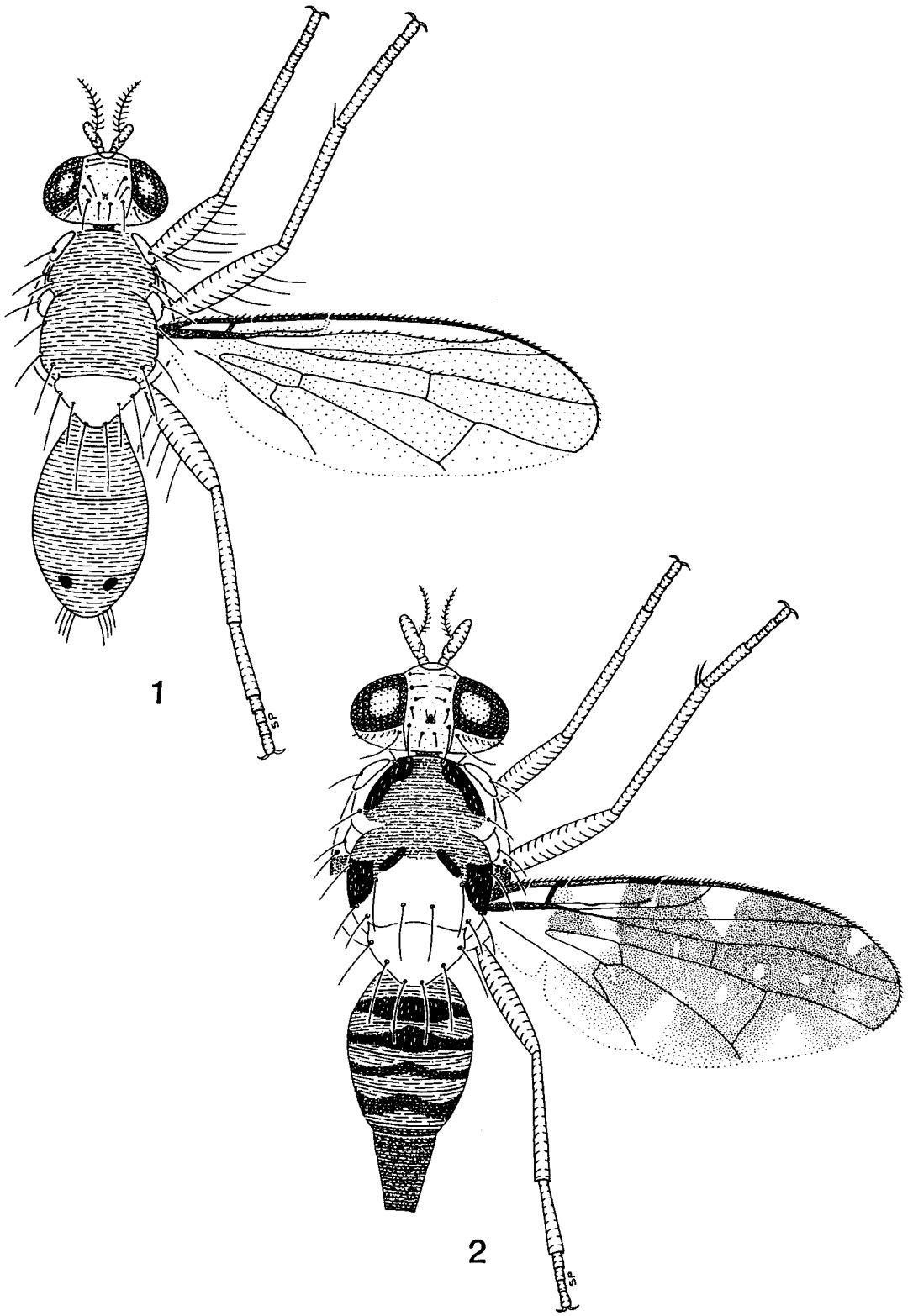
Dacopsis mantissa (Hering)
(Fig. 1)

Sophira mantissa Hering, 1952: 275.

Material examined. - MALAYSIA: 5 males, 2 females, no locality [1 in QDPI, 6 in APQS].

Distribution. - Sumatra and Malaysia (new record).

Remarks. - The above specimens were intercepted in 1984 by Plant Quarantine, Guangzhou, China, bred from larvae collected under bark of timber [possibly *Dysoxylum* sp., a known host of other species of *Dacopsis*] (new host record). The male has not previously been recorded. It has the wing mostly pale yellow (Fig. 1), not banded as in the female (Hardy, 1958). The abdomen has black spots on tergite V and usually also on tergite IV.



Figs. 1-2. Acanthonevrini. 1, *Dacopsis mantissa,* male; 2, *Diarrhegma modestum,* female.

Diarrhegma modestum (Fabricius)
(Fig. 2)

Dacus modestus Fabricius, 1805: 278.
Trypeta incisa Wiedemann, 1824: 53.

Material examined. - INDIA: 4 males and females, Byithi, Mysore Prov., bred from "drumstick" [in UASB]; 1 male, 1 female, Kilpaak, Madras, 4.viii.1988, S. Vijaysegaran.

Distribution. - India. Records from other countries appear to be misidentifications of *D. paritii* (Doleschall).

Remarks. - Specimens from India have well developed hyaline wing markings and black abdominal bands on at least terga II to IV in both sexes and appear to be distinct from populations elsewhere in Asia, where males especially have these markings reduced. The Byithi specimens recorded above were bred from "drumstick" [pods of *Moringa pterygosperma* Gaertn. (= *M. oleifera* Lam.) (Moringaceae)] (new record), used as a vegetable in India. It has also been recorded breeding in decaying wood (Bezzi, 1913). It is not known if the *Moringa* pods were fresh or decaying. The lectotype is a female (Hardy, 1969), not a male as subsequently recorded (Hardy, 1973, 1986b).

Diarrhegma paritii (Doleschall), revised status

Tephritis paritii Doleschall, 1856: 412, fig.2.
Diarrhegma eburata Zia, 1963: 646 (female) (syn. nov.).

Material examined. - CHINA: 1 female, Macao, viii.1906, F. Muir [in BPBM].

Distribution. - Southern China and Thailand to Philippines and Indonesia.

Remarks. - This species is very similar to *D. modestum* but the hyaline wing markings are reduced, particularly in the male, which also lacks dark bands on abdominal terga IV and V. There must also be a difference in host preferences, since the Moringaceae have not been recorded east of India. All records of *D. modestum* from east of India (Hardy, 1973, 1786b) appear to belong to *D. paritii*, which is here removed from the synonymy of *D. modestum*. Hardy (1973) illustrated the wings of both sexes (as *modestum*).

Diarrhegma eburata Zia, 1963, described from Yunnan, China, agrees with material from Thailand (Hardy, 1973) and Indonesia (Doleschall, 1856; van der Wulp, 1898) and is here placed in synonymy. The type locality of *D. paritii* has been recorded universally as Amboina since Bezzi (1913), yet Doleschall (1856) mentioned only Djokjokarta (central Java) in his original description. Van der Wulp (1898) also recorded a specimen from Java.

Felderimyia flavipennis, new species
(Fig. 3)

Material examined. - Holotype male [NHML], MALAYSIA: Ulu Langet [near Kuala Lumpur], vii.1988, C.S. Ooi.

Paratype male, LAOS: Vientiane Prov., Ban Van Eue, 15.vi.1966, native collector [in BPBM].

Description. - Male: Length of body 10.5 mm; of wing 12.0 mm.

Head fulvous. Frons pubescent; bristles black, 1 strong plus 2-3 very weak inferior orbitals, 1 strong superior orbital, situated on lower half of frons. Lunule small, semicircular. Ocellar triangle black, continuing as a black triangle to vertex, ocellar bristles minute, hair-like, postocellars absent. Vertex with inner and outer vertical bristles present, postverticals absent. Genal bristle present. Occiput flat, with a row of thin, black occipital bristles. Face fulvous. Antennae with third segment apically rounded; arista plumose.

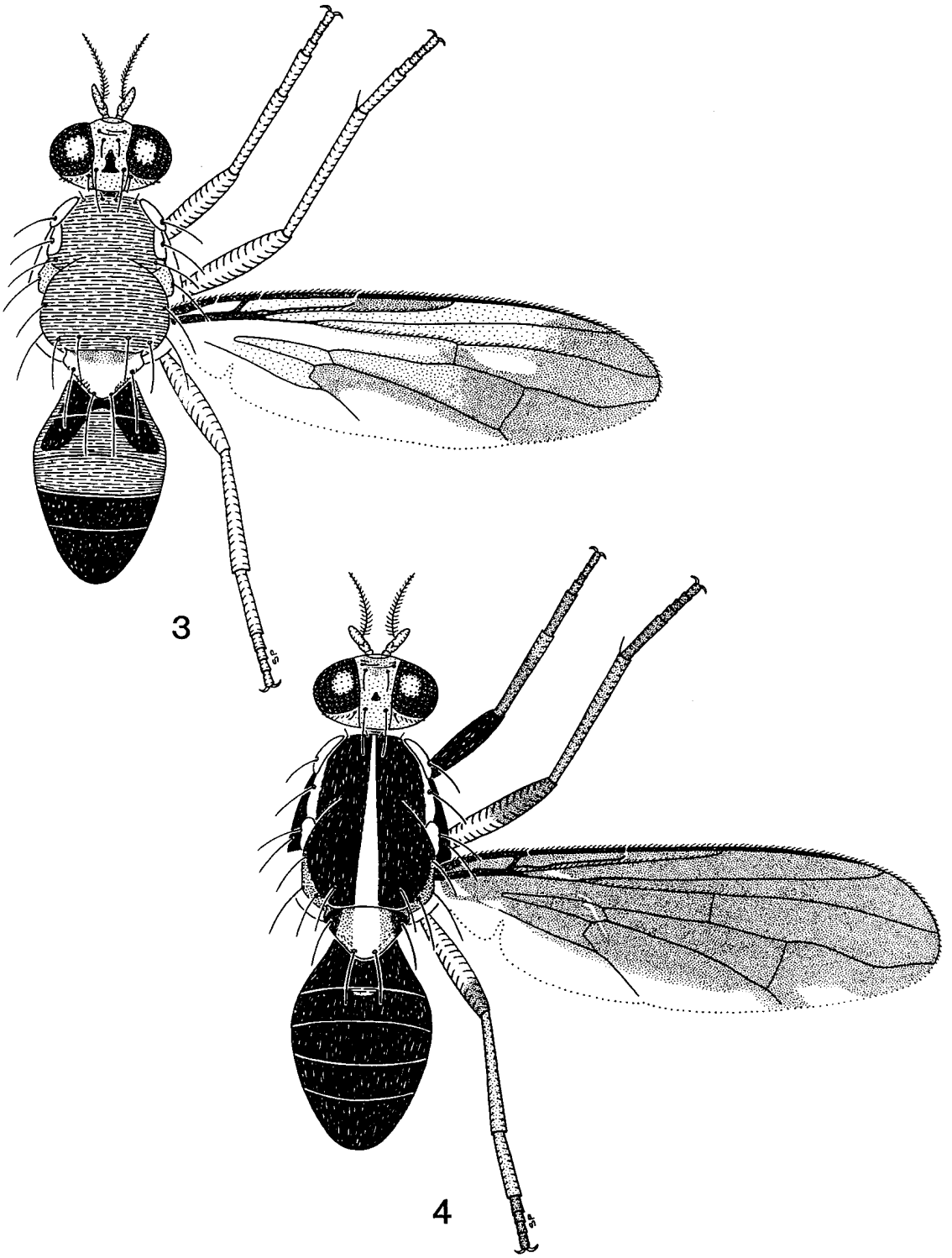
Thorax entirely fulvous, darkest on mesonotum, except humeri and area around anterior notopleural bristles whitish. Pleuroterga bare, postnotum blackish-brown. Scutellum yellow, broadly red-brown at base and with fine dark setae posterolaterally. Bristles well developed and black: 4 scapulars, 1 humeral, 1 presutural, 2 notopleural, 1 anterior supra-alar, 2 posterior supra-alars, 2 dorsocentrals, 1 mesopleural, 1 pteropleural (abraded), 1 sternopleural (abraded), 4 scutellars; dorsocentrals placed on line of posterior supra-alars; prescutellars absent. Legs fulvous; fore femora with rows of dark setae; middle tibiae with an apical black spine. Halteres fulvous. Wing with no distinct costal bristle at base of stigma; stigma elongate; vein R_1 setose above, veins R_{4+5} and M setose above and below; r-m crossvein beyond middle of discal cell; vein M curved forwards before apex; anal cell acuminate. Wing pattern (Fig. 3) yellow centrally and anteriorly, brown apically and along vein CuA_1; stigma brown; hyaline markings in basal radial cell, cell R_{4+5}, basally and posteriorly.

Abdomen oval, black except lateral margins of terga I and II, medial area of tergite II and whole of tergite III fulvous. Male genitalia with surstyli broad, rounded apically.

Female: known only from photographs. Similar to male.

Remarks. - *F. flavipennis* differs from *F. fuscipennis* Hendel, the only other member of the genus, in wing and body markings and in the presence of presutural bristles. Other characters, particularly wing venation, head bristles and overall appearance, point to a close relationship and the absence of presutural bristles in *F. fuscipennis* does not appear to be of generic value. *Felderimyia* Hendel thus appears better placed in the Acanthonevrini, not Euphrantini as suggested by Hardy (1973).

The holotype was collected at cut bamboo shoots. This species has been observed in association with bamboo in Malaysia (D. E. Hardy, personal communication).



Figs. 3-4. Acanthonevrini. 3, *Felderimyia flavipennis,* new species, male; 4, *F. fuscipennis,* male.

Felderimyia fuscipennis Hendel
(Fig. 4)

Felderimyia fuscipennis Hendel, 1915: 431.

Material examined. - MALAYSIA: 1 male, Ulu Langet [near Kuala Lumpur], 24.ix.1988, C.S. Ooi & R. Drew.

Distribution. - Myanmar to Peninsular Malaysia (new record). Records from India require confirmation.

Remarks. - The above specimen was attracted to cut bamboo shoots. It has a pair of short, fine setae just below the inferior orbital bristles on the head.

Hexacinia stellipennis (Walker)

Trypeta stellipennis Walker, 1860: 159.

Material examined. - INDONESIA (SULAWESI): 1 male, Padukku Forest, 5 km S. Enrekang, 25.vii.1981, J. Turner.

Distribution. - Philippines, Borneo (Sabah), Sulawesi.

Remarks. - This species was figured by Hardy (1974). The above specimen is the first recorded from Sulawesi since the holotype. Note that figures 42 and 43 in Hardy (1986b) are transposed.

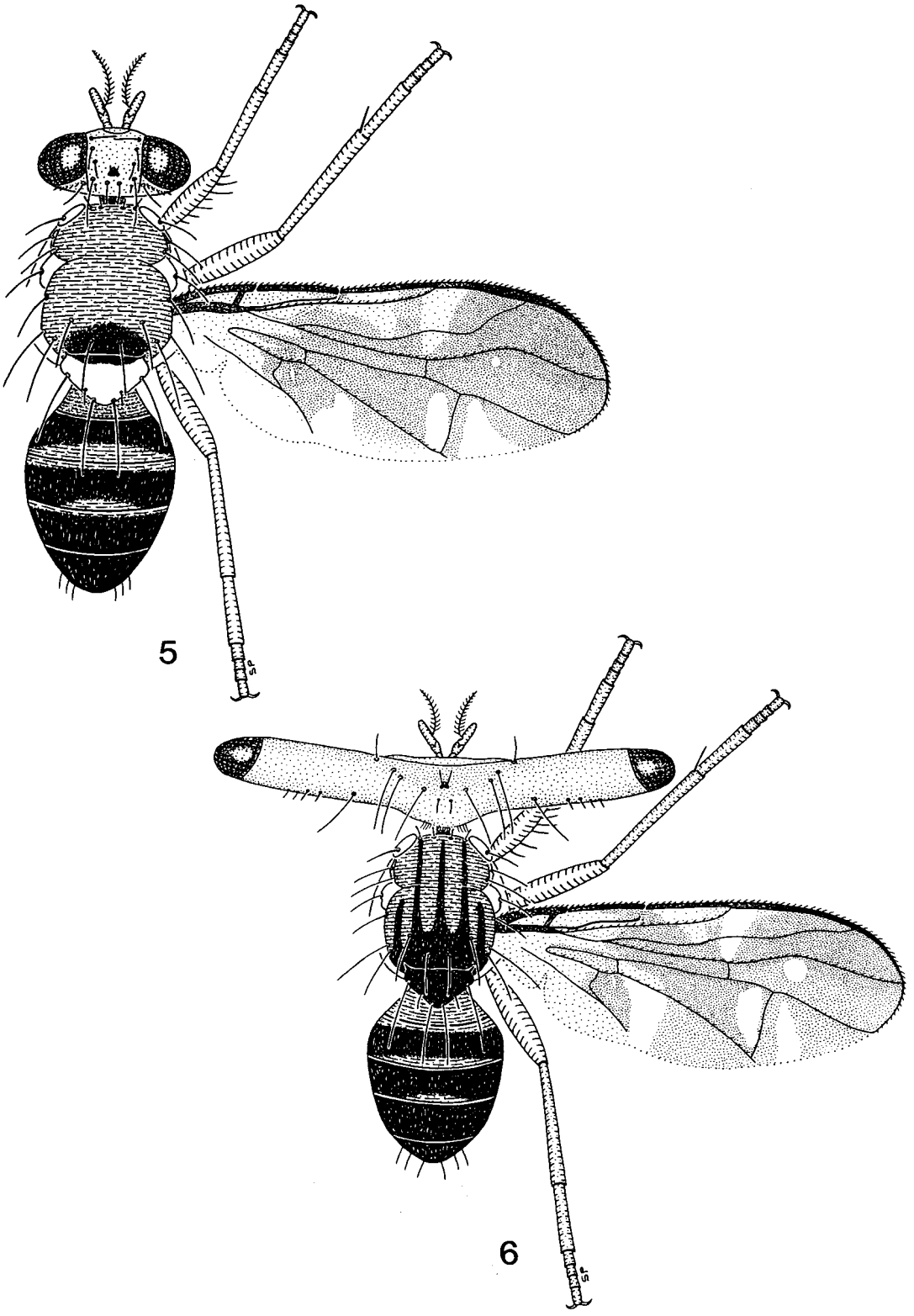
Themara ampla Walker
(Fig. 5)

Themara ampla Walker, 1856a: 33.

Material examined. - MALAYSIA: 1 male, Ulu Langet [near Kuala Lumpur], vii.1988, C.S. Ooi; 1 female, Tarat Agric. Station, near Kuching, Sarawak, 6.iii.1992, S. Leong.

Distribution. - Peninsular Malaysia and Sumatra to Borneo.

Remarks. - The Ulu Langet specimen (Fig. 5) has a small hyaline spot in cell R_{4+5} as noted for a specimen from Pahang by Hardy (1986b); it also has the fore coxae and a pair of small spots on the prosternum black. It was attracted to cut bamboo shoots. The Sarawak female has the fore coxae and prosternum yellow.



Figs. 5-6. Acanthonevrini. 5, *Themara ampla,* male; 6, *T. maculipennis,* male.

Themara hirtipes Rondani

Themara hirtipes Rondani, 1875: 435.
Themara yunnana Zia, 1963: 646 (male) (syn. nov.).

Material examined. - MALAYSIA: 1 male, Tarat Agric. Station, near Kuching, Sarawak, 10.viii.1992, S. Leong.

Distribution. - China (Yunnan) and India to Borneo and Palawan.

Remarks. - The median pale band on the mesonotum and scutellum distinguishes this species from the similar *T. ampla* and *T. maculipennis*. The width of the head is very variable and *T. yunnana* Zia from China is undoubtedly a synonym. Bezzi's (1913) Indian records of "*Acanthonevra fuscipennis*" belong here.

Themara maculipennis (Westwood)
(Fig. 6)

Achias maculipennis Westwood, 1848: 38.

Material examined. - MALAYSIA: 2 males, Sg. Poyan, Limbang, Sarawak, 22.ix.1992, S. Leong; 3 males, Limbang, Sarawak, vi.1993, S. Leong.

Distribution. - Java, Sumatra, Singapore, Sabah and Sarawak (new record). Records from India (Assam: see Hardy, 1986b) refer to *T. hirtipes*.

Remarks. - This is a rare species in collections. The examined specimens have yellow fore coxae and prosternum but otherwise agree with *T. maculipennis* as defined by Hardy (1986b).

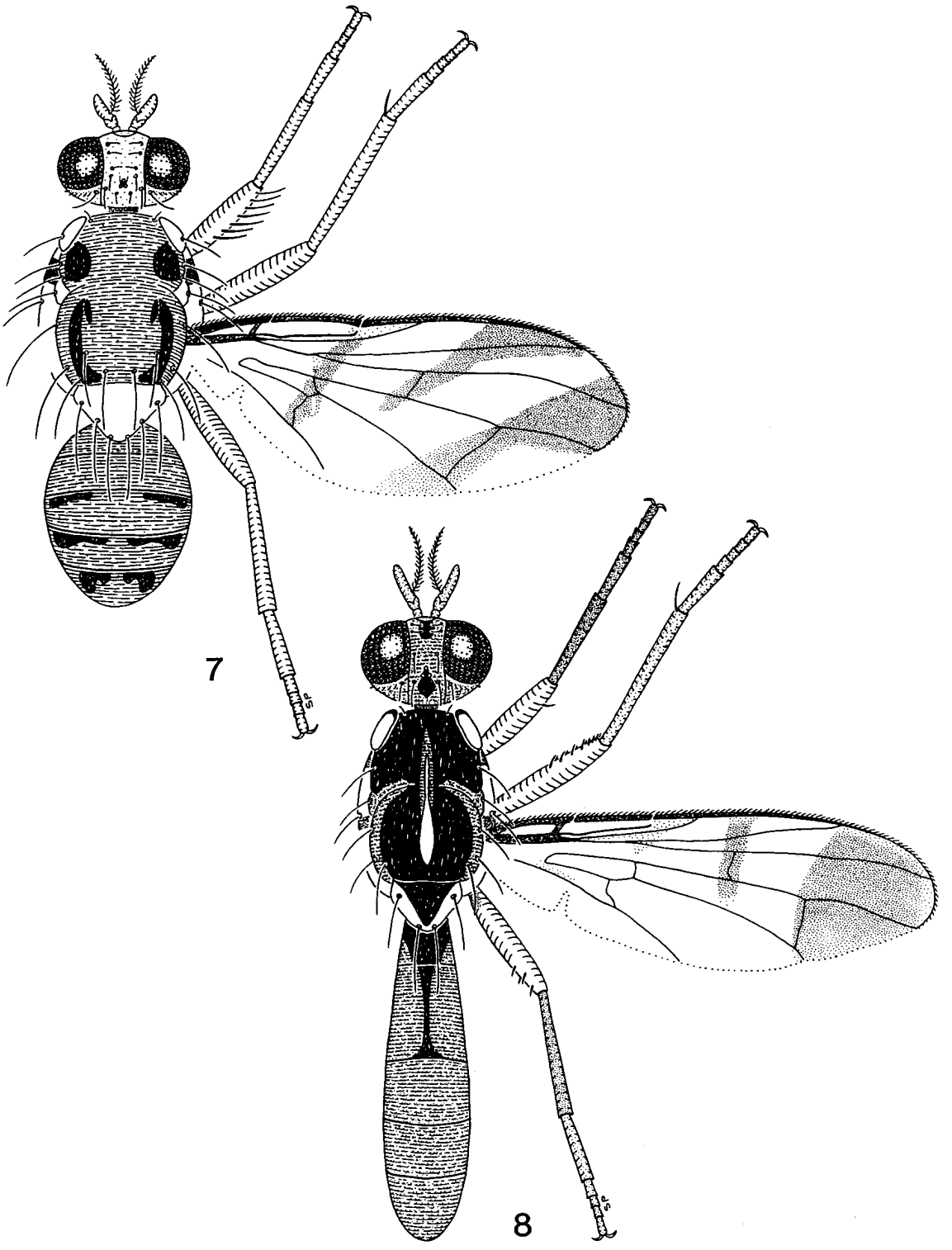
Tritaeniopteron tetraspilotum Hardy
(Fig. 7)

Tritaeniopteron tetraspilotum Hardy, 1973: 115 (males, females).
Tritaeniopteron elachispilotum Hardy, 1973: 115 (male) (syn. nov.).

Material examined. - THAILAND: 1 male, N.R.D.C., Chiang Mai, 25.vi.1991, Chantanee.

Distribution. - Thailand.

Remarks. - The biology of this species is unknown. The black thoracic and abdominal markings are a little variable in extent, particularly on the abdomen, and *T. elachispilotum* Hardy is placed in synonymy. Similar variation in *T. excellens* (Hendel) from Taiwan was noted by Shiraki (1933).



Figs. 7-8. Acanthonevrini and Adramini. 7, *Tritaeniopteron tetraspilotum,* male; 8, *Adrama determinata,* male.

Tribe Adramini

Adrama apicalis Shiraki

Adrama apicalis Shiraki, 1933: 44.
Adrama media Hering, 1941: 3(female) (syn. nov.).

Material examined. - THAILAND: 2 males, 2 females, Tone Ngha Chang, Hat Yai, 3. & 17.ix.1991, Anuchit *et al.*, bred from *Albizia procera*; 1 female, Sri-Banpot, Phatthalung, 4.ii.1993, Surakrai *et al.*, bred from *Albizia procera*.

Distribution. - N. India to Taiwan, Laos and Thailand.

Remarks. - The blackening of abdominal tergites IV and V varies in development, being absent in 2 females examined, and *A. media* Hering, described from Myanmar, is undoubtedly a synonym of *A. apicalis*. The above specimens were bred from pods of *Albizia procera* (Roxb.) Benth. (Leguminosae) (new record). Records of *A. determinata* (Walker) from Thailand (Hardy, 1973) belong to *A. apicalis* (Hardy, 1986a).

Adrama determinata (Walker)
(Fig. 8)

Dacus determinatus Walker, 1856b: 133.

Material examined. - MALAYSIA: 1 male, Larut Hills, Perak, 3700-4000', 11.ii.1932, H.M. Pendlebury; 6 males, 1 female, Hulu Langat, near Kuala Lumpur, 15.v.1992, D.L. Hancock.

Distribution. - Malaysia, Singapore, Indonesia and southern Philippines. Records from India to Thailand appear to be misidentifications.

Remarks. - Larvae of this species have been recorded infesting the seeds of tea (*Camellia sinensis*: Theaceae) in Indonesia (Hardy, 1986a).

Adrama rufiventris (Walker)

Enicoptera rufiventris Walker, 1861: 163.

Material examined. - THAILAND: 1 male, 1 female, Khas Pu-Khao Ya Nat. Park, Phatthalung, Songkhla, 3.iii.1992, Sieng *et al.*, bred from *Palaquium maingayi*.

Distribution. - Southern Thailand (new record) to the Philippines and Maluku (Indonesia).

Remarks. - The above specimens were bred from the fruit of *Palaquium maingayi* King and Gamble (Sapotaceae) (new record).

Tribe Euphrantini

Dimeringophrys pallidipennis Hardy

Dimeringophrys pallidipennis Hardy, 1973: 143 (female).
Tetrameringophrys parilis Hardy, 1973: 165 (female) (syn. nov.).

Material examined. - CHINA: 1 male, 1 female, Macao, xi.1906 [in BPBM]. THAILAND: 2 males, 1 female, Tone-Nga-Chang, Songkhla, 8.v.1991, R. Drew *et al.*, bred from *Artocarpus heterophyllus*.

Distribution. - Thailand, Laos, southern China (new record) and Philippines.

Remarks. - The development of the superior orbital and dorsocentral bristles is variable in this species, one of the above specimens from Macao matching *D. pallidipennis*, the other *T. parilis*, except that the wing pattern of both specimens is as in *D. pallidipennis*. It is doubtful if the darker markings noted for *T. parilis* by Hardy (1973) are significant and possibly represent staining. As a result of the above specific synonymy, *Tetrameringophrys* Hardy becomes a junior synonym of *Dimeringophrys* Enderlein (syn. nov.)

The Thai specimens were bred from *Artocarpus heterophyllus* Lamk. (Moraceae) (new record); in these, the dorsocentral and prescutellar bristles vary greatly in size.

Euphranta cassiae (Munro)
(Fig. 9)

Rhacochlaena cassiae Munro, 1938: 33.

Material examined. - INDIA: 1 male, 2 females, Bangalore, Karnataka, 916 m, 7.i.1988, G. Bhat, bred from *Cassia fistula*.

Distribution. - India.

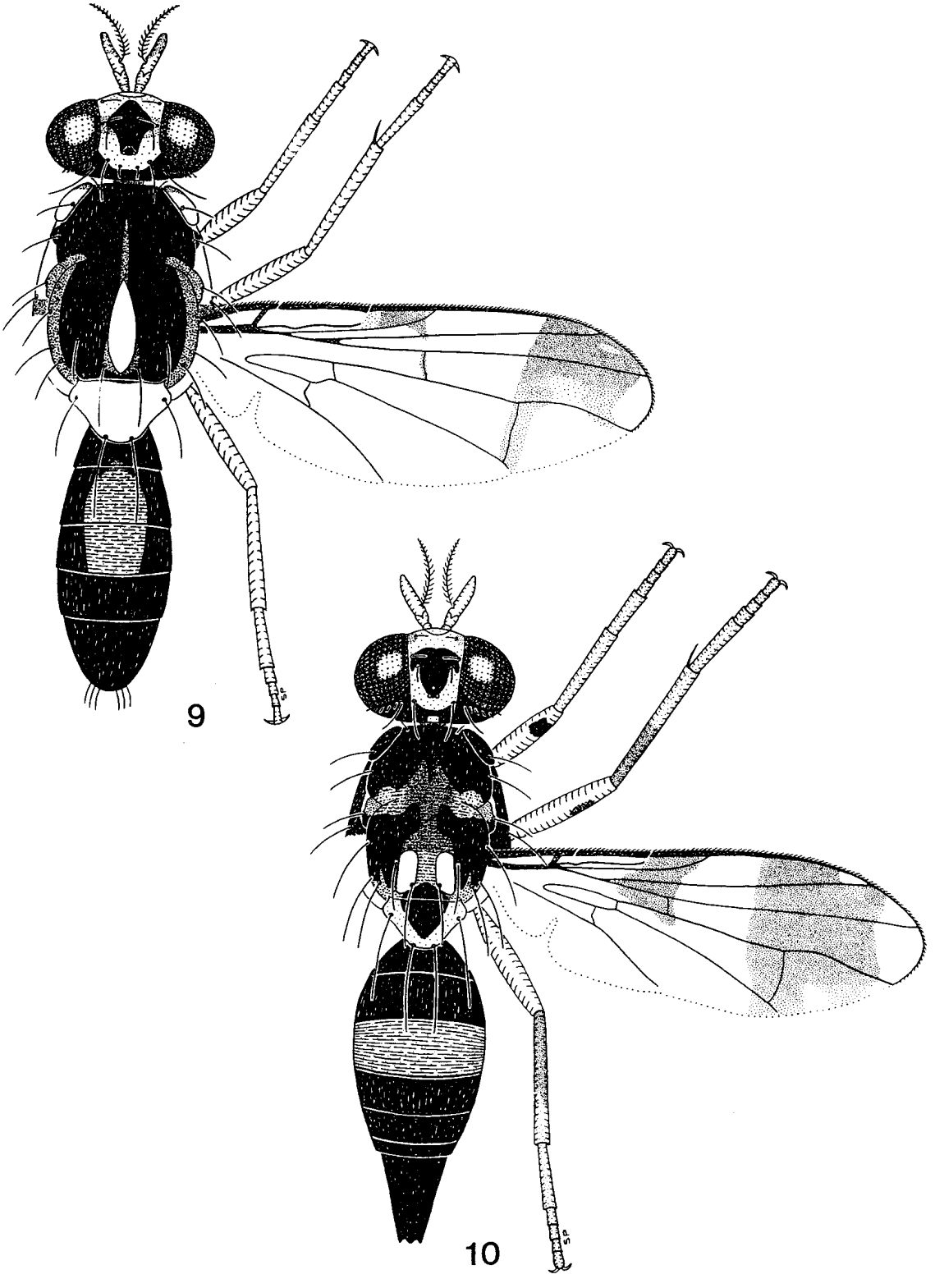
Remarks. - This species breeds in the pods of *Cassia fistula* Linn. (Leguminosae) (Munro, 1938). The face and legs are entirely fulvous and the mesopleural yellow areas extend to the humeral calli.

Euphranta corticicola (Hering)

Staurella corticicola Hering, 1952: 269.

Material examined. - THAILAND: 1 female, Tum Rusee, Doi Pui, Chiang Mai, 9.ix.1993, Chantanee *et al.*, bred from *Turpinia pomifera*.

Distribution. - Java, Malaysia, Thailand.



Figs. 9-10. Euphrantini. 9, *Euphranta cassiae,* male; 10, *E. maculifemur,* female.

Remarks. - The above specimen was bred from the fruit of *Turpinia pomifera* (Staphyleaceae) (new host record); it differs from *E. turpiniae*, new species, in the yellow scutellum, unspotted face, blackish-brown legs and oviscape and details of the wing pattern (Hardy 1973, 1983).

Euphranta maculifemur (de Meijere)
(Fig. 10)

Staurella maculifemur de Meijere, 1924: 39 (female).
Euphranta (Staurella) ormei Hardy, 1973: 156 (female) (syn. nov.).

Material examined. - MALAYSIA: 3 females, Ranchan Pool, Serian, [70 km SE of Kuching], Sarawak, 13.iii., 23.vi. & 10.xi.1992, S. Leong.

Distribution. - Sumatra, Peninsular Malaysia and Sarawak (new record). Records from Myanmar, Thailand and the Philippines are based on misidentifications.

Remarks. - This species has been misinterpreted in the literature (Hering, 1941; Hardy, 1973, 1974, 1983), being confused with *E. songkhla*, new species, or a similar species. De Meijere's (1924) original description and figure of *E. maculifemur*, from Sumatra, differ from *E. ormei* only in the presence of two hyaline spots in the submarginal cell subapical brown area and a small, narrow yellow spot along the upper margin of the mesopleura. Two of the examined specimens have the outer of these hyaline spots present (Fig. 10) and also the small yellow mesopleural spot. Hyaline spots in the submarginal cell may be present or absent in related species (e.g. *E. songkhla*) and this does not appear to be a specific character. The face lacks a dark patch in this species and the mesonotal suture has a pale yellowish area anteriorly on each side. The male has not been recorded.

Euphranta myxopyrae, new species
(Fig. 11)

Material examined. - Holotype male [NHML], THAILAND: Khaokitchagoot, T. Pluang, A. Makham, Chanthaburi, 10.xii.1991, Montree, bred from *Myxopyrum smilacifolium*.

Paratypes - 6 males, 2 females, same data as holotype but 7.i.1992. [1 in NHML, 7 in QDPI].

Description. - Male: Length of body 7.0 mm; of wing 5.9 mm.

Head with frons shining fulvous at sides, red-brown centrally, with a large semicircular black marking extending to and enclosing ocellar triangle; bristles black, 2 widely separated inferior orbitals, 1 superior orbital. Lunule small, semicircular. Ocellar triangle black, ocellar bristles absent; postocellars present. Vertex with inner and outer vertical bristles present; postverticals absent. Genal bristle present. Face whitish at sides, pale yellow centrally, with a large quadrate black medial spot in lower half, almost touching mouth border. Antennae fulvous, short, third segment apically rounded, arista abraded. Occiput flat, largely black, orange-brown medially, ventrally and as a small spot behind eye below the row of thin, black occipital bristles.

Thorax with mesonotum black except medial area and before suture dark red-brown overlaid with silvery pubescence; posterior two-thirds of humeri and a large medial area before the scutellum, bounded by dorsocentral and prescutellar bristles, yellow; notopleural calli yellow-brown to yellow. Pleura black; mesopleura with a large sub-triangular yellow area reaching level of anterior notopleural bristle. Pleuroterga with long, fine hairs. Postnotum black. Scutellum yellow, with a broad brown band at base. Bristles well developed and black: 4 scapulars, 1 humeral, 2 notopleurals, 1 anterior supra-alar, 2 posterior supra-alars, 2 dorsocentrals, 2 prescutellars, 1 mesopleural, 1 pteropleural, 1 sternopleural, 4 scutellars; dorsocentrals placed a little behind the line of anterior supra-alars; presuturals absent. Legs fulvous except middle and hind tibiae brown, paler apically; middle tibiae with an apical black spine. Halteres pale fulvous. Wing with no distinct costal bristle at base of stigma; vein R_1 setose; vein R_{4+5} with a few setae at base; r-m crossvein a little before middle of discal cell; anal cell acuminate. Wing pattern (Fig. 11) hyaline with submarginal cell fulvous and brown markings in stigma, subapically and as a band from vein R_{4+5}, along dm-cu crossvein to margin; apex with a whitish spot.

Abdomen elongate-oval; shining black above with a medial broad red-brown band on terga I to IV; sternites red-brown. Male genitalia with surstylus apically rounded.

Female: similar to male except wing pattern less defined, the subapical area, from a little before level of m-cu crossvein, yellowish-brown except for the whitish apical spot and paler in marginal portion of cell M. Abdomen with terga V and VI orange-brown with dark submedial patches, tergite VI a little over half length of tergite V; oviscape black, as long as terga IV and V combined; aculeus not exposed.

Remarks. - The type specimens were bred from the fruit of *Myxopyrum smilacifolium* Bl. (Oleaceae). It probably attacks the seeds.

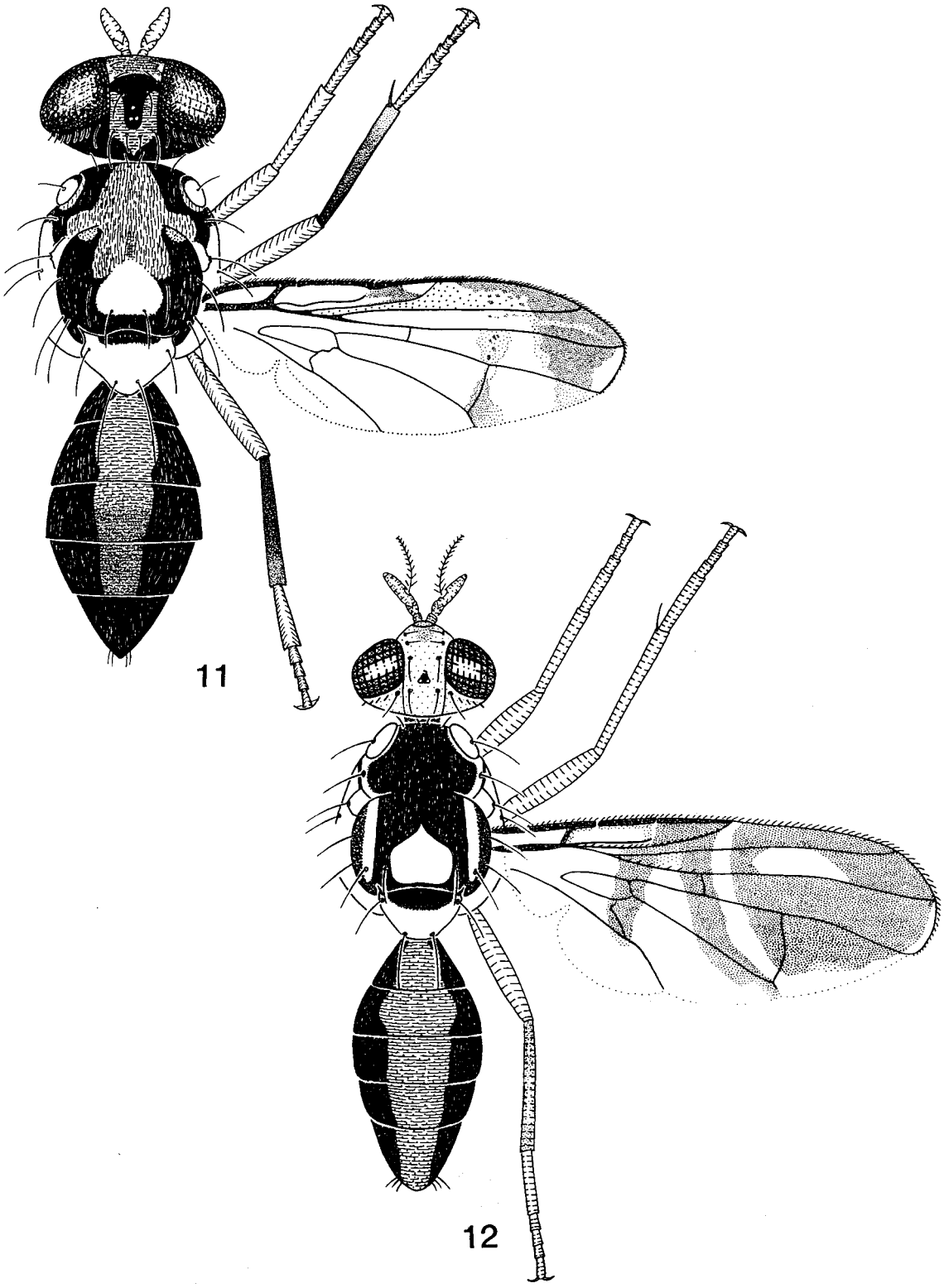
Euphranta signatifacies Hardy
(Fig. 12)

Euphranta signatifacies Hardy, 1981: 71.

Material examined. - THAILAND: 7 males, 8 females, Phang Nga Bay, Phang Nga (near Phuket), 6.viii.1993, Sieng *et al.*, bred from *Avicennia officinalis*; 4 males, 2 females, Wat-Suwan Ku-Ha, Phang Nga, 13.x.1993, Anuchit *et al.*, bred from *Rhizophora mucronata*.

Distribution. - Peninsular Malaysia and southern Thailand (new record).

Remarks. - The above specimens were bred from the fruit of the mangroves *Avicennia officinalis* Linn. (Avicenniaceae) and *Rhizophora mucronata* Lam. (Rhizophoraceae) (new host records).



Figs. 11-12. Euphrantini. 11, *Euphranta myxopyrae,* new species, male; 12, *E. signatifacies,* male.

Euphranta solaniferae, new species
(Fig. 13)

Material examined. - Holotype male [NHML], THAILAND: Khun Tan National Park, Chiang Rai, 8.i.1992, Charuwan, bred from *Solanum trilobatum*.

Paratype male, same data as holotype [in QDPI].

Description. - Male: Length of body 5.8 mm; of wing 5.2 mm.

Head as for *E. myxopyrae* except occiput with the small orange-brown spot behind the eye connected to the ventral orange-brown area, not surrounded by black.

Thorax with mesonotum as for *E. myxopyrae* except medial area darker, blackish beneath the silvery pubescence, red-brown before the suture. Pleura, postnotum, scutellum and bristles as for *E. myxopyrae*. Legs as for *E. myxopyrae* except fore femora with a brown subapical spot posteriorly. Wing with no distinct costal bristle at base of stigma; vein R_1 setose; vein R_{4+5} with a few setae at base; r-m crossvein a little beyond middle of discal cell; anal cell acuminate. Wing pattern (Fig. 13) hyaline with brown stigma and subapical area and 2 brown crossbands, one from stigma, across r-m crossvein to upper part of discal cell, one from costa, through dm-cu crossvein to wing margin; apex with a whitish spot.

Abdomen elongate-oval; shining black above with a medial broad red-brown band on terga I to IV; sternites fulvous. Male genitalia with surstylus apically rounded.

Female: unknown.

Remarks. - The type specimens were bred from the fruit of *Solanum trilobatum* Linn. (Solanaceae). It appears to be closely related to *E. myxopyrae*, differing primarily in wing markings.

Euphranta songkhla, new species
(Fig. 14)

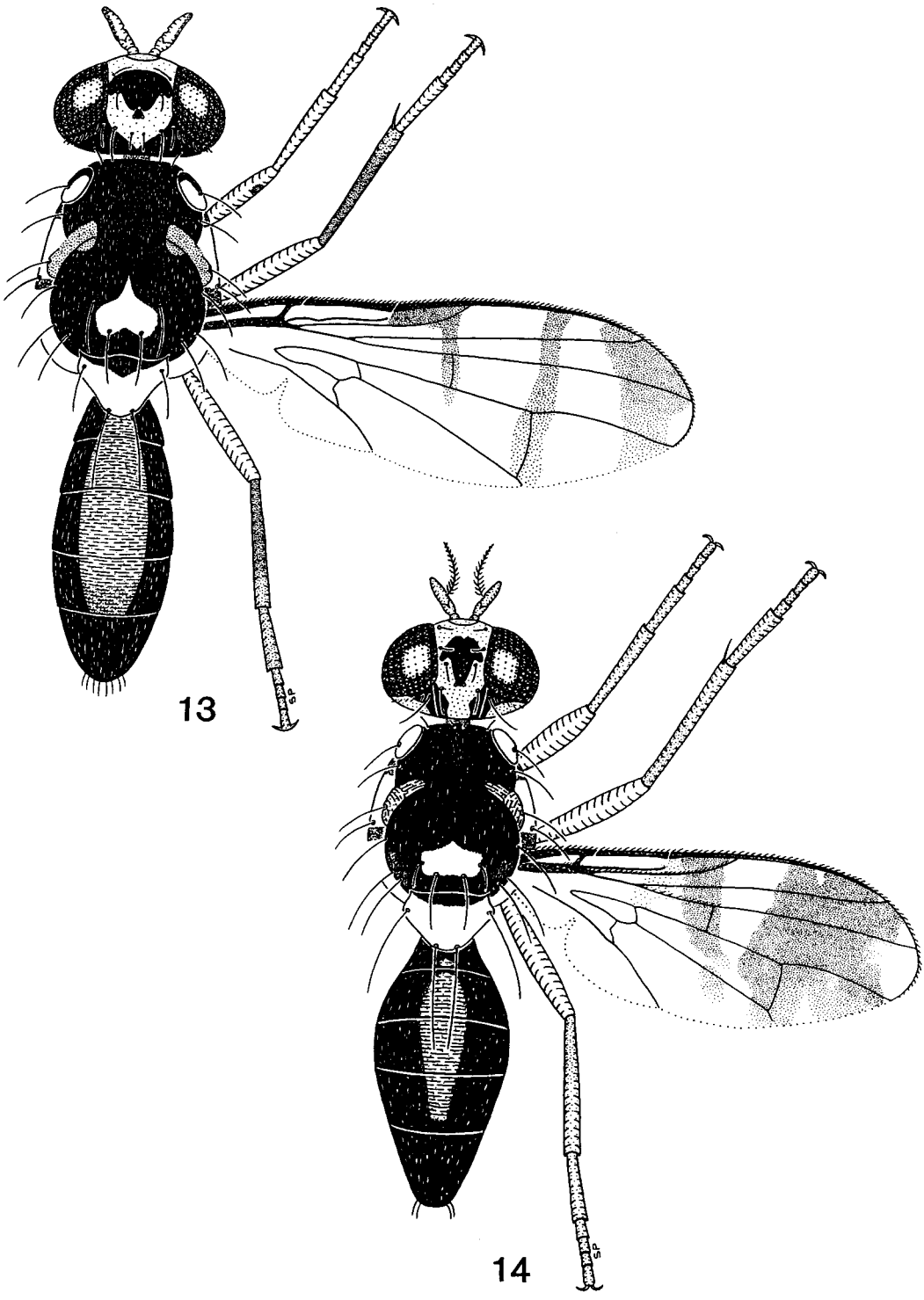
Material examined. - Holotype male [NHML], THAILAND: Kachong Nat. Park, Trang, Songkhla, 30.v.1992, Sieng *et al.*, bred from *Linociera ramiflora*.

Paratypes - 9 males, 5 females, same data as holotype [2 in NHML, 12 in QDPI].

Description. - Male: Length of body 6.9 mm; of wing 5.4 mm.

Head as for *E. myxopyrae* except occiput with the ventral half entirely fulvous, the black areas reduced, and face with the black ventral spot smaller, rectangular, not reaching the mouth border.

Thorax with mesonotum as for *E. myxopyrae* except medial area darker, blackish beneath the silvery pubescence, yellowish brown before the suture. Pleura, postnotum, scutellum and bristles as for *E. myxopyrae*. Legs as for *E. myxopyrae* except first tarsal segment of



Figs. 13-14. Euphrantini. 13, *Euphranta solaniferae,* new species, male; 14, *E. songkhla,* new species, male.

foreleg flattened ventrally, as in *E. maculifemur*, the flattened area slightly hollowed and fuscous. Wing with no distinct costal bristle at base of stigma; vein R_1 setose; vein R_{4+5} with a few setae at base; r-m crossvein slightly before middle of discal cell; anal cell acuminate. Wing pattern (Fig. 14) hyaline with a brown central band extending from stigma to below discal cell, weakly interrupted in the cell and paler posteriorly; base of stigma and below yellowish; a large, subapical brown area, its basal edge straight from costa to discal cell, occasionally weakly connected in discal cell to central band, and often with weak, pale indentations in submarginal cell and cell M; apex with a large whitish spot extending above vein R_{4+5}.

Abdomen elongate-oval; shining black above with a medial red-brown band on terga I to IV, sometimes apex of tergite IV also black; sternites red-brown. Male genitalia with surstylus apically rounded.

Female: Similar to male. Abdomen with terga V and VI orange-brown with dark submedial patches; tergite VI a little over half length of tergite V; oviscape black, as long as terga IV and V combined; aculeus similar to *E.linocierae* but with the subapical pair of dentations rounded, not distinct.

Remarks. - This species appears closely related to *E. balteata* Hardy and *E. brunneifemur* Hardy, particularly with regard to the shape of the first tarsal segment on the foreleg. It differs from both these and other similar species in wing pattern. The type specimens were bred from the fruit of *Linociera ramiflora* (Roxb.) Wall. ex G. Don (Oleaceae). Like the related *E. linocierae* Hardy, it probably breeds in the seeds. Records of *E. maculifemur* (de Meijere) from NE Thailand and the Philippines (Hardy, 1973, 1974) and Myanmar (Hering, 1941) appear to be misidentifications of this or a closely related species.

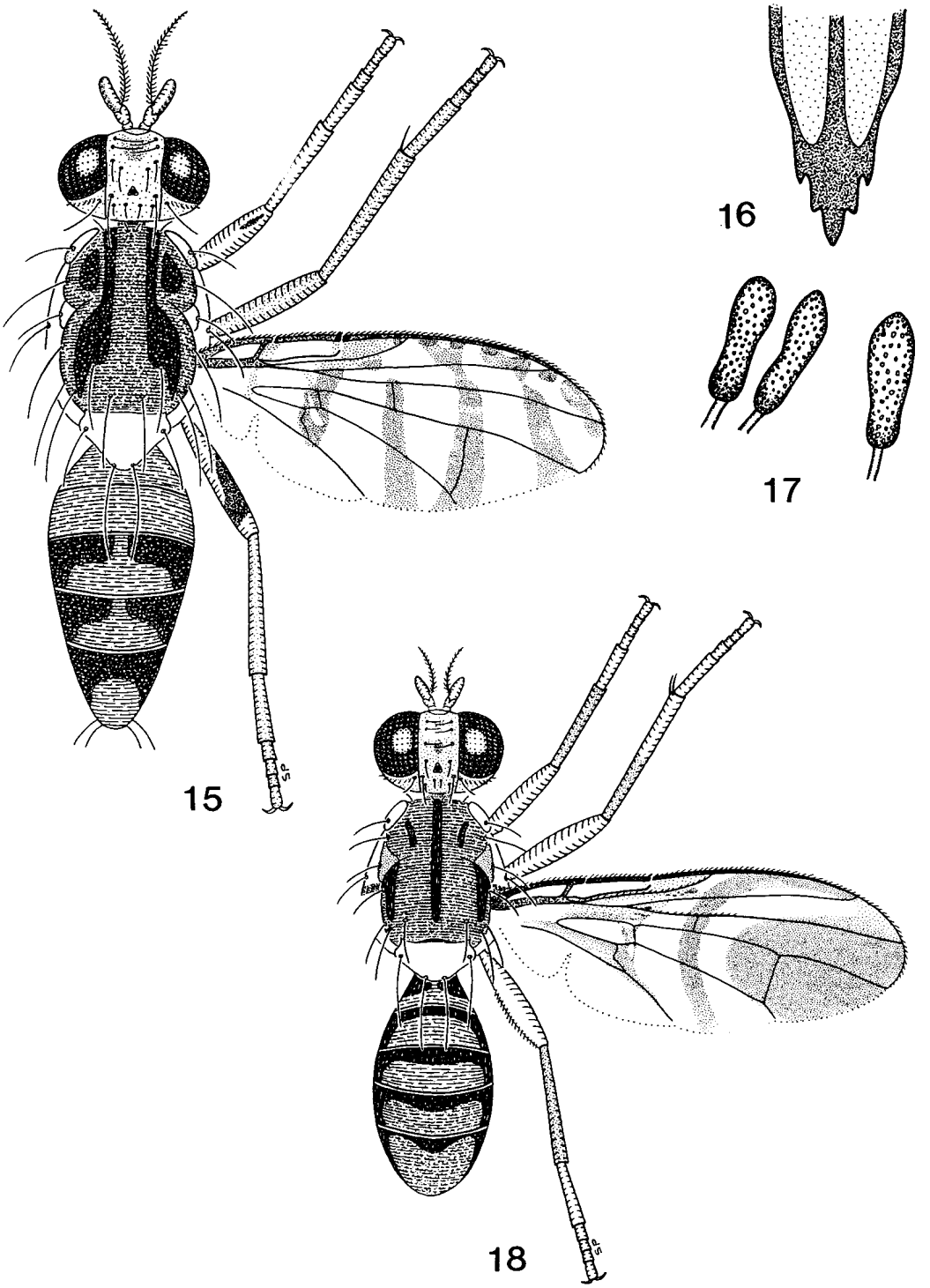
Euphranta turpiniae, new species
(Figs. 15-17)

Material examined. - Holotype male [NHML], THAILAND: Doi Pui, Chiang Mai, 17.x.1991, Chantanee, bred from *Turpinia pomifera*.

Paratypes - THAILAND: 6 males, 4 females, same data as holotype but dated 20.ix.1991 (3 males, 2 females), 4.x.1991 (1 male, 2 females), 12.x.1991 (2 males); 1 female, Doi Suthep, Chiang Mai, 29.viii.1991, Chantanee, bred from *Turpinia pomifera*; 2 females, Tum Rusee, Doi Pui, Chiang Mai, 29.x.1992 & 9.ix.1993, Chantanee, bred from *Turpinia pomifera*; 1 female, Khun Khon Nat. Park, Chiang Rai, 16.vii.1992, Charuwan, bred from *Symplocos racemosa*. [2 in NHML, 12 in QDPI].

Description. - Male: Length of body 7.8 mm; of wing 7.4 mm.

Head fulvous. Frons pubescent, with a darker central patch; bristles black, 3 inferior orbitals, the upper very close to the 1 superior orbital. Lunule small, semicircular. Ocellar triangle black, ocellar bristles weak, hair-like, postocellars present. Vertex with inner and outer vertical bristles present, postverticals present, weak. Genal bristle present. Occiput flat, with a row of thin, black occipital bristles. Face fulvous, with a black band ventrally, often pale or interrupted centrally. Antennae with third segment apically rounded; arista plumose.



Figs. 15-18. Euphrantini and Trypetini. 15-17, *Euphranta turpiniae,* new species: 15, male; 16, tip of aculeus; 17, spermathecae; 18, *Callistomyia pavonina,* male.

Thorax with mesonotum red brown, palest medially and with blackish-brown lateral markings. Humeral and notopleural calli and a narrow stripe along top of mesopleura yellowish to whitish; pleurae yellowish-brown, sternopleura darker ventrally. Pleuroterga with long, fine hairs. Postnotum red-brown to brown. Scutellum yellow-brown, with fine dark pubescence. Bristles well developed and black: 4 scapulars, 1 humeral, 2 notopleural, 1 anterior supra-alar 2 posterior supra-alar, 2 dorsocentrals, 2 prescutellars, 2 mesopleural, 1 pteropleural, 1 sternopleural, 4 scutellars; dorsocentrals placed midway between anterior supra-alar and prescutellars; no presutural. Legs fulvous except fore femora with a brown subapical streak and hind femora with apical half to two-thirds (except for extreme apex) largely brown; hind tibia also often darkened; fore femora with a row of dorsal and a few ventral black setae; middle tibiae with an apical black spine. Halteres pale fulvous. Wing with no distinct costal bristle at base of stigma; vein R_1 setose; vein R_{4+5} setulose to level of dm-cu crossvein; r-m crossvein situated at middle of discal cell; anal cell acuminate. Wing pattern (Fig. 15) hyaline with stigma yellow-brown to brown and brown bands as follows: costally, from stigma to apex, interrupted by yellowish or hyaline spots and often with darker spots within the band; transversely, 4 bands from base of stigma, across r-m crossvein, through dm-cu crossvein and subapically, the latter 3 expanding posteriorly and reaching wing margin.

Abdomen elongate-oval; terga I and II fulvous, terga III to V red-brown with variably sized blackish areas laterally; apex of tergite V red-brown and with dark setae. Sternites fulvous. Male genitalia with surstylus slender, apically rounded.

Female: as for male. Abdomen with tergite VI a little over half length of tergite V; oviscape fulvous, about equal in length to terga IV to VI combined; aculeus (Fig. 16) apically dentate; 3 elongate spermathecae (Fig. 17).

Remarks. - The specimens from Chiang Mai were bred from the fruit of *Turpinia pomifera* (Staphyleaceae), that from Chiang Rai from the fruit of *Symplocos racemosa* Roxby (Symplocaceae). This latter host requires confirmation. *E. turpiniae* appears to be related to *E. corticicola* (Hering) but has a different wing pattern.

Ptilona confinis (Walker)

Rioxa confinis Walker, 1856b: 132.

Material examined. - MALAYSIA: 2 males, 1 female, Ulu Langet [near Kuala Lumpur], vii.1988, C.S. Ooi.

Distribution. - India and southern China to Philippines and Indonesia.

Remarks. - The above specimens were attracted to cut bamboo shoots; the species breeds in the stems.

Ptilona persimilis Hendel

Ptilona persimilis Hendel, 1915: 446 (male, female).
Ptilona maligna Hering, 1938: 51 (male).
Ptilona conformis Zia, 1965: 217 (male, female) (syn. nov.)

Material examined. - CHINA (TAIWAN): 1 female, Meishan, Chiayi, 14.x.1978, Y.H. Tseng. MALAYSIA: 1 female, Pangsoon, Hulu Langat, [near Kuala Lumpur], 26.ix.1990, D.L. Hancock.

Distribution. - Taiwan, China, Myanmar, Thailand, Laos and Malaysia (new record).

Remarks. - As noted by Yen *et al.* (1979), *P. maligna* Hering, described from Myanmar, is a synonym of *P. persimilis*, as is *P. conformis* Zia from China. This is a smaller species than *P. confinis* and has the legs more extensively blackened. In the above specimens the small hyaline spot in cell R_{4+5} is variable in shape and is placed before the dm-cu cross-vein. Both were collected at bamboo, the latter at cut shoots.

Tribe Rivelliomimini

Ornithoschema flavum (Hardy), new combination

Cycasia flava Hardy, 1973: 168.

Remarks. - The genera *Ornithoschema* de Meijere and *Cycasia* Malloch were synonymized by Hancock (1991). As a result, the above new combination for *C. flava* Hardy becomes necessary. This species occurs in Thailand.

Tribe Trypetini

Callistomyia pavonina Bezzi
(Fig. 18)

Callistomyia pavonina Bezzi, 1913: 125.

Material examined. - CHINA: 2 females, Luichow Penin., ix. 1950, J.L. Gressitt [in UH]. HONG KONG: 1 female, Sai Kung Station, N.T., 7.v.1965, W.J. Voss & Hui Wai Ming, malaise trap [in UH]. THAILAND: 133 males and females from Pattani and Narathiwat, Songkhla district, bred from *Glycosmis pentaphylla*; 2 males, Haewnarok, Pakphili, Nakhonnayok, 29.i.1993, Anuchit; 2 females, Khun Khon Nat. Park, Chiang Rai, 2.vii.1992, Charuwan, bred from *Glycosmis puberula*; 1 male, Narathiwat, 27.xi.1992, Surakrai *et al.*, bred from *Clausena excavata*.

Distribution. - India and China to Indonesia.

Remarks. - This species breeds in the fruit of *Glycosmis pentaphylla* (Retz.), *G. puberula* Lal. and *Clausena excavata* Burm. (Rutaceae) (new records). Both presutural and prescutellar bristles are lacking and specimens occur with the black facial markings absent. Records of *C. flavilabris* Hering from Malaysia (Hardy, 1973) appear to be of *C. pavonina*. Hosts mentioned by Hardy (1973, 1988) are likely to be sites of capture rather than breeding records; they have not been repeated.

Carpomya vesuviana A. Costa

Carpomya vesuviana A. Costa, 1854: 87.
Carpomyia zizyphae Agarwal and Kapoor, 1985: 60 (female) (syn. nov.)

Material examined. - THAILAND: 150 males and females from Chiang Mai, Rayong, Chanthaburi and Petchaburi, bred from *Ziziphus jujuba*; Chiang Mai, bred from *Z. rotundifolia*; Yala, Narathiwat, Phatthalung and Pattani, bred from *Z. mauritiana*.

Distribution. - Europe to southern Thailand; newly recorded from the peninsular region of Thailand. Introduced to Mauritius and Réunion.

Remarks. - Agarwal and Kapoor (1985) described *C. zizyphae* from 1 female bred from *Ziziphus* sp. at Seikhupura, India, distinguishing it from specimens of *C. vesuviana* bred from the same sample by differences in the black thoracic and scutellar markings. We consider these differences to be no more than aberrational. The distinctive black medial mesonotal markings seen in Agarwal and Kapoor's (1985) figure are also present in some specimens of *C. vesuviana* we have examined from Chiang Mai, Thailand, ex *Z. jujuba*.

The fruit of *Ziziphus jujuba* Miller, *Z. rotundifolia* Lam. and *Z. mauritiana* Lam. (Rhamnaceae) are utilized as hosts in Thailand.

The *Myoleja* complex of genera

The complexities of this group of genera have been discussed by Hardy (1987) and recently reviewed by Han (1992), who redefined the limits of *Myoleja* Rondani and related genera such as *Anomoia* Walker, *Vidalia* Robineau-Desvoidy, *Hoplandromyia* Bezzi, *Acidiella* Hendel and *Philophylla* Rondani. The latter two genera were regarded as synonyms of *Myoleja* by Hardy (1987) but are now known to be distinct.

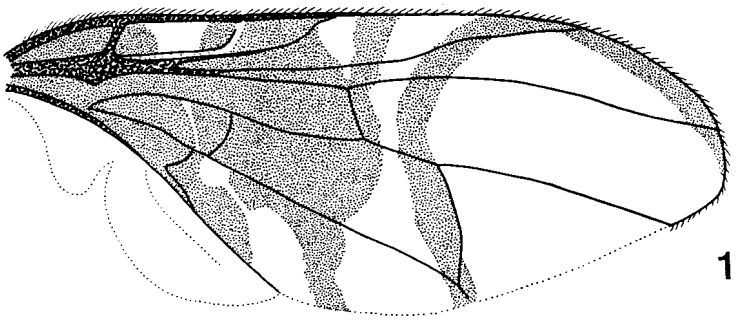
Many of the species included in this group breed in berries or other small fruits. Some breed in other parts of their hosts, e.g. *Anomoia alboscutellata* (van der Wulp) in green twigs of coffee (*Coffea* sp.: Rubiaceae) in Java, *Philophylla caesio* (Harris) in leaf petioles of Urticaceae in Europe, and *Hoplandromyia madagascariensis* Hancock in leaf mines of Rubiaceae in Madagascar.

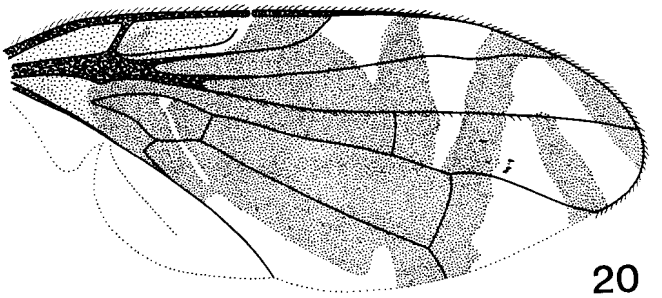
Anomoia pusilla (Hering)
(Fig. 19)

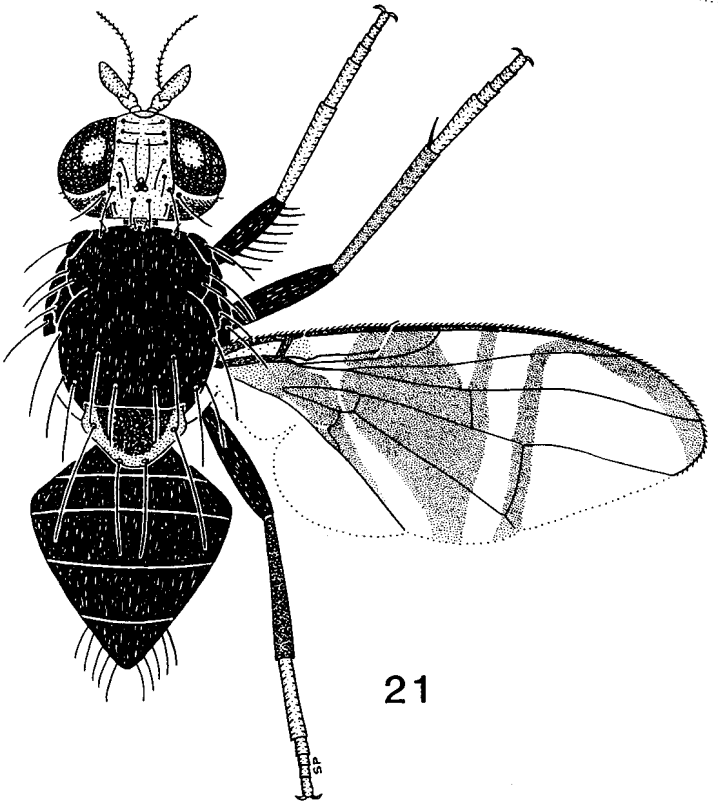
Phagocarpus pusillus Hering, 1938: 23.

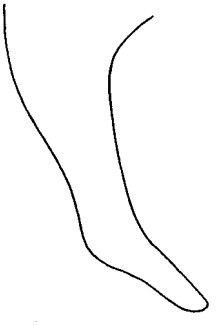
Material examined. - THAILAND: 2 males, Thone Nga Chang, Hat Yai, Songkhla, 24.ix.1991, Anuchit *et al.*, bred from *Ilex cymosa*.

Distribution. - Myanmar and Thailand (new record).









Figs. 19-22. Trypetini. 19, *Anomoia pusilla,* male wing; 20, *Philophylla connexa;* male wing; 21-22, *Philophylla indica,* new species: 21, male; 22, surstylus.

Remarks. - The above specimens agree with Hering's (1938) diagnosis of *A. pusilla*, except that the C-shaped subapical band is weakly or strongly connected in cell R_5. They were bred from the fruit of *Ilex cymosa* (Aquifoliaceae) (new record). The specimen from Vietnam [in BPBM] recorded by Hardy (1973) appears to belong to a separate species; it has the axillary lobe largely pale brown and the dark band across the dm-cu crossvein directed towards the basal dark patch.

Philophylla connexa (Hendel)
(Fig. 20)

Pseudospheniscus connexa Hendel, 1915: 453.

Material examined. - MALAYSIA: 4 males, 3 females, Majang, Kota Samarehan, Sarawak, 24.iv.1992, S. Leong, bred from *Premna cordifolia*; 2 females, Rimba Ilmu, Univ. Malaya, Kuala Lumpur, 29.v.1991, Yong Hoi-sen.

Distribution. - Taiwan, Philippines, Malaysia (new record).

Remarks. - This species is similar to *P. conjuncta* (de Meijere) but differs in wing pattern details, especially apically, the hyaline areas being broader in *P. connexa* and aligned differently. The wing markings are a little variable; the first hyaline indentation from costa in marginal cell often extends to vein R_{4+5} at or just before r-m crossvein, and the second often extends into the discal cell below vein M; the subapical brown band is sometimes weakly joined to the transverse band through dm-cu crossvein along vein R_{4+5} and the brown area in cell CuA_1 often reaches the wing margin, leaving the hyaline spot before apex of vein CuA_1 isolated. The Kuala Lumpur specimens were bred from the fruit of *Premna* sp., the Sarawak specimens from the fruit of *Premna cordifolia* (Verbenaceae) (new records). Malloch (1939) recorded *P. conjuncta* (as *apicifasciatus* Malloch) from *Premna integrifolia* in the Solomon Islands.

Philophylla fossata (Fabricius)

Tephritis fossata Fabricius, 1805: 320.

Material examined. - MALAYSIA: 16 males, Tarat [near Kuching], Sarawak, 16.vii.1977, B.H. Voon, at methyl eugenol; 5 males, Semongok Forest Reserve [near Kuching], Sarawak, 16.vii.1977, B.H. Voon, at methyl eugenol; 60 males, Tarat Agric. Station, near Kuching, 6.iii., 19-28.v., 5-15.vi., 8-15.vii.1992; 6 males, Kpg. Tema Muwang, Tebedu, near Kuching, 27.iv., 5-23.vi.1992; 2 males, Semongok, near Kuching, 5.vi. & 15.vii.1992; 1 male, Ranchan Pool, Serian, near Kuching, 8.vii.1992; all collected by S. Leong, at methyl eugenol. INDONESIA: 3 males, Ruteng Forest, S. Ruteng, 1000-1350 m, Flores, 24.vi.1981, J. Turner. THAILAND: 10 males, 5 females, Than To, Yala, Songkhla, 5.vii.1991, Anuchit *et al.* and 23.vii.1992, Sieng *et al.*, bred from *Callicarpa arborea*; 1 male, 2 females, Khao Nui, Rattaphum, Songkhla, 23.i.1992, Sieng *et al.*, bred from *Clerodendrum wallichii*; 1 male, Ban Kok Chang, Yala, Songkhla, 29.xi.1991, Anuchit *et al.*, bred from *Callicarpa arborea*; 4 males, 5 females, Yala, 3.ix.1992, Anuchit *et al*, bred from *Callicarpa longifolia*; 6 males, 10 females, Ko Yo, Songkhla, 2.x.1991, Anuchit *et al.*, and 7.x.1992, Vanpen *et al*, bred from *Callicarpa longifolia*; 2 males, Rattaphum, Songkhla, 18.vi.1992, Sieng *et al.*, bred from *Callicarpa longifolia*; 4 males, 4 females, Si Bun Pot, Phatthalung, Songkhla, 1.x.1992, Anuchit *et al.*, bred from *Callicarpa longifolia*; 4 females, Sikao, Trang, 26.ii.1993, Surakrai *et al.*, bred from *Clerodendrum venosum*; 1 male, N.R.D.C., Chiang Mai, 10.x.1991, Chantanee, at methyl

eugenol; 3 males, 1 female, Mae Hae, Chiang Mai, 12.i.1993, Chantanee, bred from *Clerodendrum glandulosum*; 2 males, 1 female, Khun Khon Nat. Park, Chiang Rai, 5.xi. & 25.xii.1992, Charuwan.

Distribution. - India to Japan and Solomon Islands.

Remarks. - Males respond to methyl eugenol. Bred from fruit of *Callicarpa longifolia* Lamb., *C. arborea* Roxb., *Clerodendrum wallichii* Merr., *C. venosum* Wall. ex C.B. and *C. glandulosum* Colebr. ex Ldl. (Verbenaceae) in Thailand (new records). Specimens from *Clerodendrum* are noticeably larger than those from *Callicarpa*. In some specimens, the hyaline transverse band between r-m and dm-cu crossveins does not reach the hind margin of the wing.

Philophylla indica, new species
(Figs. 21-22)

Material examined. - Holotype male [NHML], INDIA: Kemmannugundi, near Tarikere, 1400 m, [Western Ghats], 21.v.1992, D.L. Hancock.

Paratypes - 5 males, same data as holotype. [1 in NHML, 4 in QDPI].

Description. - Male: Length of body 5.0 mm; of wing 5.3 mm.

Head red-brown. Frons with bristles well developed and black; 3 inferior orbitals, 2 superior orbitals. Lunule large, semicircular. Ocellar triangle black, ocellar bristles well developed; postocellars present. Vertex with inner and outer vertical bristles present, postverticals present. Cenal bristle present. Occiput flat, with a row of thin black occipital bristles. Face red brown, with whitish dust. Antennae shorter than face, red-brown; third segment apically rounded; arista with long pubescence.

Thorax with mesonotum shining grey-black. Humeral calli brown, tinged yellowish. Pleura black. Pleuroterga without hairs. Postnotum black. Scutellum dark reddish-brown on disc, yellow-brown at sides and below, with fine dark lateral pubescence. Bristles well developed and black: 4 scapulars, 1 humeral, 2 notopleural, 1 presutural, 1 anterior supra-alar, 2 posterior supra-alars, 2 dorsocentrals, 2 prescutellars, 2 mesopleural, 1 pteropleural, 1 sternopleural, 4 scutellars; dorsocentrals placed behind line of anterior supra-alars. Legs with mid and hind femora and posterior surface of fore femora blackish-brown, anterior surface of fore femora red-brown, tibiae and tarsi fulvous; fore femora with a row of black setae posteriorly; middle tibiae with an apical black spine. Halteres blackish-brown. Wing with an indistinct costal bristle at base of stigma; vein R_1 setose; vein R_{4+5} setose to r-m crossvein; r-m crossvein beyond middle of discal cell; dm-cu crossvein not strongly inclined; anal cell acuminate. Wing pattern (Fig. 21) dark brown in basal part, with first costal cell fulvous, a hyaline triangular indentation in second costal cell, connected weakly to the elongate hyaline indentation in cell CuA_1, and a triangular hyaline indentation in marginal cell beyond stigma from costa to r-m crossvein; apical part of wing hyaline with a brown C-shaped band along costa to apex and through dm-cu crossvein to wing margin; axillary lobe hyaline.

Abdomen oval-triangular; black; tergite V with long subapical setae. Male genitalia with surstylus slender (Fig. 22), the anterior lobe broadly flattened, the posterior lobe elongate and pointed.

Female: unknown.

Remarks. - The wing pattern in *P. indica* is very similar to that of *Anomoia alboscutellata* from Indonesia. Records of the latter from Uttar Pradesh, India (Hardy, 1987) probably belong to *P. indica*, whilst that from Myanmar (Bezzi, 1913) appears to be of *P. nigrescens* (Shiraki). In *A. alboscutellata* the scutellum is yellow. From related species such as *P. erebia* (Hering), *P. taylori* (Malloch), *P. ravida* (Hardy) and *P. nigrescens*, this species differs in the black femora and wing pattern details, particularly the shape of the hyaline indentation in the second costal cell.

Philophylla kraussi (Hardy), new combination

Anomoia kraussi Hardy, 1973: 238.

Material examined. - MALAYSIA: 21 males and females, Teram Liñang, Kelantan, 16.viii.1986, Mahadzir, Tony; 1 male, Hulu Langat, Kuala Lumpur, 26.iii.1989, C.S. Ooi. THAILAND: 300 males and females from Songkhla district, bred from *Gmelina elliptica* and *G. philippensis*; 8 males and females, Kanchanaburi, 21.iv.1992, Yuthana, bred from *Gmelina* sp.; 29 males and females, Putonnam, Saiyokyai, Kanchanaburi, 31.v.1991, Montree.

Distribution. - Peninsular Malaysia, Thailand (new record) and Vietnam.

Remarks. - This species breeds in the fruit of *Gmelina* species, such as *G. elliptica* Smith and *G. philippensis* Cham. (Verbenaceae). Han (1992) noted that this species did not belong in *Anomoia* and transferred it to a new genus close to *Philophylla*; pending formal description of that genus we provisionally include *P. kraussi* in *Philophylla*

Philophylla superflucta (Enderlein)

Trypeta superflucta Enderlein, 1911: 428.

Material examined. - HONG KONG: 1 female, Lantau Is, Trappist Monastery to Silver Mine Bay, 20-22.vii.1964, W.J. Voss [in BPBM].

Distribution. - Ryukyu Is., Taiwan, Hong Kong (new record), Philippines, East Malaysia, Singapore and Indonesia.

Remarks. - This species breeds in the seeds of *Clerodendrum inerme* (Verbenaceae).

Genera *Vidalia* Robineau-Desvoidy and *Hoplandromyia* Bezzi

These two genera are currently characterized by the presence of only one pair of small superior orbital bristles and three or four pairs of inferior orbital bristles, the two lower pairs in males typically on prominent tubercles, greatly enlarged and flattened (Hardy, 1987). Munro (1938) recognized three groups within *Vidalia*. Two of these groups have *Trypeta*-like wing patterns, an anteriorly produced frons and larvae which mine the leaves

of Compositae. These appear not to belong in this genus and were placed in new genera by Han (1992). The third group has the inferior orbital bristles situated towards the middle of the frons, the anterior sides having retreated, and it appears to be this group to which the name *Vidalia* properly applies.

Within this latter group, Munro (1938) recognized two types of wing pattern, a "*Euleia*" pattern for the Asian species and a "*Pseudospheniscus*" pattern for the African species. The African species have been referred to the genus *Hoplandromyia* but this was synonymized with *Vidalia* by Munro (1938). It has been treated as distinct in recent years but in view of the new species *H. antelopa* described below, which combines the typical head shape of the Asian species with the wing pattern of the African species, Munro's (1938) synonymy appears valid. However, in view of known host differences accompanying body-colour and wing pattern differences, *Hoplandromyia* is retained as a separate genus pending further study.

The genus *Vidalia* includes the type-species *V. impressifrons* Robineau-Desvoidy, plus *V. ceratophora* Bezzi, *V. fletcheri* Munro, *V. spadix* Chen, *V. bidens* Hendel, *V. thailandica*, new species, *V. bicolor* Hardy, *V. buloloae* (Malloch) and *V. quadricornis* de Meijere. *V. bidens* and *V. thailandica* have been bred from the fruit of *Schefflera*: Araliaceae (see below).

The genus *Hoplandromyia* includes *H. junodi* Bezzi, *H. distata* Munro, *H. tetracera* Bezzi, *H. buhri* Hering and *H. madagascariensis* Hancock, all from the Afrotropical region, *H. pulla* (Wang) from SW China and *H. antelopa*, new species, from Malaysia. *H. madagascariensis* mines the leaves of *Canthium humberti*: Rubiaceae (Hancock, 1985).

Hoplandromyia antelopa, new species
(Figs. 23-26; Pl. 1)

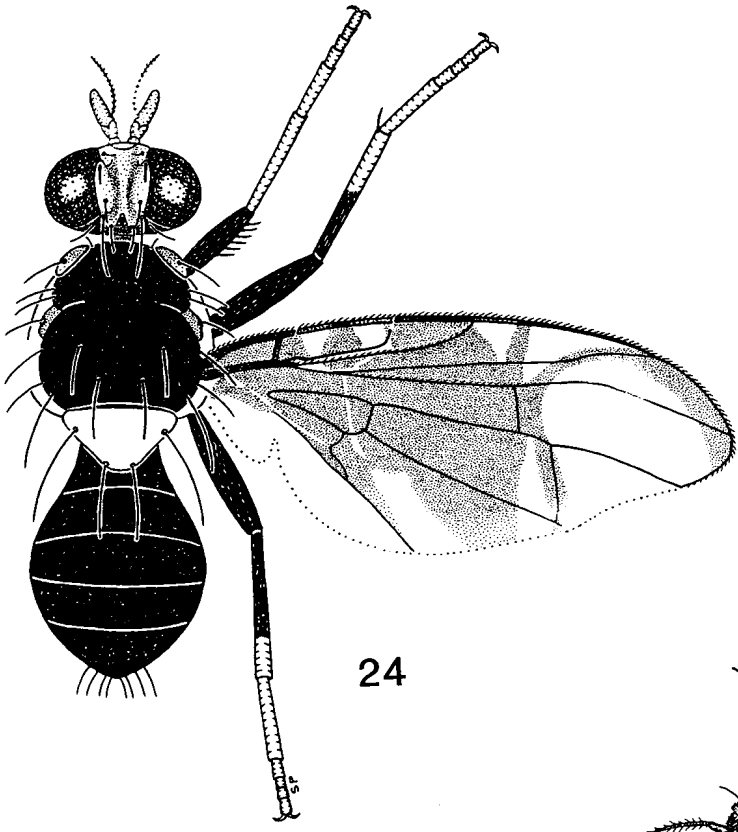
Material examined. - Holotype male [NHML], MALAYSIA: Hulu Langat, Kuala Lumpur, 15.v.1992, D.L. Hancock and C.S. Ooi.

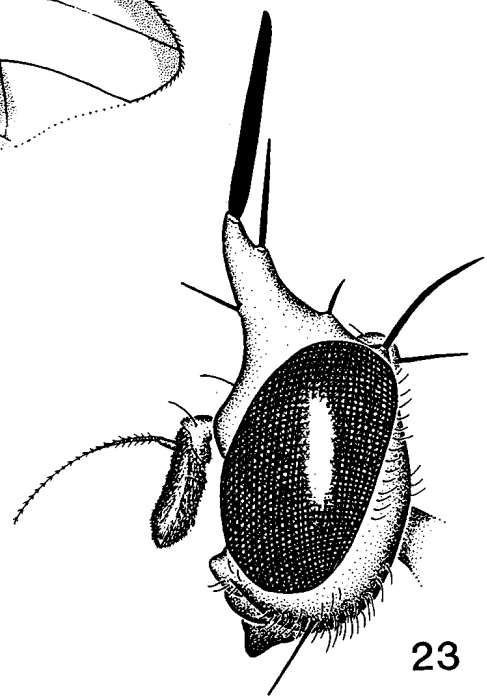
Paratypes - MALAYSIA: 1 male, Hulu Langat, 26.iii.1989, C.S. Ooi; 1 male, Hulu Langat, Lolo, 19.v.1989, Y[ong] H.S. [in QDPI].

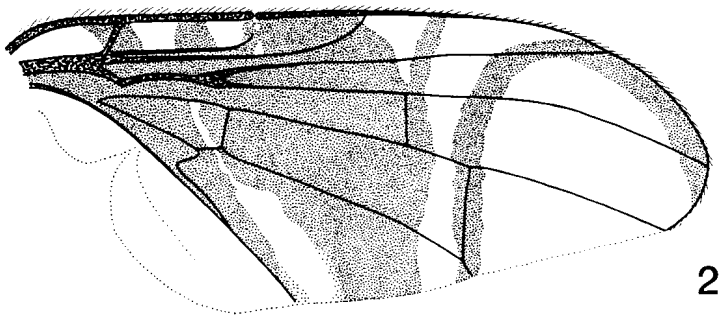
Description. - Male (Pl. 1): Length of body 5.0 mm; of wing 5.0 mm.

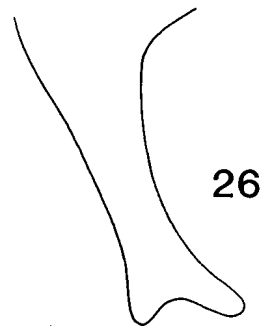
Head (Fig. 23) with frons fulvous, posterolaterally produced into broad, prominent tubercles; bristles black, 3 inferior orbitals and 1 superior orbital arising from tubercles, middle inferior orbital at apex of tubercle, enlarged and flattened; an additional, hair-like inferior orbital before tubercle. Lunule small, semicircular. Ocellar triangle black, ocellar bristles very weak, hair-like; postocellars present. Vertex with inner and outer vertical bristles present, postverticals present. Genal bristle present. Occiput flat, blackish-brown, with a row of thin black occipital bristles. Face blackish-brown. Antennae shorter than face, fulvous; third segment apically rounded; arista with short pubescence.

Thorax with mesonotum shining blackish-brown. Humeral calli red-brown, tinged whitish posteriorly. Pleura black, except for a broad whitish stripe across top of mesopleura to humeral callus. Pleuroterga without hairs. Postnotum black. Scutellum whitish, without pubescence. Bristles well developed and black: 4 scapulars, 1 humeral, 2 notopleural, 1









Figs 23-26. Trypetini. *Hoplandromyia antelopa,* new species: 23, lateral view of male head; 24, male; 25, wing of paratype male; 26, surstylus.

presutural, 1 anterior supra-alar, 2 posterior supra-alars, 2 dorsocentrals, 2 prescutellars, 2 mesopleural, 1 pteropleural, 1 sternopleural, 4 scutellars; dorsocentrals placed a little behind line of anterior supra-alars. Legs with femora and anterior parts of mid and hind tibiae blackish, remainder fulvous; fore femora with a row of black setae posteriorly; middle tibiae with an apical black spine. Halteres yellow. Wing with no distinct costal bristle at base of stigma; vein R_1 setose; vein R_{4+5} setose to r-m crossvein; r-m crossvein well beyond middle of discal cell; dm-cu crossvein often moderately inclined; anal cell acuminate. Wing pattern (Fig. 24) dark brown in basal part with 2 hyaline indentations in second costal cell, a triangular hyaline indentation in marginal cell beyond stigma, and posterior part of wing hyaline with a brown C-shaped band along costa to apex and through dm-cu crossvein to wing margin, normally connected to basal brown areas at r-m crossvein; axillary

Colour Pl. 1. *Hoplandromyia antelopa,* new species, male. (Photographs by C.S. Ooi).

lobe hyaline. In one paratype (Fig. 25) the C-shaped brown band is free from the basal dark area, the dm-cu crossvein being less steeply inclined, and the first costal cell is largely hyaline.

Abdomen oval; blackish-brown; tergite V with long subapical setae. Male genitalia with surstylus slender (Fig. 26), with rounded anterior and posterior lobes.

Female: unknown.

Remarks. - Although there is some variation in wing pattern and inclination of the dm-cu crossvein (Figs. 24-25), the above specimens are evidently conspecific, all having the same unusual head shape. This variation in the dm-cu crossvein suggests that some characters previously used to separate genera within the *Myoleja* complex are invalid. *H. antelopa* differs from the African species in head and wing pattern characters, and from *H. pulla* (Wang) from China (Han, 1992) in having hyaline areas in the costal cell, 4 inferior orbital bristles and less prominent surstylus lobes.

Vidalia bidens Hendel
(Figs. 27-28)

Vidalia bidens Hendel, 1915: 443 (male, female).
Vidalia tuberculata Hardy, 1970: 108 (male) (syn. nov.).
Acidiella mimica Hardy, 1974: 182 (female) (syn. nov.).

Material examined. - MALAYSIA: 7 males, 8 females, Ulu Bendol Forest Res., Kuala Pilah road, 19.vii.1987, A. Allwood, R. Drew *et al.*; bred from *Schefflera subulata*.

Distribution. - Taiwan, Philippines and Peninsular Malaysia (new record). Specimens recorded as *Myoleja longipennis* (Hendel) from Java (Hardy, 1987) may also belong here.

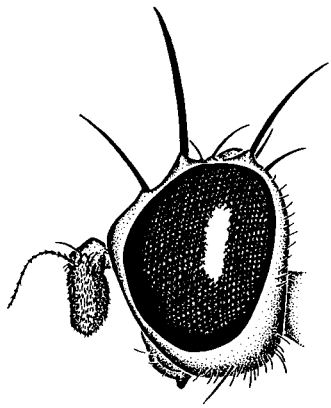
Remarks. - From the above series, it is evident that *Acidiella mimica* Hardy is the female of *V. tuberculata*; both were described originally from the Philippines. Both also appear to be synonymous with *V. bidens* from Taiwan.

This species breeds in the fruit of *Schefflera subulata* (Araliaceae) (Hancock 1991). In the male, development of the frontal bristles is variable; in some, the inferior fronto- orbitals are long, flattened and situated on small to moderately-sized tubercles; in others they are normal in appearance, similar to those of females. Abdominal terga IV & V in males and IV to VI plus oviscape in females are dark brown to black.

Vidalia thailandica, new species
(Figs. 29-33)

Material examined. - Holotype male [NHML], THAILAND: Pang Chang, Mae Wang, Chiang Mai, 29.iv.1993, Chantanee *et al.*, bred from *Schefflera clarkeana*.

Paratypes - 71 males, 101 females, same data as holotype; 8 males, 1 female, Huai Koa Leep, Chiang Mai, 22.vi.1993, Chantanee *et al.*, bred from *Schefflera clarkeana* [9 in NHML, 172 in QDPI].



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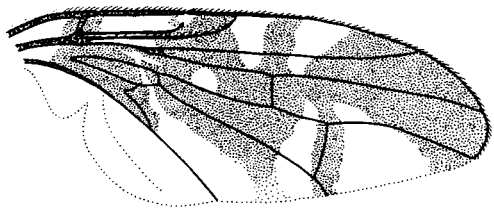

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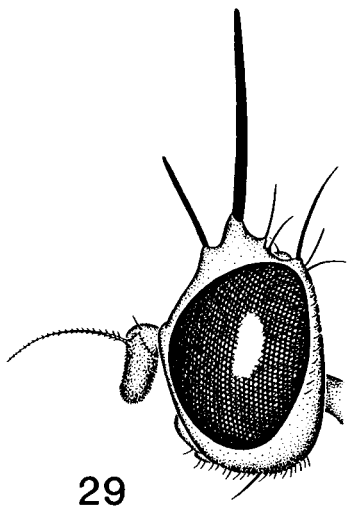

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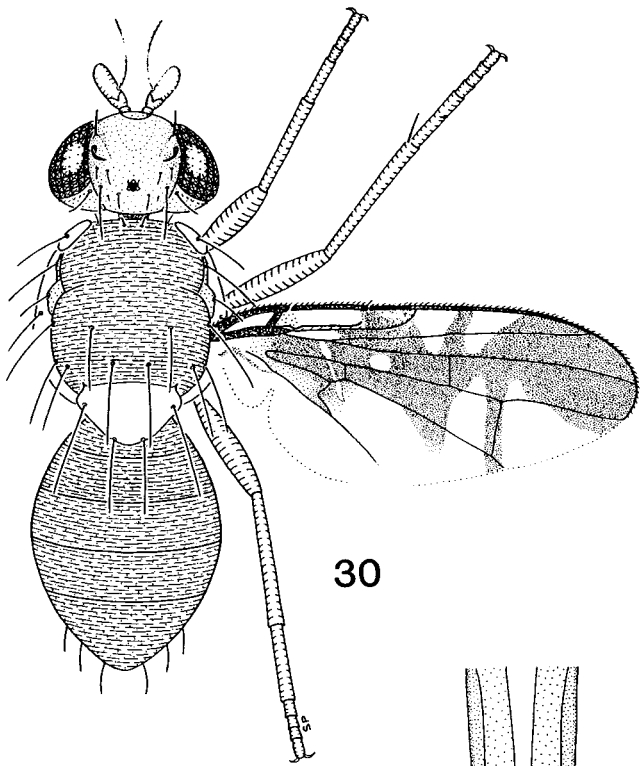

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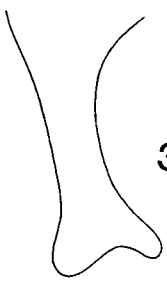

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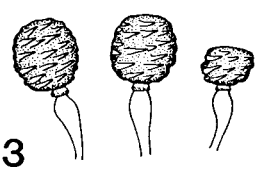

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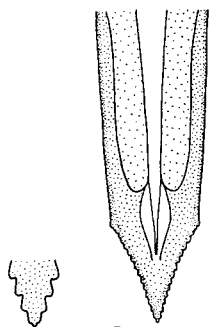

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Figs. 27-33. Trypetini. 27-28, *Vidalia bidens:* 27, lateral view of male head; 28, male wing; 29-33, *V. thailandica,* new species: 29, lateral view of male head; 30, male; 31, surstylus; 32, aculeus; 33, spermathecae.

Description. - Male: Length of body 4.5 mm; of wing 4.0 mm.

Head (Fig. 29) with frons fulvous, posterolaterally produced into broad tubercles; bristles black, 3 inferior orbitals and 1 superior orbital, middle and lower inferior orbitals at apices of tubercles, enlarged and flattened, the middle twice length of lower; upper inferior orbital bristle not modified, longer than superior orbital. Lunule small, semicircular. Ocellar triangle black, ocellar bristles minute, hair-like; postocellars present. Vertex with inner and outer verticals present, postverticals present. Genal bristle present. Occiput flat, fulvous, with a row of thin black occipital bristles. Face fulvous. Antennae shorter than face, fulvous; third segment apically rounded; arista with short pubescence.

Thorax with mesonotum shining orange-fulvous. Humeral calli fulvous. Pleura fulvous except for a narrow yellow band across top of mesopleura from humeral callus to wing base. Pleuroterga without hairs. Postnotum fulvous. Scutellum yellow, without pubescence. Bristles well developed and black except scapulars red-brown: 4 scapulars, 1 humeral, 2 notopleural, 1 presutural, 1 anterior supra-alar, 2 posterior supra-alars, 2 dorsocentrals, 2 prescutellars, 2 mesopleural, 1 pteropleural, 1 sternopleural, 4 scutellars; dorsocentrals placed a little behind line of anterior supra-alars. Legs fulvous; fore femora with a row of fine, red-brown setae posteriorly; middle tibiae with an apical black spine. Halteres fulvous. Wing with a weak costal bristle at base of stigma; vein R_1 setose; vein R_{4+5} setose to beyond r-m crossvein; r-m crossvein well beyond middle of discal cell; dm-cu crossvein at right angles to vein M; anal cell acuminate. Wing pattern (Fig. 30) dark brown with hyaline areas as follows: both costal cells, two triangular indentations in marginal cell beyond stigma, reaching vein R_{4+5}, a large spot in cell br and 2 spots in cell R_{4+5} along vein M, the latter continuing broadly to hind margin of wing, most of cell CuA_1 with the brown band from discal cell narrowed basally and not reaching wing margin; axillary lobe hyaline.

Abdomen oval; fulvous; tergite V with long subapical setae. Male genitalia dark brown; surstylus slender (Fig. 31), with rounded anterior and posterior lobes; aedeagus with enlarged apical membrane.

Female: similar to male except head without tubercles and with 4 unmodified inferior orbital bristles, the extra bristle situated anteriorly. Abdomen with tergite VI almost as long as tergite V, with black setae posteriorly; oviscape black, at least posteriorly, about equal in length to terga V and VI combined; aculeus (Fig. 32) broad, apically serrate; 3 spermathecae (Fig. 33).

Remarks. - The shape of the male aedeagus and female aculeus place this species in the *bidens* group as defined by Han (1992). It differs from *V. bidens* and *V. buloloae* (Malloch) in male head ornamentation, in the paler abdomen in both sexes, all segments except the oviscape being fulvous rather than with the posterior segments blackened, and in the more extensive hyaline areas in cell CuA_1. The type series was bred from the fruit of *Schefflera clarkeana* (Araliaceae).

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