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**Revision of the genus *Elaphropeza* Macquart (Diptera: Hybotidae)
from the Oriental Region,
with a special attention to the fauna of Singapore**

IGOR V. SHAMSHEV & PATRICK GROOTAERT



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Abstract

The genus *Elaphropeza* Macquart from the Oriental region is revised. In addition to the 79 known species (including seven new combinations of species previously placed within *Drapetis* Meigen) 51 new species are described and illustrated. The study is mainly based on freshly collected material in Singapore (544 samples, year cycle in eight stations and numerous hand captures). Smaller samples were available from Malaysia, Thailand and Cambodia. Of the 51 new species only 43 have been given a name: *E. acantha* sp. nov., *E. asexu* sp. nov., *E. asiophila* sp. nov., *E. belumut* sp. nov., *E. benitotani* sp. nov., *E. bezzii* sp. nov., *E. bulohensis* sp. nov., *E. chekjawa* sp. nov., *E. combinata* sp. nov., *E. crassicerus* sp. nov., *E. darrenyeoi* sp. nov., *E. demeijerei* sp. nov., *E. equalis* sp. nov., *E. feminata* sp. nov., *E. flavicaput* sp. nov., *E. furca* sp. nov., *E. limosa* sp. nov., *E. luanae* sp. nov., *E. luteoides* sp. nov., *E. malayensis* sp. nov., *E. meieri* sp. nov., *E. melanderi* sp. nov., *E. modesta* sp. nov., *E. monacantha* sp. nov., *E. monospina* sp. nov., *E. murphyi* sp. nov., *E. neesoonensis* sp. nov., *E. ngi* sp. nov., *E. pauper* sp. nov., *E. pluriacantha* sp. nov., *E. riatanae* sp. nov., *E. sime* sp. nov.,

E. singaporensis sp. nov., *E. singulata* sp. nov., *E. sivasothii* sp. nov., *E. spicata* sp. nov., *E. spiralis* sp. nov., *E. sylvicola* sp. nov., *E. temasek* sp. nov., *E. tiomanensis* sp. nov., *E. ubinensis* sp. nov., *E. yangi* sp. nov., *E. yeoi* sp. nov. Eight species known only as females are briefly diagnosed but not named. Species (including type materials in most cases) described by C.R. Osten-Sacken, M. Bezzi, J.C.H. de Meijere, R. Senior-White, A.L. Melander and K.G.V. Smith were examined and re-described. **Neotypes** have been designated for *E. calcarifera* Bezzi, *E. melanura* Bezzi, *E. formosae* Bezzi and *E. scutellaris* Bezzi. *Elaphropeza exul* Osten-Sacken, 1882 is transferred as *Crossopalpus exul* (Osten-Sacken) **comb. nov.** *Elaphropeza formosae* Bezzi *sensu* Quate, 1960 re-described by L.W. Quate from Micronesia, is considered a new species and a new name is given: *E. quatei* sp. nov. All species of *Elaphropeza* are divided into two main species groups: *E. biuncinata* group and *E. ephippiata* group. Phylogenetic relationships within *Elaphropeza* are provisionally outlined. Some interesting morphological features and phenology of the species are discussed. Fourteen species have been found exclusively in mangroves. A key is given to the species of the Oriental Region (Indian subcontinent, South-east Asia, Philippines and Taiwan, but excluding certain species of the Chinese mainland that proved to be different from the rest of the Oriental Region). A check list of the Oriental species is provided.

Key words: Diptera, Hybotidae, *Elaphropeza*, revision Oriental realm, new species, terrestrial forest, mangrove

Introduction

The genus *Elaphropeza* Macquart, 1927 includes quite small, predacious, mostly yellow-coloured flies inhabiting different biotopes but usually occurring on leaves and in grass. *Elaphropeza* belongs to the subfamily Tachydromiinae. It is a member of an assemblage of genera classified as the tribe Drapetini that is diagnosed by the following apomorphies: eyes with ommatrichia, loss of vein CuA2 and loss of tergite 10 in females (correlated with sternite 10 positioned below the cerci) (Cumming and Cooper 1992; Solórzano Kraemer *et al.* 2005; Sinclair and Cumming 2006).

Collin (1961) was the first who presented a detailed morphological analysis of *Elaphropeza*. He indicated the main distinguishing characters of the genus from other empidoids or more precisely from *Drapetis* Meigen and *Crossopalpus* Bigot. Kovalev (1968) applied principals of numeric taxonomy for a similar analysis and Rogers (1983) adopted Collin's conclusions for Neotropical species. Chvála (1975) briefly discussed the taxonomic history of *Elaphropeza*. The status of the group has been a subject of controversies as to consider it as a separate genus, or as a subgenus of *Drapetis*.

In the present paper we follow Collin's (1961) concept of *Elaphropeza* and, thus, accept this group as a separate genus. Collin distinguished *Elaphropeza* from *Drapetis* primarily by the presence of anterodorsal bristles along the shaft of hind tibiae, and the bare upper hind corner of mesopleura. Also, in species of *Elaphropeza* the occiput is more convex, antennae are not upturned, postpedicel is conical, with its lower margin as straight as the upper margin, the style is apical, and posterior ocellar bristles are minute. It should be noted that in the Oriental Region many species of *Elaphropeza* have no anterodorsal bristles on the hind tibiae, but clearly belong to *Elaphropeza*.

Elaphropeza is a circumtropical genus (Smith 1967, 1975, 1980, 1989). Few species have been recorded from the Palaearctic and Nearctic Regions (Melander 1965; Chvála & Kovalev 1989; Raffone 2003). In temperate regions, *Elaphropeza*, being adapted to tropical climates, comes into concurrence with the very diverse *Platypalpus* that occupies a similar niche. Currently, about 160 species of *Elaphropeza* are known worldwide. However, it is evident that this number is far from the real number of included species, because the genus has been only studied very locally.

Osten-Sacken (1882) described the first species of *Elaphropeza* from the Orient (Philippines). However, he misidentified the genus of his species (below we show that it is a *Crossopalpus*) and, actually, the first Oriental species described is *E. fulvithorax* van der Wulp recorded from Sri Lanka (van der Wulp 1897). Bezzi (1904, 1907, 1912, 1914) published a series of papers including descriptions of new species of *Elaphropeza* from Sri Lanka, India and, especially, from Taiwan. De Meijere (1911, 1914) presented the first records of

Elaphropeza from Indonesia (Java). In 1913, Brunetti described three species from India. Later, Melander (1918, 1928) described six new species of *Elaphropeza* collected from the Philippines. In 1922, Senior-White (1922) described five new species from Sri Lanka. Then in 1965, Smith reported six new species from Nepal. Recent publications on *Elaphropeza* from the Orient only deal with the Chinese part of the region, including Taiwan (Saigusa 1965; Yang & Yang 1989a, 1990, 1992a, b; Saigusa & Yang 2003; Yang *et al.* 2002; Yang and Yang 2003; Yang *et al.* 2004a, 2006; Yang and Gaimari 2005; Yang and Grootaert 2006).

All of the earlier studies covered limited areas and no link or overview of the complete Oriental fauna has been made so far. It should be emphasised that *Elaphropeza* is the most diverse Tachydromiinae genus in the Oriental Region. Prior to the present study 79 Oriental species were known, including the seven new combinations that are made here. In the present paper we recognize and describe 51 new species. Eight species that are only known from one or two female specimens have not been given a name, so that the number of valid new species added in this study is 43. The total number of valid species for the Oriental Realm is therefore 122 species.

The present study is partly based on a large set of freshly collected material. Most material was collected in Singapore (544 samples), but smaller sets of material from Malaysia, Thailand and Cambodia are also incorporated in our study. Apart from frequent sweep netting, the Singapore material consists mainly of a complete year cycle with Malaise traps in eight stations. These samples should reflect at least the local diversity. Since Singapore has a quite central position in the Oriental Realm, it is presumed that this should provide a representative picture of Oriental *Elaphropeza*. In fact, we re-discovered only four species that were previously described. Two species described by de Meijere from Java, Indonesia and two species described by Melander from the Philippines. The latter two species are even the dominant species in Singapore. These observations suggest that there is a high endemic diversity throughout the Oriental Realm and that widespread species are rare.

At the end of the paper we show that even with an intensive collecting effort in Singapore, 33 % of the local species are still represented by singletons and doubletons. This suggests that a large number of species still remain undiscovered.

Material and methods

Material was collected by sweep netting (5–13 October 2000, 4–13 December 2002, 19 November–11 December 2003 and March 2005–February 2006) and with Malaise traps (November–December 2003). From 1 March 2005 to 28 February 2006, covering a whole year, eight Malaise traps were operated at the following sites in Singapore: Bukit Timah (primary rain forest, but secondary rain forest at place of sampling, 1 trap), Sime forest (2 traps in rain forest along small streams), Central Catchment Area (Nee Soon, swamp forest; 3 traps), Sungei Buloh (2 traps in mangrove). Malaise trap samples (Mal) were retrieved almost weekly (7–10 days) by P. Grootaert (PG) and/or K.L. Yeo. In addition three more Malaise traps were operated temporary (6 weeks) on the island Pulau Ubin (mangrove at Chek Jawa). The present study is based on 544 samples and most of the material was collected in terrestrial sites (70%).

During the process of identification all species were numbered (E-01 to E-59). These MS references are cited in the paragraphs of the material examined. The eight unnamed species conserved their number as reference.

All holotypes are stored in alcohol in the collections of the Raffles Museum for Biodiversity Research, Singapore (ZRC: Zoological Reference Collection), most paratypes are in the Royal Belgian Institute of Natural Sciences, Brussels (RBINS). For each record a register number is given (register number in Database linked to collection data such as locality, date, collector, habitat). The locality of the holotype is considered here as the type locality.

Type material of previously described species was obtained from following collections and through the courtesy of following curators: Deutsches Entomologisches Institut, Müncheberg (DEI, Dr. Frank Menzel) for Bezzi's species, Natural History Museum, London (BMNH, Mr. N. Wyatt) for Smith's and Senior-White's species, Smithsonian Institution, Washington (USNM, Dr. N. Woodley and Dr. Ch. Thompson) for Melander's species and Zoölogisch Museum, Amsterdam (ZMAN, Mr. B. Brugge) for de Meijere's species.

Terms used for adult structures primarily follow those of McAlpine (1981), although the terminology for the antenna is taken from Stuckenberg (1999). Homologies for the male and female terminalia follow Cumming & Cooper (1992) and Sinclair (2000). To facilitate observations, the terminalia were macerated in hot 85% lactic acid and immersed in glycerine. Drawings of morphological features were made with a camera lucida attached to a compound microscope.

In descriptions and key, the term "pattern" refers to any markings on the mesonotum and wing. The term "bristle" is mainly used for more or less differentiated setae on the head, mesonotum, and legs bearing a particular name or one of a series with a particular name (e.g. notopleural bristle, dorsocentral bristle, ocellar bristle). The costal index is based on distances measured directly from tip to tip of the first four veins where they join the costa. The first section is measured from the humeral crossvein rather than the wing base for purposes of accuracy. The right and left side of the male terminalia are based on the unrotated position viewed posteriorly, such that in the illustrations the right surstylus appears on the readers left side and vice versa. All male terminalia are figured in their unrotated position.

If indicated on the figures, the scale is 0.1 mm.

The sex ratio is expressed as the number of females to the number of males.

Diagnosis and morphology of *Elaphropeza*

Genus *Elaphropeza* Macquart, 1827

Elaphropeza Macquart, 1827: 86 (as genus). Type-species: *Tachydromia ephippiata* Fallén, 1815: 11, by monotypy. *Ctenodrapetis* Bezzi, 1904: 351 (as subgenus of *Drapetis*). Type-species: *Ctenodrapetis ciliatocosta* Bezzi, by subsequent designation of Melander (1928: 309).

Diagnosis. The genus *Elaphropeza* can be distinguished from other species of the Drapetini by the following combination of the characters: occiput convex, antennae not upturned, postpedicel conical, its lower margin as straight as upper, style apical, mesopleuron bare, wing with shortened cell br, abdominal intersegmental modifications present between tergites 3–5 or 4–5.

Male. Head. Black to yellow in ground colour. Eyes narrowly separated on face, with ommatrichia, ommatidia uniform. Frons with sides divergent above. Face linear. Two pairs of prominent vertical bristles. Ocellar tubercle with 2 pairs of bristles but posterior pair usually minute. Antennae placed at middle of head; scape small; pedicel longer, with circlet of subequally short bristles; postpedicel conical, of varying length; stylus terminal, arista-like, usually long. Gena not extended or, sometimes, barely extended below eye. Proboscis (Figs. 209, 210) slightly recurved. Palpus elongate-ovate, usually small and with distinct apical seta but sometimes (*E. palpata* de Meijere) long, strip-like, lacking apical seta.

Thorax (Fig. 211). Ground colour varying from completely black to yellow, in the latter case often with brown markings forming specific pattern (Figs. 212–217). Scutum shining, lacking tomentum. Prothoracic episterna with (or without) 1 long upturned bristle just above fore coxa and usually 1 short bristle in upper part. Postpronotal lobe undifferentiated, postpronotal bristle usually not prominent but sometimes present. Mesonotal bristles mostly well prominent; acrostichals multiserial or arranged in 2 rows, complete or incomplete posteriorly, rarely absent; dorsocentrals multiserial and hardly differentiated from intra-alar setulae or arranged in 1 row. Mesopleuron bare. Metaepimeron large.

Legs (Figs. 218–224). Elongate, with femora and tibiae somewhat thickened or slender, sometimes with distinct colour pattern. Coxae and trochanters unmodified and bearing unmodified bristles. Fore femur with slightly prominent rows of antero- and posteroventral bristles. Mid femur with rows of short spinule-like ventral bristles and 1 anterior subapical bristle. Fore and mid tibia with 1 thin antero- and 1 similar posteroventral subapical bristles, additionally, mid tibia usually with black ventral spinules, both tibiae sometimes with short dorsal bristles. Hind femur with prominent anteroventral subapical and dorsal basal bristles. Hind tibia always with apical projection clothed in dense brownish setulae, lacking prominent bristles or bearing 1–2 (rarely more, *E. palpata*) anterodorsal bristles about middle and (or) 1–2 curved subapical bristles; also, sometimes 2 posterodorsal bristles present. Tarsi unmodified, except slightly expanded hind basitarsus.

Wing. (Figs. 253–261). Usually normally developed or sometimes narrow, with axillary lobe greatly reduced; more or less infusate, hyaline or with distinct pattern. Microtrichia uniform. Costal setae short. Basal costal bristle always prominent. Rs originating before halfway along R1, longer than crossvein bm-cu. Vein R1+2 evenly curved. Veins R4+5 and M1+2 parallel or slightly divergent near wing apex, usually both more or less straight, sometimes R4+5 somewhat bowed. A1 very weak, fold-like or absent. Crossvein CuA2 absent. Crossvein bm-cu transverse or oblique. Cell br always markedly shorter than cell bm but varying in length, usually about as long as half of cell bm, sometimes distinctly shorter. Halter with knob yellow to black.

Abdomen. Tergites (Figs. 225–234) 1–5 varying in shape and degree of sclerotisation; tergites 3 and 4 often broadest, tergite 5 usually very narrow. Tergites 6 and 7 usually unmodified, of subequal width but sometimes modified (Figs. 139, 140). Segment 8 always short, partially concealed by segment 7, rarely modified. Squamiform setae usually present on tergites 3, 4 and 5, or 4 and 5, sometimes restricted to one of these tergites or rarely absent (*E. lanuginosa* Bezzi). Sternites usually unmodified, weakly sclerotised, sternites 3–5 often divided along midline. Gland-like intersegmental structures present between tergites 4 and 5 or between tergites 3, 4 and 5. Gland-like structures usually simple plate-like (Figs. 225–234), but sometimes vessel-like (Fig. 174).

Terminalia. Hypopygium asymmetrical, rotated 90° to right. Epandrium completely divided. Left epandrial lamella small and fused to hypandrium, with long or greatly reduced bristles on apical portion. Left surstylus divided into 3 lobes, upper lobe without surstylar comb but sometimes with spines. Right epandrial lamella usually large, positioned ventrally. Right surstylus absent or present; if present, undivided, usually differentiated from and weakly articulated with epandrium. Cerci separated or fused (sometimes incompletely) forming single lobe, sometimes bearing spines; if separated, right cercus small and hardly prominent, left cercus larger. Hypandrium (Figs. 241–245) usually with 2 bristles on apical portion, rarely with 1, 3–4 or 8 bristles. Phallus (Figs. 249–252) very short or elongate and coiled, sometimes greatly double spiral. One or two rod-shaped apodemes (i.e. ejaculatory plus ventral apodeme) present.

Female. Similar to male, sexual dimorphism slightly prominent, usually including only lack of ventral spinules on mid tibia. Terminalia (Figs. 235–240) short to elongate. Tergite 8 not fused (Figs. 235–237) or fused laterally with sternite 8 (Figs. 238–240). Sternite 8 with or without folded apex. Tergite 9 absent. Sternite 9 reduced to small internal sclerite. Tergite 10 absent. Sternite 10 plate-like positioned below proctiger. Cercus elongate-ovate or broad-ovate. Spermatheca membranous, sac-like.

Key to *Elaphropeza* species from the Oriental Region

The only key available for identification of *Elaphropeza* from the whole region is badly outdated (Bezzi 1912) and lacks many described species. Later, only species of local faunas have been keyed (Senior-White 1922; Smith 1965). In the key given below we included almost all species currently known from the Oriental Region except for some described from China. For identification of Chinese species of *Elaphropeza* please refer to the key recently published by Yang and Gaimari (2005). In the case of variable characters, some species were keyed both directions.

1. Thorax wholly black or, rarely (<i>E. limosa</i> sp. nov.) brownish (no paler markings on mesonotum or pleura)	2
– Thorax yellow to reddish yellow (sometimes with brown or black markings)	21
2. Wing with more or less distinct pattern	3
– Wing hyaline or uniformly infusate	6
3. Hind tibia with 1 anterodorsal bristle. Postpedicel very short, 1.5 times as long as wide. All legs with tarsomere 5 black. Wing hyaline along anterior and posterior margins, otherwise brownish, including wing-apex (Indonesia: Java)	E. strigifera (de Meijere)
– Hind tibia lacking anterodorsal bristles. Postpedicel long, 3–4 times longer than wide. Legs wholly yellow. Wing with different pattern	4
4. Wing deeply infusate on basal half, with 2 brown spots in apical portion of cell r1 and in basal part of cell r2+3; apical half finely infusate. Halter with brown knob (Singapore)	E. darrenyeoi sp. nov.
– Wing with more or less distinct dark band in middle (Fig. 253). Halter yellow	5
5. Antenna wholly brownish yellow. Hind tibia lacking prominent bristles. Abdomen with tergite 3 and 4 bearing squamiform setae. Male: Right surstylus long, narrow, overlapping cerci (Singapore)	E. singaporensis sp. nov.
– Antenna with scape and pedicel yellow. Hind tibia bearing 2 straight subapical anterior bristles of different lengths. Abdomen with tergites 3, 4 and 5 bearing squamiform setae. Male: Right surstylus large, rather elongate oval, not overlapping cerci (Singapore)	E. sime sp. nov.
6. Mid tibia with 1 long black flattened subapical posteroventral bristle; hind tibia narrowed in apical 1/3 and bearing there 1 strong anterodorsal bristle vertically sitting on tubercle and several appressed setae (Singapore)	E. pauper sp. nov.
– Mid tibia with ordinary subapical bristles. Hind tibia unmodified, with or without unmodified posteroventral bristles	7
[<i>Elaphropeza</i> sp. 51 known only from the female belongs here]	
7. Hind tibia lacking anterodorsal bristles	8
– Hind tibia with 1 or 2 anterodorsal bristles	13
8. Halter dark	9
– Halter yellow	11
9. Fore and hind tibiae and hind femur, except broadly at base, wholly dark brown; otherwise legs brownish yellow (India: West Bengal)	E. bicoloripes Brunetti
– Legs almost wholly yellow, only tarsomere 5 blackish or brownish near apex of hind femur above and hind tibia near base	10
10. Palpus yellow. Acrostichal bristles biserial, dorsocentrals uniserial. Legs with tarsomere 5 blackish (Malaysia)	E. belumut sp. nov.
– Palpus brown. Acrostichal and dorsocentral bristles multiserial. Legs with hind femur near apex above and hind tibia near base brownish (Singapore)	E. chekjawa sp. nov.
11. Larger, about 3.0 mm. Style 1.5 times longer than postpedicel. Abdominal tergites 4 and 5 with squamiform setae (Singapore)	E. temasek sp. nov.
– Smaller, about 1.5 mm. Style as long as postpedicel. Only abdominal tergite 5 with squamiform setae	12
12. Legs with tarsomeres 3–5 brownish yellow (Singapore)	E. neesoonensis sp. nov.
– Legs with tarsomere 5 black, remaining tarsomeres yellowish (Singapore)	E. yeoi sp. nov.
13. Hind tibia with 1 anterodorsal bristle	14
– Hind tibia with 2 anterodorsal bristles	18
14. Antenna wholly brown. Palpus brownish yellow. Thorax brownish (Singapore)	E. limosa sp. nov.
– Antenna wholly or partly yellow. Palpus pale yellow. Thorax black	15

15. Fore tarsomeres 2–5 distinctly annulated (Singapore) **E. meieri sp. nov.**
 – Fore tarsus wholly yellow or with tarsomere 5 brown16
16. Fore tarsus yellow. Abdomen reddish yellow in basal half and black apically (Sri Lanka).....
 **E. basalis Bezzi**
 – Fore tarsomere 5 brown. Abdominal tergites 1–3 represented by pairs of long triangular lateral sclerites ...
17
17. Antenna wholly yellow. Two pairs of vertical bristles present (China: Guangxi)..... **E. liui Yang, Gaimari**
 – Antenna with postpedicel brownish yellow. One pair of vertical bristles present (China: Guangxi).....
 **E. guangxiensis (Yang, Yang)**
18. Mid tibia with 1 anterodorsal bristle at middle. Acrostichal bristles lacking (Nepal)..... **E. kala (Smith)**
 – Mid tibia lacking prominent bristles (except subapicals). Acrostichal bristles present, multiserial19
19. Antenna with postpedicel dark brown, scape and pedicel paler, brownish yellow. Hind femur brownish on apical 2/3 (China: Guangdong)..... **E. nankunshanensis Yang, Grootaert**
 – Antenna wholly blackish. Hind femur black on apical half20
20. Palpus brown. Tibiae and tarsi dark, wholly brown (China: Guangxi)
 **E. maoershanensis Yang, Grootaert**
 – Palpus yellow. Tibiae and tarsi almost wholly yellow, only tarsomere 5 brown (China: Henan)
 **E. henanensis Saigusa, Yang**
21. Occiput yellow, sometimes with dark spot near neck; rarely light brownish yellow (*E. ferruginea* Brunetti)
22
 – Occiput black42
22. Palpus elongate, strap-like, black on apical third (Fig. 210). Larger (about 3.0 mm) (Indonesia: Java; Singapore; Cambodia)..... **E. palpata de Meijere**
 – Palpus short ovate, wholly yellow. Smaller (about 2.0 mm)23
23. Fore tibia with 1–2 short but distinct dorsal bristles.....24
 – Fore tibia lacking dorsal bristles.....28
24. Mid tibia with 1 anterodorsal bristle25
 – Mid tibia lacking prominent bristles (except subapicals)26
25. Scutellum smoothly arched. Hind tibia with only 1 anterodorsal bristle. Abdominal tergites 4 and 5 with squamiform setae (Singapore) **E. bezzii sp. nov.**
 – Scutellum truncate. Hind tibia with 1 anterodorsal and 2 curved subapical bristles. Abdominal tergites 3, 4 and 5 with squamiform setae (Singapore) **E. combinata sp. nov.**
26. Scutum wholly yellow. Hind tibia lacking prominent bristles (Sri Lanka) **E. distincta Senior-White**
 – Scutum with indistinct brownish patch above wing base. Hind tibia with 1 anterodorsal and 1 short straight subapical bristle27
27. Anterior ocellar bristles long, posterior ocellars minute. Tarsomere 5 of all legs brown (Singapore)
 **E. ngi sp. nov.**
 – Anterior and posterior ocellar bristles subequally moderately long. Legs wholly yellow (Singapore)
 **E. spicata sp. nov.**
28. Hind tibia lacking prominent bristles29
 – Hind tibia with curved subapical bristle(s), or with anterodorsal bristle(s) in middle31
29. Scutum uniformly yellow. Scutellum blackish. Halter pale yellow (India: W Bengal)
 **E. ferruginea Brunetti**
 – Scutum with brownish patch on each side. Scutellum yellow. Halter with dark knob30
 [Elaphropeza sp. 50 known only from the female belongs here]
30. Scutum with short narrow patch above wing base. Mesopleuron with large brown spot (Singapore)
 **E. benitotani sp. nov.**

– Scutum with brownish patch just behind anterior corner. Mesopleuron yellow (Singapore)	E. sylvicola sp. nov.
31. Hind tibia with curved subapical bristle(s), no anterodorsal bristle(s) in middle	32
– Hind tibia without curved subapical bristle(s) but with anterodorsal bristle(s) in middle part (rarely, <i>E. luteoides</i> sp. nov., short straight subapical bristle present).....	37
32. Hind tibia with 1 curved subapical bristle	33
– Hind tibia with 2 curved subapical bristles.....	34
33. Scutellum smoothly arched (Singapore)	E. flavicaput sp. nov.
– Scutellum truncate at apex (Singapore)	E. monacantha sp. nov.
34. Wing darkened on basal half. Hind femur brown on apical 2/3	35
– Wing uniformly finely infusate. Hind femur wholly yellow	36
35. Scutum broadly brown along margin but yellow on prescutellar depression. Wing brownish infusate on basal half (Fig. 256), border between darker basal half and paler apical half indistinct (Singapore)	E. spiralis sp. nov.
– Scutum with brownish patch on anterior corner, otherwise yellow. Wing yellowish infusate on apical half, border between darker basal half and paler apical half distinct, (Fig. 255) (Singapore)	E. yangi sp. nov.
36. Scutum with 2 elongate brownish spots on each side (Singapore)	E. melanderi sp. nov.
– Scutum uniformly yellow (Philippines, Singapore)	E. biuncinata (Melander)
[<i>Elaphropeza</i> sp. 57 known only from the female belongs here]	
37. Hind tibia with 1 anterodorsal bristle	38
– Hind tibia with 2 (sometimes 3) anterodorsal bristles in middle.....	40
38. Scutellum, metanotum and metapleuron black (Taiwan)	E. xanthocephala Bezzi
– Thorax wholly yellow	39
39. Antenna with postpedicel yellow. Halter with dark knob (Singapore)	E. luteoides sp. nov.
– Antenna with postpedicel brown. Halter yellow (Indonesia: Java).....	E. lutea (de Meijere)
40. Postpedicel yellow. Thorax wholly yellow to reddish yellow. Acrostichals biserial (Nepal)	E. coei(Smith)
– Postpedicel black. Thorax with hypopleuron and scutellum black. Acrostichals multiserial	41
41. Fore tibia and all tarsi (except hind basitarsus) brownish. Metapleuron yellow (Sri Lanka)	E. nigropunctata Senior-White
– Legs wholly yellow. Metapleuron brown (Nepal)	E. ukhalo (Smith)
42. Wing with more or less distinct pattern	43
– Wing hyaline or uniformly infusate	44
43. Thorax brown, except prosternum, entire pleura and postalar callus yellow. Hind tibia lacking prominent bristles. Wing darkened on basal half (darker in middle of cell r1 and in basal part of cell r2+3), otherwise almost hyaline (Singapore)	E. pluriacantha sp. nov.
– Thorax wholly yellow. Hind tibia with 3 anterodorsal bristles. Wing brownish infusate, darker near middle of anterior margin (Sri Lanka).....	E. fulvithorax van der Wulp
44. Hind tibia lacking prominent bristles	45
– Hind tibia with subapical bristle(s) and/or with anterodorsal bristle(s).....	49
45. Cross-vein bm-cu strongly oblique. Scutum with blackish spot above wing base and median vitta in anterior part (Indonesia: Java)	E. obliquinervis de Meijere
– Cross-vein bm-cu transverse or somewhat oblique. Scutum uniformly coloured or with different pattern... ..	46
46. Scutum uniformly coloured	47
– Scutum with distinct pattern	48

47. Style thickly pubescent. Thorax ferruginous. Abdominal tergites 3, 4 and 5 with squamiform setae (Sri Lanka) **E. plumicornis Senior-White**
 – Style normally pubescent. Thorax yellow. Abdominal tergites 4 and 5 with squamiform setae (Singapore) **E. sivasothii sp. nov.**
48. Scutum broadly brown along margin but yellow on prescutellar depression. Male: mid femur with ventral tubercle near base (Malaysia: P. Tioman) **E. tiomanensis sp. nov.**
 – Scutum with broad brown median vitta. Mid femur slender in both sexes **E. acanthi sp. nov.**
 [Elaphropeza sp. 58 known only from the female belongs here]
49. Hind tibia with curved subapical bristle(s), no anterodorsal bristle(s)50
 – Hind tibia without curved subapical bristles, but with anterodorsal bristle(s) in middle part54
50. Hind tibia with 1 strong, black, curved subapical bristle51
 – Hind tibia with 2 strong, black, curved subapical bristles52
51. Metanotum wholly brown (Singapore) **E. crassicercus sp. nov.**
 – Metanotum largely yellow (Singapore) **E. luanae sp. nov.**
 [Elaphropeza sp. 46 known only from the female belongs here]
52. Scutum with brownish spot above wing base (Sri Lanka) **E. notatithorax Senior-White**
 – Scutum uniformly yellow53
53. Style 4.0–4.5 times as long as postpedicel. Metanotum brownish yellow to brownish (Indonesia: Java; Singapore; Malaysia; Thailand) **E. hirsutitibia de Meijere**
 – Style nearly 2.0 times as long as postpedicel. Metanotum yellow (Singapore) **E. murphyi sp. nov.**
54. Hind tibia with 1 anterodorsal bristle55
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55. Scutum patterned56
 – Scutum wholly yellow60
56. Abdominal sternite 4 with 2 tubercles. Elongate brownish patch on anterior corner of scutum and above notopleuron. Scutellum wholly yellow (Singapore) **E. bulohensis sp. nov.**
 – Abdominal sternite 4 ordinary. Scutum with different pattern. Scutellum wholly or in middle dark brown.57
57. Scutellum dark brown in middle. Scutum with dark brown median vitta abbreviated behind and spot above notopleuron (Philippines) **E. uniseta Melander**
 – Scutellum wholly brown to black. Scutum with different pattern58
58. Postpedicel long, about 5.0 times longer than wide. Scutum with small brownish patch above wing base including postalar callus (Singapore) **E. riatanae sp. nov.**
 – Postpedicel shorter, 2.0–3.0 times longer than wide. Scutum with complicated pattern59
59. Antenna brownish yellow. Hind tarsomere 1 with a spine-like ventral bristle near base. Veins R4+5 and M1+2 somewhat divergent near wing apex. Smaller (about 2.0 mm) (Singapore)... **E. monospina sp. nov.**
 – Antenna with scape and pedicel yellow, postpedicel black. Hind tarsomere 1 with unmodified setation. Veins R4+5 and M1+2 parallel near wing apex. Larger (2.8–3.3 mm) (Taiwan)..... **E. pictithorax Bezzi**
60. Hind tibia with long pointed apical projection. Scutellum and metanotum brown. Acrostichal and dorso-central bristles multiserial. Halter yellow (Taiwan) **E. calcarifera Bezzi**
 – Hind tibia with short, rounded apical projection. Different combination of characters61
61. Scutellum wholly yellow62
 – Scutellum largely brown or black65
62. Acrostichal and dorsocentral bristles multiserial, extending to base of scutellum. Halter darkened63
 – Acrostichal bristles biserial, disappearing before prescutellar depression; dorsocentrals uniserial, reaching scutellum. Halter yellow64

63. Postpedicel about 6.0 times longer than wide. Metanotum reddish-yellow (Singapore) **E. asiophila sp. nov.**
 – Postpedicel about 4.5 times longer than wide. Metanotum brownish (Singapore) **E. ubinensis sp. nov.**
 [Elaphropeza sp. 49 known only from the female belongs here]
64. Metanotum yellow. Female: segment 8 with 3 long bristles posteriorly (Singapore) **E. malayensis sp. nov.**
 – Metanotum brown in middle. Female: segment 8 with scattered short setulae (Singapore) **E. furca sp. nov.**
65. Scutellum brown medially. Style as long as scape, pedicel and postpedicel combined (Taiwan)..... **E. marginalis Bezzi**
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67. Thorax with hypopleuron largely brown. Halter with dark knob (Singapore) **E. singulata sp. nov.**
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 – Legs only with tarsomere 5 brown70
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71. Antenna wholly yellow (Singapore) **E. modesta sp. nov.**
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 – Metapleuron blackish on upper part (Sri Lanka) **E. abdominenotata Senior-White**
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 – Veins R4+5 and M1+2 parallel near wing apex (Taiwan) **E. formosae Bezzi**

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87. Fore and mid tibiae and almost entire tarsi of all legs dark brown, tarsomere 5 black (China: Guangxi) **E. anae Yang, Gaimari**
- Legs wholly yellow (Burma, India)..... **E. variata (Melander)**
88. Hind tibia with long sharply pointed apical projection. Scutum with complicated pattern. Hind tibia and tarsus dark brown (Taiwan) **E. longicalcaris (Saigusa)**
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89. Scutellum wholly black90
- Scutellum with black spot in middle91
90. Scutum with broad black vitta running to base of scutellum (Taiwan) **E. lanuginosa Bezzi**
- Scutum black in middle (India: Maharashtra) **E. discoidalis (Bezzi)**
91. Antenna with style about 4.0 times longer than wide. Scutum with distinct median vitta disappearing before prescutellar depression and elongate lateral spots (Indonesia: Java) **E. lineola de Meijere**
- Antenna with style about 2.5 times longer than wide. Scutum with indistinct lateral spots and indistinct vitta on anterior margin (Taiwan) **E. scutellaris Bezzi**
- [*Elaphropeza* sp. 44 known only from the female belongs here]

Systematic account

In this paper all species of *Elaphropeza* are arranged into two informal species groups, namely the *E. ephippiata* and *E. biuncinata* groups, keyed below. Within these proposed groups, the species are further divided into species complexes. The subdivision of the *E. ephippiata* group is based on the presence of anterodorsal bristles on the hind tibia. Thus, within this group two species complexes are recognised: 1) hind tibia lacking prominent bristles; 2) hind tibia with 1–2 anterodorsal bristles in middle part.

The subdivision of the *E. biuncinata* group is based on the presence of curved subapical bristles on the hind tibia. Thus, within this group three species complexes are recognised: 1) hind tibia with 2 curved subapi-

cal bristles (Fig. 220); 2) hind tibia with 1 curved subapical bristle (Fig. 218); 3) hind tibia lacking prominent bristles.

It should be noted that this classification of the species complexes does not reflect completely (especially in the *E. ehippiata* group) the phylogenetic relationships of the species included. The application of the classification proposed was stimulated rather for practical purposes. All species of *Elaphropeza* treated below are arranged following this subdivision.

A key to *Elaphropeza* species groups of the Oriental Region.

1. Proepisternum bare just above fore coxa. Abdominal tergite 3 with unmodified setae, lacking squamiform setae ***E. ehippiata***
- Proepisternum with long upturned bristle just above fore coxa. Abdominal tergite 3 with numerous squamiform setae ***E. biuncinata***

***Elaphropeza biuncinata* group**

Members of this group are characterised by the following combination of characters: male genitalia with one rod-shaped apodeme (Fig. 3); phallus in form of long spiral coil (Fig. 251); a long upturned bristle present just above fore coxa (Fig. 211); abdominal tergites 3, 4 and 5 with squamiform setae; abdominal glands present between tergites 3–4 and 4–5 (Fig. 231). Additionally, in species of this group the hind tibia lacks anterodorsal bristles (except *E. combinata* sp. nov.), cerci are separated (Fig. 3) and the right surstylus is very prominent (Figs. 3, 4). In female, sclerites of abdominal segment 8 are fused antero-laterally and sternite 8 not folded apically (Fig. 239).

Species Complex 1.—Hind tibia with 2 curved subapical bristles.

***Elaphropeza biuncinata* (Melander, 1928)**

(Figs. 1, 2–5, 209, 211, 219–221, 239, 241, 251, 258)

Drapetis (*Elaphropeza*) *biuncinata* Melander, 1928: 313 (male).

Re-description. Male. Body length 2.1–2.3 mm, wing length 1.6–1.7 mm. Occiput yellow, broadly darkened above neck, subshining, with yellow to brownish yellow setation. Ocellar tubercle brownish, with anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones hardly prominent. Frons yellow, subshining. Antenna (Fig. 2) with postpedicel brownish yellow, scape and pedicel somewhat paler. Pedicel with circlet of subequally short setulae. Postpedicel 2.9–3.1 times longer than wide. Style normally pubescent, brown, about 3.0–3.5 times longer than postpedicel and nearly 2.0 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus (Fig. 209) yellow, small, rounded, with scattered brownish yellow setulae, bearing 1 longer and darker subapical seta.

Thorax almost wholly yellow, shining, with yellow to brownish yellow bristles; sternopleuron and hypopleuron somewhat brownish along lower margin (sometimes wholly yellow), metanotum brownish in different extent. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorso-centrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.

Legs wholly yellow (mid and hind femora often appearing paler in basal part), mainly with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae

somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short ventral bristles (becoming shorter in apical part of femur), 1 long bristle near base and 1 anterior subapical bristle. Mid tibia (Fig. 219) with 1 row of black ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 2 black curved subapical anteroventral bristles (Fig. 220); apical projection short, rounded, clothed in dense brownish setulae (Fig. 221). Tarsi of all legs unmodified.

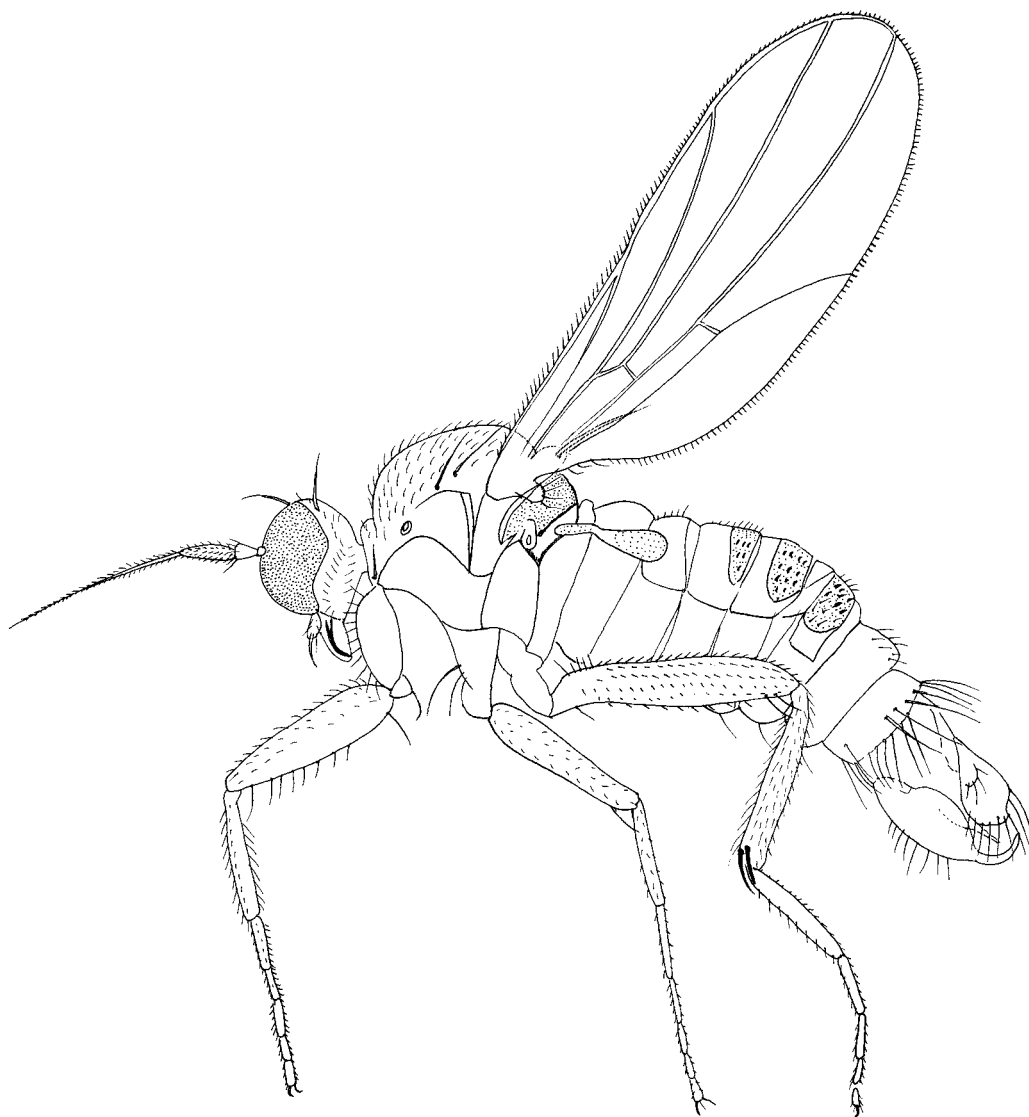


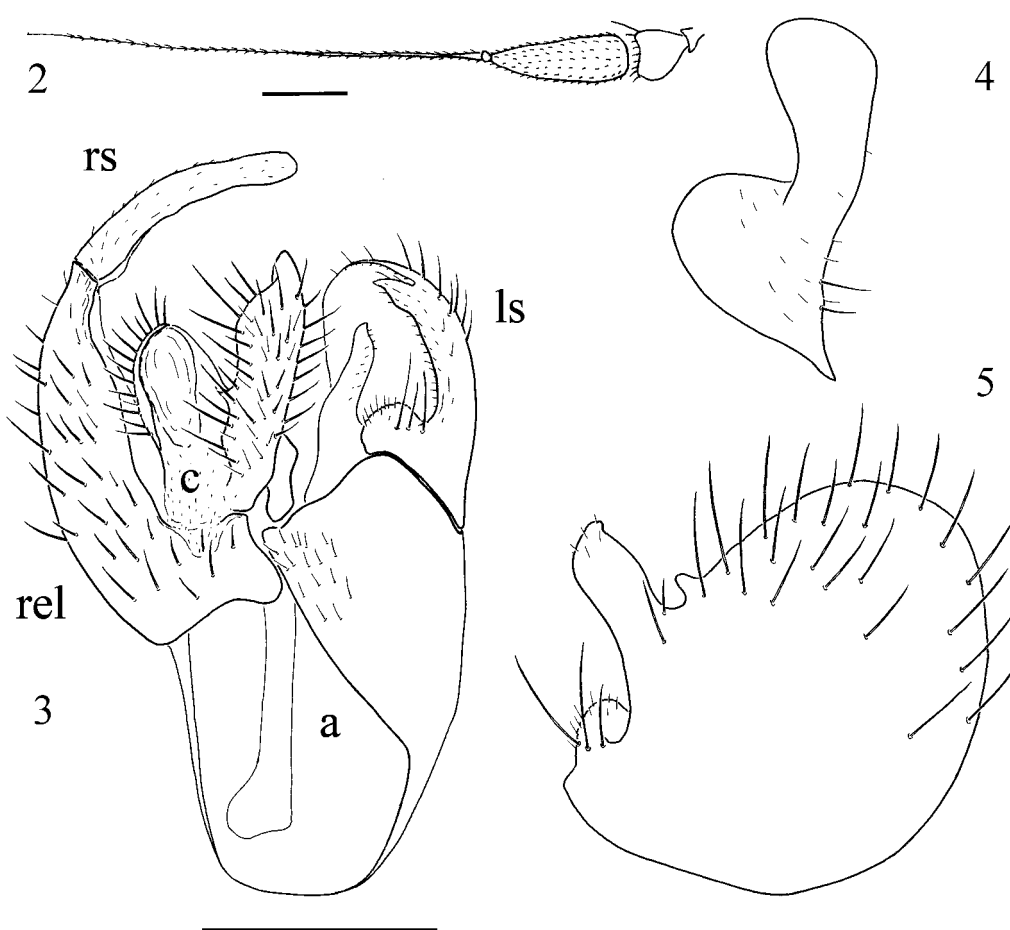
FIGURE 1. *Elaphropeza biuncinata* (Melander), type species of the *E. biuncinata* group.

Wing (Fig. 258) normally developed, uniformly finely infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, yellow. Costal index: 30/30/30/13. Veins R4+5 and M1+2 parallel near wing apex, both straight. Vein CuA1 reaching wing margin. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter dark.

Abdomen. Tergite 1 almost entirely pale yellow, with very narrow brownish space separated in middle. Tergites 2–5 brown. Tergite 2 broadly concave dorsally and somewhat broadened laterally, with scattered unmodified setae. Tergite 3 broadest (about 4 times as broad as tergite 2 in middle part), bearing squamiform

setae. Tergite 4 nearly 1.5 times narrower than tergite 3, with squamiform setae. Tergite 5 subequal in width to tergite 4, with squamiform setae. Tergites 6–7 unmodified, yellowish brown; tergite 7 with moderately long posteromarginal bristles. Sternites 1–5 represented by small lateral brownish spots, with some unmodified setulae. Sternites 6–8 unmodified, brownish yellow, with longer setae than previous sternites. Gland-like structures present between tergites 3–4 and 4–5.

Terminalia (Figs. 3–5) large, brownish yellow. Cerci divided; left cercus unbranched, digitiform, moderately long, narrowed apically, with unmodified bristles of different lengths; right cercus hardly prominent, with several unmodified bristles. Epandrium completely divided. Right epandrial lamella subtriangular, covered with numerous bristles. Right surstylus well prominent, moderately large, as in Fig. 4, with scattered unmodified bristles. Left epandrial lamella fused to hypandrium, with several short bristles apically. Left surstylus with upper lobe large, broadly oval, with short digitiform dorsal projection, bearing numerous long bristles. Hypandrium with 2 subapical bristles (Fig. 241). Phallus very long, coiled (Fig. 251). One rod-shaped apodeme (Fig. 3).



FIGURES 2–5. *Elaphropeza biuncinata* (Melander) **2.** antenna. **3.** epandrium with cerci. **4.** right surstylus. **5.** left surstylus. c: cercus; a: apodeme; ls: left surstylus; rel: right epandrial lamella; rs: right surstylus.

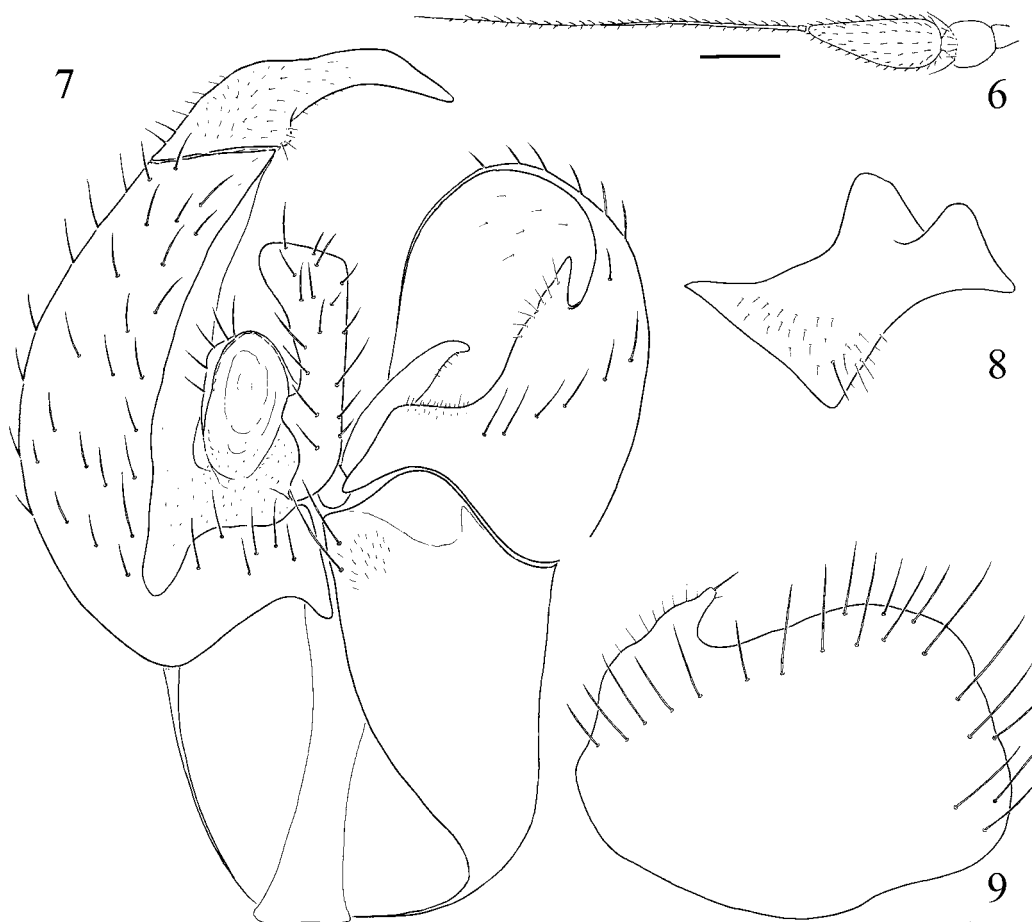
Female. Body length 1.9–2.3 mm, wing length 1.6–1.7 mm. Mid tibia lacking ventral spinules. Segment 8 (Fig. 239) rather short, with sclerites narrowly fused antero-laterally, sternite 8 not folded apically. Cercus broad, oval. Otherwise as in male.

Type material examined. Male holotype labelled: Mt. Makiling / Luzon, Baker; TYPE / *Elaphropeza biuncinata* / Mel. [dark red label]; ALMelander / Collection / 1961 (USNM).

Paratypes: 1 ♂, Mt. Makiling / Luzon, Baker; PARATYPE / *Elaphropeza biuncinata* / Mel. [dark red label]; CFBaker / collection / 1927; *Elaphropeza biuncinata* / Mel. (USNM).

1 ♀, Mt. Makiling / Luzon, Baker; ALLOTYPE / *Elaphropeza biuncinata* / Mel. [dark red label]; ALMelander / Collection / 1961 (USNM).

Melander (1928) described this species after two males and he mentioned also a female taken from the same locality. Currently, all these specimens are deposited in Melander's Collection in Washington. The head of the type specimen (holotype) is broken off and glued on a separate pin supplied by the following label: "head found in type unit box, 22.VIII.84, T. Saigusa". It should be noted that Melander did not indicate directly that the female is an allotype, although normally he did it in other cases. We confirm that in this female specimen the hind tibia lacks two curved subapical bristles (as Melander noted). In other characters, including halteres, which are dark (yellow after Melander's description), this female does not differ from the specimens that we have identified as *E. biuncinata*.



FIGURES 6–9. *Elaphropeza* sp. 42 (Malaysia: Langkawi) closely related to *E. biuncinata* (Melander) **6.** antenna. **7.** epandrium with cerci. **8.** right surstylus. **9.** left surstylus.

Additional material examined: 2 ♂♂, SINGAPORE, Bukit Timah, 15 July 2005, rain forest, Mal (reg. 25261, leg. PG); 1 ♂, 1 ♀, Bukit Timah, 27 July 2005, rain forest, Mal (reg. 25274, leg. PG); 1 ♂, Bukit Timah, 5 August 2005, rain forest, Mal (reg. 25278, leg. PG); 1 ♀, Bukit Timah, 19 August 2005, rain forest, Mal (reg. 25301, leg. PG); 1 ♀, Bukit Timah, 16 September 2005, rain forest, Mal 1 (reg. 25346, leg. PG); 1 ♀, Bukit Timah, 16 September 2005, rain forest, Mal 2 (reg. 25347, leg. PG); 1 ♂, Bukit Timah, 23 September 2005, rain forest, Mal 2 (reg. 25358, leg. PG); 2 ♀♀, Bukit Timah, 23 September 2005, rain forest, Mal 3 (reg. 25359, leg. PG); 1 ♂, Chek Jawa, 11 October 2005, mangrove, Mal (reg. 25380, leg. PG); 1 ♂, Nee Soon, 11 December 2003, swamp forest, Mal 2 (reg. 23121, leg. PG); 2 ♂♂, Nee Soon, 16 March 2005, swamp forest, Mal 3 (reg. 25017, leg. PG); 1 ♀, Nee Soon, 24 March 2005, swamp forest, Mal 2 (reg. 25029, leg. PG); 2 ♂♂,

Nee Soon, 24 March 2005, swamp forest, Mal 1 (reg. 25028, leg. PG); 6 ♂♂, 4 ♀♀, Nee Soon, 24 March 2005, swamp forest, Mal 3 (reg. 25030, leg. PG); 2 ♂♂, 2 ♀♀, Nee Soon, 5 April 2005, swamp forest, Mal 3 (reg. 25048, leg. PG); 1 ♂, 1 ♀, Nee Soon, 13 May 2005, swamp forest, Mal 3 (reg. 25143, leg. PG); 1 ♀, Nee Soon, 13 May 2005, swamp forest, Mal 1 (reg. 25141, leg. PG); 1 ♂, Nee Soon, 20 May 2005, swamp forest, Mal 2 (reg. 25145, leg. PG); 1 ♀, Nee Soon, 17 June 2005, swamp forest, Mal 1 (reg. 25156, leg. PG); 1 ♀, Nee Soon, 8 July 2005, swamp forest, Mal 1 (reg. 25205, leg. PG); 2 ♀♀, Nee Soon, 15 July 2005, swamp forest, Mal 1 (reg. 25258, leg. PG); 1 ♂, Nee Soon, 15 July 2005, swamp forest, Mal 3 (reg. 25260, leg. PG); 3 ♂♂, 1 ♀, Nee Soon, 5 August 2005, swamp forest, Mal 3 (reg. 25283, leg. PG); 1 ♂, 1 ♀, Nee Soon, 5 August 2005, swamp forest, Mal 1 (reg. 25281, leg. PG); 1 ♀, Nee Soon, 12 August 2005, swamp forest, Mal 3 (reg. 25292, leg. PG); 1 ♀, Nee Soon, 12 August 2005, swamp forest, Mal 1 (reg. 25290, leg. PG); 1 ♂, Nee Soon, 19 August 2005, swamp forest, Mal 1 (reg. 25296, leg. PG); 2 ♂♂, 3 ♀♀, Nee Soon, 19 August 2005, swamp forest, Mal 3 (reg. 25298, leg. PG); 2 ♂♂, 2 ♀♀, Nee Soon, 26 August 2005, swamp forest, Mal 3 (reg. 25318, leg. PG); 3 ♀♀, Nee Soon, 16 September 2005, swamp forest, Mal 2 (reg. 25350, leg. PG); 4 ♂♂, 1 ♀, Nee Soon, 16 September 2005, swamp forest, Mal 3 (reg. 25351, leg. PG); 1 ♀, Nee Soon, 23 September 2005, swamp forest, Mal 2 (reg. 25361, leg. PG); 2 ♂♂, Nee Soon, 14 October 2005, swamp forest, Mal 5 (reg. 25392, leg. PG); 1 ♀, Nee Soon, 14 October 2005, swamp forest, Mal 3 (reg. 25390, leg. PG); 4 ♂♂, 1 ♀, Nee Soon, 14 October 2005, swamp forest, Mal 3 (reg. 25390, leg. PG); 1 ♀, Nee Soon, 28 October 2005, swamp forest, Mal 1 (reg. 25403, leg. PG); 1 ♂, 1 ♀, Nee Soon, 28 October 2005, swamp forest, Mal 3 (reg. 25405, leg. PG); 1 ♀, Nee Soon, 18 November 2005, swamp forest, Mal 3 (reg. 25424, leg. PG); 1 ♀, Nee Soon, 3 December 2005, swamp forest, Mal 1 (reg. 25436, leg. PG); 1 ♀, Nee Soon, 3 December 2005, swamp forest, Mal 1 (reg. 25436, leg. PG); 1 ♀, Nee Soon, 14 December 2005, swamp forest, Mal 1 (reg. 25446, leg. PG); 1 ♂, Nee Soon, 14 December 2005, swamp forest, Mal 3 (reg. 25448, leg. PG); 1 ♀, Nee Soon, 14 December 2005, swamp forest, Mal 2 (reg. 25447, leg. PG); 1 ♀, Nee Soon, 21 December 2005, swamp forest, sweeping (reg. 25454, leg. PG); 1 ♂, Nee Soon, 13 January 2006, swamp forest, Mal 3 (reg. 26014, leg. PG); 2 ♀♀, Nee Soon, 25 January 2006, swamp forest, Mal 1 (reg. 26020, leg. PG); 1 ♂, Nee Soon, 8 February 2006, swamp forest, Mal 1 (reg. 26028, leg. PG); 1 ♀, Nee Soon, 8 February 2006, swamp forest, Mal 3 (reg. 26030, leg. PG); 2 ♀♀, Sime forest, 17 June 2005, forest, Mal 2 (reg. 25137, leg. PG); 3 ♀♀, Sime forest, 8 July 2005, forest, Mal 1 (reg. 25203, leg. PG); 1 ♀, Sime forest, 5 August 2005, forest, Mal 1 (reg. 25279, leg. PG); 1 ♀, Sime forest, 7 September 2005, forest, Mal 1 (reg. 25334, leg. PG); 1 ♀, Sime forest, 16 September 2005, forest, Mal 1 (reg. 25352, leg. PG); 1 ♀, Sime forest, 14 October 2005, forest, Mal 1 (reg. 25384, leg. PG); 1 ♀, Sime forest, 9 November 2005, forest, Mal 2 (reg. 25413, leg. PG); 1 ♀, Sime forest, 18 November 2005, forest, Mal 1 (reg. 25420, leg. PG); 1 ♀, Sime forest, 8 February 2006, forest, Mal 2 (reg. 26027, leg. PG); 1 ♂, Sime forest, 17 February 2006, forest, Mal 2 (reg. 26035, leg. PG); 1 ♀, Sime forest, 17 February 2006, forest, Mal 1 (reg. 26034, leg. PG); 1 ♂, Sungei Buloh, 19 August 2005, mangrove, Mal 1 (reg. 25302, leg. PG, E-09).

MALAYSIA: 1 ♂, 2 ♀♀, Langkawi, Burau Bay, 1 September 2005, sweep netting (reg. 25323, leg. PG, det. as E-42)

Distribution and bionomics. Philippines, Singapore and Malaysia. Forest.

Singapore: This is one of the commonest *Elaphropeza* species, with records from all forest types. Only twice was the species observed in mangrove. *Elaphropeza biuncinata* is present throughout the year. In the first half of the year there are short, small peaks nearly every month that probably reflect a one-month generation time interval. It is abundant and continuously present from the beginning of August until Mid December. The sex ratio is almost 1/1 suggesting a similar activity pattern of females and males.

Remarks. *Elaphropeza biuncinata* appears to belong to a monophyletic lineage including phenetically uniform *E. hirsutitibia* de Meijere, *E. combinata* sp. nov., *E. melanderi* sp. nov., *E. crassicercus* sp. nov., *E. spiralis* sp. nov., *E. yangi* sp. nov., *E. murphyi* sp. nov., *E. flavicaput* sp. nov., *E. monacantha* sp. nov. and *E. luanae* sp. nov. These species share curved subapical bristles on the hind tibia, however, the relationships

between them are not quite clear. The main distinguishing features of *E. biuncinata* are indicated in the key. *E. biuncinata* resembles *E. melanderi* sp. nov. differing primarily by an uniformly coloured scutum (vs. two elongate brownish spots on each side).

Elaphropeza sp. 42 known from a single male is very similar to *E. biuncinata* and differs from the latter in some characters of the male terminalia only (Figs. 6–9). This specimen was taken from Langkawi (Malaysia). Although the distinguishing characters of *Elaphropeza* sp. 42 are quite distinctive (especially the shape of the cerci and right surstylus), we believe that it would be premature to give this specimen a formal taxonomic name until additional material becomes available.

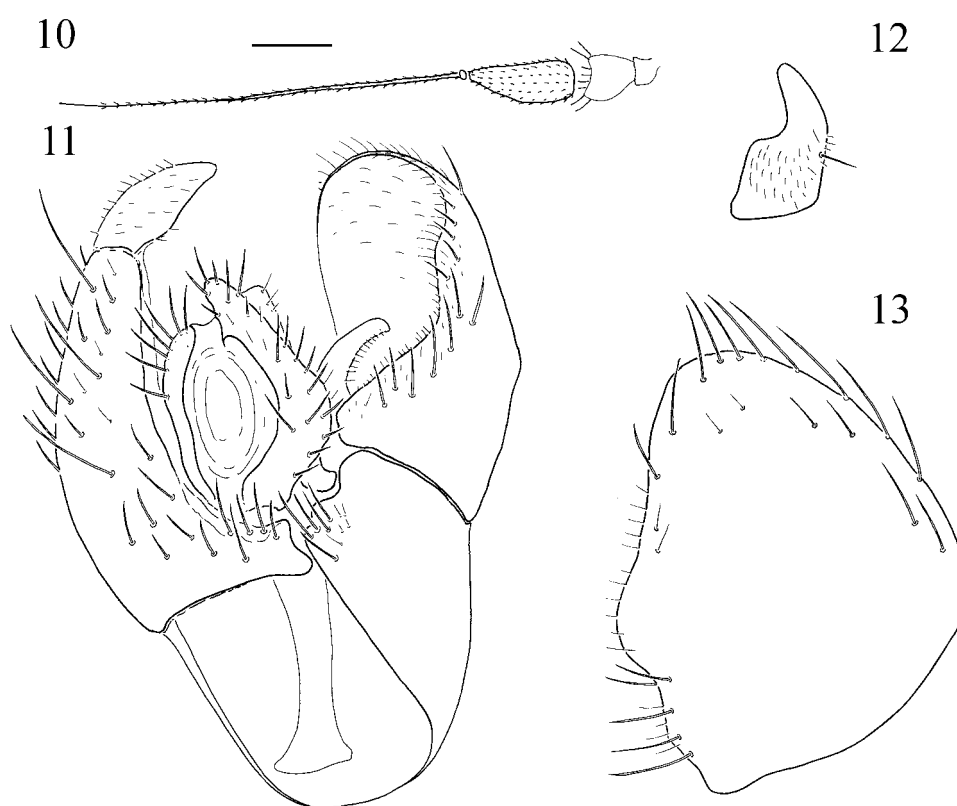
***Elaphropeza hirsutitibia* de Meijere, 1914**

(Figs. 10–13, 259)

? *Drapetis bihamata* Bezzi: de Meijere, 1911: 332.

Elaphropeza hirsutitibia de Meijere, 1914: 75 (female).

Re-description. Male (described for the first time). Body length 2.1–2.3 mm, wing length 1.7–1.8 mm. Occiput wholly black, subshining, with yellow to brownish yellow setation. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals very long, outer ones hardly prominent. Frons subshining, short. Antenna (Fig 10) with scape and pedicel yellow (sometimes brownish yellow), postpedicel brownish. Pedicel with circlet of subequally short setulae. Postpedicel 2.3–2.6 times longer than wide (2.3 times in holotype). Style normally pubescent, brown, 4.0–4.5 (holotype 4.0) longer than postpedicel, about 2.5 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded, with scattered brownish yellow setulae, bearing 1 longer and darker subapical seta.



FIGURES 10–13. *Elaphropeza hirsutitibia* de Meijere. **10.** antenna. **11.** epandrium with cerci. **12.** right surstylus. **13.** left surstylus.

Thorax almost wholly yellow, shining, with yellow to brownish yellow bristles; hypopleuron and sternopleuron with small brownish patch in lower part (lacking in paler specimens), metanotum varying from yellowish brown to brown (in holotype brownish yellow). Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 very short postsutural supra-alar, 1 similar postalar and 4 scutellar bristles (inner ones very long, cruciate; outer ones very short). Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.

Legs wholly yellow (sometimes tarsomere 5 brownish yellow), mostly with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with hardly prominent rows of antero- and posteroventral bristles and 2 long bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of black ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 2 black curved subapical anteroventral bristles; apical projection small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified, with unmodified setation.

Wing (Fig. 259) normally developed, uniformly finely infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brownish. Costal index: 43/29/24/14. Vein Rs somewhat longer than crossvein bm-cu. Vein R2+3 almost straight. Veins R4+5 and M1+2 somewhat divergent near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter darkened.

Abdomen. Tergite 1 with very narrow brownish spaces laterally. Tergite 2 deeply broadly concave on anterior margin, broader laterally; with scattered, brownish, unmodified setae. Tergite 3 broadest, subrectangular, with squamiform setae. Tergite 4 in middle about 2 times narrower than tergite 3, with squamiform setae. Tergite 5 very narrow, in middle about 2 times narrower than tergite 4, with squamiform setae. Tergites 6 and 7 somewhat paler, unmodified; tergite 6 with moderately long, tergite 7 with long posteromarginal bristles. Tergite 8 unmodified. Sternites largely yellowish, sternites 6–8 yellowish brown, sternites 3–5 divided along midline, with scattered setulae. Gland-like structures present between tergites 3–4 and 4–5.

Terminalia (Figs. 11–13) large, brownish yellow. Cerci separated; left cercus unbranched, short, with numerous moderately long bristles; right cercus narrow, with few moderately long bristles. Epandrium completely divided. Right epandrial lamella subtriangular, covered with numerous bristles of different lengths. Right surstylus strongly prominent, small, as in Fig. 12, covered with numerous short bristles. Left epandrial lamella fused to hypandrium, with several bristles of different lengths apically. Left surstylus with upper lobe large, almost broad-ovalate, with long unmodified marginal bristles. Hypandrium with 2 long strong apical bristles. Phallus very long, coiled. One rod-shaped apodeme.

Female. Body length 2.2–2.4 (1.7 in holotype) mm, wing length 1.8–2.0 (1.9 in holotype) mm. Mid tibia lacking ventral spinules. Abdominal segment 8 short, with sclerites fused antero-laterally, sternite 8 not folded apically. Cercus brownish yellow. Otherwise as in male.

Type material examined. Female holotype labelled: [female] [red label] *Elaphropeza* / *hirsutitibia* / de Meijere, 1914 / ZMAN type DIPT.0480.1; *El. hirsutitibia* [hand-written] / det. de Meijere / Type [hand-written]; Ba Tavia / x.07 / Jacobson [all hand-written] (ZMAN).

De Meijere (1911) first identified this species as *D. bihamata* Bezzi (known from Papua New Guinea only) but with a question mark indicating some differences. Later, when he obtained additional specimens, de Meijere (1914) named it as a separate species. The holotype is currently in good condition and deposited in ZMAN.

Additional material examined. MALAYSIA, 1 ♂, Langkawi, Burau, 3 September 2005, stream, sweeping (reg. 25326, leg. PG); 6 ♂♂, Pulau Tioman, Juara, 20 July 2005, river, sweeping (reg. 25246, leg. PG); 1 ♂, Pulau Tioman, Monkey Bay, 14 July 2005, beach, sweeping (reg. 25216, leg. PG, E-13).

SINGAPORE, 5 ♂♂, Chek Jawa, 21 September 2005, mangrove, sweeping (reg. 25356, leg. PG); 5 ♂♂, Bukit Timah, 4 December 2002, rain forest; primary, sweeping (reg. 22050, leg. PG); 2 ♂♂, Bukit Timah, 11 March 2005, rain forest, sweeping (reg. 25011, leg. PG); 1 ♂, Bukit Timah, 5 August 2005, rain forest, Mal (reg. 25278, leg. PG); 1 ♂, Bukit Timah, 19 August 2005, rain forest, Mal (reg. 25301, leg. PG); 1 ♂, Bukit Timah, 7 September 2005, rain forest, sweeping (reg. 25330, leg. PG); 1 ♂, 1 ♀, Bukit Timah, 16 September 2005, rain forest, Mal 2 (reg. 25347, leg. PG); 1 ♂, Bukit Timah, 23 September 2005, rain forest, Mal 2 (reg. 25358, leg. PG); 2 ♀♀, Kent Ridge Park, 24 April 2005, drains, sweeping (reg. 25086, leg. PG); 1 ♂, Seletar, 26 November 2003, swampy grassland, sweeping (reg. 23088, leg. PG); 1 ♂, Seletar, 2 November 2005, swamp forest, sweeping (reg. 25410, leg. PG); 1 ♂, Sungei Buloh, 18 November 2005, mangrove, Mal 1 (reg. 25425, leg. PG).

THAILAND: 6 ♂♂, 5 ♀♀, Petchaburi prov. Huai Sat Yai (near Cha-am), 20 March 2001, secondary rain forest (reg. 21004, leg. PG, RBINS).

Distribution and bionomics. Indonesia (Java), Singapore, Malaysia, Thailand. Eurytopic: forest, mangrove, parks.

Elaphropeza hirsutitibia is widely distributed and is now known from Indonesia: Java (Jakarta), Singapore, and various localities in Malaysia: Pulau Tioman in the South China Sea and Langkawi, an island in the Andaman Sea close to the southern Thai border. The record in Thailand is from Petchaburi Province.

Singapore: *Elaphropeza hirsutitibia* is found in a wide variety of habitats near beaches, mangrove, secondary and even primary forests. It is not very common (only 12 records) and is generally not very abundant. Much more males are recorded than females, with a sex ratio of 0.1/1. Although there are records from March, the species is more abundant in the second half of the year, as for most other species of *Elaphropeza*.

Remarks. *Elaphropeza hirsutitibia* is assigned to a monophyletic lineage including *E. biuncinata*, *E. combinata* sp. nov., *E. melanderi* sp. nov., *E. crassicercus* sp. nov., *E. spiralis* sp. nov., *E. yangi* sp. nov., *E. murphyi* sp. nov., *E. flavicaput* sp. nov., *E. monacantha* sp. nov. and *E. luanae* sp. nov.. These species share curved subapical bristles on the hind tibia, however, the relationships between them are not quite clear. The main distinguishing features of *E. hirsutitibia* are indicated in the key.

Elaphropeza spiralis sp. nov.

(Figs. 14–17, 252, 256)

Diagnosis. Occiput yellow with dark spot, postpedicel nearly 3.0 times longer than wide, style about 4.0 times longer than postpedicel; mesonotum broadly brown along margin; hind femur dark brown on apical 2/3, hind tibia with 2 black curved subapical anteroventral bristles setae.

Description. Male. Body length 2.0–2.1 mm, wing length 1.7–1.8 mm. Occiput subshining, yellow, darkened above neck (including ocellar tubercle), with yellow to brownish yellow setation. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones hardly prominent. Frons brownish yellow, subshining. Antenna (Fig. 14) brownish yellow. Pedicel with circlet of subequally short setulae. Postpedicel nearly 3.0 times longer than wide. Style normally pubescent, brown, nearly 4.0 times longer than postpedicel and about 2.5 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded, with scattered brownish yellow setulae, bearing 1 longer subapical seta.

Thorax largely yellow, shining, with yellow to brownish yellow bristles; prothoracic sclerites brownish yellow, scutum broadly brown along margin (except for prescutellar depression), scutellum, hypopleuron, pteropleuron, metanotum and metapleuron brown, sternopleuron and mesopleuron brownish yellow anteriorly. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 similar upturned bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorso-centrals multiserial, uniform (except for 2 pairs of long dorsocentral prescutellars); the former lacking on prescutellar depression.



FIGURES 14–17. *Elaphropeza spiralis* sp. nov. **14.** antenna. **15.** epandrium with cerci. **16.** right surstylus. **17.** left surstylus.

Legs almost wholly yellow, with yellow to brownish yellow setation; hind femur dark brown on apical 2/3. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles and 2 long bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of black ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 2 black curved subapical anteroventral bristles; apical projection rather small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing (Fig. 256) normally developed, brownish infusate in basal half (border between darker basal half and paler apical half indistinct), covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, brownish. Costal index: 32/33/28/12. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 parallel near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 present, very weak. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter darkened.

Abdomen. Tergite 1 almost wholly reddish yellow, with very narrow brownish trace laterally. Tergite 2 moderately broad, subrectangular, somewhat concave on anterior margin, with unmodified setae. Tergite 3 broadest, about 3.0 times broader than tergite 2, with squamiform setae. Tergite 4 somewhat narrower than tergite 3, with squamiform setae. Tergite 5 very narrow, about 2.0 times narrower than tergite 2, with squamiform setae. Tergites 6 and 7 very narrow and almost divided along midline, tergite 6 with short, tergite 7 with moderately long posteromarginal bristles. Tergite 8 unmodified. Sternites 3–5 represented by 2 small subrectangular brown spots, sternites 5–7 undivided, subrectangular. Gland-like structures present between tergites 3–4 and 4–5.

Terminalia (Figs. 15–17) large, brownish yellow. Cerci separated; left cercus unbranched, rather digitiform, turned toward right cercus apically, with several moderately long bristles. Right cercus short, narrow, with some moderately long bristles. Epandrium completely divided. Right surstylus strongly prominent, small, subtriangular, bearing short bristles. Left epandrial lamella fused to hypandrium, with 2 moderately long bristles apically. Left surstylus with upper lobe large, subglobular, bearing long marginal bristles. Hypandrium with 1 long and 1 short bristles in apical part. Phallus (Fig. 252) very long, double spiral. One rod-shaped apodeme.

Female. Body length 2.0–2.2 mm, wing length 1.7–1.8 mm. Mid tibia lacking spinules. Segment 8 brownish, short, with sclerites fused antero-laterally, sternite 8 not folded apically. Cercus brownish yellow. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, Nee Soon, 17 June 2005, swamp forest, Mal 2 (reg. 25157, leg. PG, E-17).

Paratypes: SINGAPORE: 1 ♀, Bukit Timah, 7 September 2005, rain forest, sweeping (reg. 25330, leg. PG); 1 ♂, Nee Soon, 5 October 2000, swamp forest, sweeping (reg. 20030, leg. PG & N. Evenhuis); 1 ♂, Nee Soon, 5 April 2005, swamp forest, Mal 2 (reg. 25047, leg. PG); 1 ♂, Nee Soon, 15 July 2005, swamp forest, Mal 2 (reg. 25259, leg. PG); 1 ♂, Nee Soon, 12 August 2005, swamp forest, Mal 1 (reg. 25290, leg. PG); 1 ♂, Nee Soon, 19 August 2005, swamp forest, Mal 3 (reg. 25298, leg. PG); 1 ♀, Nee Soon, 7 September 2005, swamp forest, Mal 2 (reg. 25332, leg. PG); 1 ♂, Nee Soon, 16 September 2005, swamp forest, Mal 3 (reg. 25351, leg. PG); 1 ♀, Nee Soon, 23 September 2005, swamp forest, Mal 2 (reg. 25361, leg. PG); 1 ♀, Nee Soon, 28 October 2005, swamp forest, Mal 3 (reg. 25405, leg. PG); 1 ♂, Nee Soon, 3 December 2005, swamp forest, Mal 1 (reg. 25436, leg. PG); 1 ♂, Nee Soon, 3 December 2005, swamp forest, Mal 2 (reg. 25437, leg. PG); 2 ♂♂, Nee Soon, 8 February 2006, swamp forest, Mal 2 (reg. 26029, leg. PG); 1 ♂, Sime forest, 19 August 2005, forest, Mal 1 (reg. 25299, leg. PG); 1 ♂, Sime forest, 14 October 2005, forest, Mal 3 (reg. 25386, leg. PG); 1 ♂, Sime forest, 14 October 2005, forest, Mal 1 (reg. 25384, leg. PG); 1 ♂, Sime forest, 4 January 2006, forest, Mal 2 (reg. 26003, leg. PG).

Derivatio nominis. The name *spiralis* alludes to the very long, spirally wound phallus.

Distribution and bionomics. Singapore. Forest.

Singapore. This is a quite common species that is never abundant. It is found in all types of forest and was never found in mangrove. The peak activity is from August until the end of October, with occasional records during the rest of the year. Much more males than females are recorded with a sex ratio of 0.26/1 females to males. It is clear that females have a completely different activity pattern than males.

Remarks. *Elaphropeza spiralis* sp. nov. belongs to an apparently monophyletic lineage of *Elaphropeza* sharing curved subapical bristles on the hind tibia. Within this lineage the new species is closely related to *E. yangi* sp. nov., *E. murphyi* sp. nov., *E. flavicaput* sp. nov., *E. monacantha* sp. nov. and *E. luanae* sp. nov. in having a very long phallus coiled in a peculiar double spiral. Otherwise, the relationships of *E. spiralis* sp. nov. have not been resolved. The main distinguishing features of *E. spiralis* sp. nov. are indicated in the diagnosis given above.

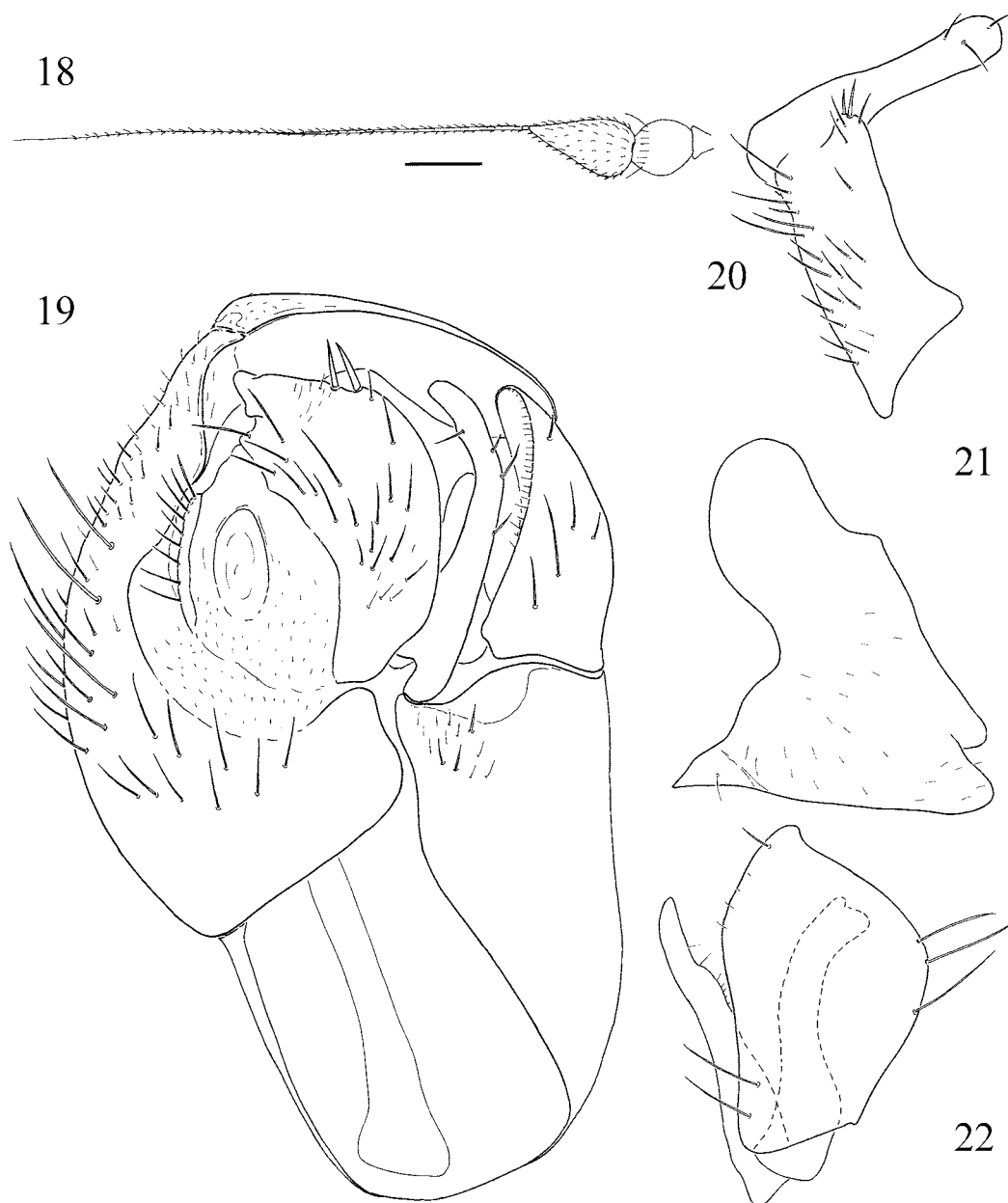
***Elaphropeza combinata* sp. nov.**

(Figs. 18–22)

Diagnosis. A robust yellow species with occiput yellow, postpedicel about 1.5 times longer than wide, style about 5.0 times longer than postpedicel; thorax wholly yellow; legs yellow, hind tibia with 2 black curved subapical anteroventral bristles and 1 anterodorsal bristle near middle.

Description. Male. Body length 2.7–2.9 mm, wing length 2.3–2.4 mm. Occiput and frons wholly yellow, subshining, with yellow to brownish yellow setation. Ocellar tubercle yellow, anterior ocellars long, procli-

nate; posterior ocellars minute. Inner verticals long, outer ones hardly prominent. Frons yellow, subshining. Antenna (Fig. 18) yellow, basal segments with brownish tinge. Pedicel with circlet of subequally short setulae. Postpedicel short, nearly 1.5–1.7 times longer than wide. Style normally pubescent, brownish yellow, about 5.0 times longer than postpedicel and nearly 3.0 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded, with scattered brownish yellow setulae, bearing 1 longer and darker subapical seta.



FIGURES 18–22. *Elaphropeza combinata* sp. nov. **18.** antenna. **19.** epandrium with cerci. **20.** left cercus lateral view. **21.** right surstylus dorsal view. **22.** left surstylus.

Thorax wholly yellow, shining, with yellow to brownish yellow bristles. Scutellum with truncate apex. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 very short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 very short postsutural supra-alar, 1 post-alar and 4 scutellar (inner ones very long, cruciate; outer ones minute) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 2 pairs of long prescutellars), extending to base of scutellum.

Legs wholly yellow, mostly with yellow to brownish yellow setation. Coxae and trochanters with ordinary but strong setation, hind trochanter with several black spinules posteriorly. Fore and hind femora and tibiae somewhat thickened. Fore femur with hardly prominent rows of antero- and posteroventral bristles, 1 long bristle near base and 1 anterior subapical bristle. Fore tibia bearing 2 long bristly hairs before gland and 1 dorsal bristle in basal part. Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of black ventral spinules in apical part, bearing 1 anterodorsal bristle in basal part. Hind femur thickened in about apical 2/3, bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base, covered with numerous ventral setulae in basal part. Hind tibia with 2 black curved subapical anteroventral bristles and 1 anterodorsal bristle near middle; apical projection small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified, hind tarsomere 1 shorter than remaining tarsomeres combined.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brownish. Costal index: 49/48/35/13. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 parallel near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 present as trace. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter yellow.

Abdomen. Tergites 1–2 and 5–7 yellowish, tergites 3 and 4 dark brown. Tergite 1 very narrow. Tergites 2–4 of subequal width viewed laterally but tergite 2 broadly concave on anterior margin; tergite 5 about 2.0 times narrower than tergite 4. Tergites 3–5 bearing squamiform setae. Tergites 6–8 unmodified; tergite 6 lacking prominent posteromarginal bristles, tergite 7 with long posteromarginal bristles. Sternites unmodified; sternites 7–8 with long posteromarginal bristles. Gland-like structures present between tergites 3–4 and 4–5.

Terminalia (Figs. 19–22) large, brownish yellow. Cerci separated; left cercus unbranched, mainly broad, with digitiform apical part produced inward, clothed with long bristles, bearing 2 spine-like bristles apically. Right cercus short, very narrow, with several moderately long bristles. Epandrium completely divided. Right surstylus (Fig. 21) strongly prominent, rather large, subtriangular, with scattered short bristles, lacking spines. Left epandrial lamella fused to hypandrium, with several short bristles apically. Left surstylus with upper lobe moderately large, as in Fig. 22, with few long marginal bristles. Hypandrium with 1 long and 1 short bristles. Phallus long, coiled. One rod-shaped apodeme.

Female. Body length 3.0–3.2 mm, wing length 2.5–2.6 mm. Mid tibia lacking ventral spinules. Segment 8 short, brownish yellow, with sclerites fused antero-laterally; sternite 8 not folded apically. Cercus brownish yellow. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, 1 ♂, Nee Soon, 8 February 2006, swamp forest, Mal 3 (reg. 26030, leg. PG, E-21).

Paratypes: 1 ♀, SINGAPORE, Nee Soon, 14 October 2005, swamp forest, Mal 3 (reg. 25390, leg. PG); 1 ♀, Nee Soon, 18 November 2005, swamp forest, Mal 2 (reg. 25423, leg. PG); 1 ♀, Nee Soon, 3 December 2005, swamp forest, Mal 2 (reg. 25437, leg. PG, E-21).

Derivatio nominis. The name *combinata* refers to the combined presence of a single anterodorsal bristle and a pair of curved subapical bristles on the hind tibia.

Distribution and bionomics. Singapore. Swamp forest.

Singapore. This is a very rare species that was only found at Nee Soon.

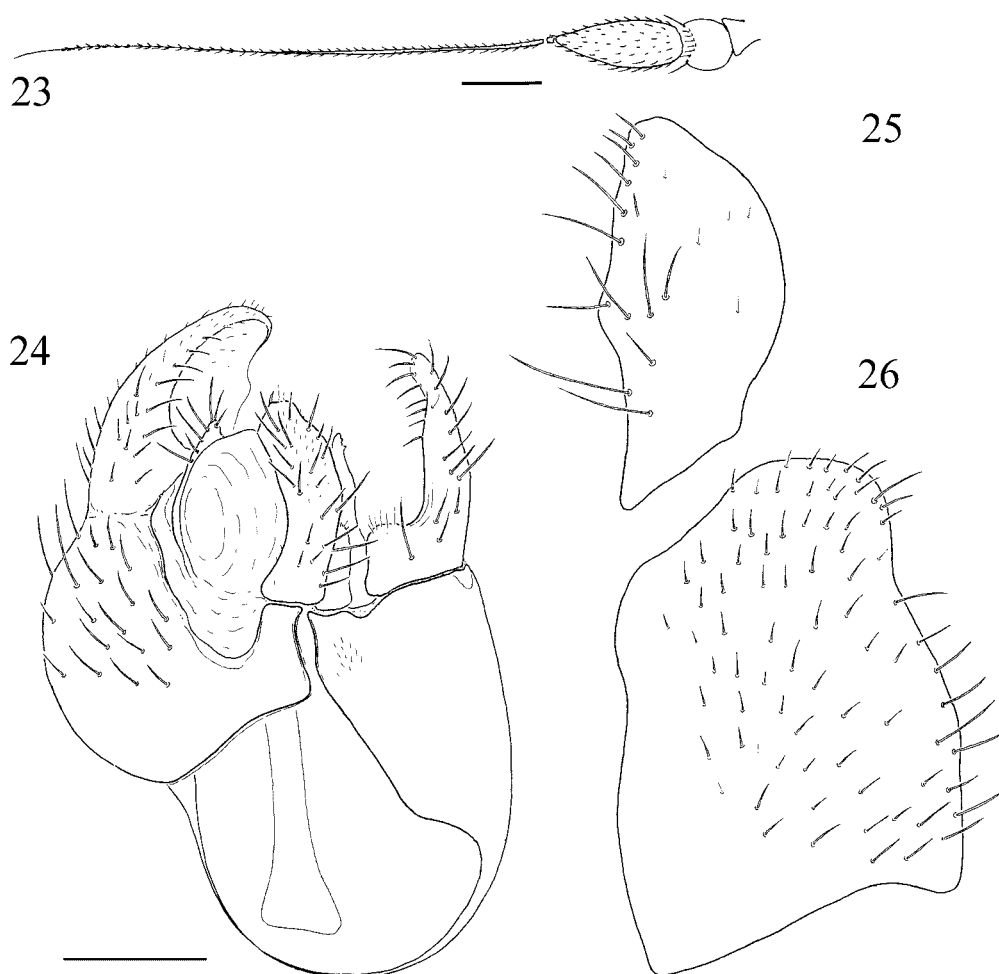
Remarks. *Elaphropeza combinata* belongs to an apparently monophyletic lineage of *Elaphropeza* sharing curved subapical bristles on the hind tibia. Otherwise, the relationships of this species have not been resolved. The new species can be readily distinguished from other species of *Elaphropeza* by the presence of an anterodorsal bristle on the tibia of all legs and some other characters indicated in the diagnosis given above and in the key.

Elaphropeza sime sp. nov.

(Figs. 23–26)

Diagnosis. Species with thorax entirely black; antenna with scape and postpedicel yellow, postpedicel brownish; legs wholly yellow, hind tibia bearing 2 straight anterior subapical bristles of different lengths; wing with brownish band on middle part, halter yellow.

Description. Male. Body length 2.8 mm, wing length 2.2 mm. Occiput black, subshining, with pale setation. Anterior ocellars long, proclinate and cruciate; posterior ocellars minute. Inner verticals long, outer ones shorter. Antenna (Fig. 23) with scape and pedicel yellow, postpedicel brownish (except base). Pedicel with circlet of subequally short setulae. Postpedicel nearly 3.0 times longer than wide. Style normally pubescent, brown, 4.0 times longer than postpedicel and nearly 2.5 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, oval.



FIGURES 23–26. *Elaphropeza sime* sp. nov. **23.** antenna. **24.** epandrium with cerci. **25.** right surstylus. **26.** left surstylus.

Thorax entirely black, shining, with pale setation. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 very short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals undifferentiated, scutum evenly covered with uniform (except for 1 pair of long prescutellars) setulae.

Legs rather long, entirely yellow (hind femur appearing paler in basal part), with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore femur and tibia and hind tibia somewhat

thickened, hind femur rather slender. Fore femur with rows of short antero- and posteroventral bristles (1 bristle near base longer). Fore tibia lacking prominent bristles (except subapicals) but with row of ventral spinules. Mid femur slender, with 2 rows of spinule-like, short, ventral bristles (4–5 posteroventrals in basal part longer and stronger), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules (1 subapical longer), lacking prominent bristles (except subapicals). Hind femur with 1 row of very short anteroventrals and 2–3 erect dorsal bristles near base. Hind tibia bearing 2 subapical straight bristles (1 very short) anteriorly, otherwise with ordinary setation; apical projection prominent, small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, largely finely infusate, with somewhat darker brownish band on middle part, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle short, yellow. Costal index: 52/48/39/11. Vein Rs somewhat longer than crossvein bm-cu. Vein R2+3 almost straight. Veins R4+5 and M1+2 parallel near wing apex, vein M1+2 somewhat bowed. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu somewhat oblique. Crossvein r-m beyond middle of cell bm. Halter yellow.

Abdomen. Tergites (except tergite 1) well sclerotised, brown. Tergite 2 concave anteriorly, with unmodified setae. Tergites 3–5 becoming gradually narrower (from 3rd to 5th), bearing squamiform setae. Tergites 6 and 7 of subequal width, both with rather short posteromarginal bristles. Sternites (except sternites 6–8) pale yellow, with scattered setulae. Gland-like strictures present between tergites 3–4 and 4–5.

Terminalia (Figs. 24–26) small, brown. Cerci broadly separated; left cercus subrectangular, covered with numerous bristles of different lengths, with short spine-like bristle at apex; right cercus short, narrow, with several moderately long bristles. Epandrium completely divided. Right epandrial lamella subrectangular, covered with numerous bristles of different lengths. Right surstylus prominent, large, almost as long as right epandrial lamella, rather elongate oval, with short bristles. Left epandrial lamella fused to hypandrium, with several setulae apically. Left surstylus with upper lobe large, subrectangular, with numerous short bristles. Hypandrium with 2 equally strong and long bristles apically. Phallus long, curved. One rod-shaped apodeme.

Female. Unknown.

Material examined. Holotype male labelled: SINGAPORE, 1 ♂, Sime forest, 4 January 2006, forest, Mal 2 (reg. 26003, leg. PG, E-30).

Derivatio nominis. The name *sime* refers to the type locality, the Sime forest and is used as a noun.

Distribution and bionomics. Singapore. Forest.

Singapore. With a single record, little can be said of this very rare species.

Remarks. The relationships of *E. sime* are unclear beyond inclusion within the *E. biuncinata* species group. In the new species, the hind tibia bears two straight anterior subapical bristles of different lengths. So, *E. sime* appears to show an intermediate state of this character and is provisionally included in this species complex of the *E. biuncinata* group.

***Elaphropeza yangi* sp. nov.**

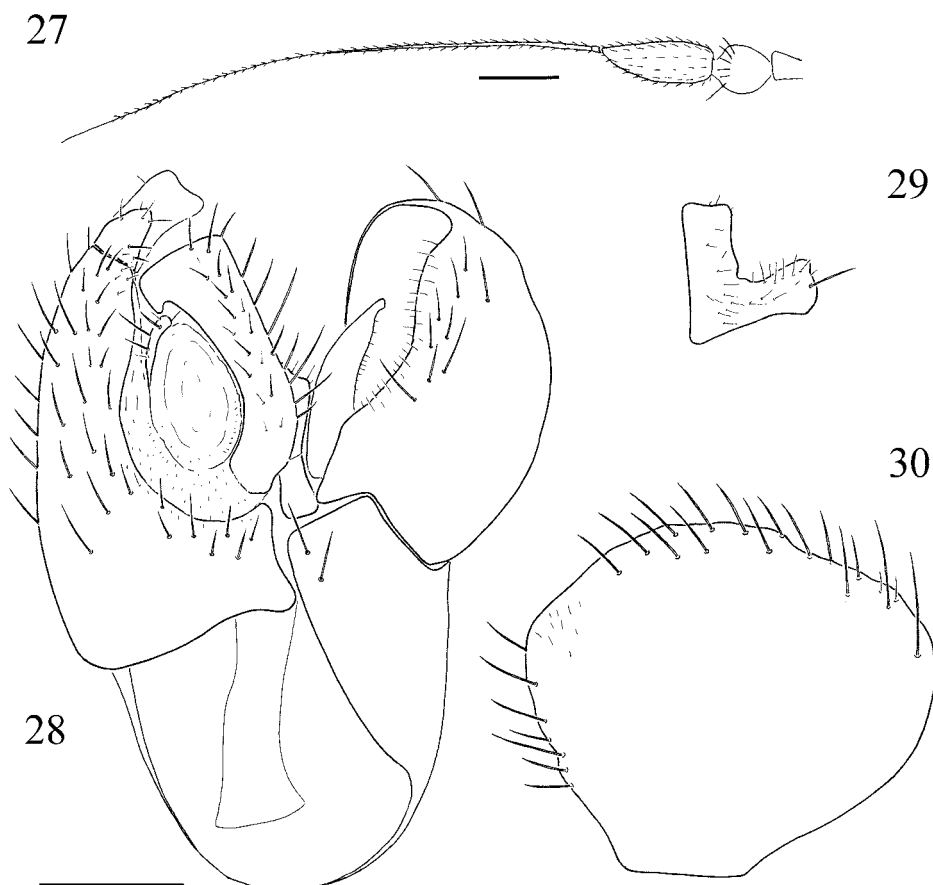
(Figs. 27–30, 255)

Diagnosis. Occiput yellow; thorax yellow with brown markings, scutum brownish on anterior corner, scutellum and metanotum brown; hind femur brownish on apical 2/3, hind tibia bearing 2 black curved subapical anteroventral bristles; wing brownish on basal half.

Description. Male. Body length 2.0–2.1 mm, wing length 1.7–1.8 mm. Occiput wholly yellow, subshining, with yellow to brownish yellow setation. Frons brownish yellow, subshining. Ocellar tubercle brownish, anterior ocellars long, proclinate and cruciate; posterior ocellars minute. Inner verticals long, outer ones shorter. Antenna (Fig. 27) with scape and pedicel yellow, postpedicel yellowish brown. Pedicel with circlet of

subequally short setulae. Postpedicel about 2.5 times longer than wide. Style normally pubescent, brown, about 4.5 times longer than postpedicel and nearly 3.0 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax yellow, with brown markings, shining, bearing yellow to brownish yellow bristles; scutum brownish on anterior corner, scutellum and metanotum brown, mesopleuron posteriorly, pteropleuron, sternopleuron and hypopleuron in lower part brownish yellow. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 very short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.



FIGURES 27–30. *Elaphropeza yangi* sp. nov. 27. antenna. 28. epandrium with cerci. 29. right surstylus. 30. left surstylus.

Legs almost wholly yellow, hind femur brownish on apical 2/3, with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur slender; with 2 rows of spinule-like, short, ventral bristles (posteroventrals longer), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 2 black curved subapical anteroventral bristles; apical projection prominent, small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, brownish in basal half and yellowish infusate in apical (border between darker and paler parts distinct), covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with short setulae along anterior margin. Basal costal bristle long, yellowish brown. Costal index: 42/

31/32/14. Vein Rs somewhat longer than crossvein bm-cu. Vein R2+3 almost straight. Veins R4+5 and M1+2 parallel near wing apex, both slightly bowed. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter with dark knob.

Abdomen. Tergite 1 entirely pale yellow. Tergite 2 narrow, brown, with unmodified setae. Tergite 3 broadest, brown, with squamiform setae. Tergite 4 nearly 1.5 times narrower than tergite 3, brown, with squamiform setae. Tergite 5 nearly as broad as tergite 2, brown, with squamiform setae. Tergites 6–8 weakly sclerotised, yellowish, with moderately long bristles. Sternites weakly sclerotised, sternites 6–8 somewhat darker, with ordinary scattered setulae. Gland-like structures between tergites 3–4 and 4–5.

Terminalia (Figs. 28–30) rather large, yellow. Cerci separated, covered with bristles of different lengths, lacking spines; left cercus rather subrectangular, with apical part somewhat produced and curved inward. Epandrium completely divided. Right epandrial lamella subrectangular, covered with numerous bristles of different lengths. Right surstylus prominent, small, as in Fig. 29, covered with very short bristles. Left epandrial lamella fused to hypandrium, with 2 long bristles apically. Left surstylus with upper lobe large, subglobular, with numerous long bristles along upper margin. Hypandrium with long slender processes at apex, bearing 1 long and 1 shorter thin bristles apically. Phallus very long, double spiral. One rod-shaped apodeme.

Female. Body length 2.1 mm, wing length 1.7 mm. Mid tibia lacking ventral spinules. Segment 8 short, brownish yellow, with sclerites fused antero-laterally; sternite 8 not folded apically. Cercus brownish yellow. Otherwise as in male.

Material examined. Holotype male labelled: SINGAPORE, Sime forest, 4 January 2006, forest, Mal 2 (reg. 26003, leg. PG, E-31).

Paratypes: SINGAPORE, 1 ♂, Nee Soon, 16 September 2005, swamp forest, Mal 3 (reg. 25351, leg. PG); 1 ♀, Nee Soon, 14 October 2005, swamp forest, Mal 3 (reg. 25390, leg. PG); 1 ♂, Nee Soon, 14 October 2005, swamp forest, Mal 4 (reg. 25391, leg. PG); 1 ♂, Sime forest, 7 September 2005, forest, Mal 1 (reg. 25334, leg. PG).

Derivatio nominis. The present species is dedicated to Prof. Dr. Ding Yang from the Chinese Agricultural University in Beijing. He has described many species of *Elaphropeza* from China.

Distribution and bionomics. Singapore. Forest.

Singapore. A very rare species that was recorded only from the Sime forest and Nee Soon.

Remarks. *Elaphropeza yangi* sp. nov. apparently belongs to a monophyletic lineage of *Elaphropeza* sharing curved subapical bristles on the hind tibia. Within this lineage the new species is closely related to *E. spiralis* sp. nov., *E. murphyi* sp. nov., *E. flavicaput* sp. nov., *E. monacantha* sp. nov. and *E. luanae* sp. nov. in having a very long phallus coiled in a peculiar double spiral. Otherwise, the relationships of *E. yangi* sp. nov. have not been resolved. The main distinguishing features of *E. yangi* sp. nov. are indicated in the diagnosis given above.

Elaphropeza melanderi sp. nov.

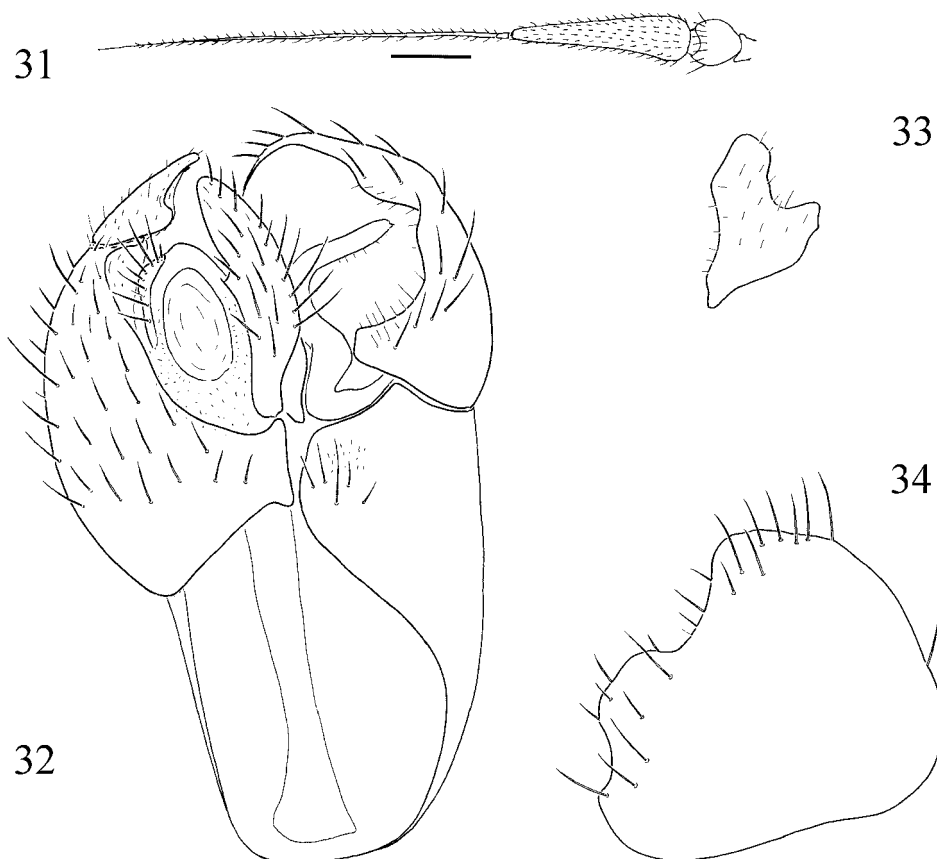
(Figs. 31–34)

Diagnosis. Occiput yellow, postpedicel brownish, 4.0 times longer than wide; thorax yellow with brownish markings, scutum with 2 pairs of elongate brownish spots; legs wholly yellow, hind tibia with 2 curved subapical bristles.

Description. Male. Body length 2.1–2.2 mm, wing length 1.6–1.7 mm. Occiput largely yellow, darkened above neck, subshining, with yellow to brownish yellow setation. Ocellar tubercle brownish; anterior ocellars long, proclinate; posterior ocellars minute. Frons yellow. Inner verticals long, outer ones hardly prominent. Antenna (Fig. 31) with scape and pedicel yellow, postpedicel brownish yellow. Pedicel with circlet of subequally short setulae. Postpedicel nearly 4.0 times longer than wide. Style normally pubescent, brown, about 2.5 times longer than postpedicel and nearly 1.5 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax yellow with brownish markings, shining, with yellow to brownish yellow bristles; scutum with 2 pairs of elongate brownish spots and also brownish behind anterior corner, sternopleuron and hypopleuron with brownish patch in lower part, pteropleuron with brownish tinge, scutellum and metanotum brownish on lateral corners, metapleuron brownish in upper part. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.

Legs wholly yellow, with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles (1 bristle near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur with rows of spinule-like, short, ventral bristles (posteroventrals somewhat longer), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of black ventral spinules in apical part (1 subapical somewhat stronger), lacking prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 2 black curved subapical anteroventral bristles; apical projection prominent, small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.



FIGURES 31–34. *Elaphropeza melanderi* sp. nov. **31.** antenna. **32.** epandrium with cerci. **33.** right surstylus. **34.** left surstylus.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, yellow. Costal index: 34/33/26/12. Vein Rs somewhat longer than crossvein bm-cu. Vein R2+3 smoothly arched, almost straight. Veins R4+5 and M1+2 parallel near wing apex, both straight. Vein CuA1 reaching

wing margin. Vein A1 absent. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter with dark knob.

Abdomen. Tergite 1 almost entirely pale yellow, only small very narrow brownish space present. Tergites 2–5 and 8 brownish, tergites 6 and 7 somewhat paler. Tergite 2 viewed laterally as broad as tergite 3, broadly shallowly concave on anterior margin, with unmodified setae. Tergite 3 with squamiform setae. Tergite 4 somewhat narrower than tergite 3, with squamiform setae. Tergite 5 somewhat narrower than tergite 4, with squamiform setae. Tergites 6 and 7 subequal, both nearly as broad as tergite 3, tergite 6 with short, tergite 7 with moderately long posteromarginal bristles. Sternites pale brownish, sternites 3–5 divided along midline, with ordinary inconspicuous setation. Segment 8 unmodified.

Terminalia (Figs. 32–34) large, brownish yellow. Cerci separated; left cercus rather short, digitiform, with numerous moderately long bristles; right cercus small, with several bristles of different lengths. Epandrium completely divided. Right epandrial lamella subrectangular, covered with numerous bristles of different lengths, lacking spines. Right surstylus prominent, small, subtriangular, covered with short bristles. Left epandrial lamella fused to hypandrium, with several bristles of different length apically. Left surstylus with upper lobe large, with numerous, rather long bristles in upper part. Hypandrium with 1 bristle. Phallus long, coiled. One rod-shaped apodeme.

Female. Body length 2.0–2.2 mm, wing length 1.6–1.7 mm. Mid tibia lacking black spinules. Segment 8 short, brownish yellow, with sclerites fused antero-laterally; sternite 8 not folded apically. Cercus brownish yellow. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, Nee Soon, 26 August 2005, swamp forest, Mal 3 (reg. 25318, leg. PG, E-36).

Paratypes: SINGAPORE, 2 ♀♀, Nee Soon, 16 March 2005, swamp forest, Mal 3 (reg. 25017, leg. PG); 1 ♂, Nee Soon, 5 August 2005, swamp forest, Mal 3 (reg. 25283, leg. PG); 1 ♂, Nee Soon, 19 August 2005, swamp forest, Mal 3 (reg. 25298, leg. PG); 2 ♂♂, 1 ♀, Nee Soon, 7 September 2005, swamp forest, Mal 2 (reg. 25332, leg. PG); 1 ♂, Nee Soon, 23 September 2005, swamp forest, Mal 3 (reg. 25362, leg. PG); 1 ♀, Nee Soon, 14 October 2005, swamp forest, Mal 5 (reg. 25392, leg. PG); 1 ♂, Nee Soon, 28 October 2005, swamp forest, Mal 3 (reg. 25405, leg. PG); 1 ♂, 1 ♀, Nee Soon, 18 November 2005, swamp forest, Mal 3 (reg. 25424, leg. PG); 1 ♂, Nee Soon, 3 December 2005, swamp forest, Mal 3 (reg. 25438, leg. PG); 1 ♀, Nee Soon, 14 December 2005, swamp forest, Mal 2 (reg. 25447, leg. PG); 1 ♀, Sime forest, 5 August 2005, forest, Mal 1 (reg. 25279, leg. PG); 2 Sime forest, 14 October 2005, forest, Mal 3 (reg. 25386, leg. PG).

Derivatio nominis. The present species is named in memory of Dr. Axel Leonard Melander, famous dipterist and author of the monograph on the family Empididae that was published in *Genera Insectorum*. He also described several *Elaphropeza* from the Philippines.

Distribution and bionomics. Singapore. Forest.

Singapore. The peak of activity of this species is from August to December. There is only a single record in March and the sex ratio is 1:1. It is quite common in rain forests and was not recorded from mangrove.

Remarks. *Elaphropeza melanderi* sp. nov. appears to belong to a monophyletic lineage of *Elaphropeza* sharing curved subapical bristles on the hind tibia. Otherwise, the relationships of this species have not been resolved.

Elaphropeza murphyi sp. nov.

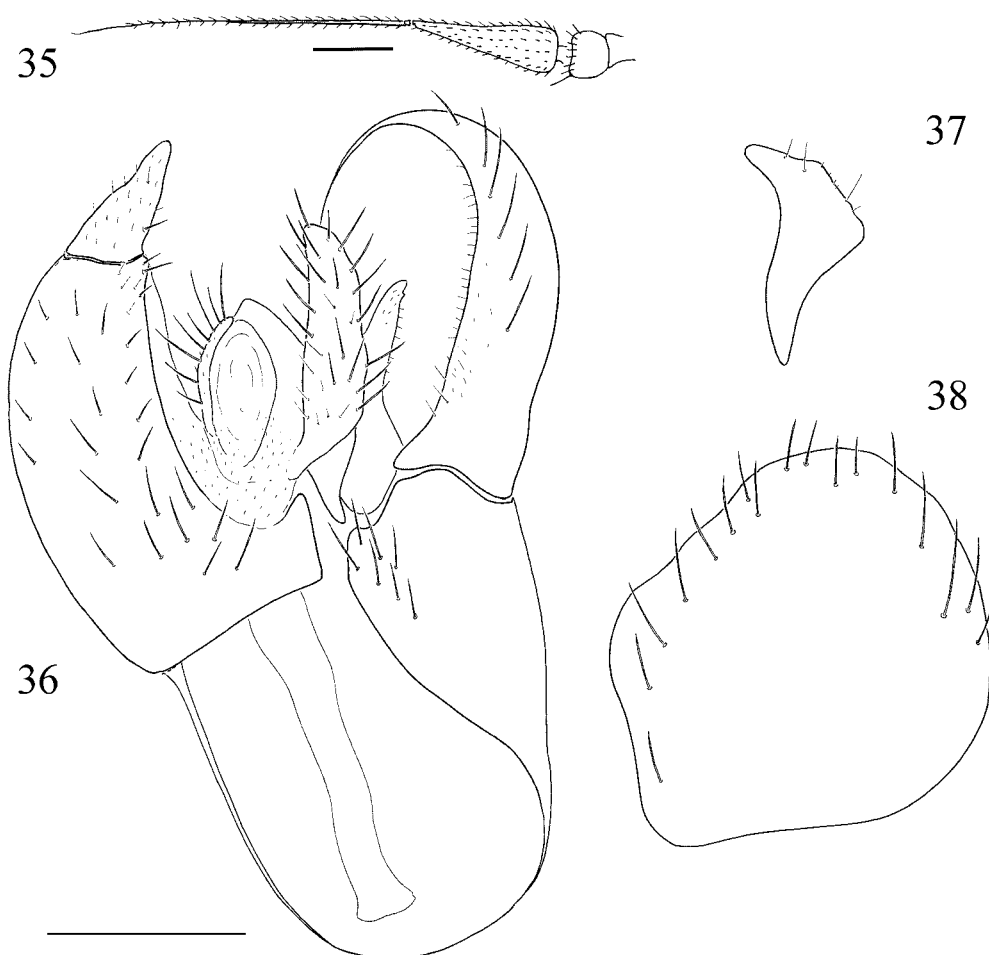
(Figs. 35–38)

Diagnosis. Occiput black, postpedicel 3.0–3.5 times longer than wide; thorax and legs wholly yellow, hind tibia with 2 curved subapical bristles.

Description. Male. Body length 2.0–2.2 mm, wing length 1.7–1.8 mm. Occiput subshining, black, with yellow to brownish yellow setation. Anterior ocellars long, proclinate and cruciate; posterior ocellars minute.

Inner verticals long, outer ones hardly prominent. Antenna (Fig. 35) with scape and pedicel yellow, postpedicel brownish yellow. Pedicel with circlet of subequally short setulae. Postpedicel 3.0–3.5 times longer than wide. Style normally pubescent, brown, about 2.0 times as long as postpedicel and somewhat longer than scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax entirely yellow (some sutures brownish in different extent), shining, with yellow to brownish yellow bristles. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.



FIGURES 35–38. *Elaphropeza murphyi* sp. nov. **35.** antenna. **36.** epandrium with cerci. **37.** right surstylus. **38.** left surstylus.

Legs wholly yellow, with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (posteroventrals somewhat longer), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules in apical part (1 subapical spinule somewhat stronger), lacking prominent bristles (except subapicals). Hind femur more or less evenly thickened, bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 2 black curved subapical anteroventral bristles; apical projection hardly prominent, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle mod-

erately long, yellow. Costal index: 33/30/27/10. Vein Rs somewhat longer than crossvein bm-cu. Vein R2+3 straight. Veins R4+5 and M1+2 parallel near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter with dark knob.

Abdomen. Tergites brownish. Tergite 1 narrow, brownish, almost disappearing dorsally. Tergite 2 broadly deeply concave on anterior margin. Tergites 3 and 4 of subequal width, both with squamiform setae. Tergite 5 somewhat narrower than tergite 4, with squamiform setae. Tergites 6 and 7 of subequal width, as broad as tergite 3, tergite 6 with minute setulae only, tergite 7 with moderately long posteromarginal bristles. Sternites pale brownish; sternites 3–5 divided. Gland-like structures between tergites 3 and 4.

Terminalia (Figs. 36–38) large, brownish yellow. Cerci broadly separated, both digitiform, with several bristles of different lengths; left cercus quite long; right cercus short, very narrow. Epandrium completely divided. Right epandrial lamella subrectangular, covered with numerous bristles of different lengths. Right surstylus prominent, small, rather subtriangular, with very short bristles. Left epandrial lamella fused to hypandrium, with several long bristles apically. Left surstylus with upper lobe large, subglobular, with numerous long bristles along upper margin. Hypandrium with 2 bristles. Phallus very long, double spiral. One rod-shaped apodeme.

Female. Body length 2.0–2.1 mm, wing length 1.7–1.8 mm. Fore tibia lacking ventral spinules. Segment 8 short, brownish yellow, with sclerites fused antero-laterally; sternite 8 not folded apically. Cercus yellow. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, Chek Jawa, 30 December 2005, mangrove, sweeping (reg. 25475, leg. PG, E-37).

Paratypes: SINGAPORE, 1 ♀, Chek Jawa, 19 November 2003, mangrove, sweeping (reg. 23080, leg. PG); 1 ♂, 4 ♀♀, Chek Jawa, 11 October 2005, mangrove, Mal (reg. 25380, leg. PG); 6 ♀♀, Chek Jawa, 26 October 2005, mangrove, Mal 2 (reg. 25399, leg. PG); 2 ♂♂, Chek Jawa, 15 December 2005, mangrove, sweeping (reg. 25452, leg. PG); 1 ♀, Chek Jawa, 22 December 2005, mangrove, Mal 1 (reg. 25455, leg. PG); 3 ♀♀, Chek Jawa, 30 December 2005, mangrove, sweeping (reg. 25475, leg. PG); 1 ♀, Sungei Buloh, 11 May 2005, mangrove, Mal 1 (reg. 25159, leg. PG); 1 ♀, Sungei Buloh, 10 June 2005, mangrove, Mal 1 (reg. 25167, leg. PG); 1 ♀, Sungei Buloh, 28 October 2005, mangrove, Mal 2 (reg. 25407, leg. PG); 1 ♀, Sungei Buloh, 18 November 2005, mangrove, Mal 1 (reg. 25425, leg. PG).

Derivatio nominis. The present species is dedicated to Prof. D.E. Murphy who did great work on mangroves in Southeast Asia.

Distribution and bionomics. Singapore. Mangrove.

Singapore. *Elaphropeza murphyi* is exclusively found in mangroves. It is not very common and most records are from Mid October until the end of December. Nonetheless there are single records in May and June. Few males have been found and the sex ratio is 4.75/1 females to males.

Remarks. *Elaphropeza murphyi* sp. nov. belongs to an apparent monophyletic lineage of *Elaphropeza* sharing curved subapical bristles on the hind tibia. Within this lineage the new species is closely related to *E. spiralis* sp. nov., *E. yangi* sp. nov., *E. flavicaput* sp. nov., *E. monacantha* sp. nov. and *E. luanae* sp. nov. in having a very long phallus coiled in a peculiar double spiral. Otherwise, the relationships of *E. murphyi* sp. nov. have not been resolved. The main distinguishing features of *E. murphyi* sp. nov. are indicated in the diagnosis given above and in the key.

Elaphropeza notatithorax Senior-White, 1922

Elaphropeza notatithorax Senior-White, 1922: 151, pl. XIV, fig. 10 (antenna) (male)

Type material examined: Male holotype; CEYLON / Matale Dist., / Suduganga / 29.v.1919; *Elaphropeza* / *notatithorax* / Senior White / TYPE male; **Holotype**; BMNH(E) # 244883 (BMNH).

Senior-White (1922) described this species from two males that are now deposited in the BMNH. We have examined the holotype only, which is highly destroyed; the remnants are in a plastic tube attached to the original pin. There are two fragments of the body. The first includes a larger part of the thorax with the head (postpedicel and style missing on both antennae) and one fore leg. The second comprises the posterior part of the thorax including the hypopleuron, pteropleuron, metapleuron, halteres and abdomen (a little damaged). The surviving structures quite agree with the original description. We could only mention that in this species the palpus is rather yellow and the fore tibia lacks prominent bristles (except subapicals). Nigel White (BMNH) kindly checked the sex of the paratype specimen, that we have not examined, and confirmed that it is a male.

Distribution. Sri Lanka.

Remarks. The relationships of *E. notatithorax* are unclear beyond inclusion within the *E. biuncinata* group, but probably this species is closely related to several species of *Elaphropeza* sharing curved subapical bristles on the hind tibia. The main distinguishing features of *E. notatithorax* are indicated in the key.

Elaphropeza sp. 57

(Fig. 39)

Description. Female. Body length 2.2 mm, wing length 1.9 mm. Occiput yellow, with dark spot above neck. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones hardly prominent. Antenna (Fig. 39) almost wholly brownish yellow, scape and pedicel somewhat paler. Pedicel with circlet of subequally short setulae. Postpedicel 3.5 times longer than wide. Style normally pubescent, brown, 3.6 times longer than postpedicel and 2.3 times as long as scape, pedicel and postpedicel combined. Palpus yellow, small, rounded.

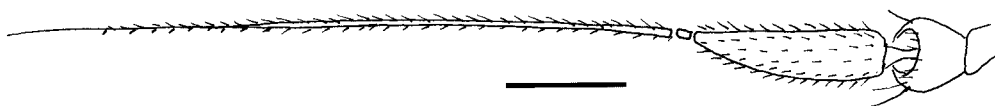


FIGURE 39. Antenna unnamed *Elaphropeza* sp. 57 female.

Thorax almost entirely yellow, scutum with quite distinct rounded brownish spot above wing base, sternopleuron and hypopleuron brown on middle part, metapleuron brownish in upper part. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 very short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with usual set of bristles. Acrostichals and dorsocentrals multiserial, extending to base of scutellum.

Legs wholly yellow. Fore and mid femur with ordinary armature. Fore tibia lacking prominent bristles. Mid tibia lacking black ventral spinules and prominent bristles (except subapicals). Hind femur with unmodified setation. Hind tibia bearing 2 black curved subapical anteroventral bristles, with slightly prominent rounded apical projection. Tarsi of all legs unmodified.

Wing uniformly finely infusate. Costal index: 36/36/32/14. Veins R4+5 and M1+2 parallel near wing apex, both straight. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter with dark knob.

Abdomen. Tergite 1 almost entirely pale yellow, with very narrow brownish space separated in middle. Tergites 2–5 somewhat darker, brown. Tergite 2 broadly concave dorsally and somewhat broadened laterally, with scattered unmodified setae. Tergite 3 broadest (about 4 times as broad as tergite 2 in middle part), bearing squamiform setae. Tergite 4 nearly 1.5 times narrower than tergite 3, with squamiform setae. Tergite 5 sub-

equal in width to tergite 4, with squamiform setae. Tergites 6–7 unmodified, yellowish brown. Sternites 1–5 represented by small lateral brownish spots, with some setulae. Gland-like structures present between tergites 3–4 and 4–5. Segment 8 short, broad, with sclerites narrowly fused antero-laterally; sternite 8 not folded apically. Cercus broad oval, brownish yellow.

Male. Unknown.

Material examined. SINGAPORE: 1 ♀, Bukit Timah, 23 September 2005, rain forest, Mal 3 (reg. 25359, leg. PG, E-57).

Remarks. This unnamed species is very similar to *E. biuncinata* and *E. melanderi* sp. nov. However, *E. biuncinata* has an uniformly yellow scutum, whereas the scutum of *E. melanderi* sp. nov. possesses two elongate brownish spots on each side.

Species Complex 2.—Hind tibia with 1 curved subapical bristle.

Elaphropeza flavicaput sp. nov.

(Figs. 40–43)

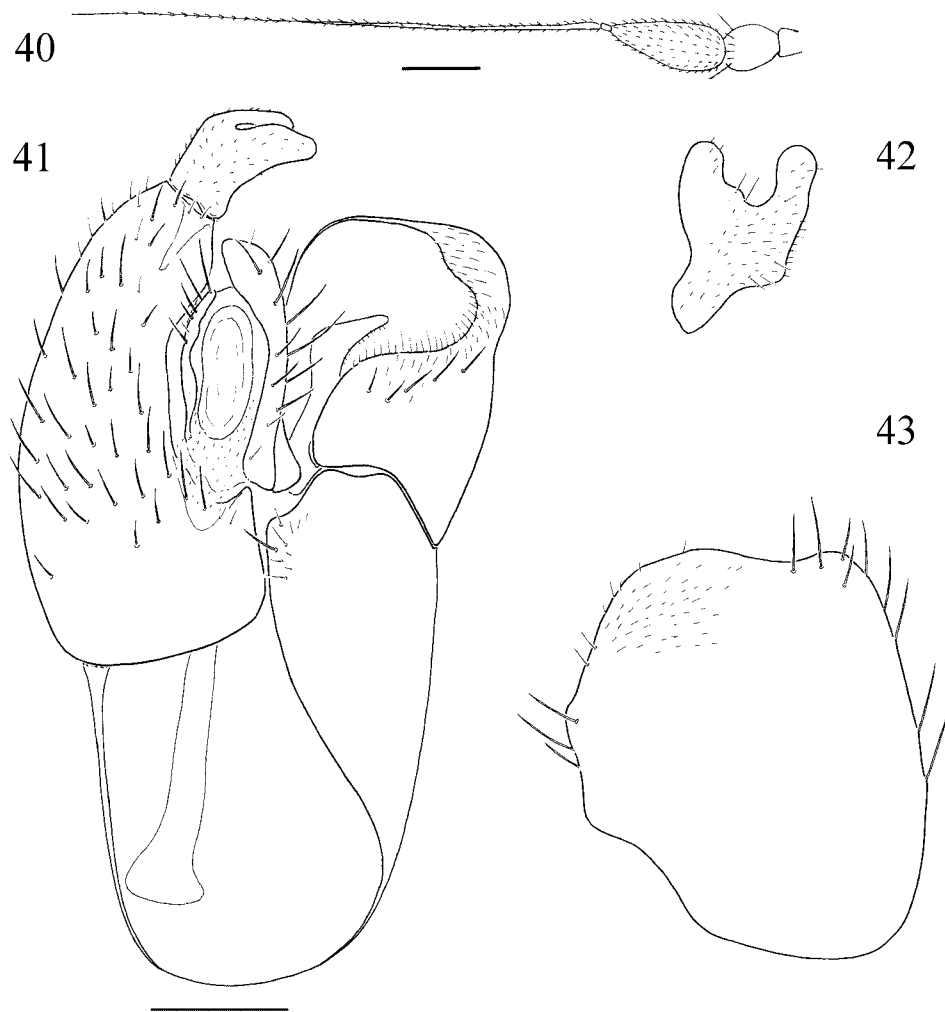
Diagnosis. Occiput yellow, postpedicel nearly 2.5 times longer than wide, style about 4.5 times longer than postpedicel; thorax and legs entirely yellow; hind tibia with 1 black curved subapical anteroventral bristle.

Description. Male. Body length 2.1–2.3 mm, wing length 1.6–1.7 mm. Occiput largely yellow, with dark subrectangular (viewed dorsally) spot above neck, subshining, bearing yellow to brownish yellow setation. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones short. Frons subshining. Antenna (Fig. 40) with postpedicel brownish yellow, scape and pedicel yellow. Pedicel with circlet of subequally short setulae. Postpedicel 2.3–2.5 times longer than wide. Style normally pubescent, brown, nearly 4.5 times longer than postpedicel and about 2.5 times longer than scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered brownish yellow setulae, bearing 1 longer and darker subapical seta.

Thorax entirely reddish yellow, shining, with yellow to brownish yellow bristles; spiracles brownish. Prothoracic episterna with 1 long upturned bristle just above fore coxa and with 1 short bristle in upper part. Postpronotal bristle very short. Mesonotum with 2 long notopleural, 1 very short postsutural supra-alar, 1 similar postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorso-centrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.

Legs entirely yellow, mostly with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of hardly prominent antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of black ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 1 black curved subapical anteroventral bristle; apical projection short, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, uniformly finely brownish infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brownish. Costal index: 39/30/26/11/. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 parallel near wing apex, vein R4+5 somewhat bowed. Vein CuA1 reaching wing margin. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter darkened.



FIGURES 40–43. *Elaphropeza flavicaput* sp. nov. **40.** antenna. **41.** epandrium with cerci. **42.** right surstylus. **43.** left surstylus.

Abdomen. Tergite 1 with very narrow brownish spaces laterally. Tergite 2 broadly concave on anterior margin; with scattered, brownish, unmodified setae. Tergite 3 broad, subrectangular, with squamiform setae. Tergite 4 in middle about 2 times narrower than tergite 3, with squamiform setae. Tergite 5 very narrow, in middle about 2 times narrower than tergite 4, with squamiform setae. Tergites 6 and 7 ordinary; tergite 6 with moderately long, tergite 7 with long posteromarginal bristles. Tergite 8 unmodified. Sternites 1–2 yellowish, sternites 3–5 with small brownish lateral spot, sternite 6–7 subrectangular, with scattered setulae. Gland-like structures present between tergites 3–4 and 4–5.

Terminalia (Figs. 41–43) large, brownish yellow. Cerci separated; left cercus unbranched, short, pointed at apex, with several moderately long bristles. Right cercus hardly prominent, very narrow, with several moderately long bristles. Epandrium completely divided. Right surstylus small, bifurcate, with short bristles. Left epandrial lamella fused to hypandrium, with several bristles of different lengths apically. Left surstylus with upper lobe large, subglobose, with several long, mainly marginal, bristles. Hypandrium with 2 bristles apically. Phallus very long, double spiral. One rod-shaped apodeme.

Female. Body length 1.9–2.2 mm, wing length 1.6–1.7 mm. Mid tibia lacking black ventral spinules. Segment 7 with long posteromarginal bristles. Segment 8 rather broad, short, with sclerites fused antero-laterally; sternite 8 not folded apically. Cercus brownish yellow, broad oval. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, Nee Soon, 16 September 2005, swamp forest, Mal 3 (reg. 25351, leg. PG, E-12)

Paratypes: SINGAPORE: 1 ♂, 1 ♀, Bukit Timah, 4 December 2002, rain forest; primary, sweeping (reg. 22050, leg. PG); 1 ♂, Nee Soon, 5 October 2000, swamp forest, sweeping (reg. 20030, leg. PG & N. Evenhuis); 1 ♀, Nee Soon, 16 March 2005, swamp forest, Mal 2 (reg. 25016, leg. PG); 5 ♀♀, Nee Soon, 16 March 2005, swamp forest, Mal 1 (reg. 25015, leg. PG); 4 ♂♂, Nee Soon, 24 March 2005, swamp forest, Mal 1 (reg. 25028, leg. PG); 2 ♀♀, Nee Soon, 24 March 2005, swamp forest, Mal 1 (reg. 25028, leg. PG); 1 ♀, Nee Soon, 24 March 2005, swamp forest, Mal 3 (reg. 25030, leg. PG); 1 ♀, Nee Soon, 24 March 2005, swamp forest, Mal 2 (reg. 25029, leg. PG); 1 ♂, Nee Soon, 6 May 2005, swamp forest, Mal 1 (reg. 25138, leg. PG); 2 ♂♂, Nee Soon, 8 July 2005, swamp forest, Mal 1 (reg. 25205, leg. PG); 2 ♂♂, Nee Soon, 16 September 2005, swamp forest, Mal 1 (reg. 25349, leg. PG); 2 ♀♀, Nee Soon, 14 October 2005, swamp forest, Mal 1 (reg. 25388, leg. PG); 1 ♂, Nee Soon, 4 January 2006, swamp forest, Mal 1 (reg. 26004, leg. PG); 1 ♀, Seletar, 26 November 2003, swampy grassland, sweeping (reg. 23088, leg. PG); 1 ♀, Sime forest, 22 July 2005, forest, Mal 2 (reg. 25271, leg. PG); 1 ♀, Sime forest, 5 August 2005, forest, Mal 1 (reg. 25279, leg. PG); 1 ♀, Sime forest, 14 October 2005, forest, Mal 3 (reg. 25386, leg. PG); 1 ♀, Sime forest, 17 February 2006, forest, Mal 1 (reg. 26034, leg. PG); 1 ♀, Sime forest, 17 February 2006, forest, Mal 2 (reg. 26035, leg. PG, E-12).

Derivatio nominis. The name *flavicaput* refers to the yellow occiput of the species.

Distribution and bionomics. Singapore. Forest.

Singapore: *Elaphropeza flavicaput* is fairly common in all types of forests. It has a peak activity in March, and shows little activity for the rest of the year, unlike most yellow *Elaphropeza* that have a higher activity in the second half of the year. The sex ratio is 1.5/1 females to males.

Remarks. *Elaphropeza flavicaput* sp. nov. belongs to an apparent monophyletic lineage of *Elaphropeza* sharing curved subapical bristles on the hind tibia. Within this lineage the new species is closely related to *E. spiralis* sp. nov., *E. yangi* sp. nov., *E. murphyi* sp. nov., *E. monacantha* sp. nov. and *E. luanae* sp. nov. having a very long phallus coiled in a peculiar double spiral. Otherwise, the relationships of *E. flavicaput* sp. nov. have not been resolved. The main distinguishing features of *E. flavicaput* sp. nov. are indicated in the diagnosis given above and in the key.

***Elaphropeza crassicercus* sp. nov.**

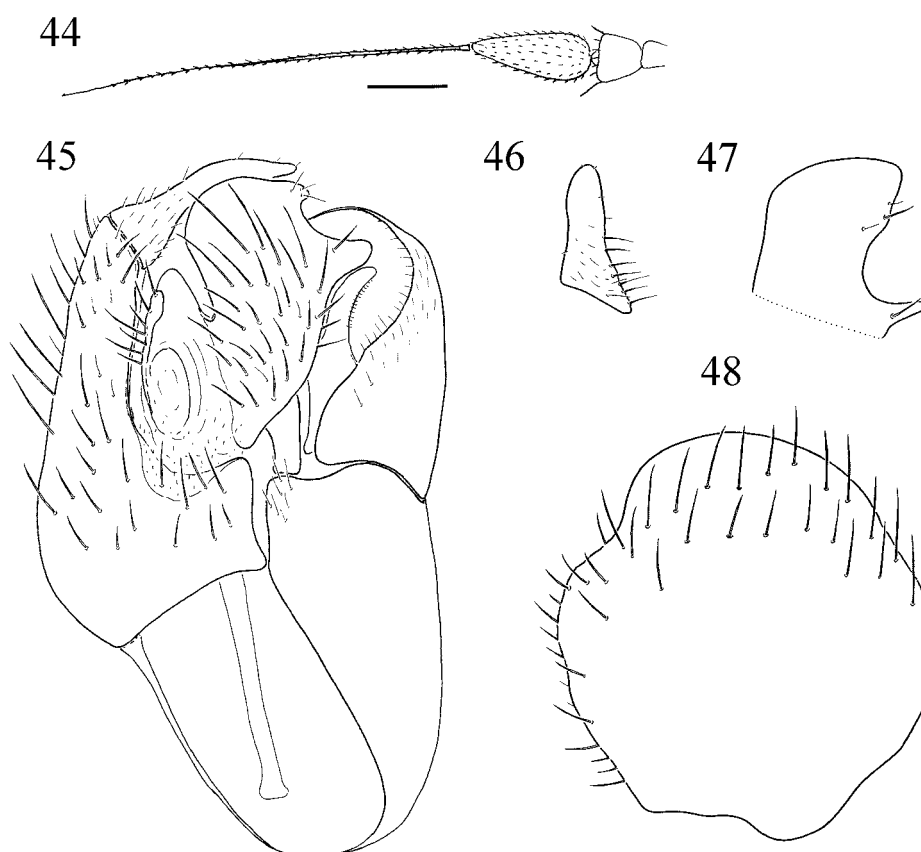
(Figs. 44–48)

Diagnosis. Occiput black, postpedicel about 2.5 times longer than wide; metanotum brown, otherwise thorax yellow; legs yellow, hind tibia with 1 black curved subapical anteroventral bristle.

Description. Male. Body length 2.2–2.3 mm, wing length 1.9–2.0 mm. Occiput black, subshining, with yellow to brownish yellow setation. Anterior ocellars long, proclinate and cruciate; posterior ocellars minute. Inner verticals long, outer ones hardly prominent. Frons short, subshining. Antenna brownish yellow. Pedicel with circlet of subequally short setulae. Postpedicel nearly 2.5 times longer than wide. Style normally pubescent, brown, about 3.5 times longer than postpedicel and nearly 2.0 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered brownish yellow setulae, bearing 1 longer and darker subapical seta.

Thorax almost entirely yellow, shining, with yellow to brownish yellow bristles; suture between scutum and scutellum brownish, sternopleuron and hypopleuron with brownish patch in lower part, metapleuron brown in upper half, metanotum wholly brown. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 shorter postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.

Legs wholly yellow, with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with hardly prominent rows of antero- and posteroventral bristles and 1 long bristle near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of black ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 1 black curved subapical anteroventral bristle; apical projection small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified, with ordinary setation.



FIGURES 44–48. *Elaphropeza crassicercus* sp. nov. **44.** antenna. **45.** epandrium with cerci. **46.** right surstylus. **47.** tip left cercus. **48.** left surstylus.

Wing normally developed, uniformly finely brownish infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brownish yellow. Costal index: 41/30/35/14. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 parallel near wing apex, both straight. Vein CuA1 reaching wing margin. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter darkened.

Abdomen. Tergite 1 almost entirely pale yellow, with very narrow brownish space laterally. Tergites 2–5 brown, tergites 6–7 yellowish brown. Tergite 2 broadly concave on anterior margin, broader laterally; with scattered, brownish, unmodified setae. Tergite 3 broadest, subrectangular, with squamiform setae. Tergite 4 in middle about 2 times narrower than tergite 3, with squamiform setae. Tergite 5 very narrow, in middle about 2 times narrower than tergite 4, with squamiform setae. Tergite 6 with short, tergite 7 with long posteromarginal bristles. Sternites largely yellowish, sternites 3–5 divided, sternites 6–8 yellowish brown, with scattered setulae. Gland-like structures present between tergites 3–4 and 4–5.

Terminalia (Fig. 45–48) large, brownish yellow. Cerci separated; left cercus large, with shallow excision in apical part, bearing numerous long bristles; right cercus short, narrow, with few short bristles. Epandrium completely divided. Right epandrial lamella subrectangular, covered with numerous long bristles. Right surstylus strongly prominent, small, digitiform, with short bristles. Left epandrial lamella fused to hypandrium, with few moderately long bristles apically. Left surstylus with upper lobe large, subglobular, with long bristles. Hypandrium with 2 long subapical bristles. Phallus long, coiled. One rod-shaped apodeme.

Female. Body length 2.0–2.1 mm, wing length 1.7–1.8 mm. Mid tibia lacking ventral spinules. Segment 8 brownish, shortened, with sclerites fused antero-laterally; sternite 8 not folded apically. Cercus broad oval, brownish yellow. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, Sungei Buloh, 14 October 2005, mangrove, Mal 2 (reg. 25394, leg. PG, E-14).

Paratypes: SINGAPORE: 1 ♂, Kranji, 27 July 2005, forest, sweeping (reg. 25254, leg. PG); 1 ♂, Nee Soon, 17 June 2005, swamp forest, Mal 1 (reg. 25156, leg. PG); 1 ♂, Nee Soon, 5 August 2005, swamp forest, Mal 3 (reg. 25283, leg. PG); 1 ♀, Nee Soon, 7 September 2005, swamp forest, Mal 2 (reg. 25332, leg. PG); 1 ♀, Nee Soon, 18 November 2005, swamp forest, Mal 2 (reg. 25423, leg. PG); 1 ♂, Nee Soon, 18 November 2005, swamp forest, Mal 1 (reg. 25422, leg. PG); 1 ♂, Nee Soon, 25 January 2006, swamp forest, Mal 2 (reg. 26021, leg. PG); 1 ♀, Nee Soon, 8 February 2006, swamp forest, Mal 1 (reg. 26028, leg. PG); 1 ♂, Nee Soon, 8 February 2006, swamp forest, Mal 2 (reg. 26029, leg. PG); 1 ♂, Seletar, 2 November 2005, swamp forest, sweeping (reg. 25410, leg. PG); 1 ♂, Sime forest, 14 October 2005, forest, Mal 3 (reg. 25386, leg. PG); 1 ♂, Sime forest, 9 November 2005, forest, Mal 1 (reg. 25412, leg. PG); 1 ♂, Sime forest, 18 November 2005, forest, Mal 1 (reg. 25420, leg. PG); 1 ♂, Sime forest, 14 December 2005, forest, Mal 2 (reg. 25445, leg. PG); 1 ♂, Sime forest, 17 February 2006, forest, Mal 2 (reg. 26035, leg. PG); 2 ♂♂, Sungei Buloh, 9 December 2002, mangrove, sweeping (reg. 22057, leg. PG); 1 ♂, Sungei Buloh, 22 April 2005, mangrove, sweeping (reg. 25076, leg. PG); 1 ♀, Sungei Buloh, 10 June 2005, mangrove, Mal 2 (reg. 25168, leg. PG); 1 ♀, Sungei Buloh, 6 July 2005, mangrove, Mal 1 (reg. 25197, leg. PG); 2 ♀♀, Sungei Buloh, 6 July 2005, mangrove, sweeping (reg. 25200, leg. PG); 1 ♂, Sungei Buloh, 5 August 2005, mangrove, Mal 1 (reg. 25284, leg. PG); 2 ♂♂, 1 ♀, Sungei Buloh, 19 August 2005, mangrove, Mal 1 (reg. 25302, leg. PG); 1 ♀, Sungei Buloh, 16 September 2005, mangrove, Mal 2 (reg. 25355, leg. PG); 1 ♀, Sungei Buloh, 9 November 2005, mangrove, Mal 2 (reg. 25418, leg. PG).

Derivatio nominis. The name *crassicercus* alludes to the wide left cercus. The name is used as a noun.

Distribution and bionomics. Singapore. Terrestrial forest and mangrove.

Singapore: This is a fairly common species that occurs in beach forests, mangroves and all types of terrestrial forests. It is present throughout the year, but with a higher activity in the second half of the year. The sex ratio of 0.5/1 indicates that females have a different activity pattern than males.

Remarks. *Elaphropeza crassicercus* sp. nov. apparently belongs to a monophyletic lineage of *Elaphropeza* sharing curved subapical bristles on the hind tibia. Otherwise, the relationships of *E. crassicercus* sp. nov. have not been resolved. The main distinguishing features of *E. crassicercus* sp. nov. are indicated in the diagnosis given above and in the key.

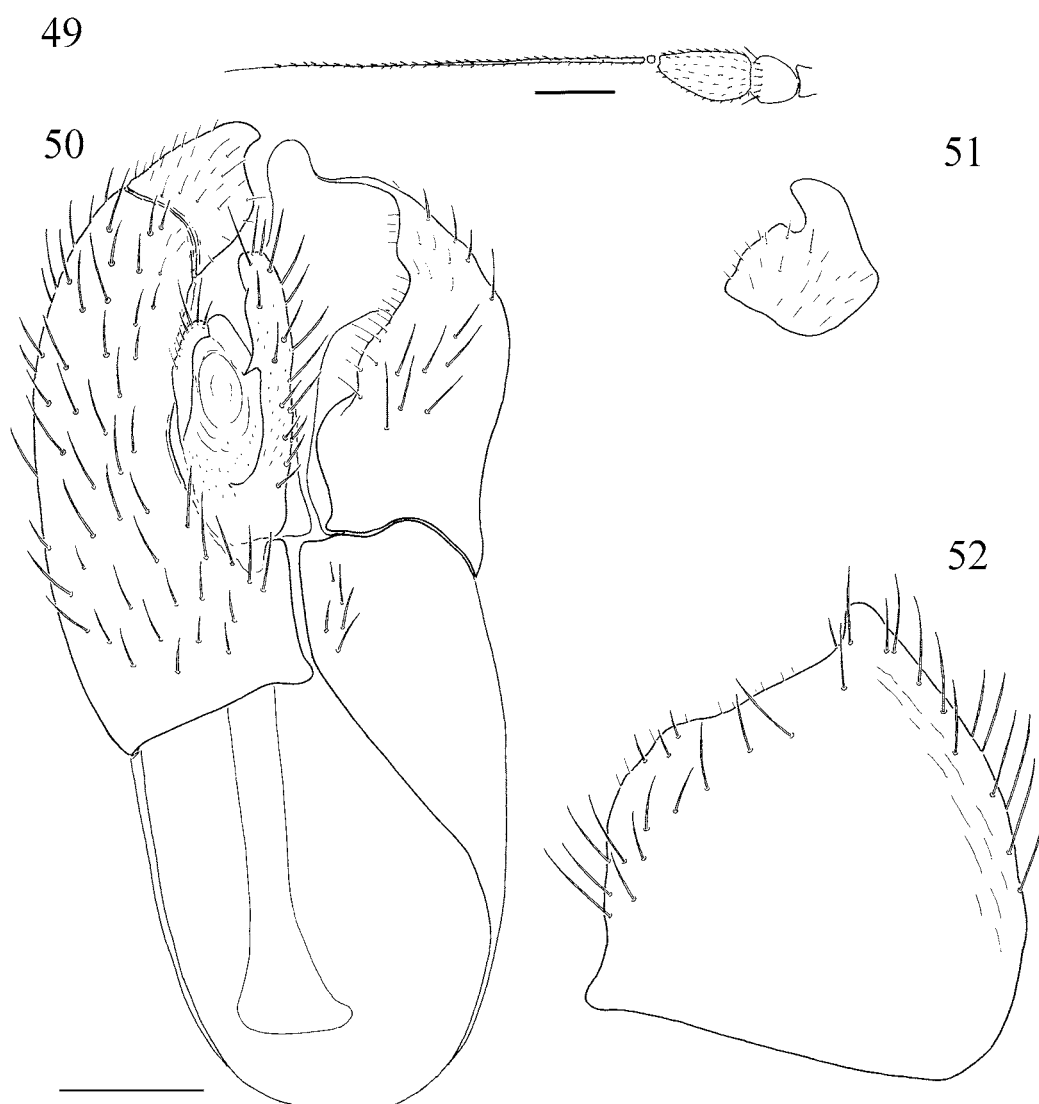
***Elaphropeza monacantha* sp. nov.**

(Figs. 49–52)

Diagnosis. Occiput largely yellow, postpedicel about 2.0 times longer than wide, style about 4.5 times longer than postpedicel; thorax and legs entirely yellow; hind tibia with 1 black curved subapical anteroventral bristle.

Description. Male. Body length 2.2 mm, wing length 1.8 mm. Occiput largely yellow, subshining, broadly darkened above neck including ocellar tubercle and frons, with yellow to brownish yellow setation.

Anterior ocellars long, proclinate and cruciate; posterior ocellars minute. Inner verticals long, outer ones hardly prominent. Frons subshining. Antenna (Fig. 49) with postpedicel brownish, scape and pedicel yellow. Pedicel with circlet of almost equally short setulae, 1 dorsal somewhat longer. Postpedicel nearly 2.0 times longer than wide. Style normally pubescent, brown, nearly 4.5 times longer than postpedicel and about 2.5 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered brownish yellow setulae, bearing 1 longer and darker subapical seta.



FIGURES 49–52. *Elaphropeza monacantha* sp. nov. **49.** antenna. **50.** epandrium with cerci. **51.** right surstylus. **52.** left surstylus.

Thorax almost entirely reddish yellow, shining, with yellow to brownish yellow bristles; metanotum brownish yellow on posterior margin. Scutellum truncate. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 very short postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.

Legs wholly yellow, with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and pos-

teroventral bristles and 2 longer bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of black ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia with 1 black curved subapical anteroventral bristle; apical projection short, rounded, clothed in dense brownish setulae. Hind tarsomere 1 somewhat thickened, shorter than remaining tarsomeres combined.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brownish. Costal index: 35/32/28/11. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 parallel near wing apex, somewhat sinuate. Vein CuA1 reaching wing margin. Vein A1 present as trace. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter darkened.

Abdomen. Tergite 1 with very narrow, hardly prominent brownish space. Tergite 2 narrow medially and broadened laterally. Tergite 3 broadest, with squamiform setae. Tergite 4 nearly as broad as tergite 2 and in middle about 2.0 times narrower than tergite 3, with squamiform setae. Tergite 5 narrowest, even somewhat narrower than tergite 2, with squamiform setae. Tergites 6–8 unmodified; tergite 6 with hardly prominent, tergite 7 with long posteromarginal bristles. Sternites 3–5 divided. Gland-like structures present between tergites 3–4 and 4–5.

Terminalia (Figs. 50–51) large, brownish yellow. Cerci divided; left cercus unbranched, digitiform, rather short, with numerous moderately long bristles, lacking spines. Right cercus short, narrow, with few short bristles, lacking spines. Epandrium completely divided. Right surstylus strongly prominent, small, as in Fig. 51, covered with short bristles, lacking spines. Left epandrial lamella fused to hypandrium, with few moderately long bristles apically. Left surstylus with upper lobe large, subglobular, somewhat prolonged at apex. Hypandrium with 1 long, spine-like and 1 short bristles apically. Phallus very long, double spiral. One rod-shaped apodeme.

Female. Unknown.

Material examined: Holotype male labelled: SINGAPORE, Nee Soon, 5 April 2005, swamp forest, Mal 3 (reg. 25048, leg. PG, E-25).

Derivatio nominis. The name *monacantha* (single spine) refers to the single subapical bristle on the hind tibia.

Distribution and bionomics. Singapore. Swamp forest.

Singapore. Only known from a single male so far.

Remarks. *Elaphropeza monacantha* sp. nov. belongs to an apparent monophyletic lineage of *Elaphropeza* sharing curved subapical bristles on the hind tibia. Within this lineage the new species is closely related to *E. spiralis* sp. nov., *E. yangi* sp. nov., *E. murphyi* sp. nov., *E. flavicaput* sp. nov. and *E. luanae* sp. nov. in having a very long phallus coiled in a peculiar double spiral. Otherwise, the relationships of *E. monacantha* sp. nov. have not been resolved. The main distinguishing features of *E. monacantha* sp. nov. are indicated in the diagnosis given above and in the key.

***Elaphropeza luanae* sp. nov.**

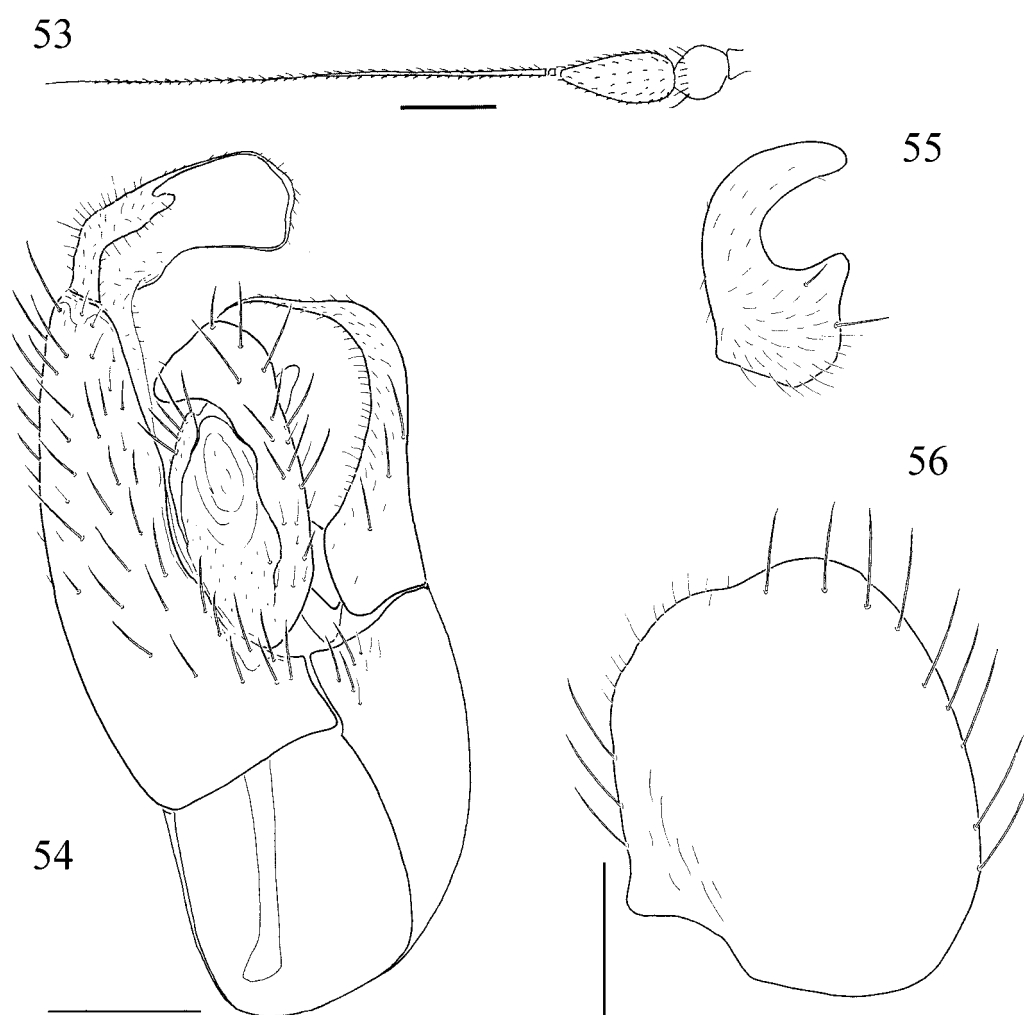
(Figs. 53–56)

Diagnosis. Occiput black, postpedicel nearly 2.0 times longer than wide, style about 4.5 times longer than postpedicel; thorax yellow with brownish markings; legs yellow, hind tibia with 1 black curved subapical anteroventral bristle; abdominal tergites 3–5 with squamiform setae.

Description. Male. Body length 2.1–2.3 mm, wing length 1.7–1.8 mm. Occiput black (sometimes yellowish near mouth-opening), subshining, with yellow to brownish yellow setation. Anterior ocellars long, procli-

nate; posterior ocellars minute. Inner verticals long, outer ones hardly prominent. Frons subshining. Antenna (Fig. 53) brownish yellow. Pedicel with circlet of subequally short setulae. Postpedicel about 2.0 times longer than wide. Style normally pubescent, brown, about 4.5 times longer than postpedicel and nearly 2.5 times longer than scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered brownish yellow setulae, bearing 1 longer and darker subapical seta.

Thorax almost entirely yellow, shining, with brownish bristles; sternopleuron and hypopleuron with brownish patch in lower part, metanotum brownish yellow posteriorly, metapleuron brownish yellow in upper part. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 very short postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.



FIGURES 53–56. *Elaphropeza luanae* sp. nov. **53.** antenna. **54.** epandrium with cerci. **55.** right surstylus. **56.** left surstylus.

Legs wholly yellow, with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia lacking prominent bristles. Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of black ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal

bristles near base. Hind tibia with 1 black curved subapical anteroventral bristle; apical projection small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brownish. Costal index: 27/36/24/11. Vein Rs longer than crossvein bm-cu. Veins R4+5 and M1+2 parallel near wing apex, vein M1+2 somewhat bowed in apical part. Vein CuA1 reaching wing margin. Vein A1 as fold. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter darkened.

Abdomen. Tergite 1 almost entirely pale yellow. Tergite 2 concave on anterior margin. Tergite 3 broadest. Tergite 4 laterally as broad as tergite 2. Tergite 5 very narrow. Tergites 3–5 with squamiform setae. Tergite 6 and 7 of subequal width, paler than preceding tergites, tergite 6 lacking prominent posteromarginal bristles, tergite 7 with long posteromarginal bristles. Sternites 3–5 divided. Gland-like structures present between tergites 3–4 and 4–5.

Terminalia (Figs. 54–56) large, brownish yellow, surstyli brown. Cerci separated; left cercus unbranched, rather short, broadened at apex and curved toward right epandrial lamella, with several moderately long bristles, lacking spines; right cercus short, narrow, with few moderately long bristles, lacking spines. Epandrium completely divided. Right epandrial lamella with numerous long bristles. Right surstylus strongly prominent, as in Fig. 55, with short bristles only. Left epandrial lamella fused to hypandrium, with 3 long and few short bristles apically. Left surstylus with upper lobe large, subglobular, with long marginal bristles. Hypandrium with 2 long bristles. Phallus very long, double spiral. One rod-shaped apodeme.

Female. Body length 2.1 mm, wing length 1.7 mm. Mid tibia lacking spinules. Abdominal segment 8 short, broad, strongly sclerotised, brownish yellow, with sclerites fused antero-laterally; sternite 8 not folded apically. Cercus yellow. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, Seletar, 2 November 2005, swamp forest, sweeping (reg. 25410, leg. PG, E-27).

Paratypes: 2 ♂♂, SINGAPORE, Chek Jawa, 21 September 2005, mangrove, sweeping (reg. 25356, leg. PG); 1 ♂, Nee Soon, 24 March 2005, swamp forest, Mal 3 (reg. 25030, leg. PG); 1 ♀, Nee Soon, 7 September 2005, swamp forest, Mal 2 (reg. 25332, leg. PG).

Derivatio nominis. The species is named after Dr. Luan Keng of the Raffles Museum of Biodiversity Research.

Distribution and bionomics. Singapore. Swamp forest and mangrove.

Singapore. This is a rare species that was only recorded four times (total of 4 males and 1 female). Every time it was recorded it was in very wet conditions.

Remarks. *Elaphropeza luanae* sp. nov. apparently belongs to a monophyletic lineage of *Elaphropeza* sharing curved subapical bristles on the hind tibia. Within this lineage the new species is closely related to *E. spiralis* sp. nov., *E. yangi* sp. nov., *E. murphyi* sp. nov., *E. flavicaput* sp. nov. and *E. monacantha* sp. nov. based on having a very long phallus coiled in a peculiar double spiral. Otherwise, the relationships of *E. luanae* sp. nov. have not been resolved. The main distinguishing features of *E. luanae* sp. nov. are indicated in the diagnosis given above and in the key.

Elaphropeza sp. 46

(Fig. 57)

Description. Female. Body length 1.5 mm, wing length 1.7 mm. Occiput black. Anterior ocellars long, proclinate and cruciate; posterior ocellars minute. Inner verticals long, outer ones hardly prominent. Antenna (Fig. 57) with scape and pedicel brownish yellow, postpedicel brownish. Pedicel with circlet of subequally short setulae (1 dorsal somewhat longer). Postpedicel nearly 2.5 times longer than wide. Style normally pubescent,

brown, about 3.5 times longer than postpedicel and nearly 2.5 times as long as scape, pedicel and postpedicel combined. Palpus yellow, small, rounded.

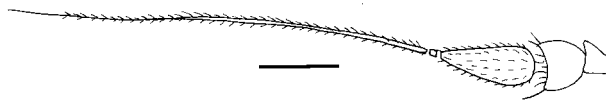


FIGURE 57. Antenna. Unnamed female *Elaphropeza* sp. 46.

Thorax yellow with markings; scutum with small elongate brownish patch above wing base, scutellum brown, sternopleuron and hypopleuron with distinct brown spot, mesopleuron brownish along posterior margin, metanotum and metapleuron (except lower margin) brownish. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 very short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with usual set of bristles. Acrostichals and dorsocentrals multiserial, extending to base of scutellum.

Legs wholly yellow, quite robust. Fore and mid femur with ordinary armature. Fore tibia lacking prominent bristles. Mid tibia with somewhat stronger ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur with ordinary setation. Hind tibia bearing 1 black curved subapical anteroventral bristle, with hardly prominent rounded apical projection. Tarsi of all legs unmodified.

Wing uniformly finely brownish infusate. Costal index: 35/29/35/12. Veins R4+5 and M1+2 parallel near wing apex, both straight. Crossvein bm-cu oblique. Crossvein r-m somewhat beyond middle of cell bm. Halter black.

Abdomen. Tergite 1 pale yellow, tergites 2–7 pale brownish. Tergite 2 slightly concave anteriorly. Tergite 5 of normal width. Tergites 3–5 with squamiform setae. Segment 8 short, brownish yellow, with sclerites fused antero-laterally; sternite 8 not folded apically. Cercus yellow.

Male. Unknown.

Material examined. SINGAPORE, 1 ♀, Sungei Buloh, 18 November 2005, mangrove, Mal 2 (reg. 25426, leg. PG, E-46).

Remarks. Within the key to *Elaphropeza* this unnamed species would run to *E. crassicercus* sp. n and *E. luanae* sp. n. differing from both species by its brown scutellum and some other characters.

Species Complex 3.—Hind tibia lacking prominent bristles.

Elaphropeza singaporensis sp. nov.

(Figs. 58–62, 253)

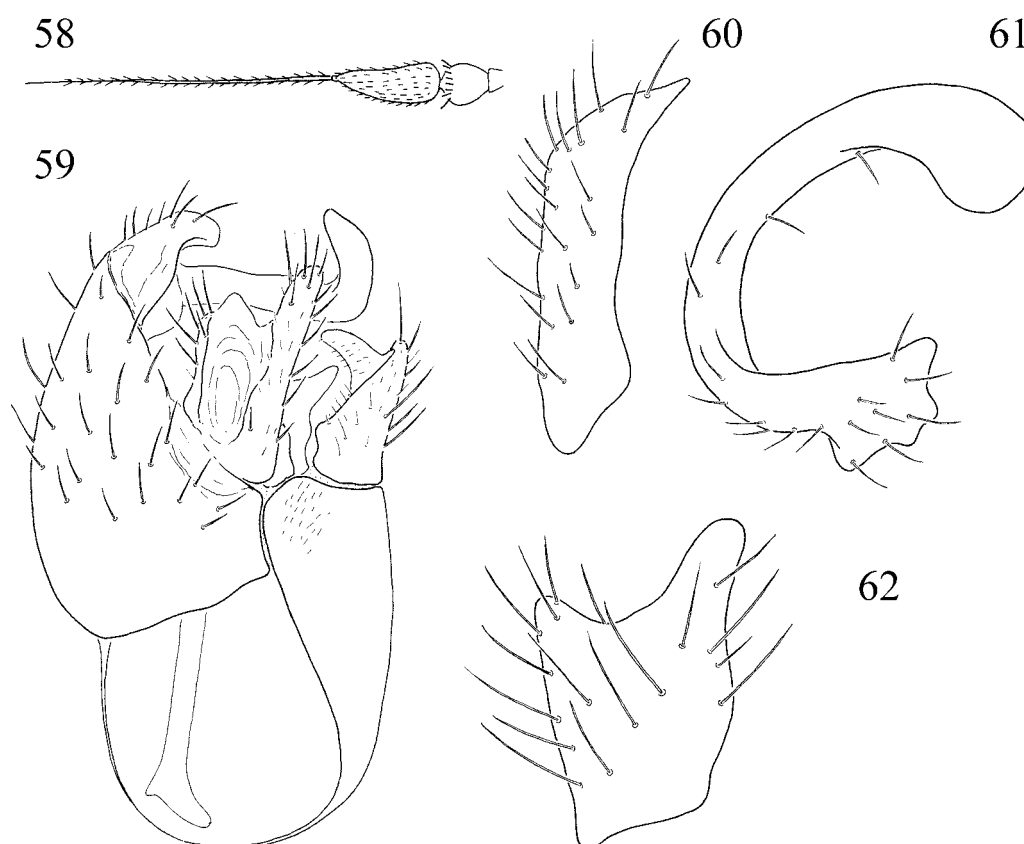
Diagnosis. Thorax entirely black; scutum evenly covered with short setulae; legs yellow, mid and hind tibiae lacking anterodorsal bristles; wing with blackish rather narrow band on middle part.

Description. Male. Body length 1.7–1.9 mm, wing length 1.5–1.6 mm. Head black, occiput subshining, with pale setation. Eye with somewhat concave hind margin. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Two pairs of inclinate verticals of subequal length. Frons shining. Antenna (Fig. 58) brownish yellow. Pedicel with circlet of equally minute setulae. Postpedicel 2.3–2.5 times longer than wide. Style normally pubescent, brown, 3.0–3.3 times longer than postpedicel and nearly 2.0 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus pale yellow, small, rounded; with scattered yellow setulae, including 1 longer subapical one.

Thorax entirely black, shining, with yellow to brownish yellow bristles; postalar callus paler. Proepisternum with 1 long upturned bristle just above fore coxa and 1 short bristle in upper part. Postpronotal bristle

minute. Mesonotum with 2 moderately long notopleural, 1 short postsutural supra-alar, 1 similar postalar and 4 scutellar (inner ones very long, cruciate; outer ones minute) bristles. Acrostichals and dorsocentrals undifferentiated, scutum evenly covered with subequally short setulae (except for 2 long prescutellar bristles) extending to base of scutellum.

Legs wholly yellow, mostly with yellow setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with hardly prominent rows of antero- and posteroventral bristles and 1 long bristle near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur slender, with 2 rows of brownish yellow, spinule-like, ventral bristles becoming longer toward base of femur, 1 very long yellow bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules in apical half, lacking prominent bristles (except ordinary subapicals). Hind femur somewhat constricted in middle, bearing 1 row of short anteroventrals and 2–3 erect dorsal bristles near base. Hind tibia with ordinary inconspicuous setation; apical projection small, truncate, clothed in dense brownish setulae. Tarsi of all legs unmodified.



FIGURES 58–62. *Elaphropeza singaporensis* sp. nov. **58.** antenna. **59.** epandrium with cerci. **60.** left cercus lateral view. **61.** right surstylus. **62.** left surstylus.

Wing (Fig. 253) normally developed, with blackish rather narrow band in middle part, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, yellow. Costal index: 32/25/25/10. Veins R4+5 and M1+2 parallel near wing apex, both straight. Vein CuA1 reaching wing margin. Crossvein bm-cu oblique. Crossvein r-m beyond middle of cell bm. Halter pale yellow.

Abdomen with almost all tergites brownish, tergites 2–4 somewhat darker. Tergite 1 very narrow, with scattered brown setulae. Tergite 2 laterally about 2.0 times narrower than tergite 3, deeply concave dorsally, with unmodified setae. Tergite 3 broadest, with squamiform setae. Tergite 4 narrow, along midline as broad as tergite 2, with 1–2 slightly prominent squamiform setae on each side (sometimes lacking). Tergite 5 very narrow, even somewhat narrower than tergite 4, with unmodified setae. Tergites 6 and 7 unmodified, with moder-

ately long posteromarginal bristles. All sternites brownish, sternites 2–4 and 8 divided along midline. Gland-like structures present between tergites 3–4 (2 large subrectangular sclerites covered with hairs) and tergites 4–5 (2 large ovate sclerites).

Terminalia (Figs. 59–62) with surstyli and cerci yellow, epandrium brown. Cerci divided; left cercus unbranched, digitiform, rather short, with several bristles of different lengths; right cercus unbranched, hardly prominent, very narrow, with several bristles. Epandrium completely divided. Right surstylus well prominent, long, narrow, overlapping cerci (Figs. 59, 61), with some moderately long bristles basally. Left epandrial lamella fused to hypandrium, with numerous short bristles apically. Left surstylus with upper lobe rather small, shallowly concave on upper margin, with numerous long bristles. Hypandrium with 2 subapical bristles. Phallus long, coiled. One rod-shaped apodeme.

Female. Body length 1.6–1.9 mm, wing length 1.5–1.7 mm. Abdominal tergites 3 and 4 with distinct squamiform setae. Segment 8 elongate, brown, shining, strongly sclerotised, with sclerites broadly fused antero-laterally; sternite 8 not folded apically. Cercus brownish yellow. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, 1 ♂, Sime forest, 16 September 2005, forest, Mal 1 (reg. 25352, leg. PG, E-02).

Paratypes: SINGAPORE, 2 ♂♂, Bukit Timah, 4 December 2002, rain forest; primary, sweeping (reg. 22050, leg. PG); 1 ♂, Bukit Timah, 19 August 2005, rain forest, Mal (reg. 25301, leg. PG); 1 ♂, Bukit Timah, 7 September 2005, rain forest, sweeping (reg. 25330, leg. PG); 1 ♀, Nee Soon, 6 May 2005, swamp forest, Mal 1 (reg. 25138, leg. PG); 1 ♂, Nee Soon, 3 June 2005, swamp forest, Mal 1 (reg. 25150, leg. PG); 1 ♀, Nee Soon, 10 June 2005, swamp forest, Mal 1 (reg. 25153, leg. PG); 1 ♂, Nee Soon, 1 July 2005, swamp forest, sweeping (reg. 25195, leg. PG); 1 ♀, Nee Soon, 15 July 2005, swamp forest, Mal 2 (reg. 25259, leg. PG); 1 ♂, Nee Soon, 7 September 2005, swamp forest, Mal 2 (reg. 25332, leg. PG); 1 ♀, Nee Soon, 28 October 2005, swamp forest, Mal 3 (reg. 25405, leg. PG); 1 ♀, Nee Soon, 8 February 2006, swamp forest, Mal 3 (reg. 26030, leg. PG); 1 ♂, Sime forest, 6 May 2005, forest, Mal 2 (reg. 25128, leg. PG); 1 ♂, Sime forest, 26 August 2005, forest, Mal 1 (reg. 25314, leg. PG); 5 ♂♂, Sime forest, 7 September 2005, forest, Mal 1 (reg. 25334, leg. PG); 4 ♂♂, Sime forest, 16 September 2005, forest, Mal 1 (reg. 25352, leg. PG); 1 ♂, 1 ♀, Sime forest, 14 October 2005, forest, Mal 3 (reg. 25386, leg. PG); 1 ♂, Sime forest, 14 October 2005, forest, Mal 1 (reg. 25384, leg. PG); 1 ♂, Sime forest, 4 January 2006, forest, Mal 2 (reg. 26003, leg. PG); 1 ♂, Sime forest, 4 January 2006, forest, Mal 2 (reg. 26003, leg. PG); 1 ♂, Sime forest, 8 February 2006, forest, Mal 2 (reg. 26027, leg. PG).

Derivatio nominis. The epithet refers to the island of Singapore where the species is quite common.

Distribution and bionomics. Singapore. Forest species.

Singapore. The species is common with 21 records. It is present throughout the year with a marked peak of activity from mid August until the end of October. It is observed in different types of forest: primary and secondary rain forests as well as swamp forests. More males are recorded than females (sex ratio 0.25/1), indicating a different activity pattern.

Remarks. The relationships of *E. singaporensis* sp. nov. are unclear beyond inclusion within the *E. biuncinata* species group.

***Elaphropeza pluriacantha* sp. nov.**

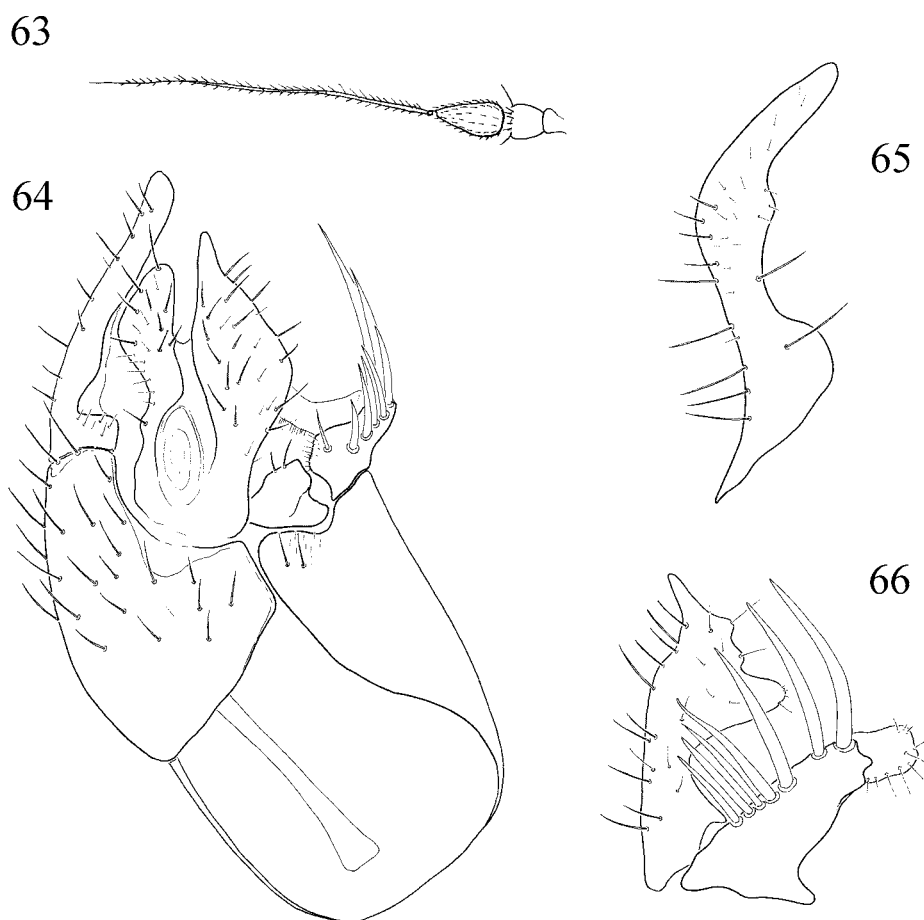
(Figs. 63–66, 254)

Diagnosis. Mesonotum almost wholly brown, scutum evenly covered with short setulae; postpedicel short, 2.5 times longer than wide; legs wholly yellow, mid and hind tibiae lacking anterodorsal bristles; wing with distinct pattern, deeper infusate in basal half; tergites 3–5 bearing squamiform setae.

Description. Male. Body length 1.5–1.6 mm, wing length 1.4–1.5 mm. Head black, occiput subshining, with pale setation. Eye with somewhat concave hind margin. Anterior ocellars moderately long, proclinate;

posterior ocellars minute. Two pairs of inclinate verticals of subequal length. Frons shining. Antenna (Fig. 63) with scape and pedicel yellow, postpedicel somewhat darker. Pedicel with circlet of equally minute setulae. Postpedicel short, nearly 2.0 times longer than wide. Style normally pubescent, brown, nearly 5.0 times longer than postpedicel and about 2.5 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded, with scattered yellow setulae.

Thorax with yellow prosternum, whole pleura (mesopleuron and pteropleuron with some brownish tinge) and postalar callus, otherwise brown. Proepisternum with 1 long upturned bristle just above fore coxa and 1 short bristle in upper part. Prothoracic spiracle brown. Postpronotal bristle minute. Mesonotum with 2 moderately long notopleurals of subequal length, 1 short postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones minute) bristles. Acrostichals and dorsocentrals undifferentiated, scutum evenly covered with uniform short setulae (except for 2 long prescutellar bristles) extending to base of scutellum.



FIGURES 63–66. *Elaphropeza pluriacantha* sp. nov. **63.** antenna. **64.** epandrium with cerci. **65.** right surstylus. **66.** left cercus and surstylus.

Legs entirely yellow. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with hardly prominent rows of antero- and posteroventral bristles and 1 long bristle near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur slender, with 2 very long yellow bristles in basal part. Mid tibia with 1 row of black ventral spinules, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 2–3 erect dorsal bristles near base. Hind tibia with ordinary inconspicuous setation; apical projection small, rounded, clothed in dense brown setulae. Tarsi of all legs unmodified.

Wing (Fig. 254) normally developed; darkened in basal half (deeper in middle of cell r1 and in basal part of cell r2+3), otherwise almost hyaline; covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, yellow. Costal index: 30/18/26/11. Veins R4+5 and M1+2 somewhat divergent near wing apex, both straight. Vein CuA1 not quite reaching wing margin. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter pale yellow.

Abdomen. Tergite 1 almost entirely pale yellow, with very small brownish space on each side only. Tergites 3–5 dark brown; tergites 2 and 6–7 paler, concolorous. Tergite 2 very narrow dorsally and somewhat broader laterally; with scattered, brown, unmodified setae. Tergite 3 broad, with squamiform setae laterally and along posterior margin. Tergite 4 narrower than tergite 3, with squamiform setae laterally. Tergite 5 nearly as broad as tergite 2, bearing squamiform setae. Tergites 6–7 unmodified, tergite 7 with rather short postero-marginal bristles. Sternites 1–5 yellowish, sternites 6–8 brownish, all with scattered setulae. Gland-like structures present between tergites 3–4 (dark, elongate oval, undivided) and 4–5 (less distinct, large, undivided but with notch anteriorly).

Terminalia (Figs. 64–66) wholly yellow. Cerci divided; left cercus unbranched, rather broad in middle part, pointed, with numerous moderately long bristles; right cercus unbranched, well prominent, with moderately long bristles. Epandrium completely divided. Right surstylus strongly prominent, long, narrow, sinuate (viewed dorsally), with bristles of different lengths. Left epandrial lamella fused to hypandrium, with several short and 2 longer bristles apically. Left surstylus (Fig. 66) with upper lobe rather small, bearing several long spine-like bristles and possessing internal projection. Hypandrium with 1 short strong and 1 thinner bristle apically. Phallus long, coiled. One rod-shaped apodeme.

Female. Body length 1.5 mm, wing length 1.3 mm. Mid tibia lacking black ventral spinules. Segment 8 short, brownish yellow, with sclerites fused antero-laterally; sternite 8 not folded apically. Cercus yellow. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, 1 ♂, Nee Soon, 4 December 2002, swamp forest, sweeping (reg. 22054, leg. PG, E-03).

Paratypes: SINGAPORE: 1 ♂, Bukit Timah, 23 September 2005, rain forest, Mal 2 (reg. 25358, leg. PG); 1 ♂, Nee Soon, 24 March 2005, swamp forest, Mal 2 (reg. 25029, leg. PG); 1 ♀, Nee Soon, 16 September 2005, swamp forest, Mal 3 (reg. 25351, leg. PG).

Derivatio nominis. The name *pluriacantha* refers to the row of spines on the left surstylus.

Distribution and bionomics. Singapore. Forest species.

Singapore: This is a rare species (4 records only from 2 localities). Even the few records indicate that it can be present throughout the year and no peak activity is observed.

Remarks. In the structure of the male terminalia (the presence of long spines and an internal projection on the left surstylus) *E. pluriacantha* sp. nov. appears closely related to *E. acantha* sp. nov.

Elaphropeza darrenyeoi sp. nov.

(Figs. 67–70)

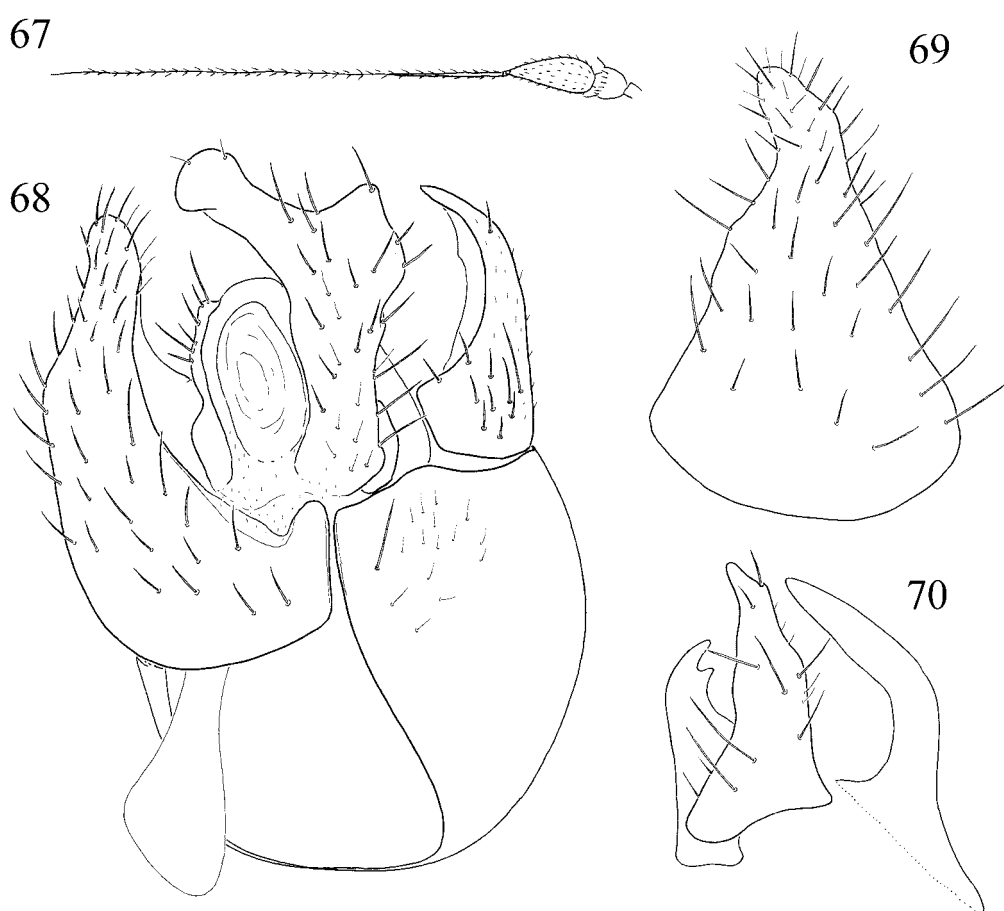
Diagnosis. Species with entirely black thorax; postpedicel about 3.0 times longer than wide, style nearly 4.0 times longer than postpedicel; acrostichals and dorsocentrals multiserial; legs wholly yellow, mid and hind tibiae lacking anterodorsal bristles; wing with distinct pattern; tergites 3–5 bearing squamiform setae.

Description. Male. Body length 1.7 mm, wing length 1.3 mm. Head black, occiput subshining, with pale setation (except for brown large bristles). Eye with somewhat concave hind margin. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Two pairs of inclinate verticals. Frons shining. Antenna (Fig. 67) wholly yellowish (scape and pedicel with brownish tinge). Pedicel with circlet of equally minute setulae. Postpedicel rather short, 2.4 times longer than wide. Style normally pubescent, black, 3.7 times longer than

postpedicel and 3.4 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus pale yellow, small, rounded, with scattered pale to yellow setulae.

Thorax entirely black, shining, with yellow to brownish (large bristles) setation. Proepisternum with 1 long upturned bristle just above fore coxa and 1 short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 moderately long notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellar bristles), extending to base of scutellum.

Legs wholly yellow. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with hardly prominent rows of antero- and posteroventral bristles and 1 long bristle near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 1 row of yellow, spinule-like, ventral bristles, including 2 longer bristles in basal part, and 1 anterior subapical bristle. Mid tibia lacking prominent spinules and bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia with ordinary inconspicuous setation; apical projection small, rounded, clothed in dense brown setulae. Tarsi of all legs unmodified.



FIGURES 67–70. *Elaphropeza darrenyeoi* sp. nov. **67.** antenna. **68.** epandrium with cerci. **69.** right epandrial lamella. **70.** left surstylus.

Wing normally developed, apical half finely infusate, basal part deeper infusate, with 2 brown spots in apical part of cell r1 and in basal part of cell r2+3, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, yellow. Costal index: 31/17/25/11. Veins R4+5 and M1+2 somewhat divergent near wing apex,

both straight. Vein CuA1 reaching wing margin. Crossvein bm-cu oblique. Crossvein r-m beyond middle of cell bm. Halter with yellow stem and brown knob.

Abdomen. Tergite 1 very narrow but distinct, brown, lacking setation. Tergite 2 considerably broader than tergite 1, with unmodified setae. Tergite 3 broadest, in middle nearly 3 times broader than tergite 2, with squamiform setae. Tergite 4 nearly 2.0 times narrower than tergite 3, with squamiform setae. Tergite 5 nearly as broad as tergite 2, with squamiform setae laterally. Tergites 6–8 unmodified, tergite 7 with moderately long posteromarginal bristles. Sternites represented by very small sclerites (except for pregenital ones), mostly with scattered short setae, sternites 6 and 7 with longer setation. Gland-like structures present between tergites 3–4 (narrow, undivided) and 4–5 (larger, narrowly divided along midline).

Terminalia (Figs. 68–70) yellow, rather large and globular. Cerci divided; left cercus large, almost divided into two lobes, covered with numerous moderately long bristles; right cercus hardly prominent, very narrow, with several bristles of different lengths. Epandrium completely divided. Right epandrial lamella subtriangular, covered with numerous long bristles. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with 1 long and numerous short bristles apically. Left surstylus with upper lobe small, subtriangular, with several moderately long bristles. Hypandrium with 2 long subapical bristles. Phallus long, coiled. One rod-shaped apodeme.

Female. Unknown.

Material examined: Holotype male labelled: SINGAPORE, Nee Soon, 4 December 2002, swamp forest, sweeping (reg. 22054, leg. PG, E-04).

Derivatio nominis. The present species is named after Dr. Darren Yeo from NUS.

Distribution and bionomics. Singapore. Forest species.

Singapore: This is a very rare species found only on a single occasion by sweep netting the vegetation along a shaded swampy trail in the swamp forest of Nee Soon. Although we quote the species as a forest species, it might well be a species of the forest borders and more open spaces as indicated by its black thorax.

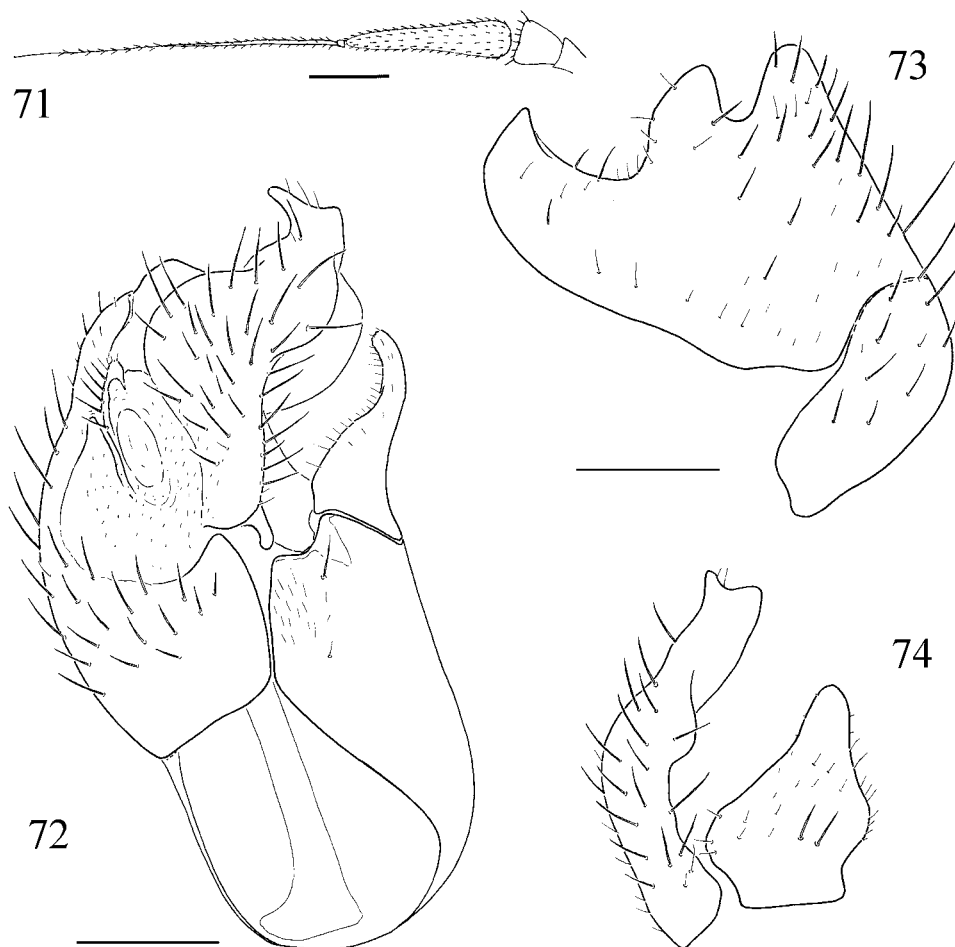
Remarks. The relationships of *E. darrenyeoi* sp. nov. are unclear beyond inclusion within the *E. biuncinata* species group. *Elaphropeza darrenyeoi* appears to show some affinities to the *E. ephippiata* group because this is the only species of the *E. biuncinata* group lacking a prominent right surstylus.

***Elaphropeza tiomanensis* sp. nov.**

(Figs. 71–74)

Diagnosis. Occiput black, postpedicel nearly 4.0 times longer than wide, style about 2.0 times longer than postpedicel; mesonotum broadly brown along margin; fore tibia and fore tarsus brownish yellow, hind tibia lacking prominent bristles; Male: mid femur with tubercle near base.

Description. Male. Body length 2.0–2.3 mm, wing length 1.8–1.9 mm. Occiput wholly black, subshining, with yellow to brownish yellow setation. Eye with hind margin slightly concave. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Inner verticals moderately long, outer ones hardly prominent. Frons subshining, rather short. Antenna (Fig. 71) brownish yellow. Pedicel with circlet of subequally short setulae. Postpedicel long, nearly 4.0 times longer than wide. Style rather densely pubescent, brown, about 2.0 times longer than postpedicel and nearly 1.5 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered brownish yellow setulae, bearing 1 longer and darker subapical seta.



FIGURES 71–74. *Elaphropeza tiomanensis* sp. nov. **71.** antenna. **72.** epandrium with cerci. **73.** right surstylus. **74.** left cercus and surstylus.

Thorax largely yellow, shining, with yellow to brownish yellow bristles; pronotum, scutellum and metanotum brown, scutum broadly brown along margin (except for prescutellar depression), sternopleuron with brownish yellow space in lower part, hypopleuron and metapleuron brown. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 short postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.

Legs almost entirely yellow, with yellow to brownish yellow setation; fore tibia and fore tarsus rather brownish yellow. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with hardly prominent rows of antero- and posteroventral bristles and 2 long bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with tubercle near base, bearing 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules in middle part and 1 longer subapical spinule, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia lacking prominent bristles; apical projection short, more or less pointed, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, uniformly finely brownish infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, yellowish brown. Costal index: 36/34/30/14. Vein Rs somewhat longer than crossvein bm-cu.

Veins R4+5 and M1+2 parallel near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter darkened.

Abdomen. Tergite 1 almost entirely pale yellow, with very narrow brownish space. Tergite 2 narrow, somewhat concave on anterior margin; with unmodified setation. Tergite 3 broadest, nearly 2 times broader than tergite 2, with squamiform setae. Tergites 4 and 5 about 2.0 times narrower than tergite 3, with squamiform setae. Tergites 6–8 unmodified; tergite 7 with rather long posteromarginal setae. Sternites unmodified, subrectangular, sternite 4 represented by 2 brownish spaces. Gland-like structures present between tergites 3–4 and 4–5.

Terminalia (Figs. 72–74) large, brownish. Cerci separated; left cercus unbranched, long, sinuate, pointed at apex, with long bristles. Right cercus short, very narrow, with few moderately long bristles. Epandrium completely divided. Right epandrial lamella small, covered with numerous long bristles. Right surstylus large, with 2 excisions on upper margin, bearing numerous bristles of different lengths. Left epandrial lamella fused to hypandrium, with several short bristles apically. Left surstylus with upper lobe small, subtriangular, with moderately long bristles. Hypandrium with 1 long subapical bristle. Phallus very long, coiled. One rod-shaped apodeme.

Female. Body length 2.1–2.2 mm, wing length 1.7–1.8 mm. Mid tibia lacking spinules. Mid femur slender. Abdominal segment 8 short, brownish, with sclerites fused antero-laterally; sternite 8 not folded apically. Cercus broad oval, brownish yellow. Otherwise as in male.

Material examined: Holotype male labelled: MALAYSIA, Pulau Tioman, Salang, 13 July 2005, secondary forest, sweeping (reg. 25209, leg. PG, E-15).

Paratypes: SINGAPORE, 1 ♀, Chek Jawa, 21 September 2005, mangrove, sweeping (reg. 25356, leg. PG).

MALAYSIA, 1 ♀, Pulau Tioman, Juara, 20 July 2005, primary rain forest, sweeping (reg. 25247, leg. PG); 2 ♂♂, same data as holotype.

Derivatio nominis. The name *tiomanensis* refers to the type locality, Pulau Tioman, a small island in the South China Sea east of the Malay Peninsula.

Distribution and bionomics. Malaysia, Singapore. Rain forest and mangrove.

Singapore. This is a very rare species that is recorded only from a single female, swept in the mangrove forest of Chek Jawa. The records in Malaysia are in primary and secondary rain forests on the Island Pulau Tioman. With the few current records available, it is difficult to predict its microhabitat.

Remarks. The relationships of *E. tiomanensis* sp. nov. are unclear beyond inclusion within the *E. biuncinata* species group.

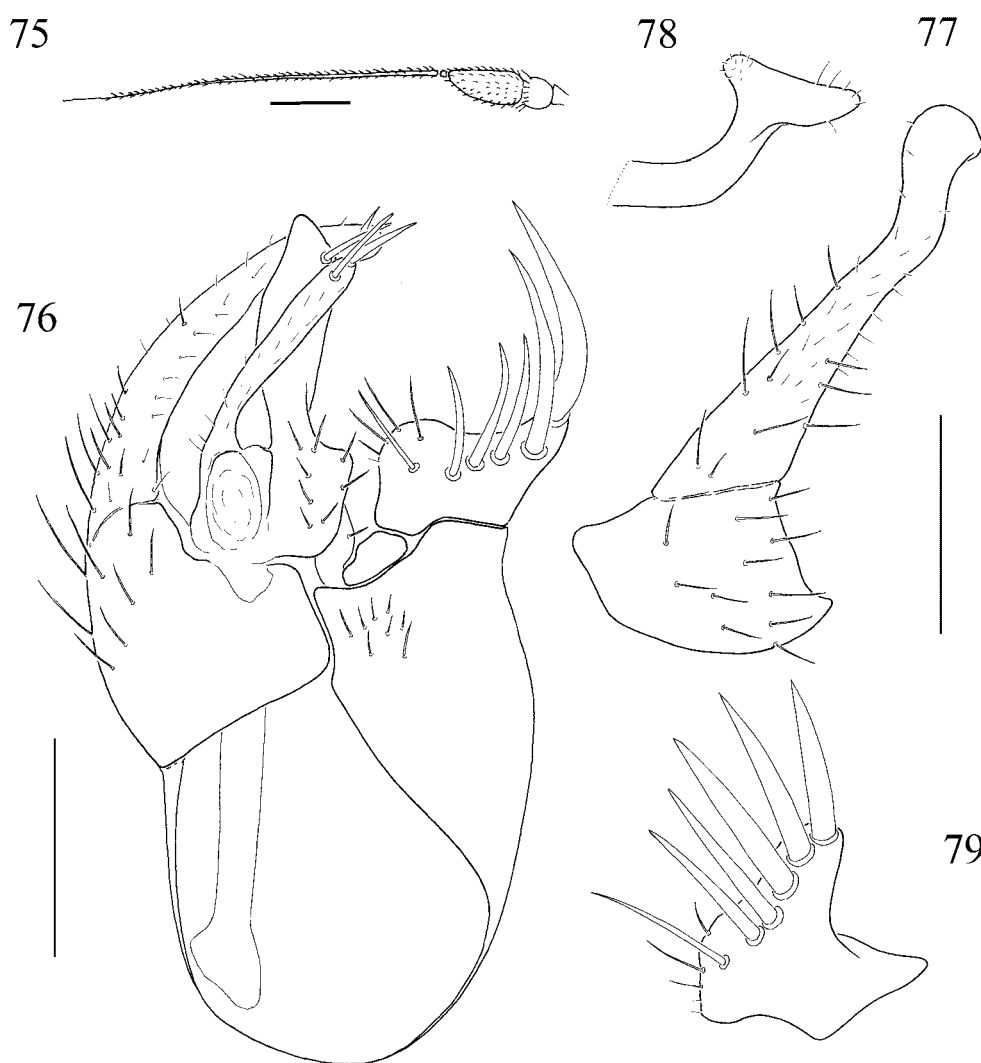
***Elaphropeza acantha* sp. nov.**

(Figs. 75–79)

Diagnosis. Occiput brown, postpedicel 2.0 times longer than wide, style 5.0 times longer than postpedicel; mesonotum almost wholly yellowish brown, acrostichals and dorsocentrals multiserial, complete; legs yellow, hind tibia lacking prominent bristles.

Description. Male. Body length 1.6–1.5 mm, wing length 1.3–1.4 mm. Occiput brown, subshining, with yellow to brownish yellow setation. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Inner verticals moderately long, outer ones somewhat shorter. Frons subshining. Antenna (Fig. 75) with postpedicel brownish, scape and pedicel yellow. Pedicel with circlet of subequally short setulae. Postpedicel short, about 2.0 times longer than wide. Style normally pubescent, brown, about 5.0 times longer than postpedicel, nearly 3.0 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered yellow setulae, bearing 1 longer subapical seta.

Thorax partly yellow, shining, with yellow to brownish yellow bristles; scutum with broad brown median vitta somewhat widened on prescutellar depression, pronotum, scutellum and metanotum brown, sternopleuron and hypopleuron in lower part with brownish patch, pteropleuron brownish yellow. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 short bristle in upper part. Postpronotal bristle short. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.



FIGURES 75–79. *Elaphropeza acantha* sp. nov. **75.** antenna. **76.** epandrium with cerci. **77.** right surstylus. **78.** internal projection of left surstylus. **79.** left surstylus.

Legs entirely yellow, with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, ventral bristles (posteroventrals longer) and 1 anterior subapical bristle. Mid tibia with 1 row of ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia lacking prominent bristles; apical projection short rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, yellow. Costal index: 24/21/26/10. Vein Rs longer than crossvein bm-cu. Veins R4+5 and M1+2 parallel near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu oblique. Crossvein r-m somewhat beyond middle of cell bm. Halter darkened.

Abdomen with all tergites and sternites brownish. Tergite 1 very narrow. Tergite 2 broadly concave on anterior margin, in middle about 3.0 times narrower than tergite 3; with unmodified setation. Tergite 3 broadest, with squamiform setae. Tergite 4 about 1.5 times narrower than tergite 3, with squamiform setae. Tergite 5 about 1.5 times narrower than tergite 4, with squamiform setae. Tergites 6–8 unmodified; tergite 6 lacking prominent posteromarginal bristles, tergite 7 with short posteromarginal bristles. Sternites 3–5 divided. Gland-like structures present between tergites 3–4 and 4–5.

Terminalia (Figs. 76–79) large, brownish yellow. Cerci separated; left cercus nearly as long as but broader than right cercus, with 1 spine-like subapical bristle. Right cercus digitiform, long, with 3 subapical, long, spine-like bristles. Epandrium completely divided. Right surstylus digitiform, long, with moderately long bristles, lacking spines. Left epandrial lamella fused to hypandrium, with few short bristles apically. Left surstylus with upper lobe rather small, with internal projection, bearing 5 long spines. Hypandrium with 2 short bristles. Phallus long, coiled. One rod-shaped apodeme.

Female. Body length 1.7–1.9 mm, wing length 1.3–1.4 mm. Mid tibia lacking ventral spinules. Tergite 5 lacking squamiform setae. In one specimen tergite 2 with few squamiform setae. Abdominal segment 8 with sclerites fused antero-laterally; sternite 8 not folded apically. Cercus elongate oval, yellow. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, Nee Soon, 16 March 2005, swamp forest, Mal 1 (reg. 25015, leg. PG, E-24).

Paratypes: SINGAPORE: 1 ♀, Bukit Timah, 11 March 2005, rain forest, sweeping (reg. 25011, leg. PG); 1 ♂, Bukit Timah, 23 September 2005, rain forest, Mal 2 (reg. 25358, leg. PG); 1 ♂, Nee Soon, 25 November 2003, swamp forest, sweeping (reg. 23084, leg. PG); 1 ♀, Nee Soon, 8 July 2005, swamp forest, Mal 1 (reg. 25205, leg. PG); 1 ♀, Nee Soon, 18 November 2005, swamp forest, Mal 1 (reg. 25422, leg. PG); 1 ♀, Nee Soon, 14 December 2005, swamp forest, Mal 1 (reg. 25446, leg. PG); 1 ♀, Sime forest, 25 January 2006, forest, Mal 1 (reg. 26018, leg. PG).

Derivatio nominis. The name *acantha* refers to the row of strong spines on the left surstylus.

Distribution and bionomics. Singapore. Forest.

Singapore. This is a rare species that is recorded in various types of forest but only as single specimens. Apparently it is present throughout the year.

Remarks. In the structure of the male terminalia (the presence of long spines and an internal projection on the left surstylus), *E. acantha* sp. nov. appears closely related to *E. pluriacantha* sp. nov.

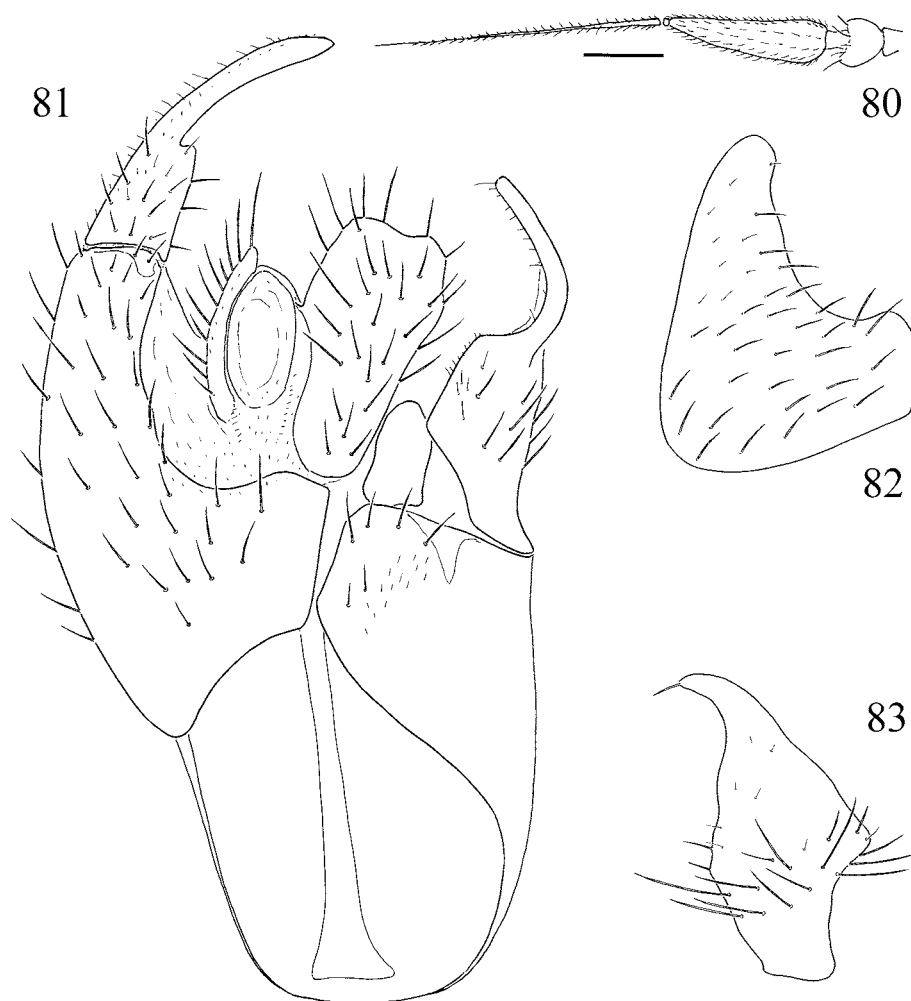
***Elaphropeza sylvicola* sp. nov.**

(Figs. 80–83)

Diagnosis. Occiput yellow, postpedicel about 3.5 times longer than wide; thorax almost entirely yellow, only scutum with indistinct patch just behind anterior corner and metanotum wholly brownish; legs entirely yellow, hind tibia lacking prominent bristles.

Description. Male. Body length 2.1–2.2 mm, wing length 1.6–1.7 mm. Occiput largely yellow, broadly darkened above neck, subshining, with yellow to brownish yellow setation. Frons black, subshining. Ocellar tubercle brownish, anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones hardly prominent. Antenna (Fig. 80) largely yellow, postpedicel brownish yellow. Pedicel with circlet of sub-

equally short setulae. Postpedicel nearly 3.5 times longer than wide. Style normally pubescent, brown, about 2.0 times longer than postpedicel and nearly 1.5 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.



FIGURES 80–83. *Elaphropeza sylvicola* sp. nov. **80.** antenna. **81.** epandrium with cerci. **82.** right surstylus. **83.** left surstylus.

Thorax almost entirely yellow, shining, with yellow to brownish yellow bristles; scutum with indistinct patch just behind anterior corner, metanotum wholly brownish. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.

Legs wholly yellow, with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent dorsal bristles, posteroventral subapical bristle black, long. Mid femur slender, with 2 rows of spinule-like, short, ventral bristles (posteroventrals longer), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia lacking prominent bristles; apical projection prominent, small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, yellow. Costal index: 34/25/33/12. Vein Rs somewhat longer than crossvein bm-cu. Vein R2+3 smoothly arched. Veins R4+5 and M1+2 slightly divergent near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter with dark knob.

Abdomen. Tergite 1 very narrow, pale brownish. Tergites 2–5 somewhat darker. Tergite 2 broadly concave anteriorly, with unmodified setae. Tergite 3 broadest, with squamiform setae. Tergite 4 somewhat narrower than tergite 3, with squamiform setae. Tergite 5 nearly as broad as tergite 2, with scattered squamiform setae. Tergites 6 and 7 of subequal width, tergite 7 with moderately long posteromarginal bristles. Sternites weakly sclerotised, sternites 3–5 divided. Gland-like structures between tergites 3–4 and 4–5.

Terminalia (Figs. 81–83) large, yellow. Cerci broadly separated, covered with numerous moderately long bristles, lacking spines; left cercus subrectangular, rather short and broad; right cercus short, slender. Epanandrium completely divided. Right epanandrial lamella subrectangular, covered with numerous bristles of different lengths. Right surstylus prominent, large, subtriangular, covered with short bristles. Left epanandrial lamella fused to hypandrium, with several moderately long and short bristles apically. Left surstylus with upper lobe moderately large, subtriangular, with numerous moderately long bristles. Hypandrium with 1 very long and 1 minute bristles. Phallus long, coiled. One rod-shaped apodeme.

Female. Body length 2.1–2.2 mm, wing length 1.6–1.7 mm. Mid tibia lacking ventral spinules. Segment 8 brownish yellow, with sclerites fused antero-laterally; sternite 8 not folded apically. Sternite 10 and cercus concolorous, brownish yellow. Otherwise as in male.

Material examined. Holotype male labelled: SINGAPORE, Nee Soon, 7 September 2005, swamp forest, Mal 2 (reg. 25332, leg. PG, E-40).

Paratypes: SINGAPORE, 1 ♀, Bukit Timah, 4 December 2002, rain forest; primary, sweeping (reg. 22050, leg. PG); 1 ♀, Nee Soon, 16 September 2005, swamp forest, Mal 1 (reg. 25349, leg. PG); 1 ♀, Nee Soon, 14 October 2005, swamp forest, Mal 3 (reg. 25390, leg. PG); 3 ♀♀, Nee Soon, 28 October 2005, swamp forest, Mal 1 (reg. 25403, leg. PG); 1 ♀, Nee Soon, 9 November 2005, swamp forest, Mal 1 (reg. 25414, leg. PG); 1 ♀, Sime forest, 1 April 2005, forest, Mal 1 (reg. 25040, leg. PG); 2 ♀♀, Sime forest, 22 July 2005, forest, Mal 1 (reg. 25270, leg. PG); 1 ♀, Sime forest, 19 August 2005, forest, Mal 2 (reg. 25300, leg. PG); 1 ♀, Sime forest, 7 September 2005, forest, Mal 1 (reg. 25334, leg. PG); 1 ♀, Sime forest, 14 October 2005, forest, Mal 1 (reg. 25384, leg. PG).

Derivatio nominis. The name *sylvicola* alludes to the fact that this species was found in woods (sylva: wood, cola: living).

Distribution and bionomics. Singapore. Forest.

Singapore: This is not a very common species that was found in various types of forest. The peak of activity is from mid August until mid November. Only a single male was found resulting in a sex ratio of 19/1 females to males.

Remarks. The relationships of *E. sylvicola* sp. nov. are unclear beyond inclusion within the *E. biuncinata* species group. The main distinguishing features of the new species are indicated in the diagnosis given above and in the key. Also, *E. sylvicola* sp. nov. differs from *E. kunmingana* (Yang and Yang) described from China by a wholly yellow scutellum (Yang & Yang 1990).

***Elaphropeza* sp. 50** (Fig. 84)

Diagnosis. Occiput, antenna, thorax and legs entirely yellow; postpedicel short, nearly 2.0 times longer than wide; tibiae lacking prominent bristles (except subapicals).

Description. Female. Body length 1.7 mm, wing length 1.5 mm. Occiput including frons yellow. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones somewhat shorter. Antenna (Fig. 84) with scape and pedicel yellow, postpedicel brownish. Pedicel with circlet of subequally short setulae. Postpedicel nearly 2.0 times longer than wide. Style normally pubescent, brown, about 4.0 times longer than postpedicel and nearly 2.5 times as long as scape, pedicel and postpedicel combined. Palpus yellow, small, rounded.



FIGURE 84. Antenna unnamed female *Elaphropeza* sp. 50.

Thorax entirely yellow. Prothoracic episterna with 1 long upturned bristle just above fore coxa and short bristle in upper part. Postpronotal bristle minute. Mesonotum with usual set of bristles. Acrostichals and dorsocentrals multiserial, extending to base of scutellum, 1 pair of prescutellars longest.

Legs entirely yellow. Fore and mid femur with ordinary armature. Fore tibia lacking prominent bristles. Mid tibia lacking ventral spinules and prominent bristles (except subapicals). Hind femur with ordinary setation. Hind tibia with hardly prominent rounded apical projection, lacking prominent bristles. Tarsi of all legs unmodified.

Wing finely infusate and with indistinct brownish band in middle (almost invisible near posterior margin of wing). Costal index: 28/27/23/12. Veins R4+5 and M1+2 divergent near wing apex, both straight. Crossvein bm-cu oblique. Crossvein r-m somewhat beyond middle of cell bm. Halter yellow.

Abdomen. Tergite 1 pale yellow, tergites 6 and 7 yellowish. Tergites 2–5 of subequal width viewed laterally, brownish; tergite 2 somewhat narrower, broadly concave on anterior margin. Tergites 3–5 with squamiform setae. Segment 8 short, broad, brownish yellow, with sclerites fused antero-laterally; sternite 8 not folded apically. Cercus brownish yellow.

Male. Unknown.

Material examined. MALAYSIA, 1 ♀, Pulau Tioman, Juara, 20 July 2005, river, sweeping (reg. 25246, leg. PG, E-50).

Remarks. Within the key to *Elaphropeza* this unnamed species would run to *E. ferruginea* Brunetti differing primarily from it by wing colour and yellow scutellum.

***Elaphropeza obliquinervis* de Meijere, 1914**

Elaphropeza obliquinervis de Meijere, 1914: 73, Taf. 2, Fig. 9 (wing) (male).

Re-description. Male. Body length 2.0 mm, wing length 3.1 (2.3 in the original description) mm. Head with occiput wholly black, subshining, finely greyish pollinose. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones somewhat shorter. Antenna with scape and pedicel brownish yellow, postpedicel and style black. Pedicel with circlet of subequally short setulae. Postpedicel 3.0 times longer than wide. Style densely pubescent, quite thick, 2.5 times longer than postpedicel and 1.7 times as long as scape, pedicel and postpedicel combined. Gena not produced below eye. Palpus small, pale yellow.

Thorax almost wholly yellow, with yellow to brownish yellow bristles; scutum with 1 large rounded spot closer to notopleural space and median vitta in anterior part, hypopleuron in upper part, metapleuron wholly and metanotum posteriorly brownish. Scutellum, metapleuron and metanotum finely tomentose, otherwise thorax shining. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1

postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal and dorso-central bristles multiserial, uniform (except long prescutellars).

Legs with fore and mid tibiae and tarsi brownish, hind femur on apical half and hind tibia entirely dark brown. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles, 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of black ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia lacking prominent bristles; apical projection hardly prominent, rounded, clothed in dense brownish setulae. Hind tarsomere 1 somewhat thickened.

Wing normally developed, uniformly finely brownish infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, brownish. Costal index: 65/64/45/20. Vein Rs subequal to crossvein bm-cu. Vein R2+3 almost straight. Veins R4+5 and M1+2 parallel near wing apex, R4+5 straight, M1+2 bowed. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu strongly oblique. Crossvein r-m far before middle of cell bm (cell br very short). Halter brown.

Abdomen with dark brown tergites, subshining. Tergites 3–5 with squamiform setae. Tergite 7 with rather long posteromarginal bristles.

Terminalia large, brownish. Not examined.

Female. Unknown.

Type material examined. Holotype male labelled: [red label] *Elaphropeza* / *obliquinervis* / de Meijere, 1914 / ZMAN **type** DIPT.0488.1; *Elaphropeza* / *obliquinervis* [hand-written] / det. de Meijere / Type [hand-written]; E. Jacobson / Nonghodjadar / JAVA Jan 1911 (ZMAN).

De Meijere (1914) described this species from a single male that is deposited in the ZMAN. Currently, the holotype is in good condition.

Distribution and bionomics. Indonesia (Java).

Remarks. The relationships of *E. obliquinervis* are unclear beyond inclusion within the *E. biuncinata* species group, primarily due to the presence of a long upturned bristle just above fore coxa and squamiform setae on abdominal tergite 3. Among species of the *E. biuncinata* group only this species has a very short cell br of the wing that is also found in some species of the *E. ephippiata* group. *Elaphropeza obliquinervis* can be readily distinguished from other yellow species having a black occiput but lacking prominent bristles on the hind tibia, by a strongly oblique cross-vein bm-cu. In many species of *Elaphropeza* cross-vein bm-cu is somewhat oblique but this condition differs distinctly from that found in *E. obliquinervis*. Additional distinguishable characters of this species are indicated in the key.

***Elaphropeza plumicornis* Senior-White, 1922**

Elaphropeza plumicornis Senior-White, 1922: 150, Pl. XIV, Fig. 9 (antenna) (female).

Re-description. Female. Body length 2.2 mm [2.0 in the original description], wing length 2.3 mm. Occiput black, densely greyish pollinose. Eye slightly concave on hind margin. Frons subshining, above antennae somewhat narrower than anterior ocellus. Anterior ocellars and inner verticals moderately long, outer verticals somewhat shorter. Scape and pedicel brown, pedicel with equally short setulae. Postpedicel blackish (except extreme base). Style thickly pubescent, nearly 2.0 times as long as scape, pedicel and postpedicel combined. Gena somewhat produced. Palpus small, reddish brown.

Thorax entirely ferruginous, shining. Prothoracic episterna with 1 long upturned bristle just above fore coxa and 1 very short bristle in upper part. Acrostichal and dorsocentral bristles undifferentiated, scutum evenly covered with short, pale bristly hairs (except 1 pair of long prescutellars).

Legs yellow with brownish tinge (hind tarsus appearing paler, hind femur darker in apical part). Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur slender, with 2 rows of spinule-like, short, ventral bristles, 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia lacking prominent bristles; apical projection quite large, broad, angulate at apex, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing uniformly finely brownish infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, brownish. Costal index: 55/40/36/16. Vein Rs longer than crossvein bm-cu. Vein R2+3 smoothly arched, almost straight. Veins R4+5 and M1+2 parallel near wing apex, more or less straight. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu oblique. Crossvein r-m before middle of cell bm. Halter with dark knob [not yellow as in the original description].

Abdominal tergites 3–5 with squamiform setae. (For some missing structures adopted from Senior-White (1922)).

Male. Unknown.

Type material examined: Female holotype labelled: CEYLON / Matale District / Suduganga / 18.i.1920; *Elaphropeza plumicornis* male / Senior White / TYPE; **Holotype**; BMNH(E) # 244882 (BMNH).

Senior White (1922) described this species from a single specimen that is now deposited in the BMNH. He misinterpreted the sex of the holotype describing it as a male. Actually it is a female. Currently, in the holotype the postpedicel and style are lost from both antennae; otherwise it is in good condition.

Distribution and bionomics. Sri Lanka.

Remarks. The relationships of *E. plumicornis* are unclear beyond inclusion within the *E. biuncinata* species group, primarily due to the presence of a long upturned bristle just above the fore coxa and squamiform setae on abdominal tergite 3.

Elaphropeza ephippiata group

Members of this group are characterised by the following combination of characters: two male genitalic rod-shaped apodemes (ventral and ejaculatory) present (Fig. 193); phallus short (Fig. 242); no long upturned bristle just above fore coxa; abdominal tergites 4 and/or 5 with squamiform setae (rarely absent); abdominal glands present between tergites 4 and 5. Additionally, in species of this group the hind tibia bears usually 1–2 anterodorsal bristles (but with quite numerous exceptions) (Fig. 222), cerci are usually fused to form a single lobe (Fig. 193) and the right surstylus is usually not prominent. In females, sclerites of abdominal segment 8 (Fig. 236) are separated (except in *E. feminata* sp. nov.) and sternite 8 is folded apically (Fig. 236).

Species Complex 1.—Hind tibia lacking prominent bristles.

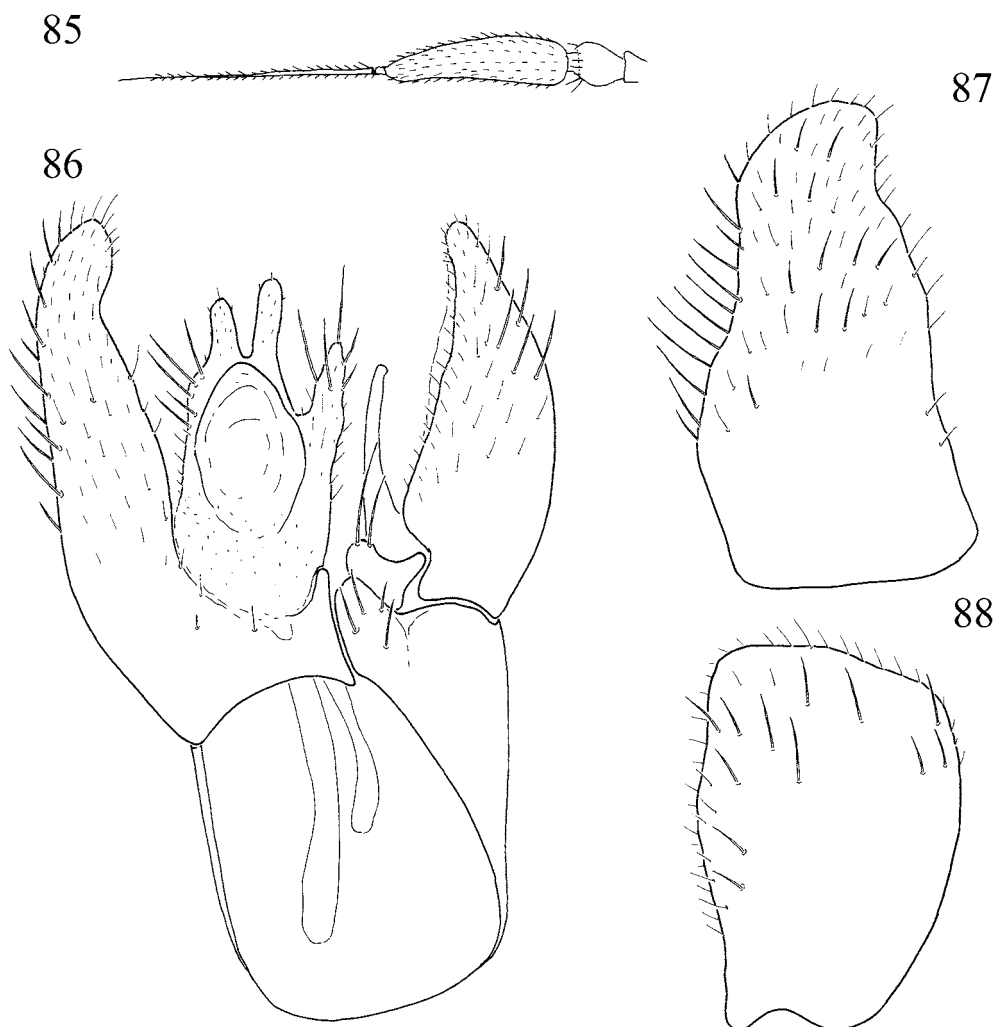
Elaphropeza temasek sp. nov.

(Figs. 85–88)

Diagnosis. Rather large species with entirely black thorax; postpedicel 4.0–4.5 times longer than wide, antenna wholly brown; acrostichal and dorsocentral bristles few in number; legs almost entirely brownish yellow, mid and hind tibiae lacking anterodorsal bristles; tergites 4 and 5 with squamiform setae.

Description. Male. Body length 2.2–2.3 mm, wing length 2.0–2.1 mm. Head black, occiput shining, with pale setation. Eye with posterior margin very slightly concave. Anterior ocellars rather short, proclinate; posterior ocellars minute. One pair of inclinate verticals. Frons shining. Antenna (Fig. 85) wholly brown. Pedicel with circlet of equally minute setulae. Postpedicel 4.0–4.5 times longer than wide. Style normally pubescent, brown, nearly 1.5 times longer than postpedicel and as long as scape, pedicel and postpedicel combined. Pro-

boscis brownish yellow. Palpus pale yellow, large, rounded; with scattered yellow setulae, including 1 longer subapical.



FIGURES 85–88. *Elaphropeza temasek* sp. nov. **85.** antenna. **86.** epandrium with cerci. **87.** right epandrial lamella. **88.** left surstylus.

Thorax entirely black, largely shining, with yellow to brownish yellow (larger bristles) setation; scutum on prescutellar depression, in anterior part laterally and narrowly along margin (including notopleural depression), scutellum, metanotum and metapleuron tomentose. Proepisternum lacking long upturned bristle just above fore coxa, with 1 short bristle in upper part. Postpronotal bristle minute. Mesonotum with 1 very short presutural supra-alar, 2 notopleural (posterior one longer), 1 short postsutural supra-alar, 1 postalar and 4 scutellar (apical ones very long, cruciate; lateral ones very short) bristles. Acrostichals and dorsocentrals convergent, mostly of subequal length (except for 1 pair of long prescutellar dorsocentrals), hardly separated; the former 2-serial, numerous, lacking on prescutellar depression; the latter irregularly 2-serial, with additional setulae in anterior part.

Legs almost entirely brownish yellow, femora somewhat paler in basal part (especially hind femur), tarsomeres 2–3 of all legs darker. Fore femur somewhat thickened, with rows of hardly prominent antero- and posteroventral bristles and 1 long bristle near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur slender, with 2 rows of brownish yellow, spinule-like, short, ventral bristles, 1 long yellow thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of black ventral spinules along the whole length. Hind femur slender, bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near

base. Hind tibia somewhat thickened, with ordinary inconspicuous setation; apical projection small, covered with dense brown setulae. Tarsi of all legs unmodified.

Wing normally developed, finely uniformly brownish infusate, covered with uniform microtrichia; veins largely brownish. Costal vein with short setulae along anterior margin. Basal costal bristle short, brownish yellow. Costal index: 58/27/44/14. Veins R4+5 and M1+2 parallel near wing apex, both straight. Vein CuA1 reaching wing margin. Crossvein bm-cu somewhat oblique. Crossvein r-m before middle of cell bm. Halter yellow.

Abdomen. Tergite 1 entirely pale yellow. Tergites 2 and 3 largely pale yellow, with small brownish space on each side; bearing dorsal, black, minute setulae sitting on brown dots. Tergite 4 broad, dark brown, with squamiform setae laterally. Tergite 5 concolorous with tergite 4, narrow, with squamiform setae laterally. Tergite 6 narrowly divided along midline, with unmodified setae; Tergite 7 unmodified, with moderately long posteromarginal bristles. Sternites narrow, brownish, bearing scattered inconspicuous setation. Gland-like structures present between tergites 4 and 5.

Terminalia (Figs 86–88) dark brown, small. Left and right cercus unbranched, digitiform, short, covered with bristles of different lengths, lacking spines. Subepandrial lobe prolonged. Epandrium completely divided. Right epandrial lamella subrectangular, covered with numerous bristles of different lengths. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with 4 long bristles apically. Left surstylus with upper lobe large, subrectangular, with numerous bristles of different lengths. Hypandrium with 3 bristles. Phallus very short. Two rod-shaped apodemes.

Female. Unknown.

Material examined: Holotype male labelled: SINGAPORE, Sungei Buloh, 11 May 2005, mangrove, Mal 1 (reg. 25159, leg. PG, E-01).

Paratypes: SINGAPORE: 1 ♂, Sungei Buloh, 18 May 2005, mangrove, Mal 2 (reg. 25162, leg. PG); 1 ♂, Sungei Buloh, 7 September 2005, mangrove, Mal 1 (reg. 25336, leg. PG); 1 ♂, Sungei Buloh, 3 December 2005, mangrove, Mal 2 (reg. 25440, leg. PG); 1 ♂, Sungei Buloh, 4 January 2006, mangrove, Mal 1 (reg. 26007, leg. PG).

Derivatio nominis. The word *temasek* means city by the sea, being the ancient name for Singapore.

Distribution. Singapore. Mangrove species.

Singapore: *Elaphropeza temasek* sp. nov. is exclusively observed in the mangrove of Sungei Buloh Wetland Reserve. It is rare (5 records only) and only known from the male sex. It is active throughout the year and due to its rarity no peak activity is observed.

Remarks. In having a prolonged subepandrial lobe *E. temasek* sp. nov. is likely to be closely related to *E. bezzii* sp. nov. and *E. ephippiata*.

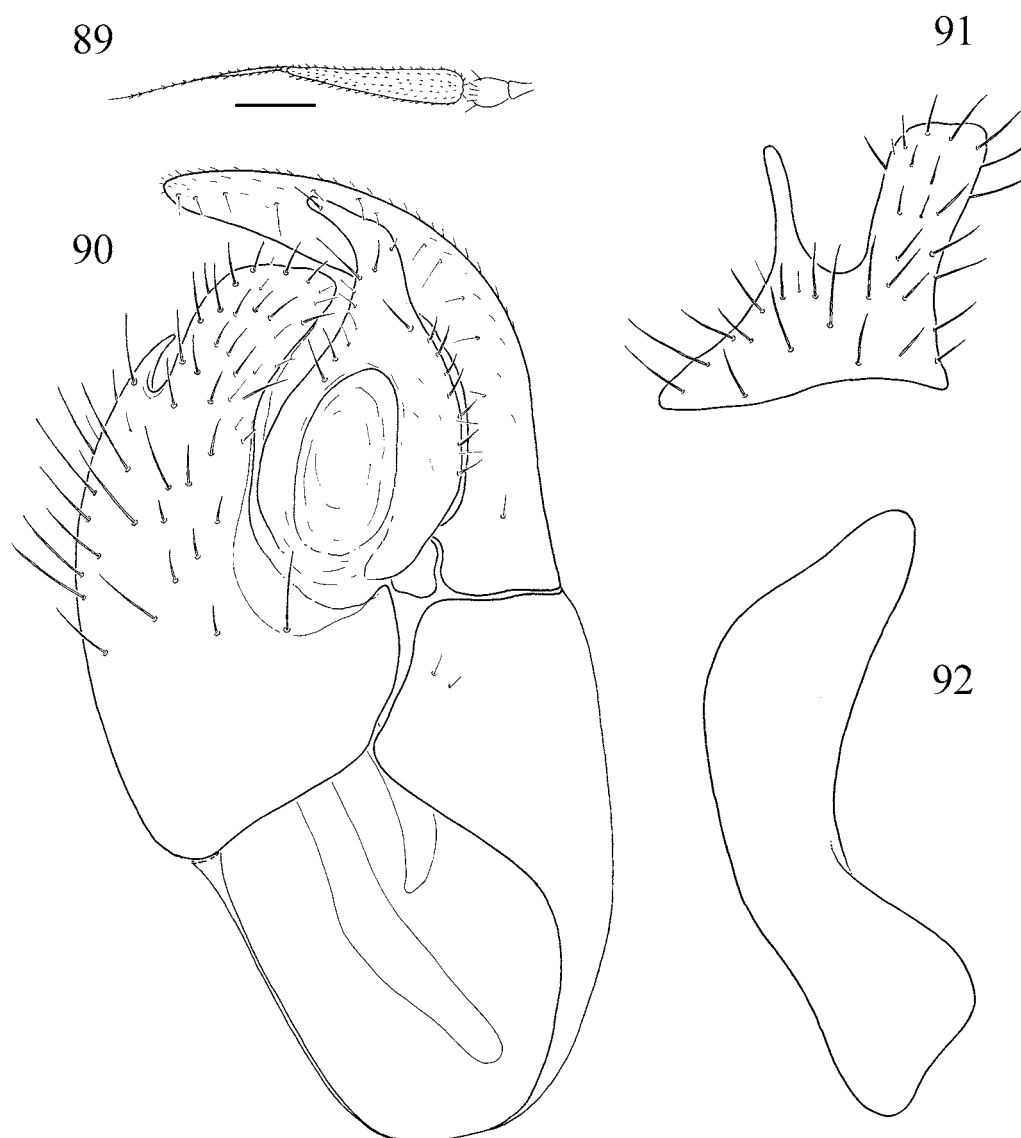
***Elaphropeza neesoonensis* sp. nov.**

(Figs. 89–92, 93–94)

Diagnosis. Species with entirely black thorax; postpedicel about 5.0 times longer than wide; acrostichal and dorsocentral bristles few in number; legs with tarsomeres 3–5 brownish yellow, mid and hind tibiae lacking anterodorsal bristles.

Description. Male. Body length 1.3–1.5 mm, wing length 1.2–1.3 mm. Head black, occiput subshining, finely pollinose, with pale setation. Eye with hind margin slightly concave. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Two pairs of inclinate proclinate verticals (inner ones longer). Frons shining. Antenna (Fig. 89) wholly brownish. Pedicel with circlet of equally minute setulae. Postpedicel nearly 5.0 times longer than wide. Style normally pubescent, brown, nearly as long as postpedicel and about 1.5 times shorter than scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered yellow setulae.

Thorax entirely black, largely shining, with yellow to brownish yellow bristles; scutellum and metanotum tomentose. Proepisternum lacking long upturned bristle just above fore coxa, with 1 short upturned bristle in upper part. Postpronotal bristle minute. Mesonotum with 1 very short presutural supra-alar, 2 moderately long notopleural, 1 similar postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals prominent in anterior part of scutum only, 4 (sometimes 3) pairs, rather short. Dorsocentrals prominent in posterior part of scutum only, 3 pairs, rather long (prescutellars longest).



FIGURES 89–92. *Elaphropeza neesooneensis* sp. nov. **89.** antenna. **90.** epandrium with cerci. **91.** apical part of right epandrial lamella. **92.** left surstylus.

Legs almost entirely yellow (sometimes fore tibia and fore tarsus dusky yellow or with brownish tinge), tarsomeres 3–5 pale brownish yellow. Coxae and trochanters with unmodified setation. Fore femur somewhat thickened, with hardly prominent rows of antero- and posteroventral bristles and 1 long bristle near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur slender, with 2 rows of brownish yellow, spinule-like, short, ventral bristles in basal 2/3, 2 long yellow thin bristles near base and 1 anterior subapical bristle. Mid tibia with 1 row of black ventral spinules, lacking prominent bristles (except subapicals). Hind femur slender, bearing 1 row of short (half as long as femur is deep) anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia somewhat thickened at apex, with ordinary inconspicuous setation; apical projection

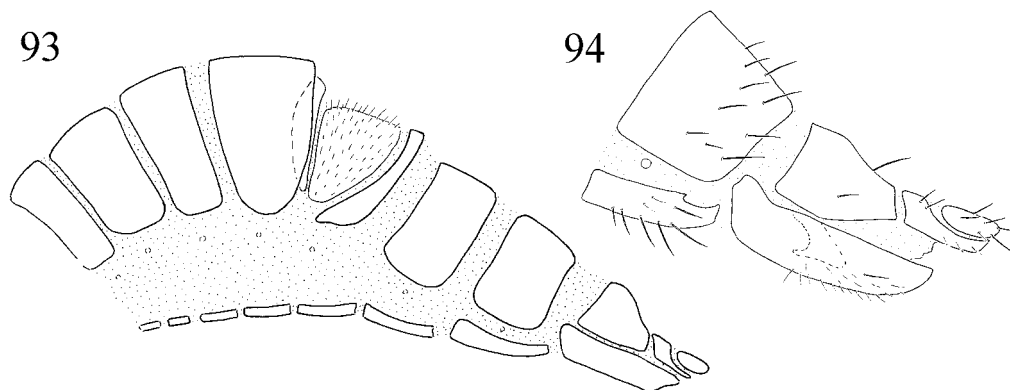
small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, uniformly finely infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, yellow. Costal index: 24/21/26/15. Veins R4+5 and M1+2 divergent near wing apex, both straight. Vein CuA1 not quite reaching wing margin. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter yellow.

Abdomen with all tergites brown. Tergites 1–3 narrow, rectangular, normally sclerotised, with inconspicuous setation. Tergite 4 broad (nearly 3.0 times as broad as tergite 3), bearing unmodified setae. Tergite 5 very narrow, bearing squamiform setae. Tergites 6 and 7 unmodified, tergite 6 with short while tergite 7 with moderately long posteromarginal bristles. Sternites normally sclerotised, with scattered inconspicuous setation. Gland-like structures present between tergites 4 and 5, represented by 2 elongate subtriangular anterior and 2 large ovate posterior sclerites, the latter covered with numerous microtrichia.

Terminalia (Figs. 90–92) dark brown, elongate. Cerci fused forming single tapered lobe, with several moderately long bristles. Epandrium completely divided. Right epandrial lamella with deep excision at apex (Fig. 91), covered with long bristles. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with 2 very short bristles apically. Left surstylus with upper lobe digitiform, long, with very short bristles. Hypandrium with 1 long and 1 short bristle apically. Phallus very short. Two rod-shaped apodemes.

Female. Body length 1.4–1.6 mm, wing length 1.4–1.5 mm. Mid tibia lacking ventral spinules. Segment 8 (Figs. 93–94) elongate, with sclerites separated; sternite 8 folded apically. Cercus brownish yellow. Otherwise as in male.



FIGURES 93–94. *Elaphropeza neesoonensis* sp. nov. **93.** female abdomen, lateral. **94.** ovipositor lateral.

Material examined: Holotype male labelled: SINGAPORE, Nee Soon, 9 March 2005, swamp forest, sweeping (reg. 25004, leg. PG, E-06).

Paratypes: SINGAPORE: 1 ♂, 6 ♀♀, Chek Jawa, 26 October 2005, mangrove, Mal 2 (reg. 25399, leg. PG); 12 ♂♂, 7 ♀♀, Lim Chu Kang, 26 November 2003, mangrove, sweeping (reg. 23089, leg. PG); 3 ♀♀, Nee Soon, 5 October 2000, swamp forest, sweeping (reg. 20030, leg. PG & N. Evenhuis); 6 ♂♂, 1 ♀, Nee Soon, 4 December 2002, swamp forest, sweeping (reg. 22054, leg. PG); 3 ♂♂, Nee Soon, 4 December 2002, swamp forest, sweeping (reg. 22052, leg. PG); 12 ♂♂, 7 ♀♀, Nee Soon, 25 November 2003, swamp forest, sweeping (reg. 23086, leg. PG); 5 ♂♂, 5 ♀♀, Nee Soon, 3 December 2003, marshland, sweeping (reg. 23100, leg. PG); 15 ♂♂, 8 ♀♀, Nee Soon, 9 March 2005, swamp forest, sweeping (reg. 25005, leg. PG); 40 ♂♂, Nee Soon, 9 March 2005, swamp forest, sweeping (reg. 25004, leg. PG); 3 ♂♂, 1 ♀, Nee Soon, 19 April 2005, swamp forest, sweeping (reg. 25070, leg. PG); 3 ♂♂, 4 ♀♀, Nee Soon, 1 July 2005, swamp forest, sweeping (reg. 25195, leg. PG); 1 ♂, Nee Soon, 5 August 2005, swamp forest, sweeping (reg. 25286, leg. PG); 1 ♂, Nee Soon, 16 September 2005, swamp forest, Mal 1 (reg. 25349, leg. PG); 2 ♂♂, Nee Soon, 14 December 2005, swamp forest, hand (reg. 25453, leg. VDV).

Derivatio nominis. The name *neesoonensis* refers to the forest at the entry of upper Peirce Reservoir that is commonly called Nee Soon.

Distribution. Singapore. Open marshy land in forest. Occasionally in mangrove.

Singapore: This is a rare species with 14 records from three sites. However it is locally very abundant. It is observed in open, sunny exposed marshy areas in the swamp forest of Nee Soon where it was collected by sweep netting the short grasses. Only a single male was recorded in the Malaise traps at Nee Soon. It was also recorded twice from mangroves (once at Chek Jawa and once at Lim Chu Kang). A sex ratio of 0.5/1 females to males indicate again a different activity pattern for females and males. Two peaks of activity were observed: in March and at the end of November. During the rest of the year it was not observed or only in very low numbers at the same site although the sample effort was identical (at least one sweep netting session of 30 minutes at exactly the same spot at least every month).

Remarks. The relationships of *E. neesoonensis* sp. nov. are unclear beyond inclusion within the monophyletic lineage of *Elaphropeza* sharing completely fused cerci (see “Discussion” for details).

***Elaphropeza yeoi* sp. nov.**

(Figs. 95–98)

Diagnosis. Species with black thorax, very similar to *E. neesoonensis* sp. nov. but tarsomere 5 black and different terminalia.

Description. Male. Body length 1.3–1.4 mm, wing length 1.2–1.3 mm. Head black, occiput subshining, with pale setation. Eye with hind margin slightly concave. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Two pairs of inclinate verticals (inner ones longer). Frons shining. Antenna (Fig. 95) wholly brownish. Pedicel with circlet of equally minute setulae. Postpedicel nearly 5.5 times longer than wide. Style normally pubescent, brown, nearly as long as postpedicel but 1.3–1.5 times shorter than scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered yellow setulae, including 1 longer subapical one.

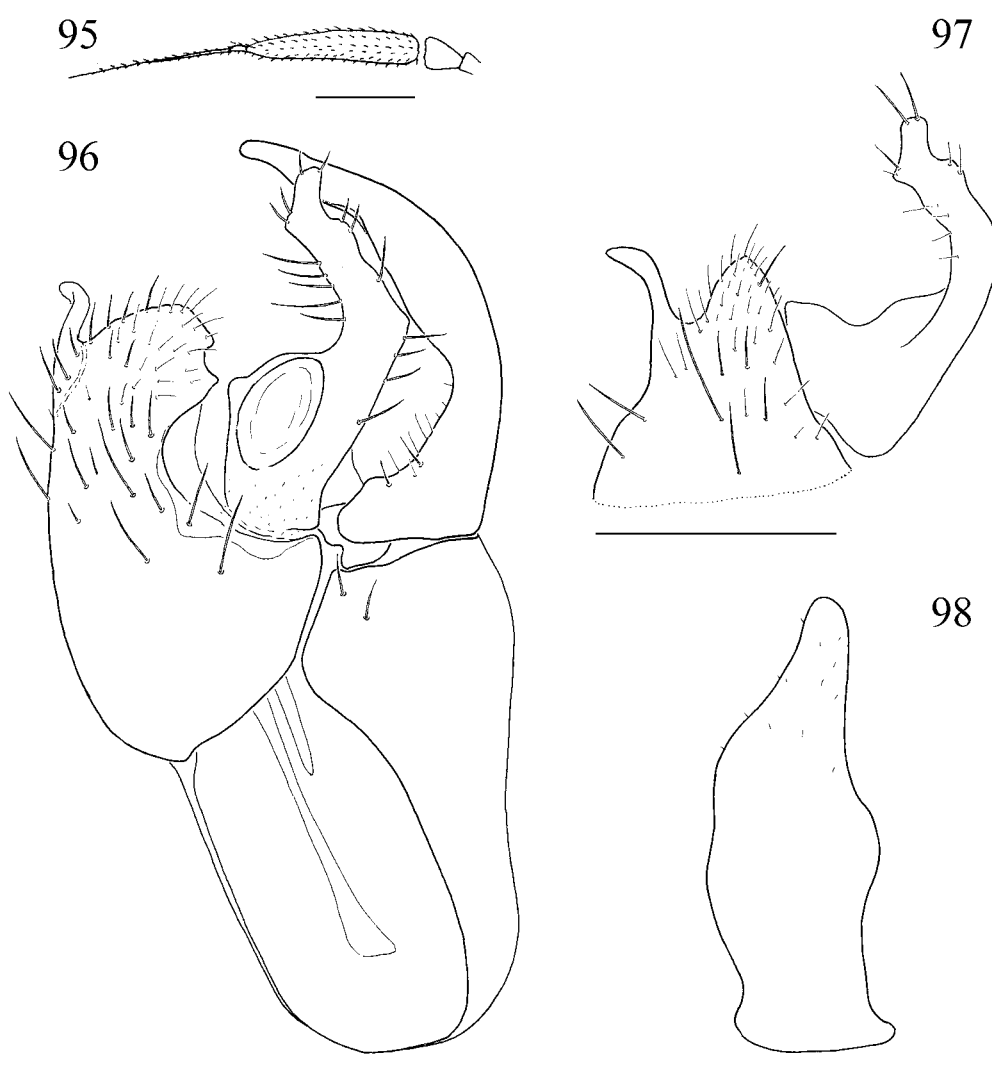
Thorax entirely black, shining, with yellow to brownish yellow bristles. Proepisternum lacking long upturned bristle just above fore coxa, with 1 short bristle in upper part. Postpronotal bristle minute. Mesonotum with 1 very short presutural supra-alar, 3 notopleural (posterior one longer), 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals prominent in anterior part of scutum only, 2–3 pairs, rather short. Dorsocentrals prominent in posterior part of scutum only, 3 pairs, prescutellars longest.

Legs almost entirely yellow, tarsomere 5 of all legs black. Coxae and trochanters with unmodified setation. Fore femur somewhat thickened, with hardly prominent rows of antero- and posteroventral bristles and 1 long bristle near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur slender, with 2 rows of brownish yellow, spinule-like, short, ventral bristles, 1 long yellow thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of black ventral spinules, lacking prominent bristles (except subapicals). Hind femur slender, bearing 1 row of short anteroventrals and 2–3 erect dorsal bristles near base. Hind tibia somewhat thickened at apex, with ordinary inconspicuous setation; apical projection small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, uniformly finely infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, yellow. Costal index: 19/17/28/14. Veins R4+5 and M1+2 divergent near wing apex, both straight. Vein CuA1 not quite reaching wing margin. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter yellow.

Abdomen. Tergite 1 narrow, undivided, with few minute setulae laterally. Tergites 2 and 3 of subequal width and about 1.5 times broader than tergite 1, with scattered unmodified setae laterally. Tergite 4 broad, nearly as broad as tergites 2 and 3 combined, darker, with unmodified setae. Tergite 5 very narrow, bearing squamiform setae. Tergites 6 and 7 unmodified, tergite 6 with short while tergite 7 with moderately long posteromarginal bristles. Sternites unmodified. Gland-like structures present between tergites 4 and 5, represented by 2 large ovate sclerites covered with numerous microtrichia.

Terminalia (Figs. 96–98) brown, elongate. Cerci fused forming single digitiform sinuate long lobe covered with several moderately long bristles. Epandrium completely divided. Right epandrial lamella subtriangular, with deep excision at apex, covered with long bristles. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with 2 short bristles apically. Left surstylus with upper lobe elongate, rather broad and parallel-sided on about basal 2/3, narrowed toward apex on apical 1/3. Hypandrium with 2 subapical bristles. Phallus very short. Two rod-shaped apodemes.



FIGURES 95–98. *Elaphropeza yeoi* sp. nov. **95.** antenna. **96.** epandrium with cerci. **97.** apical part of right epandrial lamella and cercus. **98.** left surstylus.

Female. Body length 1.6 mm, wing length 1.5 mm. Mid tibia lacking ventral spinules. Segment 8 elongate, with sclerites separated; sternite 8 folded apically. Cercus brownish yellow. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, Nee Soon, 4 December 2002, swamp forest, sweeping (reg. 22052, leg. PG, E-07).

Paratypes: SINGAPORE: 1 ♀, Chek Jawa, 26 October 2005, mangrove, Mal 2 (reg. 25399, leg. PG); 1 ♂, Nee Soon, 3 December 2003, marshland, sweeping (reg. 23100, leg. PG); 1 ♂, Nee Soon, 5 August 2005, swamp forest, sweeping (reg. 25286, leg. PG).

Derivatio nominis. *Elaphropeza yeoi* sp. nov. is dedicated to Mr. K.L. Yeo who offered a lot of assistance in the field.

Distribution. Singapore. Marshy land in swamp forest and occasionally in mangrove.

Singapore: This is a rare species (only 4 records and 4 specimens). It was collected by sweep netting the grasses in the marshy land at Nee Soon. There is a single record in a Malaise trap in the mangrove at Chek Jawa. The records range from August until December.

Remarks. The relationships of *E. yeoi* sp. nov. are unclear beyond inclusion within the monophyletic lineage of *Elaphropeza* sharing completely fused cerci (see “Discussion” for details).

***Elaphropeza sivasothii* sp. nov.**

(Figs. 99–102)

Diagnosis. Occiput black, postpedicel nearly 3.0 times longer than wide, style about 1.5 times longer than postpedicel; thorax yellow, acrostichals and dorsocentrals multiserial; tarsomere 5 of all legs brown, hind tibia lacking prominent bristles.

Description. Male. Body length 2.3–2.5 mm, wing length 1.7–1.8 mm. Occiput wholly black, subshining, with yellow to brownish yellow setation. Anterior ocellars long, proclinate; posterior ocellars short. Inner verticals long, outer ones short. Frons subshining. Antenna (Fig. 99) with scape and pedicel yellow, postpedicel brownish yellow. Pedicel with circlet of subequally short setulae. Postpedicel nearly 3.0 times longer than wide. Style normally pubescent, brown, about 2.5 times longer than postpedicel and nearly as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered brownish yellow setulae, bearing 1 longer subapical seta.

Thorax almost entirely yellow, shining, with yellow to brownish yellow bristles; metanotum brown in middle part. Prothoracic episterna lacking long upturned bristle just above fore coxa, with very short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.

Legs almost entirely yellow, with yellow to brownish yellow setation; tarsomere 5 of all legs brown. Fore and hind femora and tibiae somewhat thickened. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 2 rows of hardly prominent ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia lacking prominent bristles; apical projection small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

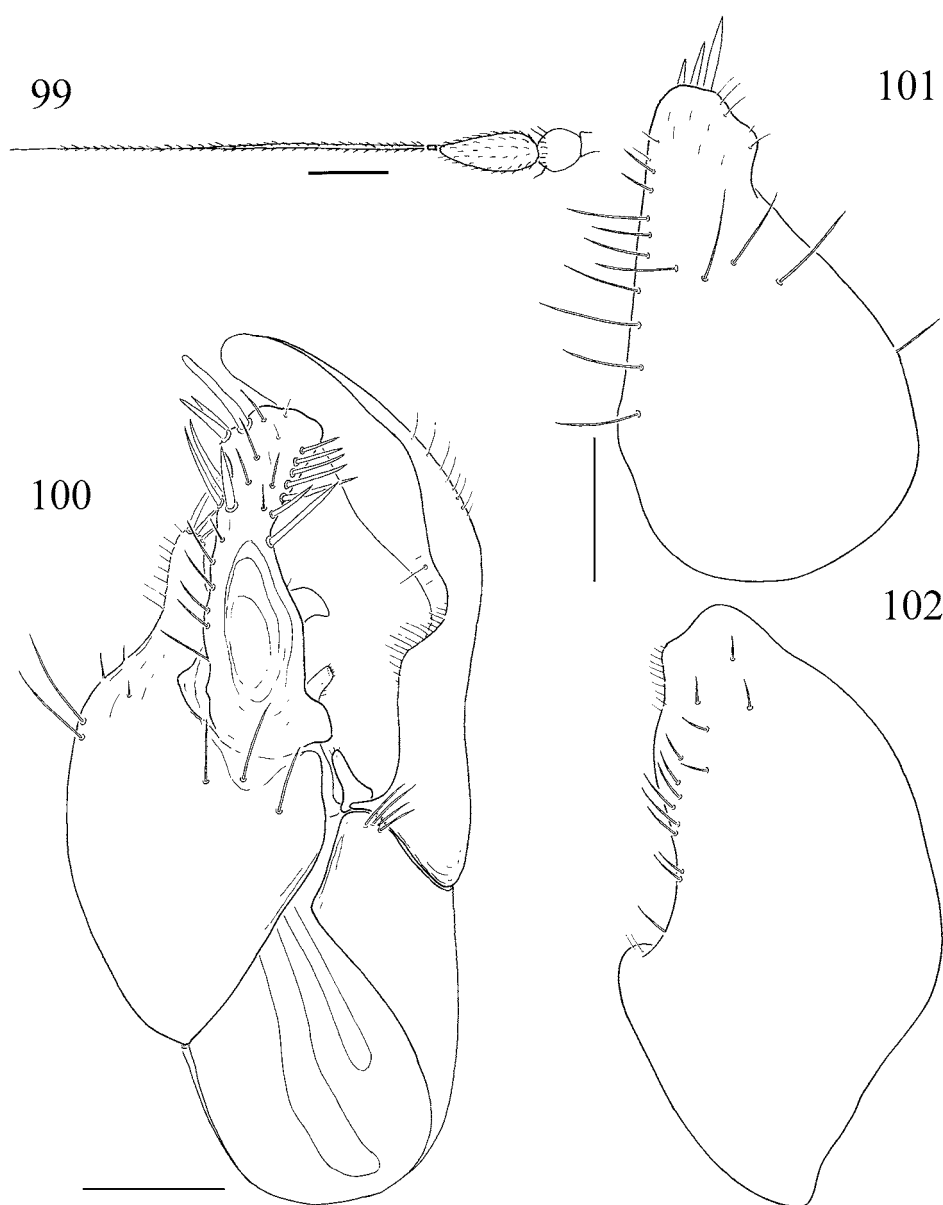
Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brownish. Costal index: 39/22/28/16. Vein Rs longer than crossvein bm-cu. Veins R4+5 and M1+2 divergent near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 present as trace. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter yellow.

Abdomen. Tergite 1 almost entirely pale yellow. Tergites 2 and 3 with rather small, subtriangular, lateral, brownish spaces narrowly connected along midline; with unmodified setation. Tergite 4 broadest, dark brown, with numerous squamiform setae. Tergite 5 very narrow, with few squamiform setae. Tergites 6 and 7 brown-

ish yellow, tergite 6 with minute, tergite 7 with long posteromarginal bristles. Gland-like structures present between tergites 4–5.

Terminalia (Figs. 100–102) large, brownish yellow. Cerci fused forming single, elongate, narrow lobe bearing long spines apically. Epandrium completely divided. Right epandrial lamella subtriangular, with several long bristles, bearing 3 spines at apex. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with 4 long bristles apically. Left surstylus with upper lobe elongate oval, with several moderately long bristles, lacking spines. Hypandrium with 1 long spine-like and 1 very short bristle. Phallus very short. Two rod-shaped apodemes.

Female. Body length 2.1 mm, wing length 1.7 mm. Mid tibia lacking ventral spinules. Segment 8 rather short, broad, brownish yellow, with sclerites separated; sternite 8 folded apically. Cercus brownish yellow. Otherwise as in male.



FIGURES 99–102. *Elaphropeza sivasothii* sp. nov. **99.** antenna. **100.** epandrium with cerci. **101.** right epandrial lamella. **102.** left surstylus.

Material examined: Holotype male labelled: SINGAPORE: Chek Jawa, 12 September 2005, mangrove, sweeping (reg. 25343, leg. PG, E-29).

Paratypes: SINGAPORE: 1 ♂, Chek Jawa, 19 November 2003, mangrove, sweeping (reg. 23080, leg. PG); 1 ♀, Kranji, 27 July 2005, beach forest, sweeping (reg. 25254, leg. PG); 1 ♂, Sungei Buloh, 28 March 2005, mangrove, sweeping (reg. 25037, leg. PG).

Derivatio nominis. The species is dedicated to Dr. Sivasothi from The Raffles Museum of Biodiversity Research, one of the “lords” of the mangrove at Singapore, which means that he has a high interest in the study of mangroves and their protection.

Distribution. Singapore. Mangrove.

Singapore. This is a very rare species that was recorded four times by net sweeping only at Sungei Buloh, Kranji beach forest and at the mangrove of Chek Jawa on Pulau Ubin.

Remarks. *Elaphropeza sivasothii* sp. nov. is a representative of the monophyletic lineage of the *E. ephippiata* species group sharing completely fused cerci (see “Discussion” for details). Within this lineage the new species is closely related to four species having apical spines on the right epandrial lamella of the male terminalia. Otherwise, the relationships of *E. sivasothii* sp. nov. have not been resolved.

***Elaphropeza benitotani* sp. nov.**

(Figs. 103–106)

Diagnosis. Rather large species with yellow occiput, postpedicel brownish, 4.0–4.5 times longer than wide; thorax yellow with brownish markings, scutum with elongate spot above wing base, mesopleuron with large brown spot; hind tibia lacking bristles.

Description. Male. Body length 2.9–3.1 mm, wing length 2.3–2.4 mm. Occiput yellow, subshining, with yellow to brownish yellow setation. Ocellar tubercle black, anterior ocellars short, only slightly longer than posterior ocellars, proclinate. Vertical bristles hardly prominent. Antenna (Fig. 103) with scape yellow, pedicel and postpedicel brownish. Pedicel with circlet of subequally short setulae. Postpedicel 4.0–4.5 times longer than wide. Style normally pubescent, brown, about 1.5 times as long as postpedicel and somewhat shorter than scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax yellow with markings, shining, with yellow to brownish yellow bristles; scutum with hardly prominent, brownish, narrow, elongate patch above wing base, mesopleuron with large brown spot, pteropleuron wholly, metapleuron in upper part brownish, metanotum brown in middle part. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 2–3 very short bristly hairs in upper part. Postpronotal bristle hardly prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal bristles 2-serial, lacking on prescutellar depression; dorsocentrals 1-serial, prescutellars longer; some numerous setulae present in anterior part of scutum laterally.

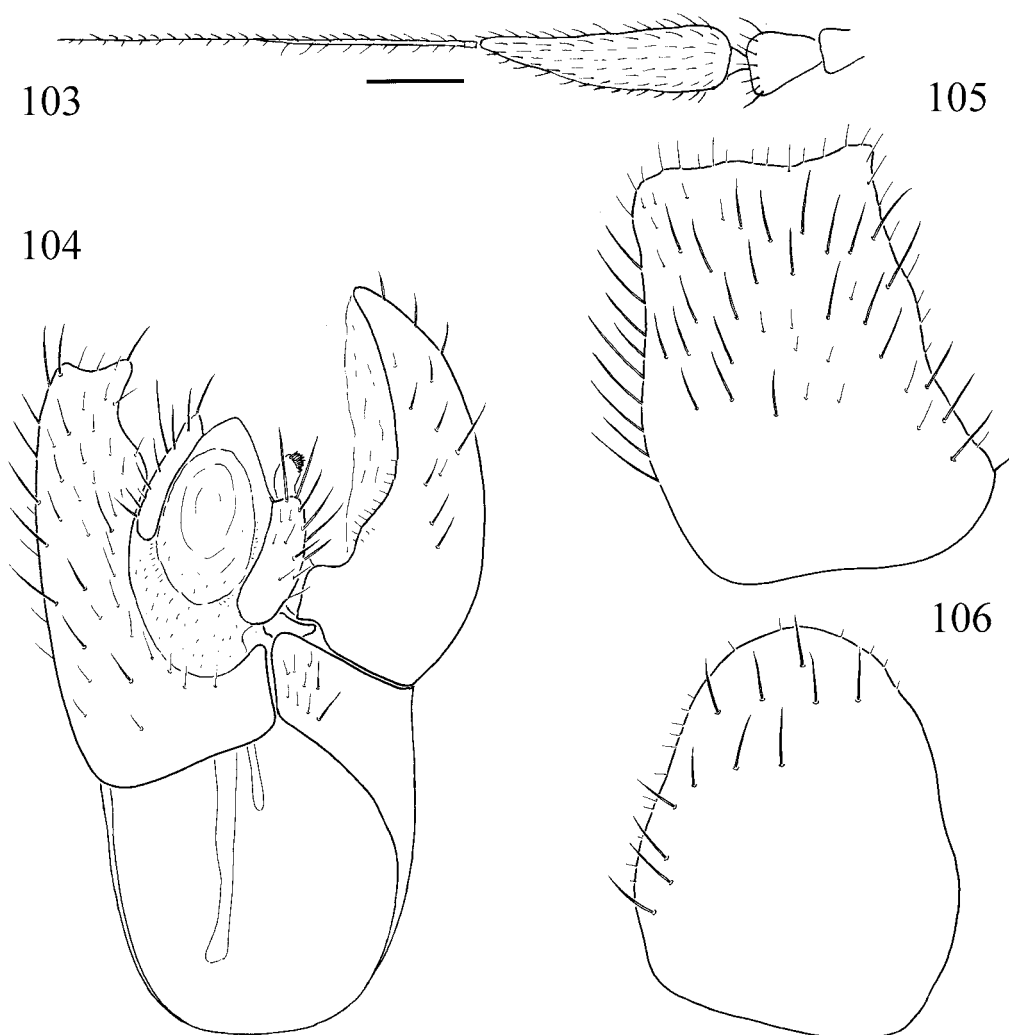
Legs largely yellow with some brownish tinge, tibiae brownish in varying extent, hind femur paler on basal 1/3. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur slender, with numerous very short thin ventral spinules, 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with hardly prominent ventral spinules (1 subapical strong black), lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia lacking prominent bristles; apical projection prominent, small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle short, brownish yellow. Costal index: 60/35/46/21. Vein Rs somewhat longer than crossvein bm-cu. Vein R2+3

smoothly arched. Veins R4+5 and M1+2 somewhat divergent near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu somewhat oblique. Crossvein r-m before middle of cell bm. Halter with dark knob.

Abdomen. Tergite 1 very narrow, brownish, divided dorsally. Tergites 2 and 3 with 2 brownish subtriangular spots divided dorsally; tergite 2 with unmodified setation, tergite 3 with ordinary and few flattened setae. Tergite 4 broadest, dark brown, with numerous squamiform setae. Tergite 5 very narrow, brownish, with unmodified setae. Tergites 6 and 7 weakly sclerotised, yellowish, with short posteromarginal bristles. Sternites weakly sclerotised, yellowish, with scattered setation. Gland-like structures present between tergites 4 and 5.

Terminalia (Figs. 104–106) small, brown. Cerci broadly separated, digitiform, covered with bristles of different lengths, lacking spines, of subequal length, left cercus somewhat broader. Epandrium completely divided. Right epandrial lamella subrectangular, with truncate upper margin, covered with numerous bristles of different length. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with several moderately long bristles apically. Left surstylus with upper lobe large, subtriangular, broadly rounded at apex, with numerous bristles of different lengths. Hypandrium with 1 bristle. Phallus very short. Two rod-shaped apodemes.



FIGURES 103–106. *Elaphropeza benitotani* sp. nov. **103.** antenna. **104.** epandrium with cerci. **105.** right epandrial lamella. **106.** left surstylus.

Female. Body length 2.8–3.0 mm, wing length 2.3–2.4 mm. Segment 8 short, with sclerites separated; sternite 8 folded apically. Cercus yellow. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE: Nee Soon, 25 January 2006, swamp forest, Mal 3 (reg. 26022, leg. PG, E-33).

Paratypes: SINGAPORE, 1 ♀, Nee Soon, 16 March 2005, swamp forest, Mal 3 (reg. 25017, leg. PG); 1 ♀, Nee Soon, 24 March 2005, swamp forest, Mal 2 (reg. 25029, leg. PG); 1 ♀, Nee Soon, 20 May 2005, swamp forest, Mal 3 (reg. 25146, leg. PG); 2 ♀♀, Nee Soon, 3 June 2005, swamp forest, Mal 3 (reg. 25152, leg. PG); 2 ♀♀, Nee Soon, 8 July 2005, swamp forest, Mal 2 (reg. 25206, leg. PG); 1 ♀, Nee Soon, 26 August 2005, swamp forest, Mal 1 (reg. 25316, leg. PG); 1 ♀, Nee Soon, 16 September 2005, swamp forest, Mal 1 (reg. 25349, leg. PG); 3 ♀♀, Nee Soon, 16 September 2005, swamp forest, Mal 2 (reg. 25350, leg. PG); 1 ♀, Nee Soon, 23 September 2005, swamp forest, Mal 2 (reg. 25361, leg. PG); 4 ♀♀, Nee Soon, 28 October 2005, swamp forest, Mal 1 (reg. 25403, leg. PG); 1 ♀, Nee Soon, 28 October 2005, swamp forest, Mal 2 (reg. 25404, leg. PG); 2 ♀♀, Nee Soon, 9 November 2005, swamp forest, Mal 1 (reg. 25414, leg. PG); 1 ♀, Nee Soon, 18 November 2005, swamp forest, Mal 1 (reg. 25422, leg. PG); 1 ♀, Nee Soon, 3 December 2005, swamp forest, Mal 2 (reg. 25437, leg. PG); 1 ♂, Nee Soon, 3 December 2005, swamp forest, Mal 3 (reg. 25438, leg. PG); 1 ♀, Nee Soon, 14 December 2005, swamp forest, Mal 1 (reg. 25446, leg. PG); 3 ♂♂, Nee Soon, 14 December 2005, swamp forest, Mal 3 (reg. 25448, leg. PG); 2 ♀♀, Nee Soon, 4 January 2006, swamp forest, Mal 1 (reg. 26004, leg. PG); 1 ♀, Nee Soon, 4 January 2006, swamp forest, Mal 1 (reg. 26004, leg. PG); 1 ♂, Nee Soon, 25 January 2006, swamp forest, Mal 3 (reg. 26022, leg. PG); 1 ♀, Nee Soon, 8 February 2006, swamp forest, Mal 3 (reg. 26030, leg. PG); 1 ♀, Sime forest, 22 July 2005, forest, Mal 1 (reg. 25270, leg. PG); 1 ♂, Sungei Buloh, 4 January 2006, mangrove, Mal 1 (reg. 26007, leg. PG).

Derivatio nominis. This species is dedicated to Prof. Dr. Benito Tan, botanist at NUS who specialised in mosses.

Distribution. Singapore. Forest and occasionally mangrove.

Singapore. This is a locally common species. Most records are from the swamp forest at Nee Soon. There is only one record (single male) from the mangrove at Sungei Buloh. The species is active throughout the year, but very rare in the first half. A marked peak of activity is from the second half September until the first half December.

Remarks. The relationships of *E. benitotani* sp. nov. are unclear beyond inclusion within the *E. ephippiata* species group. The main distinguishing features of this species are indicated in the key. Additionally, *E. benitotani* sp. nov. appears to resemble *E. maolana* Yang and Yang (known from China only). However, in the latter species the male terminalia are clearly different (Yang and Yang 1994). *Elaphropeza fujianensis* Yang and Yang (known from China only) differs from *E. benitotani* sp. nov. by the pattern of the thorax (Yang and Yang 2003).

Elaphropeza belumut sp. nov.

(Figs. 107–110)

Diagnosis. Occiput and thorax black, antenna entirely brown with postpedicel 3.5–4.0 times longer than wide; hind tibia lacking prominent bristles, tarsomere 5 of all legs blackish.

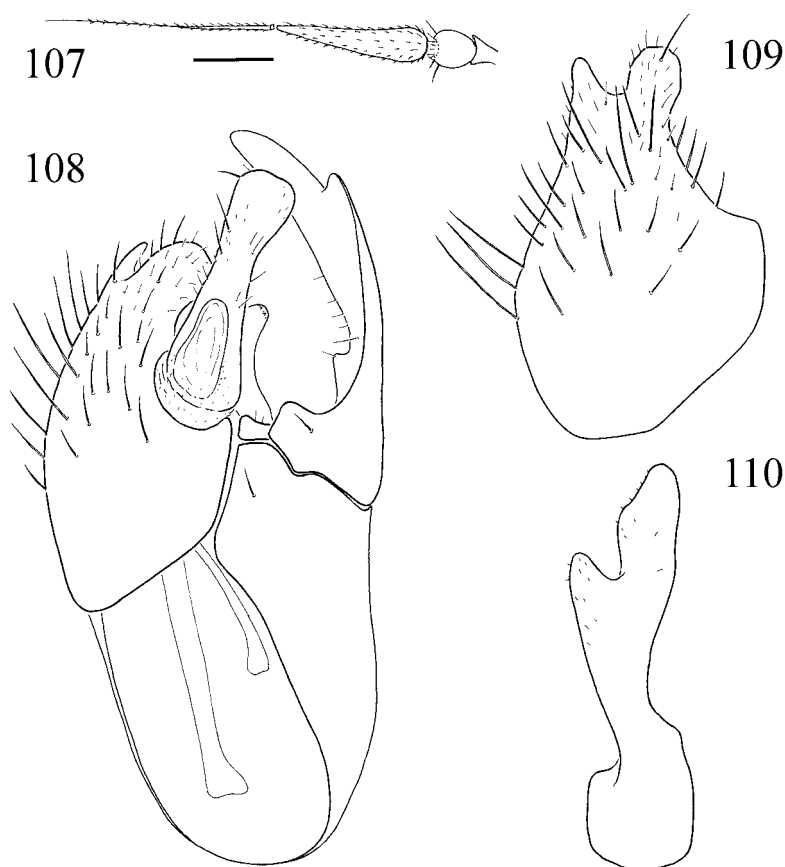
Description. Male. Body length 1.8–1.9 mm, wing length 1.6–1.7 mm. Occiput black, subshining, with brownish setation. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones short. Antenna (Fig. 107) entirely brown. Pedicel with circlet of subequally short setulae. Postpedicel 3.5–4.0 times longer than wide. Style normally pubescent, brown, about 1.5 times longer than postpedicel and nearly as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax entirely black, shining, with brownish bristles. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2

notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal bristles 2-serial, lacking on prescutellar depression; dorsocentrals 1-serial, extending to base of scutellum (2 pairs of prescutellars longest).

Legs long, slender, almost entirely yellow, with yellow to brownish yellow setation; tarsomere 5 of all legs blackish, tarsomeres 2–4 of mid and hind legs with brownish tinge. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (posteroventrals somewhat longer), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules (1 subapical somewhat longer), lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 2–3 erect dorsal bristles near base. Hind tibia lacking prominent bristles; apical projection prominent, small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brownish. Costal index: 26/29/34/15. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 slightly divergent near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu transverse. Crossvein r-m somewhat beyond middle of cell bm. Halter dark.



FIGURES 107–110. *Elaphropeza belumut* sp. nov. **107.** antenna. **108.** epandrium with cerci. **109.** right epandrial lamella. **110.** left surstylus.

Abdomen. Tergites 1–5 brownish, tergites 6 and 7 somewhat paler. Tergite 4 broadest, shining, tergite 5 very narrow. Tergites 4 and 5 with few squamiform setae; tergite 6 with short, tergite 7 with moderately long posteromarginal bristles. Sternites subrectangular, distinctly sclerotised.

Terminalia (Figs. 108–110) brown, rather large, elongate. Cerci fused forming single, quite long, digitiform lobe, covered with bristles of different length, lacking spines. Epandrium completely divided. Right epandrial lamella subrectangular, concave on upper margin, covered with numerous bristles of different length. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with 1 long bristle apically. Left surstylus with upper lobe elongate, bifurcate, bearing numerous minute setulae. Hypandrium with 1 long and 1 very short bristle. Phallus very short. Two rod-shaped apodemes.

Female. Body length 1.7–1.8 mm, wing length 1.6–1.7 mm. Mid femur with thinner ventral bristles, mid tibia lacking ventral spinules. Abdominal segment 8 elongate, with sclerites separated; sternite 8 folded apically. Sternite 10 and cercus brownish. Otherwise as in male.

Material examined: Holotype male labelled: MALAYSIA, Gunung Belumut, 22 October 2005, along stream in rain forest (reg. 25397, leg. PG, E-52).

Paratypes: MALAYSIA, 9 ♂♂, 3 ♀♀, same provenance as holotype.

Derivatio nominis. The name *belumut* alludes to the type locality, Gunung Belumut (Prov. Johor, Malaysia). The name is used as a noun.

Distribution. Malaysia. Forest.

Elaphropeza belumut sp. nov. was found in fairly large numbers on the vegetation along a path in a primary rain forest.

Remarks. The relationships of *E. belumut* sp. nov. are unclear beyond inclusion within the monophyletic lineage of the *E. ehippiata* species group sharing completely fused cerci (see "Discussion" for details).

***Elaphropeza chekjawa* sp. nov.**

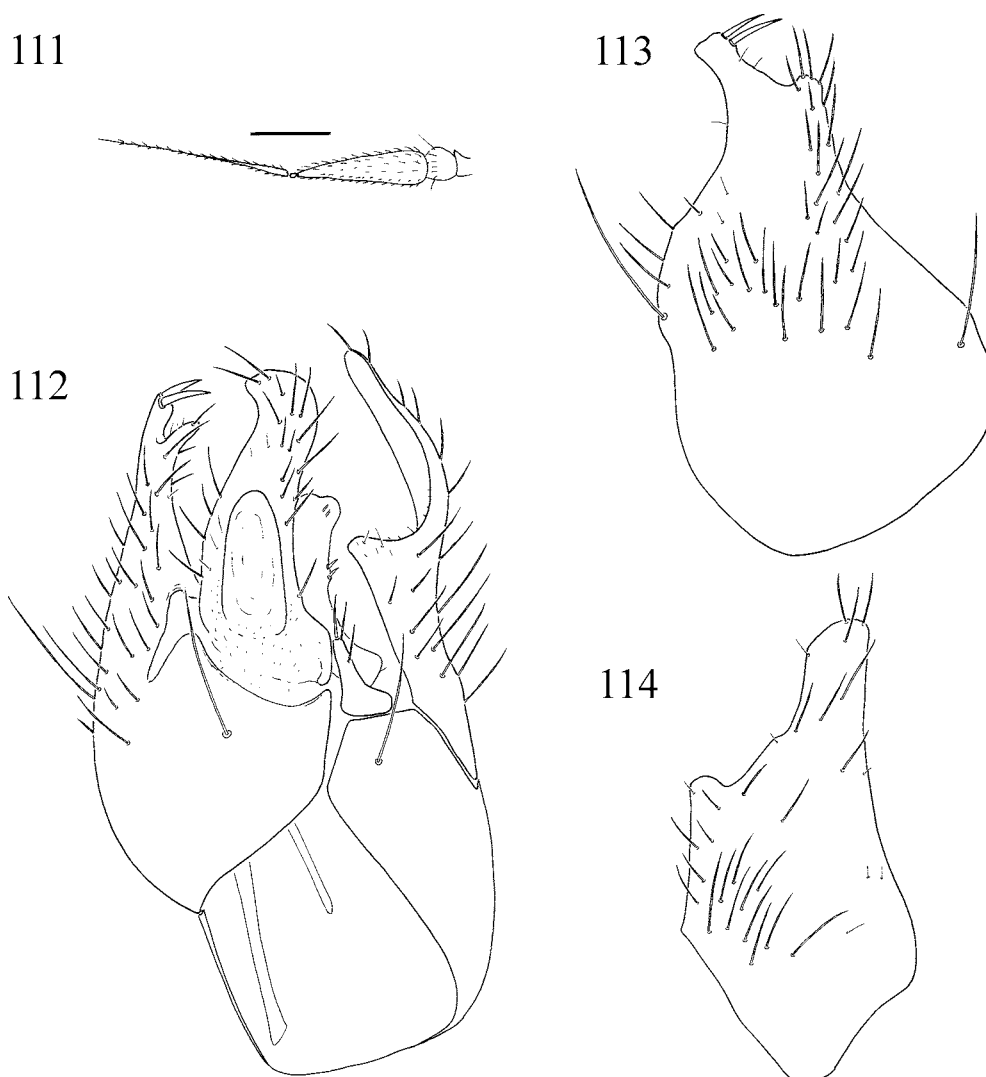
(Figs. 111–114)

Diagnosis. Small species with occiput and thorax black; postpedicel brownish, about 3.5 times as long as wide; hind femur near apex above and hind tibia near base brownish, hind tibia lacking prominent bristles.

Description. Male. Body length 1.5 mm, wing length 1.5 mm. Occiput black, subshining, with brownish setation. Anterior ocellars rather short, proclinate and cruciate; posterior ocellars minute. Inner verticals long, outer ones shorter. Antenna (Fig. 111) with scape and pedicel brownish yellow, postpedicel brownish. Pedicel with circlet of subequally short setulae. Postpedicel 3.5 times longer than wide. Style normally pubescent, brown, nearly 1.5 times longer than postpedicel and about as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus brown, small, rounded.

Thorax entirely black, shining, with brownish bristles. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.

Legs almost entirely yellow, with yellow to brownish yellow setation; hind femur near apex above and hind tibia near base brownish, tarsomere 5 of all legs rather brownish yellow. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur slender, with 2 rows of spinule-like, very short, ventral bristles, 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia lacking ventral spinules and prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals (3–4 subapicals longer) and 2–3 erect dorsal bristles near base. Hind tibia lacking prominent bristles; apical projection prominent, small, angular, clothed in dense brownish setulae. Tarsi of all legs unmodified.



FIGURES 111–114. *Elaphropeza chekjawa* sp. nov. **111.** antenna. **112.** epandrium with cerci. **113.** right epandrial lamella. **114.** left surstylus.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, brown. Costal index: 30/27/23/14. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 divergent near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu almost transverse. Crossvein r-m near middle of cell bm. Halter dark.

Abdomen. Tergite 1 almost entirely pale yellow, only with very narrow short brownish space laterally. Tergites 2 and 3 of subequal width, both with brownish subtriangular space viewed laterally, deeply concave anteriorly and divided along midline; with unmodified setation. Tergites 4–7 brown, tergite 4 broadest, tergite 5 very narrow, tergites 6 and 7 divided. Tergites 4 and 5 with squamiform setae, tergites 6 and 7 with short posteromarginal bristles.

Terminalia (Figs. 112–114) brown, rather large. Cerci fused forming single, quite long, digitiform lobe; covered with bristles of different length, lacking spines. Epandrium completely divided. Right epandrial lamella subtriangular, somewhat concave on apex forming two short processes, covered with numerous bristles of different length, upper process with two moderately long spines. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with 1 long bristle apically. Left surstylus with upper lobe quite large,

as in Fig. 114, with numerous rather long bristles. Hypandrium with 1 long and 1 very short bristle. Phallus very short. Two rod-shaped apodemes.

Female. Unknown.

Material examined: Holotype male labelled: SINGAPORE, Pulau Ubin, Chek Jawa, 15 December 2005, mangrove, sweeping (reg. 25452, leg. PG, E-54).

Derivatio nominis. The name refers to the type locality: Chek Jawa, a very rich mangrove on Pulau Ubin.

Distribution. Singapore. Mangrove.

Remarks. *Elaphropeza chekjawa* sp. nov. appears closely related to *E. asiophila* sp. nov. Within *Elaphropeza* only these two species have modified tergites 6 and 7 of the male abdomen.

***Elaphropeza distincta* Senior-White, 1922**

Elaphropeza distincta Senior-White, 1922: 152 (female).

Re-description. Female. Body length 1.5 mm, wing length 1.8 mm. Occiput, including frons, yellow. Antenna entirely yellow. Postpedicel short, not much more than twice the length of the pedicel. Style yellow with the usual microscopic pubescence. Palpus whitish.

Thorax almost entirely yellow, metanotum brownish yellow. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 very short bristle in upper part. Acrostichal and dorsocentral bristles multi-serial, the former lacking on prescutellar depression.

Legs entirely pale yellow. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia with 1 short but distinct anterodorsal bristle in middle part.

Wing normally developed, hyaline, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, brown. Costal index: 44/24/37/14. Vein Rs somewhat longer than crossvein bm-cu. Vein R2+3 smoothly arched. Veins R4+5 and M1+2 somewhat divergent near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter with black knob [not entirely yellow as in the original description].

Abdomen with tergites 2–7 brownish, tergite 4 broadest, tergites 4 and 5 bearing squamiform setae. Segment 8 rather short, brownish yellow. [Senior-White indicated (l.c.: 152) that the tip of the abdomen is upturned. However, this is a result of a little damage rather than the natural condition in this species] (For some missing structures, descriptions adopted from Senior-White (1922)).

Male. Unknown.

Type material examined: Holotype female labelled: CEYLON / Matale Dist., / Suduganga / 12.ix.1921.; *Elaphropeza / distincta / TYPE / Senior White.*; **Holotype**; BMNH(E) # 244886 (BMNH).

Senior White (1922) described this species from a single female that is now deposited in the BMNH. Currently, both antennae, the tibia and tarsus on one of the fore legs and mid and hind legs are lost from the holotype; otherwise it is in fairly good condition.

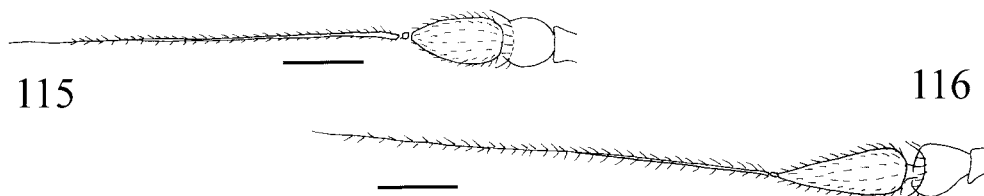
Distribution. Sri Lanka.

Remarks. The relationships of *E. distincta* are unclear beyond inclusion within the *E. ephippiata* species group.

***Elaphropeza* sp. 51**

(Fig. 115)

Description. Female. Body length 2.6–2.8 mm, wing length 2.3–2.4 mm. Occiput black. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones somewhat shorter. Antenna (Fig. 115) wholly brown. Pedicel with circlet of subequally short setulae. Postpedicel 2.0 times longer than wide. Style normally pubescent, brown, about 5.0 times longer than postpedicel and nearly 2.5 times as long scape, pedicel and postpedicel combined (Fig. 115). Palpus yellow, small, rounded.



FIGURES 115–116. Antennae. **115.** *Elaphropeza* sp. 51. **116.** *Elaphropeza* sp. 58.

Thorax entirely black. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 very short bristle in upper part. Postpronotal bristle minute. Mesonotum with usual set of bristles. Acrostichals prominent in anterior part of scutum only, very few in number; dorsocentrals 1-serial.

Legs largely yellow, tibiae becoming darker from fore (pale brownish) to hind (dark brown). Fore and mid femur with ordinary armature. Fore tibia lacking prominent bristles. Mid tibia lacking ventral spinules and prominent dorsal bristles, with short black spine-like posteroventral bristle. Hind femur with ordinary setation. Hind tibia with hardly prominent rounded apical projection, lacking prominent bristles. Tarsi of all legs unmodified.

Wing uniformly brownish infusate. Costal index: 51/32/44/18. Veins R4+5 and M1+2 parallel near wing apex, both straight. Crossvein bm-cu somewhat oblique. Crossvein r-m somewhat beyond middle of cell bm. Halter black.

Abdomen. Tergite 1 entirely pale yellow. Tergite 2 and 3 brownish, deeply concave anteriorly, narrowly divided along midline, elongate subtriangular viewed dorsolaterally, bearing scattered unmodified setae. Tergite 4 broadest, dark brown, with squamiform setae. Tergite 5 subrectangular, nearly as broad as tergite 3, bearing squamiform setae. Tergites 6–7 unmodified, brownish. Sternites 2–6 divided, sternite 7 subrectangular, with long posteromarginal bristles. Segment 8 dark brown, shining, elongate, covered with numerous brown short bristles, with sclerites separated; sternite 8 somewhat folded apically. Cercus brown.

Male. Unknown.

Material examined: SINGAPORE, 1 ♀, Nee Soon, 7 September 2005, swamp forest, Mal 2 (reg. 25332, leg. PG, E-51); 1 ♀, SINGAPORE, Nee Soon, 16 September 2005, swamp forest, Mal 3 (reg. 25351, leg. PG, E-51).

Remarks. These two females are very similar in many characters to *E. pauper* sp. nov. differing primarily in unmodified mid and hind tibiae. However, in *E. pauper* sp. nov. (known only from a male) these modifications may be sexual dimorphic. Further findings of both sexes of *E. pauper* sp. nov. will possibly permit resolution of this problem. *Elaphropeza bicoloripes* differs from this species by darker legs and some other characters.

***Elaphropeza* sp. 58**

(Fig. 116)

Description. Female. Body length 2.9 mm, wing length 2.3 mm. Occiput black. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones shorter. Antenna (Fig. 116) entirely brownish yellow. Pedicel with circlet of subequally short setulae. Postpedicel about 3.0 times longer than wide. Style normally pubescent, brown, 4.0 times longer than postpedicel and 2.5 times as long as scape, pedicel and postpedicel combined. Palpus yellow, small, rounded.

Thorax yellow, scutum with elongate brown spot above wing base, metanotum in middle and metapleuron in upper part brownish. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 very short bristle in upper part. Postpronotal bristle short. Mesonotum with usual set of bristles. Acrostichals 2-serial, incomplete; dorsocentrals 1-serial, complete.

Legs largely yellow, tibiae and tarsi rather brownish yellow. Fore and mid femur with unmodified armature. Fore tibia lacking prominent bristles. Mid tibia lacking ventral spinules and prominent bristles (except subapicals). Hind femur with ordinary setation. Hind tibia lacking prominent bristles, with hardly prominent rounded apical projection. Tarsi of all legs unmodified.

Wing uniformly finely infusate. Costal index: 55/31/46/20. Veins R4+5 and M1+2 slightly divergent near wing apex, both straight. Crossvein bm-cu almost transverse. Crossvein r-m before middle of cell bm. Halter darkened.

Abdomen. Tergite 1 entirely pale yellow. Tergites 2 and 3 with brownish subtriangular spaces, divided along midline, with unmodified setation. Tergites 4 broadest, brown, with numerous squamiform setae. Tergite 5 narrow, with unmodified setae. Tergites 6–7 brownish yellow. Segment 8 brownish, rather short, with sclerites separated; sternite 8 folded apically. Cercus brownish yellow.

Male. Unknown.

Material examined: SINGAPORE, 1 ♀, Nee Soon, 14 October 2005, swamp forest, Mal 4 (reg. 25391, leg. PG, E-58).

Remarks. Within the key to *Elaphropeza* this unnamed species would run to *E. tiomanensis* sp. nov. and *E. acantha* sp. nov. differing primarily from these species by its scutal pattern.

Species Complex 2.—Hind tibia with 1–2 anterodorsal bristles in middle part

***Elaphropeza meieri* sp. nov.**

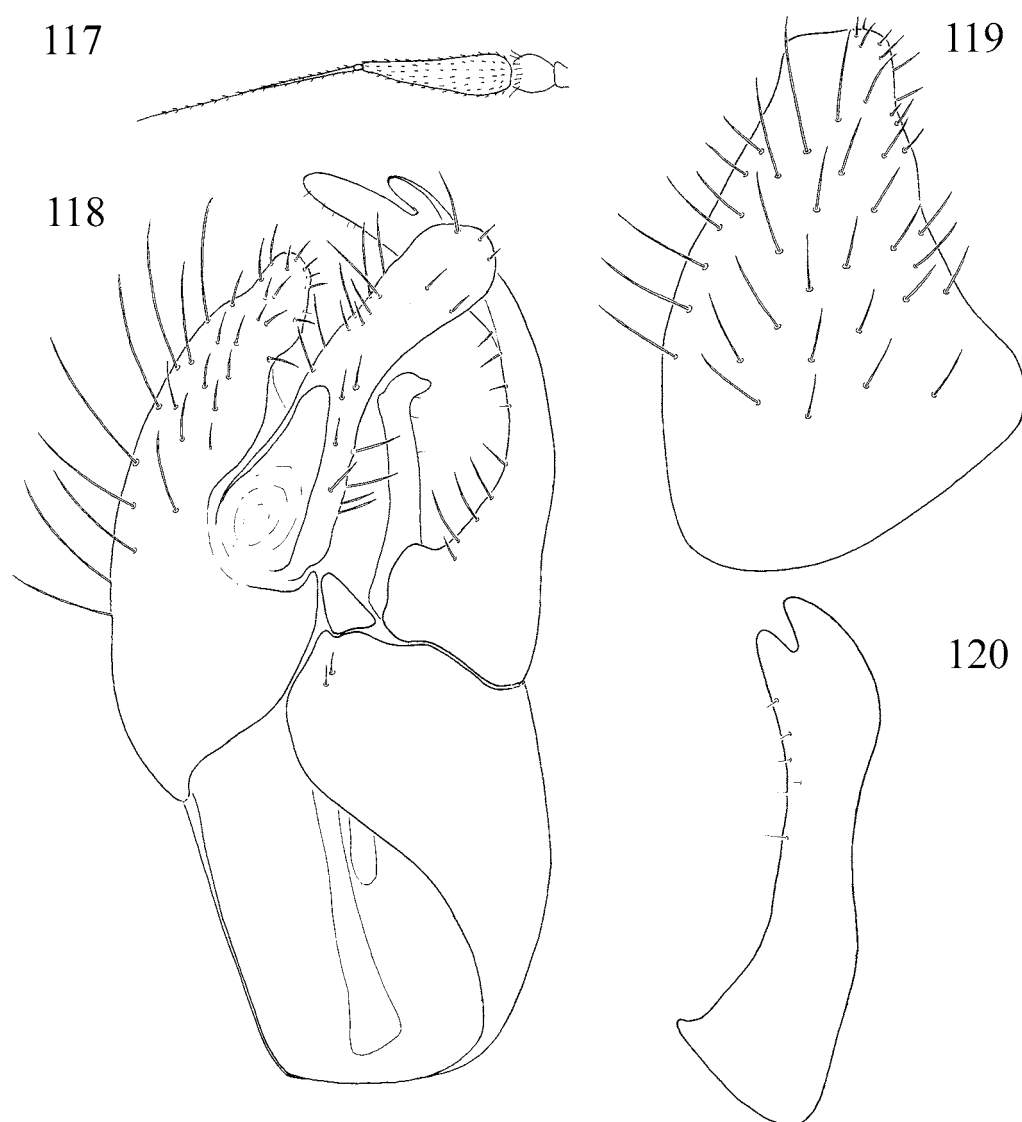
(Figs. 117–120)

Diagnosis. Species with entirely black thorax; postpedicel long, about 4.0 times longer than wide; acrostichal and dorsocentral bristles few in number; fore tarsomeres 2–5 distinctly dark brown annulated; hind tibia with 1 anterodorsal bristle.

Description. Male. Body length 1.8–2.1 mm, wing length 1.5–1.6 mm. Head black, occiput subshining, with pale setation. Eye with hind margin slightly concave. Anterior ocellars long, proclinate; posterior ocellars minute. Two pairs of inclinate verticals (inner ones longer). Frons shining. Antenna (Fig. 117) wholly brownish. Pedicel with circlet of equally minute setulae. Postpedicel about 4.0 times (3.8 in holotype) longer than wide. Style normally pubescent, brown, nearly 1.5 times longer than postpedicel and about as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered yellow setulae.

Thorax entirely black, shining, with yellowish brown bristles. Proepisternum lacking long upturned bristle just above fore coxa, with 1 short bristle in upper part. Postpronotal bristle minute. Mesonotum with 1 very

short presutural supra-alar, 3 notopleural (2 equally long), 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals prominent in anterior part of scutum only, 3–4 pairs, rather short. Dorsocentrals 1-serial, 5 per row, anterior ones nearly as long as acrostichals, 2 prescutellar pairs longer.



FIGURES 117–120. *Elaphropeza meieri* sp. nov. **117.** antenna. **118.** epandrium with cerci. **119.** right epandrial lamella. **120.** left surstylus.

Legs largely yellow, fore tibia and fore tarsomere 1 yellowish brown, tarsomeres 2–5 distinctly dark brown annulated leaving only extreme base yellow, mid and hind tarsus with tarsomeres 2–5 brownish yellow. Coxae and trochanters with unmodified setation. Fore femur somewhat thickened, with hardly prominent rows of antero- and posteroventral bristles and 1 long bristle near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur slender, with 2 rows of brownish yellow, spinule-like, short, ventral bristles in basal 2/3 (posteroventrals somewhat longer), 1 long yellow thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of black ventral spinules (apical one longer), lacking prominent bristles (except subapicals). Hind femur rather slender, bearing 1 row of short anteroventrals and 2–3 erect dorsal bristles near base. Hind tibia somewhat thickened at apex, bearing 1 long anterodorsal bristle near middle; apical projection small, rounded, clothed in dense brown setulae. Tarsi of all legs unmodified.

Wing normally developed, finely infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, yellowish brown. Costal index: 26/26/29/14. Veins R4+5 and M1+2 somewhat divergent near wing apex, both straight. Vein CuA1 not quite reaching wing margin. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter yellow.

Abdomen. Tergite 1 narrow, brownish, with scattered setulae laterally. Tergites 2 and 3 nearly 1.5 times broader than tergite 1, of subequal width, with unmodified setation. Tergite 4 nearly 2.5 times broader than tergite 3, covered with unmodified setae. Tergite 5 very narrow, bearing squamiform setae. Tergites 6 and 7 ordinary, tergite 6 with short while tergite 7 rather with long posteromarginal bristles. Sternites unmodified, with scattered minute setulae. Gland-like structures present between tergites 4 and 5, including 2 narrow anterior sclerites and 2 large, densely covered with short microtrichia posterior sclerites.

Terminalia (Figs. 118–120) dark brown, elongate, rather small. Cerci fused forming digitiform, narrow, long lobe covered with several moderately long bristles. Epandrium completely divided. Right epandrial lamella subtriangular, truncate at apex, with numerous long bristles. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with 2 short bristles apically. Left surstylus with upper lobe long, digitiform, with deep narrow excision on apex and scattered very short bristles. Hypandrium with 1 long and 1 short bristles apically. Phallus very short. Two rod-shaped apodemes.

Female. Body length 1.8–1.9 mm, wing length 1.5–1.6 mm. Mid tibia lacking ventral spinules. Otherwise as in male. Segment 8 elongate, with sclerites separated; sternite 8 folded apically. Cercus brownish.

Material examined: Holotype male labelled: SINGAPORE, Nee Soon, 19 April 2005, swamp forest, sweeping (reg. 25070, leg. PG, E-05).

Paratypes: SINGAPORE: 1 ♂, Chek Jawa, 2 December 2003, mangrove, Mal 1 (reg. 23097, leg. PG); 1 ♂, 1 ♀, Nee Soon, 4 December 2002, swamp forest, sweeping (reg. 22054, leg. PG); 2 ♂♂, 1 ♀, Nee Soon, 25 November 2003, swamp forest, sweeping (reg. 23086, leg. PG); 2 ♂♂, Nee Soon, 3 December 2003, marshland, sweeping (reg. 23100, leg. PG); 1 ♂, Nee Soon, 9 March 2005, swamp forest, sweeping (reg. 25005, leg. PG).

Derivatio nominis. The species is dedicated to A/Prof. Dr. Rudolf Meier, head of the Evolutionary Biology lab at National University of Singapore.

Distribution. Singapore. Open marshy land in forest. Occasionally in mangrove.

Singapore: This is a rare species with only six records. It is observed in open marshy areas in the swamp forest where it was collected by sweeping only. It was not recorded in the Malaise traps. There is a single record of a male in the Malaise trap in the mangrove at Chek Jawa. A sex ratio of 0.25/1 females to males indicates a different activity pattern for females and males. The activity period is from the end of November until March.

Remarks. The relationships of *E. meieri* sp. nov. are unclear beyond inclusion within the monophyletic lineage of the *E. ephippiata* species group sharing completely fused cerci (see “Discussion” for details).

***Elaphropeza limosa* sp. nov.**

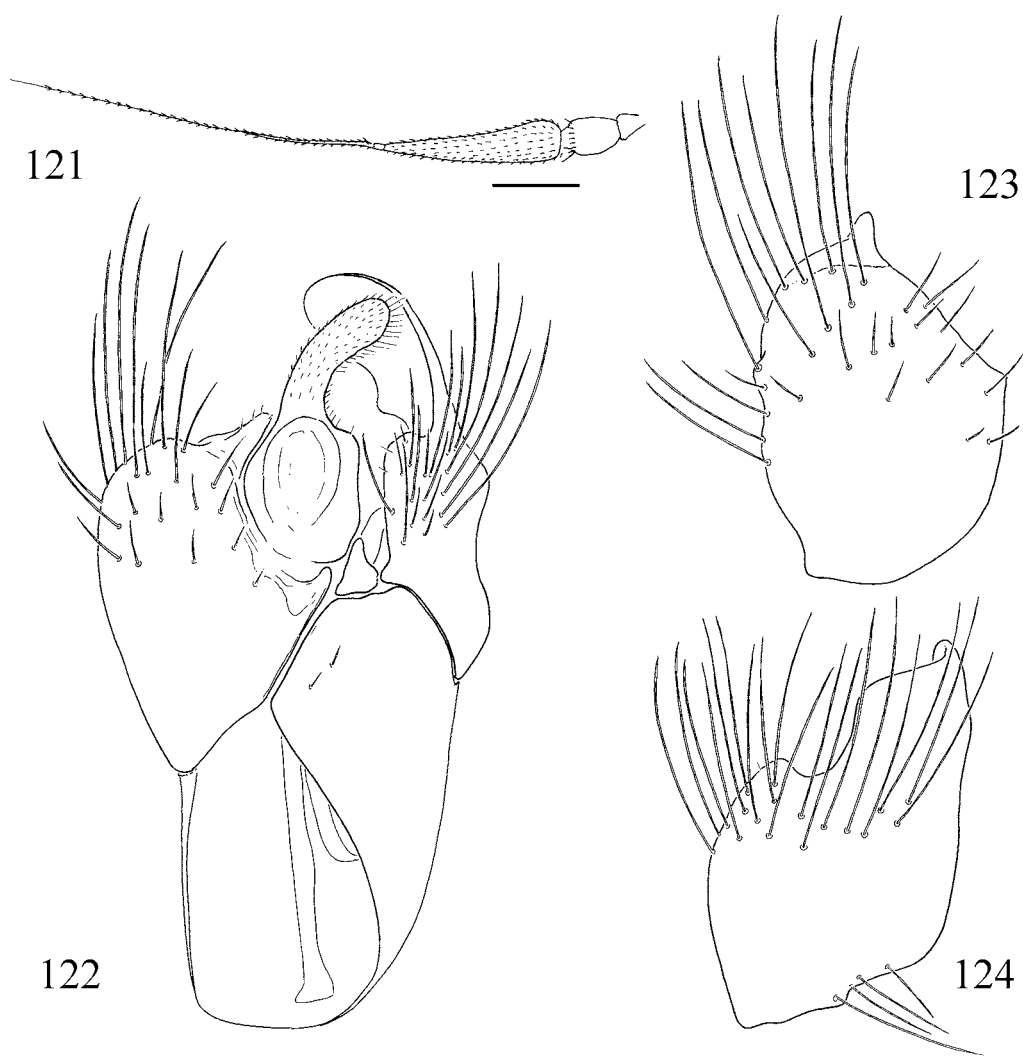
(Figs. 121–124)

Diagnosis. Thorax entirely brownish; antenna brown, postpedicel about 4.0 times longer than wide, style longer than postpedicel; acrostichals and dorsocentrals multiserial; hind tibia with 1 anterodorsal bristle; halter with black knob.

Description. Male. Body length 2.0–2.2 mm, wing length 1.7–1.8 mm. Head black, occiput subshining, mostly with dark brown setation. Eye with hind margin slightly concave. Anterior ocellars long, proclinate; posterior ocellars short. Two pairs of inclinate verticals (inner ones longer). Frons shining. Antenna (Fig. 121)

wholly brown. Pedicel with circlet of equally minute setulae. Postpedicel nearly 4.0 times longer than wide. Style normally pubescent, brown, nearly 1.5 times longer than postpedicel and 1.2–1.3 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus brownish yellow, small, rounded; with scattered dark setulae (1 subapical longer).

Thorax entirely brownish, shining, with brown bristles. Proepisternum lacking long upturned bristle just above fore coxa, with 1 short upturned bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 long notopleural, 1 shorter postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except 2 long prescutellars), extending to base of scutellum.



FIGURES 121–124. *Elaphropeza limosa* sp. nov. **121.** antenna. **122.** epandrium with cerci. **123.** right epandrial lamella. **124.** left surstylus.

Legs almost entirely brownish yellow; coxae and basal part of all femora (especially of fore and mid femora) paler in varying extent, hind femur and tibia usually somewhat darker. Coxae and trochanters with unmodified setation. Fore femur rather slender, with hardly prominent rows of antero- and posteroventral bristles and 1 long bristle near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of brownish, spinule-like, short, ventral bristles, 1 longer bristle near base and 1 anterior subapical bristle. Mid tibia with 2 rows of hardly prominent ventral spinules, lacking prominent bristles (except subapicals). Hind femur somewhat constricted in middle, with 1 row of short antero- and posteroventral bristles (the latter

sitting on small tubercles in basal part) and 3–4 erect dorsal bristles near base. Hind tibia somewhat thickened, bearing 1 long anterodorsal bristle near middle; apical projection small, pointed, clothed in dense brownish setulae. Hind tarsomere 1 somewhat thickened.

Wing normally developed, distinctly brownish infusate, covered with uniform microtrichia; veins yellowish brown. Costal vein with moderately long setulae along anterior margin. Basal costal bristle rather long, brown. Costal index: 35/27/29/16. Veins R4+5 and M1+2 somewhat divergent near wing apex, both straight. Vein CuA1 not quite reaching wing margin. Crossvein bm-cu somewhat oblique. Crossvein r-m near middle of cell bm. Halter with dark knob and pale stem.

Abdomen. Tergite 1 almost entirely pale yellow, only very small brownish space bearing few minute setulae present on each side. Tergites 2 and 3 represented by 2 large subtriangular brownish spaces broadly separated along midline, with unmodified setae longer posteriorly. Tergite 4 broad, darker, with numerous squamiform setae. Tergite 5 very narrow, bearing squamiform setae. Tergites 6–7 unmodified, both bearing short lateral marginal setae directed downwards, additionally, tergite 7 with long posteromarginal bristles. Pleural area of segment 5 with rounded space of sclerotisation. Sternites 1–3 with small brownish spaces and scattered minute setulae. Sternites 4–7 normally sclerotised, with numerous longer setae; sternites 6 and 7 with lateral marginal setae directed upwards; sternite 8 with several long erect setae. Gland-like structures present between tergites 4 and 5, including 2 large subglobular sclerites hidden by tergite 4.

Terminalia (Figs. 122–124) dark brown, rather elongate. Cerci fused, forming single, digitiform, moderately long lobe covered with numerous very short bristles. Epandrium completely divided. Right epandrial lamella elongate oval, with several very long bristles apically. Right surstylus hardly prominent, rather subtriangular, with few short bristles. Left epandrial lamella fused to hypandrium, with 2 short bristles apically. Left surstylus with upper lobe large, rather rhombic, with numerous very long bristles. Hypandrium with 1 spine-like and 1 very short bristles. Phallus very short. Two rod-shaped apodemes.

Female. Body length 1.9–2.2 mm, wing length 1.6–1.7 mm. Abdominal segment 5 lacking pleural sclerotisation, segments 6 and 7 lacking lateral marginal setae. Otherwise as in male. Segment 8 elongate, very narrow, with sclerites separated; sternite 8 folded apically. Cercus elongate, brown.

Material examined: Holotype male labelled: SINGAPORE: Sungei Buloh, 6 July 2005, mangrove, sweeping (reg. 25199, leg. PG, E-08).

Paratypes: 2 ♂♂, SINGAPORE, Lim Chu Kang, 9 December 2002, mangrove, sweeping (reg. 22056, leg. PG); 3 ♂♂, 1 ♀, Sungei Buloh, 27 November 2003, mangrove, sweeping (reg. 23091, leg. PG); 3 ♂♂, 2 ♀♀, Sungei Buloh, 27 November 2003, mangrove, sweeping (reg. 23090, leg. PG); 2 ♀♀, Sungei Buloh, 28 March 2005, mangrove, sweeping (reg. 25037, leg. PG); 2 ♂♂, 1 ♀, Sungei Buloh, 22 April 2005, mangrove, sweeping (reg. 25076, leg. PG); 1 ♂, 2 ♀♀, Sungei Buloh, 22 April 2005, mangrove, Mal 2 (reg. 25078, leg. PG); 2 ♀♀, Sungei Buloh, 11 May 2005, mangrove, Mal 1 (reg. 25159, leg. PG); 1 ♀, Sungei Buloh, 1 June 2005, mangrove, Mal 1 (reg. 25165, leg. PG); 1 ♀, Sungei Buloh, 22 June 2005, mangrove, Mal 1 (reg. 25171, leg. PG); 2 ♂♂, 2 ♀♀, Sungei Buloh, 6 July 2005, mangrove, sweeping (reg. 25199, leg. PG); 3 ♀♀, Sungei Buloh, 19 August 2005, mangrove, Mal 2 (reg. 25303, leg. PG); 1 ♀, Sungei Buloh, 26 August 2005, mangrove, sweeping (reg. 25321, leg. PG); 1 ♀, Sungei Buloh, 7 September 2005, mangrove, Mal 2 (reg. 25337, leg. PG); 1 ♂, 3 ♀♀, Sungei Buloh, 7 September 2005, mangrove, Mal 1 (reg. 25336, leg. PG); 1 ♀, Sungei Buloh, 16 September 2005, mangrove, Mal 2 (reg. 25355, leg. PG); 1 ♀, Sungei Buloh, 14 October 2005, mangrove, Mal 2 (reg. 25394, leg. PG); 1 ♀, Sungei Buloh, 3 December 2005, mangrove, Mal 2 (reg. 25440, leg. PG); 1 ♀, Sungei Buloh, 23 December 2005, mangrove, Mal 1 (reg. 25471, leg. PG).

Derivatio nominis. The name *limosa* (Lat. mud) refers to its occurrence in mangrove.

Distribution. Singapore. Mangrove.

Singapore: This is a common species that is only found in mangrove. The species is erratically present throughout the year with a small peak of activity from the end of August until the mid of September. A sex ratio of 1.8/1 indicates that females have a different activity than males, or that more females are present.

Remarks. The relationships of *E. limosa* sp. nov. are unclear beyond inclusion within the monophyletic lineage of the *E. ephippiata* species group sharing completely fused cerci (see “Discussion” for details).

***Elaphropeza monospina* sp. nov.**

(Figs. 125–130)

Diagnosis. Occiput black, postpedicel nearly 3.0 times longer than wide, style about 2.0 times longer than postpedicel; scutum with brownish pattern; acrostichal and dorsocentral bristles multiserial; legs entirely yellow, hind tibia with 1 anterodorsal bristle, hind basitarsus with 1 spine-like ventral bristle near base.

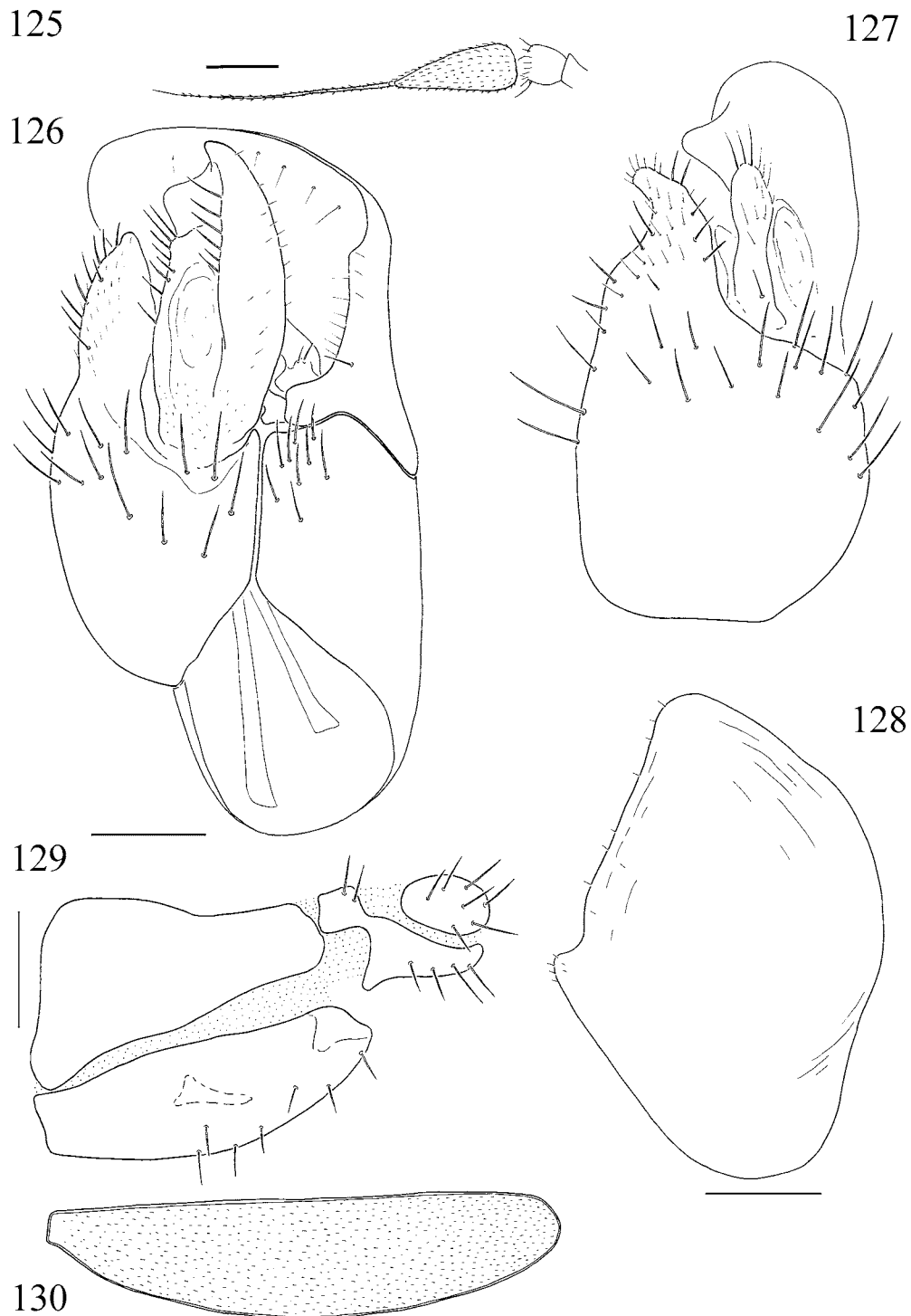
Description. Male. Body length 1.8–2.1 mm, wing length 2.0–2.1 mm. Occiput wholly black, subshining, with yellow to brownish yellow setation. Anterior ocellars long, proclinate; posterior ones very short. Two pairs of verticals, inner ones long, outer ones somewhat shorter. Frons subshining. Antenna (Fig. 125) wholly brownish yellow. Pedicel with circlet of subequally short setulae. Postpedicel 2.7–3.0 times longer than wide. Style normally pubescent, brown, about 2.0 times longer than postpedicel and nearly 1.5 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded, with scattered brownish yellow setulae.

Thorax brownish in varying extent, shining, with yellow to brownish yellow bristles; in darker specimens scutum with 1 yellow rounded space above wing base and very narrow vitta on theoretical line of dorsocentral bristles, postalar tubercle yellowish, otherwise thorax brownish; in paler specimens pleurae brownish yellow (yellowish near sutures) and scutum with broader yellow spaces, rarely appearing almost wholly yellow. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 2–3 moderately long upturned bristles in upper part. Postpronotal bristle very short, hardly prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 2 pairs of long prescutellars), extending to base of scutellum.

Legs almost entirely yellow, mostly with brownish yellow to yellow setation; apical tarsomeres brownish yellow. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles, 1 bristle near base longer. Fore tibia lacking prominent bristles (except subapicals). Mid femur with rows of spinule-like, short, ventral bristles disappearing in apical part of femur (posterior bristles longer), 1 long bristle near base and 1 anterior subapical bristle. Mid tibia with hardly prominent ventral spinules, lacking prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals (2 subapicals longer) and 3–4 erect dorsal bristles near base. Hind tibia bearing 1 anterodorsal bristle in basal half nearer to middle; apical projection short, rounded, covered with dense brownish setulae. Hind tarsomere 1 with 1 black spine-like ventral bristle near base.

Wing normally developed, finely uniformly brownish infusate, covered with uniform microtrichia; veins brownish yellow to brownish. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brownish. Costal index: 40/39/32/18. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 somewhat divergent near wing apex, both straight. Vein CuA1 reaching wing margin. Crossvein bm-cu transverse. Crossvein r-m before middle of cell bm. Vein A1 present as trace. Halter darkened.

Abdomen. Tergite 1 almost entirely pale yellow, with very small, narrow, brownish space on each side. Tergites 2 and 3 subequal in width, represented by 2 large lateral subtriangular sclerites broadly separated along midline; with unmodified brownish setation. Tergite 4 broad, nearly 2.0 times broader than tergite 3, bearing numerous squamiform setae intermixed with ordinary setulae. Tergite 5 very narrow, with somewhat flattened and ordinary setulae. Tergites 6–8 unmodified; tergites 6 and 7 with rather long posteromarginal bristles, especially tergite 7. Sternites 1–3 almost entirely pale yellow; sternite 3 with small brownish yellow spot on each side; sternites 4–8 brownish, unmodified. Gland-like structures present between tergites 4 and 5.



FIGURES 125–130. *Elaphropeza monospina* sp. nov. **125.** antenna. **126.** epandrium with cerci. **127.** right epandrial lamella and cerci. **128.** left surstylus. **129.** ovipositor. **130.** egg.

Terminalia (Figs. 126–128) large, brownish yellow. Cerci closely approximate, hardly separated; left cercus unbranched, subrectangular, with bristles of different length; right cercus well prominent, narrow, bearing several long marginal bristles apically. Epandrium completely divided. Right epandrial lamella subtriangular, with numerous long bristles. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with several long bristles apically. Left surstylus with upper lobe large, broadly oval, with scattered very short bristles. Hypandrium with 2 subapical bristles. Phallus very short. Two rod-shaped apodemes.

Female. Body length 2.2–2.4 mm, wing length 1.9–2.2 mm. Resembling male. Segment 8 (Fig. 129) dark brown, elongate, with sclerites separated; sternite 8 folded apically. Cercus broad oval, brown.

Material examined: Holotype male labelled: SINGAPORE, Sungei Buloh, 6 July 2005, mangrove, sweeping (reg. 25200, leg. PG, E-10).

Paratypes: SINGAPORE: 3 ♀♀, Chek Jawa, 19 November 2003, mangrove, sweeping (reg. 23080, leg. PG); 1 ♀, Chek Jawa, 11 December 2003, mangrove, Mal 1 (reg. 23119, leg. PG); 1 ♀, Chek Jawa, 26 March 2005, mangrove, sweeping (reg. 25031, leg. PG); 1 ♀, Chek Jawa, 12 September 2005, mangrove, sweeping (reg. 25343, leg. PG); 2 ♂♂, 2 ♀♀, Chek Jawa, 12 September 2005, mangrove, sweeping (reg. 25343, leg. PG); 1 ♂, Chek Jawa, 15 December 2005, mangrove, sweeping (reg. 25452, leg. PG); 1 ♂, Pasir Ris, 4 December 2003, mangrove, sweeping (reg. 23106, leg. PG); 3 ♂♂, 2 ♀♀, Sungei Buloh, 6 October 2000, mangrove, sweeping (reg. 20032, leg. PG & N. Evenhuis); 1 ♀, Sungei Buloh, 27 November 2003, mangrove, sweeping (reg. 23090, leg. PG); 1 ♀, Sungei Buloh, 27 November 2003, mangrove, sweeping (reg. 23092, leg. PG); 1 ♂, Sungei Buloh, 28 March 2005, mangrove, sweeping (reg. 25035, leg. PG); 2 ♂♂, 1 ♀, Sungei Buloh, 22 April 2005, mangrove, Mal 2 (reg. 25078, leg. PG); 1 ♂, 1 ♀, Sungei Buloh, 27 April 2005, mangrove, Mal 2 (reg. 25096, leg. PG); 1 ♂, Sungei Buloh, 25 May 2005, mangrove, Mal 1 (reg. 25163, leg. PG); 1 ♂, Sungei Buloh, 6 July 2005, mangrove, Mal 1 (reg. 25197, leg. PG); 1 ♀, Sungei Buloh, 5 August 2005, mangrove, Mal 2 (reg. 25285, leg. PG); 1 ♂, Sungei Buloh, 19 August 2005, mangrove, Mal 1 (reg. 25302, leg. PG); 1 ♂, 1 ♀, Sungei Buloh, 26 August 2005, mangrove, sweeping (reg. 25321, leg. PG). 3 ♂♂, Semakau Island, 26 June 2005, mangrove (reg. 25188, leg. PG).

MALAYSIA: 2 ♀♀, Pulau Tioman, Monkey Bay, 14 July 2005, beach, sweeping (reg. 25216, leg. PG); 1 ♀, Pulau Tioman, Monkey Bay, 17 July 2005, beach, sweeping (reg. 25226, leg. PG).

Derivatio nominis. The name *monospina* refers to the single ventral spine in the basal part of hind tarsomere 1.

Distribution. Singapore, Malaysia. Mangrove.

Singapore. This is a common species in mangrove. It is present throughout the year with no marked peak activity. The sex ratio is 1/1 female to male.

Remarks. The relationships of *E. monospina* sp. nov. are unclear beyond inclusion within the monophyletic lineage of *Elaphropeza* sharing completely fused cerci (see “Discussion” for details).

Elaphropeza pauper sp. nov.

(Figs. 131–134)

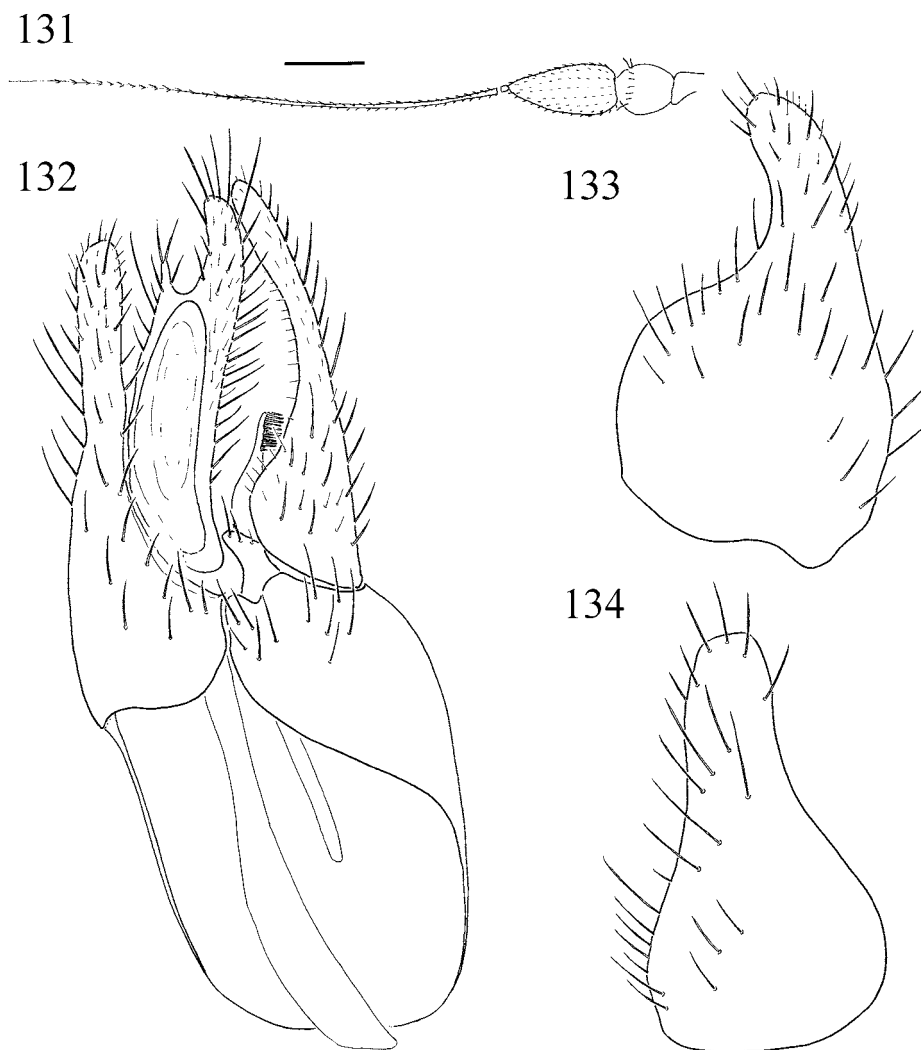
Diagnosis. A large species with black thorax; postpedicel short, style considerably longer than postpedicel; acrostichals lacking, dorsocentrals few in number; mid tibia bearing somewhat flattened posteroventral subapical bristle, hind tibia with 1 anterodorsal bristle; only tergite 4 with squamiform setae.

Description. Male. Body length 2.9 mm, wing length 2.5 mm. Head black, occiput subshining, with yellow to yellowish brown (large bristles) setation. Eye with hind margin slightly concave. Anterior ocellars long, proclinate; posterior ocellars very short. Two pairs of inclinate verticals (inner ones longer). Frons shining. Antenna (Fig. 131) brownish (postpedicel somewhat paler). Pedicel with circlet of equally minute setulae. Postpedicel short, about 2.0 times longer than wide. Style normally pubescent, brown, 5.0 times longer than postpedicel and nearly 2.5 times as long as scape, pedicel and postpedicel combined. Gena somewhat produced below eye. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered yellow setulae.

Thorax entirely black, largely shining, with brownish bristles; scutellum and metanotum distinctly tomentose. Proepisternum lacking long upturned bristle just above fore coxa, with 2 short bristly hairs in upper part. Postpronotal bristle short. Mesonotum with 1 presutural supra-alar, 3 notopleural, 2 postsutural supra-alar, 1

postalar and 4 scutellar bristles. Acrostichals lacking. Dorsocentrals represented by 4 pairs, convergent (except for prescutellars), mostly subequal in length, 1 pair of prescutellars longest.

Legs rather slender, largely brownish yellow, with brown setation; all femora somewhat paler in basal part; tibiae becoming darker from fore to hind tibia, fore tibia yellowish brown, hind tibia dark brown (except for base and apex). Coxae and trochanters with unmodified setation. Fore femur with hardly prominent rows of antero- and posteroventral bristles and 1 long bristle near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of minute (longer near base of femur), spinule-like, ventral setulae and 1 anterior subapical bristle. Mid tibia lacking ventral spinules, bearing 1 short ordinary anteroventral and 1 very long, somewhat flattened, posteroventral bristle in subapical part. Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia somewhat narrowed on apical 1/3, bearing 1 anterodorsal bristle vertically sitting on tubercle in apical 1/3, with several appressed setae in apical part; apical projection short, rounded. Hind tarsomere 1 somewhat thickened.



FIGURES 131–134. *Elaphropeza pauper* sp. nov. **131.** antenna. **132.** epandrium with cerci. **133.** right epandrial lamella. **134.** left surstylus.

Wing normally developed, uniformly brownish infusate, covered with uniform microtrichia; veins brownish. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, brown. Costal index: 56/37/51/17. Veins R4+5 and M1+2 parallel near wing apex, both straight. Vein CuA1 not quite reaching wing margin. Crossvein bm-cu somewhat oblique. Crossvein r-m before middle of cell bm. Halter black.

Abdomen with tergite 1 entirely pale yellow. Tergites 2 and 3 represented by 2 subtriangular brownish spaces separated broadly along midline (tergite 3 somewhat broader); both with rather numerous, brown, unmodified setae, tergite 3 also with few somewhat flattened setae. Tergite 4 broadest, subrectangular, dark brown, with numerous squamiform setae. Tergite 5 very narrow, covered with intermixed ordinary and somewhat flattened setae. Tergites 6 and 7 unmodified, concolorous with tergites 2 and 3; tergite 7 with rather short posteromarginal bristles. Tergite 8 with projection bearing 3 long bristles at tip. Pleural space of segment 6 with spot of sclerotisation. Sternites 1–2 wholly brownish, narrow. Sternites 3–6 represented by ovate, small, brownish spots on each side. Sternite 7 unmodified, broad, with scattered setulae. Gland-like structures present between tergites 4 and 5, represented by 2 large ovate spaces of sclerotisation, posterior one covered with numerous short microtrichia.

Terminalia (132–134) dark brown, rather small, elongate. Cerci narrowly fused; left cercus unbranched, digitiform, narrow, covered with numerous bristles of different length; right cercus well prominent, narrow, with several moderately long bristles. Epandrium completely divided. Right epandrial lamella subtriangular, covered with numerous long bristles. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with several long bristles apically. Left surstylus with upper lobe subtriangular, covered with numerous long bristles. Hypandrium with 2 subapical bristles. Phallus very short. Two rod-shaped apodemes.

Female. Unknown.

Material examined: Holotype male labelled: SINGAPORE, Nee Soon, 8 July 2005, swamp forest, Mal 2 (reg. 25206, leg. PG, E-11).

Derivatio nominis. The name *pauper* (Latin for poor) alludes to the fact that it has only a single tergite with squamiform setae.

Distribution. Singapore. Forest.

Singapore. At the moment there is only a single observation of this species in the swamp forest of Nee Soon, where it was caught in a Malaise trap set in a wet place of the forest.

Remarks. The relationships of *E. pauper* sp. nov. are unclear beyond inclusion within the monophyletic lineage of the *E. ephippiata* species group sharing fused cerci (see “Discussion” for details).

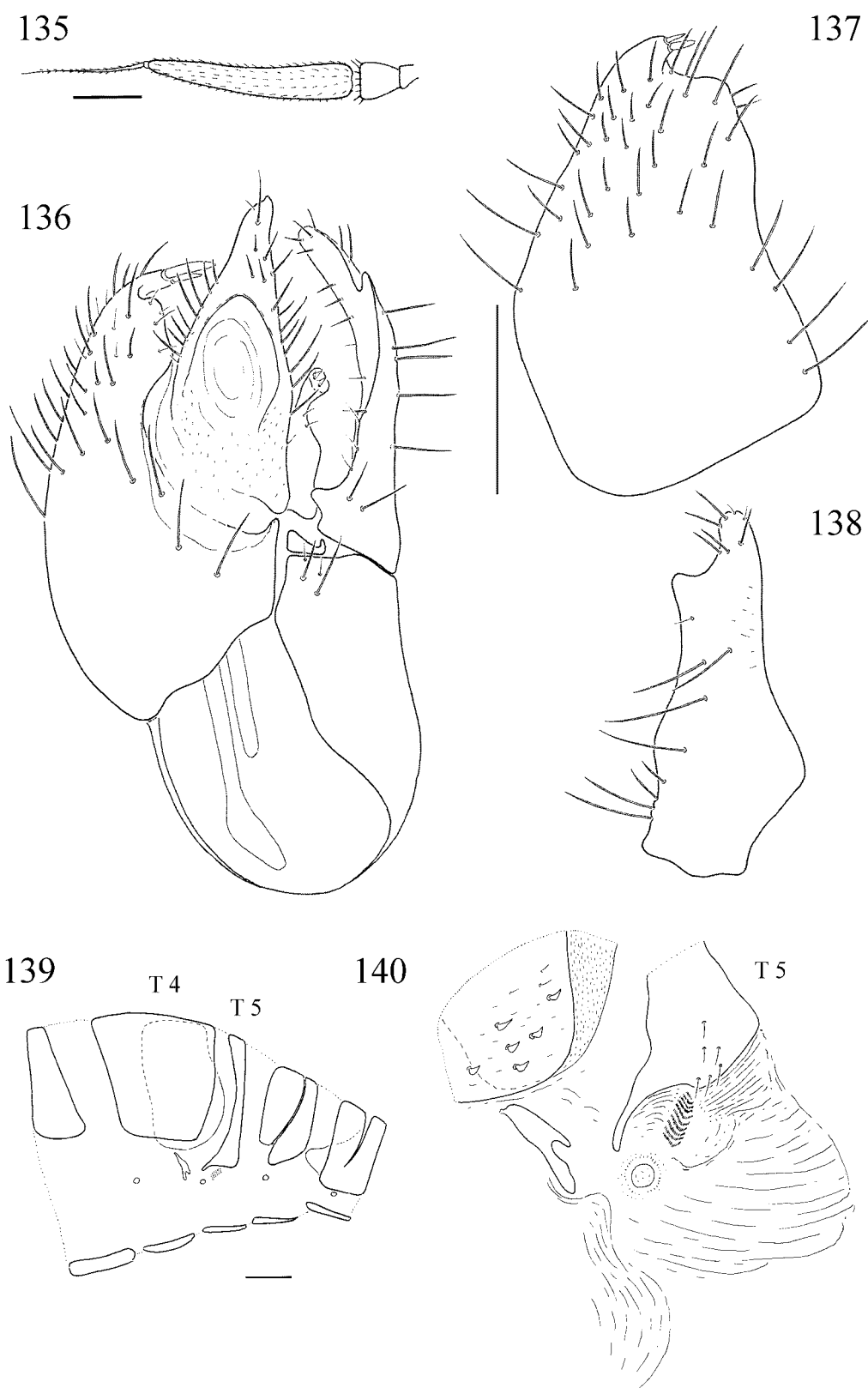
***Elaphropeza asiophila* sp. nov.**

(Figs. 135–140)

Diagnosis. Occiput black, postpedicel nearly 6.0 times longer than wide, style about 1.5 times shorter than postpedicel; thorax wholly reddish yellow, acrostichal and dorsocentral bristles multiserial; tarsomere 5 of all legs dark brown, fore tibia and fore tarsomeres 2–4 brownish, hind tibia with 1 anterodorsal bristle near middle.

Description. Male. Body length 2.1–2.2 mm, wing length 1.6–1.7 mm. Occiput wholly black, subshining, with yellow to brownish yellow setation. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones shorter. Frons subshining. Antenna (Fig. 135) with postpedicel brownish, scape and pedicel brownish yellow. Pedicel with circlet of subequally short setulae. Postpedicel nearly 6.0 times longer than wide. Style normally pubescent, brown, about 1.5 times shorter than postpedicel and nearly 2.0 times shorter than scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered brownish yellow setulae, bearing 1 longer and darker subapical seta.

Thorax wholly reddish yellow, shining, with yellow to brownish yellow bristles; sutures brownish in varying extent, spiracles brownish. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 short upturned bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 post-sutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.



FIGURES 135–140. *Elaphropeza asiophila* sp. nov. **135.** antenna. **136.** epandrium with cerci. **137.** right epandrial lamella. **138.** left surstylus. **139.** male abdomen lateral. **140.** stridulatory organ. T4: tergite 4; T5: tergite 5.

Legs largely yellow, with yellow to brownish yellow setation; tarsomere 5 of all legs dark brown, fore tibia and fore tarsomeres 2–4 brownish. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with hardly prominent rows of antero- and posteroventral bristles and 1 long bristle near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 ventral subapical black spinule, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 1 anterodorsal bristle near middle; apical projection short, rounded, clothed in dense brownish setulae. Hind basitarsus somewhat thickened.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brownish. Costal index: 35/25/22/17. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 divergent near wing apex, both straight. Vein CuA1 not quite reaching wing margin. Vein A1 absent. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter darkened.

Abdomen. Tergite 1 entirely pale (sometimes with very small brownish lateral spaces). Tergites 2 and 3 with elongate triangular brownish spaces separated along midline (sometimes narrowly connected on tergite 3); with unmodified setation. Tergite 4 broadest, with squamiform setae. Tergite 5 very narrow, with squamiform setae. Tergite 6 modified; narrow, divided into 2 sclerites, with short posteromarginal bristles. Tergite 7 modified; narrow, with internal lateral apodemes; bearing long posteromarginal bristles. Pleural space of segments 4–6 (especially of segment 5) stronger sclerotised; pleuron of segment 4 with spine-like process, pleuron of segment 5 with space of grooves (Figs. 139–140). Sternites 1–2 and 4–7 subrectangular, sternite 3 weaker sclerotised and divided into 2 lateral sclerites. Gland-like structures present between tergites 4–5.

Terminalia (Figs. 136–138) small, brown. Cerci fused forming single subtriangular lobe bearing moderately several long bristles. Epandrium completely divided. Right epandrial lamella covered with numerous long bristles, bearing 2 spines at apex. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with 2 long and 2 short bristles apically. Left surstylus with upper lobe rather subrectangular, with excision in apical part, bearing several long and shorter bristles. Hypandrium with 2 long bristles. Phallus very short. Two rod-shaped apodemes.

Female. Body length 2.0–2.1–2.5 mm, wing length 1.6–1.8 mm. Resembling male. Abdominal segments 6–7 unmodified; segment 8 rather elongate, with sclerites separated; sternite 8 folded apically. Cercus elongate oval, brownish.

Material examined: Holotype male labelled: MALAYSIA, Pulau Tioman, Juara, 20 July 2005, river, sweeping (reg. 25246, leg. PG, E-16).

Paratypes: SINGAPORE, 1 ♀, Chek Jawa, 19 November 2003, mangrove, sweeping (reg. 23080, leg. PG); 1 ♂, Chek Jawa, 2 December 2003, mangrove, Mal 1 (reg. 23097, leg. PG); 1 ♀, Chek Jawa, 11 December 2003, mangrove, Mal 1 (reg. 23119, leg. PG); 1 ♀, Chek Jawa, 22 December 2005, mangrove, Mal 1 (reg. 25455, leg. PG).

MALAYSIA, 4 ♂♂, Pulau Tioman, Juara, 20 July 2005, river, sweeping (reg. 25246, leg. PG).

Derivatio nominis. The name *asiophila* (*asio* is mud, *phila*: liking) alludes to its microhabitat being mangrove.

Distribution. Malaysia, Singapore. Mangrove.

Singapore. This is a very rare species that has been recorded only from the mangrove at Chek Jawa and each time only single individuals were captured. All records were from the end of November until the end of December. The record on Pulau Tioman at the mouth of the Juara River was in July.

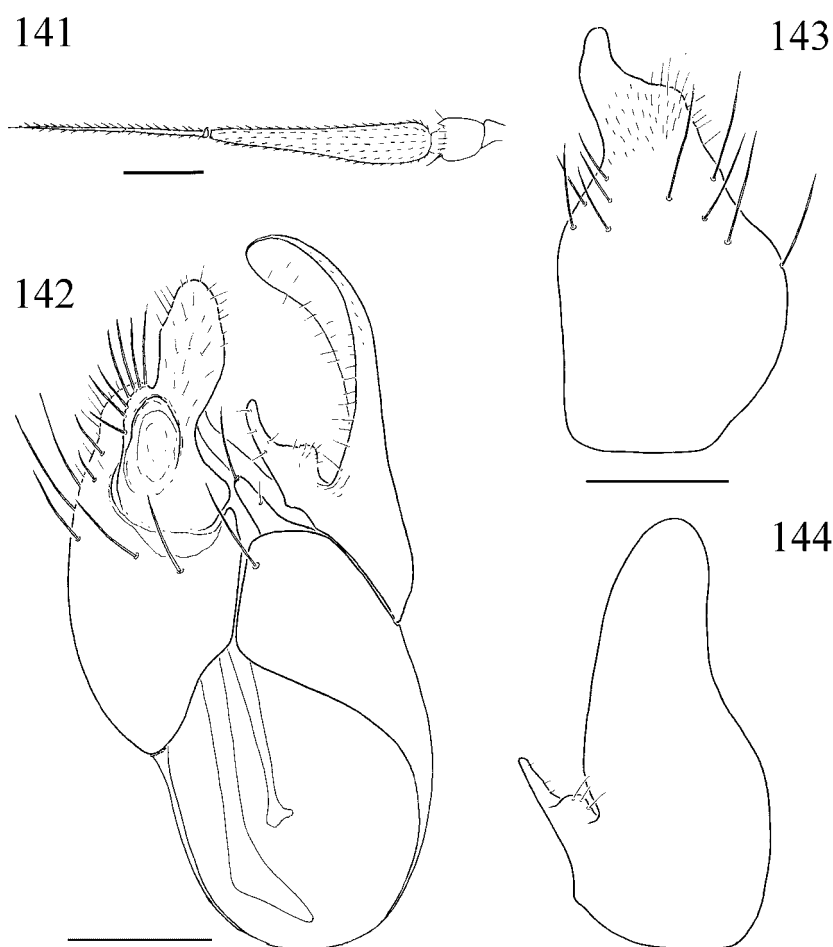
Remarks. *Elaphropeza asiophila* sp. nov. is closely related to *E. chekjava* sp. nov. Within *Elaphropeza* only these two species have modified tergites 6 and 7 of the male abdomen.

***Elaphropeza riatanae* sp. nov.**

(Figs. 141–144)

Diagnosis. Occiput black, postpedicel about 5.0 times longer than wide; mesonotum yellow with brown scutellum; acrostichal and dorsocentral bristles multiserial; legs with brownish pattern, hind tibia with 1 anterodorsal bristle near middle; abdominal tergites 4 and 5 with squamiform setae.

Description. Male. Body length 2.1–2.3 mm, wing length 1.7–1.8 mm. Occiput wholly black, subshining, with yellow to brownish yellow setation. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones somewhat shorter. Frons subshining. Antenna (Fig. 141) with postpedicel brownish, scape and pedicel yellow. Pedicel with circlet of subequally short setulae. Postpedicel long, nearly 5.0 times longer than wide. Style normally pubescent, black, nearly as long as postpedicel and about 1.5 times shorter than scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered brownish yellow setulae, bearing 1 longer subapical seta.



FIGURES 141–144. *Elaphropeza riatanae* sp. nov. **141.** antenna. **142.** epandrium with cerci. **143.** right epandrial lamella. **144.** left surstylus.

Thorax largely yellow, shining, with yellow to brownish yellow bristles; scutum with small brownish patch above wing base including postalar callus (sometimes very indistinct), scutellum and metanotum wholly brown, mesopleuron posteriorly and pteropleuron in upper part darkened. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 short upturned bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.

Legs almost entirely yellow, with yellow to brownish yellow setation; hind femur brownish near apex above, fore and mid tibiae brownish (fore tibia darker), fore and mid tarsi wholly brownish, hind tarsomeres 2–5 becoming gradually darker (from 2nd to 5th). Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with hardly prominent ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia with 1 anterodorsal bristle near middle; apical projection small, rounded, clothed in dense brownish setulae. Hind basitarsus somewhat thickened.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, brownish. Costal index: 39/30/26/16. Vein Rs longer than crossvein bm-cu. Veins R4+5 and M1+2 divergent near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu transverse. Crossvein r-m before middle of cell bm. Halter yellow.

Abdomen. Tergite 1 almost entirely pale yellow, with very narrow lateral brownish spots only. Tergites 2 and 3 subequal, subtriangular laterally, deeply concave on anterior margin; with unmodified setation. Tergite 4 broadest, dark brown, with squamiform setae. Tergite 5 very narrow, with squamiform setae. Tergites 6–8 unmodified; tergites 6 and 7 with similar moderately long posteromarginal bristles. Sternites 1–3 pale yellow, sternites 4–7 subrectangular, brownish. Gland-like structures present between tergites 4–5.

Terminalia (Fig. 142–144) large, brownish. Cerci almost completely fused; left cercus elongate oval, bearing numerous short bristles; right cercus hardly prominent, short, very narrow, with several long marginal bristles. Epandrium completely divided. Right epandrial lamella subtriangular, with several long and some number of short bristles, lacking spines. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with 1 long bristle apically. Left surstylus with upper lobe elongate oval, with subtriangular projection in basal part, bearing scattered short marginal bristles. Hypandrium with 2 strong bristles. Phallus very short. Two rod-shaped apodemes.

Female. Body length 2.0–2.1 mm, wing length 1.7–1.8 mm. Mid tibia lacking ventral spinules. Segment 8 brown, somewhat elongate, with sclerites separated; sternite 8 folded apically. Cercus elongate oval. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, Chek Jawa, 12 September 2005, mangrove, sweeping (reg. 25343, leg. PG, E-18).

Paratypes: SINGAPORE: 1 ♂, 2 ♀♀, Chek Jawa, 26 March 2005, mangrove, sweeping (reg. 25031, leg. PG); 2 ♀♀, Chek Jawa, 11 October 2005, mangrove, Mal (reg. 25380, leg. PG); 1 ♂, 4 ♀♀, Chek Jawa, 26 October 2005, mangrove, Mal 2 (reg. 25399, leg. PG); 1 ♂, Semakau Island, 26 June 2005, beach, sweeping (reg. 25185, leg. PG); 1 ♂, Sungei Buloh, 26 August 2005, mangrove, sweeping (reg. 25321, leg. PG).

Derivatio nominis. The present species is dedicated to Mrs Ria Tan for the great work she is doing in Singapore in popularising the marine life through excellent photography published in books, leaflets and on web-sites. The photo album on marine life of the mangrove of Chek Jawa may have contributed to the protection of this very interesting site.

Distribution. Singapore. Mangrove.

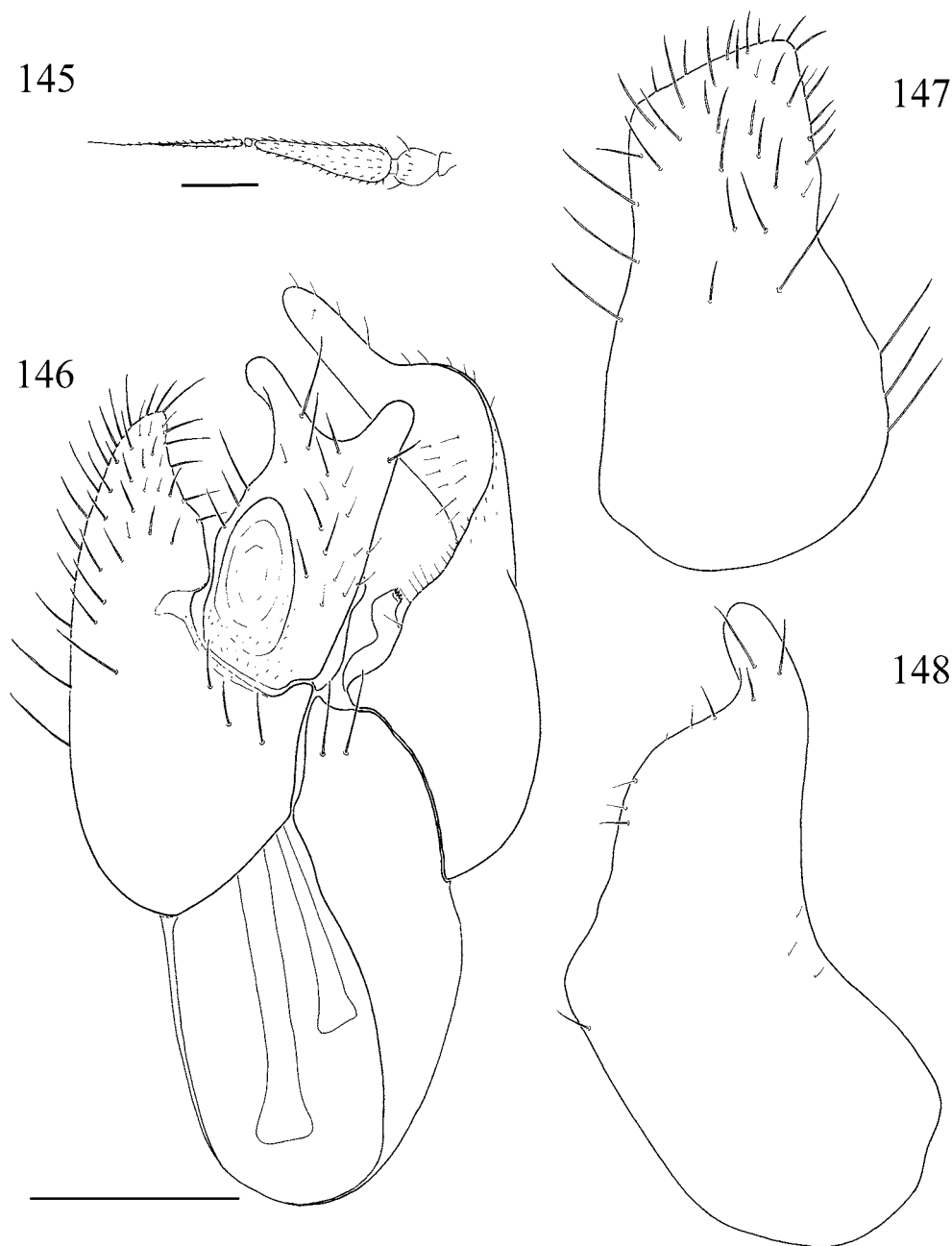
Singapore. This is a rare species recorded only in mangrove. The highest activity is mainly in the second half of the year. Males and females are found in almost equal numbers.

Remarks. The relationships of *E. riatae* sp. nov. are unclear beyond inclusion within the monophyletic lineage of the *E. ephippiata* species group sharing completely fused cerci (see “Discussion” for details).

***Elaphropeza furca* sp. nov.**

(Figs. 145–148)

Diagnosis. Occiput black, postpedicel about 3.0 times longer than wide, style about as long as postpedicel; thorax yellow, acrostichals 2-serial, dorsocentrals 1-serial; legs partly brownish, hind tibia with 1 anterodorsal bristle; abdominal tergites 4 and 5 with squamiform setae.



FIGURES 145–148. *Elaphropeza furca* sp. nov. **145.** antenna. **146.** epandrium with cerci. **147.** right epandrial lamella. **148.** left surstylus.

Description. Male. Body length 1.7–1.9 mm, wing length 1.4–1.5 mm. Occiput wholly black, subshining, with yellow to brownish yellow setation. Anterior ocellars moderately long, proclinate; posterior ocellars shorter. Inner verticals long, outer ones somewhat shorter. Frons subshining. Antenna (Fig. 145) with postpedicel brownish, scape and pedicel yellow. Pedicel with circlet of subequally short setulae. Postpedicel 3.5–4.0 times longer than wide. Style normally pubescent, brown, somewhat (1.2–1.3 times) longer than post-

pedicel and somewhat shorter than scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded, with scattered brownish yellow setulae, bearing 1 longer subapical seta.

Thorax almost entirely yellow, shining, with yellow to brownish yellow bristles; metanotum brown in middle, sutures brownish in varying extent. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 moderately long bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals 2-serial, lacking on prescutellar depression; dorsocentrals 1-serial, extending to base of scutellum, 1 pair of prescutellars longest.

Legs almost entirely yellow, with yellow to brownish yellow setation; fore tibia and tarsus, mid and hind tarsomere 5 brownish. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia lacking ventral spinules and prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia with 1 anterodorsal bristle near middle; apical projection small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, brownish. Costal index: 24/22/24/16. Vein Rs longer than crossvein bm-cu. Veins R4+5 and M1+2 divergent near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter yellow.

Abdomen. Tergites 1–3 and 6–7 brownish, tergites 4 and 5 dark brown. Tergite 1 narrow, subrectangular, divided along midline. Tergites 2 and 3 subtriangular laterally, broadly divided along midline; with unmodified setation. Tergite 4 broadest, with squamiform setae. Tergite 5 very narrow, with squamiform setae. Tergites 6–8 unmodified, tergite 7 with moderately long posteromarginal bristles. Sternites unmodified, weakly sclerotised. Gland-like structures present between tergites 4–5.

Terminalia (Figs. 146–148) large, yellowish brown. Cerci fused forming single, broad, bifurcate lobe bearing long bristles. Epandrium completely divided. Right epandrial lamella subrectangular, covered with numerous long bristles, lacking spines. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with 2 long bristles apically. Left surstylus with upper lobe large, rather subtriangular, sinuate, with few short bristles. Hypandrium with 1 long and 1 short bristles. Phallus very short. Two rod-shaped apodemes.

Female. Body length 1.7–1.8 mm, wing length 1.5 mm. Segment 8 brownish, elongate, with sclerites separated; sternite 8 folded apically. Cercus brownish. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, Sungei Buloh, 6 July 2005, mangrove, sweeping (reg. 25200, leg. PG, E-20).

Paratypes: 1 ♀, SINGAPORE, Bukit Timah, 16 September 2005, rain forest, Mal 3 (reg. 25348, leg. PG); 1 ♀, Bukit Timah, 23 September 2005, rain forest, Mal 3 (reg. 25359, leg. PG); 2 ♂♂, 1 ♀, Kranji, 27 July 2005, beach forest, sweeping (reg. 25254, leg. PG); 1 ♂, Semakau Island, 26 June 2005, beach, sweeping (reg. 25185, leg. PG); 1 ♀, Sungei Buloh, 16 September 2005, mangrove, Mal 2 (reg. 25355, leg. PG).

Derivatio nominis. The name *furca* alludes to the bifurcate cerci in the male.

Distribution. Singapore. Forest.

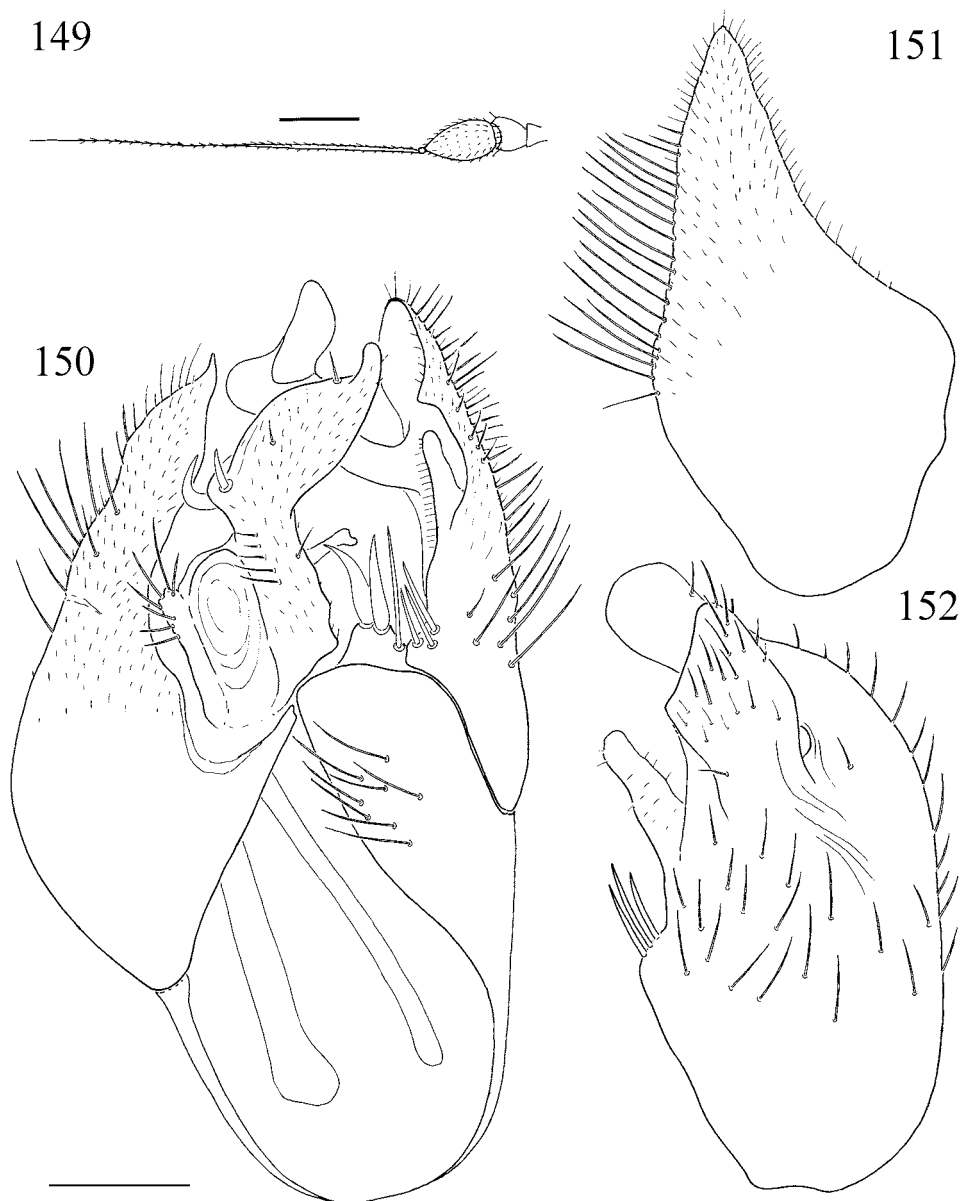
Singapore: This is a rare species (6 records only; 8 individuals). On several occasions it was found in anthropogenic conditions: the park at Kranji, the beach forest at the landfill of Semakau island and a patch of secondary forest at Bukit Timah. The species was only twice recorded in more natural conditions at Sungei Buloh: once by sweep netting and once in a Malaise trap. Future studies might show if it is a colonizer and possibly much more widespread. The sex ratio is 1/1.

Remarks. The relationships of *E. furca* sp. nov. are unclear beyond inclusion within the monophyletic lineage of the *E. ephippiata* species group sharing completely fused cerci (see “Discussion” for details).

***Elaphropeza spicata* sp. nov.**

(Figs. 149–152)

Diagnosis. Occiput yellow, postpedicel nearly 1.5 times longer than wide, style about 5.0 times longer than postpedicel; thorax yellow, scutum with indistinct brownish spots above wing base; legs yellow, fore tibia with 1 anterodorsal bristle, hind tibia with 1 subapical anteroventral and 1 anterodorsal bristles; abdominal tergites 4 and 5 with squamiform setae.



FIGURES 149–152. *Elaphropeza spicata* sp. nov. **149.** antenna. **150.** epandrium with cerci. **151.** right epandrial lamella. **152.** left surstylus.

Description. Male. Body length 2.3–2.4 mm, wing length 1.8–1.9 mm. Occiput wholly yellow, subshining, with yellow to brownish yellow setation. Eye deeply concave on posterior margin. Ocellar tubercle yellow, anterior and posterior ocellars subequally moderately long, the former proclinate, the latter laterocline. Inner verticals long, outer ones shorter. Frons yellow, short, subshining. Antenna (Fig. 149) wholly yellow. Pedicel with circlet of subequally short setulae. Postpedicel short, nearly 1.5 times longer than wide. Style normally pubescent, brownish yellow, about 5.0 times longer than postpedicel and nearly 3.0 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered brownish yellow setulae, bearing 1 longer subapical seta.

Thorax almost entirely yellow, shining, with yellow to brownish yellow bristles; scutum with hardly prominent brownish yellow spot above wing base, metanotum brownish, sternopleuron and hypopleuron with brownish marking in lower part. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 very short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 2 pair of long prescutellar dorsocentrals), the former lacking on prescutellar depression, the latter extending to base of scutellum.

Legs entirely yellow, with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia bearing 1 anterodorsal bristle near middle. Mid femur slender, with 2 rows of spinule-like ventral bristles (becoming shorter in apical part of femur), 1 long ventral, 3–4 short anterior bristles near base and 1 anterior subapical bristle. Mid tibia lacking black ventral spinules but with somewhat stronger setulae in apical part, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia with 1 short straight subapical anteroventral bristle and 1 long anterodorsal bristle near middle; apical projection short, rounded, clothed in dense brownish setulae. Hind basitarsus somewhat thickened, shorter than remaining tarsomeres combined.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, yellow. Costal index: 45/25/36/13. Vein Rs longer than crossvein bm-cu. Veins R4+5 and M1+2 parallel near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu almost transverse. Crossvein r-m somewhat before middle of cell bm. Halter darkened.

Abdomen. Tergite 1 entirely pale. Tergites 2 and 3 with two brownish triangular spaces separated broadly along midline; with unmodified setation. Tergite 4 broadest, dark brown, with squamiform setae. Tergite 5 very narrow, dark brown, with squamiform setae. Tergites 6–8 unmodified, tergites 6 and 7 yellowish; tergite 7 with moderately long posteromarginal bristles. Sternites unmodified, weakly sclerotised; sternites 3–7 with lateral setulae directed upwards. Gland-like structure present between tergites 4–5.

Terminalia (Figs. 150–152) large, brownish yellow. Cerci separated; left cercus unbranched, elongate, tapered, with scattered short bristles and 2 spines in middle part. Right cercus short, narrow, with few moderately long bristles, lacking spines. Epandrium completely divided. Right epandrial lamella subtriangular, covered with numerous, mostly short bristles, bearing long ventral marginal bristles. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with several long bristles apically. Left surstylus with upper lobe of complicate structure, as in Fig. 152, bearing numerous bristles of different length, with 3 long stronger bristles basally; lower lobe of surstylus with 2 spines. Hypandrium with 1 long and 1 moderately long spine-like bristles. Phallus very short. Two rod-shaped apodemes.

Female. Body length 2.2–2.3 mm, wing length 1.8–1.9 mm. Abdominal segment 8 somewhat elongate, with sclerites separated; sternite 8 folded apically. Cercus broad oval, yellow. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, Sungei Buloh, 6 July 2005, mangrove, Mal 1 (reg. 25197, leg. PG, E-23).

Paratypes: MALAYSIA, 1 ♀, Pulau Tioman, Juara, 20 July 2005, river, sweeping (reg. 25246, leg. PG); 1 ♀, Pulau Tioman, Monkey Bay, 14 July 2005, beach, sweeping (reg. 25216, leg. PG); 1 ♀, Pulau Tioman, Monkey Bay, 17 July 2005, beach, sweeping (reg. 25227, leg. PG).

SINGAPORE, 1 ♀, Bukit Timah, 23 September 2005, rain forest, Mal 2 (reg. 25358, leg. PG); 1 ♀, Nee Soon, 3 June 2005, swamp forest, Mal 1 (reg. 25150, leg. PG); 1 ♀, Nee Soon, 15 July 2005, swamp forest, Mal 1 (reg. 25258, leg. PG); 1 ♂, Sungei Buloh, 11 May 2005, mangrove, Mal 2 (reg. 25160, leg. PG); 1 ♀, Sungei Buloh, 18 May 2005, mangrove, Mal 1 (reg. 25161, leg. PG); 1 ♀, Sungei Buloh, 3 December 2005, mangrove, Mal 2 (reg. 25440, leg. PG).

Derivatio nominis. The name *spicata* refers to the spines on the left cercus and the left surstylus.

Distribution. Malaysia, Singapore. Terrestrial forest and mangrove.

This is a rare species (only 10 records: 3 on Pulau Tioman in Malaysia and 7 in Singapore). It is recorded in different habitats always on basis of single individuals suggesting that the real microhabitat of this species has not yet been sampled.

Remarks. In having subequally long anterior and posterior ocellar bristles, *E. spicata* sp. nov. appears closely related to *E. luteoides* sp. nov. and *E. lutea*.

***Elaphropeza malayensis* sp. nov.**

(Figs. 153–156)

Diagnosis. Occiput black, postpedicel 3.0 times longer than wide, style nearly 2.0 times longer than postpedicel; thorax yellow, acrostichals 2-serial, dorsocentrals 1–2-serial; tarsomere 5 of all legs brownish, hind tibia with 1 anterodorsal bristle; only tergite 5 with squamiform setae.

Description. Male. Body length 2.1–2.2 mm, wing length 1.8–1.9 mm. Occiput entirely black, subshining, with yellow to brownish yellow setation. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Inner verticals long, outer ones somewhat shorter. Frons subshining. Antenna (Fig. 153) with scape and pedicel yellow, postpedicel almost entirely brownish (paler in basal part). Pedicel with circlet of subequally short setulae. Postpedicel 3.0 times longer than wide. Style normally pubescent, brown, about 2.0 times longer than postpedicel and somewhat longer than scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered brownish yellow setulae, bearing 1 longer and darker subapical seta.

Thorax entirely yellow, shining, with yellow to brownish yellow bristles. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 very short bristle in upper part. Postpronotal bristle short. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals 2-serial, lacking on prescutellar depression; dorsocentrals 2-serial in anterior part of scutum, 1-serial toward scutellum, 1 pair of prescutellars longest.

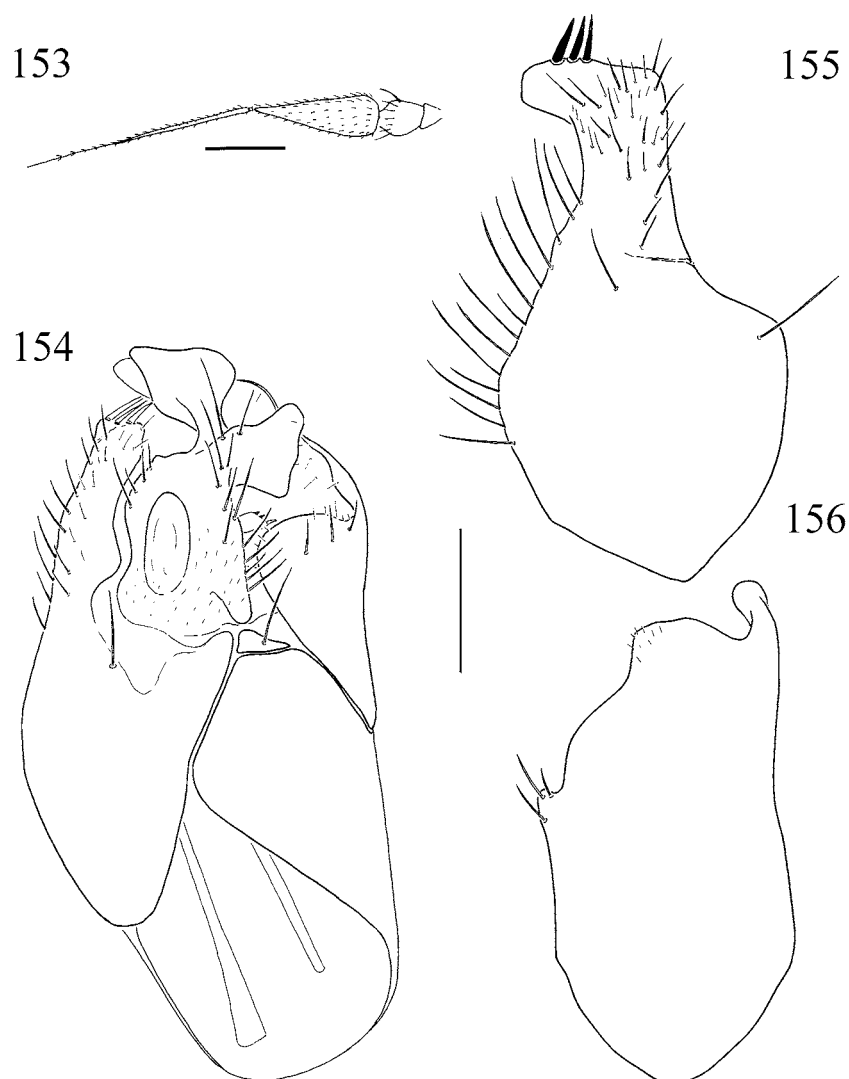
Legs almost entirely yellow, with yellow to brownish yellow setation; fore tibia (less distinct) and tarsomere 5 of all legs brownish. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of ventral spinules along whole length and 1 longer, stronger spinule at apex, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia with 1 anterodorsal bristle near middle; apical projection small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long,

brownish. Costal index: 39/34/35/15. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 somewhat divergent near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 present as trace. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter pale yellow.

Abdomen. Tergite 1 pale yellow. Tergites 2–3 and 6–7 brownish yellow (in paler specimens yellowish); with unmodified setation. Tergites 2–3 broader laterally, deeply concave on anterior margin. Tergite 4 broadest, dark brown, with unmodified setae. Tergite 5 very narrow, dark brown, with squamiform setae. Tergites 6 and 7 with moderately long posteromarginal bristles. Gland-like structures present between tergites 4–5.

Terminalia (Figs. 154–156) large, brownish yellow. Cerci fused forming single lobe of complicated structure (Fig. 154), bifurcate, with several long bristles, lacking spines. Epandrium completely divided. Right epandrial lamella as in Fig. 155, with 3 short black spines at apex. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, lacking bristles apically. Left surstylus with upper lobe large, elongate oval, as in Fig. 156. Hypandrium with 2 long bristles. Phallus very short. Two rod-shaped apodemes.



FIGURES 153–156. *Elaphropeza malayensis* sp. nov. **153.** antenna. **154.** epandrium with cerci. **155.** right epandrial lamella. **156.** left surstylus.

Female. Body length 2.1–2 mm, wing length 1.8–1.9 mm. Mid tibia lacking ventral spinules. Abdominal segment 8 rather short, bearing 3 long bristles posteriorly, with sclerites separated; sternite 8 folded apically. Cercus broad oval, yellow. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, Sungei Buloh, 23 December 2005, mangrove, Mal 1 (reg. 25471, leg. PG, E-26).

Paratypes: MALAYSIA, 1 ♀, Pulau Tioman, Salang, 13 July 2005, laguna, sweeping (reg. 25213, leg. PG).

SINGAPORE, 1 ♀, Nee Soon, 15 July 2005, swamp forest, Mal 1 (reg. 25258, leg. PG); 1 ♂, 1 ♀, Sungei Buloh, 9 December 2002, mangrove, sweeping (reg. 22057, leg. PG); 1 ♀, Sungei Buloh, 18 May 2005, mangrove, Mal 1 (reg. 25161, leg. PG); 1 ♀, Sungei Buloh, 6 July 2005, mangrove, Mal 1 (reg. 25197, leg. PG); 1 ♀, Sungei Buloh, 19 August 2005, mangrove, Mal 1 (reg. 25302, leg. PG); 1 ♀, Sungei Buloh, 26 August 2005, mangrove, Mal 1 (reg. 25319, leg. PG); 1 ♀, Sungei Buloh, 7 September 2005, mangrove, Mal 1 (reg. 25336, leg. PG); 1 ♀, Sungei Buloh, 7 September 2005, mangrove, Mal 2 (reg. 25337, leg. PG); 1 ♀, Sungei Buloh, 14 October 2005, mangrove, Mal 2 (reg. 25394, leg. PG); 1 ♀, Sungei Buloh, 14 October 2005, mangrove, Mal 1 (reg. 25393, leg. PG); 1 ♀, Sungei Buloh, 9 November 2005, mangrove, Mal 1 (reg. 25417, leg. PG); 1 ♀, Sungei Buloh, 9 November 2005, mangrove, Mal 2 (reg. 25418, leg. PG); 1 ♀, Sungei Buloh, 4 January 2006, mangrove, Mal 1 (reg. 26007, leg. PG).

Derivatio nominis. The name *malayensis* refers to its occurrence in the Malaysian region.

Distribution. Singapore, Malaysia. Mangrove, occasionally terrestrial forest.

Singapore. This is a rare species that although it is recorded 13 times at Sungei Buloh, these are based always upon single specimens. Only two males were found and 14 females in total.

Remarks. *Elaphropeza malayensis* sp. nov. is a representative of the monophyletic lineage of *Elaphropeza* sharing completely fused cerci (see “Discussion” for details). Within this lineage the new species is closely related to four species having apical spines on the right epandrial lamella of the male terminalia. Otherwise, the relationships of *E. malayensis* sp. nov. have not been resolved.

Elaphropeza bezzii sp. nov.

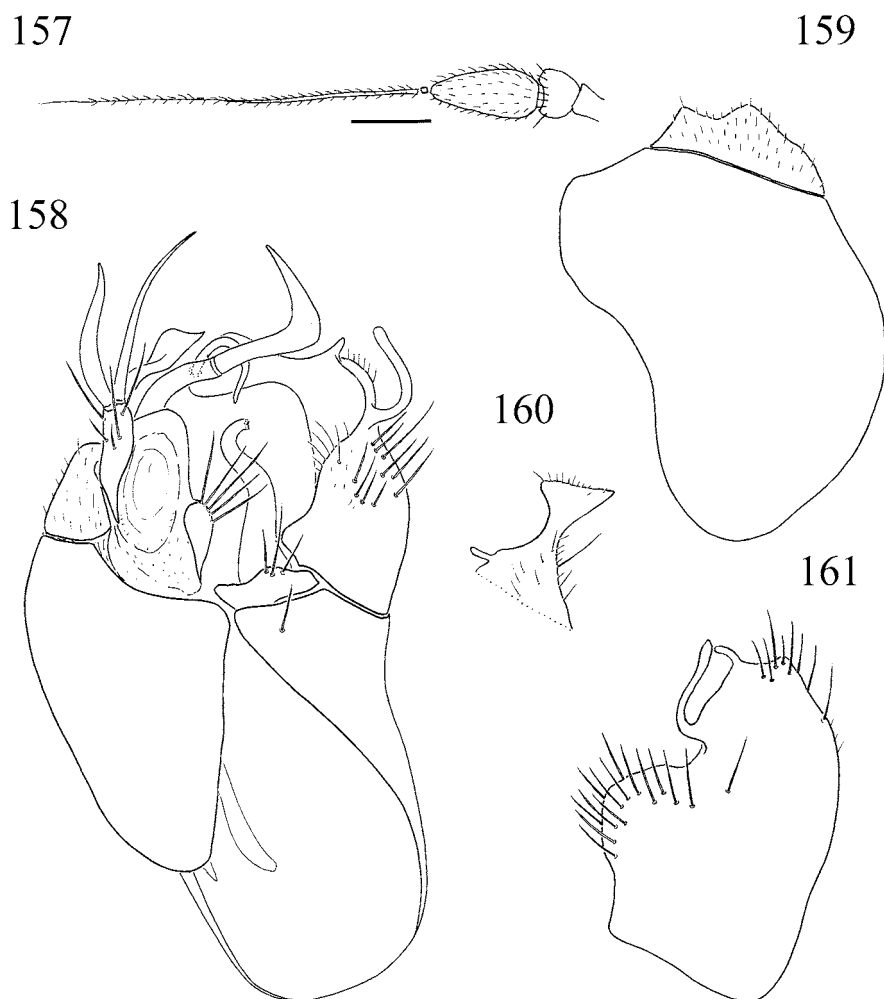
(Figs. 157–161)

Diagnosis. Occiput, antenna, thorax and legs entirely yellow, postpedicel short, about 2.0 times longer than wide; fore tibia with 2 short, mid tibia with 1 similar and hind tibia with 1 long anterodorsal bristles.

Description. Male. Body length 2.0–2.1 mm, wing length 1.6–1.7 mm. Occiput including frons entirely yellow, subshining, with yellow to brownish yellow setation. Ocellar tubercle brownish, anterior ocellars moderately long, proclinate; posterior ocellars minute. Inner verticals long, outer ones shorter. Antenna (Fig. 157) wholly yellow. Pedicel with circlet of subequally short setulae. Postpedicel about 2.0 times longer than wide. Style normally pubescent, brown, about 3.5 times longer than postpedicel and nearly 2.0 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax entirely yellow, shining, with yellow to brownish yellow bristles. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 very short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), the former lacking on prescutellar depression, the latter extending to base of scutellum.

Legs entirely yellow, with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles (1 bristle near base longer). Fore tibia with 2 short but distinct black anterodorsal bristles in middle part. Mid femur slender, with 2 rows of spinule-like, short, ventral bristles (posteroventrals longer), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 short anterodorsal bristle in middle part, lacking prominent ventral spinules. Hind femur with 1 row of short anteroventrals and 4–5 erect dorsal bristles near base. Hind tibia bearing 1 strong black anterodorsal bristle; apical projection prominent, small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.



FIGURES 157–161. *Elaphropeza bezzii* sp. nov. **157.** antenna. **158.** epandrium with cerci. **159.** right epandrial lamella. **160.** apical part of left surstylus dorsal view. **161.** left surstylus.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, yellow. Costal index: 40/18/32/14. Vein Rs somewhat longer than crossvein bm-cu. Vein R2+3 smoothly arched. Veins R4+5 and M1+2 somewhat divergent near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu transverse. Crossvein r-m before middle of cell bm. Halter with dark knob.

Abdomen. Tergite 1 entirely pale yellow. Tergites 2–3 largely pale yellow, narrow, very weakly sclerotised; with unmodified setation. Tergite 4 broad, somewhat darker than other tergites, with few squamiform setae. Tergite 5 very narrow, with few squamiform setae. Tergites 6 and 7 pale yellow, with moderately long posteromarginal bristles. All sternites yellowish, weakly sclerotised, with inconspicuous setation. Gland-like structures between tergites 4 and 5.

Terminalia (Fig. 158–161) large, yellow. Cerci broadly separated, both almost equally small, right cercus somewhat longer; left cercus with several long marginal bristles; right cercus with 3 long curved spines (1 somewhat flattened). Subepandrial lobe prolonged. Epandrium completely divided. Right epandrial lamella rather subglobular, covered with numerous bristles of different length. Right surstylus hardly prominent. Left epandrial lamella fused to hypandrium, with 1 long bristle apically. Left surstylus with upper lobe large, sub-rectangular (viewed laterally), with two slender processes on upper margin, produced inward at apex, bearing

numerous moderately long bristles. Hypandrium with 2 short bristles. Phallus very short. Two rod-shaped apodemes.

Female. Body length 2.0–2.1 mm, wing length 1.6–1.7 mm. Abdominal segment 8 rather elongate, yellow, with sclerites separated; sternite 8 folded apically. Sternite 10 and cercus yellow. Otherwise as in male.

Material examined. Holotype male labelled: SINGAPORE, Nee Soon, 9 November 2005, swamp forest, Mal 1 (reg. 25414, leg. PG, E-38).

Paratypes: SINGAPORE, 1 ♂, Bukit Timah, 27 July 2005, rain forest, Mal (reg. 25274, leg. PG); 4 ♂♂, Bukit Timah, 5 August 2005, rain forest, Mal (reg. 25278, leg. PG); 1 ♂, 1 ♀, Bukit Timah, 19 August 2005, rain forest, Mal (reg. 25301, leg. PG); 1 ♂, Bukit Timah, 26 August 2005, rain forest, Mal (reg. 25313, leg. PG); 1 ♂, Bukit Timah, 7 September 2005, rain forest, sweeping (reg. 25330, leg. PG); 1 ♂, Nee Soon, 15 July 2005, swamp forest, Mal 1 (reg. 25258, leg. PG); 4 ♀♀, Nee Soon, 5 August 2005, swamp forest, Mal 1 (reg. 25281, leg. PG); 1 ♂, Nee Soon, 12 August 2005, swamp forest, Mal 1 (reg. 25290, leg. PG); 1 ♂, Nee Soon, 16 September 2005, swamp forest, Mal 2 (reg. 25350, leg. PG); 1 ♂, Nee Soon, 18 November 2005, swamp forest, Mal 1 (reg. 25422, leg. PG); 1 ♂, Nee Soon, 14 December 2005, swamp forest, Mal 1 (reg. 25446, leg. PG); 1 ♀, Nee Soon, 8 February 2006, swamp forest, Mal 1 (reg. 26028, leg. PG); 1 ♀, Sime forest, 22 July 2005, forest, Mal 2 (reg. 25271, leg. PG); 1 ♀, Sime forest, 12 August 2005, forest, Mal 2 (reg. 25294, leg. PG); 2 ♀♀, Sime forest, 7 September 2005, forest, Mal 2 (reg. 25335, leg. PG); 1 ♀, Sime forest, 14 October 2005, forest, Mal 1 (reg. 25384, leg. PG).

Derivatio nominis. The present species is dedicated to memory Prof. Mario Bezzi, one of the pioneers in Diptera taxonomy of Southeast Asia.

Distribution. Singapore. Forest.

Singapore: This is a fairly common species that is recorded in various types of forests. The peak of activity is in the second half of the year from the second half of July until the first half of December. Males and females are found in nearly equal numbers.

Remarks. In having a prolonged subepandrial lobe *E. bezzii* sp. nov. is likely to be closely related to *E. temasek* sp. nov. and *E. ephippiata* (Fallén).

Elaphropeza ngi sp. nov.

(Figs. 162–165)

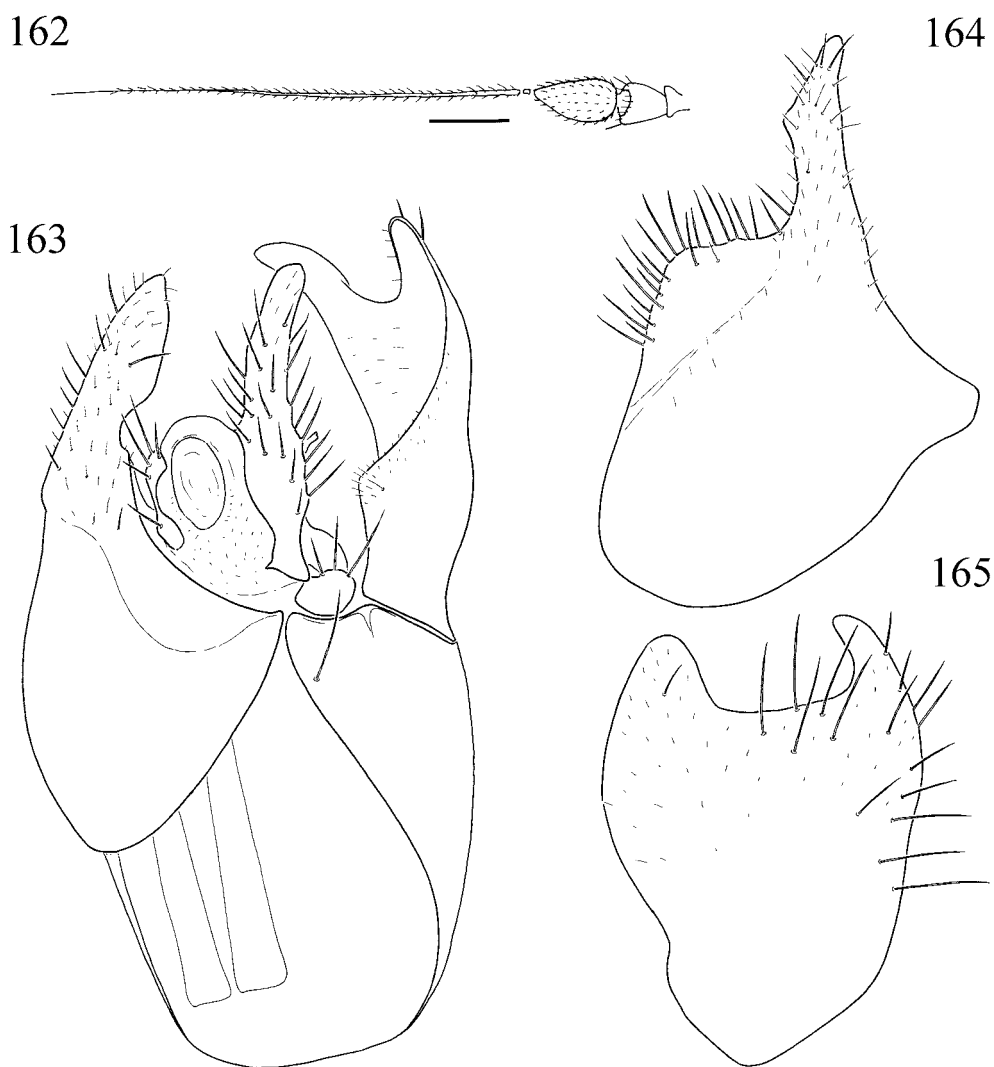
Diagnosis. Occiput and antenna yellow, postpedicel short about 2.0 times longer than wide; scutum with indistinct brownish spot above wing base; tarsomere 5 of all legs brownish, hind tibia bearing 1 anterodorsal bristle.

Description. Male. Body length 2.2–2.5 mm, wing length 1.8–1.9 mm. Occiput yellow, indistinctly darkened in upper part, subshining, with yellow to brownish yellow setation. Eye deeply concave on posterior margin. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones short. Antenna (Fig. 162) wholly yellow (postpedicel appearing somewhat darker). Pedicel with circlet of subequally short setulae. Postpedicel about 2.0 times (1.75 in holotype) longer than wide. Style normally pubescent, brownish yellow, about 6.0 times longer than postpedicel and nearly 3.0 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax almost entirely yellow, shining, with yellow to brownish yellow bristles; scutum with indistinct brownish spot above wing base, metanotum somewhat brownish yellow posteriorly, sutures brownish in varying extent. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 2–3 very short bristles in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorso-centrals multiserial, uniform, the former lacking on prescutellar depression, the latter extending to base of scutellum (1 pair of long prescutellars).

Legs almost entirely yellow, with yellow to brownish yellow setation; tarsomere 5 of all legs brownish. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia with 1 short anterodorsal bristle about middle. Mid femur with 2 rows of spinule-like, short, ventral bristles (posteroventrals longer), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with hardly prominent ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 1 anterodorsal bristle and 1 subapical, short, straight bristle anteriorly; apical projection prominent, small, rounded, clothed in dense brownish setulae. Hind tarsomere 1 somewhat thickened.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, yellow. Costal index: 48/25/38/17. Vein Rs somewhat longer than crossvein bm-cu. Vein R2+3 smoothly arched. Veins R4+5 and M1+2 slightly divergent near wing apex, both straight. Vein CuA1 not quite reaching wing margin. Vein A1 absent. Crossvein bm-cu almost transverse. Crossvein r-m somewhat before middle of cell bm. Halter with dark knob.



FIGURES 162–165. *Elaphropeza ngi* sp. nov. **162.** antenna. **163.** epandrium with cerci. **164.** right epandrial lamella. **165.** left surstylus.

Abdomen. Tergite 1 entirely pale yellow. Tergites 2 and 3 brownish, subtriangular and of subequal width viewed laterally, otherwise pale yellow, broadly concave anteriorly, divided along midline; with unmodified setation. Tergite 4 broadest, dark brown, with squamiform setae. Tergite 5 very narrow, dark brown, with squamiform setae. Tergites 6 and 7 of subequal width, yellow, the former with minute, the latter with moderately long posteromarginal bristles. Segment 8 unmodified. Sternites very weakly sclerotised. Gland-like structures between tergites 4 and 5.

Terminalia (Figs. 163–165) large, brownish yellow. Cerci broadly separated, covered with moderately long bristles, lacking spines; left cercus digitiform, long; right cercus short, with less numerous bristles. Epanandrium completely divided. Right epandrial lamella (Fig. 164) subtriangular, greatly produced in apical part, covered with numerous bristles of different lengths. Right surstylus hardly prominent. Left epandrial lamella fused to hypandrium, with 1 long bristle apically. Left surstylus with upper lobe large, subglobular, deeply broadly concave on upper margin, with several long bristles. Hypandrium with 1 very long and 1 very short bristles. Phallus very short. Two rod-shaped apodemes.

Female. Unknown.

Material examined: Holotype male labelled: SINGAPORE, Nee Soon, 14 December 2005, swamp forest, Mal 3 (reg. 25448, leg. PG, E-43).

Paratypes: SINGAPORE, 1 ♂, Nee Soon, 3 December 2005, swamp forest, Mal 2 (reg. 25437, leg. PG).

Derivatio nominis. This species is dedicated to Prof. Dr. Peter Ng, director of the Raffles Museum for Biodiversity Research in Singapore and a driving force in biodiversity studies.

Distribution. Singapore. Forest.

Singapore: This is a very rare species, only known from two males.

Remarks. The relationships of *E. ngi* sp. nov. are unclear beyond inclusion within the *E. ephippiata* species group. The main distinguishing features of the new species are indicated in the key. Additionally, *E. ngi* sp. nov. appears to resemble *E. fujianensis* Yang and Yang described from China (Yang and Yang 2003). However, in *E. fujianensis* the scutellum is yellow (vs. brownish in the new species).

***Elaphropeza luteoides* sp. nov.**

(Figs. 166–169)

Diagnosis. Occiput, antenna, thorax and legs entirely yellow, postpedicel very short, about 1.5 times longer than wide; hind tibia with 1 anterodorsal bristle.

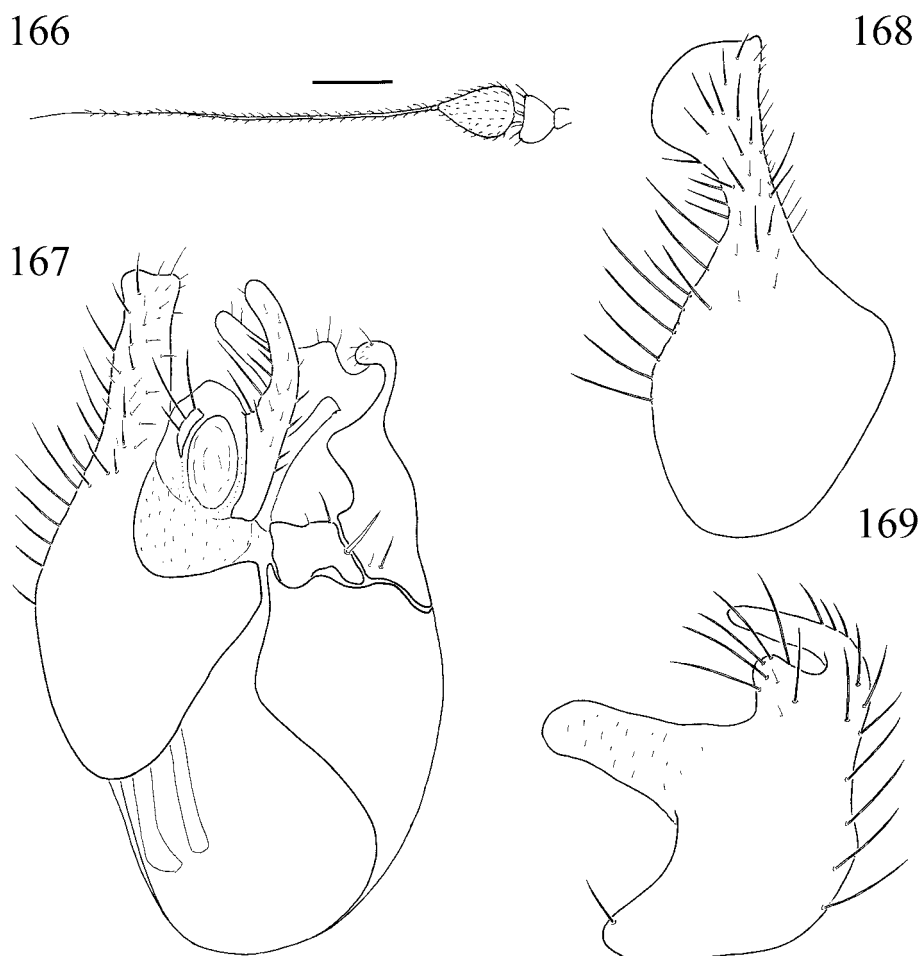
Description. Male. Body length 2.2 mm, wing length 1.7 mm. Occiput wholly yellow including ocellar tubercle and frons, subshining, with yellow to brownish yellow setation. Eye deeply concave on posterior margin. Anterior ocellars long, proclinate; posterior ocellars somewhat shorter, laterocline. Inner verticals long, outer ones shorter. Antenna (Fig. 166) wholly yellow. Pedicel with circlet of subequally short setulae. Postpedicel short, 1.5 times longer than wide. Style normally pubescent, brownish yellow, 5.5 times longer than postpedicel and about 3.0 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax entirely yellow, shining, with yellow to brownish (large bristles) setation. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1–2 very short bristles in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal and dorsocentral bristles multiserial, uniform (except for 2 pairs of long prescutellars), acrostichals lacking on prescutellar depression.

Legs entirely yellow, with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur with rows of spinule-like, short, ventral bristles.

gles (posteroventrals longer and stronger), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 2 rows of hardly prominent ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 1 anterodorsal bristle near middle and 1 subapical anterior short straight bristle; apical projection hardly prominent, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brown. Costal index: 40/21/34/14. Vein Rs somewhat longer than crossvein bm-cu. Vein R2+3 smoothly arched. Veins R4+5 and M1+2 parallel near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter with dark knob.



FIGURES 166–169. *Elaphropeza luteoides* sp. nov. **166.** antenna. **167.** epandrium with cerci. **168.** right epandrial lamella. **169.** left surstylus.

Abdomen. Tergite 1 pale yellow. Tergites 2 and 3 brownish yellow, elongate triangular viewed dorsolaterally, broadly separated along midline; with unmodified setation. Tergite 4 broadest, dark brown, with squamiform setae. Tergite 5 very narrow, dark brown, with squamiform setae. Tergites 6 and 7 yellowish, the former with very short, the latter with rather long posteromarginal bristles.

Terminalia (Figs. 167–169) yellow, large. Cerci broadly separated, covered with bristles of different lengths, lacking spines. Epandrium completely divided. Right epandrial lamella subtriangular, greatly produced and broadened at apex, covered with numerous bristles of different lengths. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, lacking bristles apically. Left surstylus (Fig. 169) with

upper lobe quite large, with three digitiform processes on upper margin, bearing numerous long bristles. Hypandrium with 1 long and 1 short bristles. Phallus very short. Two rod-shaped apodemes.

Female. Unknown.

Material examined: Holotype male labelled: SINGAPORE, Nee Soon, 9 November 2005, swamp forest, Mal 1 (reg. 25414, leg. PG, E-45).

Derivatio nominis. The species name *luteoides* alludes to its resemblance to *E. lutea*.

Distribution. Singapore. Forest.

Remarks. In having subequally long anterior and posterior ocellar bristles, *E. luteoides* sp. nov. appears closely related to *E. spicata* sp. nov. and *E. lutea*.

***Elaphropeza bulohensis* sp. nov.**

(Figs. 170–174)

Diagnosis. Occiput black, antenna entirely brownish yellow with postpedicel about 3.5 times as long as wide; scutum in anterior corner and above notopleural space with indistinct, elongate, brownish patch; legs pale brownish, hind tibia with 1 anterodorsal bristle.

Description. Male. Body length 2.3 mm, wing length 1.9 mm. Occiput black, subshining, with yellow to brownish yellow setation. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Inner verticals moderately long, outer ones hardly prominent. Antenna (Fig. 170) wholly brownish yellow. Pedicel with circlet of subequally short setulae. Postpedicel nearly 3.5 times longer than wide. Style normally pubescent, brown, about 2.0 times as long as postpedicel and somewhat (1.3 times) longer than scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax yellow with brownish markings, shining, with yellow to brownish yellow bristles; scutum in anterior corner and above notopleural space with indistinct, elongate, brownish patch, sternopleuron and hypopleuron with brownish patch in lower part. Prothoracic episterna lacking long upturned bristle just above fore coxa and short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal bristles prominent in anterior part of scutum only, 2-serial, few in number; dorsocentral bristles 1-serial, extending to base of scutellum (prescutellars long).

Legs long, slender, with fore femur yellowish with brownish tinge, otherwise rather pale brownish (tibiae and tarsi somewhat darker); clothed with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (posteroventrals somewhat longer), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with ventral spinules along whole length (1 subapical spinule stronger), lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 1 anterodorsal bristle about middle; apical projection prominent, small, rounded, clothed in dense brownish setulae. Hind tarsomere 1 somewhat thickened.

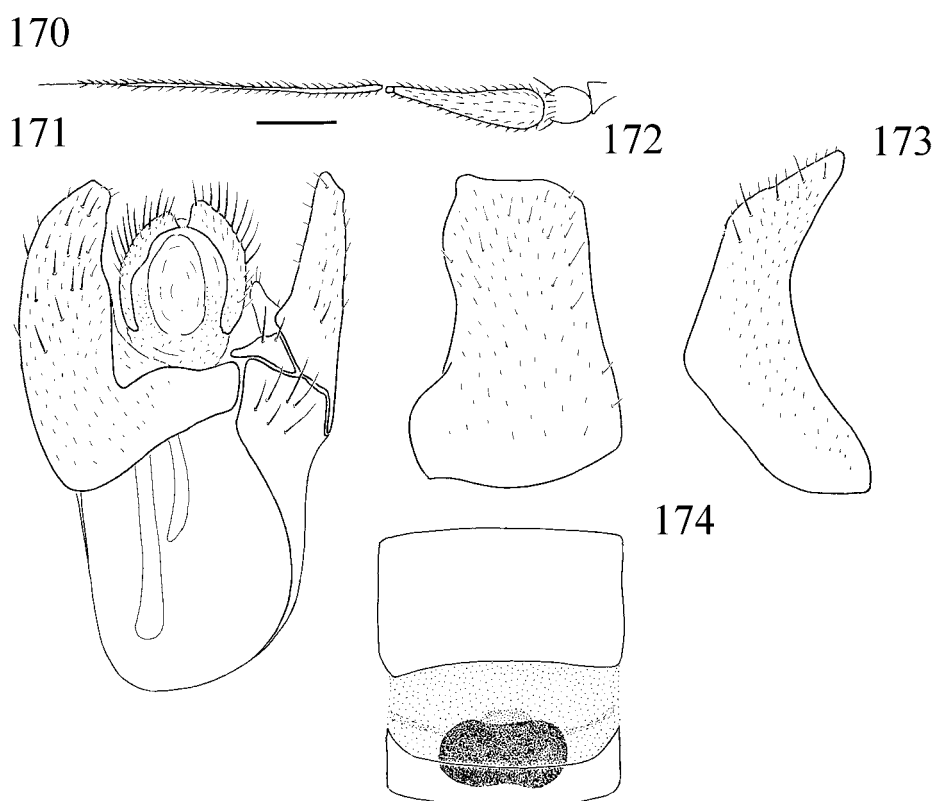
Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, yellow. Costal index: 48/20/47/12. Vein Rs somewhat longer than crossvein bm-cu. Vein R2+3 smoothly arched. Veins R4+5 and M1+2 parallel near wing apex, vein R4+5 somewhat bowed. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu somewhat oblique. Crossvein r-m near middle of cell bm. Halter yellow.

Abdomen. Tergite 1 entirely pale yellow. Tergites 2 and 3 with rather small brownish yellow lateral spaces, otherwise pale yellow; with scattered unmodified setation. Tergite 4 broadest, dark brown, with squa-

miform setae. Tergite 5 narrow, concolorous with tergite 4, bearing squamiform setae. Tergites 6 and 7 brownish yellow, of subequal width, both with minute posteromarginal bristles. Sternites 1–3 yellowish, sternites 4–7 brownish yellow, subrectangular, sternite 4 with 2 tubercles. Gland-like structures between tergites 4 and 5 (Fig. 174).

Terminalia (Figs. 171–173) small, brownish yellow. Cerci separated, of subequal size and shape, left cercus slightly larger, covered with numerous bristles of different lengths, lacking spines. Epandrium completely divided. Right epandrial lamella falciform, covered with numerous bristles of different lengths. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with several long bristles apically. Left surstylus with upper lobe moderately large, subrectangular, with numerous short bristles. Hypandrium with 4 short bristles. Phallus short. Two rod-shaped apodemes.

Female. Unknown.



FIGURES 170–174. *Elaphropeza bulohensis* sp. nov. **170.** antenna. **171.** epandrium with cerci. **172.** right epandrial lamella. **173.** left surstylus. **174.** abdominal tergites 4 and 5.

Material examined: Holotype male labelled: SINGAPORE, Sungei Buloh, 9 December 2002, mangrove, sweeping (reg. 22057, leg. PG, E-48).

Derivatio nominis. The name *bulohensis* refers to the type locality being the wetland reserve of Sungei Buloh.

Distribution. Singapore. Mangrove.

Remarks. In having a modified ampoule-like abdominal gland, *E. bulohensis* sp. nov. is likely closely related to *E. equalis* sp. nov.

***Elaphropeza ubinensis* sp. nov.**

(Figs. 175–178)

Diagnosis. Occiput black; postpedicel brownish, long, nearly 4.5 times longer than wide; thorax almost wholly yellow only metanotum brownish; fore tibia and tarsus brownish yellow, hind tibia with 1 anterodorsal bristle.

Description. Male. Body length 2.4 mm, wing length 1.9 mm. Occiput black, subshining, with yellow to brownish yellow setation. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones somewhat shorter. Antenna (Fig. 175) with scape and pedicel yellow, postpedicel brownish. Pedicel with circlet of subequally short setulae. Postpedicel 4.5 times longer than wide. Style normally pubescent, brown, somewhat (1.2 times) shorter than postpedicel and 1.5 times shorter than scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax almost entirely yellow, shining, with yellow to brownish yellow bristles; metanotum brownish, hypopleuron and metapleuron with some brownish tinge. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 very short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorsocentrals multiserial, uniform (except for 1 pair of long prescutellars), extending to base of scutellum.

Legs largely yellow, with yellow to brownish yellow setation; fore tibia and tarsus brownish yellow, mid and hind legs with tarsomeres 4–5 brownish yellow. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur slender, with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules, lacking prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 1 anterodorsal bristle; apical projection prominent, small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

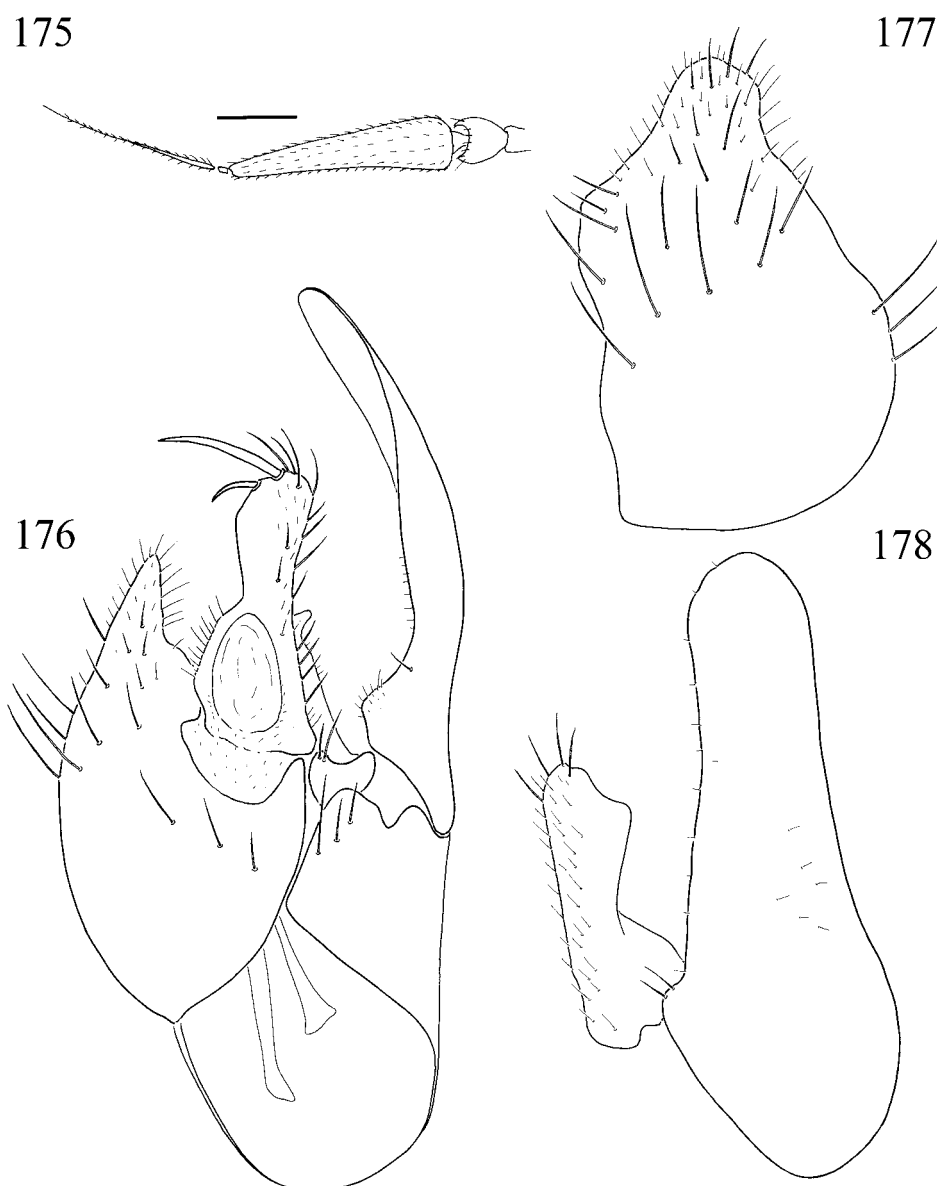
Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brownish. Costal index: 42/27/35/16. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 divergent near wing apex, the former slightly bowed, the latter straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu transverse. Crossvein r-m somewhat before middle of cell bm. Halter dark.

Abdomen. Tergite 1 almost entirely pale yellow, with very narrow brownish space laterally. Tergites 2 and 3 subtriangular viewed laterally, broadly concave anteriorly, divided along midline; with unmodified setation. Tergite 4 broadest, with squamiform setae. Tergite 5 very narrow, with few squamiform setae. Tergites 6 and 7 unmodified, both with moderately long posteromarginal bristles. Segment 8 and sternites unmodified. Gland-like structure between tergites 4 and 5.

Terminalia (Figs. 176–178) rather large, elongate, brown. Cerci fused forming single, quite long, digitiform lobe, covered with bristles of different lengths and bearing 2 long spine-like bristles at apex. Epandrium completely divided. Right epandrial lamella subrectangular, somewhat produced on upper margin, covered with numerous bristles of different lengths. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with 3 long bristles apically. Left surstylus (Fig. 178) with upper lobe long, elongate oval, bearing scattered minute setulae. Hypandrium with 1 long and 1 very short bristles. Phallus very short. Two rod-shaped apodemes.

Female. Unknown.

Material examined: Holotype male labelled: SINGAPORE, Pulau Ubin, Chek Jawa, 15 December 2005, mangrove, sweeping (reg. 25452, leg. PG, E-56).



FIGURES 175–178. *Elaphropeza ubinensis* sp. nov. **175.** antenna. **176.** epandrium with cerci. **177.** right epandrial lamella. **178.** left surstylus and cercus.

Derivatio nominis. The species is named after the type locality Pulau Ubin, a small island just north east of the main island of Singapore.

Distribution. Singapore. Mangrove.

Singapore. This species is known from a single male.

Remarks. The relationships of *E. ubinensis* sp. nov. are unclear beyond inclusion within the monophyletic lineage of the *E. ephippiata* species group sharing completely fused cerci (see “Discussion” for details).

***Elaphropeza modesta* sp. nov.**

(Fig. 179)

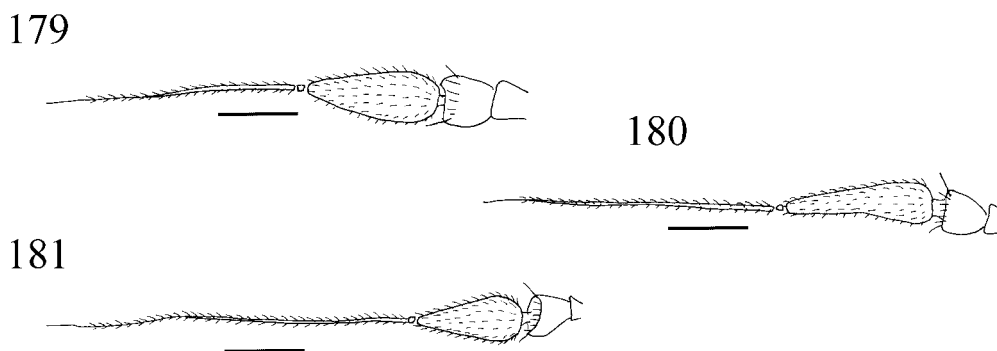
Diagnosis. Occiput black, antenna entirely yellow with postpedicel about 2.5 times longer than wide; thorax with scutum and metanotum dark brown; legs with tarsomere 5 black, hind tibia with 1 anterodorsal bristle.

Description. Female. Body length 3.1–3.0 mm, wing length 2.1–2.2 mm. Occiput black. Eye slightly concave on posterior margin. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones shorter. Antenna (Fig. 179) wholly yellow. Pedicel with circlet of subequally short setulae. Postpedicel about 2.5 times longer than wide. Style normally pubescent, brown, about 2.0 times longer than postpedicel and nearly (1.2 times) as long as scape, pedicel and postpedicel combined. Palpus yellow, small, rounded.

Thorax almost entirely yellow, only scutellum and metanotum dark brown. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 very short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with usual set of bristles. Acrostichals and dorsocentrals multiserial, extending to base of scutellum.

Legs almost entirely yellow, only tarsomere 5 of all legs black. Fore and mid femur with unmodified armature. Fore tibia lacking prominent bristles. Mid tibia lacking ventral spinules and prominent bristles (except subapicals). Hind femur with ordinary setation. Hind tibia bearing 1 anterodorsal bristle, with hardly prominent rounded apical projection. Tarsi of all legs unmodified.

Wing uniformly finely infuscate. Costal index: 54/37/36/17. Veins R4+5 and M1+2 somewhat divergent near wing apex, both straight. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter pale yellow.



FIGURES 179–181. Female antennae. **179.** *Elaphropeza modesta* sp. nov. **180.** *E. feminata* sp. nov. **181.** *E. singulata* sp. nov.

Abdomen. Tergite 1 entirely pale yellow. Tergites 2 and 3 brownish, of subequal width viewed dorsally, deeply concave anteriorly and divided along midline; with unmodified setation. Tergite 4 broadest, dark brown, with numerous squamiform setae. Tergite 5 very narrow, concolorous with tergite 4, bearing squamiform setae. Tergites 6 and 7 brownish yellow, with short posteromarginal bristles. Segment 8 narrow, elongate, brownish yellow, with sclerites separated; sternite 8 somewhat folded apically. Sternite 10 and cercus brownish.

Male. Unknown.

Material examined: Holotype female labelled: SINGAPORE, Chek Jawa, 11 December 2003, mangrove, Mal 1 (reg. 23119, leg. PG, E-35).

Paratypes: SINGAPORE, 1 ♀, Chek Jawa, 2 December 2003, mangrove, Mal 1 (reg. 23097, leg. PG); 3 ♀♀, Chek Jawa, 26 March 2005, mangrove, sweeping (reg. 25031, leg. PG).

Derivatio nominis. The name *modesta* (from Latin *modestus*: modest) refers to the fact that no males are known.

Distribution. Singapore, mangrove.

Remarks. The relationships of *E. modesta* sp. nov. are unclear beyond inclusion within the *E. ephippiata* species group.

***Elaphropeza feminata* sp. nov.**

(Fig. 180)

Diagnosis. Occiput black; postpedicel brownish in apical part and yellow basally, nearly 3.5 times longer than wide; thorax with scutellum and metanotum black; legs with tarsomere 5 black, hind tibia with 1 anterodorsal bristle.

Description. Female. Body length 2.4–2.6 mm, wing length 2.0–2.1 mm. Occiput black. Anterior ocellars long, proclinate and cruciate; posterior ocellars minute. Inner verticals long, outer ones somewhat shorter. Antenna (Fig. 180) with scape and pedicel yellow, postpedicel brownish in apical part and yellowish basally (yellow space varying, but no more than half of postpedicel). Pedicel with circlet of subequally short setulae. Postpedicel nearly 3.5 times longer than wide. Style normally pubescent, brown, about 1.5 times longer than postpedicel and nearly as long as scape, pedicel and postpedicel combined. Palpus yellow, small, rounded.

Thorax almost entirely yellow, only scutellum and metanotum black. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 very short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with usual set of bristles. Acrostichals 2-serial, lacking on prescutellar depression; dorso-centrals 2-serial in anterior part of scutum, becoming 1-serial toward scutellum.

Legs almost entirely yellow, only tarsomere 5 of all legs black. Fore and mid femur with unmodified armature. Fore tibia lacking prominent bristles. Mid tibia lacking ventral spinules and prominent bristles (except subapicals). Hind femur with ordinary setation. Hind tibia bearing 1 anterodorsal bristle, with hardly prominent rounded apical projection. Tarsi of all legs unmodified.

Wing uniformly finely infusate. Costal index: 47/31/34/16. Veins R4+5 and M1+2 somewhat divergent near wing apex, both straight. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter pale yellow.

Abdomen. Tergite 1 entirely pale yellow. Tergites 2 and 3 brownish, of subequal width viewed dorsally, deeply concave anteriorly and divided along midline; with unmodified setation. Tergite 4 broadest, dark brown, with slightly flattened setae. Tergite 5 very narrow, concolorous with tergite 4, bearing squamiform setae. Tergites 6 and 7 yellow (sometimes with brownish tinge). Segment 8 modified, brown, with sclerites narrowly fused antero-laterally; sternite 8 somewhat folded apically. Sternite 10 elongate. Cercus narrow, brownish.

Male. Unknown.

Material examined: Holotype female labelled: SINGAPORE, Chek Jawa, 26 October 2005, mangrove, Mal 2 (reg. 25399, leg. PG, E-41).

Paratypes: SINGAPORE, 1 ♀, Chek Jawa, 11 October 2005, mangrove, Mal (reg. 25380, leg. PG); 3 ♀♀, Chek Jawa, 11 October 2005, mangrove, Mal (reg. 25380, leg. PG); 1 ♀, Chek Jawa, 22 December 2005, mangrove, Mal 2 (reg. 25456, leg. PG); 3 ♀♀, Chek Jawa, 22 December 2005, mangrove, Mal 1 (reg. 25455, leg. PG); 3 ♀♀, Chek Jawa, 30 December 2005, mangrove, sweeping (reg. 25475, leg. PG); 2 ♀♀, Sungei Buloh, 14 October 2005, mangrove, Mal 2 (reg. 25394, leg. PG).

Derivatio nominis. The name *feminata* refers to the fact that the species is represented by females only.

Distribution. Singapore. Mangrove.

Remarks. The relationships of *E. feminata* sp. nov. are unclear beyond inclusion within the *E. ephippiata* species group.

***Elaphropeza singulata* sp. nov.**

(Fig. 181)

Diagnosis. Occiput black; antenna entirely yellow, with postpedicel about 2.5 times longer than wide; scutellum, metanotum, hypopleuron and partly metapleuron brown; legs with tarsomere 5 brown, hind tibia with 1 anterodorsal bristle.

Description. Female. Body length 2.0–2.1 mm, wing length 1.7–1.8 mm. Occiput black. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones shorter. Antenna (Fig. 181) wholly yellow. Pedicel with circlet of subequally short setulae. Postpedicel about 2.5 times longer than wide. Style normally pubescent, brownish yellow, about 3.5 times longer than postpedicel and nearly 2.0 times as long as scape, pedicel and postpedicel combined. Palpus yellow, small, rounded.

Thorax yellow, with markings; scutellum, metanotum (except lateral corners), hypopleuron (except lower margin) and metapleuron in lower half brown. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 short bristle in upper part. Postpronotal bristle minute. Mesonotum with usual set of bristles. Acrostichal bristles 2-serial, lacking on prescutellar depression, dorsocentral bristles 1-serial, extending to base of scutellum, prescutellars long.

Legs almost wholly yellow, tarsomere 5 of all legs brown. Fore and mid femur with unmodified armature. Fore tibia lacking prominent bristles. Mid tibia lacking ventral spinules and prominent bristles (except subapicals). Hind femur with ordinary setation. Hind tibia with hardly prominent rounded apical projection, bearing 1 anterodorsal bristle. Tarsi of all legs unmodified.

Wing uniformly finely brownish infusate. Costal index: 40/24/38/16. Veins R4+5 and M1+2 slightly divergent near wing apex, both straight. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter with dark knob.

Abdomen. Tergite 1 wholly yellow. Tergites 2 and 3 subequal, brownish, about half of normal tergal width, broadly concave on anterior margin and narrowly separated along midline; with unmodified setation. Tergite 4 broadest, dark brown, with squamiform setae. Tergite 5 dark brown, nearly as broad as tergites 2 and 3 viewed laterally, divided along midline, with squamiform setae. Tergites 6 and 7 unmodified, brownish yellow; tergite 7 with rather long posteromarginal bristles. Segment 8 brownish yellow, elongate, with sclerites separated; sternite 8 folded apically. Cercus brownish yellow.

Male. Unknown.

Material examined: Holotype female labelled: SINGAPORE, Sime forest, 22 July 2005, forest, Mal 1 (reg. 25270, leg. PG, E-47).

Paratypes: SINGAPORE, 1 ♀, Bukit Timah, 19 August 2005, rain forest, Mal (reg. 25301, leg. PG); 1 ♀, Nee Soon, 16 March 2005, swamp forest, Mal 3 (reg. 25017, leg. PG); 1 ♀, Nee Soon, 8 July 2005, swamp forest, Mal 2 (reg. 25206, leg. PG); 1 ♀, Nee Soon, 18 November 2005, swamp forest, Mal 2 (reg. 25423, leg. PG).

Derivatio nominis. The name *singulata* refers to the fact that only females were found.

Distribution. Singapore, forest.

Remarks. The relationships of *E. singulata* sp. nov. are unclear beyond inclusion within the *E. ephippiata* species group.

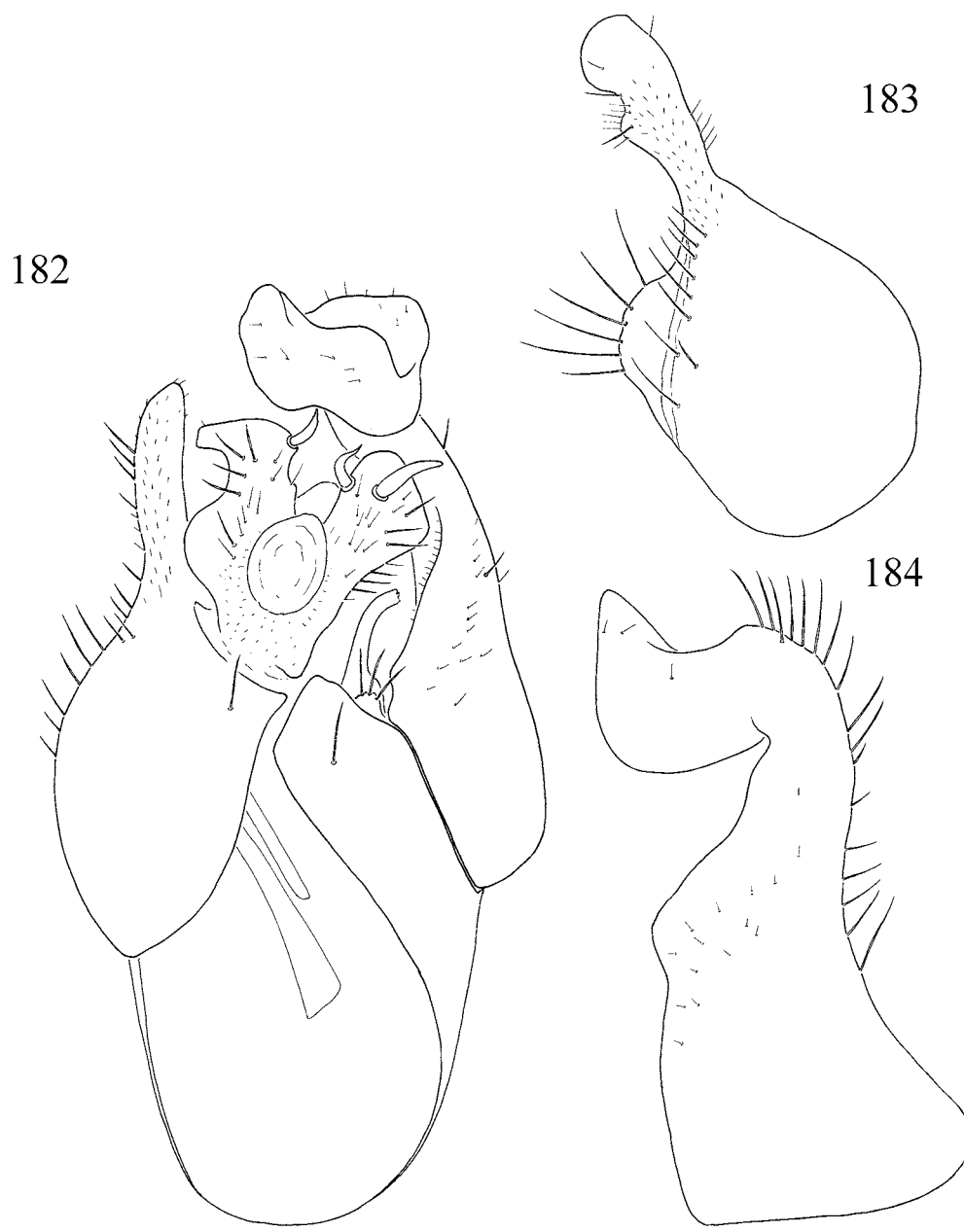
***Elaphropeza lutea* (de Meijere, 1911)**

(Figs. 182–184)

Drapetis lutea de Meijere, 1911: 332 (male and female).

Re-description. Male. Body length 1.7–2.0 mm, wing length 1.7–1.8 mm. Head with occiput entirely yellow, subshining. Eye rather deeply concave on posterior margin. Anterior and posterior ocellar bristles subequally long, the former proclinate, the latter lateroclinate. Inner verticals long, outer ones somewhat shorter. Frons rather long, brown. Antenna with scape and pedicel yellow, postpedicel and style brown. Pedicel with circlet of subequally short setulae. Postpedicel short, 1.5–1.7 times longer than wide. Style normally pubescent, about 5.0 times longer than postpedicel and nearly 2.5–2.6 times as long as scape, pedicel and postpedicel combined. Palpus small, pale yellow.

Thorax wholly yellow, with yellow bristles. Prothoracic episterna lacking long upturned bristle just above fore coxa, with short bristle in upper part. Postpronotal bristle hardly prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal bristles 2-serial, quite long, lacking on prescutellar depression. Dorsocentral bristles multiseriate in anterior part of scutum, becoming 1-serial and extending to base of scutellum, prescutellars longest.



FIGURES 182–184. *Elaphropeza lutea* (de Meijere) **182.** epandrium with cerci. **183.** right epandrial lamella. **184.** left surstylus.

Legs long, slender, almost entirely yellow, tarsomere 5 of all legs black. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles, 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with hardly prominent ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia with 1 anterodorsal bristle in middle

part; apical projection hardly prominent, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, hyaline, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, brownish. Costal index: 52/27/43/14. Vein Rs longer than crossvein bm-cu. Vein R2+3 smoothly arched. Veins R4+5 and M1+2 parallel near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter yellow.

Abdomen with tergite 1 pale yellow. Tergites 2 and 3 with narrow brownish yellow space; with unmodified setation. Tergite 4 broadest, brownish, subshining. Tergite 5 very narrow, brownish. Tergites 4 and 5 with squamiform setae. Tergites 6 and 7 yellowish, tergite 7 with moderately long posteromarginal bristles.

Terminalia (Figs. 182–184) large, yellow. Cerci separated, short, as in Fig. 182, left cercus with 2 spines, right cercus with 1 spine. Epandrium completely divided. Right epandrial lamella (Fig. 183) subtriangular, with greatly produced apical part, covered with numerous bristles of different lengths, lacking spine-like bristles. Right surstylus not prominent. Left epandrial lamella small, fused to hypandrium, with 1 long bristle apically. Left surstylus (Fig. 184) with upper lobe large, subtriangular, curved in apical part, with numerous long bristles along upper margin. Hypandrium with 2 moderately long strong bristles. Phallus very short. Two rod-shaped apodemes.

Female. Abdominal segment 8 and cercus brownish yellow. Otherwise as in male.

Type material examined. Four males and 8 females syntypes pinned on one support] [red label] *Drapetis* / *lutea* / de Meijere, 1911 / ZMAN **type** DIPT.0486.1-9; on lower side of banana leaves [in Dutch]; *Drapetis lutea* [hand-written] / det. de Meijere / Type [hand-written]; Batavia / X.07 / Jacobson (ZMAN).

De Meijere (1911) described this species after numerous specimens that are deposited in ZMAN. Currently, the type material is in good condition. One male was dissected and the genitalia were mounted separately. The male was marked with a label.

Distribution. Indonesia (Java).

Remarks. In having subequally long anterior and posterior ocellar bristles, *E. lutea* is closely related to *E. luteoides* sp. nov. and *E. spicata* sp. nov.

***Elaphropeza strigifera* (de Meijere, 1911)**

Drapetis (*Ctenodrapetis*) *strigifera* de Meijere, 1911: 333 (male).

Re-description. Male. Body length 2.0 mm, wing length 2.3 (2.0 in the original description) mm. Head with occiput entirely black, shining, bearing yellow setation. Eye slightly concave on posterior margin. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Two pairs of inclinate verticals (inner ones longer). Antenna with scape and pedicel yellow, postpedicel (except base) and style black. Pedicel with circlet of subequally short setulae. Postpedicel very short, 1.5 times longer than wide. Style rather densely pubescent, 4.7 times longer than postpedicel and 2.3 times as long as scape, pedicel and postpedicel combined. Proboscis brownish. Palpus small, rounded, pale yellow, with scattered yellow setulae.

Thorax black (postalar callus somewhat paler), with yellow setation; scutellum and metanotum tomentose, otherwise thorax shining. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 postsutural supraalar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal bristles 2-serial, prominent in anterior part of scutum only, 4 pairs, rather short. Dorsocentral bristles 1-serial, prominent in posterior part of scutum only, 4 pairs, prescutellars longer.

Legs long, slender, almost entirely yellow; fore and mid tibiae rather brownish yellow, tarsomeres 5 of all legs black. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles, 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of black ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia with 1 anterodorsal bristle; apical projection hardly prominent, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing narrow, with axillary lobe greatly reduced, hyaline along anterior and posterior margins, otherwise brownish, including wing-apex, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, yellow. Costal index: 43/47/49/16. Vein Rs subequal to crossvein bm-cu. Vein R2+3 smoothly arched. Veins R4+5 and M1+2 divergent near wing apex, both straight. Vein CuA1 not quite reaching wing margin. A1 absent. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter yellow.

Abdomen shining, with brownish yellow setation. Tergites 1–3 and 6–7 dark brown, tergite 4 black, tergite 5 invisible (hidden by tergite 4). Tergites 3 and 4 with unmodified setation.

Terminalia dark brown, elongate. Not examined.

Female. Unknown.

Type material examined. Holotype male labelled: [red label] *Drapetis* (*Ctenodrapetis*) / *strigifera* / de Meijere, 1911 / ZMAN **type** DIPT.0492.1; *Drapetis strigifera* [hand-written] / det. de Meijere / Type [hand-written]; E. Jacobson / Batavia / April 1908 (ZMAN).

De Meijere (1911) described this species from a single male that is deposited in ZMAN. Currently, the holotype is in good condition.

Distribution. Indonesia (Java).

Remarks. The relationships of *E. strigifera* are unclear beyond inclusion within the *E. ephippiata* species group. However, in having a cuneiform wing with a reduced anal lobe this species is probably closely related to *E. aristalis* (Melander) and *E. cuneipennis* (Melander) (both known from the Philippines only).

***Elaphropeza aristalis* (Melander, 1918)**

(Figs. 185–187)

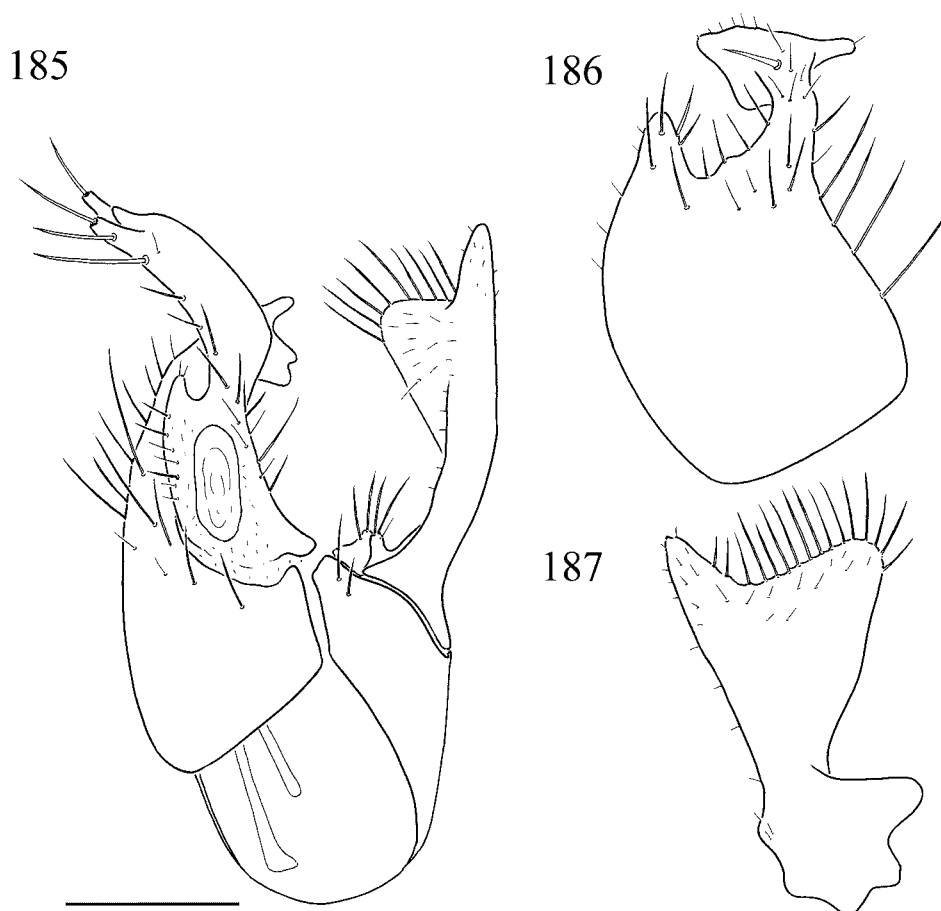
Ctenodrapetis aristalis Melander, 1918: 205 (male and female).

Re-description. Male. Body length 1.4–1.7 mm, wing length 1.8–1.9 mm. Occiput black, largely shining including frons, finely pollinose near neck, with yellow to brownish yellow setation. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones hardly prominent. Antenna with scape and pedicel yellow, postpedicel brown. Pedicel with circlet of subequally short setulae. Postpedicel 2.0 times longer than wide. Style thick, densely long pubescent, brown, about 4.0 times longer than postpedicel and nearly 2.0 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus pale, small, rounded.

Thorax almost entirely yellow, shining, with yellow to brownish yellow bristles; scutellum, metanotum and metapleuron brown. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 2 short bristles in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal bristles 2-serial, present only in anterior part of scutum; dorsocentrals 1-serial, extending to base of scutellum, 1 pair of prescutellars long.

Legs slender, largely yellow, with yellow to brownish yellow setation; fore tibia and tarsus brownish yellow. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posterovent-

tral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules in apical part (1 subapical somewhat longer), lacking prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 1 anterodorsal bristle in middle; apical projection prominent, small, angular, clothed in dense brownish setulae. Tarsi of all legs unmodified.



FIGURES 185–187. *Elaphropeza aristalis* (Melander), **185.** epandrium with cerci. **186.** right epandrial lamella. **187.** left surstylus.

Wing narrow, with axillary lobe greatly reduced, almost hyaline, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brownish yellow. Costal index: 35/30/42/15. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 divergent near wing apex, the former slightly bowed, the latter straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter pale.

Abdomen. Sclerotised spaces of tergites 1–5 brownish, tergites 6–7 somewhat paler; tergite 4 broadest, shining, with unmodified setae; tergite 5 very narrow, with few squamiform setae.

Terminalia (Figs. 185–187) elongate, brownish yellow. Cerci almost completely fused; right cercus small with several moderately long bristles; left cercus long, subrectangular, curved, divided into three small lobes at apex, bearing 4 long strong bristles apically and some number of shorter bristles, lacking spines. Epandrium completely divided. Right epandrial lamella (Fig. 186) subrectangular, deeply concave at apex forming two lobes, lower lobe of complicated shape, somewhat produced inside of hypopygium, with 1 strong spine-like

bristle, otherwise right epandrial lamella covered with numerous bristles of different lengths. Right surstylus not prominent. Left epandrial lamella small, fused to hypandrium, with 2 long bristles apically. Left surstylus (Fig. 187) with upper lobe large, bifurcate, with numerous long bristles along upper margin. Hypandrium with 1 long and 1 short bristles. Phallus very short. Two rod-shaped apodemes.

Female. Segment 8 brownish, cercus brownish yellow. Otherwise as in male.

Type material examined. Holotype male labelled: Manila / PH [Philippines]; RobtBrown [Robert Brown] / collector; TYPE [hand-written on white paper]; *Drapetis / aristalis* / Mel. (USNM).

Paratypes: 9 ♂♂, 6 ♀♀, Manila / PH [Philippines]; RobtBrown [Robert Brown] / collector; PARATYPE [hand-written on white paper]; *Ctenodrapetis / aristalis* / Mel. [red label]. 1 ♂, Manila / PH [Philippines]; RobtBrown [Robert Brown] / collector (USNM).

Melander (1918) described this species from numerous specimens a part of which, including the holotype, has been noted above. The type is in good condition.

Distribution. Philippines (Luzon).

Remarks. The relationships of *E. aristalis* are not quite clear. However, in having a cuneiform wing with a reduced anal lobe this species is probably closely related to *E. strigifera* and *E. cuneipennis*.

***Elaphropeza uniseta* Melander, 1918**

Elaphropeza uniseta Melander, 1918: 213 (female).

Re-description. Female. Body length 2.1 mm, wing length 2.6 mm. Occiput black, largely subshining, finely greyish pollinose, with shining spot on each side in upper part, bearing yellow to brown (large bristles) setation. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Inner verticals moderately long, outer ones hardly prominent. Antenna brown (scape and pedicel somewhat paler). Pedicel with circlet of subequally short setulae. Postpedicel 2.5 times longer than wide. Style normally pubescent, brown, about 3.0 times longer than postpedicel and 2.0 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax almost entirely yellow, shining, with yellow to brownish yellow bristles; scutum with rather narrow median vitta disappearing before prescutellar depression and elongate spot above notopleural space, scutellum in middle part and metapleuron in upper part brown. Prothoracic episterna lacking long upturned bristle just above fore coxa and short bristle in upper part. Postpronotal bristle short. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal bristles 2-serial, lacking on prescutellar depression; dorsocentrals 1-serial, extending to base of scutellum (prescutellars long).

Legs rather long and slender, largely yellow, with yellow to brownish yellow setation; fore and mid tibiae and tarsi of all legs with brownish tinge. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 1 anterodorsal bristle; apical projection prominent, small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, hyaline, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, yellow. Costal index: 76/26 (remaining part of wing folded). Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 parallel near wing apex, the former slightly bowed, the latter straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu somewhat oblique. Crossvein r-m before middle of cell bm. Halter with blackish knob.

Abdomen. Tergite 1 entirely pale yellow. Tergites 2 and 3 with brownish subtriangular spaces viewed laterally, broadly concave anteriorly; with unmodified setation. Tergite 4 broadest, darker, with squamiform setae. Tergite 5 concolorous with tergite 4, bearing squamiform setae. Tergites 6 and 7 unmodified, brownish. Cercus rather brownish yellow.

Male. Unknown.

Type material examined. Holotype female labelled: Manila / PH [Philippines]; RobtBrown [Robert Brown] / collector; TYPE [hand-written on white paper]; *Drapetis / uniseta* / Mel. (Smithsonian Institute).

Melander (1918) described this species from a single female. Currently, the holotype is in good condition.

Distribution. Philippines (Luzon).

Remarks. The relationships of *E. uniseta* are unclear beyond inclusion within the *E. ephippiata* species group.

***Elaphropeza calcarifera* Bezzi, 1907**

(Figs. 188–190)

Elaphropeza calcarifera Bezzi, 1907: 488 (male).

Elaphropeza calcarifera: Bezzi, 1912: 489 (female).

Re-description. Male. Body length 1.5 mm, wing length 1.8 mm. Occiput black, subshining, finely greyish pollinose, with yellow to brownish yellow setation. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones hardly prominent. Antenna with scape and pedicel yellow, postpedicel brown (sometimes paler at extreme base). Pedicel with circlet of subequally short setulae. Postpedicel 3.0 times longer than wide. Style normally pubescent, brown, almost 1.5 times longer than postpedicel and about as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax almost entirely yellow, shining, with yellow to brownish yellow bristles; scutellum and metanotum brown. Prothoracic episterna lacking long upturned bristle just above fore coxa and short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal and dorsocentral bristles multiseriate, uniform (except for 1 pair of long prescutellars), the former lacking on prescutellar depression, the latter extending to base of scutellum.

Legs almost entirely yellow, with yellow to brownish yellow setation; tarsomere 5 of all legs brown. Coxae and trochanters with unmodified setation. Fore femur somewhat thickened, with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles, 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia lacking ventral spinules and prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 1 anterodorsal bristle in about middle; apical projection prominent, elongate, pointed, clothed in dense brownish setulae. Tarsi of all legs unmodified.

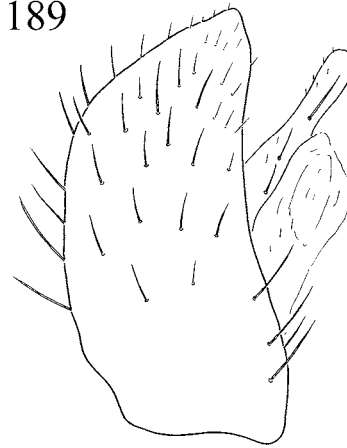
Wing normally developed, hyaline, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, yellow. Costal index: 38/23/28/18. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 divergent near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu transverse. Crossvein r-m somewhat before middle of cell bm. Halter yellow.

Abdomen. Tergites 1–3 and 6–7 yellowish (tergites 6–7 sometimes brownish yellow); with unmodified setation. Tergite 4 broadest, brown, with unmodified yellowish setae. Tergite 5 (usually hidden by tergite 4) very narrow, brown, with few squamiform setae.

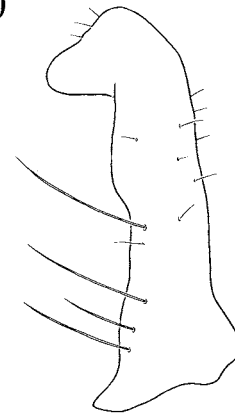
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189



190



FIGURES 188–190. *Elaphropeza calcarifera* (Melander) **188.** epandrium with cerci. **189.** right epandrial lamella and cerci. **190.** left surstylus.

Terminalia (Figs. 188–190) moderately large, brown. Cerci fused forming single, short, digitiform lobe, with long and shorter bristles, lacking spines. Epandrium completely divided. Right epandrial lamella subrectangular, elongate, covered with numerous bristles of different lengths, lacking spines. Right surstylus not prominent. Left epandrial lamella small, fused to hypandrium, with 3 long bristles apically. Left surstylus with upper lobe long, subrectangular, with 4 long bristles, lacking spines. Hypandrium with 1 long and 1 short bristles. Phallus short. Two rod-shaped apodemes.

Female. Segment 8 brown, shining. Cercus brownish. Otherwise as in male.

Material examined. 7 ♂♂, 3 ♀♀, Anping, Formosa, H. Sauter, VI.1912, Bezzi det.; 3 ♂♂, 1 ♀, same labels and data except V.1912; 1 ♂, Tainan, Formosa, H. Sauter, II.09, Bezzi det.; 1 ♂, same labels and data except III.09; 1 ♀, same labels and data except X.08. (DEI).

Neotype designation. Bezzi (1907) described this species from material taken by Hans Sauter in 1907 from Taiwan (Formosa, Takao). Bezzi did not indicate the number of specimens he examined and only in his last paper on Empididae from the Orient did he note that the type material was housed in the Hungarian Museum, Budapest. The type of *E. calcarifera* was destroyed in 1956 (Papp and Földvári, pers. comm.). The material deposited in the DEI does not include any syntypes and actually is a mixture of specimens noted by Bezzi in his later papers (1912, 1914).

The male specimen of this species deposited in DEI (in good condition, labelled: “Anping / Formosa / H. Sauter, VI.1912; Bezzi det.”) is herewith designated as **Neotype** of *Elaphropeza calcarifera* Bezzi, 1907 and it was labelled accordingly by the authors in 2006 to fix and stabilize the current concept of the name.

Distribution. Taiwan.

Remarks. The relationships of *E. calcarifera* are unclear beyond inclusion within the monophyletic lineage of the *E. ephippiata* species group sharing completely fused cerci (see “Discussion” for details).

***Elaphropeza kerteszi* Bezzi, 1912**

Elaphropeza kerteszi Bezzi, 1912: 486 (male and female).

Re-description. Female. Wing length 3.0 mm. Occiput black, subshining, finely greyish pollinose, with yellow to brownish yellow setation. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Inner verticals moderately long, outer ones hardly prominent. Frons shining. Antenna with scape and pedicel yellow, postpedicel brownish (paler at base). Pedicel with circlet of subequally short setulae. Postpedicel (missing on one antenna) 2.5 times longer than wide. Style normally pubescent, brown (partly broken). Gena somewhat produced. Proboscis brownish yellow. Palpus yellow, large, oval.

Thorax almost entirely yellow, shining, with yellow to brownish yellow bristles; scutellum, metanotum and metapleuron in upper part brown. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal bristles 2-serial, lacking on prescutellar depression; dorsocentrals 1-serial, extending to base of scutellum, 1 prescutellar pair long.

Legs (one mid and one hind leg missing) rather slender, entirely yellow. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles, 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules in apical part (1 subapical somewhat longer), lacking prominent bristles (except subapicals). Hind femur with short anteroventral and 3–4 erect dorsal bristles near base. Hind tibia bearing 1 anterodorsal bristle at about middle; apical projection prominent, small, angular, clothed in dense brownish setulae.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, brownish yellow. Costal index: 85/32/57/18. Vein Rs somewhat longer than crossvein bm-cu. Vein R2+3 evenly curved. Veins R4+5 and M1+2 parallel near wing apex, both slightly bowed in apical part. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu slightly oblique. Crossvein r-m before middle of cell bm. Halter pale.

Abdomen. Tergite 4 broadest, brown, with squamiform setae; otherwise abdomen almost wholly dusky yellow, tergites 6 and 7 rather brownish yellow. Segment 8 brown, shining. Cercus brownish yellow.

Male. The above re-description agrees with Bezzi's original description that also included a male of this species. Bezzi indicates (1912: 487) that the male terminalia are black and the body size is 2.5–2.7 mm.

Material examined. Female labelled: Tainan, Formosa, H. Sauter, II.09; Bezzi det.; *Elaphropeza Kertészii* male, female Bezzi (DEI). This specimen lacks a postpedicel with style on one antenna and a mid and hind leg.

Bezzi (1912) described this species from material taken from Chip-Chip. The type of *E. kerteszi* was deposited in the Hungarian Museum (Budapest) and was destroyed in 1956 (Papp & Földvári, pers. comm.). Also, Bezzi (1914) mentioned “ein Pärchen” of *E. kerteszi* housed in the DEI Collection. However, only a female has been obtained for our study from there (see above). So, we believe that the designation of a neo-type would be premature for this species since the male sex of this species may yet be found.

Distribution. Taiwan.

Remarks. The relationships of *E. kerteszi* are unclear beyond inclusion within the *E. ephippiata* species group.

***Elaphropeza melanura* Bezzi, 1912**

Elaphropeza melanura Bezzi, 1912: 489 (male and female).

Elaphropeza menalura Yang and Yang, 1992b: 1094 and 1096, misspelling.

Re-description. Male. Body length 1.5–1.7 mm, wing length 1.6–1.8 mm. Occiput black, subshining, finely greyish pollinose, with yellow to brownish yellow setation. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones hardly prominent. Frons shining. Antenna with scape and pedicel yellow, postpedicel brown. Pedicel with circlet of subequally short setulae. Postpedicel 3.0 times longer than wide. Style normally pubescent, brown, nearly 1.5 times longer than postpedicel and about as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax almost entirely yellow, shining, with yellow to brownish yellow bristles; scutellum and metanotum brown to black. Scutellum truncate. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal and dorsocentral bristles multiserial, uniform (except for 1 pair of long prescutellars), the former not quite reaching base of scutellum.

Legs almost entirely yellow, tarsomere 5 of all legs brown. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur slender, with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with hardly prominent ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 1 anterodorsal bristle in about middle; apical projection prominent, small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brown. Costal index: 36/31/31/14. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 divergent near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 as fold. Crossvein bm-cu transverse. Crossvein r-m before middle of cell bm. Halter yellow.

Abdomen with tergites 1–3 and 6–7 brownish, with unmodified setation; tergite 7 with rather long posteromarginal bristles. Tergite 4 broadest, brown, with squamiform setae.

Terminalia moderately large, brown. Not examined.

Female. Mid tibia with ordinary setulae, lacking ventral spinules. Segment 8 elongate, brown. Cercus brownish yellow. Otherwise as in male.

Material examined. 1 male [head missing], Anping, Formosa, H. Sauter, VI.1912; *Elaphropeza melanura* male and female Bezzi [hand-written]. 1 ♂, 1 ♀, Anping, Formosa, H. Sauter, VI.1912. 3 ♂♂, 4 females [additionally, 1 empty pin and 2 specimens with missing abdomen], Tainan, Formosa, H. Sauter, II.09; Bezzi det. 1 ♀, same labels and data except X.08. 1 ♀, Chipun (Formosa), H. Sauter VII. 1912; Bezzi det. (DEI).

Neotype designation. Bezzi (1912) described this species from a few specimens taken by H. Sauter from Takao and Tainan and later (1914) he noted that this species is quite common on the island. The type of *E. melanura* was deposited in the Hungarian Museum (Budapest) and it was destroyed in 1956 (Papp and Földvári, pers. comm.). The specimens housed in the DEI are not syntypes (Bezzi, 1914).

The male specimen of this species deposited in the DEI (in fairly good condition, pinned on one plate with a female and labelled: “Tainan / Formosa / H. Sauter, II.09; Bezzi det.”) is herewith designated as **Neotype** of *Elaphropeza melanura* Bezzi, 1912 and it was labelled accordingly by the authors in 2006 to fix and stabilize the current concept of the name.

Distribution. Taiwan.

Remarks. The relationships of *E. melanura* are unclear beyond inclusion within the *E. ehippiata* species group.

Elaphropeza sp. 49

(Fig. 191)

Description. Female. Body length 2.3 mm, wing length 1.8 mm. Occiput black. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Inner verticals long, outer ones short. Antenna (Fig. 191) with postpedicel brown, scape and pedicel somewhat paler, rather reddish brown. Pedicel with circlet of subequally short setulae. Postpedicel about 5.0 times longer than wide. Style normally pubescent, about as long as postpedicel and somewhat (1.3 times) shorter than scape, pedicel and postpedicel combined. Palpus yellow, small, rounded.

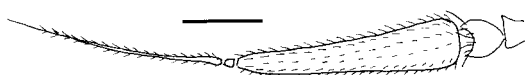


FIGURE 191. Antenna unnamed *Elaphropeza* female sp. 49.

Thorax entirely yellow, some sutures brownish in varying extent. Prothoracic episterna lacking long upturned bristle just above fore coxa, with short bristle in upper part. Postpronotal bristle minute. Mesonotum with usual set of bristles. Acrostichals and dorsocentrals multiserial, extending to base of scutellum.

Legs largely yellow, fore tibia and tarsus, mid and hind tarsomeres 2–5 brownish. Fore and mid femur with unmodified armature. Fore tibia lacking prominent bristles. Mid tibia lacking ventral spinules and prominent bristles (except subapicals). Hind femur with ordinary setation. Hind tibia with hardly prominent rounded apical projection, bearing 1 anterodorsal and 1 long, black, straight subapical bristles. Hind tarsomere 1 somewhat thickened.

Wing uniformly finely brownish infusate. Costal index: 39/32/25/17. Veins R4+5 and M1+2 divergent near wing apex, both straight. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter dark.

Abdomen. Tergite 1 wholly pale yellow. Tergites 2 and 3 brownish, of subequal width, subtriangular viewed laterally, narrowly separated dorsally; with unmodified setation. Tergite 4 broadest, dark brown, with squamiform setae. Tergite 5 very narrow, dark brown, with squamiform setae. Tergites 6 and 7 unmodified. Segment 8 narrow, elongate, brown, with sclerites separated; sternite 8 somewhat folded apically. Cercus brown.

Male. Unknown.

Material examined. SINGAPORE, 1 ♀, Chek Jawa, 2 December 2003, mangrove, Mal 1 (reg. 23097, leg. PG, E-49).

Remarks. Within the key to *Elaphropeza* this unnamed species would run to *E. asiophila* sp. nov. differing by the shorter postpedicel, colour of legs, presence of 1 long, black, straight subapical bristle on the hind tibia and some other characters.

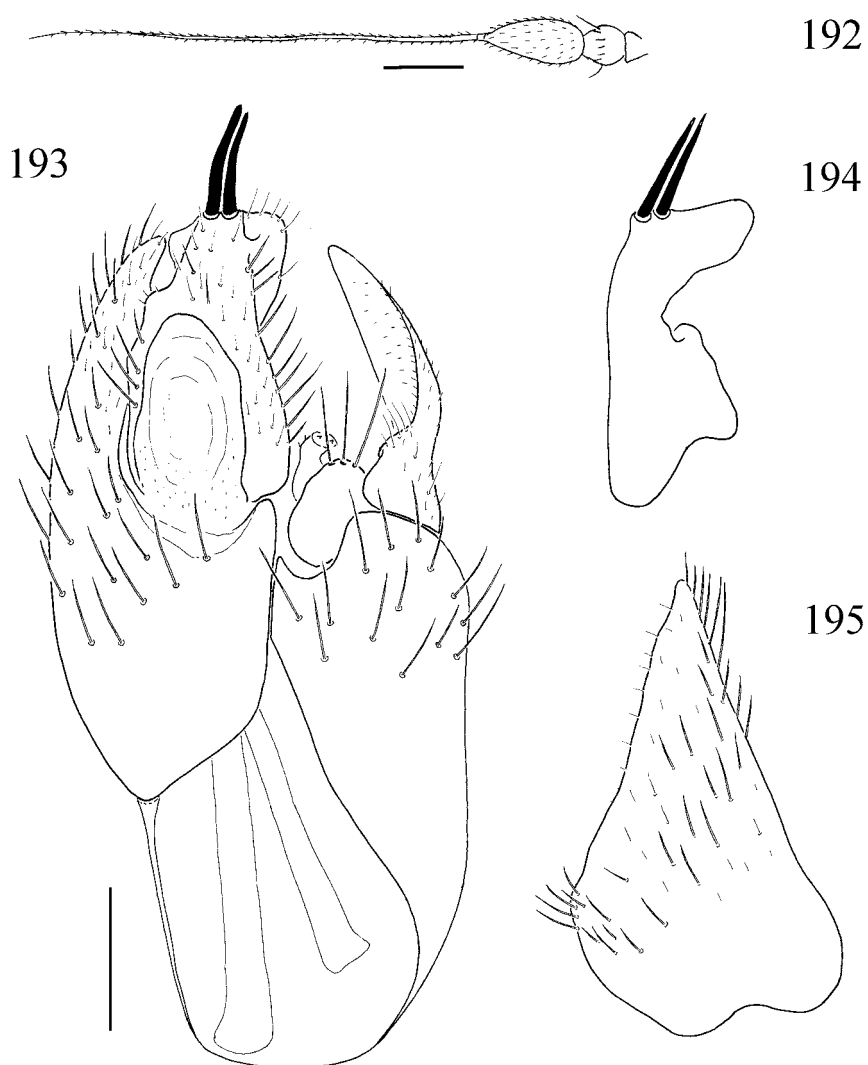
***Elaphropeza bicaudata* (Melander, 1928)**

(Figs. 192–195, 222, 225, 236, 257)

Drapetis (*Elaphropeza*) *bicaudata* Melander, 1928: 313 (male and female).

Diagnosis. Male with two black apical spines on the fused cerci.

Re-description. Male. Body length 2.2–2.4 mm, wing length 1.8–2.0 mm. Occiput entirely black, subshining, with yellow to brownish yellow setation. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones shorter. Frons subshining. Antenna (Fig. 192) with postpedicel brownish yellow, scape and pedicel yellow. Pedicel with circlet of subequally short setulae. Postpedicel short, about 2.0 times longer than wide. Style normally pubescent, brown, 4.5–4.7 times longer than postpedicel and about 3.0 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded; with scattered brownish yellow setulae, bearing 1 longer subapical seta.



FIGURES 192–195. *Elaphropeza bicaudata* (Melander) **192.** antenna. **193.** epandrium with cerci. **194.** left cercus lateral view. **195.** left surstylus.

Thorax entirely yellow, shining, with yellow to brownish yellow bristles. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 2 short upturned bristles in upper part. Postpronotal bristle moderately long. Mesonotum with 1 presutural supra-alar, 3 notopleural, 1 postsutural supra-alar, 1 postalar

and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals 2-serial, lacking on presutural depression; dorsocentrals 1-serial, about 7 in row, extending to base of scutellum, 1 prescutellar pair longest.

Legs wholly yellow, with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore femur rather slender, with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia rather somewhat thickened, lacking prominent bristles (except subapicals). Mid femur slender, with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia lacking ventral spinules and prominent bristles (except subapicals). Hind femur more or less evenly thickened, bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia rather slender, with 2 anterodorsal bristles in middle part; apical projection small, rounded, clothed in dense brownish setulae. Hind tarsomere 1 somewhat thickened.

Wing (Fig. 257) normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, yellow. Costal index: 48/29/42/15. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 somewhat divergent near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu almost transverse. Crossvein r-m before middle of cell bm. Halter darkened.

Abdomen. Tergite 1 entirely pale yellow. Tergites 2 and 3 largely pale yellow, with subtriangular brownish yellow lateral spots narrowly connected along midline; with unmodified setation. Tergite 4 (Fig. 225) broadest, brown, bearing squamiform setae. Tergite 5 very narrow, divided along midline, brownish yellow, with unmodified setation. Tergites 6–8 unmodified, yellowish; tergite 7 with rather long posteromarginal bristles. Sternites largely pale yellow. Gland-like structures present between tergites 4–5.

Terminalia (Fig. 193–195) large, brownish yellow. Cerci fused forming single, rather subtriangular, short lobe covered with numerous bristles of different lengths and bearing 2 black long spines at apex (Fig. 194). Epandrium completely divided. Right epandrial lamella subtriangular, covered with numerous long bristles, lacking spines. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with numerous long bristles apically. Left surstylus (Fig. 195) with upper lobe large, subtriangular, covered with numerous long bristles. Hypandrium (Fig. 245) with 1 long and 1 short bristles. Phallus very short. Two rod-shaped apodemes.

Female. Body length 2.1–2.4 mm, wing length 1.9–2.0 mm. Segment 8 (Figs. 236–237) somewhat elongate, brownish yellow, with sclerites separated; sternite 8 folded apically. Sternite 10 covered with numerous spinules ventrally. Cercus broad oval, yellow. Otherwise as in male.

Type material examined. Holotype male labelled: Mt. Makiling / Luzon, Baker; ALMelander / Collection / 1961; TYPE / *Elaphropeza / bicaudata* / Mel. [dark red label]; HOLOTYPE / *Drapetis / bicaudata* / Melander, 1927 [red label].

Paratypes: Female, Mt. Makiling / Luzon, Baker; PARATYPE / *Elaphropeza / bicaudata* / Mel. [dark red label]; CFBaker / collection / 1927; *Elaphropeza / bicaudata* / Mel.

Female, Mt. Makiling / Luzon, Baker; PARATYPE / *Elaphropeza / bicaudata* / Mel. [dark red label]; ALMelander / Collection / 1961 (Smithsonian Institute).

Melander (1928) described this species after three specimens noted above. The holotype is in good condition.

Additional material: MALAYSIA, 1 ♂, Pulau Tioman, Juara, 20 July 2005, primary rain forest, sweeping (reg. 25247, leg. PG, E-19).

SINGAPORE, 3 ♀♀, Bukit Timah, 15 July 2005, rain forest, Mal (reg. 25261, leg. PG); 1 ♀, Bukit Timah, 5 August 2005, rain forest, Mal (reg. 25278, leg. PG); 2 ♀♀, Bukit Timah, 19 August 2005, rain forest, Mal (reg. 25301, leg. PG); 1 ♀, Bukit Timah, 26 August 2005, rain forest, Mal (reg. 25313, leg. PG); 3 ♀♀, Bukit Timah, 7 September 2005, rain forest, sweeping (reg. 25330, leg. PG); 2 ♂♂, Bukit Timah, 16 September 2005, rain forest, Mal 2 (reg. 25347, leg. PG); 1 ♀, Bukit Timah, 23 September 2005, rain forest, Mal 2 (reg.

25358, leg. PG); 1 ♀, Bukit Timah, 23 September 2005, rain forest, Mal 3 (reg. 25359, leg. PG); 1 ♂, Bukit Timah, 23 September 2005, rain forest, Mal 2 (reg. 25358, leg. PG); 2 ♀♀, Bukit Timah, 8 February 2006, rain forest, Mal (reg. 26025, leg. PG); 3 ♀♀, Chek Jawa, 11 October 2005, mangrove, Mal (reg. 25380, leg. PG); 5 ♀♀, Nee Soon, 16 March 2005, swamp forest, Mal 1 (reg. 25015, leg. PG); 2 ♀♀, Nee Soon, 16 March 2005, swamp forest, Mal 2 (reg. 25016, leg. PG); 3 ♀♀, Nee Soon, 24 March 2005, swamp forest, Mal 2 (reg. 25029, leg. PG); 4 ♀♀, Nee Soon, 24 March 2005, swamp forest, Mal 1 (reg. 25028, leg. PG); 5 ♀♀, Nee Soon, 24 March 2005, swamp forest, Mal 1 (reg. 25028, leg. PG); 2 ♀♀, Nee Soon, 5 April 2005, swamp forest, Mal 2 (reg. 25047, leg. PG); 1 ♂, 1 ♀, Nee Soon, 5 April 2005, swamp forest, Mal 3 (reg. 25048, leg. PG); 4 ♀♀, Nee Soon, 6 May 2005, swamp forest, Mal 1 (reg. 25138, leg. PG); 5 ♀♀, Nee Soon, 6 May 2005, swamp forest, Mal 2 (reg. 25139, leg. PG); 1 ♀, Nee Soon, 13 May 2005, swamp forest, Mal 3 (reg. 25143, leg. PG); 1 ♀, Nee Soon, 13 May 2005, swamp forest, Mal 1 (reg. 25141, leg. PG); 1 ♀, Nee Soon, 13 May 2005, swamp forest, Mal 2 (reg. 25142, leg. PG); 2 ♀♀, Nee Soon, 20 May 2005, swamp forest, Mal 1 (reg. 25144, leg. PG); 1 ♀, Nee Soon, 27 May 2005, swamp forest, Mal 1 (reg. 25147, leg. PG); 1 ♀, Nee Soon, 27 May 2005, swamp forest, Mal 2 (reg. 25148, leg. PG); 1 ♀, Nee Soon, 3 June 2005, swamp forest, Mal 1 (reg. 25150, leg. PG); 2 ♀♀, Nee Soon, 3 June 2005, swamp forest, Mal 3 (reg. 25152, leg. PG); 6 ♀♀, Nee Soon, 3 June 2005, swamp forest, Mal 2 (reg. 25151, leg. PG); 4 ♀♀, Nee Soon, 10 June 2005, swamp forest, Mal 1 (reg. 25153, leg. PG); 1 ♀, Nee Soon, 10 June 2005, swamp forest, Mal 2 (reg. 25154, leg. PG); 1 ♀, Nee Soon, 17 June 2005, swamp forest, Mal 1 (reg. 25156, leg. PG); 1 ♀, Nee Soon, 8 July 2005, swamp forest, Mal 2 (reg. 25206, leg. PG); 1 ♂, Nee Soon, 8 July 2005, swamp forest, Mal 1 (reg. 25205, leg. PG); 6 ♀♀, Nee Soon, 15 July 2005, swamp forest, Mal 1 (reg. 25258, leg. PG); 1 ♀, Nee Soon, 15 July 2005, swamp forest, Mal 2 (reg. 25259, leg. PG); 2 ♀♀, Nee Soon, 22 July 2005, swamp forest, Mal 3 (reg. 25269, leg. PG); 2 ♀♀, Nee Soon, 5 August 2005, swamp forest, Mal 1 (reg. 25281, leg. PG); 3 ♀♀, Nee Soon, 12 August 2005, swamp forest, Mal 1 (reg. 25290, leg. PG); 2 ♂♂, 3 ♀♀, Nee Soon, 19 August 2005, swamp forest, Mal 3 (reg. 25298, leg. PG); 3 ♀♀, Nee Soon, 19 August 2005, swamp forest, Mal 1 (reg. 25296, leg. PG); 1 ♀, Nee Soon, 26 August 2005, swamp forest, Mal 2 (reg. 25317, leg. PG); 6 ♀♀, Nee Soon, 26 August 2005, swamp forest, Mal 3 (reg. 25318, leg. PG); 2 ♀♀, Nee Soon, 26 August 2005, swamp forest, Mal 1 (reg. 25316, leg. PG); 1 ♀, Nee Soon, 7 September 2005, swamp forest, Mal 2 (reg. 25332, leg. PG); 1 ♂, 5 ♀♀, Nee Soon, 16 September 2005, swamp forest, Mal 2 (reg. 25350, leg. PG); 2 ♀♀, Nee Soon, 16 September 2005, swamp forest, Mal 3 (reg. 25351, leg. PG); 1 ♂, 6 ♀♀, Nee Soon, 16 September 2005, swamp forest, Mal 1 (reg. 25349, leg. PG); 1 ♀, Nee Soon, 23 September 2005, swamp forest, Mal 3 (reg. 25362, leg. PG); 4 ♀♀, Nee Soon, 23 September 2005, swamp forest, Mal 2 (reg. 25361, leg. PG); 5 ♀♀, Nee Soon, 23 September 2005, swamp forest, Mal 1 (reg. 25360, leg. PG); 10 ♀♀, Nee Soon, 14 October 2005, swamp forest, Mal 1 (reg. 25388, leg. PG); 1 ♂, 1 ♀, Nee Soon, 14 October 2005, swamp forest, Mal 5 (reg. 25392, leg. PG); 2 ♀♀, Nee Soon, 14 October 2005, swamp forest, Mal 3 (reg. 25390, leg. PG); 2 ♀♀, Nee Soon, 28 October 2005, swamp forest, Mal 2 (reg. 25404, leg. PG); 3 ♀♀, Nee Soon, 28 October 2005, swamp forest, Mal 1 (reg. 25403, leg. PG); 3 ♀♀, Nee Soon, 28 October 2005, swamp forest, Mal 3 (reg. 25405, leg. PG); 6 ♀♀, Nee Soon, 9 November 2005, swamp forest, Mal 1 (reg. 25414, leg. PG); 3 ♀♀, Nee Soon, 18 November 2005, swamp forest, Mal 2 (reg. 25423, leg. PG); 1 ♂, 3 ♀♀, Nee Soon, 18 November 2005, swamp forest, Mal 1 (reg. 25422, leg. PG); 2 ♀♀, Nee Soon, 3 December 2005, swamp forest, Mal 3 (reg. 25438, leg. PG); 1 ♀, Nee Soon, 3 December 2005, swamp forest, Mal 1 (reg. 25436, leg. PG); 3 ♀♀, Nee Soon, 3 December 2005, swamp forest, Mal 1 (reg. 25436, leg. PG); 1 ♀, Nee Soon, 3 December 2005, swamp forest, Mal 2 (reg. 25437, leg. PG); 5 ♀♀, Nee Soon, 14 December 2005, swamp forest, Mal 1 (reg. 25446, leg. PG); 3 ♀♀, Nee Soon, 14 December 2005, swamp forest, Mal 2 (reg. 25447, leg. PG); 2 ♀♀, Nee Soon, 4 January 2006, swamp forest, Mal 2 (reg. 26005, leg. PG); 1 ♂, 3 ♀♀, Nee Soon, 4 January 2006, swamp forest, Mal 1 (reg. 26004, leg. PG); 1 ♀, Nee Soon, 4 January 2006, swamp forest, Mal 1 (reg. 26004, leg. PG); 3 ♀♀, Nee Soon, 13 January 2006, swamp forest, Mal 3 (reg. 26014, leg. PG); 2 ♀♀, Nee Soon, 25 January 2006, swamp forest, Mal 3 (reg. 26022, leg. PG); 1 ♀, Nee Soon, 25 January 2006, swamp forest, Mal 1 (reg. 26020, leg. PG); 5 ♀♀, Nee Soon, 8 February

2006, swamp forest, Mal 2 (reg. 26029, leg. PG); 3 ♀♀, Nee Soon, 8 February 2006, swamp forest, Mal 1 (reg. 26028, leg. PG); 2 ♀♀, Nee Soon, 8 February 2006, swamp forest, Mal 3 (reg. 26030, leg. PG); 1 ♀, Sime forest, 22 July 2005, forest, Mal 1 (reg. 25270, leg. PG); 1 ♀, Sime forest, 5 August 2005, forest, Mal 1 (reg. 25279, leg. PG); 1 ♀, Sime forest, 19 August 2005, forest, Mal 1 (reg. 25299, leg. PG); 1 ♀, Sime forest, 26 August 2005, forest, Mal 1 (reg. 25314, leg. PG); 2 ♀♀, Sime forest, 16 September 2005, forest, Mal 1 (reg. 25352, leg. PG); 4 ♀♀, Sime forest, 14 October 2005, forest, Mal 1 (reg. 25384, leg. PG); 1 ♀, Sime forest, 28 October 2005, forest, Mal 1 (reg. 25401, leg. PG); 5 ♀♀, Sime forest, 9 November 2005, forest, Mal 2 (reg. 25413, leg. PG); 1 ♀, Sime forest, 4 January 2006, forest, Mal 1 (reg. 26002, leg. PG); 1 ♀, Sime forest, 8 February 2006, forest, Mal 2 (reg. 26027, leg. PG); 4 ♀♀, Sungei Buloh, 18 November 2005, mangrove, Mal 1 (reg. 25425, leg. PG); 2 ♀♀, Sungei Buloh, 4 January 2006, mangrove, Mal 1 (reg. 26007, leg. PG, E-19).

Distribution. Philippines, Malaysia and Singapore. All types of forests, occasionally in mangrove.

Singapore. This is the most common and abundant *Elaphropeza* species. It is found in all types of terrestrial forests and occasionally in mangrove. It is present throughout the year, but the activity is much higher in the second half of the year. The lowest activity is from the end of March until the beginning of July with occasional little peaks that probably reflect the new generations.

Males are rare: the sex ratio is 16.7/1 females to males. This suggests that the species may reproduce asexually. A strategy that might explain its wide distribution in Asia, enabling females to disperse without males and found new populations.

Remarks. The relationships of *E. bicaudata* are unclear beyond inclusion within the monophyletic lineage of the *E. ephippiata* species group sharing completely fused cerci (see “Discussion” for details).

Elaphropeza equalis sp. nov.

(Figs. 196–199)

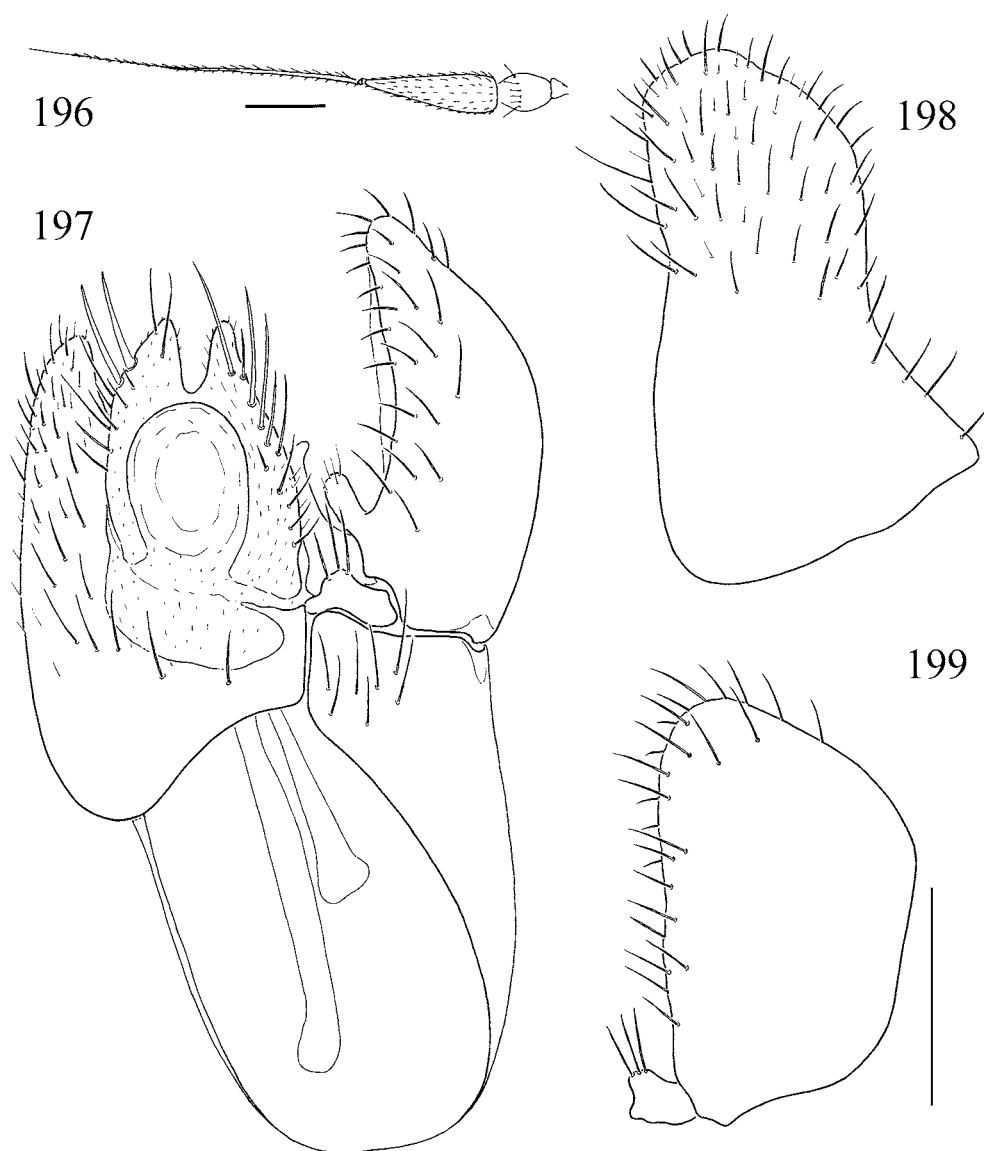
Diagnosis. Occiput black, postpedicel 3.0 times longer than wide, style 2.5 times longer than postpedicel; mesonotum with brown pattern, acrostichals 2-serial, dorsocentrals 1-serial; tibiae and tarsi brownish, hind tibia with 2 anterodorsal bristles; abdominal tergites 4 and 5 with squamiform setae.

Description. Male. Body length 2.3–2.2 mm, wing length 1.9–2.0 mm. Occiput entirely black, subshining, with brownish yellow to brown setation. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Inner verticals rather short, outer ones hardly prominent. Frons subshining. Antenna (Fig. 196) entirely brownish. Pedicel with circlet of subequally short setulae. Postpedicel nearly 3.0 times longer than wide. Style normally pubescent, about 2.5 times longer than postpedicel and nearly 1.5 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded, with scattered brownish yellow setulae, bearing 1 longer subapical seta.

Thorax largely reddish yellow or yellow, shining, with yellow to brownish bristles; mesonotum with brownish patch above notopleural space, postalar callus and before scutellum on line of dorsocentral bristles, sternopleuron and hypopleuron with large brownish space in lower part, metapleuron darkened in upper part, sutures brownish in varying extent. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 very short bristle in upper part. Postpronotal bristle short. Mesonotum with 1 long and 1 short notopleural, 1 very short postsutural supra-alar, 1 similar postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals 2-serial, lacking on prescutellar depression; dorsocentrals 1-serial, extending to base of scutellum, 1 pair of prescutellars longest.

Legs long, slender, largely brownish yellow (in paler specimens yellow), with yellow to brownish yellow setation; tibiae (especially fore and mid tibiae) and tarsi brownish. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore

tibia lacking prominent bristles (except subapicals). Mid femur with numerous ventral spinules along whole length, 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of black ventral spinules and 1 spine at apex anteriorly, lacking prominent bristles. Hind femur narrower than fore and mid femora, bearing 1 row of short anteroventrals and 3 erect dorsal bristles near base. Hind tibia with 2 antero-dorsal bristles in middle part; apical projection small, rounded, clothed in dense brownish setulae. Hind tarsomere 1 somewhat thickened, shorter than remaining tarsomeres combined.



FIGURES 196–199. *Elaphropeza equalis* sp. nov. **196.** antenna. **197.** epandrium with cerci. **198.** right epandrial lamella. **199.** left surstylus.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brownish. Costal index: 47/25/47/14. Vein Rs subequal to crossvein bm-cu. Veins R4+5 and M1+2 parallel near wing apex, both straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu somewhat oblique. Crossvein r-m somewhat before middle of cell bm. Halter pale yellow.

Abdomen. Tergite 1 wholly pale. Tergites 2 and 3 with subtriangular lateral dark spots. Tergite 4 broadest, with squamiform setae. Tergite 5 about 1.5 times narrower than tergite 4, with squamiform setae. Tergites 6

and 7 unmodified; tergite 7 with short posteromarginal bristles. Sternites unmodified, subrectangular, sternites 2–6 with shallow excision anteriorly. Gland-like structure present between tergites 4–5, vessel-like.

Terminalia (Figs. 197–199) small, brown. Cerci narrowly fused, of subequal size and shape, short, digitiform; left cercus with numerous moderately long and several stronger (in apical part) bristles; right cercus with similar vestiture but bearing 2 spine-like bristles apically. Epandrium completely divided. Right epandrial lamella subtriangular, with numerous long bristles on apical half. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with several long bristles apically. Left surstylus with upper lobe large, elongate oval, with numerous long bristles apically. Hypandrium with 8 bristles. Phallus very short. Two rod-shaped apodemes.

Female. Body length 2.1 mm, wing length 2.0 mm. Abdominal segment 8 narrow, rather elongate, with sclerites separated; sternite 8 folded apically. Cercus brownish. Otherwise as in male.

Material examined: Holotype male labelled: SINGAPORE, Nee Soon, 14 December 2005, hand capture (reg. 25453, leg. I. Van de Velde).

Paratypes: SINGAPORE, 1 ♂, 1 ♀, Clementi woods, 25 June 2005, drains, sweeping (reg. 25183, leg. PG); 1 ♂, Nee Soon, 4 December 2002, swamp forest, sweeping (reg. 22052, leg. PG, E-22).

Derivatio nominis. The name *equalis* refers to the short, equally long right and left cercus.

Distribution. Singapore. This is a very rare species recorded on only two occasions. It was collected once in a rain water drain in the park of Clementi woods and at Nee Soon.

Remarks. In having a modified ampoule-like abdominal gland, *E. equalis* sp. nov. is likely to be closely related to *E. bulohensis* sp. nov.

***Elaphropeza demeijerei* sp. nov.**

(Figs. 200–203)

Diagnosis. Occiput black, antenna almost entirely yellow, postpedicel about 3.5 times longer than wide; thorax with scutellum and metanotum brown, otherwise yellow; hind tibia bearing 2 strong antero- and 2 similar posteroventral bristles in middle part, tarsomere 5 of all legs dark brown.

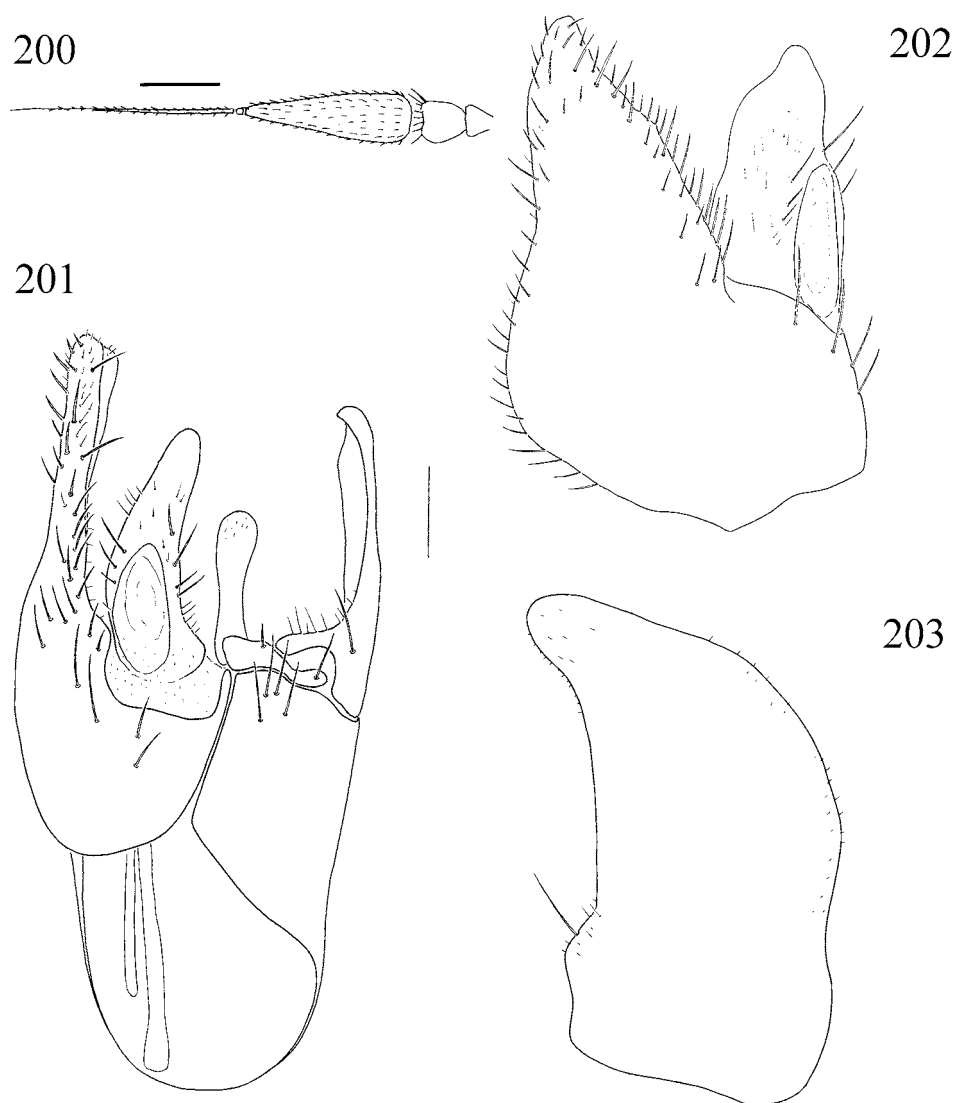
Description. Male. Body length 2.6 mm, wing length 2.0 mm. Occiput black, subshining, with yellow to brownish yellow setation. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Inner verticals long, outer ones shorter. Antenna (Fig. 200) almost wholly yellow, postpedicel slightly darker, with brownish tinge. Pedicel with circlet of subequally short setulae. Postpedicel about 3.5 times longer than wide. Style normally pubescent, brown, somewhat (1.3 times) longer than postpedicel and nearly as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax almost entirely yellow, shining, with yellow to brownish yellow bristles; scutellum and metanotum dark brown. Prothoracic episterna lacking long upturned bristle just above fore coxa and short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal bristles 2–3 serial, lacking on prescutellar depression; dorsocentrals mostly multiserial, extending to base of scutellum, 2 pairs of prescutellars long.

Legs largely yellow, mostly with yellow to brownish yellow setation; hind femur slightly darkened on apical part, tibiae brownish yellow, tarsomere 5 of all legs dark brown. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles (1 bristle near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur slender, with 2 rows of spinule-like, short, ventral bristles (posteroventrals longer), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules in apical part (1 subapical longer), lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and

5–6 erect dorsal bristles near base. Hind tibia bearing 2 strong antero- and 2 similar posteroventral bristles in middle part; apical projection prominent, small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, yellow. Costal index: 45/37/29/16. Vein Rs somewhat longer than crossvein bm-cu. Vein R2+3 smoothly arched. Veins R4+5 and M1+2 slightly divergent near wing apex, both straight. Vein CuA1 not quite reaching wing margin. Vein A1 absent. Crossvein bm-cu transverse. Crossvein r-m near middle of cell bm. Halter pale yellow.



FIGURES 200–203. *Elaphropeza demeijerei* sp. nov. **200.** antenna. **201.** epandrium with cerci. **202.** right epandrial lamella and cerci. **203.** left surstylus.

Abdomen. Tergite 1 very narrow, brownish, narrowly divided dorsally. Tergites 2 and 3 brownish, subtriangular viewed dorsolaterally, deeply concave anteriorly; with unmodified setation. Tergite 4 broadest, dark brown, with unmodified setae. Tergite 5 very narrow, as broad as tergite 1, bearing squamiform setae. Tergites 6 and 7 brownish, tergite 7 with moderately long posteromarginal bristles. Segment 8 unmodified. Sternites weakly sclerotised, with scattered setulae. Gland-like structures between tergites 4 and 5.

Terminalia (Figs. 201–203) large, brown. Cerci fused forming single, short, digitiform lobe; covered with bristles of different lengths, lacking spines. Epandrium completely divided. Right epandrial lamella subtriangular, covered with numerous bristles of different lengths and with spine-like bristles apically. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with 4 long bristles apically. Left surstylus with upper lobe large, subtriangular, almost devoid of bristles, only with 1 long bristle on lower margin basally and scattered, minute, marginal setulae. Hypandrium with 1 bristle, lacking slender apical processes. Phallus very short. Two rod-shaped apodemes.

Female. Body length 2.3 mm, wing length 2.0 mm. Mid tibia lacking ventral spinules. Abdominal segment 8 narrow, rather elongate, with sclerites separated; sternite 8 folded apically. Cercus brownish. Otherwise as in male.

Material examined. Holotype male labelled: SINGAPORE, 1 ♂, Chek Jawa, 11 October 2005, mangrove, Mal (reg. 25380, leg. PG, E-32).

Paratype: 1 ♀, Nee Soon, 14 December 2005, swamp forest, Mal 1 (reg. 25446, leg. PG).

Derivatio nominis. *E. demeijerei* sp. nov. is named after the famous Dutch dipterist, J.C.H. de Meijere who described many empidoids from Southeast Asia.

Distribution. Singapore. Forest.

Singapore. This is a very rare species known only from a single male and female. One record is from the swamp forest at Nee Soon, the other from the mangrove at Chek Jawa. More records are needed to understand the bionomics of this species.

Remarks. The relationships of *E. demeijerei* sp. nov. are unclear beyond inclusion within the monophyletic lineage of the *E. ephippiata* species group sharing completely fused cerci (see “Discussion” for details).

Elaphropeza binotata (de Meijere, 1911)

Drapetis binotata de Meijere, 1911: 333 (female).

Elaphropeza binotata: de Meijere, 1913: 74 (male).

Re-description. Female. Body length 2.0 mm, wing length 2.0 mm. Head with occiput black, shining. Antenna with scape and pedicel yellow, postpedicel dark brown. Palpus small, yellow.

Thorax almost entirely yellow, shining, with yellow to brownish yellow bristles; Scutum with large elongate subtriangular spot. Prothoracic episterna lacking long upturned bristle just above fore coxa, with short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal bristles 2-serial, lacking on prescutellar depression; dorsocentrals 1-serial, extending to base of scutellum, prescutellar pair long.

Legs long, slender, wholly yellow, with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with ventral spinules, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia with 2 anterodorsal bristles in middle part; apical projection small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, brownish. Costal index: 65/37/55/16. Vein Rs longer than crossvein bm-cu. Vein R2+3 smoothly arched, almost straight. Veins R4+5 and M1+2 parallel near wing apex, vein R4+5 slightly bowed. Vein CuA1

reaching wing margin. Vein A1 present as fold. Crossvein bm-cu somewhat oblique. Crossvein r-m before middle of cell bm. Halter with dark knob.

Abdomen with tergite 1 yellow. Tergites 2 and 3 brownish yellow; with unmodified setation. Tergite 4 broad, brown, subshining, with squamiform setae. Tergite 5 narrow, concolorous with tergite 4, bearing scattered unmodified setae. Tergites 6 and 7 concolorous with tergites 2 and 3. Segment 8 brown, rather short. Cercus brown. (Missing structures taken from de Meijere (1911)).

Type material examined. Holotype female labelled: [red label] *Drapetis* / *binotata* / de Meijere, 1911 / ZMAN **type** DIPT.0474.1; *Drapetis binotata* [hand-written] / det. de Meijere / Type [hand-written]; Java / Salatiga / Doct. v. Leeuwen (ZMAN).

De Meijere (1911) described this species from a single female that is deposited in the ZMAN. Later, he mentioned the male of this species was taken from Batavia (de Meijere 1913), but we have not seen that material. Currently, the head and one wing are lost from the holotype; otherwise it is in good condition.

Distribution. Indonesia (Java).

Remarks. The relationships of *E. binotata* are unclear beyond inclusion within the *E. ephippiata* species group.

***Elaphropeza lineola* de Meijere, 1911**

Elaphropeza lineola de Meijere, 1911: 331 (female).

Re-description. Female. Wing length 2.0 mm. Head with occiput black, subshining, finely greyish pollinose. Anterior ocellars long, proclinate; posterior ocellars short. Inner verticals long, outer ones short. Antenna brown. Pedicel with circlet of subequally short setulae. Postpedicel 2.5 times longer than wide. Style normally pubescent, brown, 4.3 times longer than postpedicel and 2.7 times as long as scape, pedicel and postpedicel combined. Gena not produced below eye. Palpus small, yellow.

Thorax yellow, with distinct markings, shining, with yellow to brownish yellow bristles; scutum with median vitta disappearing before prescutellar depression and elongate oval spot on each side, scutellum in middle and metapleuron in upper part brown. Prothoracic episterna lacking long upturned bristle just above fore coxa, with short bristle in upper part. Postpronotal bristle moderately long. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal bristles 2-serial, lacking on prescutellar depression; dorsocentrals 1-serial, extending to base of scutellum, prescutellar pair long.

Legs long, slender, entirely yellow, with yellow to brownish yellow setation. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia with 2 anterodorsal bristles in middle part; apical projection hardly prominent, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, hyaline, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, brownish. Costal index: 72/21/61/14. Vein Rs longer than crossvein bm-cu. Vein R2+3 smoothly arched. Veins R4+5 and M1+2 parallel near wing apex, slightly bowed. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu almost transverse. Crossvein r-m near middle of cell bm. Halter yellow.

Abdomen shrunken in apical half but tergites 1–3 and 6–7 are apparently paler. Tergites 4 and 5 dark brown, both with squamiform setae. Segment 8 and cercus brownish.

Male. Unknown.

Type material examined. Holotype female labelled: [red label] *Elaphropeza* / *lineola* / de Meijere, 1911 / ZMAN **type** DIPT.0484.1; *Elaphropeza* / *lineola* [hand-written] / det. de Meijere / Type [hand-written]; Java V.1909 / Salatiga / Doct. v. Leeuwen (ZMAN).

De Meijere (1911) described this species from a single female that is deposited in the ZMAN. Currently, the holotype is in good condition.

Distribution. Indonesia (Java).

Remarks. The relationships of *E. lineola* are unclear beyond inclusion within the *E. ephippiata* species group. *Elaphropeza lineola* is very similar to *E. scutellaris* (as indicated in the key). The latter species appears to be quite variable and the distinguishing characters between these species should be checked when fresh materials (especially for *E. lineola*) becomes available.

Elaphropeza asexuata sp. nov.

(Fig. 204)

Diagnosis. Occiput black, postpedicel brownish yellow, about 2.5 times longer than wide; thorax with metanotum brown in middle part; fore tibia with 1 short, hind tibia with 1–2 long anterodorsal bristles.

Description. Female. Body length 2.6–2.8 mm, wing length 2.2–2.4 mm. Occiput black. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones shorter. Antenna (Fig. 204) with scape and pedicel yellow, postpedicel brownish yellow (except extreme base). Pedicel with circlet of subequally short setulae. Postpedicel nearly 2.5 times longer than wide. Style normally pubescent, brown, about 4.5 times longer than postpedicel and nearly 2.5 times as long as scape, pedicel and postpedicel combined. Palpus yellow, small, rounded.



FIGURE 204. *Elaphropeza asexuata* sp. nov. female antenna.

Thorax almost entirely yellow, metanotum brown in middle part. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 very short bristle in upper part. Postpronotal bristle well prominent, moderately long, inclinate. Mesonotum with usual set of bristles. Acrostichals 2-serial, lacking on prescutellar depression; dorsocentrals 1-serial, extending to base of scutellum (prescutellars long).

Legs almost entirely yellow; tarsomere 5 of all legs brownish yellow. Fore and mid femur with unmodified armature. Fore tibia with 1 short but distinct anterodorsal bristle. Mid tibia lacking ventral spinules and prominent bristles (except subapicals). Hind femur with ordinary setation. Hind tibia bearing 1–2 anterodorsal bristles, with hardly prominent rounded apical projection. Tarsi of all legs unmodified.

Wing uniformly finely infusate, veins R2+3, R4+5 and M1+2 dark brown. Costal index: 62/30/45/19. Veins R4+5 and M1+2 divergent near wing apex, both straight. Vein A1 quite distinct. Crossvein bm-cu oblique. Crossvein r-m near middle of cell bm. Halter dark.

Abdomen. Tergite 1 pale yellow. Tergites 2 and 3 pale brownish, elongate subtriangular viewed dorsolaterally; with unmodified setation. Tergite 4 broad, dark brown, with squamiform setae. Tergite 5 narrow, concolorous with tergite 3, with unmodified setation. Tergites 6 and 7 yellowish, with scattered setulae. Segment 8 rather short, brownish yellow, with sclerites separated; sternite 8 folded apically. Cercus brownish yellow.

Male. Unknown.

Material examined: Holotype female labelled: SINGAPORE, Nee Soon, 6 May 2005, swamp forest, Mal 1 (reg. 25138, leg. PG, E-39).

Paratypes: SINGAPORE, 1 ♀, Bukit Timah, 16 September 2005, rain forest, Mal 2 (reg. 25347, leg. PG); 1 ♀, Nee Soon, 3 June 2005, swamp forest, Mal 2 (reg. 25151, leg. PG); 1 ♀, Nee Soon, 14 October 2005, swamp forest, Mal 1 (reg. 25388, leg. PG); 1 ♀, Nee Soon, 4 January 2006, swamp forest, Mal 1 (reg. 26004, leg. PG); 1 ♀, Sime forest, 22 July 2005, forest, Mal 2 (reg. 25271, leg. PG); 1 ♀, Sungei Buloh, 11 May 2005, mangrove, Mal 1 (reg. 25159, leg. PG); 1 ♀, Sungei Buloh, 18 May 2005, mangrove, Mal 1 (reg. 25161, leg. PG); 1 ♀, Sungei Buloh, 25 May 2005, mangrove, Mal 1 (reg. 25163, leg. PG); 1 ♀, Sungei Buloh, 10 June 2005, mangrove, Mal 1 (reg. 25167, leg. PG); 1 ♀, Sungei Buloh, 15 June 2005, mangrove, Mal 1 (reg. 25169, leg. PG); 1 ♀, Sungei Buloh, 6 July 2005, mangrove, Mal 1 (reg. 25197, leg. PG); 1 ♀, Sungei Buloh, 19 August 2005, mangrove, Mal 1 (reg. 25302, leg. PG); 3 ♀♀, Sungei Buloh, 26 August 2005, mangrove, Mal 1 (reg. 25319, leg. PG); 1 ♀, Sungei Buloh, 7 September 2005, mangrove, Mal 1 (reg. 25336, leg. PG); 1 ♀, Sungei Buloh, 14 October 2005, mangrove, Mal 2 (reg. 25394, leg. PG); 1 ♀, Sungei Buloh, 28 October 2005, mangrove, Mal 2 (reg. 25407, leg. PG); 2 ♀♀, Sungei Buloh, 9 November 2005, mangrove, Mal 2 (reg. 25418, leg. PG); 1 ♀, Sungei Buloh, 3 December 2005, mangrove, Mal 1 (reg. 25439, leg. PG); 1 ♀, Sungei Buloh, 3 December 2005, mangrove, Mal 2 (reg. 25440, leg. PG); 1 ♀, Sungei Buloh, 23 December 2005, mangrove, Mal 1 (reg. 25471, leg. PG); 1 ♀, Sungei Buloh, 4 January 2006, mangrove, Mal 1 (reg. 26007, leg. PG).

Derivatio nominis. The name *asexa* refers to the probable asexual reproduction of this species, since numerous females were found and no males.

Distribution. Singapore. Terrestrial forest and mangrove.

Singapore. This is a fairly common species, but never abundant. It is reported in all the forest types studied here, but is most abundant in the mangrove of Sungei Buloh. *Elaphropeza asexa* sp. nov. is recorded throughout the year.

Remarks. The relationships of *E. asexa* sp. nov. are unclear beyond inclusion within the *E. ephippiata* species group. In this species the number of anterodorsal bristles on the hind tibia varies from 1–2 (usually 2).

***Elaphropeza palpata* de Meijere, 1911**

(Figs. 205–208, 210, 260–261)

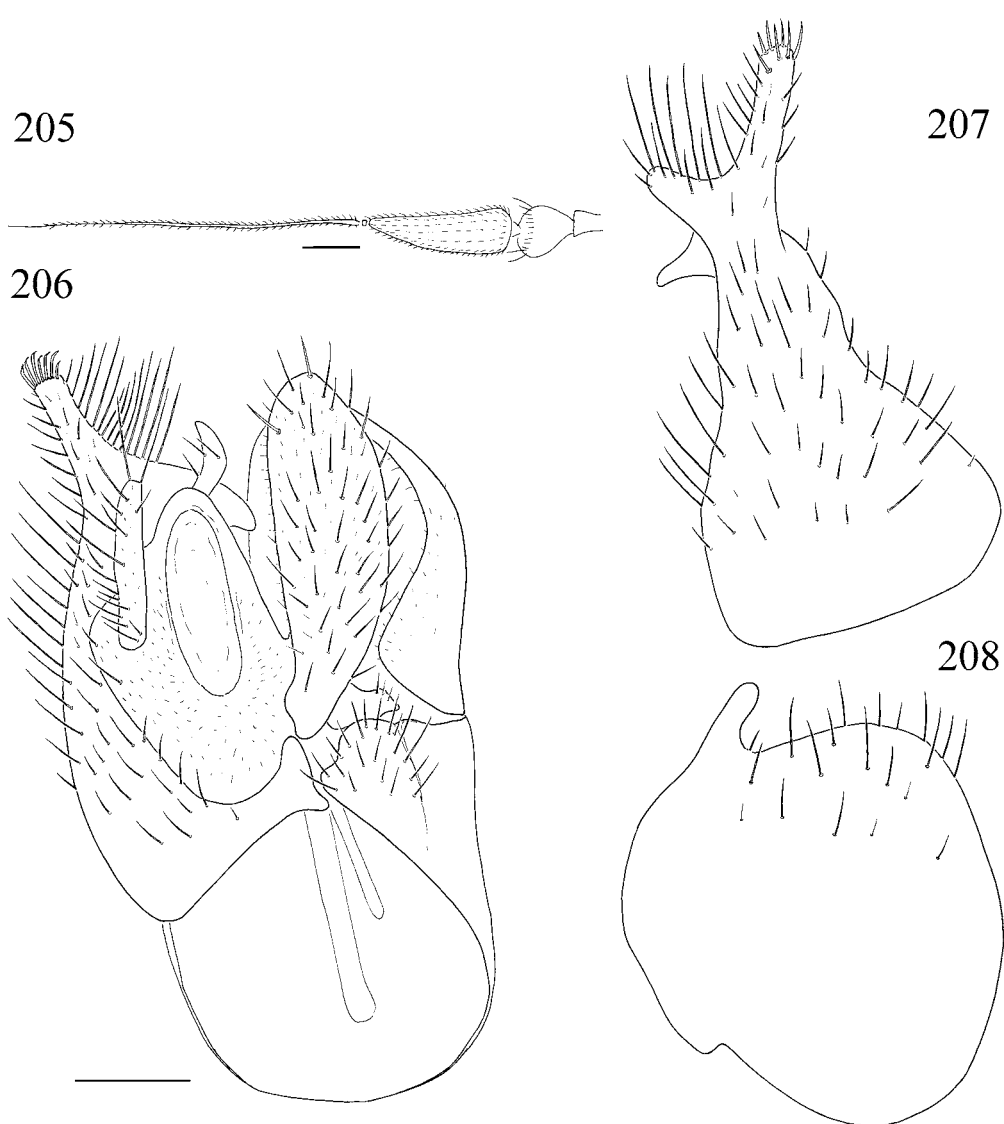
Elaphropeza palpata de Meijere, 1911: 330 (male).

Re-description. Male. Body length 3.0 (holotype) mm, wing length 3.4–3.5 (in holotype 3.5) mm. Head with occiput broadly darkened above neck and in lower half, otherwise yellow, subshining, finely greyish pollinose. Eye slightly concave on posterior margin. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Inner verticals moderately long, outer ones hardly prominent. Frons brownish yellow. Antenna (Fig. 205) with scape and pedicel yellow, postpedicel somewhat darker, brownish yellow. Pedicel with circlet of subequally short setulae. Postpedicel 3.0–3.5 (in holotype 3.1) times longer than wide. Style normally pubescent, about 2.5 times (in holotype 2.4) longer than postpedicel and nearly 1.5 (in holotype 1.7) times as long as scape, pedicel and postpedicel combined. Gena somewhat produced below eye. Proboscis brownish yellow, long. Palpus (Fig. 210) long, stripe-like, black in apical half, lacking subapical bristle.

Thorax apparently greatly varying in appearance, pattern and colour intensity of brown markings; in holotype thorax wholly yellow but in both other specimens metanotum darker, rather brownish yellow, in one specimen scutum with narrow brownish vitta interrupted on prescutellar depression and small brownish patch near postalar callus, in second specimen only some very hardly prominent indications on this vitta and patch present. Prothoracic sclerites, hypopleuron and pteropleuron narrowly in upper part, scutellum and metanotum densely tomentose, otherwise thorax shining, with yellow to brownish yellow setation. Prothoracic episterna lacking long upturned bristle just above fore coxa and short bristle in upper part. Postpronotal bristle not

prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal and dorsocentral bristles undifferentiated, scutum evenly covered with dense short bristly hairs, 1 pair of prescutellars prominent, long.

Legs largely yellow, with varying brownish pattern, bearing yellow to brownish yellow setation; in holotype fore femur brownish yellow anteriorly and posteriorly (more distinctly in other specimens), mid femur almost yellow (similar to fore femur but less distinctly in other specimens) and hind femur brownish yellow around thickened apical part; fore and hind tibiae brownish, all tarsi and mid tibia rather brownish yellow. Coxae and trochanters with unmodified setation. All femora with numerous short ventral bristly hairs (somewhat stronger and darker on mid femur). Fore tibia with 2–3 (in holotype 3 on one tibia and 2 on another) short anterodorsal bristles. Mid tibia with hardly prominent ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur somewhat constricted and thickened in apical half. Hind tibia with 1–3 anterodorsal and 1–2 dorsal bristles; apical projection short, angular, clothed in dense brownish setulae. Hind tarsomere 1 slightly thickened, with some ventral spinules (1 longer).



FIGURES 205–208. *Elaphropeza palpata* de Meijere (Singapore) **205.** antenna. **206.** epandrium with cerci. **207.** right epandrial lamella. **208.** left surstylus.

Wing (Figs. 260–261) normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, brownish. Costal index: 40/20/24/12. Vein Rs longer than crossvein bm-cu. Vein R2+3 moderately arched. Veins R4+5 and M1+2 divergent near wing apex, both somewhat sinuate. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu transverse, somewhat convex. Crossvein r-m far before middle of cell bm; cell br very short, about 1/3 of cell bm. Halter with dark knob.

Abdomen with tergites 1 and 5–7 almost entirely pale yellowish, tergites 2–4 brownish. Tergites 1 and 5 very narrow, the latter with numerous unmodified setae only. Tergites 2 and 3 of subequal width, both divided along midline, with unmodified setation. Tergite 4 broadest, with deep narrow excision posteriorly, bearing numerous squamiform setae (not so strongly flattened as usually). Tergites 6 and 7 of subequal width, with equally short posteromarginal bristles. Sternites unmodified, brownish yellow. Gland-like structure present between tergites 4 and 5.

Terminalia (Figs. 206–208) small, subglobular. Cerci broadly separated; left cercus large, elongate oval, covered with numerous long bristles, with 2 spine-like bristles apically; right cercus short, digitiform, with numerous long bristles. Epandrium completely divided. Right epandrial lamella subtriangular, bifurcate at apex (Fig. 207) and with additional internal process, with yellowish long bristles apically, lower lobe with several short spine-like bristles at apex. Right surstylus not prominent. Left epandrial lamella fused to hypandrium, with numerous long bristles apically. Left surstylus with upper lobe large, subglobular, with numerous moderately long bristles. Phallus very short. Two rod-shaped apodemes.

Female. Although we have 2 females from Cambodia, we hesitate to describe it, because in a locality nearby a similar female was found that probably belongs to a different species. See under remarks.

Type material examined. Holotype male labelled: [red label] *Elaphropeza / palpata* / de Meijere, 1911 / ZMAN **type** DIPT.0492.1; *Elaphropeza palpata* [hand-written] / det. de Meijere / Type [hand-written]; E. Jacobson / Batavia / April 1908 (ZMAN).

De Meijere (1911) described this species after a single male that is deposited in ZMAN. Currently, the holotype is in good condition.

Additional material examined: SINGAPORE: 1 ♂, Sime forest, 6 May 2005, forest, Mal 1 (reg. 25127, leg. PG); 1 ♂, Sime forest, 19 August 2005, forest, Mal 2 (reg. 25300, leg. PG); 1 ♂, Sime forest, 14 December 2005, forest, Mal 2 (reg. 25445, leg. PG).

CAMBODIA: 1 ♀, Siem Reap, Angkor site: Preah Khan, 28 November – 4 December 2004, Malaise trap in forest around temple complex (leg. I. Var); 1 ♀, Siem Reap, Angkor site: Preah Khan, 28 March – 5 April 2005, Malaise trap in forest around temple complex (leg. I. Var); 1 ♂, Siem Reap, Angkor site: Preah Khan, 29 April – 5 May 2005, Malaise trap in forest around temple complex (leg. I. Var).

Distribution. Indonesia (Java), Singapore, Cambodia. Forest.

Singapore: This is a rare species known from three records only and from the Sime forest only.

Remarks. *Elaphropeza palpata* is among the largest species of *Elaphropeza*. It shows quite a high variability in colouration and setation as often happens with large-sized species.

The male from Preah Khan Temple in Cambodia has the same structure of the male terminalia as the holotype and the specimens from Singapore and although there is variation in colouration and setation, they are considered to be conspecific, at least for now.

A single female from Cambodia (“Kbal Spean, 29 May 2005, sweep netting of vegetation along river (reg. 25108, leg. PG, RBINS)”), is quite different from those found at Preah Khan, with the following diagnostic features: completely black occiput; only gena yellow. Pair of black ocellars and verticals. Palpi large, with rounded tip and completely yellow. Scutum with broad black median stripe (vitta), scutellum completely black, as well as dorsum of metanotum. Halter darkened. All tibiae and tarsi brown. Fore femora completely yellow. Hind femora with black ring on apical third, leaving yellow oval patch dorsally before tip. Fore tibia without dorsal bristles. Hind tibia with 3 brown anterodorsal and 3 dorsal bristles. Tergites lacking squamiform setae.

We suppose that it is a different species and that it is part of a species complex that includes the true *E. palpata*. This complex is characterised by the elongated palpus that has a contrastingly black tip in the true *E. palpata*. The labrum is strong and hook-like. Occiput is yellow, but with a dark basal spot or even completely darkened. The fore tibia bears strong dorsal bristles that are variable in number from 2 to 3 (even varying on each side of the same specimen). The mid femur is swollen on the basal third and ventrally covered by densely set hairs. The tip of the hind femur has a pale, oval dorsal spot before the tip. In addition to a variable number of strong anterodorsal bristles, a variable number of strong dorsal bristles can be present. The tergites are split into two lateral sclerites and they do not carry true squamiform bristles, just some longer hairs. Further material, especially of males, will show if we are dealing with different species or a complex of species.

The relationships of *E. palpata* are unclear beyond inclusion within the *E. ehippiata* species group. *E. palpata*, *E. nigropunctata* and *E. lanuginosa* may form a monophyletic lineage sharing a very short cell *rm* of the wing. Although, this state appears to be homoplasious because it is present in *E. obliquinervis* belonging to the *E. biuncinata* group.

***Elaphropeza abdominenotata* Senior-White, 1922**

Elaphropeza abdominenotata Senior-White, 1922: 151 (female).

Re-description. Female. Body length 1.25 mm. Occiput black. Antenna with scape pale yellowish, pedicel and postpedicel brown. Style moderately pubescent, 1.5 times as long as scape, pedicel and postpedicel combined. Palpus white.

Thorax almost entirely reddish yellow, shining, metapleuron blackish in upper part. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 very short bristle in upper part. Acrostichal bristles 2-serial, lacking on prescutellar depression; dorsocentrals 1-serial, extending to base of scutellum, prescutellars long.

Legs long, slender, largely yellow; fore and mid tibiae (the latter less distinct) and tarsi of all legs slightly brownish. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with 1 row of ventral spinules along whole length and 1 longer, stronger, somewhat curved spinule at apex, lacking prominent bristles (except subapicals) [Senior-White [l.c.: 152] indicates "mid tarsi with strong, short, black spines and an apical tooth" that is evidently a misprint and this phrase should be actually referred to the mid tibia]. Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia with 2 anterodorsal bristles near middle; apical projection small, rounded, clothed in dense brownish setulae. Hind tarsomere 1 somewhat thickened.

Wing hyaline, costal vein with rather long setulae along anterior margin. Vein R2+3 meeting costa at 1/4 to 1/3 of distance between veins R1 and R4+5. Halteres pale yellowish.

Abdominal tergites 4 and 5 bearing squamiform setae. Segment 8 elongate, brown, with some long bristles posteriorly. Cercus brown. (Missing structures taken from Senior-White (1922)).

Male. Unknown.

Type material examined: Holotype female labelled: CEYLON: / Matale District, / Suduganga / 12.ix.1921.; *Elaphropeza* / *abdominenotata* / Senior White male / TYPE; **Holotype**; BMNH(E) # 244885 (BMNH).

Senior-White (1922) described this species from a single female that is now deposited in the BMNH. On the label Senior-White indicated that it is a male but in the paper the female sex is correctly applied. Additionally, the date of collecting is different on the label (see above) than in the text of the paper (23.VIII.1921).

Currently, the head, one fore leg, one mid leg and wings are lost from the holotype; otherwise it is in fairly good condition.

Distribution. Sri Lanka.

Remarks. The relationships of *E. abdominenotata* are unclear beyond inclusion within the *E. ehippiata* species group. *Elaphropeza abdominenotata* is very similar to *E. litoralis* described by Smith (1965) from Nepal. In *E. abdominenotata* the metapleuron is blackish in upper part (vs. wholly reddish yellow in *E. litoralis*) and the legs appear to have a little different brownish pattern.

Elaphropeza nigropunctata Senior-White, 1922

Elaphropeza nigropunctata Senior-White, 1922: 152 (male).

Re-description. Male. Body length 2.3 mm [2.5 mm in the original description], wing length 2.7 mm. Occiput wholly yellow, subshining, finely pollinose. Eye slightly concave on posterior margin. Ocellar tubercle brownish, frons subshining brownish yellow, short. Anterior ocellars moderately long, posterior ones short. Inner verticals long, outer ones short. Pedicel with circlet of subequally short setulae. Antenna with scape and pedicel yellow, postpedicel dark blackish brown (except extreme base). Palpus small, yellowish.

Thorax yellow, with distinct markings; hypopleuron with large oval black spot, scutellum almost wholly black (paler on lateral corners), metanotum dark brown in middle part. Prothoracic episterna lacking long upturned bristle just above fore coxa, with short bristle in upper part. Acrostichal and dorsocentral bristles multiserial, the former lacking on prescutellar depression.

Legs largely yellow; fore tibia and almost wholly tarsi of all legs (except hind tarsomere 1) pale brownish. Fore femur with rows of short antero- and posteroventral bristles and 2 longer bristles near base. Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles, 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals (subapicals longer) and about 7 erect dorsal bristles near base. Hind tibia with 2 anterodorsal bristles in middle part; apical projection small, rounded, clothed in dense brownish setulae. Hind basitarsus somewhat thickened.

Wing almost hyaline, finely yellowish infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brownish. Costal index: 71/34/51/19. Vein Rs longer than crossvein bm-cu. Vein R2+3 smoothly arched, almost straight. Veins R4+5 and M1+2 parallel near wing apex, vein R4+5 slightly bowed. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu somewhat oblique. Crossvein r-m far before middle of cell bm, cell rm very short, about 1/3 of cell bm. Halter with dark knob [not yellow as in the original description].

Abdomen with tergites 1 and 5–7 pale yellow, tergites 2–3 brownish yellow; tergite 4 broadest, black, with numerous squamiform setae; tergite 7 with long posteromarginal bristles. Terminalia small, with brownish sclerites. (Missing structures taken from Senior-White (1922)).

Type material examined: Holotype male labelled: CEYLON / Maskeliya, 4000' / Suduganga / 23.ii.1919 / G.D. Austin.; *Elaphropeza / nigropunctata* / Senior White male / TYPE; **Holotype**; BMNH(E) # 244887 (BMNH).

Senior-White (1922) described this species from a single male that is now deposited in the BMNH. Currently, the postpedicel with style on both antennae, one mid leg, hind legs and one wing are lost from the holotype; otherwise it is in fairly good condition.

Distribution. Sri Lanka.

Remarks. The relationships of *E. nigropunctata* are unclear beyond inclusion within the *E. ehippiata* species group. However, this species appears to show some affinities to *E. palpata*, *E. nigropunctata* and *E. lanuginosa*, as we have discussed above.

Elaphropeza nigropunctata is very similar to *E. ukhalo* described from Nepal (Smith 1965). Both species are almost impossible to distinguish following their original descriptions. We have examined the holotype of *E. ukhalo* and found that *E. nigropunctata* differs from *E. ukhalo* by a yellow metapleuron and brownish fore tibiae and tarsi. Also, the terminalia of this species appear to be somewhat different but we were not able to study them in a single holotype specimen.

***Elaphropeza acrodactyla* (Melander, 1928)**

Drapetis (Elaphropeza) acrodactyla Melander, 1928: 312 (female).

Re-description. Female. Body length 1.7 mm, wing length 2.4 mm. Occiput black, subshining, finely greyish pollinose, with yellow to brownish yellow setation. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones hardly prominent. Antenna with postpedicel brownish (somewhat paler at base), scape and pedicel yellow. Pedicel with circlet of subequally short setulae. Postpedicel about 3.0 times longer than wide. Style normally pubescent, brown, 3.5 times longer than postpedicel and 1.6 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax wholly yellow, shining, with yellow to brownish yellow bristles. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 short bristle in upper part. Postpronotal bristle rather short. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal bristles 2-serial, lacking on prescutellar depression; dorso-centrals 1-serial, extending to base of scutellum (prescutellars long).

Legs rather long and slender, almost entirely yellow, with yellow to brownish yellow setation; tarsomere 5 of all legs black. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules (1 subapical somewhat longer), lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 4–5 erect dorsal bristles near base. Hind tibia bearing 2 anterodorsal bristles; apical projection prominent, small, angular, clothed in dense brown setulae. Tarsi of all legs unmodified.

Wing normally developed, hyaline, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with quite long setulae along anterior margin. Basal costal bristle long, yellow. Costal index: 63/20/44/18. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 slightly divergent near wing apex, the former somewhat bowed, the latter straight. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu somewhat oblique. Crossvein r-m near middle of cell bm. Halter yellow.

Abdomen largely yellowish; tergite 4 broadest, brown, shining, with squamiform setae.

Male. Unknown.

Type material examined. Lectotype female labelled: Mt. Makiling / Luzon, Baker; TYPE / *Elaphropeza acrodactyla* / Mel. [red label]; ALMelander / Collection / 1961.

Paralectotype female, Mt. Makiling / Luzon, Baker; TYPE / *Elaphropeza acrodactyla* / Mel. [red label]; CFBaker / collection / 1927; *Elaphropeza acrodactyla* / Mel. (USNM).

Melander (1928) described this species from two females noted above. Both specimens are in good condition.

Distribution. Philippines (Luzon).

Remarks. The relationships of *E. acrodactyla* are unclear beyond inclusion within the *E. ephippiata* species group.

***Elaphropeza cuneipennis* (Melander, 1918)**

Ctenodrapetis cuneipennis Melander, 1918: 206 (female).

Re-description. Female. Body length 1.5 mm, wing length 1.5 mm. Occiput black, largely shining, finely polinose in lower part. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Inner verticals moderately long. Antenna with scape and pedicel yellow, postpedicel brownish yellow. Pedicel with circlet of subequally short setulae. Postpedicel 2.3 times longer than wide. Style very thick, densely long pubescent, brown, 3.0 times longer than postpedicel and 1.8 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus pale, small, rounded.

Thorax almost entirely yellow, shining, with brownish yellow bristles; scutum with subtriangular brownish spot above wing base. Prothoracic episterna lacking long upturned bristle just above fore coxa and short bristle in upper part. Postpronotal bristle short. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal bristles lacking; dorsocentrals 1-serial, extending to base of scutellum, 1 pair of prescutellars long.

Legs wholly yellow, slender. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules in apical part, lacking prominent bristles (except subapicals). Hind femur with 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 2 anterodorsal bristles in middle part; apical projection prominent, narrow, somewhat elongate, pointed. Tarsi of all legs unmodified.

Wing narrow, with greatly reduced axillary lobe, hyaline, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle moderately long, brownish. Costal index: 24/19/39/15. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 divergent near wing apex, the former somewhat sinuate, the latter straight. Vein CuA1 reaching wing margin. Vein A1 absent. Crossvein bm-cu transverse. Crossvein r-m before middle of cell bm. Halter pale.

Abdomen. Tergite 1 almost entirely pale yellow, with very narrow brownish space. Tergites 2 and 3 largely pale yellow, with narrow brownish dorsal space subtriangularly broadened laterally; both with unmodified setation. Tergite 4 broadest, brownish, shining, with scattered unmodified setae. Tergite 5 very narrow, with few squamiform setae. Tergites 6–7 and segment 8 brownish, cercus brownish yellow. [In the original description Melander misinterpreted abdominal tergites.]

Male. Unknown.

Type material examined. Holotype female labelled: Manila / PH [Philippines]; RobtBrown [Robert Brown] / collector; TYPE [hand-written on white paper]; *Drapetis* / *cuneipennis* / Mel. (USNM).

Melander (1918) described this species from a single female. The holotype is in good condition.

Distribution. Philippines (Luzon).

Remarks. The relationships of *E. cuneipennis* are unclear beyond inclusion within the *E. ephippiata* species group. However, this species is probably closely related to *E. aristalis* and *E. strigifera* in having a cuneiform wing with a greatly reduced anal lobe.

***Elaphropeza formosae* Bezzi, 1907**

Elaphropeza formosae Bezzi, 1907: 566 (female).

Elaphropeza formosae: Bezzi, 1912: 487 (male).

Elaphropeza formosae: Quate, 1960: 63, misidentification.

Re-description. Male. Body length 1.8 mm, wing length 2.0 mm. Occiput black, largely subshining (with narrow shining patch in upper part near eye), finely greyish pollinose, with yellow to brownish yellow setation. Anterior ocellars moderately long, proclinate; posterior ocellars minute. Inner verticals moderately long, outer ones very short. Antenna with postpedicel brown, scape and pedicel somewhat paler, brownish yellow (probably scape and pedicel somewhat varying in colour because Bezzi indicates "articulis basalibus luteis" (1907: 566)). Pedicel with circlet of subequally short setulae. Postpedicel 3.0 times longer than wide. Style normally pubescent, brown, 2.0–2.5 times longer than postpedicel and about 1.5 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax wholly yellow, shining, with yellow to brownish yellow bristles. Prothoracic episterna lacking long upturned bristle just above fore coxa and short bristle in upper part. Postpronotal bristle minute. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal bristles 2–3-serial, lacking on prescutellar depression; dorsocentrals 1-serial toward scutellum, with additional setulae in anterior part of scutum, complete, 1 pair of prescutellars longest.

Legs almost entirely yellow, with yellow to brownish yellow setation; tarsomere 5 of all legs brown. Coxae and trochanters with unmodified setation. Fore and hind femora and tibiae somewhat thickened. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur slender, with 2 rows of spinule-like, short, ventral bristles (becoming shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules, lacking prominent bristles (except subapicals). Hind femur with short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 2 anterodorsal bristles in middle part; apical projection prominent, small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brownish. Costal index: 52/20/49/14. Vein Rs somewhat longer than crossvein bm-cu. Vein R2+3 evenly curved. Veins R4+5 and M1+2 parallel near wing apex, the former slightly bowed, the latter straight. Vein CuA1 reaching wing margin. Vein A1 distinct. Crossvein bm-cu somewhat oblique. Crossvein r-m before middle of cell bm. Halter yellow.

Abdomen. Tergite 1 yellowish. Tergites 2 and 3 with brownish yellow spaces laterally; with unmodified setation. Tergites 4 and 5 brown, both with numerous squamiform setae; tergite 4 broadest, tergite 5 of normal width. Tergites 6 and 7 concolorous with tergites 2 and 3; tergite 7 with moderately long posteromarginal bristles.

Terminalia small, yellow, lacking spines; right surstylus narrow, subrectangular.

Female. Abdominal segment 8 and cercus brownish yellow. Otherwise as in male.

Material examined. Male, Anping, Formosa, H. Sauter, VI.1912; *Elaphropeza Formosae* Bezzi, male and female. Female, Tainan, Formosa, V.12, H. Sauter; Bezzi det. (DEI).

Neotype designation. Bezzi (1907: 566, female only) described this species from material (without indication of number of specimens studied) taken by H. Sauter from Takao. Later, he (1912) examined numerous specimens, including males, of *E. formosae* from Takao, Tainan and Polisha. Bezzi (1914) noted two specimens of *E. formosae* that he found in the DEI Collection (see above). The type of *E. formosae* was deposited in the Hungarian Museum (Budapest) and it was destroyed in 1956 (Papp and Földvári, pers. comm.).

The male specimen of this species deposited in the DEI (in good condition, labelled: "Anping / Formosa / H. Sauter, VI.1912 [printed]; additional label: *Elaphropeza / Formosae* Bezzi [hand-written]") is herewith designated as **Neotype** of *Elaphropeza formosae* Bezzi, 1907 and it was labelled accordingly by the authors in 2006 to fix and stabilize the current concept of the name.

Distribution. Taiwan.

Remarks. Quate (1960) recorded *E. formosae* from Micronesia. His record was based on Melander's identification and he re-described this species and illustrated some structures. However, a comparison of

Quate's description with the specimens of *E. formosae* that we have examined, reveals some differences between them. Quate indicates (l.c.: 64) that the metanotum, hypo- and metapleuron are brown, while they are yellow (as in Bezzi's original description) in *E. formosae*. Also, in *E. formosae* the third costal section (between veins R2+3 and R4+5) is nearly twice as long as the second section (between veins R1 and R2+3) (they are subequal according to Quate). Finally, *E. formosae* has a longer wing (2.0 mm vs. 1.5–1.7 mm) and a somewhat different male terminalia (at least as it could be seen *in situ*). So, we believe that Quate's (1960) record of *E. formosae* from Micronesia is a misidentification and actually he re-described and illustrated a different species (see below).

The relationships of *E. formosae* are unclear beyond inclusion within the *E. ephippiata* species group.

***Elaphropeza quatei* sp. nov.**

Elaphropeza formosae: Quate, 1960: 63, fig. 2, a–d (male terminalia, wing, squamiform seta, antenna).

Description. Fully described by Quate (1960).

Derivatio nominis. The species is named in honour of Dr Laurence W. Quate who actually described it for the first time.

Distribution. Micronesia (western Caroline Is.).

Remarks. The relationships of *E. quatei* sp. nov. are unclear beyond inclusion within the *E. ephippiata* species group.

***Elaphropeza lanuginosa* Bezzi, 1914**

Elaphropeza lanuginosa Bezzi, 1914: 75 (male and female).

Re-description. Male. Body length 2.8 mm, wing length 3.2 mm. Occiput black, subshining, finely greyish pollinose, with yellow to brownish yellow setation. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones hardly prominent. Frons subshining. Antenna with scape and pedicel yellow, postpedicel brown. Pedicel with circlet of subequally short setulae. Postpedicel 2.8 times longer than wide. Style normally pubescent, brown, 2.5 times longer than postpedicel and 1.6 times as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow, elongate. Palpus brownish yellow, small, elongate oval.

Thorax largely yellow, shining, with brownish yellow bristles; scutum with broad brown vitta running along its whole length, scutellum rather brownish yellow (paler along posterior margin), sternopleuron and hypopleuron (more distinct) brownish in lower part, metanotum brown, metapleuron brownish yellow. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 short bristly hair in upper part, tomentose. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichals and dorso-centrals multiserial, hair-like, quite long, uniform (except for 1 pair of longer prescutellars), yellowish, the former not quite reaching base of scutellum.

Legs quite long, with yellow to brownish yellow, rather long setation; hind femur with brownish ring on apical part, fore and mid tibiae and tarsi of all legs brownish yellow, hind tibia brownish, otherwise legs yellow. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur with rows of short, ventral setulae, 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia lacking ventral spinules and prominent bristles (except subapicals). Hind femur slightly constricted in apical part,

bearing rows of short anteroventrals and several erect dorsal bristles near base. Hind tibia bearing 2 anterodorsal bristles in middle part; apical projection prominent, small, rounded, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, finely uniformly infusate, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, brown. Costal index: 82/45/60/23. Vein Rs subequal to crossvein bm-cu. Vein 2+3 evenly curved. Veins R4+5 and M1+2 somewhat divergent near wing apex, the former slightly bowed, the latter straight. Vein CuA1 reaching wing margin. Vein A1 present, distinct. Crossvein bm-cu transverse, somewhat convex. Crossvein r-m far before middle of cell bm; cell br very short, about 1/3 of cell bm. Halter with black knob.

Abdomen (tergites 2–5 shrunken along midline) wholly brownish, with all tergites unmodified, covered with numerous intermixed dark and pale bristly hairs, lacking squamiform setae. Sternites subrectangular, covered with numerous bristly hairs.

Terminalia small, brown, shining. Not examined.

Female. Segment 8 brown, shining. Cercus brownish yellow.

Material examined. Lectotype male, Paroe, nördl. Paiwan- / Distr. (Formosa) / H. Sauter VIII.1912; *Elaphropeza lanuginosa* Bezzi, male and female [hand-written]; TYPUS [light red, crossed]; Syntypus [red] / 1979 [opposite site]. Female, Kosempo / Formosa / H. Sauter, V.1912; Syntypus [red], 1979 [on opposite side]; TYPUS [light red, crossed] (DEI).

Bezzi (1914) described this species after two specimens (male and female) that are deposited in the DEI Collection. The male specimen is in good condition but it lacks a hind leg.

Distribution. Taiwan.

Remarks. The relationships of *E. lanuginosa* are unclear beyond inclusion within the *E. ephippiata* species group. *Elaphropeza lanuginosa* is amongst the largest species of *Elaphropeza* and shows some affinities to *E. palpata* and *E. nigropunctata*.

***Elaphropeza scutellaris* Bezzi, 1912**

Elaphropeza scutellaris Bezzi, 1912: 487 (male and female).

Re-description. Male. Body length 2.0–2.2 mm, wing length 2.4–2.5 mm. Occiput black, subshining, finely greyish pollinose, with yellow to brownish yellow setation. Anterior ocellars long, proclinate; posterior ocellars minute. Inner verticals long, outer ones hardly prominent. Antenna with postpedicel brown, scape and pedicel paler, brownish yellow (sometimes antenna wholly brownish). Pedicel with circlet of subequally short setulae. Postpedicel 3.0 times longer than wide. Style normally pubescent, brown, nearly 2.5 times longer than postpedicel and about 1.5 as long as scape, pedicel and postpedicel combined. Proboscis brownish yellow. Palpus yellow, small, rounded.

Thorax almost entirely yellow, shining, with brownish bristles; scutum with brownish elongate spot on notopleural space and narrow median indistinct vitta in anterior part (sometimes absent according to Bezzi), scutellum and metanotum with brownish spot in middle, metapleuron brownish in upper part. Prothoracic episterna lacking long upturned bristle just above fore coxa and short bristle in upper part. Postpronotal bristle not prominent. Mesonotum with 2 notopleural, 1 postsutural supra-alar, 1 postalar and 4 scutellar (inner ones very long, cruciate; outer ones very short) bristles. Acrostichal bristles 2-serial, lacking on prescutellar depression; dorsocentrals multiserial in anterior part, becoming 1-serial toward scutellum, 1 pair of prescutellars long.

Legs quite long and slender, wholly yellow. Coxae and trochanters with unmodified setation. Fore femur with rows of short antero- and posteroventral bristles (2 bristles near base longer). Fore tibia lacking prominent bristles (except subapicals). Mid femur with 2 rows of spinule-like, short, ventral bristles (becoming

shorter in apical part of femur), 1 long thin bristle near base and 1 anterior subapical bristle. Mid tibia with black ventral spinules, lacking prominent bristles (except subapicals). Hind femur bearing 1 row of short anteroventrals and 3–4 erect dorsal bristles near base. Hind tibia bearing 2 anterodorsal bristles in middle part; apical projection prominent, small, angular, clothed in dense brownish setulae. Tarsi of all legs unmodified.

Wing normally developed, hyaline, covered with uniform microtrichia; veins yellowish to brownish yellow. Costal vein with moderately long setulae along anterior margin. Basal costal bristle long, yellow. Costal index: 68/26/59/13. Vein Rs somewhat longer than crossvein bm-cu. Veins R4+5 and M1+2 parallel near wing apex, the former evenly bowed, the latter straight. Vein CuA1 reaching wing margin. Vein A1 present as fold. Crossvein bm-cu slightly oblique. Crossvein r-m somewhat before middle of cell bm. Halter yellow.

Abdomen with tergites 2–3 and 6–7 brownish yellow; with unmodified setation, tergite 7 bearing quite long posteromarginal bristles. Tergite 4 broadest, brown, with numerous squamiform setae. Tergite 5 concolorous with tergite 4, bearing numerous squamiform setae.

Terminalia quite large, yellow. Not examined.

Female. Segment 8 and cercus brownish yellow. Otherwise as in male.

Material examined. 2 females pinned on one plate, Tainan, Formosa, H. Sauter II.09; *Elaphropeza scutellaris* male and female Bezzi [hand-written]. 6 ♂♂, 17 females [and 2 specimens with missing abdomen] Tainan, Formosa, H. Sauter II.09; Bezzi det. 2 ♀♀, Chip-Chip, Formosa, Sauter, II.09; Bezzi det. 1 ♂, Anping, Formosa, H. Sauter, VI.1912. (DEI).

Neotype designation. Bezzi (1912) described this species after numerous specimens taken by H. Sauter from Chip-Chip (II.09), Tainan (II.09) and Takao (X.07). Later, he noted that this species was common throughout the island (Bezzi, 1914). The type of *E. scutellaris* was deposited in the Hungarian Museum (Budapest) and it was destroyed in 1956 (Papp and Földvári, pers. comm.). The specimens housed in the DEI are not syntypes (Bezzi, 1914).

The male specimen of this species deposited in the DEI (in good condition, labelled: “Anping / Formosa / H. Sauter, VI.1912; Bezzi det.”) is herewith designated as **Neotype** of *Elaphropeza scutellaris* Bezzi, 1912 and it was labelled accordingly by the authors in 2006 to fix and stabilize the current concept of the name.

Distribution. Taiwan.

Remarks. The relationships of *E. scutellaris* are unclear beyond inclusion within the *E. ephippiata* species group. Bezzi (1912) noted that *E. scutellaris* has a quite variable pattern of the scutum and that anterodorsal bristles on the hind tibia sometimes are absent. However, in the specimens listed above these characters are stable.

Elaphropeza sp. 44

Description. Female. Body length 2.4 mm, wing length 2.1 mm. Occiput black. Anterior ocellars long, proclinate; posterior ocellars short. Inner verticals long, outer ones somewhat shorter. Antenna with scape and pedicel yellow, postpedicel brownish (except base). Pedicel with circlet of subequally short setulae. Postpedicel about 3.0 times longer than wide. Style normally pubescent, brown, nearly 3.0 times longer than postpedicel and about 2.0 times as long as scape, pedicel and postpedicel combined. Palpus yellow, small, rounded.

Thorax yellow, with brownish markings; scutum with rather small, elongate, brownish patch above wing base, scutellum with brownish spot in middle, metanotum brownish (except lateral corners), hypopleuron almost wholly (except lower margin) brown, metapleuron with some brownish tinge. Prothoracic episterna lacking long upturned bristle just above fore coxa, with 1 very short bristle in upper part. Postpronotal bristle distinct, moderately long. Mesonotum with usual set of bristles. Acrostichal bristles 2-serial, lacking on prescutellar depression; dorsocentral bristles 1-serial, extending to base of scutellum (prescutellars long).

Legs wholly yellow. Fore and mid femur with unmodified armature. Fore tibia with 1 short anterodorsal bristle near middle. Mid tibia lacking ventral spinules and prominent bristles (except subapicals). Hind femur with ordinary setation. Hind tibia bearing 2 anterodorsal bristles in middle part, with hardly prominent rounded apical projection. Hind tarsomere 1 somewhat thickened.

Wing uniformly finely brownish infusate, veins mostly brownish. Costal index: 53/29/45/17. Veins R4+5 and M1+2 slightly divergent near wing apex, both straight. Crossvein bm-cu slightly oblique. Crossvein r-m before middle of cell bm. Halter with dark knob.

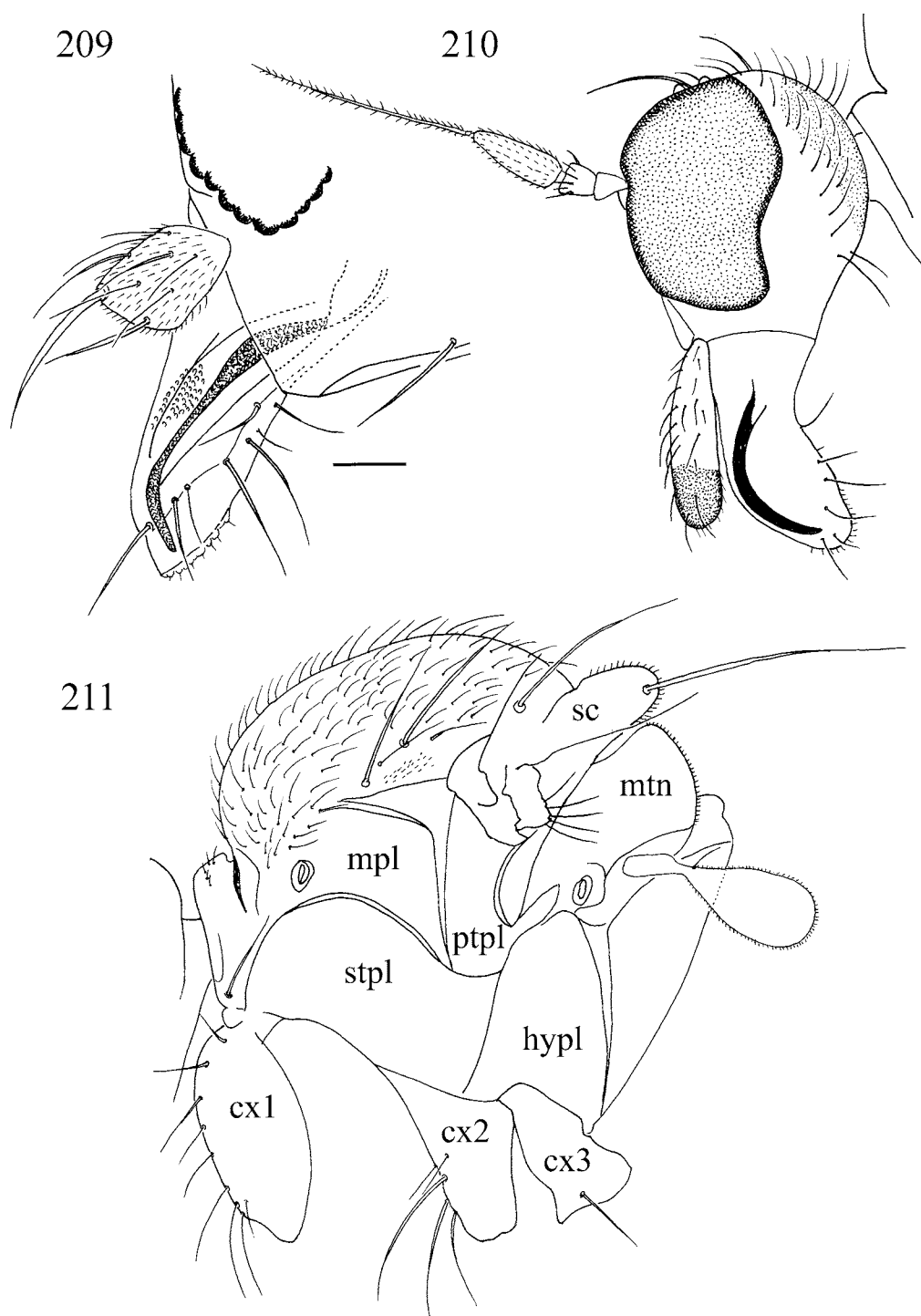
Abdomen with tergite 1 pale yellow. Tergites 2 and 3 brownish, subtriangular viewed dorsolaterally, with unmodified setation. Tergite 4 broadest, dark brown, with squamiform setae. Tergite 5 concolorous with tergite 4, narrow, divided along midline, with few squamiform setae. Tergites 6 and 7 yellowish, tergite 7 with moderately long posteromarginal bristles. Segment 8 brownish, elongate, with sclerites separated; sternite 8 somewhat folded apically. Cercus brownish.

Male. Unknown.

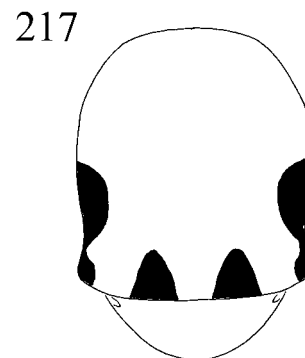
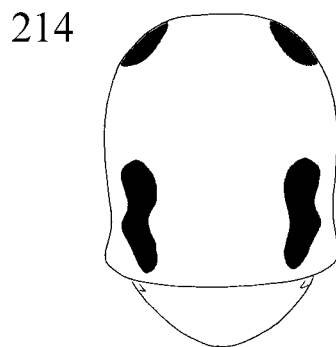
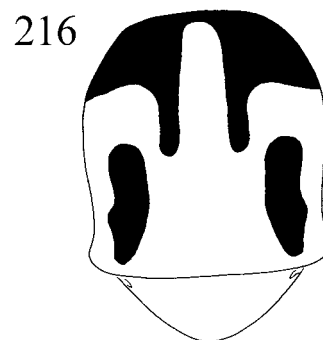
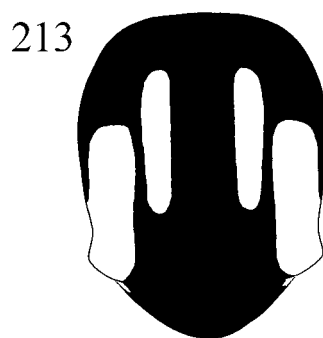
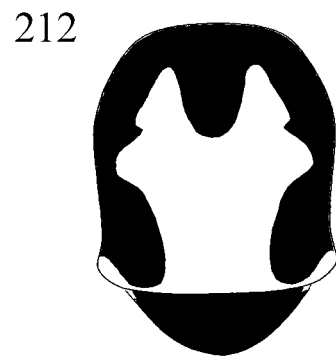
Material examined. 1 ♀, Sungei Buloh, 15 June 2005, mangrove, Mal 2 (reg. 25170, leg. PG, E-44).

Distribution and bionomics. Singapore. Mangrove.

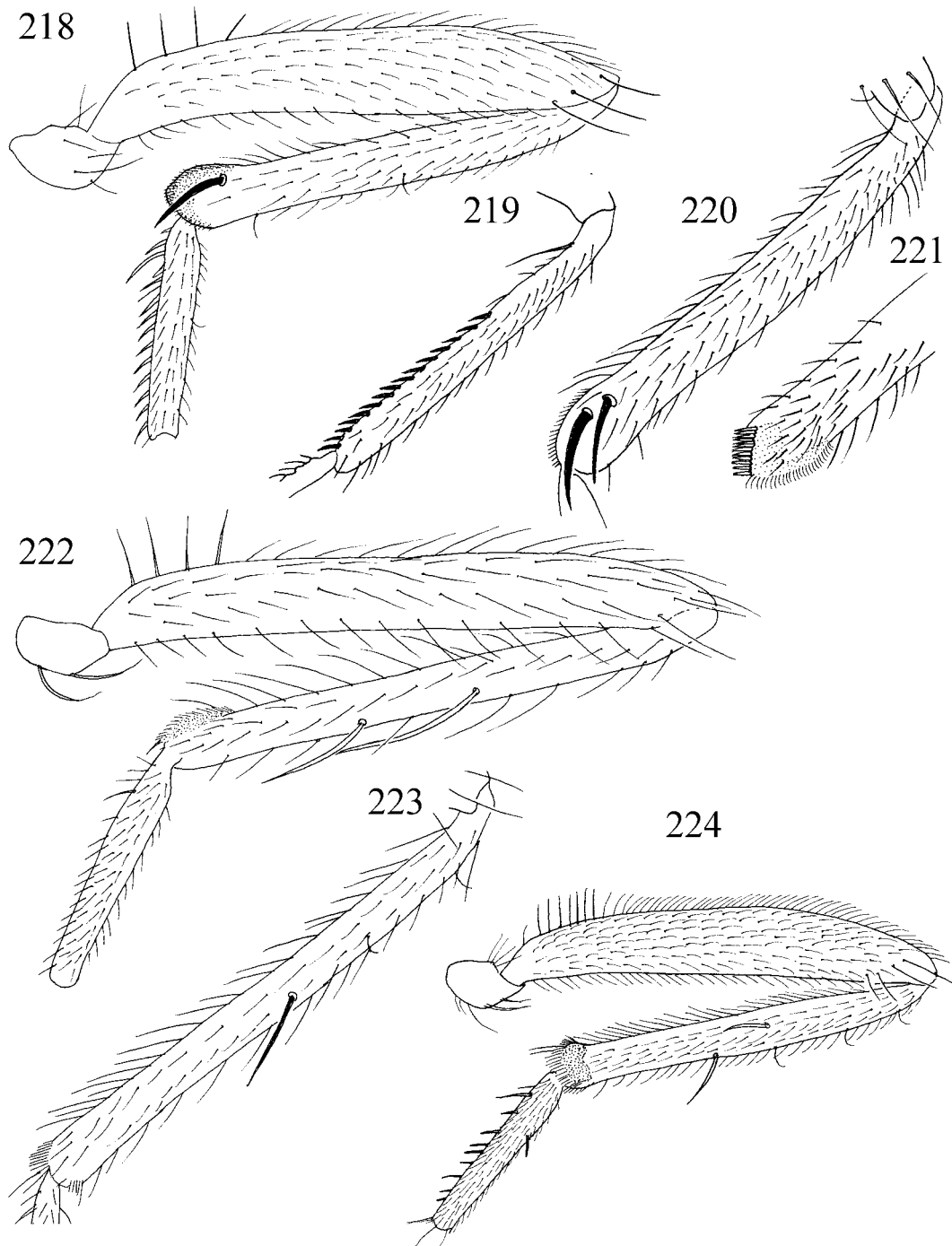
Remarks. Within the key to *Elaphropeza* this unnamed species runs to *E. lineola* and *E. scutellaris* differing primarily from these species by the presence of one anterodorsal bristle on the fore tibia.



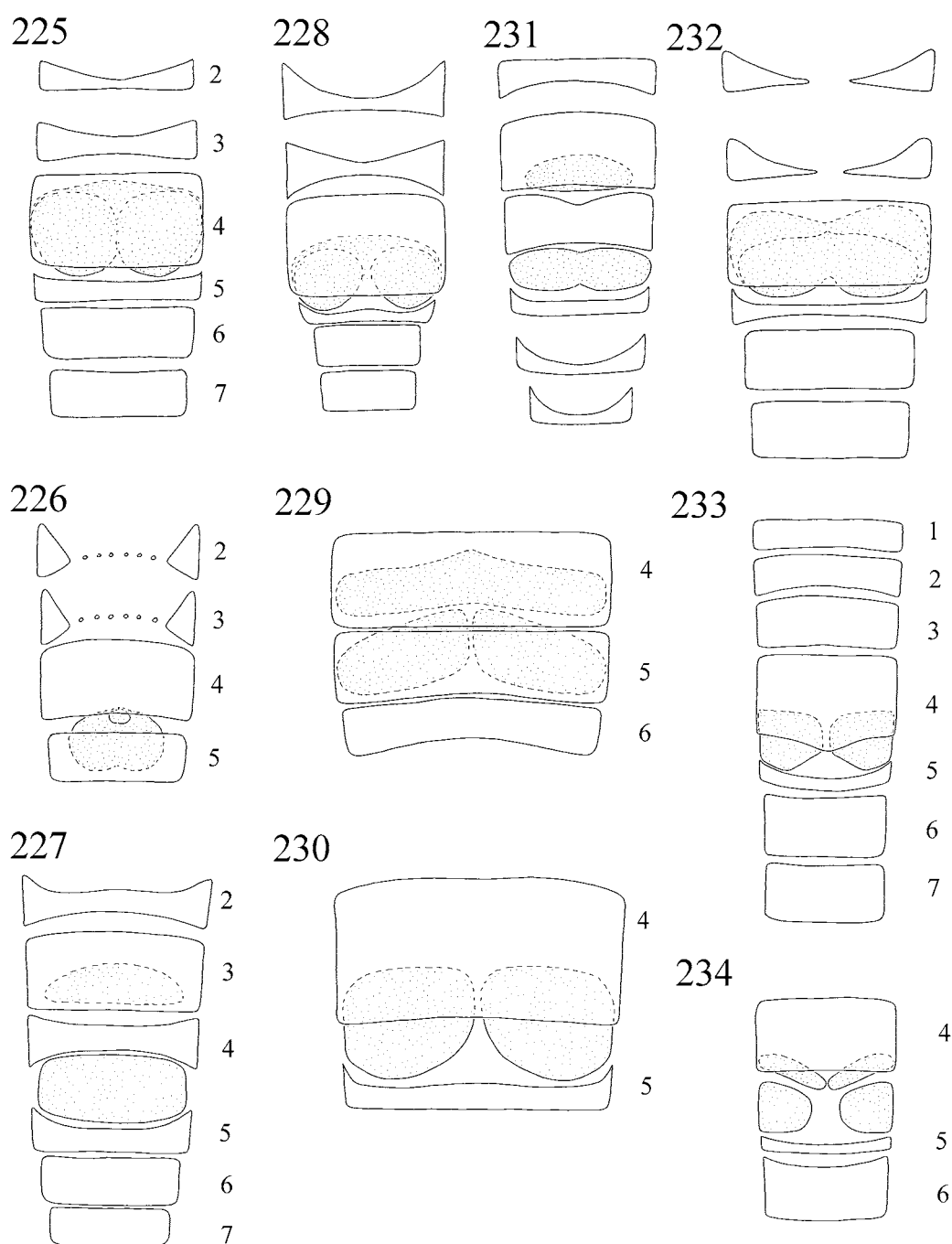
FIGURES 209–211. 209. *Elaphropeza biuncinata*: mouthparts. 210. *E. palpata*: head. 211. *E. biuncinata* pleura. Abbreviations: cx1: fore coxa; cx2: mid coxa; cx3: hind coxa; hyp1: hypopleuron (= meron); mpl: mesopleuron (= anepisternum); mtn: metanotum (= postnotum); ptp1: pteropleuron (anepimeron); sc: scutellum; stpl: sternopleuron (= katepisternum).



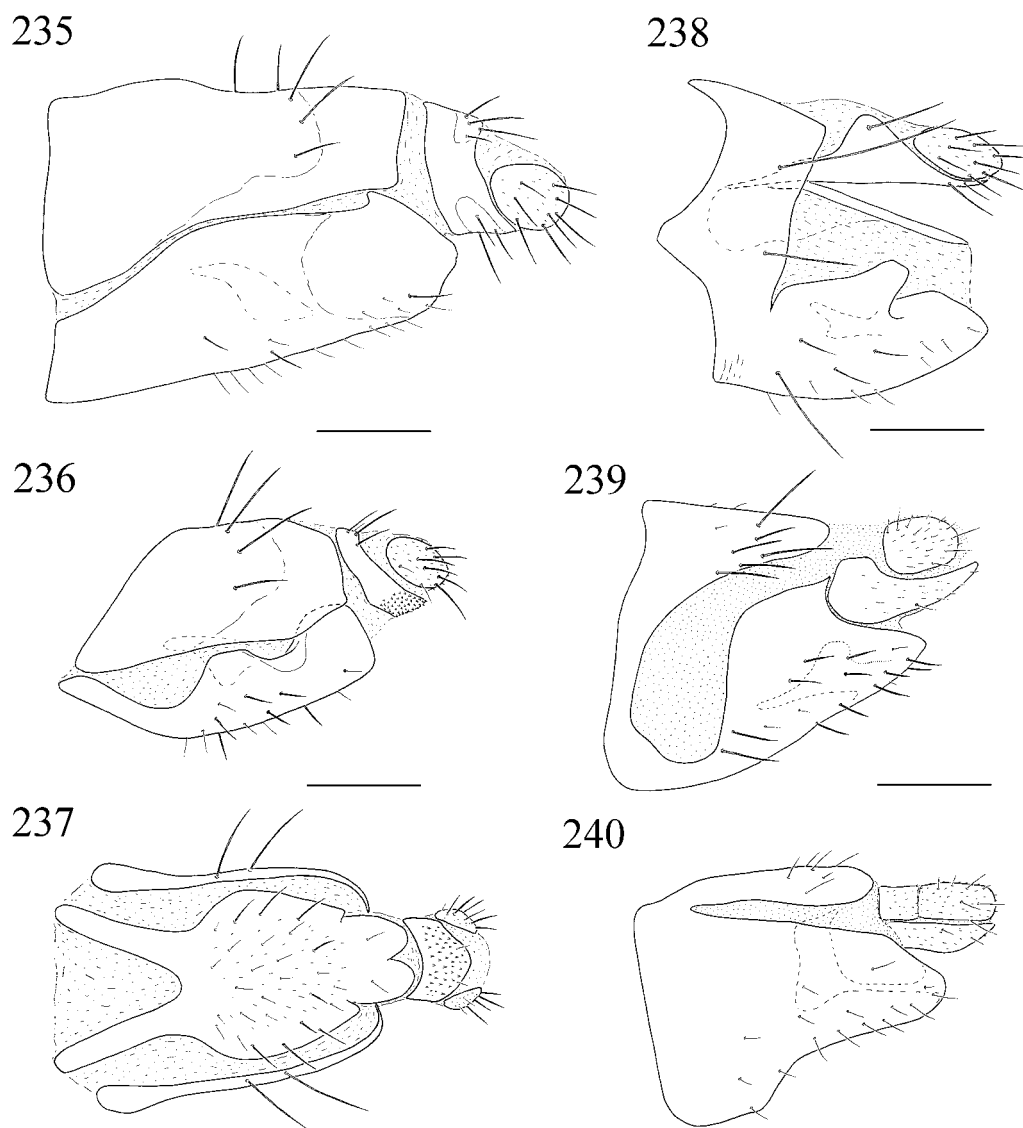
FIGURES 212–217. Mesonotum: **212.** *E. tiomanensis* sp. nov. **213.** *E. monospina* sp. nov. **214.** *E. benitotani* sp. nov. **215.** *E. spiralis* sp. nov. **216.** *E. melanderi* sp. nov. **217.** *E. equalis* sp. nov.



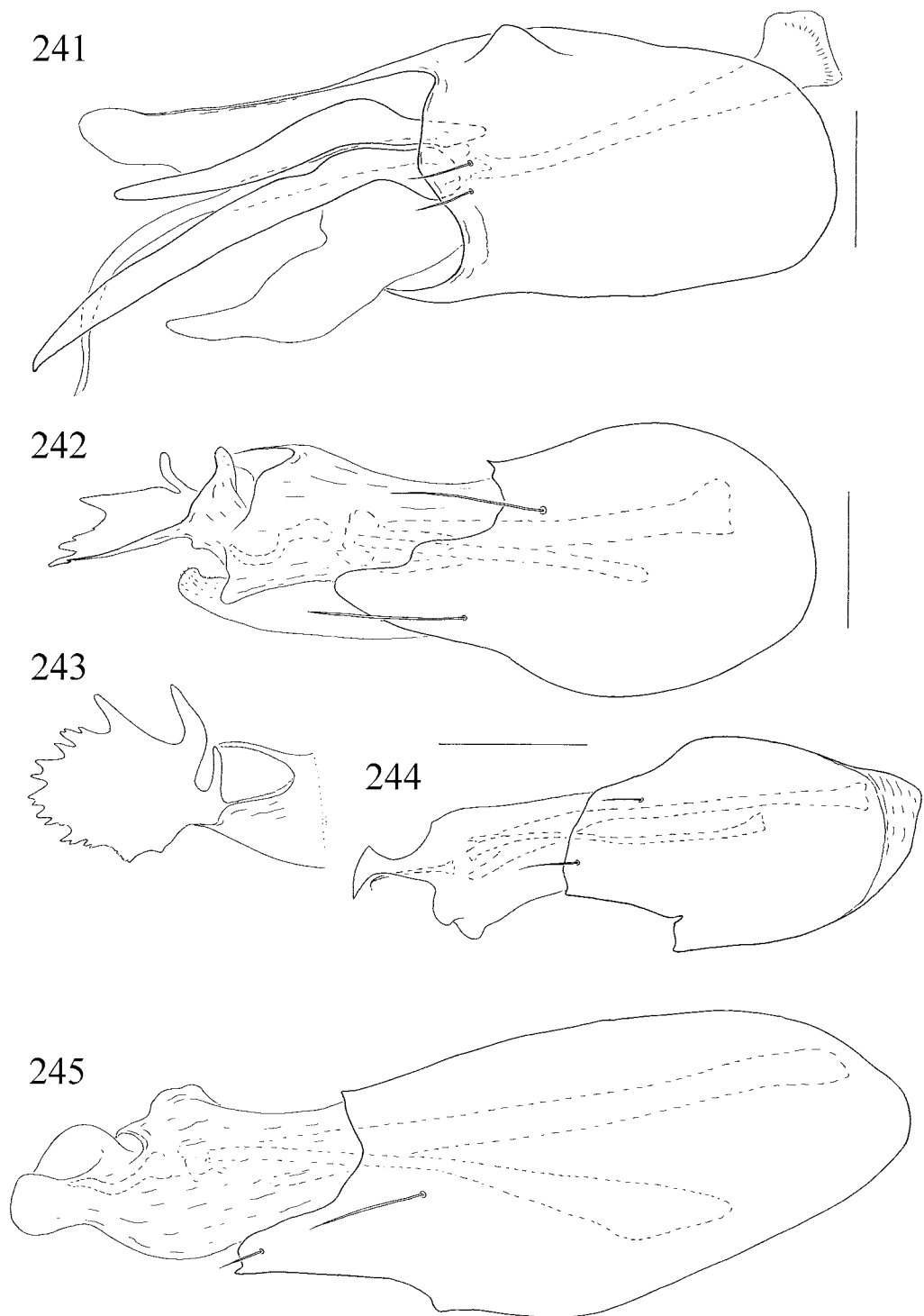
FIGURES 218–224. 218. *Elaphropeza crassicercus* sp. nov., hind tibia. 219. *E. biuncinata*, mid tibia. 220. *E. biuncinata*, hind tibia anteriorly. 221. *E. biuncinata*, tip of hind tibia posteriorly. 222. *E. bicaudata*, hind femur and tibia. 223. *E. bezzii* sp. nov., hind tibia anteriorly. 224. *E. palpata*, hind femur and tibia anteriorly.



FIGURES 225–234. Abdominal tergites dorsal view. **225.** *Elaphropeza bicaudata*. **226.** *E. equalis* sp. nov. **227.** *E. monospina* sp. nov. **228.** *E. riatanae* sp. nov. **229.** *E. combinata* sp. nov. **230.** *E. yeoi* sp. nov. **231.** *E. spiralis* sp. nov. **232.** *E. spicata* sp. nov. **233.** *E. meieri* sp. nov. **234.** *E. neesoonensis* sp. nov.



FIGURES 235–240. Ovipositors. **235.** *Elaphropeza ehippiata*. **236.** *E. bicaudata*. **237.** *E. bicaudata* ventral. **238.** *E. feminata* sp. nov. **239.** *E. biuncinata*. **240.** *E. singaporensis* sp. nov.



FIGURES 241–245. Hypandria. **241.** *Elaphropeza biuncinata*. **242.** *E. ehippiata*. **243.** *E. ehippiata*, detail tip. **244.** *E. meieri* sp. nov. **245.** *E. bicaudata*.

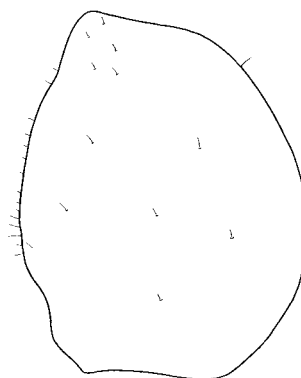
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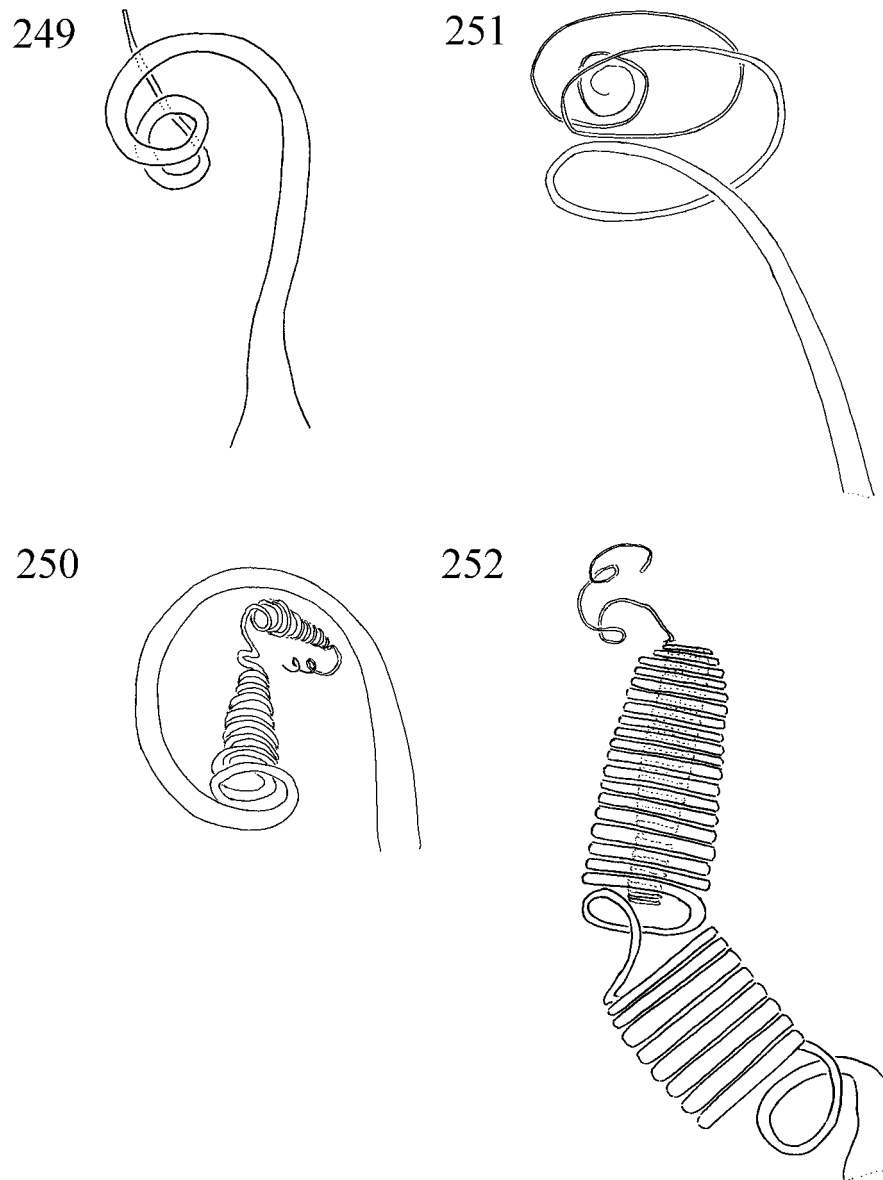
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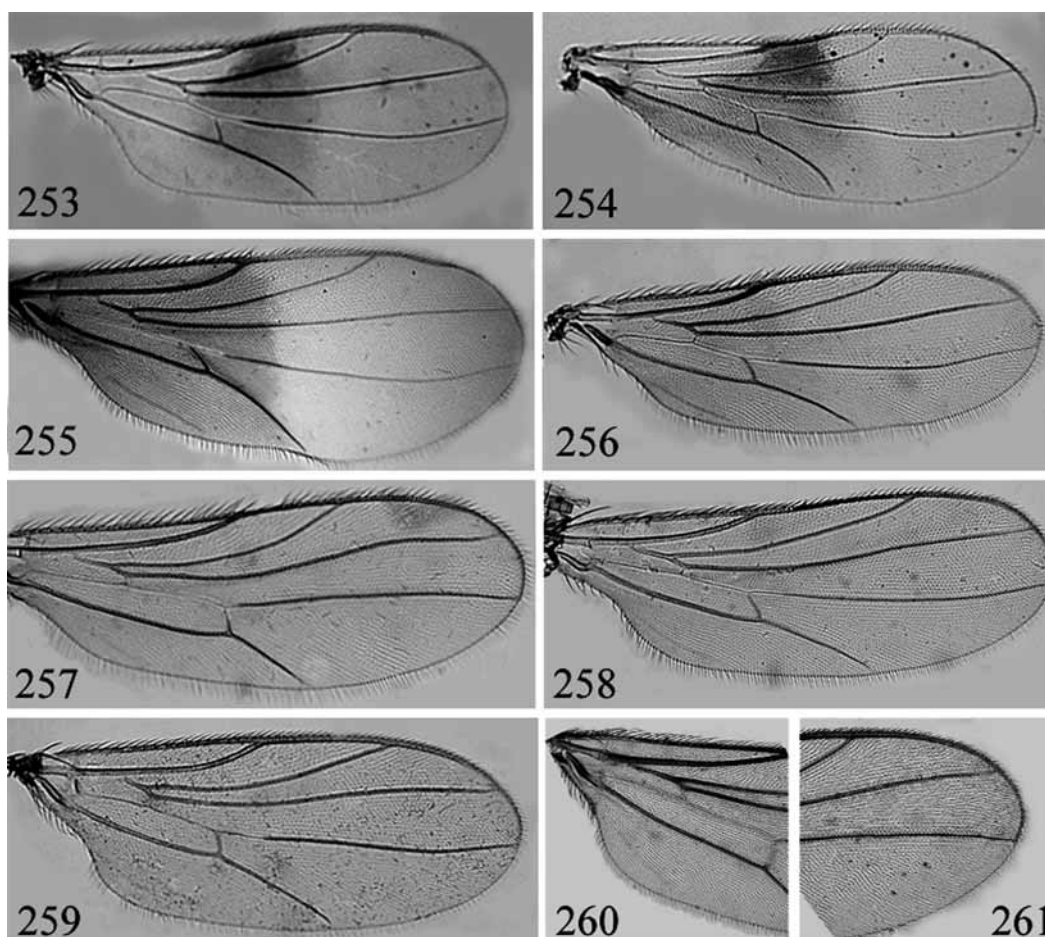
248



FIGURES 246–248. *Elaphropeza ehippiata*. **246.** epandrium with cerci. **247.** right epandrial lamella. **248.** left surstylus.



FIGURES 249–250. Phalli. **249.** *Elaphropeza sime* sp. nov. **250.** *E. flavicaput* sp. nov. **251.** *E. biuncinata*. **252.** *E. spiralis* sp. nov.



FIGURES 253-259. Wings. **253.** *Elaphropeza singaporensis* sp. nov. **254.** *E. pluriacantha* sp. nov. **255.** *E. yangi* sp. nov. **256.** *E. spiralis* sp. nov. **257.** *E. bicaudata*. **258.** *E. biuncinata*. **259.** *E. hirsutitibia*. **260-261.** *E. palpata*.

General Discussion

Phylogenetic relationships of *Elaphropeza*

The tribe Drapetini is quite well defined and currently includes the following genera: *Allodromia* Smith, *Ato-drapetis* Plant, *Austrodrapetis* Smith, *Austrodromia* Collin, *Chaetodromia* Chillcott, *Chersodromia* Walker, *Crossopalpus* Bigot, *Dusmetina* Gil, *Drapetis* Meigen, *Elaphropeza* Macquart, *Isodrapetis* Collin, *Megagrapha* Melander, *Micrempis* Melander, *Nanodromia* Grootaert, *Ngaheremyia* Plant & Didham, *Pontodromia* Grootaert, *Sinodrapetis* Yang, Gaimari and Grootaert, and *Stilpon* Loew (Collin 1928, 1933; Smith 1962; Chvála and Kovalev 1989; Cumming and Cooper 1992; Grootaert 1994; Plant 1997, 1999; Yang *et al.* 2004b; Plant and Didham 2006). However, the relationships within Drapetini remain very problematic and have not been resolved. Moreover, some genera require a more precise definition, especially in the phylogenetic context, or upon a world revision.

Elaphropeza is considered to belong to the lineage of Drapetini involving *Stilpon*, *Austrodrapetis*, *Dusmetina*, *Drapetis*, *Sinodrapetis* and *Ngaheremyia*. These genera share a shortened cell br of the wing that seems to be a synapomorphy of this assemblage (Cumming and Cooper 1992; Grootaert 1994). Cumming and Cooper (1992) hypothesised that *Elaphropeza*, *Drapetis* and *Crossopalpus* form a monophyletic group on the bases of similar male intersegmental modifications associated with abdominal tergites 4 and 5. Among these genera *Elaphropeza* and *Drapetis* may be sister groups, although a precise definition of the monophyly based on world revisions is urgently needed for all three groups. For the moment, we hypothesise that the mono-

phyly of *Elaphropeza* is based on the bare mesopleuron, although this condition appears to be homoplasious within Drapetini. The lack of precise data on many genera of the Drapetini is an obstacle for a rigorous cladistic analysis of the relationships within *Elaphropeza*. Nevertheless, some characters, where the phylogenetic value is more or less evident based on data currently available, could clarify at least the main evolutionary patterns within the genus.

Phylogenetic relationships within *Elaphropeza*

The relationships within *Elaphropeza* have never been analysed. All species of *Elaphropeza* examined can be arranged into two species groups, namely the *E. ehippiata* group and *E. biuncinata* group. Both groups can be readily distinguished in a number of external characters and have already been diagnosed above.

In species of the *E. biuncinata* group a long upturned bristle is present just above the fore coxa and abdominal tergites 3, 4 and 5 bear squamiform setae. In species of the *E. ehippiata* group the proepisternum is bare just above the fore coxa and abdominal tergite 3 is covered with unmodified setulae, lacking squamiform setae, which are present on tergites 4 and (or) 5 only. However, this definition of the *E. ehippiata* group is provisional because these characters appear to be plesiomorphic (see below). A precise analysis of the *Elaphropeza* sister group relationships within the Drapetini is likely to be especially important for a correct assessment of the monophyly of this unit.

The monophyly of the *E. biuncinata* group is strongly supported by a number of additional synapomorphies, such as the presence of one rod-shaped male genitalic apodeme, a long, spiral phallus, the presence of gland-like modifications between tergites 3 and 4; and the female has sclerites of abdominal segment 8 fused antero-laterally.

Within the subfamily Tachydromiinae a single rod-shaped male genitalic apodeme (an ejaculatory apodeme) is present only in species of the genus *Stilpon* (Cumming and Cooper 1992; Sinclair 1996; Shamshev and Grootaert 2004). The genus *Symballophthalmus* Becker (*Symballophthalmini* sensu Sinclair and Cumming) previously considered to also have a single rod-shaped apodeme (Cumming and Cooper 1992), is now known to also possess a second short apodeme (i.e. the ejaculatory apodeme; Sinclair and Cumming 2006, fig. 328). In the *E. ehippiata* group, like other Tachydromiinae, there are a pair of rods (an ejaculatory apodeme and a ventral apodeme). The homology of a single genitalic apodeme that was found in the *E. biuncinata* group will be discussed in a separate paper together with some undescribed taxa of Drapetini (Grootaert and Shamshev 2007 in preparation).

In species of the *E. ehippiata* group (like in most Drapetini) the phallus is very short (often hardly distinguishable) and weakly sclerotised. In contrast, all species belonging to the *E. biuncinata* group possess a very long phallus, often strongly spiralled, and usually rather strongly sclerotised (at least basally). Within Drapetini the elongate filamentous phallus is present in species of the genus *Allodromia* Smith (known from Brazil, the lesser Antilles, and from eastern North America), most Neotropical species of *Drapetis* and some *Stilpon* from the Oriental Region (Chillcott and Teskey 1983; Rogers 1983; Shamshev and Grootaert 2004).

In the *E. biuncinata* group abdominal segment 8 of the female is usually shortened and its sclerites are fused antero-laterally to different degrees, but the apical part of sternite 8 is never folded. As far as we are aware, within Drapetini, the fusion of tergite and sternite occurs in species of *Allodromia*, some species of *Micrempis* and an undescribed genus from the New World (Chillcott and Teskey 1983; Cumming 2007). In the *E. ehippiata* group (except *E. feminata* sp. nov.) the structure of abdominal segment 8 of the female is quite typical for species of Drapetini (Cumming and Cooper 1992). In *E. feminata* sp. nov. the sclerites of the segment 8 are fused like in the species of the *E. biuncinata* group. However, in this species, the female terminalia are clearly modified and the antero-lateral fusion of tergite and sternite 8 may be a reversal.

The presence of a long upturned bristle on the proepisternum just above the fore coxa may also be a synapomorphy supporting the *E. biuncinata* group. However, within the Drapetini the pattern of this character is

not quite clear. This bristle is present in *Crossopalpus*, but it is replaced by one to three hair-like setulae in *Drapetis*.

Currently, 25 species known from the Oriental Region are included in the *E. biuncinata* group. *Elaphropeza bihamata* (Bezzi), described from Papua New Guinea (Bezzi 1904), appears also to be a member of this unit. *Elaphropeza flavicornis* (Melander, 1918) (known from Panama and Costa Rica) probably also belongs to this group because Rogers (1983) indicates that this species has a long bristle just above fore coxa and abdominal tergites 3–5 bear squamiform setae. In the Afrotropical Region, *E. sebetuane* Smith and *E. sekeletui* Smith, both known only from South Africa (Smith 1969), may belong to this group, however their original descriptions are too incomplete for a final conclusion. No species of this group have yet been found in the Palaearctic and Nearctic Regions. So, the *E. biuncinata* group is likely to be widely distributed and species of this group occur exclusively in tropical areas.

At present, the relationships within the *E. biuncinata* species group cannot be precisely resolved. Nevertheless, the majority of species belonging to this unit (*E. biuncinata*, *E. hirsutitibia*, *E. combinata* sp. nov., *E. melanderi* sp. nov., *E. crassicercus* sp. nov., *E. spiralis* sp. nov., *E. yangi* sp. nov., *E. murphyi* sp. nov., *E. flavicaput* sp. nov., *E. monacantha* sp. nov. and *E. luanae* sp. nov. and some others) appears to form a monophyletic lineage sharing curved subapical bristles on the hind tibia. Within this lineage *E. spiralis* sp. nov., *E. yangi* sp. nov., *E. murphyi* sp. nov., *E. flavicaput* sp. nov., *E. monacantha* sp. nov. and *E. luanae* sp. nov. are probably closely related in having a very long phallus coiled in a peculiar double spiral.

The relationships of the remaining species (*E. singaporensis* sp. nov., *E. pluriacantha* sp. nov., *E. darrenyeoi* sp. nov., *E. tiomanensis* sp. nov., *E. acantha* sp. nov., *E. sylvicola* sp. nov.) included in the *E. biuncinata* group are not quite clear. These species are similar in habitus and generally are rather small; most of them are wholly or largely black and have a distinct wing pattern. However, the male terminalia morphology is more diverse here than within the lineage noted above. The female terminalia could provide some characters for the analysis (e.g., in *E. singaporensis* sp. nov. the sclerites of the segment 8 are broadly fused) but the female sex is unknown for most of these species.

In the structure of the male terminalia (the presence of long spines and an internal projection on the left surstylus), *E. pluriacantha* sp. nov. is closely related to *E. acantha* sp. nov. *Elaphropeza sime* sp. nov. appears to show some affinities to the main lineage of the *E. biuncinata* group because in this species the hind tibia bears two straight anterior subapical bristles of different lengths. Interesting features of the male terminalia are present in *E. tiomanensis* sp. nov. and *E. darrenyeoi* sp. nov. In the former species the right epandrial lamella is very small while the right surstylus is greatly enlarged. *Elaphropeza darrenyeoi* sp. nov. is the only species of the *E. biuncinata* group lacking a prominent right surstylus. We believe that further collecting efforts may clarify the relationships of these species because they may represent separate lineages within the *E. biuncinata* group.

The *E. ephippiata* group is more heterogeneous than the *E. biuncinata* group and in the future, when new data becomes available, the group may be further divided. Nevertheless, currently we hypothesise that the monophyly of this group is supported by the absence of the right surstylus of the male terminalia. Like the *E. biuncinata* group the species of the *E. ephippiata* group mostly occur in the tropics but a few species known from the Palaearctic and Nearctic belong to this group.

The relationships within the *E. ephippiata* species group appear to be quite complicated. A monophyletic lineage sharing completely fused cerci is the most numerous in species (at least in the Oriental Region). Among the species we have studied this lineage unites *E. neesoonensis* sp. nov., *E. yeoi* sp. nov., *E. belumut* sp. nov., *E. meieri* sp. nov., *E. sivasothii* sp. nov., *E. malayensis* sp. nov., *E. limosa* sp. nov., *E. monospina* sp. nov., *E. pauper* sp. nov., *E. riatanae* sp. nov., *E. furca* sp. nov., *E. ubinensis* sp. nov., *E. demejerei* sp. nov., *E. chekjawa* sp. nov., *E. asiophila* sp. nov., *E. aristalis*, *E. calcarifera* and *E. bicaudata*. This lineage of the *E. ephippiata* group taxonomically is quite difficult and includes species having a black or yellow body as well as species with the hind tibia bearing or lacking anterodorsal bristles. Among the species noted *E. chekjawa*

sp. nov., *E. asiophila* sp. nov., *E. sivasothii* sp. nov., *E. malayensis* sp. nov., and probably *E. aristalis* are closely related sharing apical spines on the right epandrial lamella. Furthermore, *E. chekjava* sp. nov. and *E. asiophila* sp. nov. appear to be sister species that may be based on the modified abdominal tergites 6 and 7 of the male. In having a cuneiform wing with a reduced anal lobe *E. aristalis* is probably closely related to *E. strigifera* and *E. cuneipennis*. However, the male terminalia have not been examined in the latter two species.

The remaining species classified within the *E. ehippiata* group may provisionally belong to different monophyletic lineages or their phylogenetic relationships currently are unclear. The latter remark could be attributed to *E. benitotani* sp. nov., *E. ngi* sp. nov. and *E. palpata*. However, *E. palpata*, *E. nigropunctata*, *E. lanuginosa* and some undescribed species allied to *E. palpata* (see remarks about this species in "Systematic account") may form a monophyletic lineage sharing a very short cell br of the wing or a modified palpus. Although, the shortened cell br appears to be a homoplasious state because it is present in *E. obliquinervis* belonging to the *E. biuncinata* group. Unfortunately, *E. nigropunctata*, *E. lanuginosa* and *E. obliquinervis* are known from the type specimens only and their male terminalia have not been studied. In having a modified ampoule-like abdominal gland *E. equalis* sp. nov. seems to be closely related to *E. bulohensis* sp. nov. *E. temasek* sp. nov., *E. bezzii* sp. nov. and *E. ehippiata* share a prolonged subepandrial sclerite, while *E. spicata* sp. nov., *E. luteoides* sp. nov. and *E. lutea* have subequally long ocellar bristles.

Notes about some morphological features in *Elaphropeza*

Externally, the species of *Elaphropeza* treated in this paper are quite uniform. Nevertheless, they share diverse and interesting morphological features, which deserve to be briefly discussed.

The predominantly yellow colour of the body is a distinctive feature of most species of *Elaphropeza*. However, a number of species with a wholly black body and intermediate forms have been also described. There is quite a clear relationship between body colour and the habitat of the species. The black-bodied forms usually occur in open, sunny exposed habitats. The yellow species are mainly found in forests. Yellow and black species are found in both species groups recognised in this paper. In the yellow-bodied species the pattern of brown markings is of special importance in distinguishing species. Within Drapetini, yellow species are found within *Allodromia*, *Austrodromia* and *Stilpon* (Smith 1962; Chillcott and Teskey 1983; Shamshev and Grootaert 2004).

Among the morphology of the head we could note a remarkable development of the palpus in *E. palpata*. In *Elaphropeza*, like in other Drapetini, the palpus usually is small, elongate-oval and uniformly coloured. But in *E. palpata* the palpus is long, strap-like, and black on apical third resembling that found in some species of *Tachydromia* Meigen.

Species of *Elaphropeza* exhibit a large number of abdominal modifications. The most evident modifications deal with the degree of the sclerotisation of some abdominal tergites. In many species of *Elaphropeza* (especially in the *E. ehippiata* group) the sclerotisation of abdominal tergites 1–3 (and sometimes tergites 6 and 7) is greatly reduced giving them a narrow appearance and partly or wholly pale yellow coloured. Similarly, tergite 5 usually is greatly reduced and often hidden by tergite 4. In contrast, tergite 4 often is somewhat broadened and more strongly sclerotised than the other tergites (*E. ehippiata* group).

Gland-like abdominal structures are known to be present in species of some Drapetini genera; e.g., *Elaphropeza* Macquart, *Drapetis* Meigen, *Crossopalpus* Bigot, *Dusmetina* Gil, and *Austrodrapetis* Smith (Collin 1961; Smith 1964; Smith & Davies 1965; Stark 1990; Cumming and Cooper 1992). Quite recently they were found to occur also in some species of *Nanodromia* Grootaert and *Stilpon* Loew (Grootaert & Shamshev 2003; Shamshev and Grootaert 2004). In almost all cases (except *Elaphropeza* and some species of *Crossopalpus* (Shamshev *et al.* 2005)) the gland-like abdominal structures are associated with the male sex only and are considered to be deal with epigamic behaviour (Smith and Davies 1965). In *Elaphropeza* the gland-like abdominal structures are present in all species that we have examined and they are always associated with

both sexes. Additionally, no sexual dimorphism has been found in this character. Because the functional value of the gland-like abdominal structures remain unclear, it is difficult to comment on the differences between genera of Drapetini. An electron microscopic study showed the presence of glandular cells in *Elaphropeza* (Grootaert, unpubl. data), so we suppose that the glands may produce sex or aggregation pheromones. However, a similar study in *Crossopalpus* did not reveal the presence of these cells (Shamshev *et al.* 2005). It should be noted that in the latter case the structures are greatly modified and appear to be used as a physical stimulus.

Within *Elaphropeza* there are two distinct patterns of distribution of the gland-like abdominal structures. In species of the *E. ehippiata* group they are present between tergites 4 and 5 while in the *E. biuncinata* group – between tergites 3–4 and 4–5. Morphologically, in both groups the gland-like structures are quite uniform and they usually look like simple, elongate, narrow darkened sclerites with a pilose vestiture resembling those found in *Drapetis*, *Stilpon* and *Nanodromia* (Shamshev and Grootaert 2004). However, in *E. equalis* sp. nov. and *E. bulohensis* sp. nov. (Figs. 174, 226), both belonging to the *E. ehippiata* group, the gland-like structures are greatly modified and represented by a single ampoule situated between tergites 4 and 5. Similar modifications can be found in *Nanodromia*, *Stilpon*, *Drapetis* and *Crossopalpus* (Grootaert and Shamshev 2003, 2007). It is evident that such transformations occurred independently within different lineages of Drapetini. The origin of the abdominal gland-like structures is not quite clear. Collin (1961) hypothesized that the abdominal structures found between tergites 4 and 5 have derived from tergite 5.

In *Elaphropeza*, like in other Drapetini, the pregenital segments of the male are usually unmodified. However, in *E. pauper* sp. nov. segment 8 is supplied with a process bearing three very long flattened bristles.

An enigmatic abdominal modification was found in *E. asiophila* sp. nov. In this species tergites 1–5 are typical for the *E. ehippiata* group. However, tergites 6 and 7 are almost completely divided and tergite 7 has long internal lateral apodemes. The pleuron of segment 4 bears a spine-like process while the pleuron of segment 5 possesses a groove with ridges (Figs. 139, 140). These structures resemble a primitive stridulatory device. The presence of the internal apodemes on tergite 7 likely indicates the development of strong muscles that may indirectly support this hypothesis. Also, we believe that these modifications could be involved in producing vibrations on a substrate. However, nothing is known about the behaviour of *Elaphropeza* and direct observations are needed for a less speculative interpretation of the function of this device.

A modification of the abdominal sternites was found only in *E. bulohensis* sp. nov. In this species sternite 4 bears 2 tubercles. However, *E. bulohensis* sp. nov. is known from the male sex only, so it is unclear if this feature is present in females. Otherwise, in *Elaphropeza* the abdominal sternites are quite prominent, although some of them are often divided along the midline.

The abdominal vestiture of *Elaphropeza* is reduced but quite distinctive due to the presence of squamiform setae. There is a clear difference between the species groups of *Elaphropeza* in the patterns of distribution of these setae. In the *E. biuncinata* group the squamiform setae are always associated with tergites 3, 4 and 5 while in the *E. ehippiata* group they can be found on tergites 4 and 5, or on one of these tergites, or, rarely, they are completely absent. Within Drapetini similar squamiform setae appear to be found in some species of *Drapetis* and *Crossopalpus*.

In *Elaphropeza* sexual dimorphism is rarely prominent and usually deals with vestiture of the mid legs only. The males (all species belonging to *E. biuncinata* group and most species of *E. ehippiata* group) differ from females only by the presence of black ventral spinules on the mid tibia. However, in some species of the *E. ehippiata* group these spinules are also present in the females and thus sexual dimorphism is not obvious.

Bionomics

Adult *Elaphropeza* are leaf-dwellers. Although nothing is known about the feeding habits of the adults, the strong hook-shaped labrum suggests that they are predators like most other Tachydromiinae. A short note by

Patnaik & Satpay (1984) suggests that the larvae are (hyper)parasites on other Diptera. However, this observation needs confirmation. The ovipositor indeed seems not adapted for digging in soil, lacking shovel-like spines (acanthae) like in most Dolichopodidae and some Brachystomatidae, but that leaves open all kinds of speculation.

Most species have a habitat preference. A number of species with a black thorax occurs in sun-lit areas such as swamps where they are found on the leaves of short grasses. In Nee Soon, *E. neesoonensis* sp. nov. was observed exclusively in the sunny-exposed marshland and was never caught in the surrounding forest. In the forest, species generally have a completely yellow thorax. A similar phenomenon occurs in forest-dwelling *Platypalpus* and many forest Dolichopodidae.

Most *Elaphropeza* are terrestrial, but in the present study we found 30 species of *Elaphropeza* occurring in mangrove. Fourteen species are even found exclusively in mangrove and two species that are dominant in mangrove have a few records in terrestrial forests. Dominant mangrove species are *E. limosa* sp. nov. (40 individuals.), *E. monospina* sp. nov. (35 ind.), *E. murphyi* sp. nov. (23 ind.), *E. asexuata* sp. nov. (19 ind.), *E. crassicornis* sp. nov. (14 ind.), *E. malayensis* sp. nov. (14 ind.), *E. feminata* sp. nov. (14 ind.) and *E. riatanae* sp. nov. (12 ind.). The other species are found with less than 10 individuals. Ubiquist or eurytope species such as *E. biuncinata* (2 ind. in mangrove of a total of 106 in other habitats in Singapore) and *E. bicaudata* (9 ind. in mangrove of a total of 230 in Singapore) that are dominant in terrestrial habitats, occur only in very small numbers in mangrove. Apparently adaptation to the marine environment is specific so that even ubiquist species that can tolerate anthropogenic habitats are rare in marine habitats.

Oriental diversity

The 544 samples from Singapore contained 987 individuals that belong to 52 species. Fourteen species are represented by singletons (26%), three species by doubletons (7%). Singletons and doubletons represent one third of the fauna (33%). This high number of singletons and doubletons suggest that even in Singapore, which is now relatively well sampled, many new species await discovery.

In the present study we found only four of the previous 79 described species: *E. palpata* de Meijere (Java), *E. hirsutitibia* de Meijere (Java), *E. biuncinata* Melander (Philippines) and *E. bicaudata* Melander (Philippines). Remarkable is that the *E. biuncinata* and *E. bicaudata* are the dominant species in Singapore. All other 48 species are reported for the first time.

Apparently the distribution of *Elaphropeza* species is limited as shown by the huge number of endemic species. Also remarkable is that we did not find any of the 38 Mainland Chinese Oriental species in Southeast Asia.

Table 1 gives the number of described species per country. As can be seen, huge areas such as the Indian subcontinent and Southeast Asia on the whole have very few species in comparison to Singapore, which lies in the centre of Southeast Asia. Although the sample in Singapore is probably representative for the Singaporean fauna, it does not reflect the diversity of the very rich forests in nearby Malaysia and Thailand, not to speak of the other countries.

Although there might be some endemism, the observations in Singapore and the data from Table 1 suggest that there is a huge under-sampling in the Oriental Region and that many species await discovery.

TABLE 1. Number of actually known Oriental *Elaphropeza* species per country.

Indian subcontinent	
Sri Lanka	8 species
India	4
Nepal	6
Southeast Asia	
Burma	1
Thailand	1 (present study)
Laos	0
Viet Nam	0
Cambodia	1 (present study)
Malaysia	10 (present study)
Indonesia	8
Singapore	52 (present study)
Philippines	6
Taiwan	10
China	
South China	38

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Check-list of *Elaphropeza* from the Oriental Region

- abdominenotata** Senior-White, 1922: 151 (female, *Elaphropeza*). – Sri Lanka.
- abnormalis** (Yang and Yang), 1990: 63, figs 2 a, b, c (male genitalia) (male and female, *Drapetis* (*Drapetis*)) [English p. 70]. – China (Yunnan). **Comb. nov.**
- acantha sp. nov.** – Singapore.
- acrodactyla** (Melander), 1928: 312 (female, *Drapetis* (*Elaphropeza*)). – Philippines [Luzon].
- alamaculata** Yang, Yang and Hu, 2002: 739 (female, *Elaphropeza*) [English p. 740]. – China (Hainan).
- anae** Yang, Gaimari, 2005: 51, figs 4-6 (genitalia) (male and female, *Elaphropeza*). – China (Guangxi).
- aristalis** (Melander), 1918: 205 (male and female, *Ctenodrapetis*). – Philippines [Luzon].
- asexa sp. nov.** – Singapore.
- asiophila sp. nov.** – Malaysia, Singapore.
- basalis** Bezzi, 1904: 349 (female, *Elaphropeza*). – Sri Lanka.
- belumut sp. nov.** – Malaysia.
- benitotani sp. nov.** – Singapore.
- bezzii sp. nov.** – Singapore.
- bicaudata** (Melander), 1928: 313 (male and female, *Drapetis* (*Elaphropeza*)). – Philippines [Luzon], Malaysia, Singapore.
- bicoloripes** Brunetti, 1913: 43 (female, *Elaphropeza*). – India [West Bengal].
- binotata** (de Meijere), 1911: 333 (female, *Drapetis*). – Indonesia (Java).
- bisetifera** Yang, Yang and Hu, 2002: 738, figs 19-21 (genitalia) (male and female, *Elaphropeza*) [English p. 740]. – China (Hainan).
- biuncinata** (Melander), 1928: 313 (male, *Drapetis* (*Elaphropeza*)). – Philippines [Luzon], Malaysia, Singapore.
- bulohensis sp. nov.** – Singapore.
- calcarifera** Bezzi, 1907: 488 (male, *Elaphropeza*) [Bezzi, 1912: 489 (female)]. – Taiwan.
- centristria** (Yang and Yang), 2003: 262 (female, *Drapetis* (*Elaphropeza*)) [English p. 365]. – China (Fujian).
- chebalingensis** Yang, Merz and Grootaert, 2006: 570, figs 1-5 (antenna, mesonotum, male genitalia) (male, *Elaphropeza*). – China (Guangdong).
- chekjawa sp. nov.** – Singapore.
- coei** (Smith), 1965: 67, fig. 1 (hypopygium) (male and female, *Drapetis* (*Elaphropeza*)). – Nepal.
- combinata sp. nov.** – Singapore.
- crassicercus sp. nov.** – Singapore.
- cuneipennis** (Melander), 1918: 206 (female, *Ctenodrapetis*). – Philippines [Luzon].
- darrenyeoi sp. nov.** – Singapore.
- demeijeri sp. nov.** – Singapore.
- discoidalis** (Bezzi), 1904: 355 (female, *Drapetis* (*Ctenodrapetis*)). – India [Maharashtra].
- distincta** Senior-White, 1922: 152 (female, *Elaphropeza*). – Sri Lanka.
- equalis sp. nov.** – Singapore.
- feminata sp. nov.** – Singapore.
- ferruginea** Brunetti, 1913: 43 (male, *Elaphropeza*). – India [W Bengal].
- flavicaput sp. nov.** – Singapore.
- formosae** Bezzi, 1907: 566 (female, *Elaphropeza*) [Bezzi, 1912: 487 (male)]. – Taiwan, China (Hainan).
- fujianensis** (Yang and Yang), 2003: 262 (female, *Drapetis* (*Elaphropeza*)) [English p. 365]. – China (Fujian).
- fulvithorax** van der Wulp, 1897: 138 (male, *Elaphropeza*) [de Meijere, 1913: 73 (female)]. – Sri Lanka.
- furca sp. nov.** – Singapore.
- fuzhouensis** (Yang and Yang), 2003: 261 (female, *Drapetis* (*Elaphropeza*)) [English p. 365]. – China (Fujian).

guangdongensis (Yang, Gaimari and Grootaert), 2004a: 107, figs 1-3 (genitalia) (male, *Drapetis*) – China (Guangdong). **Comb. nov.**

guangxiensis (Yang and Yang), 1992a: 45, fig. 2 (genitalia) (male and female, *Drapetis* (*Elaphropeza*)) [English p. 48]. – China (Guangxi).

guiensis (Yang and Yang), 1989a: 36 (female, *Drapetis* (*Elaphropeza*)) [English p. 39] [Yang *et al.* 2006: 272 (re-description), figs 6-10 (antenna, mesonotum, male genitalia)]. – China (Sichuan, Guangdong, Guizhou).

henanensis Saigusa, Yang, 2002: 528, figs 23, 24 (genitalia) (male, *Elaphropeza*). – China (Henan).

hirsutitibia de Meijere, 1914: 75 (female, *Elaphropeza*). – Indonesia (Java), Malaysia, Singapore, Thailand.
? = *bihamata* Bezzi, *sensu* de Meijere, 1911: 332 (*Drapetis*).

jianyangensis (Yang and Yang), 2003: 262 (female, *Drapetis* (*Elaphropeza*)) [English p. 365]. – China (Fujian).

jinghongensis (Yang and Yang), 1990: 66 (female, *Drapetis* (*Elaphropeza*)) [English p. 71]. – China (Yunnan).

kala (Smith), 1965: 66 (female, *Drapetis* (*Elaphropeza*)). – Nepal.

kerteszi Bezzi, 1912: 486 (male and female, *Elaphropeza*). – China (Taiwan), Indonesia (Java).

kunmingana (Yang and Yang), 1990: 65, figs 5 a, b, c (male genitalia) (male, *Drapetis* (*Drapetis*)) [English p. 71]. – China (Yunnan). **Comb. nov.**

lancangensis (Yang and Yang), 1990: 68, fig. 7 (genitalia) (male, *Drapetis* (*Elaphropeza*)) [English p. 72]. – China (Yunnan).

lanuginosa Bezzi, 1914: 75 (male and female, *Elaphropeza*). – China (Taiwan).

lii (Yang and Yang), 1990: 69 (female, *Drapetis* (*Elaphropeza*)) [English p. 72]. – China (Yunnan, Hainan).

limosa **sp. nov.** – Singapore.

lineola de Meijere, 1911: 331 (female, *Elaphropeza*). – Indonesia (Java).

litoralis (Smith), 1965: 68 (male and female, *Drapetis* (*Elaphropeza*)). – Nepal.

liui Yang, Gaimari, 2005: 51, figs 1-3 (genitalia) (male, *Elaphropeza*). – China (Guangxi).
= *liu*: Yang, Grootaert, 2006: 220, error.

longicalcaris (Saigusa), 1965: 187, fig. 5-B (wing), 6 (hind leg) (female, *Drapetis* (*Elaphropeza*)). – Taiwan.

longiconica (Yang and Yang), 1992b: 1094, fig. 6 (genitalia) (male, *Drapetis* (*Elaphropeza*)). – China (Yunnan, Sichuan) (English, p. 1096).

luanae **sp. nov.** – Singapore.

lutea (de Meijere), 1911: 332 (male and female, *Drapetis*). – Indonesia (Java).

luteoides **sp. nov.** – Singapore.

malayensis **sp. nov.** – Malaysia, Singapore.

maoershanensis Yang, Grootaert, 2006: 220, figs 4-6 (genitalia) (male, *Elaphropeza*). – China (Guangxi).

maolana (Yang and Yang), 1994: 1, figs 1,2 (male genitalia) (in Chinese) (male, *Drapetis* (*Drapetis*)). – China (Guizhou). **Comb. nov.**

marginalis Bezzi, 1912: 489 (male and female, *Elaphropeza*). – Taiwan.

medipunctata (Yang and Yang), 1994: 26 (female, *Drapetis* (*Elaphropeza*)) (Chinese, p. 27). – China (Guangxi, Hainan).

meieri **sp. nov.** – Singapore.

meihuashana (Yang and Yang), 2003: 263, fig. 29-376 (hypopygium) (male, *Drapetis* (*Elaphropeza*)) [English p. 365]. – China (Fujian).

melanderi **sp. nov.** – Singapore.

melanura Bezzi, 1912: 489 (male and female, *Elaphropeza*). – Taiwan.
= *menalura*: Yang and Yang, 1992: 1094 and 1096, error.

metatarsata Bezzi, 1904: 348 (female, *Elaphropeza*). – Sri Lanka.

modesta sp. nov. – Singapore.

monospina sp. nov. – Malaysia, Singapore.

murphyi sp. nov. – Singapore.

nankunshanensis Yang, Grootaert, 2006: 219, figs 1-3 (genitalia) (male, *Elaphropeza*). – China (Guangdong).

nanlingensis (Yang, Gaimari and Grootaert), 2004a: 108, figs 4-6 (genitalia) (male, *Drapetis*) – China (Guangdong). **Comb. nov.**

neesoonensis sp. nov. – Singapore.

ngi sp. nov. – Singapore.

nigropunctata Senior-White, 1922: 152 (male, *Elaphropeza*). – Sri Lanka.

notatithorax Senior-White, 1922: 151, pl. XIV, fig. 10 (antenna) (male, *Elaphropeza*). – Sri Lanka.

obliquinervis de Meijere, 1914: 73, Taf. 2, Fig. 9 (wing) (male, *Elaphropeza*). – Indonesia (Java).

obtusa (Yang and Yang, 1990): 65, figs 3 a, b, c (male genitalia) (male, *Drapetis* (*Drapetis*)) [English p. 70]. – China (Yunnan). **Comb. nov.**

pallidarista Yang, Yang and Hu, 2002: 738, figs 22-24 (genitalia) (male, *Elaphropeza*) [English p. 740]. – China (Hainan).

palpata de Meijere, 1911: 330 (male, *Elaphropeza*). – Indonesia (Java), Singapore, Cambodia.

paucipunctata (Yang and Yang), 1989a: 37 (female, *Drapetis* (*Elaphropeza*)) [English p. 39]. – China (Guizhou).

pauper sp. nov. – Singapore.

pictithorax Bezzi, 1912: 486 (male and female, *Elaphropeza*). – Taiwan.

pilata (Yang and Yang), 1994: 26 (female, *Drapetis* (*Elaphropeza*)) (Chinese, p. 28). – China (Guangxi).

plumata Yang, Merz and Grootaert, 2006: 575, figs 11-15 (antenna, mesonotum, male genitalia) (male, *Elaphropeza*). – China (Guangdong).

plumicornis Senior-White, 1922: 150, pl. XIV, fig. 9 (antenna) (female, *Elaphropeza*). – Sri Lanka.

pluriacantha sp. nov. – Singapore.

postnigra (Yang and Yang), 1990: 67, fig. 5 (genitalia) (male, *Drapetis* (*Elaphropeza*)) [English p. 71]. – China (Yunnan).

riatanae sp. nov. – Singapore.

ruiliensis (Yang and Yang), 1990: 67, fig. 6 (genitalia) (male, *Drapetis* (*Elaphropeza*)) [English p. 71]. – China (Yunnan).

sanguensis (Smith), 1965: 70, fig. 2 (hypopygium) (male and female, *Drapetis* (*Elaphropeza*)). – Nepal.

scutellaris Bezzi, 1912: 487 (male and female, *Elaphropeza*). – Taiwan.

sime sp. nov. – Singapore.

singaporensis sp. nov. – Singapore.

singulata sp. nov. – Singapore.

sivasothii sp. nov. – Singapore.

smithi sp. nov. – Singapore.

spicata sp. nov. – Malaysia, Singapore.

spiralis sp. nov. – Singapore.

striata (Yang and Yang), 1992b: 1093 (female, *Drapetis* (*Elaphropeza*)) (English, p. 1096). – China (Yunnan, Fujian).

strigifera (de Meijere), 1911: 333 (male, *Drapetis* (*Ctenodrapetis*)). – Indonesia (Java).

sylvicola sp. nov. – Singapore.

temasek sp. nov. – Singapore.

tiomanensis sp. nov. – Malaysia, Singapore.

triangulata (Yang and Yang), 1992b: 1092, fig. 4 (genitalia) (male and female, *Drapetis* (*Elaphropeza*)) (English, p. 1096). – China (Yunnan).

trimaculata (Yang and Yang), 1990: 63 (female, *Drapetis* (*Drapetis*)) [English p. 70]. – China (Yunnan).
Comb. nov.
ubinensis sp. nov. – Singapore.
ukhalo (Smith), 1965: 71, fig. 3 (hypopygium) (male, *Drapetis* (*Elaphropeza*)). – Nepal.
uniseta Melander, 1918: 213 (female, *Elaphropeza*). – Philippines [Luzon].
uralo (Smith), 1965: 66 (male, *Drapetis* (*Elaphropeza*)). – Nepal.
variata (Melander), 1918: 221 (*Drapetis* (*Elaphropeza*), n. name for *variegata* Brunetti). – Burma, India
 [Assam, Orissa, W Bengal].
 = *variegata* Brunetti, 1913: 42 (*Elaphropeza*, male and female, preocc. Brunetti, 1913: 39 (*Drapetis*)).
xanthina (Yang and Yang), 1990: 66 (female, *Drapetis* (*Elaphropeza*)) [English p. 71]. – China (Yunnan).
xanthocephala Bezzi, 1912: 488 (male, *Elaphropeza*). – Taiwan.
xizangensis (Yang and Yang), 1989b: 421 (female, *Drapetis* (*Elaphropeza*)) (English, p. 424). – China
 (Tibet).
yangi sp. nov. – Singapore.
yeoi sp. nov. – Singapore.
yunnanensis (Yang and Yang), 1992b: 1093, fig. 5 (genitalia) (male and female, *Drapetis* (*Elaphropeza*))
 (English, p. 1096). – China (Yunnan).

Species removed from *Elaphropeza*

Crossopalpus exul (Osten-Sacken, 1882), new combination

Elaphropeza exul Osten-Sacken, 1882: 113 (female).

Material examined. Holotype female labelled: Philippinen [hand-written]; 349; *Elaphropeza exul* O. S. / Type [hand-written by Osten-Sacken]; coll. Oldenberg; **Holotypus** [red]; Typus [dark red, crossed] (DEI).

Taxonomical note. Osten-Sacken (1882) described this species from a single female taken from the Philippines. The holotype is deposited in the DEI Collection and it is in fairly good condition. While examining the type specimen we found that Osten-Sacken identified incorrectly the genus. Consequently, this species is transferred as *Crossopalpus exul* (Osten-Sacken) **comb. nov.** The re-description of this species will be given in a separate paper (Grootaert & Shamshev, in preparation).

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