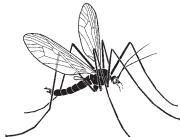


# A taxonomic revision of the genus *Pseudostegana* Okada, 1978 (Diptera, Drosophilidae)

HONG-WEI CHEN, MASANORI J. TODA and BAO-CHENG WANG

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The genus *Pseudostegana* is revised, with descriptions of 20 new species from Southeast Asia: *P. angustifasciata* Chen and Wang, sp. n., *P. atrofrons* Chen and Toda, sp. n., *P. bifasciata* Chen and Toda, sp. n., *P. bisetosa* Chen and Toda, sp. n., *P. curvata* Chen and Toda, sp. n., *P. dactylis* Chen and Toda, sp. n., *P. dolichopoda* Chen and Wang, sp. n., *P. hamata* Chen and Toda, sp. n., *P. latifasciata* Chen and Toda, sp. n., *P. leptoptera* Chen and Toda, sp. n., *P. melanogaster* Chen and Toda, sp. n., *P. melanopogonias* Chen and Toda, sp. n., *P. myrmeciformis* Chen and Toda, sp. n., *P. nitidifrons* Chen and Wang, sp. n., *P. nitidiventris* Chen and Toda, sp. n., *P. orbicapitata* Chen and Toda, sp. n., *P. oxycephala* Chen and Toda, sp. n., *P. pallidimaculata* Chen and Wang, sp. n., *P. philoga* Chen and Wang, sp. n. and *P. xanthoptera* Chen and Wang, sp. n. On the basis of the wing patterns, six species-groups are established: the *atrofrons*, *grandipalpis*, *fleximediata*, *javana*, *latiparma* and *zonaria* groups. A key to the all species of this genus is provided.

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## Introduction

*Pseudostegana* was established by Okada (1978) as a subgenus in the genus *Stegana* Meigen, 1830 and recently elevated to the generic rank by Sidorenko (2002). Adult flies of *Pseudostegana* are 2-4 mm in body length and yellow to black in body color, and often perch on fallen logs and fruits near streams in forest, slowly flapping the wings like some butterflies. Up to the present, a total of 13 species of *Pseudostegana* have been recorded exclusively from Southeast Asia (Takada et al. 1973; Takada & Momma 1975; Okada 1978, 1982; Sidorenko 1998).

A few authors addressed the phylogenetic position of *Pseudostegana*. Okada (1978) made a taximetric analysis on subgeneric relationships of the genus *Stegana* using 11 morphological characters and recognized a clade composed of *Pseudostegana* and *Parastegana* Okada, 1971, which was placed as the sister group to the rest of *Stegana*. In

addition, he pointed out some resemblance of *Pseudostegana* to the subfamily Drosophilinae in having the following characters: "posterior reclinate orbita nearer proclines than inner verticals, discal and 2nd basal cells of wing weakly separated, prescutellars absent". Toda & Peng (1992) also suggested an intermediate position of *Pseudostegana* and *Parastegana* between the subfamily Steganinae and Drosophilinae. Sidorenko (2002) made a phylogenetic study focusing on the relationships among steganine genera and subgenera, especially *Stegana*-related ones. According to the result of a cladistic analysis based on 78 morphological characters, he placed *Pseudostegana* and *Parastegana* at deep but paraphyletic positions, i.e. the latter as the sister group to the rest, of Steganinae and elevated them to the generic rank.

As to the relationships within *Pseudostegana*, Okada (1978) first made a taximetric analysis on

four species using 11 morphological characters and constructed a key from the result. Okada (1982) later analyzed wing patterns of 12 species taximetrically, extracting eight characters, to find the relationships among them, figured a dendrogram and provided a key to species based only on the wing pattern characters. In this study, we examined all the species of *Pseudostegana*, and established six species-groups on the basis of the wing patterns and some other characters.

The morphological terminology and the definition of indices follow Chen & Toda (2001). Photographs of types were taken with a Nikon® digital camera (Coolpix 950) attached to a Nikon® dissecting microscope (about 8X magnification).

The specimens used for observing and describing the morphology are deposited in part as dry specimens and in the other as wet ones in 70% ethanol in the following institutions: Bernice P. Bishop Museum, Honolulu, USA (BPBM); Forest Research Center, Kuching, Sarawak, Malaysia (FRCK); Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia (ITBC); Kunming Institute of Zoology, Chinese Academy of Sciences, Kunming, China (KIZ); Kinabalu Park, Sabah Parks, Sabah, Malaysia (KPSP); Department of Zoology, National Science Museum, Tokyo, Japan (NSMT); Department of Entomology, South China Agricultural University, Guangzhou, China (SCAU); Systematic Entomology, the Hokkaido University Museum, Hokkaido University, Sapporo, Japan (SEHU); and Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia (ZISP).

### The genus *Pseudostegana* Okada

*Stegana (Pseudostegana)* Okada, 1978: 392; Okada, 1982: 39. Type species: *Stegana (Parastegana) gran-dipalpis* Takada and Momma, 1975: 12.  
*Pseudostegana*: Sindorenko, 2002: 14 (as a genus).

**Diagnosis.** – (modified from Okada 1978). – Postvertical and prescutellar setae absent; ocellar setae outside triangle made by ocelli; arista with 1 ventral branch except for terminal fork; anterior dorsocentral seta minute; wing hyaline, mostly with dark-color band(s); all femora, tibiae and first tarsomeres slender; foreleg first tarsomere with 4-6 black, short, thick setae; abdominal tergites mostly glossy; seventh tergite present in male.

**Remarks.** – Okada (1978) designated the absence of postverticals and the elongated frontal triangle as the diagnostic characters by which *Pseudostegana* can be distinguished from *Parastegana*. However, Toda & Peng (1992) found that the former character is shared with *Parastegana drosophiloides* (Toda and Peng, 1992). In addition, the latter character, termed the frontal shield by Okada (1982) and the ocellar triangle (Grimaldi 1990) here, is not seen in some species of *Pseudostegana*.

**Description.** – Head (Figs 1-48): Eye brownish red. Ocellar triangle mostly, broadly or narrowly elongated to anterior margin of frons. Frons mostly glabrous, lacking minute, interfrontal setulae, except for *P. lacrymaria* (Okada, 1982), *P. dactylis* Chen and Toda, sp. n. and *P. philoga* Chen and Toda, sp. n. Anterior reclinate orbital seta minute; posterior reclinate orbital seta situated nearer to proclinate seta than to inner vertical. Arista with long, dorsal branches. Clypeus brown to black. Subvibrissa mostly longer than 1/2 length of vibrissa. Palpus slender in female, variable in male.

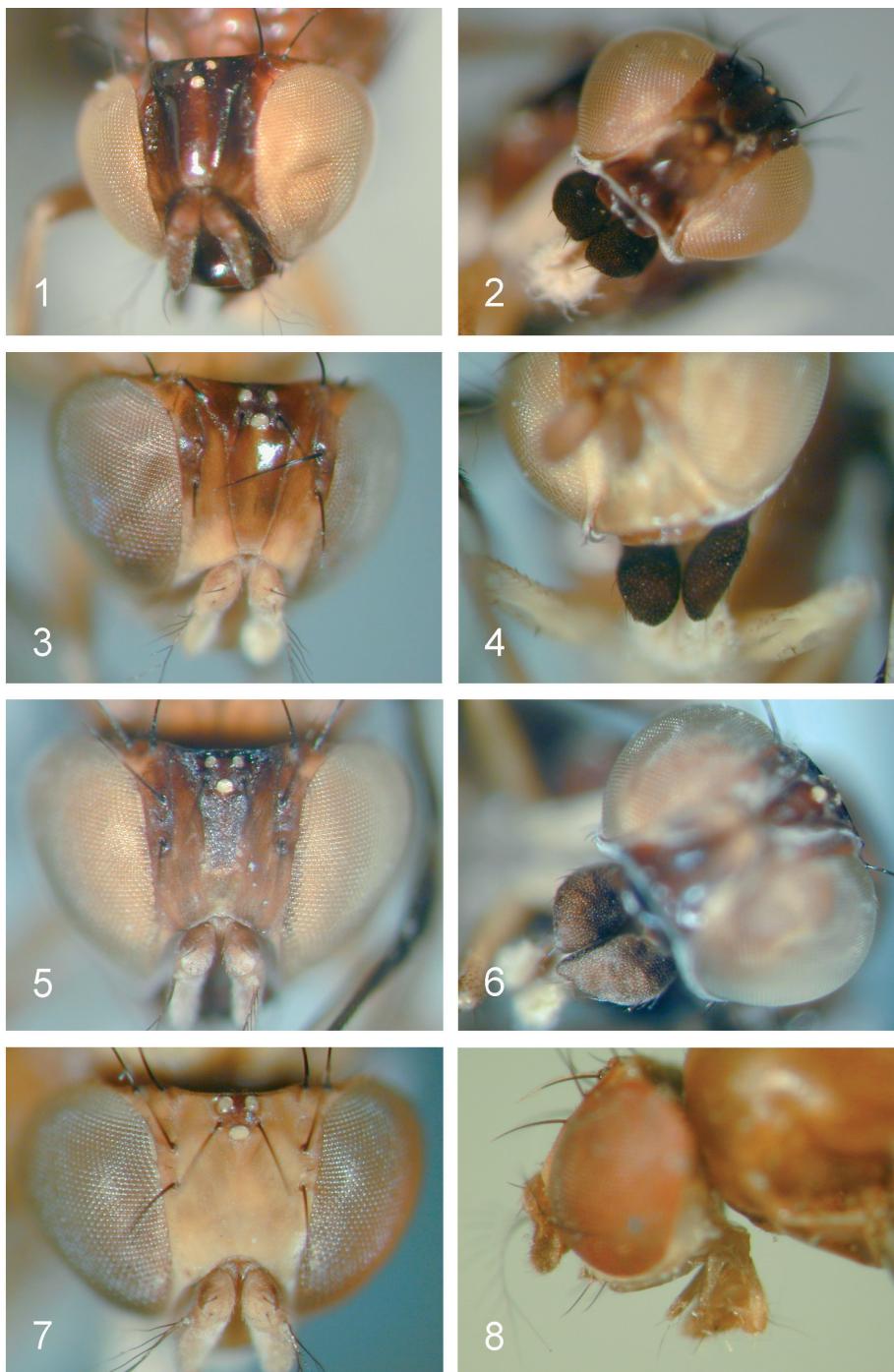
Thorax: Scutum and scutellum dorsally convex. Katepisternal setae 2-3; medial one shortest. Scutellum usually pale at tip; subscutellum swollen.

Wing (Figs 49-74): Basal medial-cubital cross-vein absent. Costal vein extending beyond tip of  $R_{4+5}$ , with 5-7 peg-like spinules on ventral surface between  $R_{2+3}$  and  $R_{4+5}$ .  $R_{2+3}$  slightly curved to costa at tip; M strongly convergent to  $R_{4+5}$ . Halter: stalk grayish; knob white.

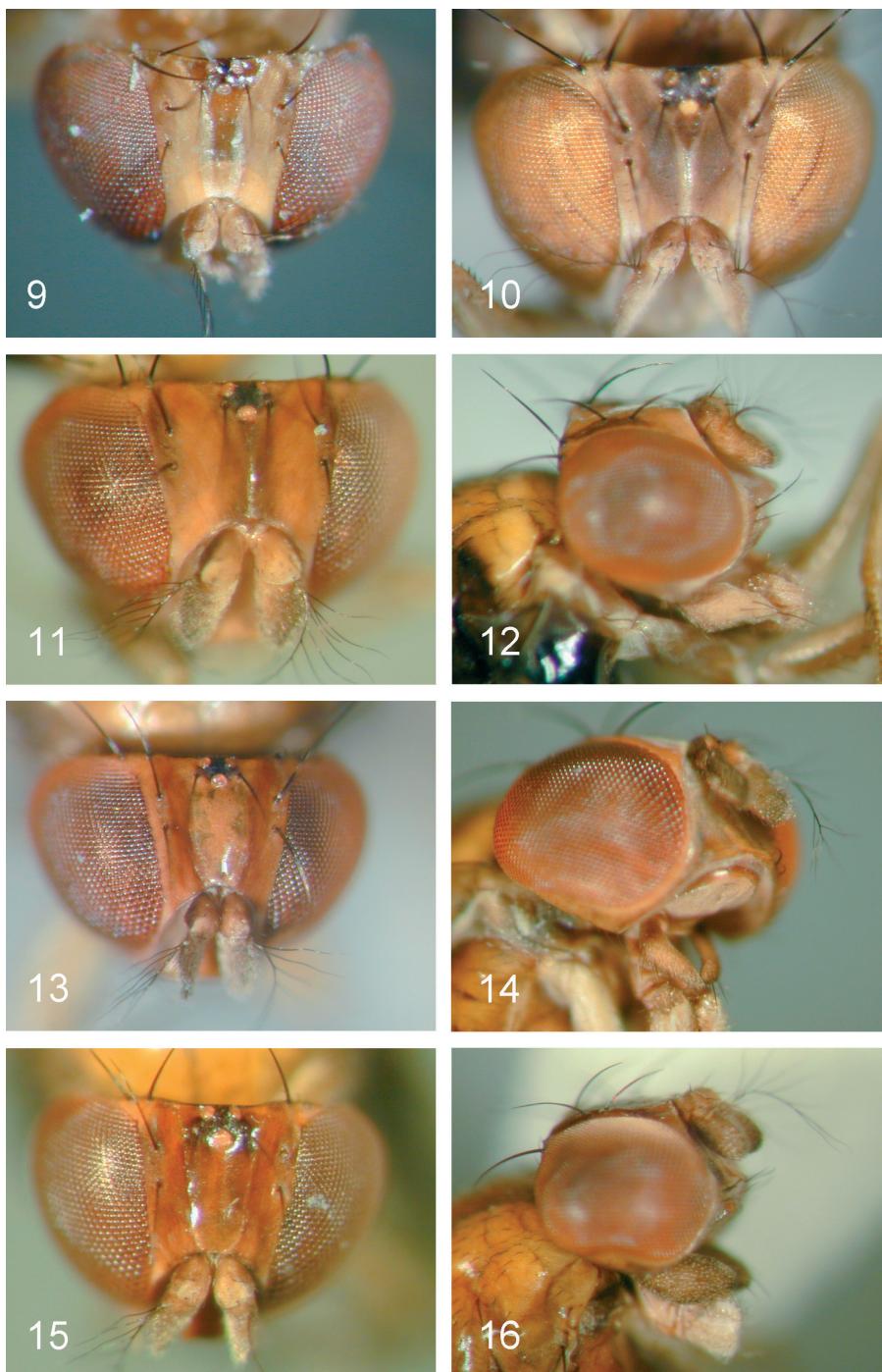
Legs: mostly yellow. Midleg tibia basally without strong, postero-dorsal setae.

Abdomen: Sternites usually yellow to brown.

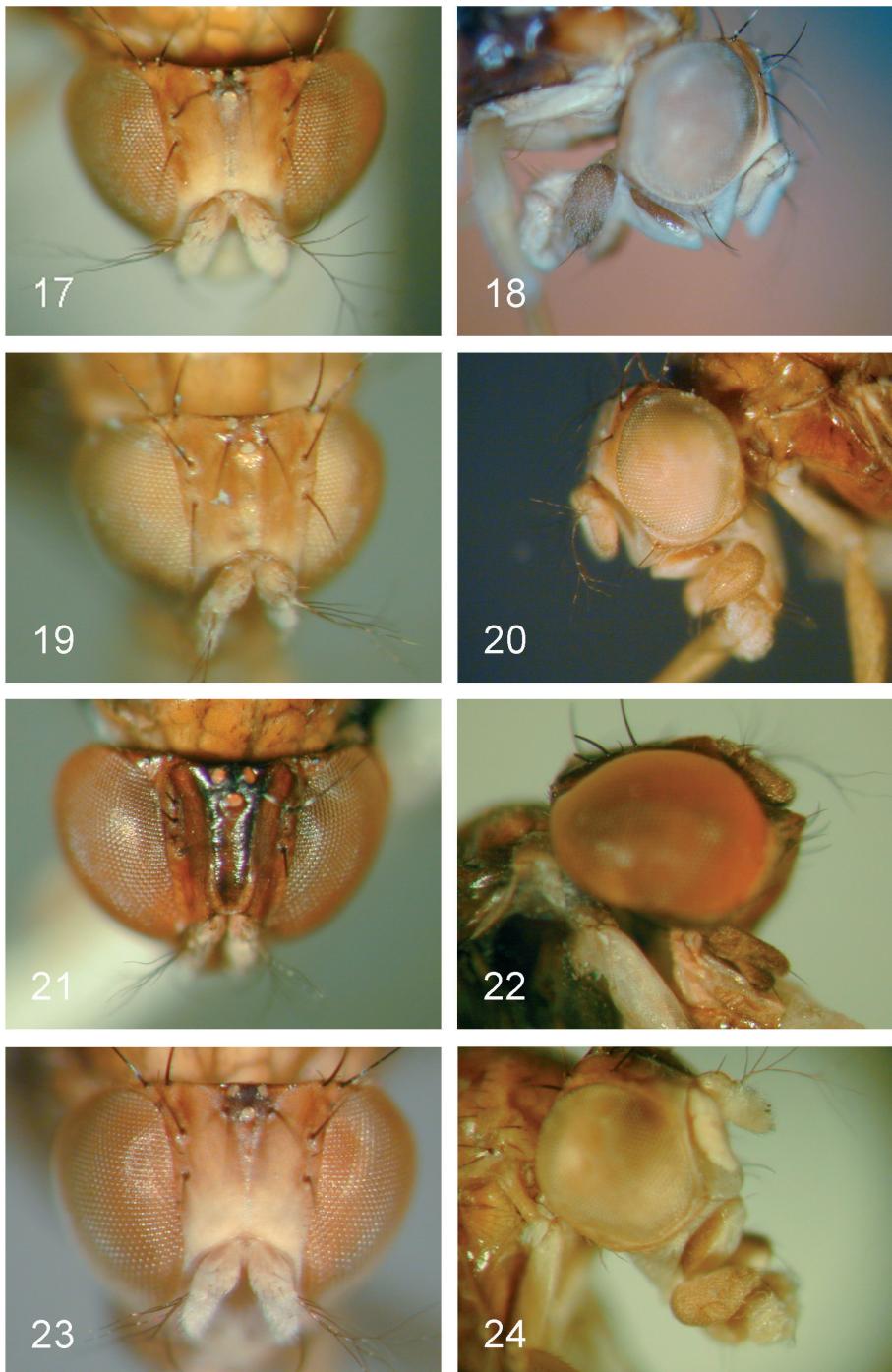
Male terminalia: Epandrium broad, sometimes slightly constricted mid-dorsally, pubescent except for anterior margin. Surstylus separated from epandrium, mostly lacking pubescence, with several setae on outer and inner surfaces. Cercus separated from epandrium, pubescent and setigerous. Hypandrium broad, large, laterally mostly with 1 pair of paramedian setae, mid-anteriorly connected with apical part of aedeagal apodeme by aedeagal guide. Paramere with 2 long sensilla distally and several, small sensilla. Gonopods forming postero-median lobe, baso-laterally contiguous to parameres. Aedeagus usually with 1 pair of flap-like, serrated processes basally. Aedeagal apodeme long, rod-shaped, basally laterally flattened.



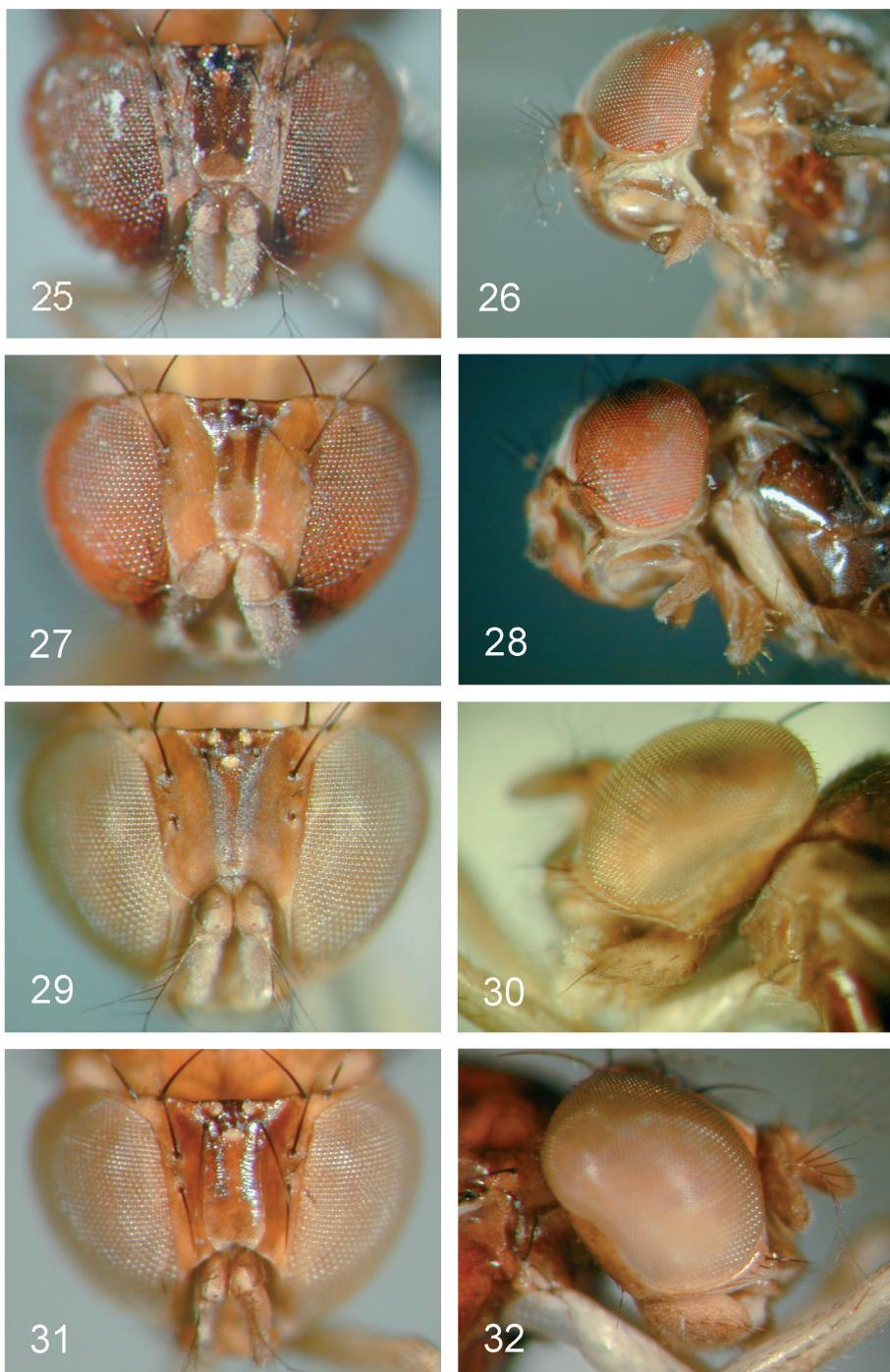
Figs 1-8. Frons and palpus of male: 1, 2. *Pseudostegana atrofrons* Chen and Toda, sp. n.; 3, 4. *P. leptoptera* Chen and Toda, sp. n.; 5, 6. *P. melanogaster* Chen and Toda, sp. n.; 7. *P. melanopogonias* Chen and Toda, sp. n.; 8, 9. *P. javana* (Okada, 1978).



Figs 9-16. Frons and palpus of male: 9. *Pseudostegana javana* (Okada, 1978); 10. *P. lacrymaria* (Okada, 1982); 11, 12. *P. xanthoptera* Chen and Wang, sp. n.; 13, 14. *P. angustifasciata* Chen and Wang, sp. n.; 15, 16. *P. bifasciata* Chen and Wang, sp. n.



Figs 17-24. Frons and palpus of male; 17, 18. *Pseudostegana dactylis* Chen and Toda, sp. n.; 19, 20. *P. orbicapitata* Chen and Toda, sp. n.; 21, 22. *P. pallidemaculata* Chen and Wang, sp. n.; 23, 24. *P. philoga* Chen and Toda, sp. n.



Figs 25-32. Frons and palpus of male: 25, 26. *Pseudostegana grandipalpis* (Takada and Momma, 1978); 27, 28. *P. malayana* (Okada, 1978); 29, 30. *P. myrmecoformis* Chen and Toda, sp. n.; 31, 32. *P. oxycephala* Chen and Toda, sp. n.



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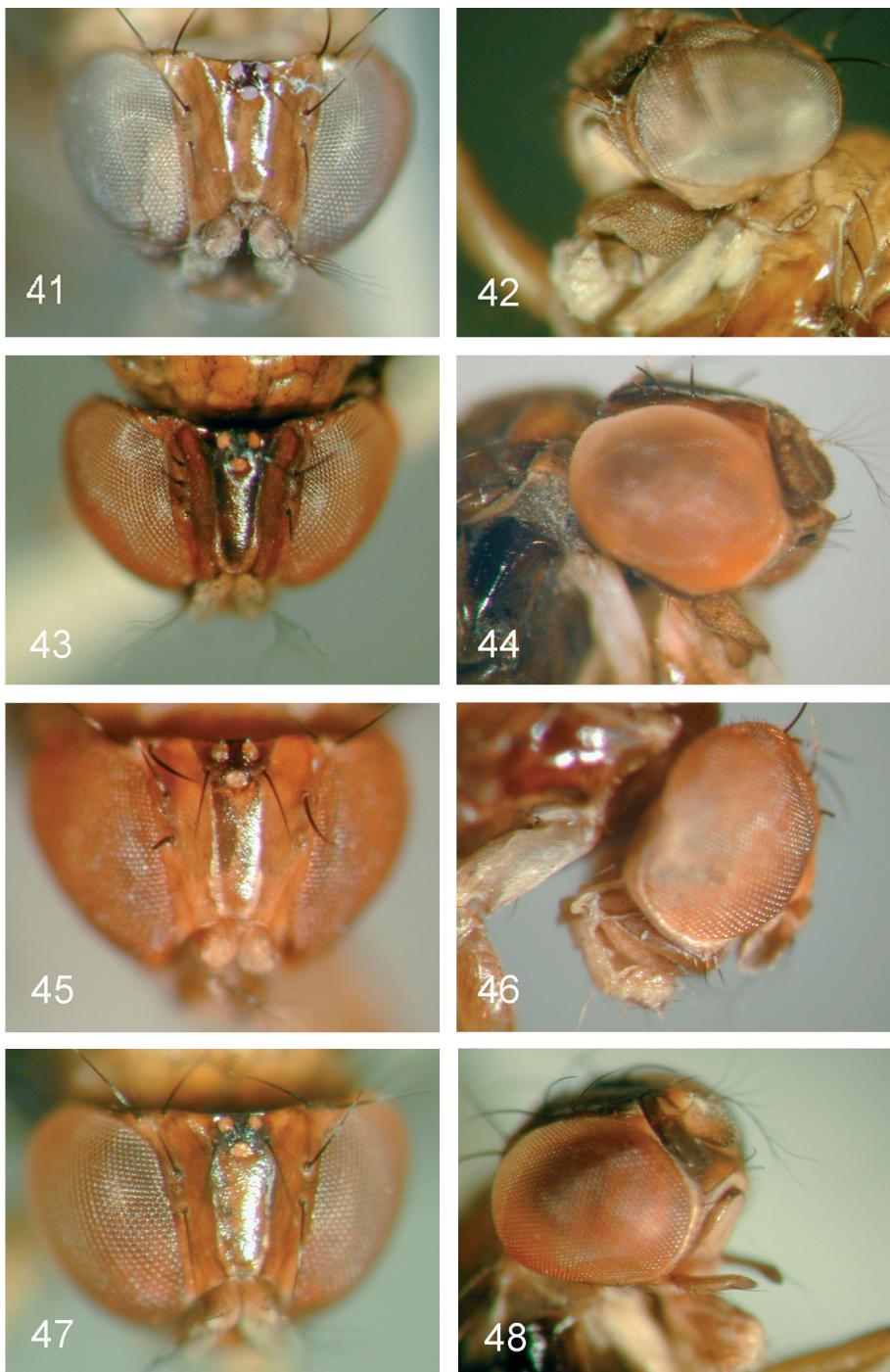


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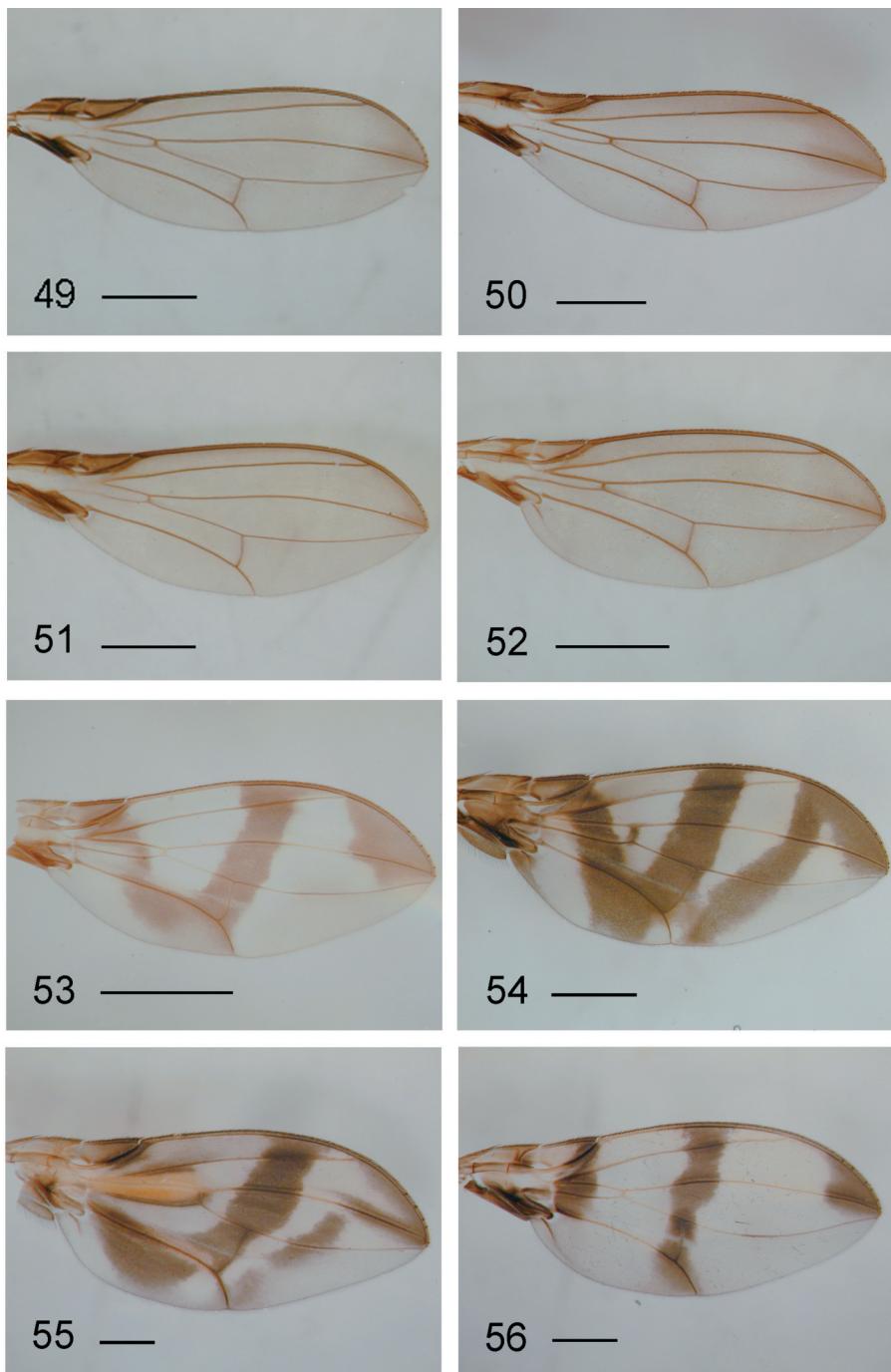


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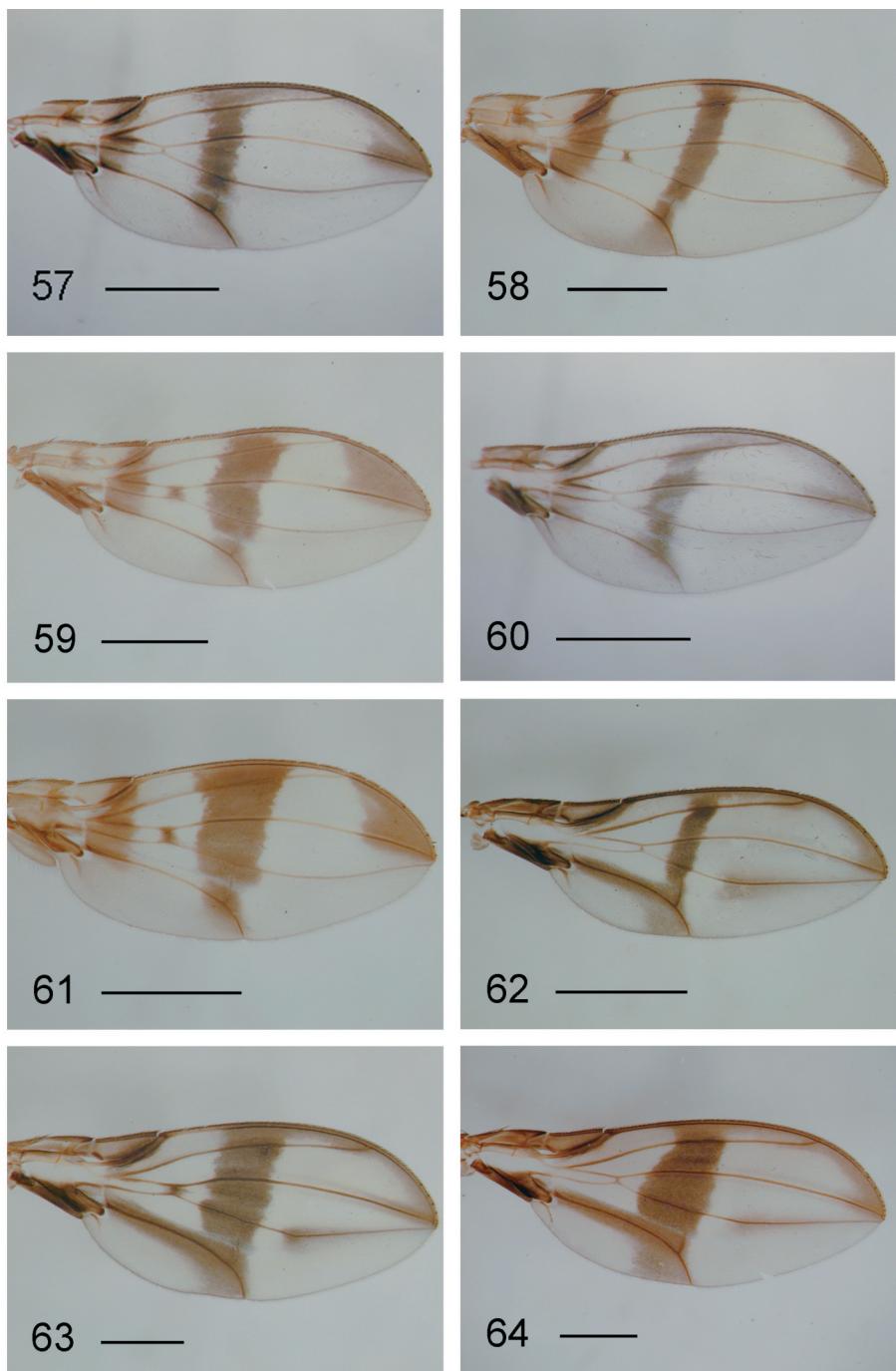
Figs 33-40. Frons and palpus of male: 33, 34. *Pseudostegana fleximediata* (Takada, Momma and Shima, 1973); 35, 36. *P. bisetosa* Chen and Toda, sp. n.; 37, 38. *P. curvata* Chen and Toda, sp. n.; 39. *P. hamata* Chen and Toda, sp. n.; 40. *P. nitidiventris* Chen and Toda, sp. n.



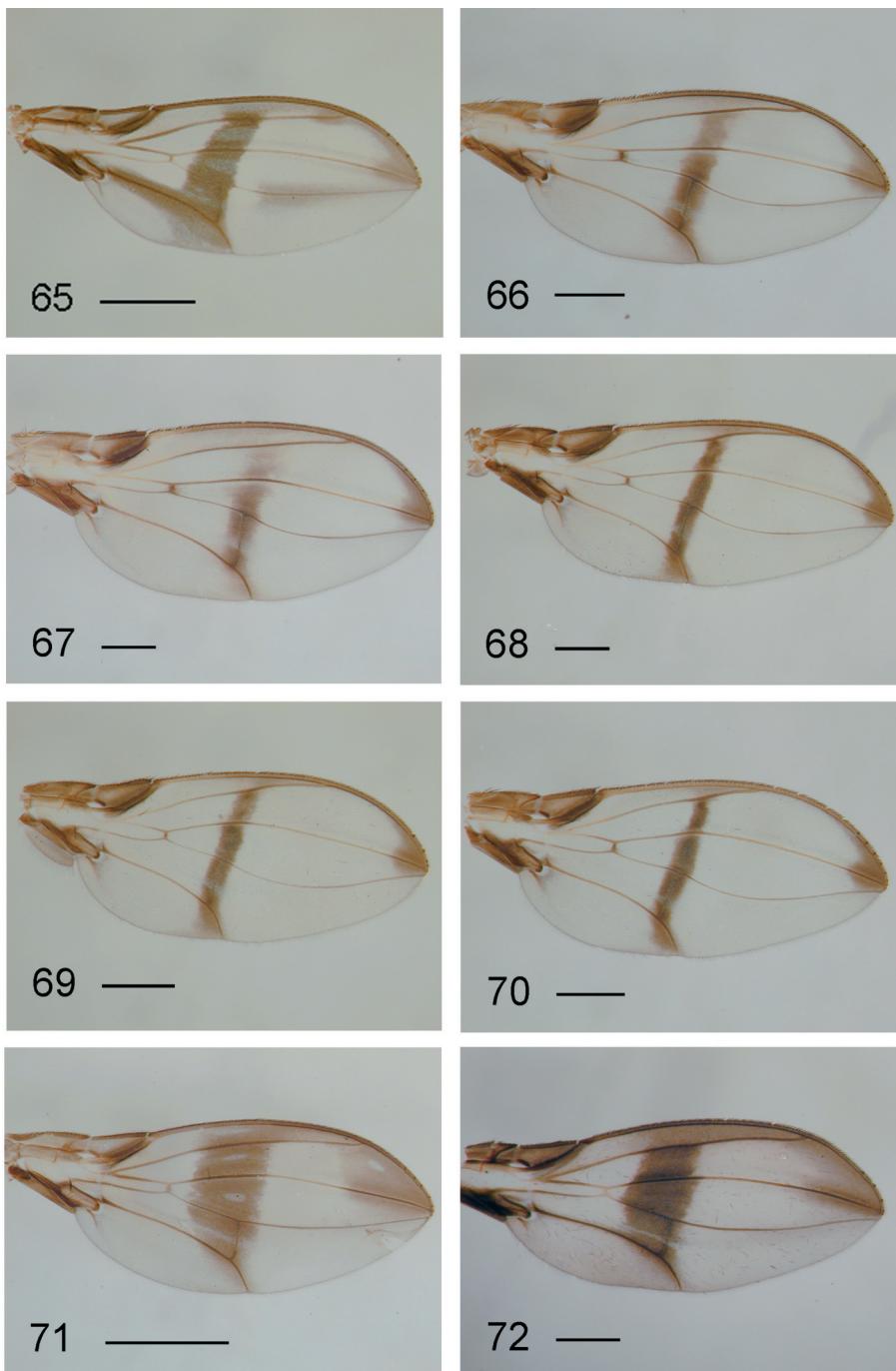
Figs 41-48. Frons and palpus of male: 41, 42. *Pseudostegana latipalpis* (Sidorenko, 1998); 43, 44. *P. dolichopoda* Chen and Wang, sp. n.; 45, 46. *P. latifasciata* Chen and Toda, sp. n.; 47, 48. *P. nitidifrons* Chen and Wang, sp. n.



Figs 49-56. Wing of male (scale-line = 1 mm): 49. *Pseudostegana atrofrons* Chen and Toda, sp. n.; 50. *P. leptoptera* Chen and Toda, sp. n.; 51. *P. melanogaster* Chen and Toda, sp. n.; 52. *P. melanopogonias* Chen and Toda, sp. n.; 53. *P. javana* (Okada, 1978); 54. *P. lacrymaria* (Okada, 1982); 55. *P. xanthoptera* Chen and Wang, sp. n.; 56. *P. angustifasciata* Chen and Wang, sp. n.



Figs 57-64. Wing of male (scale-line = 1 mm): 57. *Pseudostegana bifasciata* Chen and Wang, sp. n.; 58. *P. dactylis* Chen and Toda, sp. n.; 59. *P. orbicapitata* Chen and Toda, sp. n.; 60. *P. pallidemaculata* Chen and Wang, sp. n.; 61. *P. philoga* Chen and Toda, sp. n.; 62. *P. grandipalpis* (Takada and Momma, 1975); 63. *P. malayana* (Okada, 1978); 64. *P. myrmecoformis* Chen and Toda, sp. n.



Figs 65-72. Wing of male (scale-line = 1 mm): 65. *Pseudostegana oxycephala* Chen and Toda, sp. n.; 66. *P. fleximediata* (Takada, Momma and Shima, 1973); 67. *P. bisetosa* Chen and Toda, sp. n.; 68. *P. curvata* Chen and Toda, sp. n.; 69. *P. hamata* Chen and Toda, sp. n.; 70. *P. nitidiventris* Chen and Toda, sp. n.; 71. *P. latipalpis* (Sidorenko, 1998); 72. *P. dolichopoda* Chen and Wang, sp. n.



Figs 73-74. 73. *Pseudostegana latifasciata* Chen and Toda, sp. n.; 74. *P. nitidifrons* Chen and Wang, sp. n.

### 1. The *atrofrons* species-group

**Diagnosis.** – Palpus drosoventrally flattened, black in male (Figs 2, 4, 6); wing without distinct, dark-color band except for base (Figs 49-52); aedeagus distally membranous.

**Included species.** – *P. atrofrons* Chen and Toda, sp. n., *P. leptoptera* Chen and Toda, sp. n., *P. melanogaster* Chen and Toda, sp. n. and *P. melanopogonias* Chen and Toda, sp. n.,

#### *Pseudostegana atrofrons* Chen and Toda, sp. n. (Figs 1, 2, 49, 75-77)

**Type material.** – Holotype ♂, MALAYSIA: Mahua, Crocker Range, Sabah, 16.x.1999, M. J. Toda (KPSP). Paratypes: MALAYSIA: 5♂, 3♀, same data as the holotype (1♂, 1♀, KPSP; 2♂, 1♀, ITBC; 1♂, SCAU; 1♂, 1♀; SEHU).

**Etymology.** – A combination of the Latin words: “ater” + “frons” meaning black frons.

**Distribution.** – Malaysia (Sabah).

**Diagnosis.** – Frons (ocellar triangle and frontal vittae) and face dark brown to black; mid- and hindlegs nearly entirely black; abdominal tergites entirely black.

**Description.** – Thorax: Scutum, pleura and scutellum brown; tip of scutellum yellow. Katepisternal setae 3.

Legs: Yellow.

Abdomen: Sternites yellow; fifth with a few long setae on posterior margin in male.

Male terminalia: Epandrium with ca. 19 long

setae (Fig. 75). Surstylus protruded at ventral corner, pubescent on postero-dorsal part (Figs 75, 76). Cercus ventrally round (Fig. 75). Basal processes of aedeagus bifurcated medially (Fig. 77).

**Measurements:** BL = 3.30 mm in holotype (range in 3♂ and 3♀ paratypes, 3.30-4.10 in ♂, 3.80-4.57 in ♀), ThL = 1.35 mm (1.36-1.45 in ♂, 1.40-1.50 in ♀), WL = 3.34 mm (3.30-4.24 in ♂, 3.80-4.70 in ♀), WW = 1.23 mm (1.20-1.30 in ♂, 1.30-1.40 in ♀).

**Indices:** arb = 6-7/1 (6-7/1), avd = 0.90 (0.80-1.00); adf = 2.20 (2.20-2.30), flw = 2.10 (2.00-2.20), FW/HW = 0.40 (0.40), ch/o = 0.06 (0.06), prorb = 1.00 (1.00-1.10), vb = 0.40 (0.40), dcl = 0.25 (0.20-0.25), scl = 1.10 (1.10-1.20), sterno = 0.65 (0.60-0.68), orbito = 0.65 (0.65), dcp = 0.17 (0.17-0.20), sclp = 1.20 (1.10-1.20).

#### *Pseudostegana leptoptera* Chen and Toda, sp. n.

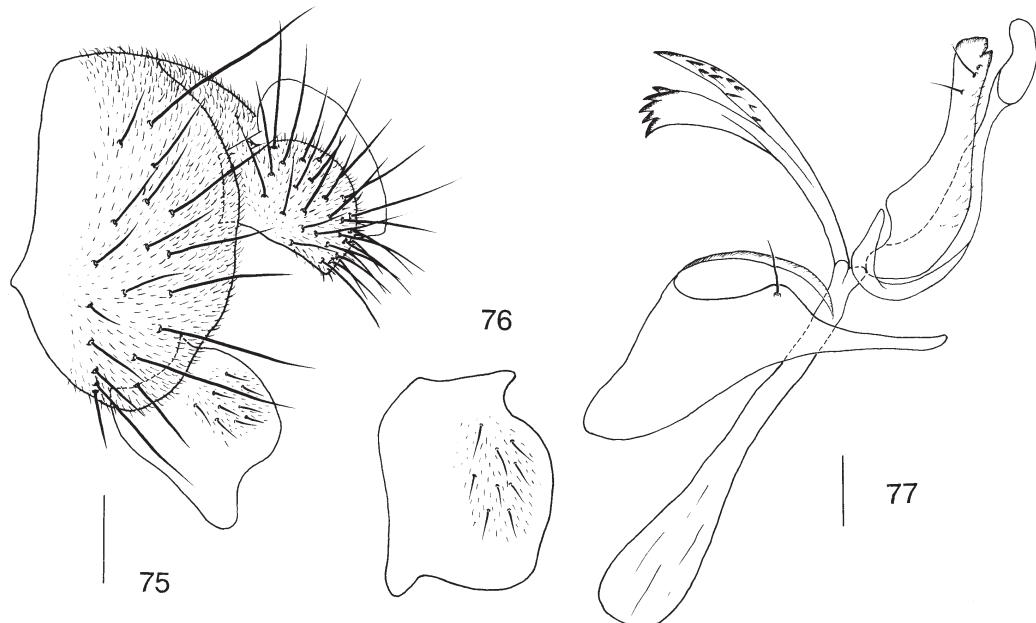
(Figs 3, 4, 50, 78-81)

**Type material.** – Holotype ♂, MALAYSIA: Poring, Sabah, 17.iii.1999, ex flower, M. J. Toda (KPSP). Paratypes: MALAYSIA: Park Headquarters, Mt. Kinabalu, Sabah, 1♂, 1♀, 5.x.1999, M. J. Toda (1♀, KPSP; 1♂, SEHU).

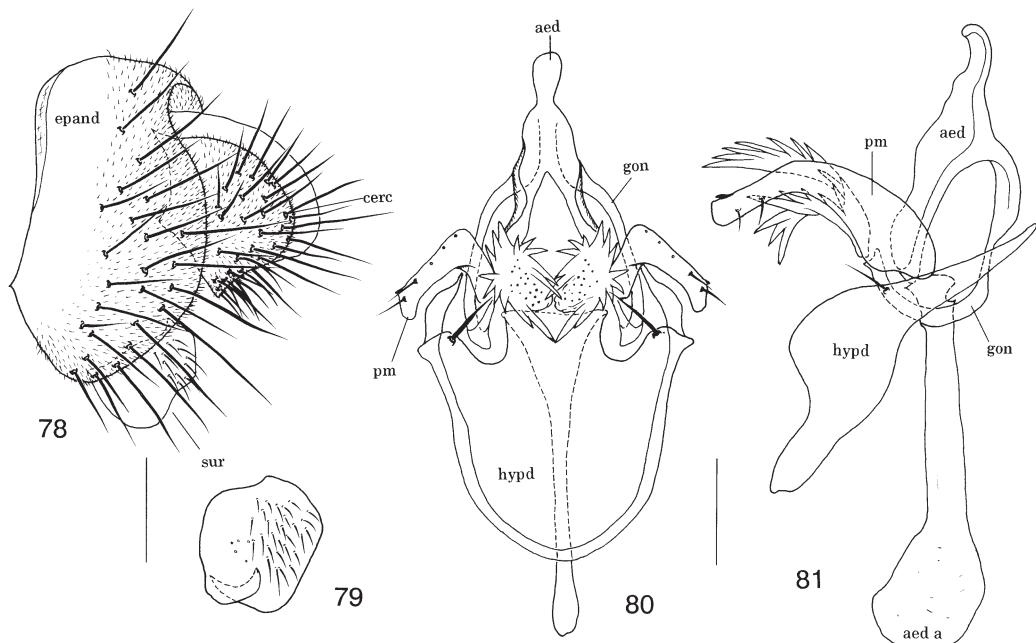
**Etymology.** – A combination of the Greek words: “leptos” + “pteron” meaning narrow wing.

**Distribution.** – Malaysia (Sabah).

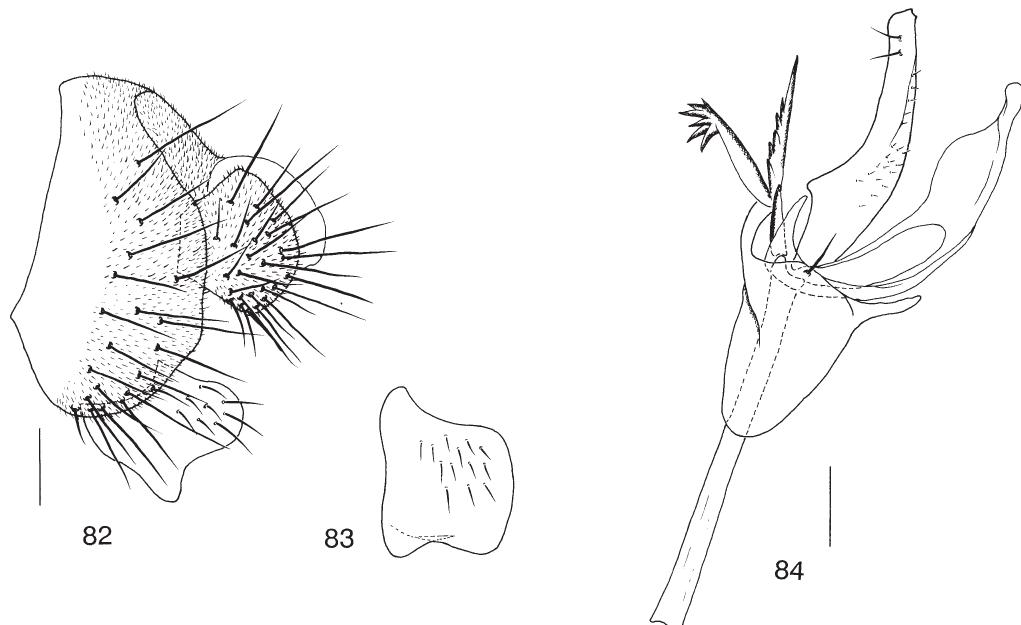
**Diagnosis.** – Frons brown on upper half, yellow on lower half; face yellow; cercus ventrally slightly protruded (Fig. 78).



Figs 75-77. *Pseudostegana atrofrons* Chen and Toda, sp. n. male: 75, epandrium, cercus and surstyli (lateral view); 76, surstyli; 77, hypandrium, paramere, gonopods and aedeagus (lateral view) (scale-line = 0.1mm).



Figs 78-81. *Pseudostegana leptoptera* Chen and Toda, sp. n. male: 78, epandrium (epand), cercus (cerc) and surstyli (sur) (lateral view); 79, surstyli; 80, hypandrium (hypd), paramere (pm), gonopods (gon), aedeagus (aed) and aedeagal apodeme (aed a) (ventral view); 81, ditto (lateral view) (scale-line = 0.1mm).



Figs 82-84. *Pseudostegana melanogaster* Chen and Toda, sp. n. male: see Figs. 75-77 for further explanation.

**Description.** — Thorax: Scutum and pleura brownish yellow; scutellum brown, yellow on tip. Katepisternal setae 3.

Legs: brownish yellow except for foreleg femur yellow.

Abdomen: Tergites black, except for first and second medially yellow. Sternites yellow; fifth with a few long setae on posterior margin in male.

Male terminalia: Epandrium with ca. 27 long setae (Fig. 78). Gonopods postero-medially fused with aedeagus (Figs 80, 81). Basal process of aedeagus submedially bifurcated (Fig. 81).

Measurements: BL = 3.30 mm in holotype (3.40 in 1♂ paratype, 3.57 in 1♀ paratype), ThL = 1.35 mm (1.36 in ♂, 1.40 in ♀), WL = 3.40 mm (3.40 in ♂, 3.50 in ♀), WW = 1.20 mm (1.20 in ♂, 1.20 in ♀).

Indices: arb = 6/1 (5-6/1), avd = 0.90 (0.80-0.90), adf = 2.10 (2.00-2.10), flw = 2.00 (2.00), FW/HW = 0.40 (0.40), ch/o = 0.06 (0.06), prorb = 1.00 (1.00-1.10), vb = 0.40 (0.40), dcl = 0.17 (0.18-0.20), sterno = 1.10 (1.00-1.10), sctl = 0.60 (0.60-0.65), orbito = 0.65 (0.60-0.70), dcp = 0.17 (0.17), sctlp = 1.20 (1.20).

### *Pseudostegana melanogaster*

Chen and Toda, sp. n.

(Figs 5, 6, 51, 82-84)

**Type material.** — Holotype ♂, MALAYSIA: Mt. Kinabalu, Sabah, 2.i.1999, M. J. Toda (KPSP). Paratypes: 1♂, same data as holotype (ITBC); 2♂, 1♀, same data as holotype except for 27, 28.vi. 1972, H. Takada (SEHU).

**Etymology.** — A combination of the Greek words: “melas” + “gaster” meaning black abdomen.

**Distribution.** — Malaysia (Sabah).

**Diagnosis.** — Ocellar triangle less glossy, black on upper 2/3, yellow on lower 1/3 (Fig. 5); abdominal tergites entirely black, not glossy.

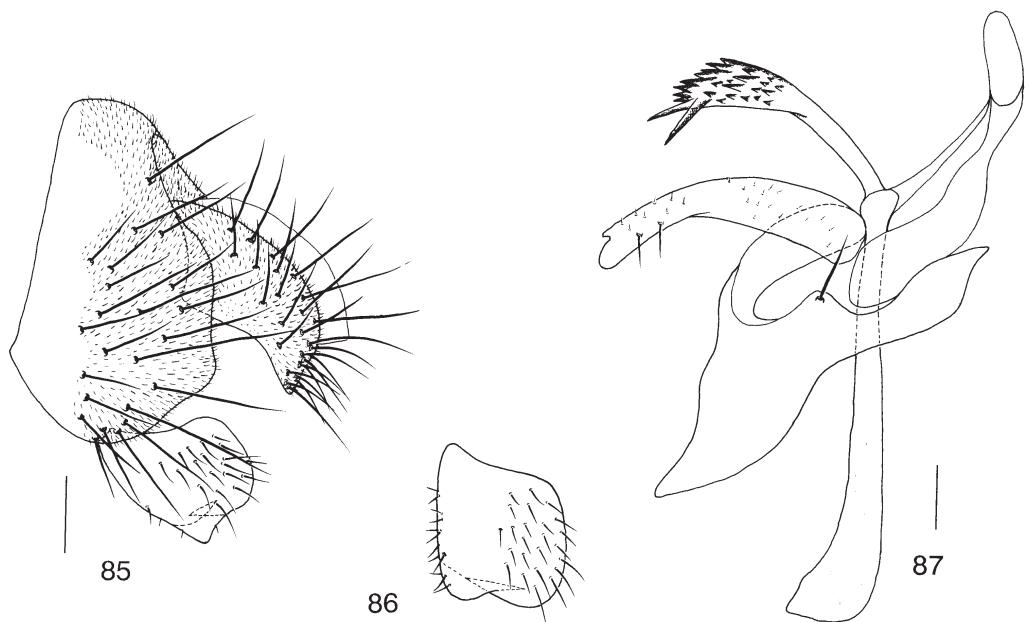
**Description** — Head: Frontal vittae brown on upper half, yellow on lower half. Face black.

Thorax: Scutum dark brown; pleura black; scutellum dark brown, yellow on tip. Katepisternal setae 3.

Legs: yellow, except mid- and hindleg femora and tibiae black.

Abdomen: Sternites black; fifth with a few long setae on posterior margin in male.

Male terminalia: Epandrium with ca. 20 setae



Figs 85-87. *Pseudostegana melanopogonias* Chen and Toda, sp. n. male: see Figs. 75-77 for further explanation.

(Fig. 82). Surstylus protruded at ventral corner (Figs 82, 83). Cercus ventrally round (Fig. 82). Gonopods postero-medially fused to aedeagus (Fig. 84). Basal processes of aedeagus bifurcated basally (Fig. 84).

Measurements: BL = 3.40 mm in holotype (3.30 in 1♂ paratype), ThL = 1.35 mm (1.30), WL = 3.44 mm (3.30), WW = 1.20 mm (1.20).

Indices: arb = 7/1 (7/1), avd = 0.85 (0.90); adf = 2.20 (2.30), flw = 2.00 (2.00), FW/HW = 0.40 (0.40), ch/o = 0.06 (0.06), prorb = 0.95 (1.00), vb = 0.40 (0.40), dcl = 0.20 (0.20), sctl = 1.10 (1.10), sterno = 0.75 (0.68), orbito = 0.70 (0.65), dep = 0.20 (0.17), sctlp = 1.20 (1.20).

### *Pseudostegana melanopogonias*

Chen and Toda, sp. n.

(Figs 7, 52, 85-87)

Type material. — Holotype ♂, MALAYSIA: Park Headquarters, Mt. Kinabalu, Sabah, 13.iii.1999, M. J. Toda (KPSP).

Etymology. — A combination of the Greek words: “melas” + “pogonias” meaning black palpus.

Distribution. — Malaysia (Sabah).

Diagnosis. — Ocellar triangle not elongated (Fig. 7); frons yellow, with argentous pollinose; face medially yellowish white, laterally brown; basal process of aedeagus not bifurcated (Fig. 87).

Description. — Thorax: Scutum and scutellum yellow; pleura brownish yellow. Katepisternal setae 3.

Legs: entirely yellow.

Abdomen: Tergites brownish yellow. Sternites yellow; fifth with a few long setae on posterior margin in male.

Male terminalia: Epandrium with ca. 23 setae (Fig. 85). Cercus ventrally protruded (Fig. 85). Gonopods postero-medially fused to aedeagus (Fig. 87).

Measurements: BL = 2.85 mm in holotype, ThL = 0.98 mm, WL = 2.90 mm, WW = 1.20 mm.

Indices: arb = 5-6/1, avd = 1.00, adf = 2.00, flw = 1.60, FW/HW = 0.40, ch/o = 0.04, prorb = 1.00, vb = 0.50, dcl = 0.40, sctl = 1.10, sterno = 0.65, dep = 0.25, sctlp = 1.20.

### 2. The *javana* species-group

Diagnosis. — Wing basal and medial, cross bands fused posteriorly, forming V-shaped pattern (Figs 53-55).

*Included species.* – *P. javana* (Okada, 1978), *P. lacrymaria* (Okada, 1982) and *P. xanthoptera* Chen and Wang, sp. n.

### ***Pseudostegana javana* (Okada)**

(Figs 8, 9, 53)

*Stegana (Pseudostegana) javana* Okada, 1978: 393.

*Material examined* – Holotype ♂, INDONESIA: Tugu, Java, 27.vii.1971, T. Okada (NSMT).

*Distribution.* – Indonesia (Java).

*Diagnosis.* – Ocellar triangle distinct, medially broader than 1/4 of frontal width (Fig. 9); palpus slender, rod-shaped in male (Fig. 8); wing without oblique band subapically; r-m crossvein clear (Fig. 53).

### ***Pseudostegana lacrymaria* (Okada)**

(Figs 10, 54)

*Stegana (Pseudostegana) lacrymaria* Okada, 1982: 45.

*Material examined.* – MALAYSIA: Park Headquarters, Mt. Kinabalu, Sabah, 1♂, 1♀, 20.iii.1999, ex fruits, M. J. Toda (KPSP).

*Distribution.* – Malaysia (Sabah).

*Diagnosis.* – Ocellar triangle elongated to middle (Fig. 10); frons with a few minute, interfrontal setulae (Fig. 10); wing basally black, 3 oblique bands all from anterior to posterior margins (Fig. 54).

### ***Pseudostegana xanthoptera***

Chen and Wang, sp. n.

(Figs 11, 12, 55, 88-90)

*Type material* – Holotype ♂, CHINA: Bubang-Wangtianshu, Mengla, Xishuangbanna, Yunnan, 600 m, 10-12.ix.2002, ex. fallen logs and fruits, H.-W. Chen (KIZ). Paratypes: CHINA: Xishuangbanna, Yunnan: 4♂, 11♀, same data as holotype (2♂, SCAU; 2♂, 11♀, KIZ); Tropical Botanical Garden, Menglun, 800 m, 2♂, 11♀, 12,13.ix.2002, B.-C. Wang & H.-W. Chen (1♂, 6♀, SCAU; 1♂, 5♀, SEHU).

*Etymology.* – A combination of the Greek words: “xanthos” + “pteron” meaning yellow wing.

*Distribution.* – China (Yunnan).

*Diagnosis.* – Wing with yellow patch covering basal radial cell and basal part of submarginal ( $r_{2+3}$ ) cell (Fig. 55).

*Description.* – Head: Frons yellow; ocellar triangle narrow, brown (Fig. 11). Face, clypeus and gena orange yellow. Palpus brownish yellow, broad, large in male, medially 1/3 to 1/2 as wide as long (Fig. 12).

Thorax: Scutum orange yellow on anterior 1/3, black on posterior 2/3; scutellum orange yellow, black on lateral margins; pleura black. Katepisternal setae 2-3.

Legs: mostly yellow; foreleg femur basally brownish yellow; hindleg femur and tibia brownish yellow in male, dark brown in female.

Abdomen: First and anterior half of second tergites orange yellow; others black. Sternites black in male, brown in female.

Male terminalia: Epandrium with ca. 19 setae (Fig. 88). Cercus ventrally protruded (Fig. 88). Hypandrial paramedian setae absent. Paramere subapically shallowly bifurcated (Figs 89, 90). Aedeagus apically round, without basal processes (Figs 89, 90).

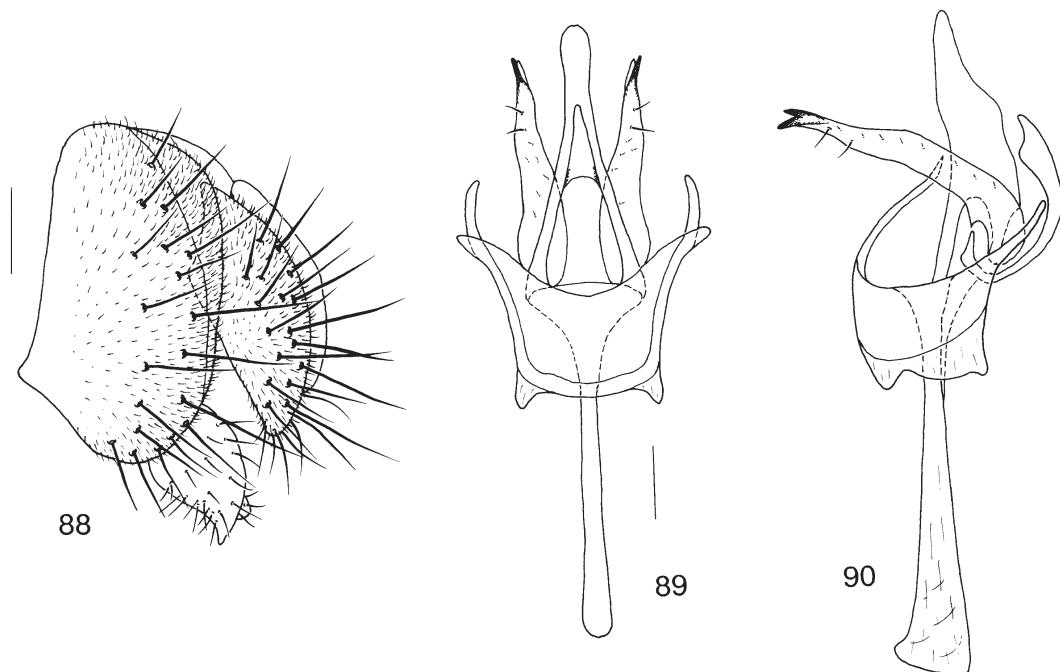
Measurements: BL = 3.00 mm in holotype (range in 4♂ and 5♀ paratypes, 2.70-3.17 in ♂, 2.72-3.27 in ♀), ThL = 1.10 mm (0.98-1.10 in ♂, 1.00-1.20 in ♀), WL = 3.12 mm (2.74-3.20 in ♂, 2.68-3.10 in ♀), WW = 1.10 mm (1.00-1.10 in ♂, 1.00-1.10 in ♀).

Indices: arb = 8-9/1 (8-9/1), avd = 0.95 (0.90-1.00), adf = 1.90 (1.70-2.00), flw = 1.80 (1.64-1.98), FW/HW = 0.35 (0.35), ch/o = 0.05 (0.05), prorb = 1.00 (1.00-1.10), rcorb = 0.17 (0.15-0.19), vb = 0.65 (0.60-0.75), dcl = 0.25 (0.20-0.25), sclt = 1.00 (1.00), sterno = 0.60 (0.60-0.65), orbito = 0.70 (0.70), dcp = 0.25 (0.25), sctlp = 1.10 (1.10-1.30).

### 3. The *latiparma* species-group

*Diagnosis.* – Wing basally with distinct, cross band (Figs 56-61).

*Included species.* – *P. albinotata* (Okada, 1982), *P. hirta* (Okada, 1982), *P. latiparma* (Okada, 1982), *P. latizonaria* (Okada, 1982), *P. lineoparma* (Okada, 1982), *P. angustifasciata* Chen and Wang, sp. n., *P. bifasciata* Chen and Toda, sp. n., *P. dactylis* Chen and Toda, sp. n., *P. orbicapitata* Chen and Toda, sp. n., *P. pallidemaculata* Chen and Wang, sp. n. and *P. philoga* Chen and Wang, sp. n.



Figs 88-90. *Pseudostegana xanthoptera* Chen and Wang, sp. n. male: 88, epandrium, cercus and surstyli (lateral view); 89, hypandrium, paramere, gonopods and aedeagus (ventral view); 90, ditto (lateral view) (scale-line = 0.1mm).

#### *Pseudostegana albinotata* (Okada)

*Stegana (Pseudostegana) albinotata* Okada, 1982: 44.

*Material examined.* – Holotype male, PHILIPPINES: Imugan, Nueva Vizcaya, Luzon, 11.iv.1968, Hardy (BPBM).

*Distribution.* – Philippines.

*Diagnosis.* – Wing: broadest part of medial band broader than 2 times of length of dm-cu crossvein, and confluent with r-m patch.

#### *Pseudostegana hirta* (Okada)

*Stegana (Pseudostegana) hirta* Okada, 1982: 41.

*Material examined.* – Holotype ♂, PHILIPPINES: Dalton Pass, Nueva Vizcaya, Luzon, 915 m, 9,10.iv.1968, Hardy (BPBM).

*Distribution.* – Philippines.

*Diagnosis.* – M vein straight and slightly clouded on middle; basal process of aedeagus very thin, hair-like.

#### *Pseudostegana latiparma* (Okada)

*Stegana (Pseudostegana) latiparma* Okada, 1982: 39.

*Material examined.* – Holotype ♂, PAPUA NEW GUINEA: Cyclops Mts., Ifar, 300 m, 22.vi.1959, Maa (BPBM).

*Distribution.* – Philippines, Papua New Guinea.

*Diagnosis.* – Wing: Basal band strongly oblique, reaching anterior margin; medial band nearly straight, narrower than length of dm-cu crossvein.

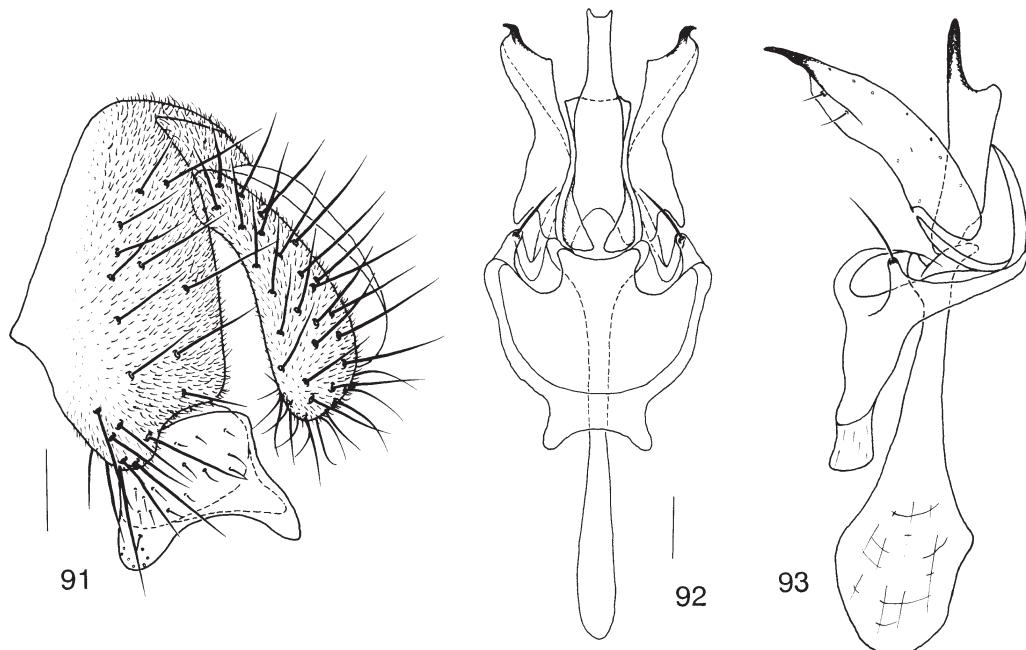
#### *Pseudostegana latizonaria* (Okada)

*Stegana (Pseudostegana) latizonaria* Okada, 1982: 43.

*Material examined.* – Holotype ♂, PHILIPPINES: Nueva Vizcaya, Luzon, 11.iv.1968, Hardy (BPBM).

*Distribution.* – Philippines.

*Diagnosis.* – Ocellar triangle distinct, medially broader than 1/3 of frontal width.



Figs 91-93. *Pseudostegana angustifasciata* Chen and Wang, sp. n. male: see Figs 88-90 for further explanation.

### *Pseudostegana lineoparma* (Okada)

*Stegana (Pseudostegana) lineoparma* Okada, 1982: 44.

*Material examined.* — Holotype ♂, PAPUA NEW GUINEA: Waris, Hollandia, 450-500 m, 17. viii.1959, Maa (BPBM).

*Distribution.* — Papua New Guinea.

*Diagnosis.* — Basal process of aedeagus long, nearly as long as aedeagus.

### *Pseudostegana angustifasciata*

Chen and Wang, sp. n.

(Figs 13, 14, 56, 91-93)

*Type material.* — Holotype ♂, CHINA: Bubang-Wangtianshu, Mengla, Xishuangbanna, Yunnan, 600 m, 10-12.ix.2002, ex. fallen logs and fruits, H.-W. Chen (KIZ). Paratypes: CHINA: 4♂, 4♀, same data as holotype (2♂, 2♀, SCAU; 1♂, 1♀, KIZ; 1♂, 1♀, SEHU).

*Etymology.* — A combination of the Latin words: “*angustus*” + “*fasciatus*”, referring to the narrow wing band.

*Distribution.* — China (Yunnan).

*Diagnosis.* — Paramere subapically triangularly ex-

panded in ventral view (Fig. 92); aedeagus extended distal 1/3; aedeagal, basal process membranous, without finger-like processes (Figs 92, 93).

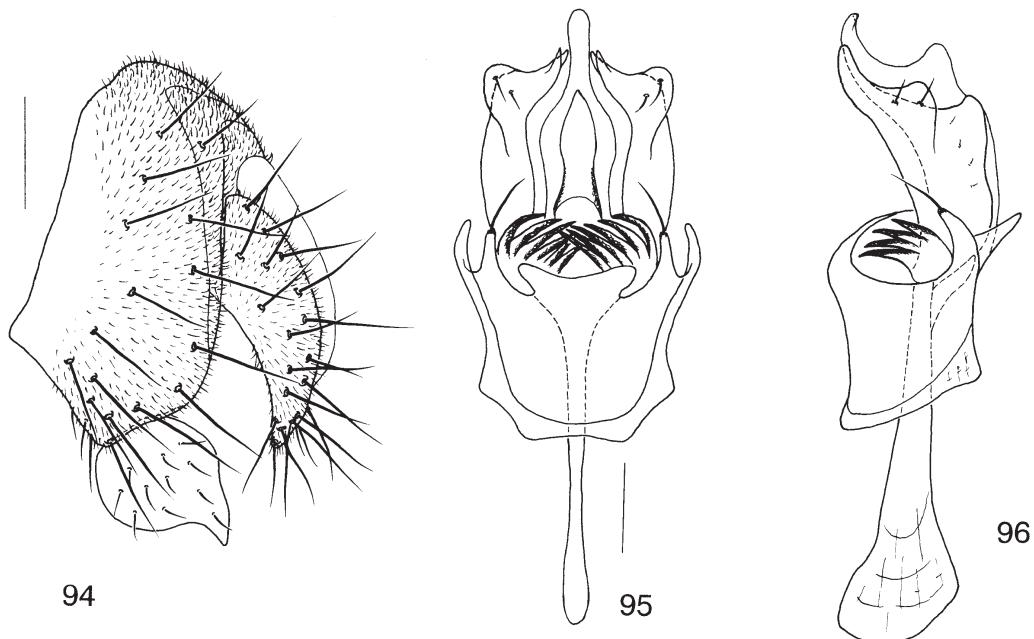
*Description.* — Head: Frons brownish yellow. Ocellar triangle broad, yellow (Fig. 13). Face and gena brownish yellow. Palpus dark brown in female, brownish yellow and slender, rod-shaped in male (Fig. 14).

Thorax: Scutum dark yellow; scutellum brownish yellow; pleura dark brown. Katepisternal setae 2.

Legs: yellow, except yellow on dark, basal half of male foreleg femur.

Abdomen: Tergites glossy black, except for first and second medially orange yellow in male, glossy brownish yellow in female. Sternites: first and second yellow, but others dark brown in male; yellow except for dark brown seventh in female; male fifth with a few long setae on posterior margin.

Male terminalia: Epandrium with ca. 20 setae (Fig. 91). Surstyli protruded on antero- and postero-ventral corners (Fig. 91). Cercus ventrally round (Fig. 91). Aedeagus apically concave in ventral view (Fig. 92).



Figs 94-96. *Pseudostegana bifasciata* Chen and Wang, sp. n. male: see Figs. 88-90 for further explanation.

Measurements: BL = 2.75 mm in holotype (range in 4♂ and 2♀ paratypes, 2.47-2.85 in ♂, 2.67-2.73 in ♀), ThL = 1.10 mm (0.90-1.06 in ♂, 1.00-1.10 in ♀), WL = 2.90 mm (2.58-3.00 in ♂, 2.60-3.08 in ♀), WW = 1.10 mm (0.89-1.00 in ♂, 1.00-1.05 in ♀).

Indices: arb = 6/1 (6/1), avd = 1.00 (0.90-1.00), adf = 1.60 (1.50-1.70), flw = 1.65 (1.50-1.80), FW/HW = 0.35 (0.35), ch/o = 0.05 (0.05), prob = 1.00 (1.00-1.10), rcorb = 0.15 (0.15-0.18), vb = 0.85 (0.65-0.90), dcl = 0.25 (0.20-0.30), sctl = 1.00 (1.00), sterno = 0.65 (0.50-0.65), orbito = 0.80 (0.80), dcp = 0.15 (0.15), sctlp = 1.50 (1.50).

### *Pseudostegana bifasciata* Chen and Wang, sp. n.

(Figs 15, 16, 57, 94-96)

Type material. – Holotype ♂, CHINA: Tropical Botanical Garden, Menglun, Xishuangbanna, Yunnan, 800 m, 12,13.ix.2002, ex. fallen logs, H.-W. Chen (KIZ). Paratypes: CHINA: Xishuangbanna, Yunnan: 2♂, 8♀, same data as holotype (KIZ); Bubang-Wangtianshu, Menla, 600 m, 11♂, 15♀, 10-12.ix.2002, ex. fallen logs, B.-C. Wang & H.-W. Chen (6♂, 10♀, SCAU; 5♂, 5♀, SEHU).

*Etymology.* – A combination of the Latin words: “bi-” + “fasciatus”, referring to 2 distinct bands on wing.

*Distribution.* – China (Yunnan).

*Diagnosis.* – Cercus ventrally protruded (Fig. 94); paramere apically bifurcated, subapically with 1 expanded lobe (Figs 95, 96).

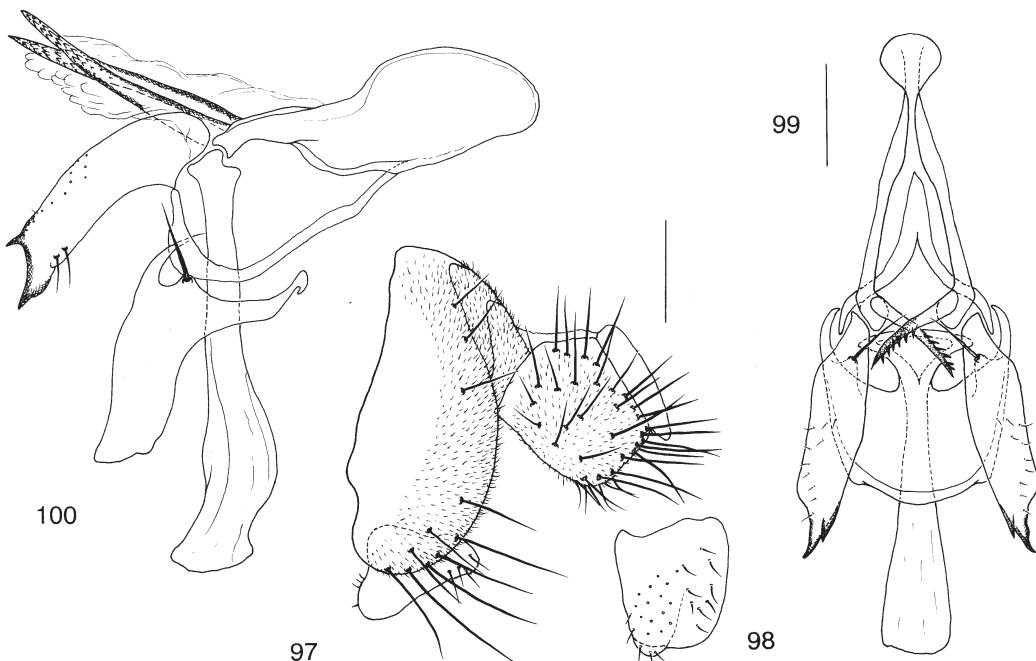
*Description.* – Head: Frons brownish red. Ocellar triangle broad, brownish yellow (Fig. 15). Face and gena brownish yellow. Palpus dark brown, broad, large in male, medially 1/3 to 1/2 as wide as long (Fig. 16).

Thorax: Scutum dark yellow on anterior 2/3, brown on posterior 1/3; pleura brown; scutellum dark yellow. Katepisternal setae 2-3.

Legs: yellow.

Abdomen: Tergites glossy brown to black. Sternites brown to black in male, yellow to brown in female; male fifth with a few long setae on posterior margin.

Male terminalia: Epandrum with ca. 18 setae (Fig. 94). Surstyli protruded on postero-ventral corner (Figs 94). Basal process of aedeagus with ca. 5-6 finger-like processes (Figs 95, 96).



Figs 97-100. *Pseudostegana dactylis* Chen and Toda, sp. n. male: see Figs. 78-81 for further explanation.

Measurements: BL = 2.46 mm in holotype (range in 5♂ and 5♀ paratypes, 2.10-2.67 mm in ♂, 2.22-2.87 in ♀), ThL = 0.93 mm (0.88-0.90 in ♂, 0.87-1.00 in ♀), WL = 2.42 mm (2.20-2.64 in ♂, 2.38-2.75 in ♀), WW = 0.80 mm (0.80-0.90 in ♂, 0.90-1.00 in ♀).

Indices: arb = 6/1 (5-6/1), avd = 0.95 (0.90-1.00), adf = 1.90 (1.80-2.00), flw = 1.50 (1.54-1.68), FW/HW = 0.35 (0.35), ch/o = 0.05 (0.05), prorb = 1.10 (1.00-1.20), rcorb = 0.15 (0.15-0.16), vb = 0.85 (0.60-0.85), dcl = 0.25 (0.20-0.30), sctl = 1.00 (1.00-1.10), sterno = 0.60 (0.60-0.65), orbito = 0.70 (0.70-0.80), dcp = 0.20 (0.20-0.25), setlp = 1.10 (1.10-1.30).

#### *Pseudostegana dactylis* Chen and Toda, sp. n. (Figs 17, 18, 58, 97-100)

Type material. — Holotype ♂, MALAYSIA: Park Headquarters, Mt. Kinabalu, Sabah, 2.i.1999, ex tree trunk, M. J. Toda (KPSP). Paratypes: MALAYSIA: 1♀, same data as holotype (SCAU); Sabah: Park Headquarters, Mt. Kinabalu, 3♀, 13.iii.1999 (1female, KPSP; 1♀, ITBC; 1♀, SEHU); Ulu Senagang, Crocker Range,

1♀, 18.x.1999, ex fallen logs, M. J. Toda (ITBC); Poring, 1♂, 29.vi.1972, H. Takada (SEHU).

*Etymology.* — From the Greek word “daktylos” meaning finger, referring to the aedeagus like thumb in lateral view.

*Distribution.* — Malaysia (Sabah).

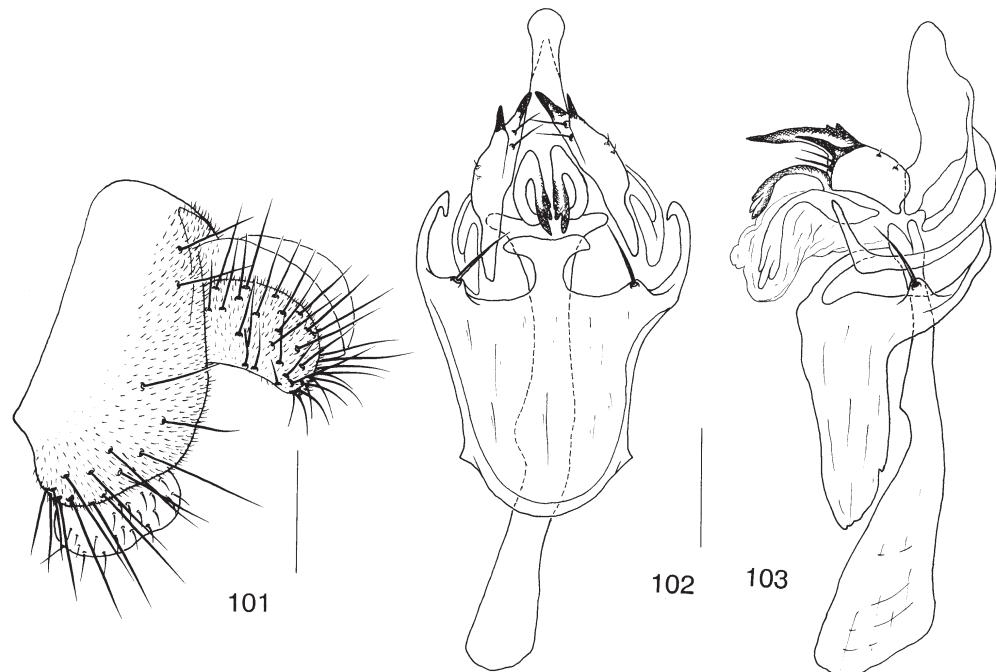
*Diagnosis.* — Wing medial band narrower than basal band (Fig. 58); paramere apically pointed, subapically with 1 small projection (Figs 99, 100); aedeagus apically round, distal half expanded in lateral view, about 3 times of basal width (Fig. 100).

*Description.* — Head: Frons brownish yellow, with a few minute, interfrontal setulae. Ocellar triangle narrow (Fig. 17). Face yellow; gena brown. Palpus brown, broad, large in male, medially 1/3 to 1/2 as wide as long (Fig. 18).

Thorax: Scutum and scutellum brownish yellow; pleura dark brown. Katepisternal setae 3.

Legs: yellow.

Abdomen: First and second tergites yellow anteriorly, but others glossy black in male, brown-



Figs 101-103. *Pseudostegana orbicapitata* Chen and Toda, sp. n. male: see Figs. 88-90 for further explanation.

ish yellow in female. Sternites brown in male, yellow to brown in female; male fifth with a few long setae on posterior margin.

Male terminalia: Epandrium with ca. 11 setae near posterior margin (Fig. 97). Cercus ventrally round (Fig. 97). Basal process of aedeagus long, with a number of serrations (Figs 99, 100).

Measurements: BL = 3.00 mm in holotype (3.00-3.20 in 2♀ paratypes), ThL = 1.00 mm (1.00-1.10), WL = 2.80 mm (2.75-2.80), WW = 1.20 mm (1.20-1.25).

Indices: arb = 5/1 (5/1), avd = 0.95 (1.00), adf = 2.30 (2.40), flw = 2.20 (2.30), FW/HW = 0.40 (0.40), ch/o = 0.06 (0.06), prob = 1.10 (1.10), vb = 0.60 (0.65), dcl = 0.20 (0.20), sctl = 1.10 (1.10), sterno = 0.70 (0.70), orbito = 0.50 (0.70), dep = 0.20 (0.20), sctlp = 1.10 (1.10).

### *Pseudostegana orbicapitata* Chen and Toda, sp. n.

(Figs 19, 20, 59, 101-103)

Type material. – Holotype ♂, MALAYSIA: Mahua, Crocker Range, Sabah, 14,16.x.1999, M. J. Toda

(KPSP). Paratypes: MALAYSIA: 2♂, 4♀, same data as holotype (2♀, KPSP; 1♂, 1♀, ITBC; 1♂, 1♀, SEHU); Sabah: 1♂, 29.vi.1972, H. Takada (SEHU), Park Headquarters, Mt. Kinabalu, 1♀, 24.iii.1999, M. J. Toda (SEHU).

Etymology. – A combination of the Latin words: “orbis” + “capitatus”, referring to the round, apical part of aedeagus.

Distribution. – Malaysia (Sabah).

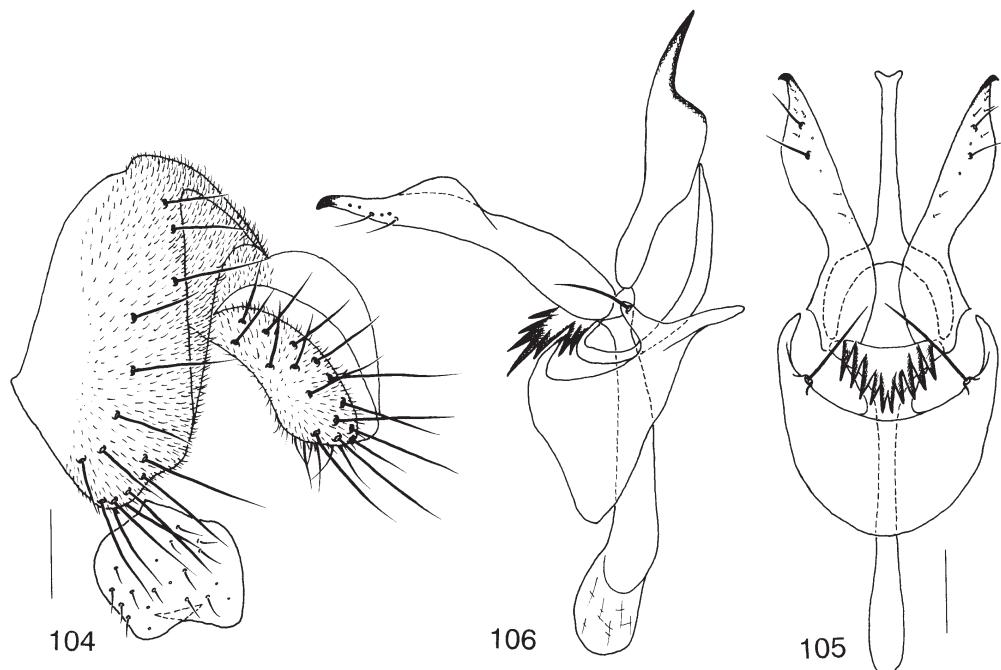
Diagnosis. – Paramere largely bifurcated, submedially with 2 small projections (Fig. 103); aedeagus apically slightly narrowed in lateral view; basal process of aedeagus with ca. 3 finger-like processes distally (Figs 102, 103).

Description. – Head: Frons brown. Ocellar triangle narrow, yellow (Fig. 19). Face and gena yellow. Palpus brown, broad, large in male, medially 1/3 to 1/2 as wide as long (Fig. 20).

Thorax: Scutum and scutellum yellow to brown; pleura brown to dark brown. Katepisternal setae 2-3.

Legs: yellow.

Abdomen: First and second tergites anteriorly



Figs 104-106. *Pseudostegana pallidimaculata* Chen and Wang, sp. n. male: see Figs. 88-90 for further explanation.

yellow, but others glossy brownish yellow to black in male, brownish yellow in female. Sternites yellow to brown in male, yellow in female; male fifth with a few long setae on posterior margin.

Male terminalia: Epandrium with ca. 15 setae (Fig. 101). Cercus ventrally round (Fig. 101).

Measurements: BL = 2.67 mm in holotype (range in 2♂ and 2♀ paratypes, 2.70-3.20 in ♂, 3.00-3.20 in ♀), ThL = 1.00 mm (1.00 in ♂, 1.00 in ♀), WL = 2.65 mm (2.60-3.20 in ♂, 2.85-3.20 in ♀), WW = 0.85 mm (0.88-1.00 in ♂, 1.00 in ♀).

Indices: arb = 6/1 (6/1), avd = 0.85 (0.80-0.90), adf = 1.90 (1.85-2.00), flw = 2.10 (2.10-2.30), FW/HW = 0.40 (0.40), ch/o = 0.06 (0.06), prorb = 0.95 (0.95-1.00), vb = 0.65 (0.70-0.80), dcl = 0.25 (0.20-0.25), sctl = 1.10 (1.10), sterno = 0.60 (0.60-0.70), orbito = 0.70 (0.70-0.80), dcp = 0.20 (0.18-0.20), sctlp = 1.10 (1.10).

### *Pseudostegana pallidimaculata*

Chen and Wang, sp. n.

(Figs 21, 22, 60, 104-106)

Type material. — Holotype ♂, CHINA: Bubang-

Wangtianshu, Mengla, Xishuangbanna, Yunnan, 600 m, 12.ix.2002, ex. fallen logs, H.-W. Chen (KIZ). Paratype 1♀, same data as holotype (KIZ).

*Etymology.* — A combination of the Latin words: “pallidus” + “maculatus”, referring to the pale wing patch.

*Distribution.* — China (Yunnan).

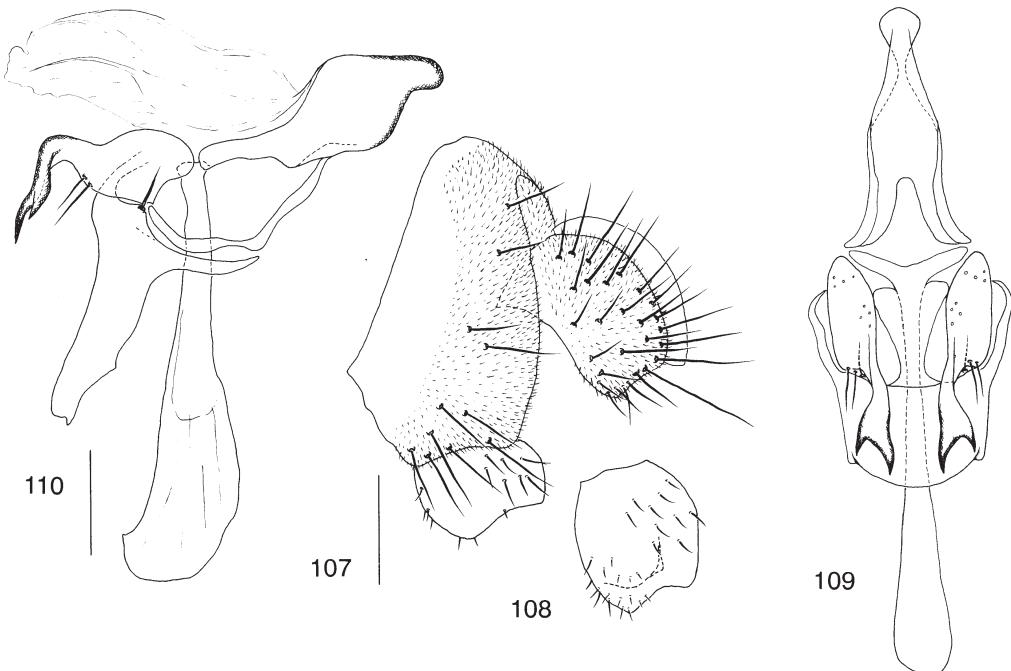
*Diagnosis.* — Paramere apically pointed, subapically slightly expanded (Figs 105, 106); aedeagus apically slightly expanded in ventral view, pointed in lateral view; basal processes fused with each other (Figs 105, 106).

*Description.* — Head: Frons brownish red. Ocellar triangle broad, dark brown (Fig. 21). Face and gena brownish red. Palpus brownish red, rod-shaped in male (Fig. 22).

Thorax: Scutum yellow; pleura and scutellum dark yellow. Katepisternal setae 2-3.

Legs: yellow except for dark knees of mid- and hindlegs in male, yellow to dark yellow in female.

Abdomen: All tergites brownish yellow in male, dark brown in female. All sternites yellow in male; first to fifth yellow, sixth brown, seventh dark



Figs 107-110. *Pseudostegana philoga* Chen and Toda, sp. n. male: see Figs. 78-81 for further explanation.

brown in female; male fifth with a few long setae on posterior margin.

Male terminalia: Epandrium with ca. 15 setae (Fig. 104). Surstyli slightly protruded on antero- and postero-ventral corners (Figs 104). Cercus ventrally round (Fig. 104). Aedeagus distally slender; fused basal processes with ca. 5 finger-like processes per side (Figs 105, 106).

Measurements: BL = 2.25 mm in holotype (2.20 in 1♀ paratype), ThL = 0.80 mm (0.80), WL = 2.00 mm (2.00), WW = 0.80 mm (0.80).

Indices: arb = 6/1 (5-6/1), avd = 0.95 (1.00), adf = 1.80 (1.90), flw = 1.80 (1.70), FW/HW = 0.35 (0.35), ch/o = 0.07 (0.07), prorb = 1.10 (1.10), rcorb = 0.17 (0.20), vb = 0.65 (0.75), dcl = 0.25 (0.30), sctl = 0.85 (0.90), sterno = 0.60 (0.65), orbito = 0.80 (0.70), dcp = 0.20 (0.20), sctlp = 1.10 (1.10).

#### *Pseudostegana philoga* Chen and Toda, sp. n.

(Figs 23, 24, 61, 107-110)

Type material. — Holotype ♂, MALAYSIA: Mahua, Crocker Range, Sabah, 16.x.1999, M. J. Toda (KPSP).

Paratypes: MALAYSIA: 2♂, same data as holotype (1♂, ITBC; 1♂, SEHU); Mt. Kinabalu, 1♂, 3♀, 27, 29.vi.1972, H. Takada (SEHU).

Etymology. — A combination of the Greek words: “philos” + “ga” meaning like soil, referring to epigaeic ethological habit.

Distribution. — Malaysia (Sabah).

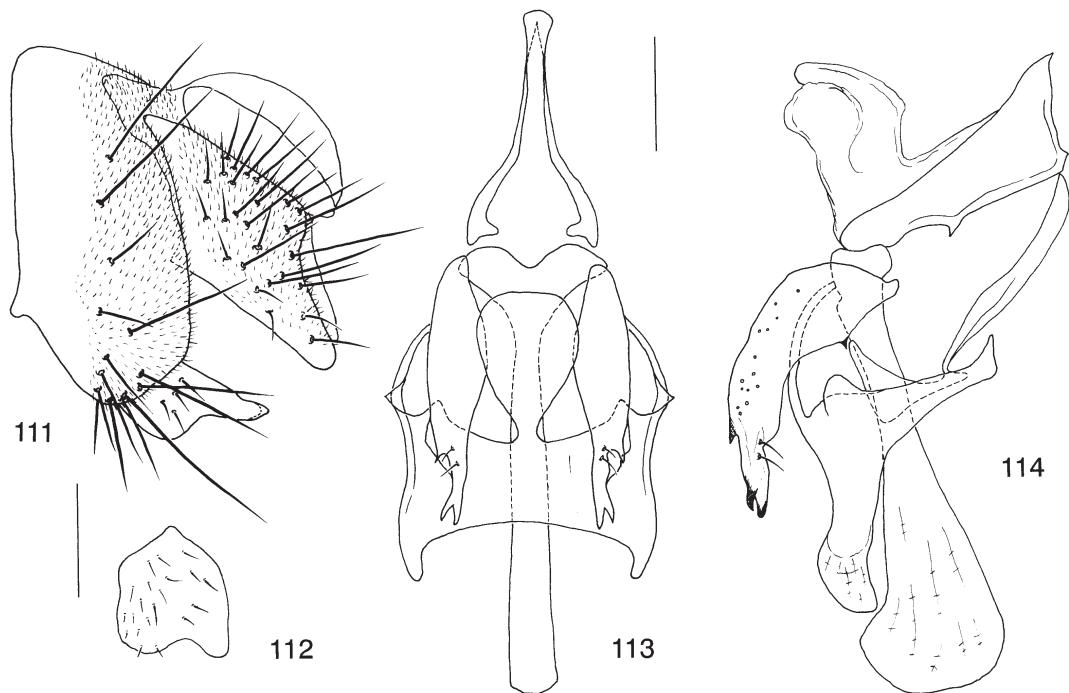
Diagnosis. — Paramere apically bifurcated (Figs 109, 110); aedeagus medially broader than 2 times of apical part in lateral view (Fig. 110).

Description. — Head: Ocellar triangle narrow (Fig. 23). Frons yellow, with a few, minute, interfrontal setulae. Face and gena yellow. Palpus brownish yellow, broad, large in male, medially 1/3 to 1/2 as wide as long (Fig. 24).

Thorax: Scutum and scutellum yellow; pleura brown. Katepisternal setae 2-3.

Legs: yellow.

Abdomen: First and second tergites yellow anteriorly, but others glossy brown to dark brown in male, brownish yellow in female. Sternites brown in male, yellow to brown in female; male fifth with a few long setae on posterior margin.



Figs 111-114. *Pseudostegana malayana* (Okada, 1978) male: see Figs. 78-81 for further explanation.

Male terminalia: Epandrium with ca. 12 setae (Fig. 107). Surstylus slightly protruded on antero- and postero-ventral corners (Figs 107, 108). Cercus ventrally round (Fig. 107). Basal process of aedeagus membranous, lacking processes (Figs 109, 110).

Measurements: BL = 3.00 mm in holotype (3.00-3.10 in 2♂ paratypes), ThL = 1.00 mm (1.00-1.10), WL = 2.75 mm (2.75-2.80), WW = 1.00 mm (1.00).

Indices: arb = 6-7/1 (6-7/1), avd = 0.95 (0.90-1.00), adf = 2.30 (2.30-2.40), flw = 1.80 (1.90-2.00), FW/HW = 0.40 (0.40), ch/o = 0.05 (0.05), prorb = 1.10 (1.00-1.10), vb = 0.60 (0.65-0.80), dcl = 0.25 (0.25), sctl = 1.10 (1.10), sterno = 0.60 (0.70), orbito = 0.70 (0.70-0.80), dcp = 0.20 (0.20), sctlp = 1.10 (1.10).

#### 4. The *grandipalpis* species-group

**Diagnosis.** – Wing: Longitudinal, dark-color band running through entire length of CuA<sub>1</sub> vein; M vein straight and mostly slightly clouded on distal 2/3 (Figs 62-65).

**Included species.** – *P. campanularia* (Okada, 1982), *P. grandipalpis* (Takada and Momma, 1975), *P. malayana* (Okada, 1978), *P. myrmeciformis* Chen and Toda, sp. n. and *P. oxycephala* Chen and Toda, sp. n.

#### *Pseudostegana campanularia* (Okada)

*Stegana (Pseudostegana) campanularia* Okada, 1982: 40.

**Material examined.** – Holotype ♂, PHILIPPINES: Mindanao, Misamis Or., Mt. Ponalini, 800-1000 m, 9.x.1965 (BPBM).

**Distribution.** – Philippines.

**Diagnosis.** – M vein clear; paramere without process.

#### *Pseudostegana grandipalpis*

(Takada and Momma)

(Figs 25, 26, 62)

*Stegana (Parastegana) grandipalpis* Takada and Momma, 1975: 12.

*Stegana (Pseudostegana) grandipalpis*: Okada, 1978: 393.

*Material examined*. – MALAYSIA: Penang, 3♀, 20.vii.1971, T. Okada and Kurokawa (NSMT).

*Distribution*. – Malaysia (Malay Peninsula).

*Diagnosis*. – Ocellar triangle broad, medially as broad as 1/2 of frontal width (Fig. 25); palpus brownish yellow, slender, rod-shaped in male (Fig. 26); wing medial, dark-color band narrower than 1/2 distance between r-m and dm-cu crossveins (Fig. 62).

### *Pseudostegana malayana* (Okada)

(Figs 27, 28, 63, 111-114)

*Stegana (Pseudostegana) malayana* Okada, 1978: 394.

*Material examined*. – Holotype ♂, MALAYSIA: Cameron Hightly, 27.x.1975, H. Shima (NSMT); Sarawak, 2♀, 20,21.x.1975, H. Shima (NSMT); Mahua, Crocker Range, Sabah: 1♂, 2♀, 15.x.1999, M. J. Toda (1♂, 1♀, KPSP; 1♀, ITBC); 1♀, 18.x.1999 (SEHU).

*Distribution*. – Malaysia (Sabah, Sarawak).

*Diagnosis*. – Ocellar triangle medially as broad as 1/4 of frontal width (Fig. 27); palpus brownish yellow, slender, rod-shaped in male (Fig. 28); r-m crossvein clouded (Fig. 63); cercus ventrally protruded (Fig. 111); paramere apically bifurcated (Figs 113, 114); aedeagus distally nearly triangular, apically acute in lateral view; aedeagal basal process membranous, lacking sclerotized processes (Fig. 114).

### *Pseudostegana myrmeciformis*

Chen and Toda, sp. n.

(Figs 29, 30, 64, 115-118)

*Type material*. – Holotype ♂, MALAYSIA: Park Headquarters, Mt. Kinabalu, Sabah, 2.i.1999, M. J. Toda (KPSP). Paratypes: MALAYSIA: 2♂, 2♀, same data as holotype; 1♀, same data as holotype except 27.xii.1998 (1♀, KPSP; 1♂, 1♀, ITBC; 1♂, 1♀, SEHU).

*Etymology*. – A combination of the Greek words: “myrmekos” + “forma”, meaning ant-shaped, referring to the ant-like body.

*Distribution*. – Malaysia (Sabah).

*Diagnosis*. – Submedial process of paramere with ca. 5 small projections (Figs 117, 118); aedeagus distally strongly sclerotized, apically with 3 small projections (Figs 117, 118).

*Description*. – Head: Frons brown. Ocellar triangle slightly broad (Fig. 29). Face and gena yellow. Palpus brownish yellow, broad, large in male, medially 1/3 to 1/2 as wide as long (Fig. 30).

Thorax: Scutum and scutellum brownish yellow; pleura brown. Katepisternal setae 3.

Legs: yellow; midleg femur and tibia brownish yellow; hindleg femur distally and tibia dark brown.

Abdomen: Tergites brown to black. Sternites: first to third yellow, but others black in male, brown in female.

Male terminalia: Epandrium ventrally protruded, with ca. 14 setae (Fig. 115). Surstyli protruded on postero-ventral corner (Figs 116). Cercus ventrally round (Fig. 115). Basal process of aedeagus basally thick, distally with 4 finger-like processes (Figs 117, 118).

Measurements: BL = 3.30 mm in holotype (range in 2♂ and 2♀ paratypes, 3.10-3.60 in ♂, 3.30-3.70 in ♀), ThL = 1.20 mm (1.10-1.30 in ♂, 1.20-1.40 in ♀), WL = 3.25 mm (3.20-3.30 in ♂, 3.30-3.40 in ♀), WW = 1.10 mm (1.10 in ♂, 1.20 in ♀).

Indices: arb = 8/1 (7-8/1), avd = 0.90 (0.80-0.90), adf = 2.00 (1.85-2.00), flw = 1.80 (1.80-1.90), FW/HW = 0.40 (0.40), ch/o = 0.05 (0.05), prorb = 1.10 (1.00-1.10), vb = 0.80 (0.80-0.85), dcl = 0.35 (0.30-0.35), sctl = 1.10 (1.10-1.20), sterno = 0.55 (0.50-0.65), orbito = 0.70 (0.70-0.80), dcp = 0.20 (0.20), sctlp = 1.10 (1.10).

### *Pseudostegana oxycephala*

Chen and Toda, sp. n.

(Figs 31, 32, 65, 119-122)

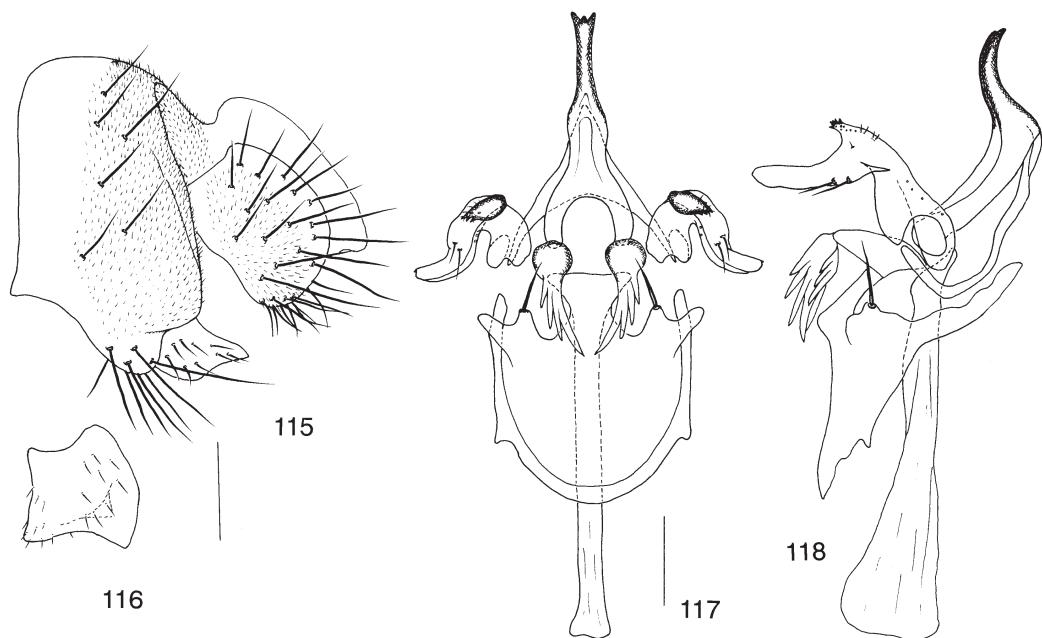
*Type material*. – Holotype ♂, MALAYSIA: Kubah, Sarawak, 16.i.1999, M. J. Toda (FRCK). Paratype: MALAYSIA: Lambir, Sarawak, 10♂, 11.i.1999, M. J. Toda (FRCK).

*Etymology*. – A combination of the Greek words: “oxys” + “kephale”, referring to the apically pointed aedeagus.

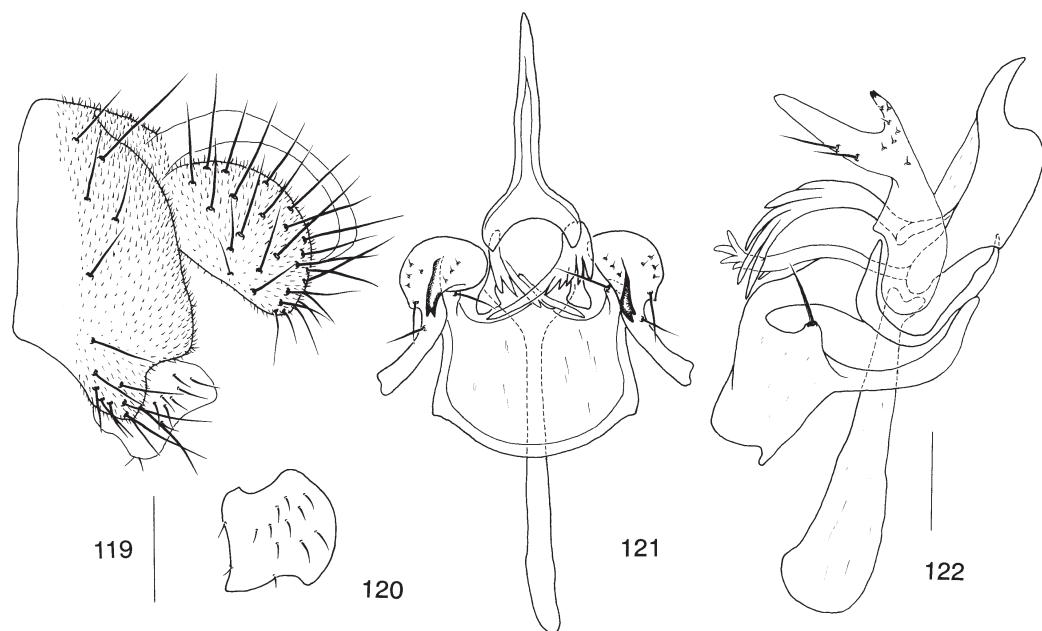
*Distribution*. – Malaysia (Sarawak).

*Diagnosis*. – Paramere submedially with 1 strong process bearing 2 apical projections (Figs 121, 122); aedeagus apically pointed (Figs 121, 122).

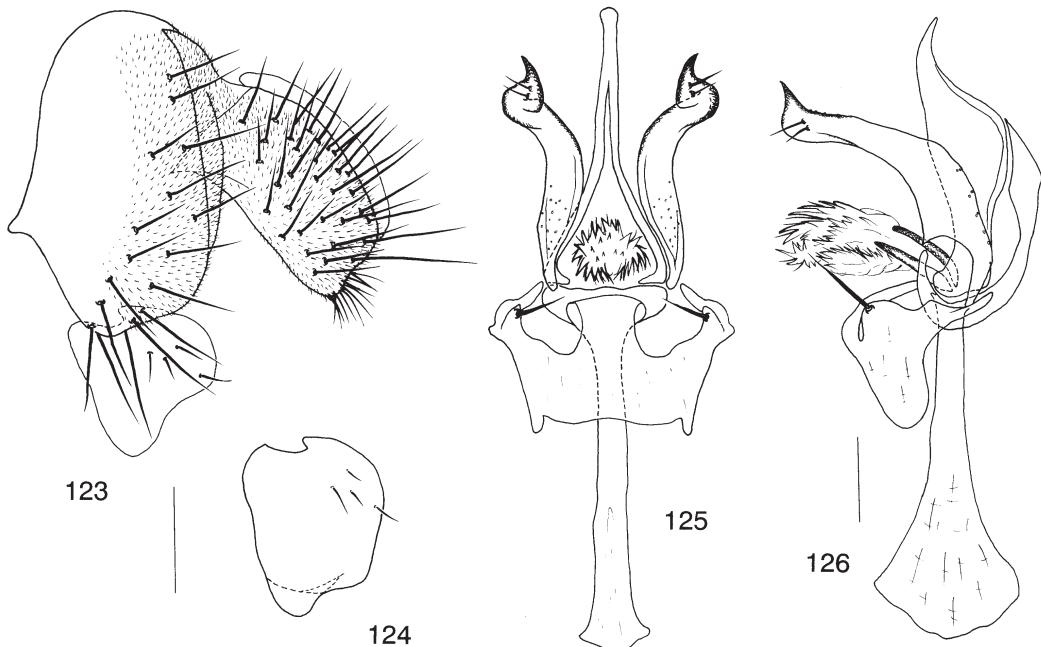
*Description*. – Head: Frons brown. Ocellar triangle broad (Fig. 31). Face and gena brownish yellow. Palpus brownish yellow, broad, large in male, medially 1/3 to 1/2 as wide as long (Fig. 32).



Figs 115-118. *Pseudostegana myrmecoformis* Chen and Toda, sp. n. male: see Figs. 78-81 for further explanation.



Figs 119-122. *Pseudostegana oxycephala* Chen and Toda, sp. n. male: see Figs. 78-81 for further explanation.



Figs 123-126. *Pseudostegana fleximediata* (Takada, Momma and Shima, 1973) male: see Figs. 78-81 for further explanation.

**Thorax:** Scutum and scutellum brown; pleura dark brown. Katepisternal setae 3.

**Legs:** yellow; mid- and hindleg femora distally and tibiae brown.

**Abdomen:** Tergites brownish yellow to black. Sternites yellow to dark brown.

**Male terminalia:** Epandrium ventrally protruded, with ca. 14 setae (Fig. 119). Cercus ventrally round (Fig. 119). Basal process of aedeagus long, with ca. 5 finger-like processes (Figs 121, 122).

**Measurements:** BL = 2.97 mm in holotype (2.88 in 1 male paratype), ThL = 1.10 mm (1.10), WL = 2.60 mm (2.50), WW = 1.00 mm (1.00).

**Indices:** arb = 10/1 (10/1), avd = 0.80 (0.80), adf = 2.10 (2.00), flw = 1.80 (1.90), FW/HW = 0.40 (0.40), ch/o = 0.05 (0.05), prorb = 1.10 (1.00), vb = 0.80 (0.80), dcl = 0.30 (0.30), sctl = 1.10 (1.10), sterno = 0.55 (0.50), orbito = 0.70 (0.70), dcp = 0.20 (0.20), sctlp = 1.10 (1.10).

##### 5. The *fleximediata* species-group

**Diagnosis.** — Ocellar triangle not elongated (Figs 33, 35, 37, 39, 40); M vein strongly curved after

dm-cu crossvein; medial, dark-color band much narrower than 1/2 distance between r-m and dm-cu crossveins (Figs 66-70); male seventh tergite laterally with slender processes.

**Included species.** — *P. fleximediata* (Takada, Momma and Shima, 1973), *P. bisetosa* Chen and Toda, sp. n., *P. curvata* Chen and Toda, sp. n., *P. hamata* Chen and Toda, sp. n. and *P. nitidiventris* Chen and Toda, sp. n.

##### *Pseudostegana fleximediata* (Takada, Momma and Shima)

(Figs 33, 34, 66, 123-126)

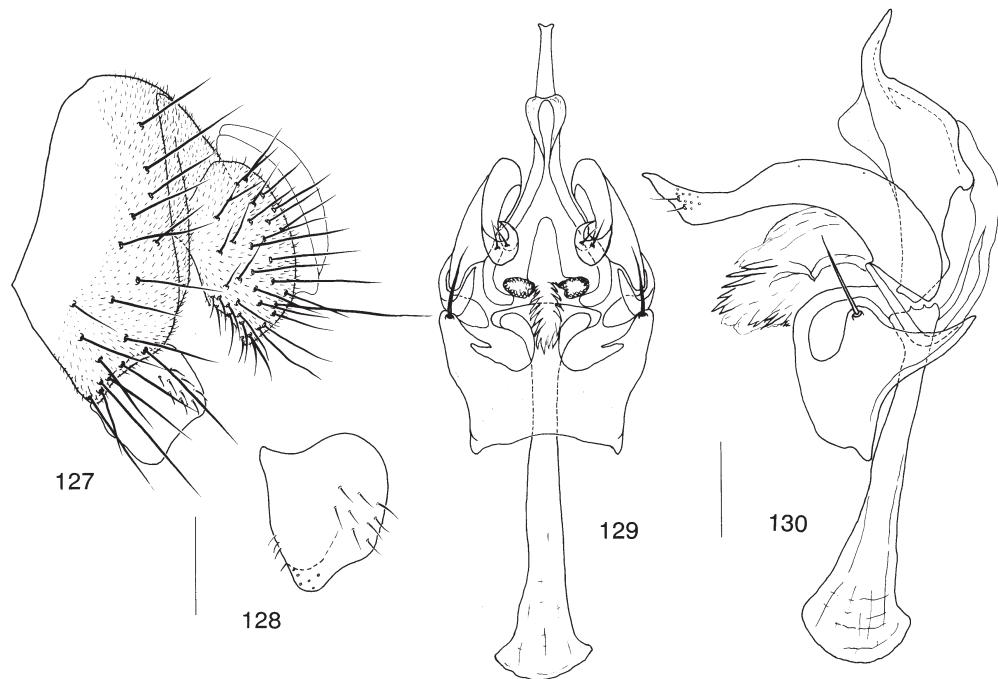
*Stegana (Parastegana) fleximediata* Takada, Momma and Shima, 1973: 74.

*Stegana (Pseudostegana) fleximediata*: Okada, 1978: 395.

**Material examined.** — MALAYSIA: Mt. Kinabalu, Sabah: paratype 1♂, 29.vi.1972, H. Takada (SEHU); Park Headquarters, 2♂, 5.x.1999, M. J. Toda (1 male, KPSP; 1♂, ITBC).

**Distribution.** — Malaysia (Sabah).

**Diagnosis.** — Palpus brownish yellow, broad, large



Figs 127-130. *Pseudostegana bisetosa* Chen and Toda, sp. n. male: see Figs. 78-81 for further explanation.

in male, medially 1/3 to 1/2 as wide as long (Fig. 34); paramere apically acute (Figs 125, 126); aedeagus round apically, narrowed submedially to apically in ventral view (Fig. 125).

***Pseudostegana bisetosa* Chen and Toda, sp. n.**  
(Figs 35, 36, 67, 127-130)

**Type material.** – Holotype ♂, MALAYSIA: Mahua, Crocker Range, Sabah, 14.x.1999, M. J. Toda (KPSP). Paratype: MALAYSIA: 1♂, same data as the holotype (ITBC).

**Etymology.** – A combination of the Latin words: “bi-” + “setosus”, referring to the 2 sensilla on paramere.

**Distribution.** – Malaysia (Sabah).

**Diagnosis.** – Epandrium ventrally somewhat protruded (Fig. 127); aedeagus apically concaved, submedially expanded in ventral view (Figs 129, 130).

**Description.** – Frons, face and gena yellow. Palpus yellow, slender, rod-shaped in male (Fig. 36).

Thorax: Scutum and scutellum yellow; pleura brown to dark brown. Katepisternal setae 2.

Legs: yellow.

Abdomen: First to third tergites yellow; others glossy brown to black. First to third sternites yellow; others brown.

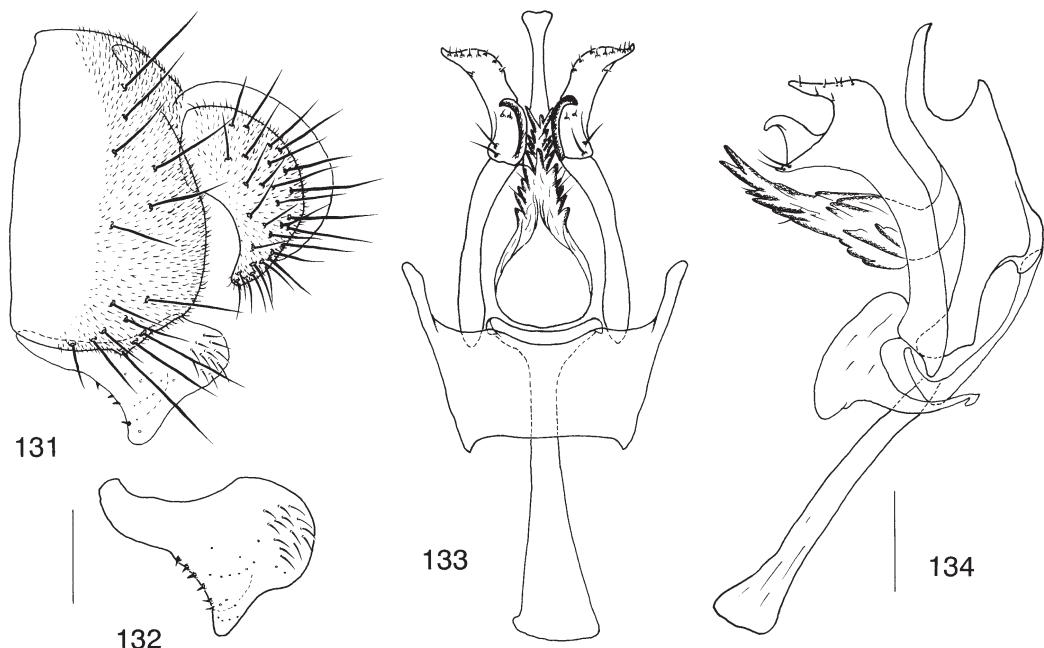
Male terminalia: Epandrium with ca. 18 setae (Fig. 127). Cercus ventrally slightly protruded (Fig. 127). Basal process of aedeagus nearly membranous, apically with ca. 6 finger-like processes (Figs 129, 130).

Measurements: BL = 3.30 mm in holotype (3.40 in 1♂ paratype), ThL = 1.20 mm (1.20), WL = 3.10 mm (3.20), WW = 1.10 mm (1.10).

Indices: arb = 6/1 (6/1), avd = 0.90 (0.90), adf = 2.00 (2.10), flw = 2.10 (2.20), FW/HW = 0.40 (0.40), ch/o = 0.05 (0.04), prorb = 0.90 (0.80), vb = 0.55 (0.50), dcl = 0.30 (0.30), sctl = 1.10 (1.10), sterno = 1.20 (1.20), orbito = 0.88 (0.77), dcp = 0.20, sctlp = 0.65 (0.60),

***Pseudostegana curvata* Chen and Toda, sp. n.**  
(Figs 37, 38, 68, 131-134)

**Type material.** – Holotype ♂, MALAYSIA: Mahua, Crocker Range, Sabah, 17.x.1999, M. J. Toda (KPSP).



Figs 131-134. *Pseudostegana curvata* Chen and Toda, sp. n. male: see Figs. 78-81 for further explanation.

Paratypes: MALAYSIA: 2♂, 1♀, same data as the holotype (KPSP); 13♂, 4♀, same data as the holotype except 15.x.1999 (1 male, 2♀, KPSP; 4♂, 1♀, ITBC; 4♂, 1♀, SEHU; 4♂, SCAU).

**Etymology.** – From the Greek word: “curvus”, referring to the M vein submedially strongly curved.

**Distribution.** – Malaysia (Sabah).

**Diagnosis.** – Aedeagus apically somewhat roundly expanded in ventral view (Fig. 133); basal process of aedeagus with thick finger-like processes (Figs 133, 134).

**Description.** – Frons, face and gena yellow. Palpus brown, slender, rod-shaped in male (Fig. 38).

Thorax: Scutum, pleura and scutellum brown to black in male, brownish yellow in female. Katepisternal setae 2.

Legs: yellow; hindleg tibia brown.

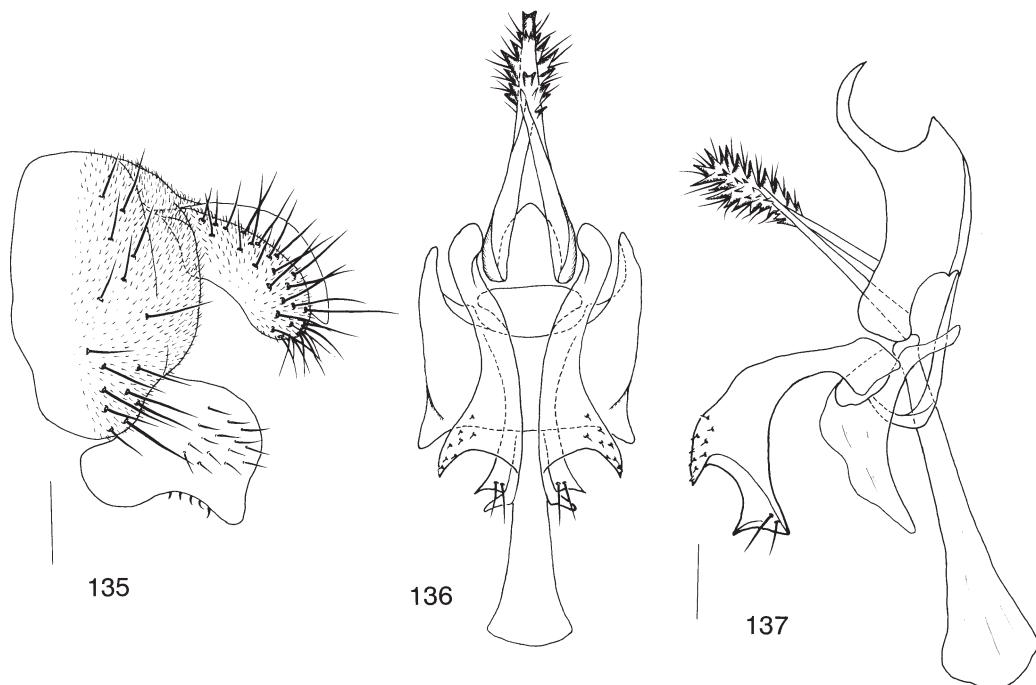
Abdomen: Tergites glossy black in male, glossy brownish yellow to brown in female. Sternites black in male, brownish yellow in female; male fifth with a few long setae on posterior margin.

Male terminalia: Epandrium with ca. 15 setae

(Fig. 131). Surstylus somewhat protruded on antero-ventral corner, with several peg-like spinules on inter surface (Fig. 132). Cercus ventrally slightly protruded (Fig. 131). Paramere distally expanded and bifurcated: apical process pointed, with several small sensilla; lateral process broad, with 2 long sensilla basally (Figs 133, 134).

**Measurements:** BL = 2.94 mm in holotype (range in 3♂ and 2♀ paratypes: 2.83-3.20 in ♂, 3.47-3.58 in ♀); ThL = 1.17 mm (1.08-1.23 in ♂, 1.13-1.24 in ♀), WL = 3.15 mm (3.00-3.30 in ♂, 3.40-3.90 in ♂), WW = 0.95 mm (0.90-1.10 in ♂, 1.10-1.20 in ♀).

**Indices:** arb = 6/1 (6/1), avd = 0.80 (0.80-0.90), adf = 2.20 (2.00-2.20), flw = 2.10 (2.10-2.20), FW/HW = 0.40 (0.40), ch/o = 0.05 (0.04-0.05), prorb = 1.00 (0.09-1.00), vb = 0.35 (0.25-0.30), dcl = 0.25 (0.25-0.35), sctl = 1.10 (1.00-1.10), sterno = 0.55 (0.50-0.60), orbito = 0.60 (0.65-0.70), dcp = 0.20 (0.20), sctlp = 1.10 (1.10-1.20).



Figs 135-137. *Pseudostegana hamata* Chen and Toda, sp. n. male: see Figs. 88-90 for further explanation.

### *Pseudostegana hamata* Chen and Toda, sp. n.

(Figs 39, 69, 135-137)

*Type material.* – Holotype ♂, MALAYSIA: Poring, Sabah, 27.vi.2000, M. J. Toda (KPSP).

*Etymology.* – From the Latin word “hamatus”, referring to the apically hook-like aedeagus.

*Distribution.* – Malaysia (Sabah).

*Diagnosis.* – Aedeagus distally hook-like curved in lateral view, apically slightly concaved in ventral view; basal process of aedeagus long, with numerous, small, triangular projections (Figs 136, 137).

*Description* – Frons, face and gena yellow. Palpus yellow, broad, large in male, medially 1/2 as wide as long.

Thorax: Scutum, pleura and scutellum yellow. Katepisternal setae 2.

Legs: yellow.

Abdomen: Tergites glossy brownish yellow. Sternites yellow; male fifth with a few long setae on posterior margin.

Male terminalia: Epandrum with ca. 16 setae (Fig. 135). Surstyli somewhat protruded on antero-ventral corner, with several peg-like spinules on inter surface (Fig. 135). Cercus ventrally round (Fig. 135). Paramere distally expanded and bifurcated: apical process pointed, with several small sensilla; lateral process broad, with 1 projection medially and 2 long sensilla basally (Figs 136, 137).

Measurements: BL = 2.25 mm in holotype; ThL = 0.90 mm, WL = 2.30 mm, WW = 0.90 mm.

Indices: arb = 6/1, avd = 0.80, adf = 2.10, flw = 2.00, FW/HW = 0.40, ch/o = 0.05, prorb = 0.09, vb = 0.30, dcl = 0.25, scl = 1.00, sterno = 0.60, orbito = 0.70, dcp = 0.20, sctlp = 1.10.

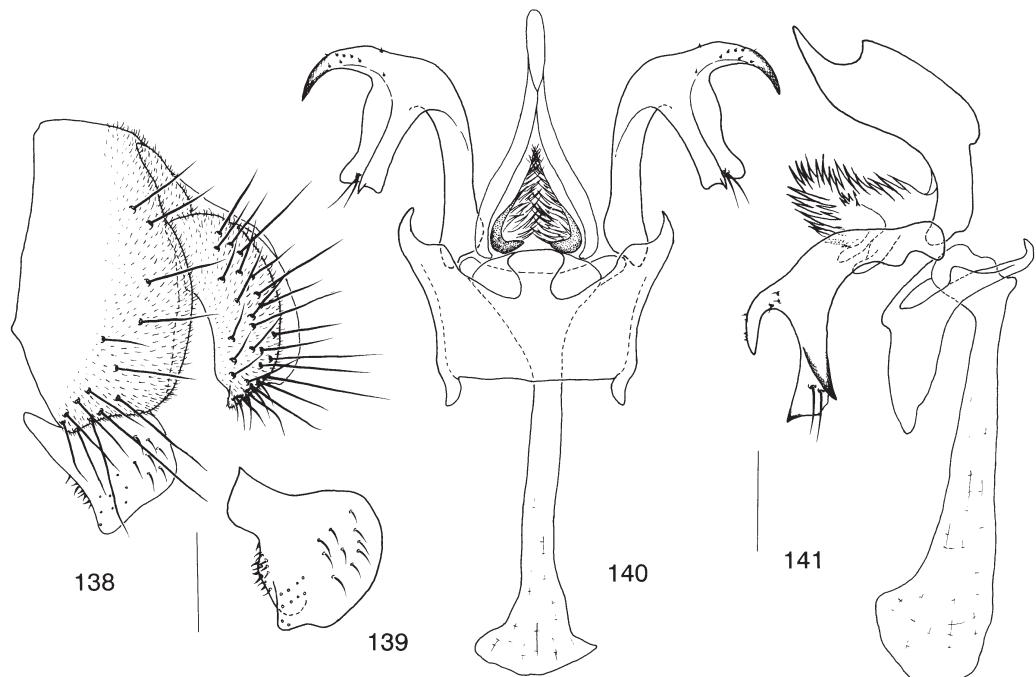
### *Pseudostegana nitidiventris*

Chen and Toda, sp. n.

(Figs 40, 70, 138-141)

*Type material.* – Holotype ♂, MALAYSIA: Poring, Sabah, 27.vi.2000, M. J. Toda (KPSP).

*Etymology.* – A combination of the Latin words “nit-



Figs 138-141. *Pseudostegana nitidiventris* Chen and Toda, sp. n. male: see Figs. 78-81 for further explanation.

dus" + "venter", referring to the remarkably glossy abdomen.

**Distribution.** – Malaysia (Sabah).

**Diagnosis.** – Aedeagus apically round in ventral view; basal process of aedeagus with dense, thin projections (Figs 140, 141).

**Description.** – Frons, face and gena yellow. Palpus yellow, broad, large in male, medially 1/2 as wide as long.

Thorax: Scutum, pleura and scutellum yellow. Katepisternal setae 2.

Legs: yellow.

Abdomen: Tergites glossy brownish yellow. Sternites yellow; male fifth with a few long setae on posterior margin.

Male terminalia: Epandrium with ca. 15 setae (Fig. 138). Surstyli somewhat protruded on antero-ventral corner, with several peg-like spinules on inter surface (Figs 138, 139). Cercus ventrally slightly protruded (Fig. 138). Paramere distally expanded and bifurcated: apical process pointed, with several small sensilla; lateral process

medially with 1 small projection and 2 long sensilla (Figs 140, 141).

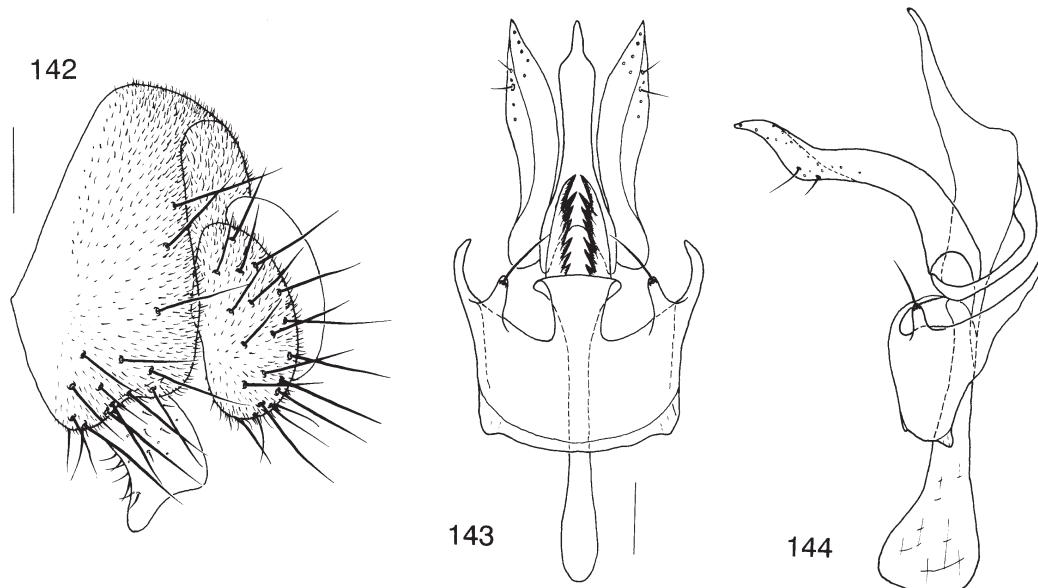
Measurements: BL = 2.53 mm in holotype; ThL = 1.03 mm, WL = 2.60 mm, WW = 1.00 mm.

Indices: arb = 6/1, avd = 0.86, adf = 2.00, flw = 2.00, FW/HW = 0.40, ch/o = 0.05, prorb = 0.90, vb = 0.30, dcl = 0.25, sctl = 1.00, sterno = 0.60, orbito = 0.70, dcp = 0.20, sctlp = 1.10.

#### 6. The *zonaria* species-group

**Diagnosis.** – Wing: Medial band as broad as length of dm-cu crossvein at least; r-m crossvein clear; M vein gently curved to R<sub>4+5</sub> after dm-cu crossvein (Figs 71-74).

**Included species.** – *P. latipalpis* (Sidorenko, 1998), *P. zonaria* (Okada, 1982), *P. dolichopoda* Chen and Wang, sp. n., *P. latifasciata* Chen and Toda, sp. n. and *P. nitidifrons* Chen and Wang, sp. n.



Figs 142-144. *Pseudostegana dolichopoda* Chen and Wang, sp. n. male: see Figs. 88-90 for further explanation.

***Pseudostegana latipalpis* (Sidorenko)**

(Figs 41, 42, 71)

*Stegana (Pseudostegana) latipalpis* Sidorenko, 1998: 286.

*Material examined.* — Holotype ♂ and 1♂ paratype, CHINA: Taiwan, Fushan, 9.iv.1997, M. J. Toda (SEHU).

*Distribution.* — China (Taiwan).

*Diagnosis.* — Palpus yellow, broad, large and slightly compressed in male, medially 1/3 to 1/2 as wide as long (Fig. 42); paramere subapically somewhat triangularly expanded; aedeagus apical-laterally slightly roundly expanded.

***Pseudostegana zonaria* (Okada)**

*Stegana (Pseudostegana) zonaria* Okada, 1982: 41.

*Material examined.* — Holotype ♂, PAPUA NEW GUINEA: Eliptamin Valley, 1200-1350 m, 1-15.viii. 1959, W. W. Brandt (BPBM).

*Distribution.* — Papua New Guinea.

*Diagnosis.* — Wing: Medial band as broad as length of dm-cu crossvein.

***Pseudostegana dolichopoda***

Chen and Wang, sp. n.

(Figs 43, 44, 72, 142-144)

*Type material.* — Holotype ♂, CHINA: Bubang-Wangtianshu, Mengla, Xishuangbanna, Yunnan, 600 m, 10.ix.2002, ex. fallen logs, H.-W. Chen (KIZ).

*Etymology.* — A combination of the Greek words: "dolichos" + "podos" meaning long leg.

*Distribution.* — China (Yunnan).

*Diagnosis.* — Paramere apically pointed (Figs 143, 144); aedeagus distally slender in lateral view (Fig. 144).

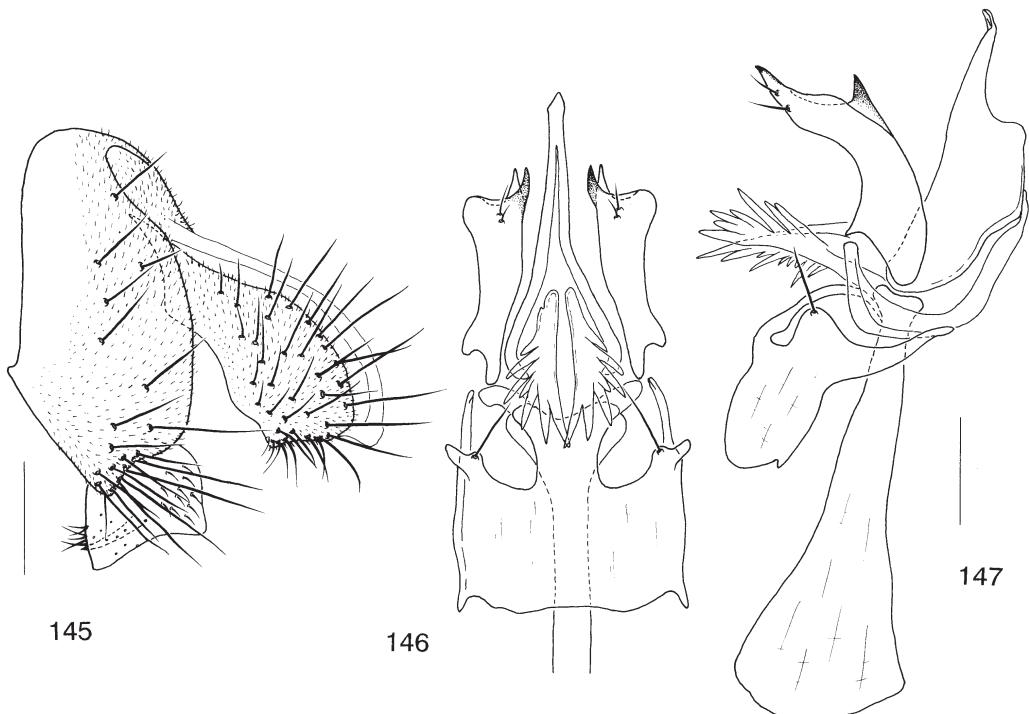
*Description.* — Head: Frons brown. Ocellar triangle broad (Fig. 43). Face and gena brownish yellow. Palpus brownish yellow, slender, rod-shaped in male (Fig. 44).

Thorax: Scutum orange yellow on anterior half, dark brown on posterior half; scutellum brown; pleura glossy black. Katepisternal setae 2.

Legs: yellow; mid- and hindleg femora distally and tibiae brown to dark brown.

Abdomen: Tergites glossy, black. Second to fourth sternites brownish yellow; fifth dark brown.

Male terminalia: Epandrium with ca. 15 setae



Figs 145-147. *Pseudostegana latifasciata* Chen and Toda, sp. n. male: see Figs. 88-90 for further explanation.

(Fig. 142). Surstylus somewhat protruded on antero-ventral corner (Fig. 142). Cercus ventrally round (Fig. 142). Basal process of aedeagus with ca. 7 finger-like processes (Fig. 143).

Measurements: BL = 2.83 mm in holotype, ThL = 1.05 mm, WL = 2.70 mm, WW = 1.00 mm.

Indices: arb = 8/1, avd = 0.90, adf = 2.00, flw = 1.80, FW/HW = 0.35, ch/o = 0.05, prorb = 1.20, rcorb = 0.17, vb = 0.75, dcl = 0.20, sclt = 0.90, sterno = 0.60, orbito = 0.70, dcp = 0.20, scltp = 1.10.

#### *Pseudostegana latifasciata*

Chen and Toda, sp. n.

(Figs 45, 46, 73, 145-147)

*Stegana (Pseudostegana) fleximediata*: Sidorenko, 1997: 166 (misidentification).

Type material. – Holotype ♂, VIETNAM: Vinh Phu, 1000 m, Tam Dao, 13.xi.1990, E. Nartshuk (ZISP).

Etymology. – A combination of the Latin words: “*latus*” + “*fasciatus*”, referring to the broad, medial band on wing.

Distribution. – Vietnam.

Diagnosis. – Paramere expanded and with 1 triangular process on distal 1/3 (Figs 146, 147); aedeagus apically slightly pointed in ventral view (Fig. 146).

#### *Pseudostegana nitidifrons*

Chen and Wang, sp. n.

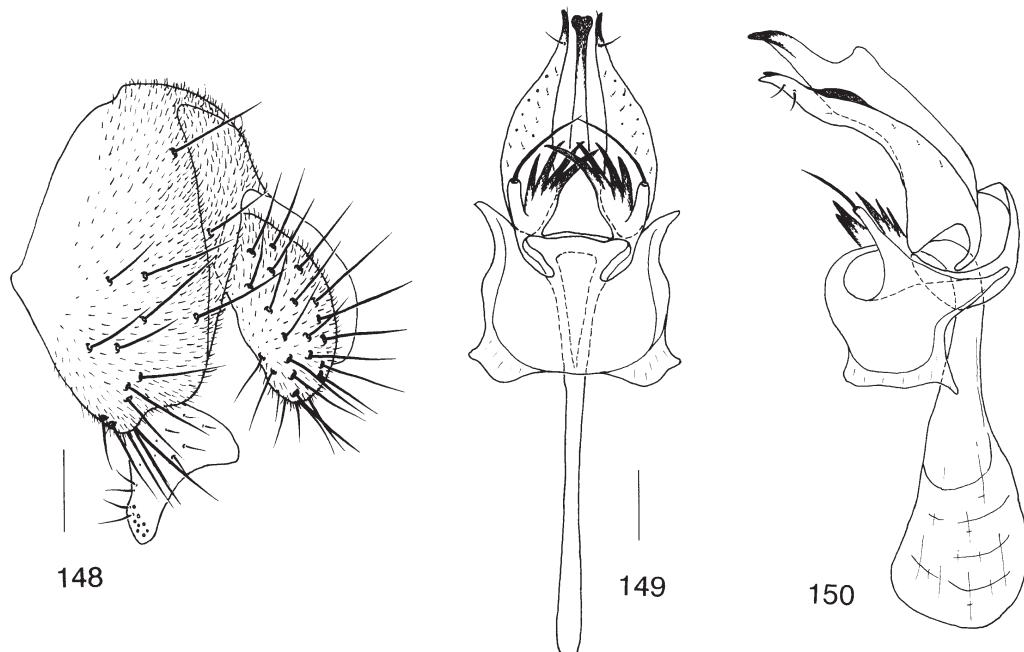
(Figs 47, 48, 74, 148-150)

Type material. – Holotype ♂, CHINA: Tropical Botanical Garden, Menglin, Xishuangbanna, Yunnan, 800 m, 12,13.ix.2002, ex. fallen logs and fruits, H.-W. Chen (KIZ). Paratypes: CHINA: Xishuangbanna, Yunnan: 7♂, 2♀, same data as holotype (KIZ); Bubang-Wangtianshu, Mengla, 600 m, 6♂, 6♀, 10-12.ix.2002, ex. fallen logs and fruits, B.-C. Wang & H.-W. Chen (3♂, 3♀, SCAU; 3♂, 3♀, SEHU).

Etymology. – A combination of the Latin words: “*nitidus*” + “*frons*” meaning glossy frons.

Distribution. – China (Yunnan).

Diagnosis. – Paramere apically slightly bifurcated



Figs 148-150. *Pseudostegana nitidifrons* Chen and Wang, sp. n. male: see Figs. 88-90 for further explanation.

(Fig. 150); aedeagus apically roundly expanded in ventral view (Fig. 149).

**Description.** — Head: Frons dark brown. Ocellar triangle broad (Fig. 47). Face and gena brownish red. Palpus dark brown, slender, rod-shaped in male (Fig. 48).

Thorax: Scutum orange yellow on anterior 1/3, brown to dark brown on posterior 2/3, with 3 obscure, dark brown longitudinal stripes; scutellum dark brown; pleura glossy black. Katepisternal setae 3.

Legs: yellow; midleg femur and tibia black; hindleg femur and tibia apically black.

Abdomen: Tergites glossy, black. Sternites: first to third brown, but fourth to fifth black in male; first to fourth brownish yellow, but fifth to seventh brown in female.

Male terminalia: Epandrium with ca. 16 setae (Fig. 148). Surstyli somewhat protruded on antero-ventral corner (Fig. 148). Cercus ventrally round (Fig. 148). Basal process of aedeagus with 4-5 finger-like processes (Figs 149, 150).

Measurements: BL = 3.00 mm in holotype (range in 4♂ and 4♀ paratypes, 2.27-3.00 in ♂,

2.80-3.17 in ♀), ThL = 1.02 mm (0.97-1.06 in ♂, 1.10-1.20 in ♀), WL = 2.77 mm (2.53-2.87 in ♂, 2.73-3.04 in ♀), WW = 1.00 mm (0.87-1.00 in ♂, 1.00-1.10 in ♀).

Indices: arb = 6-7/1 (6-7/1), adf = 1.80 (1.70-1.90), flw = 1.80 (1.70-1.80), FW/HW = 0.30 (0.30), ch/o = 0.07 (0.07), prorb = 1.00 (1.00-1.10), rcorb = 0.16 (0.15-0.19), vb = 0.90 (0.70-0.90), dcl = 0.30 (0.30-0.35), sctl = 1.00 (1.00), sterno = 0.60 (0.60-0.65), orbito = 0.70 (0.70-0.80), dep = 0.15 (0.15-0.17), sctlp = 1.00 (1.00-1.10).

#### Key to all species of the genus *Pseudostegana* Male

0. Postvertical and prescutellar setae absent; M strongly convergent to R<sub>4+5</sub>; ocellar setae outside triangle made by ocelli; arista with 1 ventral branch except for terminal fork; anterior, dorsocentral seta minute; wing hyaline, mostly with dark-color band(s); all femora, tibiae and first tarsomeres slender; foreleg first tarsomere with 4-6 black, short, thick setae; abdominal tergites mostly glossy; seventh tergite present in male (genus *Pseudostegana*)..... 1
1. Wing without distinct, dark-color band except

- for base; palpus drosorventrally flattened, black, lobe-like in male; aedeagus distally membranous (*atrofrons* species-group)..... 6  
 - Wing with distinct, dark-color band(s) ..... 2  
 2. Wing with distinct, basal, cross band ..... 3  
 - Wing without distinct, basal, cross band ..... 4  
 3. Wing basal and medial, cross bands confluent posteriorly, forming V-shaped pattern (*javana* species-group)..... 9  
 - Wing basal and medial, cross bands separated from each other (*latiparma* species-group)..... 11  
 4. Longitudinal, dark-color band running through entire length of CuA<sub>1</sub> vein; M vein straight and mostly slightly clouded on distal 2/3 (*grandipalpis* species-group)..... 21  
 - Longitudinal band absent along entire length of CuA<sub>1</sub> vein; M vein more or less curved in distal 2/3 ..... 5  
 5. Ocellar triangle not elongated; M vein strongly curved after dm-cu crossvein; medial band narrower than length of dm-cu crossvein (*fleximediata* species-group) ..... 25  
 - Ocellar triangle elongated; M vein gently curved after dm-cu crossvein; medial band at least as broad as length of dm-cu crossvein (*zonaria* species-group) ..... 29  
 6. Frons yellow, with argenteous pollinose; ocellar triangle not elongated; face medially yellowish white, laterally brown; basal process of aedeagus not bifurcated .....  
    ..... *melanopogonias* Chen and Toda, sp. n.  
 - Frons brown or black on upper half at least; ocellar triangle elongated distinctly; basal process of aedeagus bifurcated basally ..... 7  
 7. Ocellar triangle and abdominal tergites not glossy ..... *melanogaster* Chen and Toda, sp. n.  
 - Ocellar triangle and abdominal tergites glossy ..... 8  
 8. Frons brown on upper half, yellow on lower half; face yellow; cercus ventrally slightly protruded ..... *leptoptera* Chen and Toda, sp. n.  
 - Frons and face mostly dark brown to black; cercus ventrally round .....  
    ..... *atrofrons* Chen and Toda, sp. n.  
 9. Ocellar triangle distinct, medially broader than 1/4 of frontal width; wing without oblique band subapically; r-m crossvein clear .....  
    ..... *javana* (Okada)  
 - Ocellar triangle narrower than 1/5 of frontal width; wing with oblique band subapically; r-m crossvein clouded ..... 10  
 10. Wing with yellow patch covering basal radial cell and basal part of submarginal (r<sub>2+3</sub>) cell ...  
    ..... *xanthoptera* Chen and Wang, sp. n.  
 - Wing with only dark-color patch .....  
    ..... *lacrymaria* (Okada)  
 11. R-m crossvein clear ..... 12  
 - R-m crossvein clouded ..... 17  
 12. Ocellar triangle narrower than 1/6 of frontal width ..... *lineoparma* (Okada)  
 - Ocellar triangle distinct, medially as broad as 1/3 of frontal width ..... 13  
 13. Palpus expanded, medially 1/3 to 1/2 as wide as long ..... *bifasciata* Chen and Wang, sp. n.  
 - Palpus slender, rod-shaped ..... 14  
 14. Medial band as broad as distance between r-m and dm-cu crossveins; M vein medially with black patch ..... 15  
 - Medial band narrower than distance between r-m and dm-cu crossveins; M vein medially clear ..... 16  
 15. Cercus ventrally protruded; aedeagus apically round ..... *hirta* (Okada)  
 - Cercus ventrally round; aedeagus apically slightly expanded in ventral view, pointed in lateral view.... *pallidimaculata* Chen and Wang, sp. n.  
 16. Paramere subapically triangularly expanded in ventral view; basal process of aedeagus membranous, lacking finger-like processes .....  
    ..... *angustifasciata* Chen and Wang, sp. n.  
 - Paramere distally narrowed in ventral view; basal process of aedeagus with finger-like processes ..... *latiparma* (Okada)  
 17. Palpus slender, rod-shaped; ocellar triangle distinct, medially broader than 1/4 of frontal width ..... *latizonaria* (Okada)  
 - Palpus expanded, medially 1/2 as wide as long; ocellar triangle narrower than 1/4 of frontal width ..... 18  
 18. Medial band confluent with r-m patch .....  
    ..... *albinotata* (Okada)  
 - Medial band separated from r-m patch ..... 19  
 19. Wing medial band narrower than basal band; paramere apically pointed, subapically with 1 small projection; distal half of aedeagus expanded in lateral view, about 3 times of basal width ..... *dactylis* Chen and Toda, sp. n.  
 - Wing medial band broader than basal band ..... 20  
 20. Paramere bifurcated from middle, submedially with 2 small projections; aedeagus medially slightly broader than apical part in ventral view; basal process slightly sclerotized, with ca. 3 finger-like processes .....  
    ..... *orbic capitata* Chen and Toda, sp. n.  
 - Paramere apically bifurcated; aedeagus medially broader than 2 times of apical part in lateral view; basal process of aedeagus membranous, lacking processes .....  
    ..... *philoga* Chen and Toda, sp. n.  
 21. M vein clear; paramere without process .....  
    ..... *campanularia* (Okada)  
 - M vein clouded on distal 2/3; paramere submedially or subapically with process ..... 22  
 22. R-m crossvein clouded; basal process of aedeagus membranous, lacking sclerotized processes ..... *malayana* (Okada)  
 - R-m crossvein clear; basal process of aedeagus slightly sclerotized ..... 23  
 23. Aedeagus distally strongly sclerotized, apically with 3 projections .....  
    ..... *myrmeciformis* Chen and Toda, sp. n.  
 - Aedeagus apically pointed ..... 24  
 24. Medial band narrower than 1/2 distance between r-m and dm-cu crossveins .....  
    ..... *grandipalpis* (Takada and Momma)  
 - Medial band broader than 2/3 distance between r-m and dm-cu crossveins .....  
    ..... *oxycephala* Chen and Toda, sp. n.  
 25. R-m crossvein clouded; surstylos lacking peg-like spinules on inner surface; hypandrium with paramedian setae ..... 26

- R-m cross clear; surstylos with several peg-like spinules on inner surface; hypandrium without paramedian setae ..... 27
- 26. Epandrium ventrally not protruded; aedeagus round apically, narrowed submedially to apically in ventral view .....  
..... *fleximediata* (Takada, Momma and Shima)
- Epandrium ventrally protruded; aedeagus apically concaved, submedially expanded in ventral view ..... *bisetosa* Chen and Toda, sp. n.
- 27. Aedeagus apically somewhat roundly expandend in ventral view; basal process of aedeagus with thick finger-like processes .....  
..... *curvata* Chen and Toda, sp. n.
- Aedeagus apically not expanded in ventral view ..... 28
- 28. Aedeagus distally strongly curved in lateral view, apically slightly concaved in ventral view; basal process of aedeagus long, with numerous, small, triangular projections .....  
..... *hamata* Chen and Toda, sp. n.
- Aedeagus distally straight in lateral view, apically round in ventral view; basal process of aedeagus with dense, thin projections .....  
..... *nitidiventris* Chen and Toda, sp. n.
- 29. Palpus expanded, medially wider than 1/3 of length ..... 30
- Palpus slender, rod-like ..... 32
- 30. Medial band as broad as length of dm-cu crossvein ..... *zonaria* (Okada)
- Medial band broader than length of dm-cu crossvein ..... 31
- 31. Paramere subapically somewhat triangularly expanded; aedeagus apically slightly roundly expanded ..... *latipalpis* (Sidorenko)
- Paramere apically smoothly tapering; aedeagus apically slightly pointed .....  
..... *dolichopoda* Chen and Wang, sp. n.
- 32. Paramere expanded and with 1 triangular process on distal 1/3; aedeagus apically slightly pointed in ventral view .....  
..... *latifasciata* Chen and Toda, sp. n.
- Paramere apically slightly bifurcated; aedeagus apically roundly expanded in ventral view .....  
..... *nitidifrons* Chen and Wang, sp. n.

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