



## A taxonomic revision of the Stictopterinae (Lepidoptera, Noctuoidea, Noctuidae) in China

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## Abstract

The Stictopterinae from China are revised. Seven genera and forty species are reported from China. Five new species (*Lophoptera hamata* **sp. nov.**, *Lophoptera solealis* **sp. nov.**, *Lophoptera acutiprocessa* **sp. nov.**, *Lophoptera purpurfera* **sp. nov.** and *Lophoptera trigonoprocessa* **sp. nov.**) are described. One genus and ten species are recorded from China for the first time. Nine misidentifications in Chen (1982b, 1991, 1999) are revised. The male genitalia of *Lophoptera obliquilinea* Prout, 1928 are described for the first time. Descriptions for the subfamily, all genera, and new species in China are provided, as are keys to genera and species, diagnoses for all species, and illustrations of adults and genitalia.

**Key words:** Lepidoptera, Noctuoidea, Noctuidae, Stictopterinae, taxonomy, new species

## Introduction

The subfamily Stictopterinae was established by Hampson (1894), based on the venation of the forewing and the hyaline basal half of the hindwing. Seven genera were originally included and *Stictoptera* Guenée, 1852 was designated as the type genus of the subfamily. At present, ten genera and more than 200 species are known. Most species are widely distributed in the tropical and subtropical areas.

Many taxonomists have worked on the Stictopterinae. Guenée (1852) studied the noctuids from the Indo-Australian region and described three new genera of the Stictopterinae: *Odontodes* Guenée, 1852, *Stictoptera* Guenée, 1852 and *Lophoptera* Guenée, 1852, the biggest genus of the subfamily. Walker (1856–1869) published fourteen new genera related to the Stictopterinae; four genera were included in the subfamily by later studies (Hampson 1894; Holloway 1985): *Aegilia* Walker, 1857, *Gyrtona* Walker, 1863, *Savoca* Walker, 1864, and *Nagara* Walker, 1866; the former three genera are all distributed in Oriental and Australian regions, the fourth genus is found only in South America; the other ten genera were regarded as synonyms by later studies. Hampson (1912) studied the Indo-Australian noctuids and named another new genus: *Stenosticta* Hampson, 1912, which is found in Africa and Saudi Arabia. Holloway (1985) established two other new genera of the subfamily after his taxonomic study of Borneo, *Diascoides* Holloway, 1985 and *Sigmuncus* Holloway, 1985; both genera are distributed in Oriental and Australian regions. Until now, ten genera of the Stictopterinae were recorded worldwide. Other taxonomists have

studied the Stictopterinae (Moore 1882; Warren 1913; Gaede 1934–1939, 1937–1938; Draudt 1919–1939; Holloway 1976; Poole 1989), but the genera recorded by them were either regarded as synonyms or transferred to other subfamilies by later studies.

The Chinese Stictopterinae have been studied by Warren (1913), Gaede (1937), Zhu *et al.* (1964), Zhang *et al.* (1986), Chen & Yang (1987), Heppner & Inoue (1992), Shen (1993), Fang (2003), Ades & Kendrick (2004) and Hua (2005). Chen (1982a, 1982b, 1985, 1991, 1992, 1993, 1997, 1999, 2001, 2002) did considerable work on the Stictopterinae of China, and the most detailed study of the Stictopterinae in China was done by him in 1999.

The systematic position of Stictopterinae is rather stabilized for its specialized external and genitalia characters. It belongs to the quadrifine Noctuidae (quadrifid Noctuoidea) and has a sister-group relationship with Eutelinae (Lafontaine 2006) proved by molecular evidence (Mitchell *et al.* 2006).

In the present work, specimens of the Stictopterinae from the Institute of Zoology, Chinese Academy of Sciences and China Agricultural University, including some newly collected material during recent years, were carefully checked and identified. The purpose of the present work is: to provide a taxonomic revision of the Stictopterinae of China; to describe five new *Lophoptera* species; to report one genus and ten species which are recorded for the first time from China; to describe the male genitalia of *Lophoptera obliquilinea* Prout, 1928; to revise nine misidentifications in Chen (1982b, 1999) and Chen *et al.* (1991); to provide keys to genera and species; and to provide illustrations of adult and genitalia of Chinese Stictopterinae. The current study reveals seven genera and forty species in China, with most restricted to the South of China, mainly in Hainan, Guangxi and Yunnan provinces. So far there are no endemic species from China other than the five newly described species.

## Material and methods

Specimens examined were obtained from the Institute of Zoology, Chinese Academy of Sciences, Beijing, China (IZCAS) and the Entomological Museum of China Agricultural University (CAU), Beijing, China. Other institutional acronyms are as follows: BMNH, Natural History Museum, London, UK; RNH, Rijksmuseum van Natuurlijke Historie, Leiden, Netherlands; OUM, Oxford University Museum of Natural History, Oxford, UK; MNHU, Museum für Naturkunde der Humboldt Universität, Berlin, Germany. Wing venation terminology follows the Comstock-Needham System (Comstock 1918), and that of external and genital features mainly follows Nichols (1989), Klots (1970), Holloway (1985) and Chen (1999). Photographs of the adult moths and their genitalia were taken with digital cameras, and the plates were compiled using Adobe Photoshop software.

## Systematics

### Subfamily Stictopterinae Hampson, 1894

Stictopterinae Hampson, 1894, *Fauna Brit. India* (Moths), 2: 397. Type genus: *Stictoptera* Guenée, 1852.

**Diagnosis.** The subfamily is characterized by the elongate forewing;  $R_{3,5}$  and  $R_2$  of the forewing forms an areole before the anterior angle of the cell;  $M_2$  of the hindwing diverges from the posterior angle of the cell; the basal half of the hindwing is transparent or semitransparent, the veins in that part are black. The Stictopterinae resembles the Eutelinae by external appearance, but is different from that subfamily in the structures of the first abdominal sternite, which has a pair of elongate flanges extending distally from apophyses in the Eutelinae, but has a pair of strengthening infolds extending posteriorly from the apophyses in the Stictopterinae.

**Description.** Head. Compound eyes hemispherical, distance between compound eyes varied between genera. Frons blackish-brown, erected-scaled. Both male and female antenna filiform, sometimes finely ciliate, always brown. Vertex greyish-brown, sometimes erected-scaled. Labial palpus extended beyond frons, tip sometimes extended over compound eyes, the second segment elongate, outer side sometimes with transversal or longitudinal dark strips. Thorax. Patagia and tegulae blackish-brown, suffused with thick greyish-brown scales; tegulae elongate, sometimes longer than half of mesothorax. Legs blackish-brown, outer side darker than inner side, segments ends grey; mid tibia with a pair of spurs, inner side one longer; hind tibia with two pairs of spurs, terminal pair shorter, two hair-pencils at opposite side of spurs (Figs 1 and 2). Frenulum of male a single spine, female 1 or 2

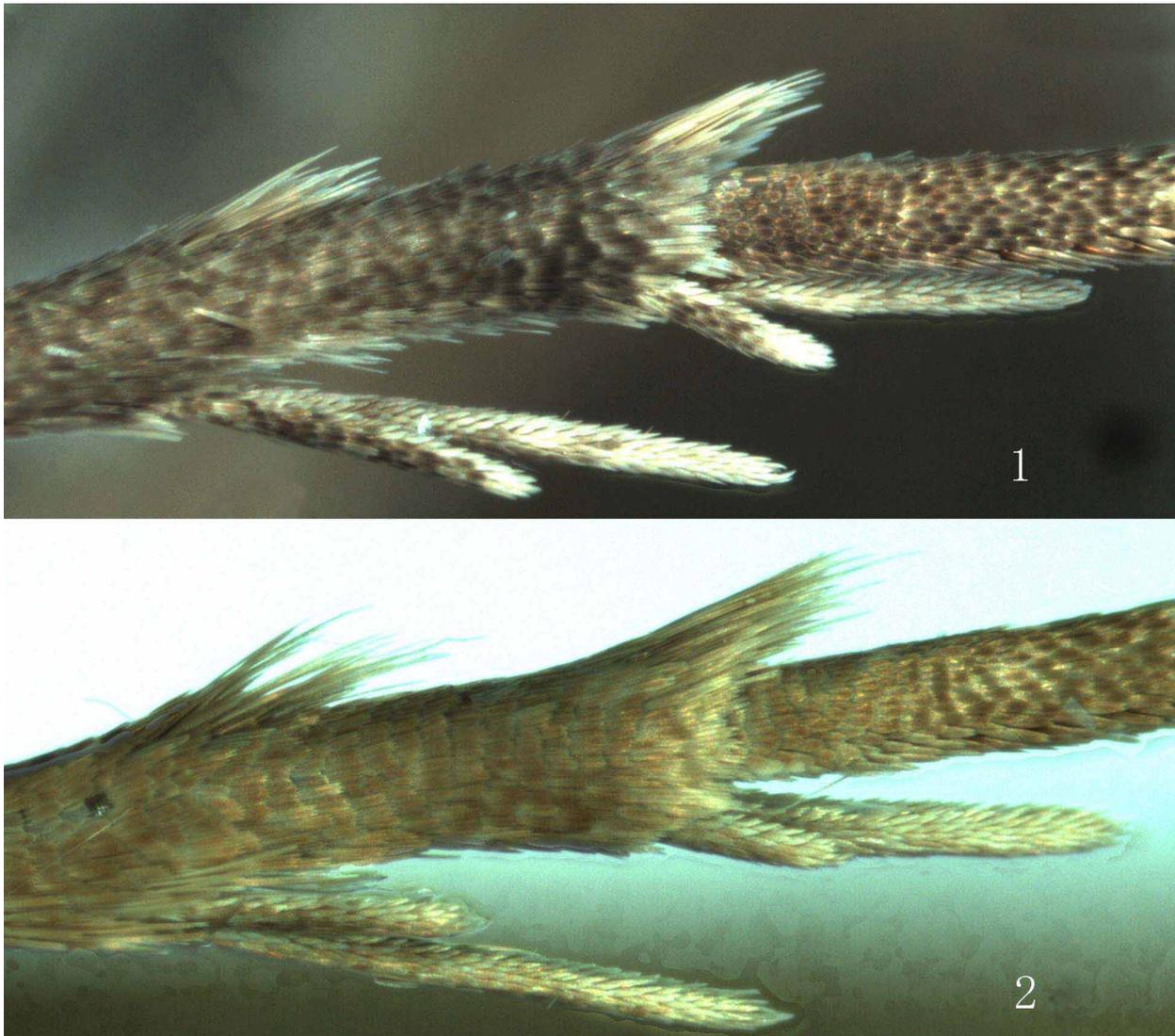
spines; frenulum with basal half curved, in male curved more strong and often with an angle centrally (Figs 3 (female) and 5 (male)). Wing shape and venation. Forewing elongate, triangular, base of costal margin sometimes incurved, apex not extended forwards, outer margin arc-shaped and slightly wavy, sometimes incurved before rounded tornus; forewing sometimes extremely long and narrow, spindle-shaped, costal margin curved at terminal one third, apex pointed, outer margin extremely oblique, tornus smooth. Hindwing always wide, both apex and tornus rounded, both costal and anal margin straight, outer margin arch-like and slightly incurved between M veins. Forewing venation: basal half of Sc separated from cell, parallel to R<sub>1</sub>; R<sub>1</sub> and R<sub>2</sub> separate, almost parallel, R<sub>1</sub> diverging from half to posterior one-fourth of cell, R<sub>2</sub> diverging before upper angle of cell, R<sub>1</sub> sometimes anastomosing with R<sub>2</sub> for a short distance and formed an areole; R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> stalked and diverging from upper angle of cell, R<sub>5</sub> diverging before basal one third of the stalk; R<sub>3</sub> and R<sub>4</sub> separate after terminal one third of the stalk or before the middle of the stalk; R<sub>3,5</sub> and R<sub>2</sub> anastomosing at a point or connected by a short vein, and formed an areole before upper angle of cell; M<sub>1</sub> diverging from upper angle of cell; M<sub>2</sub> and M<sub>3</sub> diverging from lower angle of cell; CuA<sub>1</sub> diverging before lower angle of cell, CuA<sub>2</sub> diverging from posterior one third of cell; 2A+3A present. Hindwing venation: Sc+R<sub>1</sub> close to cell before half of cell; Rs and M<sub>1</sub> diverging from upper angle of cell, M<sub>2</sub> and M<sub>3</sub> diverging from lower angle of cell, separate or shortly stalked, CuA<sub>1</sub> diverging from or a little before lower angle of cell, CuA<sub>2</sub> diverging from half of cell; 2A and 3A present. Wing-pattern. Wing pattern various greatly. Forewing usually dark-brown, sometimes tinged with greenish or purplish brown, often with clusters of erected scales around the reniform. Hindwing blackish-brown, basal half sometimes transparent or semitransparent, veins black. Underside: both forewing and hindwing with basal half partly pale grey, terminal part with broad or occasionally narrow blackish-brown band. Abdomen. Blackish or greyish-brown, ends of segments sometimes grey, or every segment with a black spot centrally, the first and the third segments sometimes with dorsal crests. The first sternite with two strengthening infolds (grooved from the exterior), extending posteriorly from the apophyses, forming a triangular zone. The eighth sternite sometimes with a pair of coremata. Male genitalia. Uncus triangular, rostriform or elongate, tip sometimes specialized. Socii occasionally present. Gnathos present or not, generally very short and connected at middle, forming a small ring or with round central process; in a few species central process well specialized into rostriform. Valva narrow or divided into two slender arms connected by a membranous webbing, with or without harpe, costa sometimes with basal process. Juxta variously shaped, sometimes triangular or horse-shoe-like. Saccus often inverted triangular, differently shaped between genera. Aedeagus short, with or without cornutus, a small water-drop shaped or globula sclerotized lobe inside ductus ejaculatorius near the vesica. Female genitalia. Ovipositor short and wide, with thick hairs. Apophyses posteriores much longer than apophyses anteriores, apophyses anteriores sometimes very weakly sclerotized. A pair of setose lobes sometimes present laterally to the ostium and post-ostial invagination, differently shaped between species. Ductus bursae elongate, sometimes short and bended centrally. Sometimes appendix bursae same size as corpus bursae. Corpus bursae rounded, always bearing a spinose signum.

**Distribution.** Oriental, Afrotropical, Australian and Neotropical regions.

**Biological notes.** Most species from China are recorded from 200 m to 2000 m elevation, and taken between March and December. The larval host plants recorded are from the families Dipterothecaceae, Tiliaceae, Euphorbiaceae, Clusiaceae and Guttiferae (Mathur 1942; Gardner 1948; Robinson 1975; Holloway 1985; Chen 1999).

### Key to genera of Stictopterinae in China

1. In male genitalia valva divided into two slender arms from base. . . . . 2  
In male genitalia valva complete or divided into two short arms distally. . . . . 4
2. Two arms of valva connected by membranous webbing . . . . . 3  
Two arms of valva not connected by membranous webbing . . . . . *Gyrtona*
3. Socii present; valva with harpe on sacculus arm; uncus triangular. . . . . *Aegilia*  
Socii absent; valva without harpe on sacculus arm; uncus stick-like . . . . . *Stictoptera*
4. Uncus divided into two slender arms basally . . . . . *Diascooides*  
Uncus not divided . . . . . 5
5. Tegumen almost rounded, uncus spearhead shaped or bended terminally . . . . . *Sigmuncus*  
Tegumen triangular, uncus not spearhead shaped or bended terminally. . . . . 6
6. Vein R<sub>4</sub> diverging before middle of stalk . . . . . *Odontodes*  
Vein R<sub>4</sub> diverging after terminal one third of stalk . . . . . *Lophoptera*



**FIGURES 1–2.** Spurs and hair-pencils of hind tibia of *Lophoptera squammilinea*. 1, male. 2, female.

### Genus *Stictoptera* Guenée, 1852

*Stictoptera* Guenée, 1852, in Boisduval et Guenée, *Hist. nat. Ins.* (Lepid.), 7: 51. Type-species: *Stictoptera cucullioides* Guenée, 1852, by subsequent designation by Grote, 1874.

*Dandaca* Walker, 1856, *List Specimens lepid. Insects Colln Br. Mus.*, 9: 149. Type-species: *Dandaca columba* Walker, 1856, by monotypy.

*Steiria* Walker, 1857, *List Specimens lepid. Insects Colln Br. Mus.*, 13: 1135. Type-species: *Steiria subobliqua* Walker, 1857, by subsequent designation by Hampson, 1912.

*Minica* Walker, 1857, *List Specimens lepid. Insects Colln Br. Mus.*, 13: 1139. Type-species: *Minica confluens* Walker, 1857, by monotypy.

**Diagnosis.** In wing pattern, the genus *Stictoptera* resembles *Lophoptera*, but *Stictoptera* has a more distinct boundary between the transparent zone and the blackish-brown margin of the hindwing. The distance between the compound eyes of *Stictoptera* is much shorter. In the male genitalia, the valva of *Stictoptera* is divided into two arms connected by the membranous webbing, but the valva of *Lophoptera* is complete.

**Description.** Head. Distance between compound eyes much shorter than eye diameter. Frons blackish-brown, with short erected scales. Base of antenna color paler than the rest. Vertex brown, often with erected scales. Labial palpus extending beyond frons, tip sometimes extended over compound eyes, the second segment always elongate, outer side sometimes with transversal or longitudinal dark lines, the third segment long. Thorax. Patagia and tegu-

lae blackish-brown, mixed with thick greyish-brown scales; tegulae elongate, sometimes longer than half of mesothorax. Legs blackish-brown, segments ends grey. Wing shape and venation. Forewing triangular and elongate, outer margin slightly wavy, sometimes incurved before tornus, anal margin slightly incurved centrally. Hindwing wide, both apex and tornus rounded, costal margin straight, outer margin arch-like and slightly incurved between M veins, anal margin straight. Forewing venation: R<sub>1</sub> free; R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> stalked, diverging from upper angle of cell, R<sub>5</sub> diverging before basal one third of stalk; R<sub>3</sub> and R<sub>4</sub> separate after terminal one third of stalk; R<sub>3,5</sub> anastomosing with R<sub>2</sub> at a point and formed an areole before upper angle of cell. Hindwing venation: Rs and M<sub>1</sub> diverging from upper angle of cell; M<sub>2</sub>, M<sub>3</sub> and CuA<sub>1</sub> diverging from lower angle of cell (Fig. 3). Wing-pattern. Forewing various greatly, always greyish-brown with blackish or greenish-brown lines, often with erected scales around the reniform. Hindwing blackish-brown, basal half always transparent, left veins black. Underside yellowish-brown, with simple lines. Polymorphism occurred in some species. Abdomen. Blackish-brown, ends of segments sometimes grey, the third segment sometimes with dorsal crest. Male genitalia. Uncus short, sometimes bended centrally, pointed apically, with long setae. Gnathos short and connected at middle, forming a small round process at the base of uncus. Valva divided into two slender arms, connected by a membranous, draped webbing, sacculus without clasper. Juxta always inverted U-shaped. Saccus often inverted triangular, bottom specialized. Aedeagus short, vesica with short spines terminally, with or without cornutus, a water-drop shaped sclerotized lobe inside ductus ejaculatorius near the vesica. Female genitalia. Ovipositor short and wide, with thick hairs. Both apophyses posteriores and apophyses anteriores filiform. Ductus bursae elongate. Appendix bursae absent. Corpus bursae often with a series of parallel bands, always bearing a spinose signum.

**Distribution.** Oriental, Australian, Afrotropical and Neotropical regions.

### Key to species of *Stictoptera* in China

1. Forewing with round black spot anteriorly to antemedial line . . . . . *S. repleta*  
Forewing without round black spot anteriorly to antemedial line . . . . . 2
2. In male genitalia valva from end of costal lobe membranous . . . . . 3  
In male genitalia valva from base of costal lobe membranous . . . . . 5
3. Valva membranous to middle of sacculus then extending to its end . . . . . 4  
Valva membranous to basal one third of sacculus then extending to its end . . . . . *S. trajiciens*
4. Apex of costal lobe of valva rounded . . . . . *S. cucullioides*  
Apex of costal lobe of valva pointed . . . . . *S. signifera*
5. Forewing with medial line strongly curved inwards below CuA<sub>2</sub> . . . . . *S. macromma*  
Forewing with medial line not curved inwards . . . . . 6
6. Costal lobe of valva concave at basal two thirds, clearly expanded apically . . . . . *S. grisea*  
Costal lobe of valva concave at basal one third, not expanded apically . . . . . *S. semialba*

### *Stictoptera trajiciens* (Walker, 1857)

Figs. 12, 13, 104, 131, 157

*Steiria trajiciens* Walker, 1857, *List Specimens lepid. Insects Colln Br. Mus.*, 13: 1137. Syntypes: Ceylon [Sri Lanka] (BMNH).  
*Stictoptera trajiciens*: Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 154.

**Diagnosis.** The wing pattern of this species is distinctive. It is characterized by the diffused longitudinal lines of the forewing. V-shaped transversal triple line lies from the costal margin and gathered at the anal margin of forewing. In the male genitalia, the uncus bends centrally; the membranous webbing present from distal one fifth of costal lobe vertically to the basal one third of the sacculus, then extended to its end.

**Material examined.** CHINA, Hainan: 2 males, Jianfengling, 21.VI., 21.X.1982, coll. Liu Yuanfu and Chen Peizhen; 1 male, 1 female, Diaoluoshan, 930 m, 11–12.XII.2007, coll. Li Jing and Chen Fuqiang (IZCAS). Guangxi: 1 male, Bobai, 200 m. 11.X.1983, coll. Wang Jizhen; 1 male, Shangsi, 250 m, 28.V.1999, coll. Yuan Decheng; 2 males, Fangcheng, Dalu, 250 m, 8.VI.2000, coll. Li Wenzhu; 1 male, 1 female, Fangcheng, Fulong, 24–25.V.1999, coll. Yuan Decheng and Zhang Yanzhou (IZCAS). Yunnan: 1 male, 2 females, Hekou, 80 m, 7.VI.1956, coll. Huang Keren (IZCAS). Guangxi: 1 male, Pingxiang, 13.VI.1976; 1 female, same locality, 12.V.1963, coll. Yang Jikun (CAU).

**Distribution.** China (Hainan, Guangxi, Hong Kong, Guizhou, Yunnan), India, Sri Lanka, Philippines, Malaysia, Singapore, Papua New Guinea, South Pacific islands.

**Biological notes.** The larval host plants were recorded as *Garcinia indica* (Bell & Scott 1937) and *Garcinia kandis* (Clusiaceae) (Tho Yow Pong, *in* Holloway 1985).

### *Stictoptera repleta* (Walker, 1863)

Figs. 14, 15, 105, 132, 158

*Steiria repleta* Walker, 1863a, *J. Proc. Linn. Soc. (Zool.)*, 7: 173. Syntypes: [Borneo]: Sarawak (OUM).

*Stictoptera richardi* Pagenstecher, 1885, *J. B. Nass. Ver.*, 38: 29.

*Stictoptera repleta*: Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 170, pl. 178.

**Diagnosis.** This species is characterized by a round black spot anteriorly to the antemedial line, just below the cell of forewing; the antemedial and postmedial lines of the forewing are black and wide, the former protruded outwards above the anal margin and the later protrudes outwards at M<sub>3</sub>. In the male genitalia, the uncus is slightly bended, the costal lobe of the valva has even width from base to apex, and the membranous webbing lies from the basal one fourth of the costal lobe.

**Material examined.** CHINA, Hainan: 1 male, Jianfengling, Tianchi, 934 m, 14.XII.2007, coll. Li Jing; 1 female, Diaoluoshan, 8.V.1984, coll. Chen Zhiqing (IZCAS).

**Distribution.** China (Hainan), Malaysia, Singapore, Indonesia.

### *Stictoptera signifera* (Walker, 1857)

Fig. 3

*Steiria signifera* Walker, 1857, *List Specimens lepid. Insects Colln Br. Mus.*, 13: 1136. Syntypes: [Borneo]: Sarawak (BMNH).

*Gadirtha ferromixta* Walker, 1863a, *J. Proc. Linn. Soc. (Zool.)*, 7: 162.

*Steiria humeralis* Walker, 1863a, *J. Proc. Linn. Soc. (Zool.)*, 7: 174.

*Minica nigrilinea* Walker, 1863a, *J. Proc. Linn. Soc. (Zool.)*, 7: 176.

*Stictoptera transversa* Snellen, 1877, *Tijdschr. Ent.*, 20: 30.

*Stictoptera griseata* Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 161.

*Stictoptera signifera*: Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 155.

*Stictoptera signifera unipuncta* Warren, 1916, *Novit. zool.*, 23: 211.

*Stictoptera griseata superans* Prout, 1922, *Bull. Hill. Mus.*, 1: 209.

*Stictoptera poiensis* Prout, 1926, *Sarawak Mus. J.*, 3: 223.

**Diagnosis.** This species is smaller than *S. cucullioides* Guenée, 1852 in size and shares similar range of polymorphism with that species. The main differences between them are in the male genitalia: the costal lobe of the valva of *S. signifera* is pointed, while it is rounded in *S. cucullioides*; the uncus is shorter and the juxta is smaller than in *S. cucullioides* (Followed Chen 1992).

**Material examined.** None.

**Distribution.** China (Hunan), India, Malaysia, Indonesia. The species was reported for China by Chen (1992).

### *Stictoptera cucullioides* Guenée, 1852

Figs. 16–25, 106, 133, 159

*Stictoptera cucullioides* Guenée, 1852, *in* Boisduval *et* Guenée, *Hist. nat. Ins. (Lepid.)*, 7: 52. Holotype: male, [Indonesia]: Java.

*Steiria subobliqua* Walker, 1857, *List Specimens lepid. Insects Colln Br. Mus.*, 13: 1136.

*Steiria variabilis* Moore, 1882, *in* Hewitson & Moore, *Descr. new Indian lepid. Insects Colln late Mr W.S. Atkinson*: 164.

*Stictoptera timesia* Swinhoe, 1893, *Ann. Mag. nat. Hist.*, (6), 12: 218.

*Stictoptera cuculloides* Chen, 1999, *Fauna Sinica (Insecta)*, 16: 947. (misspelling)

**Diagnosis.** This species shares the similar wing patterns and polymorphisms with *S. signifera*, but has a special pattern: one of the forms has an even grey (male) or cream (female) band from the base to the outer margin and almost the complete width of the forewing; the anal margin, tornus and apex of the forewing have pale brown or cream markings, which sometimes connect together (followed Holloway 1985). The differences of the male genitalia between this species and *S. signifera* are as discussed above.

**Material examined.** CHINA, Jiangxi: 2 males, Dayu, 17–19.VI.1977; 1 female, Lushan, 5.VII.1975, coll. Liu Youqiao (IZCAS). Hainan: 1 female, Diaoluoshan, 6.V.1984, coll. Gu Maobin; 1 female, Jianfengling, 14.IV.1980, coll. Zhang Baolin (IZCAS). Guangxi: 1 female, Fangcheng, Fulong, 300 m, 24.V.1999, coll. Yuan Decheng; 1 female, Napo, Defu, 1350 m, 21.VI.2000, coll. Zhu Chaodong (IZCAS). Yunnan: 3 males, 2 females, Jinghong, 14–23.IV.1982, coll. Chen Yixin; 1 male, Mengla, 20.IV.1982, coll. Chen Yixin (IZCAS).

**Distribution.** China (Jiangxi, Hainan, Hong Kong, Guangxi, Yunnan, Tibet), Japan, India, Sri Lanka, Philippines, Malaysia, Singapore, Indonesia, Papua New Guinea, Fiji, Australia, United States (Hawaii, introduced).

**Biological notes.** The larval host plants were recorded as *Mesua* and *Calophyllum* (Holloway 1985; Zhang 1994), *Garcinia* (Clusiaceae) (Sevastopulo 1914; Mathur *et al.* 1954–1960; Beardsley 1982; Zhang 1994; Chen 1999), *Clusia rosea* and *Mammea auericana* (Zhang 1994).

### ***Stictoptera macromma* Snellen, 1880**

Figs. 26, 27, 107, 134, 160

*Stictoptera macromma* Snellen, 1880, *Tijdschr. Ent.*, 23: 87. Syntypes: [Indonesia]: Celebes, Takalar (RNH).

*Stictoptera striata* Hampson, 1894, *Fauna Brit. India* (Moths), 2: 402.

*Stictoptera atrifera* Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 167.

*Stictoptera ochrota* Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 160.

*Stictoptera polysticta* Prout, 1924, *Bulletin of the Hill Museum.*, 1: 427.

**Diagnosis.** This species shares a similar wing pattern and polymorphisms with *S. cucullioides* and *S. signifera*; all have basal pale or dark-brown zones which extended to the medial or postmedial lines. This species also resembles *S. ferrifera* (Walker, 1863) distributed in Malaysia, but its medial line is strongly curved inwards below  $CuA_2$ , and is vertical to the anal margin in *S. ferrifera*. The male genitalia are distinguishable by the shape of the membranous webbing of the valva, which lies from the base of the costal lobe in *S. macromma*, but from the end of the costal lobe in *S. cucullioides* and *S. signifera*. In *S. macromma* the costal lobe is compressed basally (not compressed in *S. ferrifera*); the cornutus is absent (two groups of cornuti present in *S. ferrifera*), the uncus is slightly broadened basally, but not in *S. ferrifera*.

**Material examined.** CHINA, Guangxi: 3 males, Napo, Defu, 1350 m, 19–21.VI.2000, coll. Yao Jian *et al.*; 1 female, Shangsi, Hongqi Linchang, 350 m, 29.V.1999, coll. Li Wenzhu; 1 female, Longzhou, Nonggang, 330 m, 15.VI.2000, coll. Yao Jian (IZCAS).

**Distribution.** China (Guangxi), Vietnam, Malaysia, Indonesia, Papua New Guinea. The species is reported for China for the first time.

### ***Stictoptera grisea* Moore, 1868**

Figs. 28, 29, 108, 135, 161

*Stictoptera grisea* Moore, 1868, *Proc. zool. Soc. Lond.*, 1867: 67. Syntypes: [India]: [West Bengal], Darjeeling (BMNH).

*Stictoptera variegata* Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 163.

*Stictoptera grisea fasciimargo* Prout, 1922, *Bulletin of the Hill Museum.*, 1: 210.

*Stictoptera variegata manuselensis* Prout, 1922, *Bulletin of the Hill Museum.*, 1: 210.

**Diagnosis.** This species share a similar wing pattern and polymorphisms with *S. semialba* (Walker, 1863). Both species have a black streak striking the margin just anterior to the tornus of the forewing (followed Holloway 1985). The forewing is greyish-yellow, and an inverted triangular black patch is present at base, which is smaller than in *S. semialba*. The postmedial line is composed of a series of black dots; the medial line is wavy above  $CuA_1$ , the zone between two lines is yellowish-brown. The female of *S. grisea* has specialized wing pattern with ground

color of the forewing greyish-green; a large yellowish-brown spot present at the base and another smaller one on the apex; the medial line blackish-green; a semicircular greyish-yellow spot presents on the anal margin centrally. The male genitalia of both species are similar, but differ by the shape of the costal lobe of the valva, which in *S. grisea* is concave at basal two thirds and expanded apically, but that of *S. semialba* is concaved more basally and not expanded apically.

**Material examined.** CHINA, Hainan: 1 male, Jianfengling, 14.IV.1980, coll. Zhang Baolin; 1 female, Lingshui, Diaoluoshan, 945.5 m, 29–31.III.2008, coll. Wu Chunsheng (IZCAS). Guangxi: 1 male, Napo, Defu, 1350 m, 21.VI.2000, coll. Zhu Chaodong (IZCAS). Yunnan: 2 males, Lijiang, Yulongshan, 2800–2850 m, 18–20.VII.1984, coll. Liu Dajun and Chen Yixin; 1 female, Pingbian, Daweishan, 1500 m, 18.VI.1956, coll. Huang Keren (IZCAS). Yunnan: 1 male, Menghai, Rezu, 21.VI.1974 (CAU).

**Distribution.** China (Henan, Hainan, Guangxi, Sichuan, Yunnan), India, Philippines, Sri Lanka, Malaysia, Singapore, Indonesia.

**Biological notes.** The larval host plants were recorded as *Garcinia* (Clusiaceae) (Mathur *et al.* 1954–1960) and *Carcinia mangostana* (Zhang 1994).

### *Stictoptera semialba* (Walker, 1863)

Figs. 30, 31, 109, 136, 162

*Minica semialba* Walker, 1863a, *J. Proc. Linn. Soc. (Zool.)*, 7: 175. Syntypes: [Borneo]: Sarawak (OUM).

*Stictoptera semialba*: Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 164.

*Stictoptera ferrifera* Chen, 1982b, in Zhu *et al.*, *Iconographia Heterocerorum Sinicorum*, III: 337, pl. 97: 2421. (*nec* Walker, 1863)

**Diagnosis.** *S. semialba* shares a similar wings-pattern and polymorphisms with *S. grisea*. This species has a pattern with greyish-brown forewing and obscure black spot at its base, the postmedial line is a series of round black spots. The differences in the male genitalia from *S. grisea* are discussed above.

**Material examined.** CHINA, Hainan: 1 female, Jianfengling, 20.IV.1982, coll. Chen Zhiqing (IZCAS). Sichuan: 1 male, Yingjing, Siping, 1100 m, 25.VII.1984, coll. Liu Dajun (IZCAS). Yunnan: 1 male, Lijiang, Yulongshan, 22.VII.1962, coll. Song Shimei; 1 male, Lijiang, Yulongshan, 2800 m, 18.VII.1984, coll. Chen Yixin; 1 male, Pingbian, Daweishan, 1500 m, 18.VI.1956, coll. Huang Keren (IZCAS).

**Distribution.** China (Henan, Hainan, Guangxi, Sichuan, Yunnan), India, Malaysia, Indonesia, Singapore.

**Remarks.** This species was recorded by Chen (1982b) as *S. ferrifera* (Walker, 1863). We reidentified the specimens and concluded that they belong to *S. semialba* (Walker, 1863), so *S. ferrifera* is not found in China and the distribution records should be omitted.

### Genus *Aegilia* Walker, 1857

*Aegilia* Walker, 1857, *List Specimens lepid. Insects Colln Br. Mus.*, 13: 1138. Type-species: *Aegilia describens* Walker, 1857, by monotypy.

**Diagnosis.** The genus is distinct from the other genera and best characterized by the incurved base of the costal margin of the forewing. The male genitalia are specialized by the following characters: the socii are present, the valva is divided into two arms which connected by a membranous webbing, and the webbing extended to the ends of both arms; the valva bears coremata basally.

**Description.** Head. Distance between compound eyes same as eye diameter. Frons yellowish-brown, with short erected scales. Antenna brown, always with a cluster of circular erected scales around the base of antenna. Vertex brown, often with erected scales. Labial palpus extended beyond frons, tip sometimes extended over compound eyes, the second segment always elongate, the third segment short. Thorax. Tegulae greyish-brown, sometimes mixed with black scales; patagia longer than half of mesothorax. Legs greyish or blackish-brown, outer side darker than inner side, segments ends grey. Wing shape and venation. Forewing triangular and elongate, costal margin incurved basally, outer margin arch-like, apex slightly pointed. Hindwing small, both costal margin and

anal margin straight, apex and tornus rounded, outer margin sometimes slightly incurved between CuA<sub>2</sub> and 3A. In forewing venation: R<sub>1</sub> free; R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> stalked, diverging from upper angle of cell, R<sub>5</sub> diverging before basal one third of stalk; R<sub>3</sub> and R<sub>4</sub> separate after terminal one third of stalk; R<sub>3-5</sub> and R<sub>2</sub> connected by a short vein, formed an areole before upper angle of cell. Hindwing venation: Rs and M<sub>1</sub> diverging from upper angle of cell; M<sub>2</sub> diverging slightly before lower angle of cell, M<sub>3</sub> and CuA<sub>1</sub> diverging from lower angle of cell (Fig. 4). Wing-pattern. Forewing always greyish-brown, with black patches. Hindwing blackish-brown with basal half transparent, left veins black. Underside: forewing always yellowish-brown; hindwing same as the upper side, but paler colored. Abdomen. Greyish-brown, sometimes every segment with a black spot dorsally. Male genitalia. Uncus triangular. Tegumen with short socii. Gnathos short, connected at middle. Valva divided into two arms, connected by a membranous, draped webbing extended to the ends of both arms, sacculus always with a diversified harpe basally. Coremata present at base of valva. Juxta inverted U-shaped. Aedeagus short, vesica with small spines terminally. Female genitalia. Ovipositor short and wide, with long hairs, sometimes with bulges around ostium bursae. Ductus bursae long, sometimes strongly sclerotized posteriorly. Appendix bursae absent. Corpus elliptic, signum as a sclerotized patch, scobinate, with interior, acute process centrally.

**Distribution.** Oriental and Australian regions.

### ***Aegilia describens* Walker, 1857**

Figs. 4, 32–37, 110, 137, 163

*Aegilia describens* Walker, 1857. *List Specimens lepid. Insects Colln Br. Mus.*, 13: 1139. Syntypes: Ceylon [Sri Lanka] (BMNH).

*Lophoptera xylinata* Walker, 1865b, *List Specimens lepid. Insects Colln Br. Mus.*, 33: 920.

*Stictoptera anisoptera* Snellen, 1880, *Tijdschr. Ent.*, 23: 88.

*Stictoptera describens*: Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 149.

*Stictoptera anca* Swinhoe, 1919, *Ann. Mag. nat. Hist.*, (9) 4: 120.

**Diagnosis.** The forewing has a black longitudinal strip from the base to the outer margin, and a short black strip lies parallel to it near the tornus. In the male genitalia, the harpe is hooked, longer than half length of the sacculus, a small digitiform process presents at the base of the harpe; a club-shaped process lies at the base of the costa.

**Material examined.** CHINA, Hainan: 2 males, 1 female, Diaoluoshan, 930 m, 11–12.XII.2007, coll. Chen Fuqiang and Li Jing; 1 male, Jianfengling, 10.XI.1983, coll. Chen Peizhen; 1 male\*, Jianfengling, 13.IV.1982, coll. Lin Youdong; 1 female, Jianfengling, 8.XII.1982, coll. Gu Maobin (IZCAS).

**Distribution.** China (Hainan), Japan, India, Indonesia, Sri Lanka, Malaysia, Singapore, Papua New Guinea.

**Biological notes.** The larval host plant was recorded as *Mesua ferrea* (Guttiferae) (Holloway, 1985).

**Remarks.** The specimen from Hainan denoted by an asterisk (\*) was misidentified by Chen and illustrated as *Stictoptera cucullioides* (misspelled as *cuculloides*) (Chen 1999: 947, pl. 43: 5).

### **Genus *Gyrtona* Walker, 1863**

*Gyrtona* Walker, 1863b, *List Specimens lepid. Insects Colln Br. Mus.*, 27: 89. Type-species: *Gyrtona proximalis* Walker, 1863, by original designation.

*Nigramma* Walker, 1863b, *List Specimens lepid. Insects Colln Br. Mus.*, 27: 77. Type-species: *Nigramma quadratifera* Walker, 1863, by monotypy.

*Chuduca* Walker, 1863a, *J. Proc. Linn. Soc. (Zool.)*, 7: 164. Type-species: *Chuduca pyraloides* Walker, 1863, by monotypy.

*Clina* Walker, 1865a, *List Specimens lepid. Insects Colln Br. Mus.*, 31: 257. Type-species: *Clina lapidaria* Walker, 1865, by monotypy.

**Diagnosis.** The genus is characterized by the elongate forewing and the hardly transparent basal half of the hindwing. In the male genitalia, the valva is divided into two almost equal by length which are not connected by a membranous webbing; a specialized harpe presents at the base of the valva.

**Description.** Head. Distance between compound eyes same as eye diameter. Frons dark-brown, convex. Labial palpus extending beyond frons, the second segment elongate, the outer side sometimes with transversal or longitu-

dinal dark lines. **Thorax.** Tegulae blackish-brown, mixed with brown scales, sometimes mixed with grey scales. Patagia colored same as tegulae, about same length as half of mesothorax. Legs blackish-brown, with the inner side paler colored, segments ends grey. **Wingshape and venation.** Forewing always triangular and elongate, sometimes extremely long and narrow, costal margin almost paralleled to anal margin. Hindwing always wide, both apex and tornus rounded, costal and anal margin straight, outer margin arch-like. Forewing venation:  $R_1$  free;  $R_3$ ,  $R_4$  and  $R_5$  stalked and diverging from upper angle of cell,  $R_5$  diverging before basal one third of stalk;  $R_3$  and  $R_4$  separate after terminal one third of stalk;  $R_{3+5}$  and  $R_2$  anastomosing at a point, formed an areole before upper angle of cell. Hindwing venation:  $R_s$  and  $M_1$  diverging from upper angle of cell;  $M_2$  and  $M_3$  diverging from lower angle of cell and shortly stalked;  $CuA_1$  diverging from lower angle of cell (Fig. 5, *G. lapidarioides* Holloway, 1985) (followed Holloway, 1985). **Wing-pattern.** Forewing always yellowish-brown, with various dark lines and patches; hindwing simple, with basal half hardly transparent. Underside of forewing and hindwing yellowish-brown. **Abdomen.** Blackish-brown, sometimes ends of segments grey. **Male genitalia.** Uncus long, bended centrally, pointed apically. Valva divided into two arms of almost equal length, not connected by a membranous webbing; sacculus short, with differently shaped harpe basally. Saccus triangular. Aedeagus short. **Female genitalia.** Ovipositor short and wide, with thick hairs. Both apophyses posteriores and apophyses anteriores filiform. Appendix bursae absent. Corpus bursae round, signum as round or stellate scobinate zone.

**Distribution.** Oriental, Australian and Afrotropical regions.

### Key to species of *Gyrtona* in China

1. Submarginal line double ..... *G. ochreographa*  
Submarginal line single ..... 2
2. Submarginal line white, outlined with a black shadow posteriorly ..... *G. pyraloides*  
Submarginal line grey, outlined with a brown shadow posteriorly ..... 3
3. Submarginal line outlined with a series of small black marks anteriorly ..... *G. todara*  
Submarginal line outlined with a brown shadow anteriorly ..... *G. semicarbonalis*

### *Gyrtona pyraloides* (Walker, 1863)

*Chuduca pyraloides* Walker, 1863a, *J. Proc. Linn. Soc. (Zool.)*, 7: 165. Syntypes: Borneo: Sarawak (OUM).

*Gyrtona albedentata* Moore, 1882, in Hewitson & Moore, *Descr. new Indian lepid. Insects Colln late Mr W.S. Atkinson*: 165.

*Lophoptera kheili* Pagenstecher, 1885, *J. B. Nass. Ver.*, 38: 30.

*Nigramma pyraloides*: Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 198.

*Gyrtona pyraloides*: Holloway, 1985, *Malay. Nat. J.*, 38: 249.

**Diagnosis.** The forewing is dark-brown with purplish shining; the antemedial line has a rufous dot in the cell; a greenish-white patch lies on the middle of 2A; the submarginal line is white, slightly outlined with black shadow posteriorly. In the male genitalia, the uncus is bended basally; the harpe is short and thin, about one sixth length of the sacculus.

**Material examined.** None.

**Distribution.** China (Hainan), India, Myanmar, Malaysia, Singapore, Indonesia, Papua New Guinea. The species was reported for China by Chen (2002).

### *Gyrtona todara* (Hampson, 1912)

*Nigramma todara* Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 199. Syntypes: 3 males, 3 females, India: Tamil Nadu, Nilgiris (BMNH).

*Gyrtona todara*: Poole, 1989, in Heppner, *Lepidopterorum Catalogus*, Fasc. 118 Noctuidae: 474.

**Diagnosis.** This species has a specialized wing pattern. The subbasal line is double with black zone inside; the reniform is black, with a cluster of erected black scales centrally; the submarginal line is grey, outlined with brown

shadow posteriorly and a series of small black marks anteriorly; the marginal area is brown; basal half of the hindwing is hardly transparent.

**Material examined.** None.

**Distribution.** China (Hong Kong), India. The species was reported for China by Ades & Kendrick (2004).

### ***Gyrtona semicarbonalis* Walker, 1863**

Figs. 38, 39

*Gyrtona semicarbonalis* Walker, 1863b, *List Specimens lepid. Insects Colln Br. Mus.*, 27: 92. Syntypes: Borneo: Sarawak (OUM).

*Gyrtona rotundalis* Walker, 1863b, *List Specimens lepid. Insects Colln Br. Mus.*, 27: 93.

*Gyrtona thoracia* Walker, 1863b, *List Specimens lepid. Insects Colln Br. Mus.*, 27: 96.

*Gyrtona spialis* Walker, 1863b, *List Specimens lepid. Insects Colln Br. Mus.*, 27: 97.

*Gyrtona physicoides* Moore, 1885, *Lepid. Ceyl.*, 3: 125.

*Lophoptera angusta* Pagenstecher, 1900, *Zoologica* 12 (29): 92.

**Diagnosis.** The species is distinguishable from other congeners by the antemedial line having erected black scales dots posteriorly; the grey submarginal line is outlined with brown shadows both anteriorly and posteriorly. In the male genitalia, the two arms of valva are very slender, the sacculus is curved terminally and has a small basal process, the costal lobe also have a small basal process, which is a little shorter than that of the sacculus (followed Holloway 1985).

**Material examined.** CHINA, Hainan: 1 female, Jianfengling, 28.VIII.1982, coll. Liu Yuanfu (IZCAS).

**Distribution.** China (Hainan), Sri Lanka, Malaysia, Singapore, Papua New Guinea.

### ***Gyrtona ochreographa* Hampson, 1912**

Figs. 40, 41

*Gyrtona ochreographa* Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 216. Syntypes: 2 males 1 female, Singapore (BMNH).

**Diagnosis.** This species can be distinguished from its congeners by forewing pattern with the reniform defined by points of erected black scales; the postmedial line is double and filled with ochreous, there are several white dots anteriorly to the postmedial lines on the costa; the submarginal lines are black, double, with ochreous points anteriorly (followed Hampson 1912).

**Material examined.** CHINA, Yunnan: 1 female, Jinping, Hetouzhai, 1700 m, 12.V.1956, coll. Huang Keren (IZCAS).

**Distribution.** China (Yunnan), Singapore.

### **Genus *Odontodes* Guenée, 1852**

*Odontodes* Guenée, 1852, in Boisduval et Guenée, *Hist. nat. Ins. (Lepid.)*, 7: 50. Type-species: *Odontodes aleuca* Guenée, 1852, by monotypy.

*Burdria* Walker, 1869a, *Characters of Undescribed Lepidoptera Heterocera*: 50. Type-species: *Burdria edemoides* Walker, 1869, by monotypy.

*Nedroma* Walker, 1869b, in Chapman, *Proc. N. H. Soc. Glasg.*, (2) 1: 353. Type-species: *Nedroma ferruginea* Walker, 1869, by monotypy.

**Diagnosis.** This genus resembles *Lophoptera*, but differs mainly in small male eighth segment of the abdomen and lacking of coremata. In the male genitalia, the valva is generally bifid apically. In the female genitalia, the appendix bursae is smaller than the corpus bursae.

**Description.** Head. Distance between compound eyes same as eye diameter. Frons blackish-brown, with short erected scales. Antenna always brown, base color paler than the rest. Vertex brown, often with erected scales. Labial palpus extended beyond frons, the second segment always elongate, the outer side sometimes with dark

patches. **Thorax.** Patagia and tegulae blackish-brown, mixed with thick greyish-brown scales, sometimes mixed with greyish-white scales; patagia longer than half of mesothorax. Legs blackish-brown, segments ends grey. Female frenulum with two spines. **Wing shape and venation.** Forewing triangular, not elongate, apex pointed, outer margin slightly wavy, anal margin incurved before tornus, tornus falcate downwards. Hindwing wide, both apex and tornus rounded, outer margin slightly incurved between M veins. Forewing venation: R<sub>1</sub> free; R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> stalked, diverging from upper angle of cell, R<sub>5</sub> diverging near base of stalk; R<sub>3</sub> and R<sub>4</sub> separate before middle of stalk; R<sub>3-5</sub> and R<sub>2</sub> connected by a short vein, formed an areole before upper angle of cell. Hindwing venation: Rs and M<sub>1</sub> diverging from upper angle of cell; M<sub>2</sub> diverging slightly before lower angle of cell, M<sub>3</sub> and CuA<sub>1</sub> diverging from lower angle of cell (Fig. 6). **Wing-pattern.** Forewing brown, sometimes with purplish shining, lines and patches black, wing patterns various greatly; hindwing blackish-brown with basal half almost transparent, left veins black. Underside: basal half of forewing greyish-white, black reniform occasionally present, terminal half brown; hindwing with similar patterns as forewing. **Abdomen.** Dark-brown, sometimes segments ends black, the first and the third segments sometimes with dorsal crests. The eighth segment small, coremata disappeared. **Male genitalia.** Uncus triangular, sometimes reduced. Gnathos sometimes present. Valva apically bifid (except *O. aleuca*). Vesica without cornutus except a globular sclerotized lobe in the ductus ejaculatorius. **Female genitalia.** Ovipositor short and wide, with thick hairs, sometimes with specialized processes around ostium. Appendix bursae sometimes present, but much smaller than corpus bursae. Ductus bursae elongate and strong. Signum tridentate, with scobination directed distad.

**Distribution.** Oriental, Australian and Afrotropical regions.

**Remarks.** Holloway (1985) regarded the single spine of the female frenulum as diagnostic for the subfamily, but here we find the female frenulum of *O. aleuca* Guenée, 1852 is composed of two spines, so we amended the diagnosis of the subfamily into the female frenulum sometimes with two spines.

### ***Odontodes aleuca* Guenée, 1852**

Figs. 6, 42–45, 111, 138, 164

*Odontodes aleuca* Guenée, 1852, in Boisduval et Guenée, *Hist. nat. Ins.* (Lepid.), 7: 51. Syntypes: East Indies (BMNH).

*Briarda bolinoides* Walker, 1858, *List Specimens lepid. Insects Colln Br. Mus.*, 15: 1802.

*Steiria subfasciata* Walker, 1865b, *List Specimens lepid. Insects Colln Br. Mus.*, 33: 922.

*Steiria quadristrigata* Walker, 1865b, *List Specimens lepid. Insects Colln Br. Mus.*, 33: 923.

*Burdria edemoides* Walker, 1869a, *Characters of Undescribed Lepidoptera Heterocera*: 50.

*Nedroma ferruginea* Walker, 1869b, in Chapman, *Proc. N. H. Soc. Glasg.*, (2) 1: 353.

*Odontodes aleuca subfusca* Prout, 1928, *Bulletin of the Hill Museum.*, 1: 164.

*Odontodes aleuca seranensis* Prout, 1922, *Bulletin of the Hill Museum.*, 1: 205.

*Lophoptera aleuca* Chen, 1999, *Fauna Sinica* (Insecta), 16: 951, pl. 43: 14. (*nec* Hampson, 1912)

**Diagnosis.** The antemedial line of the forewing is protruded outwards centrally, basal field is dark-brown; the post-medial line arises from apex obliquely to the lower angle of cell, then dentate to the tornus. In the male genitalia, the uncus is triangular and wide; the valva is simple, its terminal part is thin and pointed, not bifid; the costa has a small digitiform process at middle; the juxta is large and oblong.

**Material examined.** CHINA, **Hainan:** 1 female, Jianfengling, 12.VIII.1982, coll. Chen Zhiqing; 2 females, Jianfengling, 21.X.1982, coll. Chen Peizhen; 1 male, Jianfengling, 7.VI.1973, coll. Chen Yixin; 3 males, 2 females, Jianfengling, 600–916 m, 23–25.III.2008, coll. Wu Chunsheng; 2 females, Lingshui, Diaoluoshan, 945.5 m, 29–31.III.2008, coll. Wu Chunsheng (IZCAS). **Guangxi:** 1 male, Napo, Defu, 1300 m, 15.VIII.1998, coll. He Tongli; 1 male, Shangsi, Hongqi Linchang, 300 m, 28.V.1999, coll. Liu Dajun (IZCAS). **Yunnan:** 1 female, Jinghong, 14.IV.1982; 1 female, Mengla, 21.IV.1982, coll. Chen Yixin (IZCAS). **Tibet:** 3 males, 2 females, Nyalam, 2250 m, 14–21.IV.1974, coll. Zhang Xuezhong; 1 female, Gyirong, 28.VII.1984, coll. Pu Qiongqiong (IZCAS).

**Distribution.** China (Hainan, Hong Kong, Guangxi, Yunnan, Tibet), India, Sri Lanka, Malaysia, Singapore, Indonesia, Congo.

**Remarks.** This species has been reported by Chen (1999) as *Lophoptera aleuca* Hampson, 1912. In present study, we re-identified the material and stated that *Lophoptera aleuca* recorded by Chen (1999) is a misidentification of *Odontodes aleuca* Guenée, 1852, the real *Lophoptera aleuca* has not found in China yet.

**Biological notes.** The larval host plants were recorded as *Shorea robusta* (Dipterocarpaceae) (Holloway 1985).

## Genus *Lophoptera* Guenée, 1852

*Lophoptera* Guenée, 1852, in Boisduval et Guenée, *Hist. nat. Ins.* (Lepid.), 7: 54. Type-species: *Lophoptera squammigera* Guenée, 1852, by subsequent designation by Hampson 1912.

*Ciasa* Walker, 1863a, *J. Proc. Linn. Soc.* (Zool.), 7: 165. Type-species: *Ciasa pustulifera* Walker, 1863, by monotypy.

*Evia* Walker, 1863b, *List Specimens lepid. Insects Colln Br. Mus.*, 27: 89. Type-species: *Evia ferrinalis* Walker, 1863, by monotypy.

*Sadarsa* Moore, 1882, in Hewitson & Moore, *Descr. new Indian lepid. Insects Colln late Mr W.S. Atkinson*: 164. Type-species: *Sadarsa longipennis* Moore, 1882, by original designation.

**Diagnosis.** This genus is highly diverse in the wing patterns, so it is not easy to distinctly distinguish it from other genera. It is best characterized by the well developed appendix bursae in the female genitalia, all species which are transferred to this genus by preceding authors are based on this character. There are lateral lobes or a post-ostial invagination or both structures near the ostium. The valva is complete instead of bifid into two arms.

**Description.** Head. Distance between compound eyes same as eye diameter. Frons always dark-brown, protruded forwards. Antenna base color paler than the rest. Vertex blackish- or greyish-brown, always with erected scales. Labial palpus extended beyond frons, tip sometimes extended over compound eyes, the second segment elongate and with thick and long scales apically, outer side of labial palpus sometimes with dark patches. Thorax. Patagia and tegulae blackish-brown, mixed with thick blackish-brown scales, sometimes mixed with greyish or yellowish-white scales; patagia same length or longer than half of mesothorax. Legs blackish-brown, the outer side darker than the inner side, segments ends grey. Wingshape and venation. Forewing triangular and elongate, base of costal margin sometimes swollen forwards, outer margin arch-like, apex rounded. Hindwing wide, both apex and tornus rounded, costal and anal margin straight, outer margin slightly incurved between M veins. Forewing venation: R<sub>1</sub> free; R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> diverging from the upper angle of cell and stalked, R<sub>5</sub> diverging before basal one third of the stalk; R<sub>3</sub> and R<sub>4</sub> separate after terminal one third of the stalk; R<sub>3,5</sub> and R<sub>2</sub> connected by a short vein, formed an areole before upper angle of cell. Hindwing venation: Rs and M<sub>1</sub> diverging from upper angle of cell; M<sub>2</sub> M<sub>3</sub> and CuA<sub>1</sub> diverging from lower angle of cell (Figs 7 and 8). Wing-pattern. Forewing patterns various greatly, always dark-brown, with black or light grey lines and patches, lines occasionally with greyish-white shadows; always with erected scales around the reniform. Hindwing dark-brown with basal half transparent or not, left black veins. Underside of both wings greyish-brown, sometimes with black lines and patches. Abdomen. Dark-brown, ends of segments grey, the third segment sometimes with dorsal crest. Male genitalia. Uncus long, sometimes expanded or upfurled apically. Gnathos present or not. Tegumen almost triangular, expanded basally. Valva not divided (with exception of *L. squammigera*), various a lot between species; sometimes with a long, unciform or swollen costal process, sometimes with a series of long hairs dorsally or ventrally. Juxta variously shaped, triangular or rounded. Saccus always inverted triangular. Aedeagus short, sometimes with cornuti, in most cases with a small water-drop shaped sclerotized lobe inside ductus ejaculatorius near vesica. Female genitalia. Ovipositor short and wide, with thick hairs. Apophyses posteriores long, apophyses anteriores short and thick. Two lateral lobes laterally to the ostium, with short setae occasionally, shape of lateral lobes various between species; zone between lateral lobes and ostium sometimes with a V-shaped sclerotized plate, sometimes with two small triangular lobes; sometimes a post-ostial invagination present between two lobes. Appendix bursae well developed; corpus bursae round, bearing a spinose signum.

**Distribution.** Oriental, Australian and Afrotropical regions.

### Key to species of *Lophoptera* in China

1. Female genitalia with a post-ostial invagination. . . . . 2  
Female genitalia without post-ostial invagination . . . . . 18
2. Female genitalia with lateral lobes near the post-ostial invagination (Group D) . . . . . 3  
Female genitalia without lateral lobes (Group B) . . . . . 10
3. Forewing with a white or grey longitudinal strip below blackish costal band, from base to apex . . . . . 4  
Forewing without such longitudinal strip as above. . . . . 7
4. Basal half of hindwing completely transparent. . . . . *L. trigonoprocessa* sp. nov.  
Basal half of hindwing only slightly transparent . . . . . 5
5. In male genitalia valva divided into two small arms apically. . . . . *L. squammigera*

	In male genitalia valva not divided apically . . . . .	6
6.	In valva basal bulge of costa with elongate terminal process, about half length of bulge . . . . . <i>L. purpurfera</i> <b>sp. nov.</b>	
	In valva basal bulge of costa with short terminal process, much shorter than half length of bulge . . . . . <i>L. squammilinea</i>	
7.	Small sized, forewing length less than 10 mm . . . . . <i>L. huma</i>	
	Larger, forewing length more than 10 mm . . . . .	8
8.	Female genitalia with two pairs of lateral lobes, lower pair bigger, reniform, upper pair smaller, rounded . . . . . <i>L. obliquilinea</i>	
	Female genitalia with single pair of lateral lobes . . . . .	9
9.	Female genitalia with long and reniform lateral lobes, both upper and lower sides hook-like . . . . . <i>L. hypenistis</i>	
	Female genitalia with short and rounded lateral lobes . . . . . <i>L. partitistis</i>	
10.	Forewing with light yellowish-brown V-shaped patch between medial and postmedial lines . . . . .	11
	Forewing without V-shaped patch as above . . . . .	12
11.	In male genitalia costa of valva with sclerotized ridge from base to middle . . . . . <i>L. coagulata</i>	
	In male genitalia costa of valva with a basal process, about half length of valva . . . . . <i>L. stipata</i>	
12.	Forewing with postmedial line broadened above anal margin, protruded outwards at M <sub>2</sub> , inwards below M <sub>2</sub> , outlined with black . . . . .	13
	Forewing with postmedial line not broadened above anal margin, not extended outwards at M <sub>2</sub> , not outlined with black. . . . .	15
13.	Forewing apex with a greyish-white angular patch . . . . .	14
	Forewing apex without such greyish-white angular patch . . . . . <i>L. hayesi</i>	
14.	In male genitalia apex of valva with small process. . . . . <i>L. nama</i>	
	In male genitalia apex of valva rounded . . . . . <i>L. brunnama</i>	
15.	Forewing elongate, almost elliptical . . . . .	16
	Forewing not elongate, triangular . . . . .	17
16.	In male genitalia process of valva arising from middle of costa, stick-like . . . . . <i>L. longipennis</i>	
	In male genitalia costa of valva broadly expanded, without process . . . . . <i>L. tenuis</i>	
17.	Valva with costal process stick-like, much shorter than valva, arising from middle of costa parallel to valva . . . . . <i>L. illucida</i>	
	Valva with costal process hook-like, longer than valva, arising from base . . . . . <i>L. acutiprocessa</i> <b>sp. nov.</b>	
18.	Female genitalia with lateral lobes around ostium (Group C) . . . . .	19
	Female genitalia without lateral lobes around ostium (Group A) . . . . .	23
19.	Female genitalia with V-shaped sclerotized plate between lateral lobes and ostium . . . . . <i>L. negretina</i>	
	Female genitalia without V-shaped sclerotized plate . . . . .	20
20.	In male genitalia gnathos with rostriform central process . . . . .	21
	In male genitalia gnathos without rostriform process . . . . .	22
21.	Central process of gnathos shorter than half length of uncus . . . . . <i>L. hemithyris</i>	
	Central process of gnathos longer than half length of uncus . . . . . <i>L. solealis</i> <b>sp. nov.</b>	
22.	Female genitalia with narrow lateral lobes, not bifid at apex . . . . . <i>L. phaeobasis</i>	
	Female genitalia with wide lateral lobes, bifid at apex . . . . . <i>L. negretinoides</i>	
23.	In male genitalia basal process of costa about half length of valva, apex pointed, hook-like; subterminal process of uncus small, about same width to diameter of uncus. . . . . <i>L. hamata</i> <b>sp. nov.</b>	
	In male genitalia basal process of costa longer than half length of valva, apex rounded; subterminal process of uncus large, 3x wider than diameter of uncus . . . . . <i>L. anthyalus</i>	

### Species group A: species without post-ostial invagination or lateral lobes in the female genitalia.

Forewing dark-brown. Basal half of hindwing almost without transparent zone. In male genitalia uncus elongate, apex snake-head shaped; basal process of costa hook-like; saccus triangular, with setae line. In female genitalia lateral lobes and post-ostial invagination absent; corpus bursae with strip-like signum, with short spines.

#### *Lophoptera anthyalus* (Hampson, 1894)

Figs. 46, 47, 112, 139, 165

*Stictoptera anthyalus* Hampson, 1894, *Fauna Brit. India* (Moths), 2: 403. Syntypes: [India]: Khasis, Ganjam (BMNH).

*Lophoptera anthyalus*: Sugi, 1975, *Japan Heterocerists' J.*, 83: 375.

*Lophoptera quadrinotata* Chen, 1982b, in Zhu *et al.*, *Iconographia Heterocerorum Sinicorum*, III: 338, pl. 98: 2426. (*nec* Walker, 1863)

**Diagnosis.** This species resembles *L. paranthyala* (Holland, 1900), described from Indonesia, but differs by the grey bordering band of the antemedial and postmedial lines (those in *L. paranthyala* are brown). The male genitalia of this species are quite similar to those of *L. hamata* **sp. nov.** In *L. anthyalus* the valva with thin base and rounded

apex; the basal process of the costa is longer than half length of the valva; in *L. hamata* the valva with slightly expanded base and pointed and hook-like apex, the basal process of the costa is nearly half length of the valva. In addition, the subterminal process of the uncus is much larger than in *L. hamata*, dish-like; the valva is distinctly broader in *L. anthyalus*.

**Material examined.** CHINA, Zhejiang: 1 female, Tianmushan, 6.IX.1981, coll. Zhang Baolin (IZCAS). Jiangxi: 1 female, Jinggangshan, 3.VII.1975, coll. Zhang Baolin; 1 female, Jiulianshan, 11.VI.1975, coll. Zhang Baolin; 1 female, Lushan, 16.VI.1974, coll. Song Shimei; 1 male, 1 female, Dayu, 15.VII.1975, coll. Song Shimei; 1 female, Liantang, 7.XI.1973 (IZCAS). Hainan: 1 male, 2 females, Diaoluoshan, 930 m, 11–12.XII.2007, coll. Li Jing and Chen Fuqiang; 3 males, Wuzhishan, 727–732 m, 6–8.XII.2007, coll. Li Jing and Chen Fuqiang; 1 female, Wuzhishan, 708 m, 27–30.XI.2009, coll. Yang Chao; 2 males, Jianfengling, Tianchi, 934 m, 15–17.XII.2007, coll. Li Jing; 1 female, Jianfengling, Tianchi, 6.V.1983, coll. Gu Maobin; 1 male, Jianfengling, Tianchi, 9.VIII.1982, coll. Chen Zhiqing; 1 male, Jianfengling, Tianchi, 17.I.1983, coll. Gu Maobin; 2 females, Yinggeling, Hongxincun, 434 m, 3–4.XII.2007, coll. Li Jing and Chen Fuqiang (IZCAS). Yunnan: 1 female, Mengla, 21.IV.1982, coll. Chen Yixin (IZCAS).

**Distribution.** China (Zhejiang, Jiangxi, Hunan, Hainan, Hong Kong, Guangxi, Yunnan), Japan, India, Indonesia, Malaysia, Singapore.

**Remarks.** This species was recorded by Chen (1982b) as *L. quadrinotata* (Walker, 1863). We reidentified the specimens and regarded the *L. quadrinotata* recorded by Chen as a misidentification of *L. anthyalus* Hampson, 1894, so *L. quadrinotata* is not found in China and the distribution records should be omitted.

### *Lophoptera hamata* Qi & Xue, sp. nov.

Figs. 48–51, 113, 140, 166

*Lophoptera tripartita* Chen, 1999, *Fauna Sinica* (Insecta), 16: 954, pl. 43: 21. (*nec* Swinhoe, 1902)

**Diagnosis.** This species externally resembles *L. tripartita*, but differs by the structures of the male genitalia: the uncus is longer than the tegumen; the basal process of the costa is slightly expanded basally, with the apex slightly expanded and hook-like. The basal process of the costa is also similar to that of *L. paranthalya*, but distinctly longer. The differences between *L. hamata* and *L. anthyalus* are discussed under that species.

**Description.** Head. Dark-brown. Frons convex, brown. Male and female antennae filiform, reddish brown basally. Labial palpus brown, extending beyond frons, the outer side of the second segment with black patch centrally, the inner side greyish-white, apex of the second segment with thick and long scales. Thorax. Forewing length: male 13–15 mm. Thorax dark-brown. Legs dark-brown, with greyish-white circle patches; segments ends greyish-white; mid tibia with a pair of spurs, hind tibia with two pairs of spurs and with two greyish-white hair-pencils at opposite side of spurs. Wing-pattern. Forewing dark-brown, tinged with purple; costal margin black; antemedial line double, light grey, following from basal one third of costa obliquely to basal one fourth of anal margin; medial line blackish-brown, deeply incurved between Sc and CuA<sub>2</sub>, straight and vertical from CuA<sub>2</sub> to anal margin; reniform white, bordered with blackish-brown circle shadow outside; postmedial line double and wavy, yellowish-grey; space between postmedial and subterminal lines with series of semicircular black spots bordered with grey shadow anteriorly; terminal line black, interrupted by yellow dots on veins; fringes dark grey basally, yellowish-white terminally. Hindwing dark greyish-brown, its basal half hardly transparent, with the veins dark-brown; fringes same as forewing. Underside: both wings with basal half light greyish-brown, and terminal half darker greyish-brown; medial and postmedial lines wide and blackish-brown, postmedial line protruded outwards at costal margin terminal line light grey, slightly wavy; costal margin with small yellowish patches outwards of postmedial line and apex. Abdomen. Dark-brown, mixed with grey hairs. Male genitalia. Uncus longer than tegumen, snake-head shaped apically, with a small dish-like subterminal process. Gnathos absent. Tegumen triangular. Valva broad basally, pointed apically; sacculus with a series of long setae; basal process of costa strong, slightly expanded basally, about half length of valva, apex a little expanded and pointed. Juxta nearly rounded. Saccus as inverted triangle. Aedeagus short. Female genitalia. Apophyses anteriores short and slightly angled centrally, apophyses posteriores long and filiform. Both lateral lobes and post-ostial invagination absent. Ostium with two transversal folds posteriorly. Appendix bursae smaller than corpus bursae. Corpus bursae round, bearing a spinose and long strip shaped signum.

**Material examined. Holotype:** male, CHINA, Hainan: Jianfengling, Tianchi, 828 m, 5.V.2007, coll. Chen Fuqiang (IZCAS). **Paratypes:** Hainan: 1 male, Jianfengling, 14.IV.1980, coll. Zhang Baolin; 2 males, Jianfengling, 828–916 m, 4–5.V.2007, 24.III.2008, coll. Chen Fuqiang and Wu Chunsheng; 1 female, Jianfengling, 24.VII.1981, coll. Gu Maobin; 1 male, Lingshui, Diaoluoshan, 945.5 m, 29–31.III.2008, coll. Wu Chunsheng; 1 male, Wuzhishan, Shuiman, 732 m, 8.XII.2007, coll. Li Jing (IZCAS).

**Distribution.** China (Hainan).

**Etymology.** The specific name is derived from the Latin word *hamatus*, which means hook-like, and refers to the hook-like apex of the costa basal process of the male genitalia.

**Remarks.** This species was recorded by Chen (1999) from Hainan, China as *L. tripartita* (Swinhoe, 1902). In this study, we re-identified the specimens and found the male genitalia are distinctive from that of *L. tripartita*, so we regarded it as a new species. *L. tripartita*, therefore, is not distributed in China.

### Species group B: species with a post-ostial invagination but no lateral lobes.

Forewing patterns greatly diverse. Hindwing basal half transparent or almost transparent, terminal half brown. Male genitalia: uncus elongate, pointed apically; valva long, costa always with a process; saccus always triangular. Female genitalia: post-ostial invagination present, but lateral lobes absent.

#### *Lophoptera coangulata* Warren, 1914

Figs. 52, 53, 114, 141, 167

*Lophoptera coangulata* Warren, 1914, *Novit. zool.*, 21: 416. Syntypes: 1 male, 1 female, [India]: [Meghalaya], Khasia Hills (BMNH).

**Diagnosis.** Forewing is blackish-brown with purple shining, and a triangular greyish-white patch before apex. Externally this species resembles *L. stipata* (Walker, 1863), but differs by male genitalia: the uncus is basally narrower than that of *L. stipata*; the tegumen is not constricted terminally, the costa has a ridge from the base to the middle, but that of *L. stipata* has a costal process arising from basal one third and about half length of the valva. In the female genitalia, the ostium bursae is large, circled, but that of *L. stipata* is much smaller; the posterior edge of the ostium is smooth, while in *L. stipata* it is W-shaped.

**Material examined.** CHINA, Hainan: 1 male, Lingshui, Diaoluoshan, 945.5 m, 29–31.III.2008, coll. Wu Chunsheng; 1 male, 3 females, Jianfengling, Tianchi, 811.9–934 m, 23.III.2008, 17.XII.2007, coll. Li Jing and Wu Chunsheng; 1 male, Jianfengling, 600–916 m, 25.III.2008, coll. Wu Chunsheng; 1 male, Jianfengling, 17.VI.1982, coll. Lin Youdong (IZCAS). Guangxi: 2 males, 1 female, Pingxiang, 230 m, 8–12.VI.1976, coll. Zhang Baolin; 12 males, 9 females, Shangsi, Hongqi Linchang, 250–350 m, 21.VIII.1998, 27–29.V.1999, coll. Zhang Xuezhong *et al.*; 5 males, Fangcheng, Fulong, 550 m, 26.V.1999, coll. Zhang Yanzhou; 2 males, Napo, Nonghua, 950–1000 m, 13–14.IV.1998, coll. Wu Chunsheng; 7 males, 2 females, Napo, Defu, 1300m, 14–16.VIII.1998, coll. He Tongli; 1 male, Jinxiu, Huawang Shanzhuang, 600 m, 20.V.1999, coll. Liu Dajun; 1 male, Jinxiu, Shengtangshan, 900 m, 17.V.1999, coll. Li Wenzhu (IZCAS).

**Distribution.** China (Hainan, Guangxi), India, Philippines, Indonesia, Papua New Guinea.

#### *Lophoptera stipata* (Walker, 1863)

Figs. 54, 55, 115, 142, 168

*Plusia stipata* Walker, 1863a, *J. Proc. Linn. Soc. (Zool.)*, 7: 70. Syntypes: 1 female, [Borneo]: Sarawak (OUM).

*Lophoptera stipata*: Hampson, 1912, *Cat. Lepid. Fal. Br. Mus.*, 11: 188, pl. 179: 1.

**Diagnosis.** This species resembles *L. coangulata*, but differs by grey round dot at the base of the costal margin, which is absent in *L. coangulata*. The differences of the genitalia are as discussed above.

**Material examined.** CHINA, Hainan: 2 males, 2 females, Jianfengling, 2–25.V.1982, 30.VI.1983, coll. Gu Maobin *et al.* (IZCAS).

**Distribution.** China (Hainan), Malaysia, Indonesia, Papua New Guinea. The species is reported for China for the first time.

### *Lophoptera nama* (Swinhoe, 1900)

Figs. 56, 57, 116, 143, 169

*Gyrtona nama* Swinhoe, 1900, *Ann. Mag. nat. Hist.*, (7) 7:492. Syntypes: 1 male 1 female, [India]: [Meghalaya], Jaintia Hills (BMNH).

*Lophoptera acrogramma* Turner, 1932, *Trans. Proc. Roy. Soc. South Aust.*, 56: 177.

*Lophoptera nama*: Holloway, 1985, *Malay. Nat. J.*, 38: 267.

**Diagnosis.** This and the next species (*L. brunnama* Holloway, 1985) have a greyish-white angular patch at the apex of the forewing, which is bigger and tinged with yellow in *L. nama*; the ground color of the forewing of *L. nama* is lighter than in *L. brunnama*. In the male genitalia, the apex of the valva bears a small process, but that of *L. brunnama* is round.

**Material examined.** CHINA, Hainan: 1 female, Jianfengling, 4.V.1983, coll. Gu Maobin (IZCAS). Guangxi: 1 male, Jinxiu, Luoxiang, 200 m, 15.V.1999, coll. Han Hongxiang; 1 female, Shangsi, Hongqi Linchang, 300 m, 28.V.1999, coll. Zhang Yanzhou (IZCAS).

**Distribution.** China (Fujian, Taiwan, Hainan, Guangxi, Tibet), India, Bhutan, Malaysia, Brunei, Indonesia, Papua New Guinea, Australia.

**Remarks.** Holloway (1985) stated that this species was transferred to *Lophoptera* by Sugi in Inoue *et al.* (1982), but it does not appear in that work. So far as we know, the species *nama* was firstly transferred to *Lophoptera* by Holloway (1985).

### *Lophoptera brunnama* Holloway, 1985

Figs. 58, 59, 117, 144, 170

*Lophoptera brunnama* Holloway, 1985, *Malay. Nat. J.*, 38: 268. Holotype: male, Malaysia: Sabah, Mt. Kinabalu.

**Diagnosis.** This species is close to *L. nama*. The forewing color is deeper; the greyish-yellow patch before the apex is smaller; the postmedial line is more distinct, outlined with black line on both sides. The differences of the genitalia are as discussed above.

**Material examined.** CHINA, Jiangxi: 2 males, Lushan, 12–16.VI.1974, coll. Song Shimei and Zhang Baolin; 2 females, Dayu, 17–18.VII.1975, coll. Song Shimei (IZCAS). Fujian: 1 female, Jianyang, Huangkeng, 270 m, 1.VII.1973, coll. Zhang Baolin (IZCAS). Guangxi: 1 female, Wuming, Damingshan, 1200 m, 20.VIII.1984, coll. Zhang Jiajun (IZCAS).

**Distribution.** China (Jiangxi, Fujian, Guangxi), Sri Lanka, Malaysia, Indonesia. The species is firstly reported for China.

### *Lophoptera hayesi* Sugi, 1982

*Lophoptera hayesi* Sugi, 1982, in Inoue *et al.*, *Moths of Japan*, 1: 790; 2: 376. pl. 193: 21, pl. 371: 7. Holotype: male, Japan.

**Diagnosis.** *L. hayesi* is similar by wing pattern to previous two species, with wide black postmedial line curved inwards after  $M_3$ , both sides of the postmedial line bordered with black lines, however, the apex of this species lacks greyish-white patch. In the male genitalia, it is similar to *L. nama* by presence of small process on apex of valva, but the shape of saccus is different, and the outer margin of the saccus is arched but angled basally in *L. nama* (followed Sugi 1982).

**Material examined.** None.

**Distribution.** China (Hong Kong), Japan. The species was reported for China by Ades & Kendrick (2004).

### ***Lophoptera illucida* (Walker, 1865)**

Figs. 60–71, 118, 145, 171

*Stictoptera illucida* Walker, 1865b, *List Specimens lepid. Insects Colln Br. Mus.*, 33: 918. Syntypes: [India]: Hindostan (BMNH).

*Noctua abortiva* Herrich-Schäffer, 1869, *Sammlung neuer oder wenig Bekannter Ausereuropäischer Schmetterlinge*, 2 (1): 4.

*Lophoptera illucida*: Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 182.

*Lophoptera plumbeola* Chen *et al.*, 1991, *The Noctuids Fauna of Xizang*: 298, pl. 18: 8 (*nec* Hampson, 1912)

*Lophoptera apirtha* Chen, 1999, *Fauna Sinica* (Insecta), 16: 953, pl. 43: 19. (*nec* Swinhoe, 1900)

**Diagnosis.** This species is highly polymorphic by wing pattern. Forewing with greyish-yellow to black semicircular or inverted V-shaped patch in the mid part of the anal margin, its shape is very variable, sometimes reduced to black semicircular dot. In the male genitalia, the uncus is thick and long; the valva is long and narrow, with beak-like apex; the costa with a stick-like process in mid part; the saccus is inverted triangular, its basal part is slightly expanded. In the female genitalia, the post-ostial invagination is long, about twice length of the lateral lobe; the appendix bursae is same size as the corpus bursae.

**Material examined.** CHINA, Hainan: 8 males, 17 females, Jianfengling, 7–16.VI.1973, coll. Chen Yixin and Liang Jinglian; 1 male, 5 females, Jianfengling, 24.III.1982, 6–11.V.1982, 3.VI.1982, coll. Chen Zhiqing *et al.*; 1 female, Jianfengling, 811.9 m, 23.III.2008, coll. Wu Chunsheng; 2 females, Diaoluoshan, 8.V.1984, 16.VI.1973, coll. Gu Maobin and Chen Yixin (IZCAS). Guangxi: 6 males, 1 female, Fangcheng, Fulong, 350–550 m, 23–26.V.1999, coll. Liu Dajun, Zhang Yanzhou, Li Wenzhu, Yuan Decheng (IZCAS). Tibet: 1 male, Nylam, 2250 m, 20.IV.1974, coll. Zhang Xuezhong (IZCAS). Yunnan: 1 male, Jinping, 2000 m, 18.V.2006, coll. Cui Jianxin (CAU).

**Distribution.** China (Taiwan, Guangdong, Hainan, Guangxi, Sichuan, Yunnan, Tibet), Korea, India, Vietnam, Burma, Sri Lanka, Malaysia, Singapore, Indonesia, Australia.

**Remarks.** Because of this species is greatly variable in forewing patterns, it has been identified as many other species in China. In this study, we re-identified the specimens in the collection IZCAS and found that *Lophoptera plumbeola* Hampson, 1912 (= *L. apirtha* (Swinhoe, 1900)) recorded by Chen *et al.* (1991) and *L. apirtha* recorded by Chen (1999) are misidentifications of *Lophoptera illucida* (Walker, 1865), so the misidentified species are not distributed in China.

**Biological notes.** The larval host plants were recorded as *Shorea robusta* (Sevastopulo 1941; Zhang 1994) and *Hopea wightiana* (Dipterocarpaceae) (Bell & Scott 1937).

### ***Lophoptera longipennis* (Moore, 1882)**

Figs. 8, 72, 73, 119, 146, 172

*Sadarsa longipennis* Moore, 1882, in Hewitson & Moore, *Descr. new Indian lepid. Insects Colln late Mr W.S. Atkinson*: 165, pl. 5, fig. 14. Syntypes: India: West Bengal, Darjiling (MNHU).

*Nigramma longipennis* Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 198.

*Lophoptera longipennis*: Holloway, 1985, *Malay. Nat. J.*, 38: 265.

*Gyrtona longipennis*: Poole, 1989, in Heppner, *Lepidopterorum Catalogus*, Fasc. 118 Noctuidae: 473.

*Lophoptera tenuis* Chen, 1999, *Fauna Sinica* (Insecta), 16: 956, pl.43: 26. (*nec* Moore, 1868)

**Diagnosis.** This species shares the similar wing patterns with *L. tenuis* (Moore, 1868), but can be distinguished by having an extremely elongate forewing; three black wavy transverse lines, formed by erected scales, directed vertically to the anal margin above 2A, then oblique inwards to the anal margin at the basal one third of the forewing; the submarginal line is blackish-brown and dentate. The basal half of hindwing is not as transparent as in *L. tenuis*. In the male genitalia, the costa with stick-like process, arising from the middle part, but those of *L. tenuis* is broadly expanded, without process. In the female genitalia, the post-ostial invagination reduced into a small triangular sclerotization near the posterior side of the ostium, but in *L. tenuis* the post-ostial invagination is funnel-like.

**Material examined.** CHINA, Gansu: 1 male, Kangxian, Qinghe Linchang, 1450–1650 m, 15.VII.1998, coll. Yao Jian; 1 male, Wenxian, Liujiaping, 2100 m, 27.VI.1998, coll. Yao Jian (IZCAS). Hubei: 1 female, Badong, Tiedinghuang, 1500 m, 21.V.1989, coll. Li Wei (IZCAS). Guangxi: 1 male, 2 females, Miaoershan, Jiuniuchang, 1150–1600 m, 7–15.VII.1985, coll. Fang Chenglai (IZCAS). Sichuan: 1 male, Wanxian, Wangerbao, 1200 m, 10.VIII.1993, coll. Song Shimei; 1 male, Qingchengshan, 1000 m, 3.VI.1979, coll. Shang Jinwen (IZCAS). Guizhou: 2 males, Suiyang, Kuankuoshui, Xiangshuwan, 845m, 3.VI. 2010, coll. Chen Fuqiang; 1 male, 1 female, Suiyang, Kuankuoshui, 1534 m, 8.VI.2010, coll. Chen Fuqiang (IZCAS). Tibet: 1 female, Bomi, Yi'ong, 2300 m, 25.VIII.1983, coll. Han Yinheng; 1 female, Nyalam, 2250 m, 19.V.1974, coll. Zhang Xuezhong (IZCAS). Yunnan: 1 male, Jinping, 2000 m, 18.V.2006, coll. Cui Jianxin (CAU).

**Distribution.** China (Gansu, Hubei, Hunan, Taiwan, Guangxi, Sichuan, Guizhou, Yunnan, Tibet), India, N.E. Himalayas, Indonesia.

**Remarks.** This species was placed in *Nigramma* Walker, 1863 by Hampson (1912) and transferred to *Gyrtona* by Poole (1989). In this study, we accepted the treatment of Holloway (1985) and place it in *Lophoptera* based on the male and female genitalia. The specimens from Tibet were identified as *L. tenuis* by Chen (1999). We reidentified the specimens and stated the misidentification of *L. longipennis*, so the real *L. tenuis* is not distributed in Tibet.

### *Lophoptera tenuis* (Moore, 1868)

Figs. 74, 75, 120, 173

*Cucullia tenuis* Moore, 1868, *Proc. zool. Soc. Lond.*, 1867: 60. Syntypes: [India]: [West Bengal], Darjiling (BMNH; MNHU).

*Sadarsa tenuis*: Hampson, 1912. *Cat. Lepid. Phal. Br. Mus.*, 11: 204, fig. 11.

*Lophoptera tenuis*: Holloway, 1985, *Malay. Nat. J.*, 38: 264.

**Diagnosis.** Externally *L. tenuis* resembles *L. longipennis*, but differs from the later by shorter and wider forewing, the tornus of *L. tenuis* is angled but gently curved in *L. longipennis*; wing pattern without black transversal lines in the basal half of the forewing as in *L. longipennis*. The hindwing has the basal half more transparent than in *L. longipennis*. The differences of the genitalia are as described above.

**Material examined.** CHINA, Yunnan: 1 male, Shuimushan, 2500 m, 6.VIII.1980; 1 male, Mangshi, 1200 m, 4.V.1980, coll. Li Hongxing; 1 female, Yingjiang, 1700 m, 15.IV.1980, coll. Shang Jinwen (IZCAS).

**Distribution.** China (Yunnan), India, N.E. Himalaya, Malaysia, Philippines, Indonesia, Papua New Guinea.

### *Lophoptera acutiprocessa* Qi & Xue, sp. nov.

Figs. 76, 77, 121, 147, 174

*Lophoptera pustulifera* Chen, 1999, *Fauna Sinica* (Insecta), 16: 955, pl. 43: 24. (*nec* Walker, 1863)

**Diagnosis.** This species is distinguishable by the greyish-yellow area between the medial and postmedial lines of the forewing. *L. acutiprocessa* resembles *L. anthyalus*, but differs by the male genitalia. The uncus is long and pointed apically but that of *L. anthyalus* is snake head shaped apically; the basal process of the costa of this species is needle-like, but that of *L. anthyalus* is hook-like.

**Description.** Head. Dark-brown. Frons blackish-brown, convex; vertex with a cluster of erected black scales. Antenna of male and female filiform, brown. Labial palpus dark-brown, the second segment with thick and long scales apically, extending beyond frons. Thorax. Forewing length: male 13–14 mm, female 12–14 mm. Thorax dark-brown, patagia and tegulae covered with mixed greyish-brown scales, patagia longer than half of mesothorax. Legs brown, ends of segments greyish-white; hind tibia with two greyish-white hair-pencils at opposite side of spurs. Wing-pattern. Forewing dark-brown; subbasal line double, black, visible at costal margin; antemedial line double, black, wavy; medial line black, slightly wavy, arched between cell and anal margin, with two clusters of erected black scales anteriorly; reniform black; area between medial and postmedial lines greyish-yellow; postmedial line double, black, dentate with black patch at outer side near costal margin and thin, black, slightly wavy line between postmedial and submarginal lines; submarginal line black, slightly dentate, bordered with greyish-brown shadow anteriorly; terminal line black, interrupted at vein ends; fringes blackish-brown basally, greyish-brown ter-

minally. Hindwing greyish-brown with basal half almost transparent, veins black. Underside: forewing greyish-brown with darker terminal half; postmedial line dark greyish-brown, band-like; terminal half of costal margin with four small greyish-yellow patches; hindwing with terminal half dark-brown, postmedial line same as on forewing. **Abdomen.** Dark-brown. **Male genitalia.** Uncus long, pointed apically. Gnathos short, connected, forming a small ring at middle. Valva long, narrow, basally triangular; sacculus with a series of long hairs; basal process of costa long, narrow, needle-like, longer than uncus. Saccus inverted triangular. Aedeagus long. **Female genitalia.** Ovipositor short, wide, with thick hairs. Apophyses posteriores long and thin, apophyses anteriores short. Ostium rounded. Post-ostial invagination small, triangular over ostium. Appendix bursae same size as corpus bursae. Corpus bursae rounded, with a small strip-like signum.

**Material examined. Holotype:** male, CHINA, Hainan: Jianfengling, 6.V.1973, coll. Chen Yixin (IZCAS). **Paratypes:** Hainan: 6 females, Jianfengling, 7.VI.1973, 18.IV.1978, 13.IV.1980, coll. Zhang Baolin, Chen Yixin (IZCAS). Guangxi: 1 female, Napo, Beidou, 550 m, 22.VI.2000, coll. Zhu Chaodong; 1 female, Pingxiang, 24.IV.1980 (IZCAS). Guangxi: 6 females, Pingxiang, 11–17.V.1963, coll. Yang, Jikun (CAU).

**Distribution.** China (Hainan, Guangxi).

**Etymology.** The specific name is derived from the Latin prefix *acuti-* (which means acute) and *processus* (which means process). This refers to the needle-like basal process in the costa of the male genitalia.

**Remarks.** The species *Lophoptera pustulifera* Walker, 1863 was recorded in China based on the specimens from Hainan cited above by Chen (1999). Here, we re-identified the specimens and stated that they represent a new species, therefore *Lophoptera pustulifera* is not distributed in China.

### Species group C: species without post-ostial invagination but lateral lobes are present.

Basal half of forewing blackish-brown; apex sometimes with a blackish-brown angular patch; postmedial line double, curved outwards at  $M_1$  and  $M_3$ . Hindwing blackish-brown with basal half transparent or nearly transparent. In male genitalia uncus often short and expanded, pointed apically. In female genitalia the post-ostial invagination absent, but the lateral lobes present.

#### *Lophoptera phaeobasis* (Hampson, 1905)

Figs. 78, 79, 175

*Stictoptera phaeobasis* Hampson, 1905, *Ann. Mag. nat. Hist.*, (7) 16: 534. Holotype: female, [Malaysia]: Perak, Goping (BMNH).

*Lophoptera phaeobasis*: Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 182, pl. 178, fig. 23.

**Diagnosis.** This species resembles *L. negretinoides* Holloway, 1985, it can be distinguished by the following characters: the basal half of the forewing is blackish-brown; a blackish-brown angular patch at the apex of the forewing, the postmedial line is black, double, protruded outwards on  $R_5$  and  $M_3$ . The main differences are that the area between the subbasal and antemedial lines of this species is black, but that of *L. negretinoides* is greyish-brown. In the male genitalia, the apex of the valva of this species is rounded, but that of *L. negretinoides* is quadrate.

**Material examined.** CHINA, Yunnan: 1 female, Jinghong, 23.IV.1982, coll. Chen Yixin (IZCAS).

**Distribution.** China (Yunnan), Peninsular Malaysia, Indonesia, Papua New Guinea. The species is reported for China for the first time.

#### *Lophoptera negretinoides* Holloway, 1985

Figs. 80, 81, 122, 148

*Lophoptera negretinoides* Holloway, 1985, *Malay. Nat. J.*, 38: 270, pl. 6, fig. 279, 295. Holotype: male, Borneo: Sarawak, Gunong Mulu Nat. Park (BMNH).

**Diagnosis.** This species differs from *L. phaeobasis* by the greyish-brown (not black) area between the subbasal and antemedial lines. In the male genitalia, the apex of the valva is quadrate, not rounded, the costa is less constricted at

terminal one third than in *L. phaeobasis*. In the female genitalia, the lateral lobes are wide and bifid apically, but they are long and rounded apically in *L. phaeobasis*.

**Material examined.** CHINA, Guangxi, 1 male, Pingxiang, 24.IV.1984; 1 male, Napo, Defu, 1350 m, 19.VI.2000, coll. Li Wenzhu (IZCAS).

**Distribution.** China (Guangxi), Malaysia, Indonesia. The species is reported for China for the first time.

### ***Lophoptera negretina* (Hampson, 1902)**

Figs. 82, 83, 176

*Stictoptera negretina* Hampson, 1902, *J. Bomb. Soc.*, 14: 212. Holotype: female, [India]: [Meghalaya], Khasis Hills (BMNH).  
*Lophoptera negretina*: Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 189, pl. 179, fig. 2.

**Diagnosis.** The species is distinguishable from *L. negretinoides* by presence of black area between subbasal and antemedial lines, which is yellowish-brown in *L. negretinoides*; in the female genitalia the lateral lobes are short and complete, but that of *L. negretinoides* are long and bifid terminally. *L. negretina* also resembles *L. solealis* **sp. nov.** and differs mainly in the female genitalia, this species has a V-shaped sclerotization posteriorly to the ostium, but *L. solealis* has two small triangular lobes posteriorly to the ostium.

**Material examined.** CHINA, Hainan: 1 female, Jianfengling, Tianchi, 14.IV.1980, coll. Zhang Baolin (IZCAS). Guangxi: 7 females, Pingxiang, 23–24.IV.1980 (IZCAS).

**Distribution.** China (Hainan, Guangxi), India.

### ***Lophoptera hemithyris* (Hampson, 1905)**

*Stictoptera hemithyris* Hampson, 1905, *Ann. Mag. nat. His.*, (7) 16: 534. Holotype: female, [India]: Madras Cuddapah (BMNH).

*Lophoptera hemithyris*: Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 181, pl. 178, fig. 22.

**Diagnosis.** Wings-pattern is similar to the next species. In the male genitalia, the central process of the gnathos in *L. hemithyris* is shorter than half length of the uncus, but longer than half length of the uncus in *L. solealis*; the base of the costa in *L. hemithyris* is smooth, but slightly swollen in *L. solealis*; the saccus is shorter than in *L. solealis*.

**Material examined.** None.

**Distribution.** China (Taiwan, Hong Kong), India, Sri Lanka, Australia. The species was reported for China by Ades & Kendrick (2004).

### ***Lophoptera solealis* Qi & Yang, sp. nov.**

Figs. 84, 85, 123, 149, 177

**Diagnosis.** This new species is very close to *L. hemithyris* in the similar wings-pattern and alike male genitalia, but the gnathos, costa and saccus are distinctly different as described under previous species.

**Description.** Head. Frons greyish-brown. Male and female antennae filiform, brown. Vertex brown, with erected scales, extended forwards, pointed apically. Labial palpus greyish-brown, the second segment elongate, with a black oblique line at outer side. Thorax. Forewing length: male 9–11 mm, female 11–13 mm. Thorax dark-brown; patagia covered by dark grey scales. Legs dark-brown, ends of segments greyish-white; hind tibia with greyish-brown oblique lines at outer side, two grey hair-pencils present at opposite side of spurs. Wing-pattern. Forewing greyish-brown with basal half blackish-brown; antemedial line double, black; costa and veins heavy black anteriorly to antemedial line, with triangular black patch just anterior the first antemedial line on anal margin; medial line black and thin, slightly wavy; area between antemedial and medial lines yellowish-brown near anal margin; reniform ringed with black; postmedial line black and thin, double, curved outwards at R<sub>5</sub>; thin black line between postmedial and submarginal lines slightly wavy, with grey shadow anteriorly; submarginal line grey and wavy; terminal line black, interrupted by grey dots on vein ends; fringes blackish-brown basally, yellowish-brown

terminally. Hindwing blackish-brown, with transparent basal half, veins black. Underside: forewing with basal half pale greyish-brown, terminal half dark greyish-brown, costal margin with several yellowish-brown dots; hindwing same as upper side. Abdomen. Dark-brown, every segment with a black spot centrally. Male genitalia. Uncus short and wide, apex beak-like. Central process of gnathos beak-like, longer than half length of uncus, with sharp tip. Valva long and narrow, apex hook-like, base of costa bulged. Juxta horseshoe shaped. Saccus as long needle-like process. Aedeagus short, with small sclerotized lobe inside ductus ejaculatorius near vesica. Female genitalia. Ovipositor short and wide, with thick hairs. Apophyses posteriores longer than apophyses anteriores. Lateral lobes small, triangular, with two small triangular sclerotized lobes anteriorly. Appendix bursae rounded, same size as corpus bursae. Corpus bursae rounded, with a small spinose signum.

**Material examined.** **Holotype:** male, CHINA, Hainan: Jianfengling, 16.VIII.1983, coll. Liu Yuanfu (IZCAS).

**Paratypes:** Hainan: 2 males, 4 females, Jianfengling, 6–16.VI.1973, 16–28.VIII.1983, coll. Chen Yixin, Liang Jinglian, Liu Yuanfu (IZCAS).

**Distribution.** China (Hainan).

**Etymology.** The specific name is from the Latin word *solea*, which means the shoe of an animal, and postfix *-alis*, which means like. This refers to the horseshoe-like juxta of the male genitalia.

#### Species group D: species with both post-ostial invagination and lateral lobes.

Forewing variously shaped, some species with a wide longitudinal black strip at costal margin, then followed with a wide longitudinal paler colored strip. Male genitalia variously shaped, uncus long and narrow, sometimes specialized apically. Female genitalia with both post-ostial invagination and lateral lobes present.

#### *Lophoptera huma* (Swinhoe, 1903)

Figs. 86, 87, 124, 150

*Stictoptera huma* Swinhoe, 1903, *Fascic. Malay. Zool.*, 1: 75. Holotype: female, [Malaysia]: Malaya, Jalor Biserat (BMNH).

*Lophoptera huma*: Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 184, pl. 178: 26.

**Diagnosis.** This species is easily distinguished from other congeners by the small size, with the forewing length less than 10 mm, and presence of two black patches on the costal margin of the forewing. In the male genitalia, the costa has a small digitiform process, the base of the sacculus bears an oval bulge, with a process on the apex.

**Material examined.** CHINA, Hainan: 1 female, Jianfengling, 30.VI.1983, coll. Gu Maobin (IZCAS). Guangxi: 1 female, Nanning, 110 m, 21.IV.1984, coll. Wang Jizhen; 1 male, Napo, Nonghua, 950 m, 13.IV.1998, coll. Wu Chunsheng; 1 male, Jinxiu, Shengtangshan, 900 m, 17.V.1999, coll. Li Wenzhu (IZCAS).

**Distribution.** China (Hainan, Guangxi), Thailand, Malaysia, Indonesia, Papua New Guinea. The species is recorded for China for the first time.

#### *Lophoptera squammigera* Guenée, 1852

Figs. 88, 89, 125, 151, 178

*Lophoptera squammigera* Guenée, 1852, in Boisduval et Guenée, *Hist. nat. Ins. (Lepid.)*, 7: 55, pl. 14, fig. 13. Holotype: male, [Australia]: New Holland (MNHN).

*Lophoptera costata* Moore, 1885, *Lepid. Ceyl.*, 3: 123, pl. 159, fig. 8.

*Lophoptera smaragdipanni* Chen, 1999, *Fauna Sinica (Insecta)*, 16: 952, pl. 43: 16. (*nec* Holloway, 1985)

**Diagnosis.** This species resembles *L. squammilinea* Holloway, 1985, but differs externally by grey longitudinal strip on the forewing, which is white in *L. squammilinea*. In the male genitalia, the apex of the valva is bifid, but complete in *L. squammilinea*; the base of the valva is wide, but expanded at both costa and sacculus sides in *L. squammilinea*; the juxta is quinquangular, but diamond shaped in *L. squammilinea*; the saccus is triangular, with the length equal to width, but in *L. squammilinea*, it is extremely long, and the length is about twice of the width. In the female genitalia, the lateral lobes are triangular, but rounded in *L. squammilinea*.

**Material examined.** CHINA, Jiangxi: 1 female, Doushui, 5.VII.1975, coll. Zhang Baolin (IZCAS). Hunan: 1 male, Zhangjiajie, 12.X.1988; 1 male, Yongshun, Shanmuhe Linchang, 600 m, 3.VIII.1988, coll. Chen Yixin (IZCAS). Hainan: 1 male, 1 female, Baisha, Yinggeling, Hongxincun, 417.8 m, 4–6.IV.2008, coll. Wu Chunsheng; 1 male, Limushan, 647 m, 29.XI.2007, coll. Wang Zhiliang; 2 males, Diaoluoshan, 930 m, 11–12.XII.2007, coll. Chen Fuqiang and Li Jing; 1 male, Xinglong, Redai Zhiwuyuan, 130 m, 16.V.2007, coll. Lang Songyun (IZCAS). Guangxi: 2 females, Pingxiang, 11–13.VI.1976; 1 male, Lingchuan, Lingtian, 390 m, 21.IX.1983, coll. Liu Ronglin; 1 female, Wuming, Damingshan, 1200 m, 29.VI.1984, coll. Zeng Yufen; 3 females, Miaoershan, Jiuniuchang, 1100–1150 m, 7–13.VII.1985, coll. Fang Chenglai; 4 males, 6 females, Napo, Defu, 1300 m, 14–16.VIII.1998, coll. He Tongli; 1 male, Fangcheng, Fulong, 240 m, 13.III.1998, coll. Wu Chunsheng; 1 female, Napo, Nonghua, 750 m, 17.VIII.1998, coll. He Tongli; 1 male, Shangsi, Hongqi Linchang, 300 m, 27.V.1999, coll. Yuan Decheng (IZCAS). Sichuan: 1 female, Dukou, 2150 m, 22.VIII.1980, coll. Zhang Baolin; 1 female, Wanxian, Wangerbao, 1200 m, 27.V.1994, coll. Li Wenzhu (IZCAS). Guizhou: 1 male, 1 female, Dayong, Zhushitou, 18.VIII.1988, coll. Li Wei and Chen Yixin; 1 male, 1 female, Suiyang, Kuankuoshui, 1534 m, 8.VI.2010, coll. Chen Fuqiang (IZCAS). Yunnan: 1 female, Mangshi, 1200 m, 4.V.1980, coll. Shang Jinwen; 1 male, Lanping, 20.VIII.1984, coll. Chen Yixin (IZCAS).

**Distribution.** China (Jiangxi, Hunan, Fujian, Taiwan, Guangdong, Hainan, Hong Kong, Guangxi, Sichuan, Guizhou, Yunnan, Tibet), Korea, Japan, Vietnam, India, Sri Lanka, Thailand, Singapore, Indonesia, Papua New Guinea, Australia.

**Remarks.** *Lophoptera smaragdipanni* Holloway, 1985 for China was recorded by Chen (1999) In present study, we re-identified the specimens and stated *L. smaragdipanni* (sensu Chen 1999) as a misidentification of *L. squammigera*. The species *L. smaragdipanni* is not distributed in China.

**Biological notes.** The larval host plants were recorded as *Mallotus* (Euphorbiaceae) (Gardner 1948; Chen 1999), *Briedelia* (Euphorbiaceae), *Shorea* (Dipterocarpaceae) and *Grewia* (Tiliaceae) (Mathur 1942).

### *Lophoptera squammilinea* Holloway, 1985

Figs. 7, 90, 91, 126, 152, 179

*Lophoptera squammilinea* Holloway, 1985 *Malay. Nat. J.*, 38: 273, pl. 6: 250, 281. Holotype: male, India: Khasia Hills (BMNH).

**Diagnosis.** This species resembles *L. squammigera*. The differences between two species see under diagnosis of the previous species.

**Material examined.** CHINA, Hainan: 1 male, Jianfengling, 18.V.1982, coll. Chen Zhiqing; 1 male, Yinggeling, Hongxincun, 434 m, 3.XII.2007, coll. Li Jing (IZCAS). Guangxi: 4 males, 1 female, Napo, Defu, 1350 m, 19.VI.2000, coll. Yao Jian, Zhu Chaodong, Li Wenzhu, Chen Jun; 1 female, Pingxiang, 230 m, 8.VI.1976, coll. Zhang Baolin; 1 female, Shangsi, Honqi Linchang, 350 m, 29.V.1999, coll. Li Wenzhu; 1 female, Fangcheng, Fulong, 500 m, 24.V.1999, coll. Zhang Yanzhou (IZCAS). Yunnan: 2 males, 1 female, Luchun, 2000 m, 18–24.V.2006, coll. Cui Jianxin (CAU).

**Distribution.** China (Hainan, Guangxi, Yunnan), India, N.E. Himalaya, Malaysia, Indonesia. The species is reported for China for the first time.

### *Lophoptera purpurfera* Qi & Wang, sp. nov.

Figs. 92, 93, 127, 153

**Diagnosis.** By external appearance *L. purpurfera* is almost identical to those of *L. squammilinea*, but the former has a distinct purple shining at the forewing terminal area. In the male genitalia, the costa bears an apical elongate process, which is much smaller in *L. squammilinea*; the valva is apically narrower than in *L. squammilinea*; the juxta is heart shaped but diamond shaped in *L. squammilinea*.

**Description.** Head. Frons yellowish-brown, convex. Male antenna filiform, brown. Vertex with a black transverse line. Labial palpus brown, extended beyond frons, the second segment with thick and long scales terminally. Thorax. Forewing length: male 14 mm. Thorax yellowish-brown; tegulae covered with thick yellow scales; patagia

longer than half of mesothorax, covered with scales yellowish-brown basally, blackish-brown terminally. Wing pattern. Forewing costal margin with longitudinal blackish-brown band from base to apex, widest near postmedial line, with lower margin gently curved; a longitudinal greyish-white line below blackish-brown band from base to postmedial line; antemedial line black, double, wavy; medial line thin, black, slightly wavy; reniform obscure, ringed with black; postmedial line black, double, wavy; antemedial, medial and postmedial lines visible only between greyish-white band and anal margin; area outside postmedial line tinged with purple shining; thin black line between postmedial and submarginal lines slightly wavy, outlined with greyish-white shadow anteriorly; submarginal line greyish-white, thin and slightly wavy; terminal line black, interrupted on vein ends, outlined with greyish-white shadow anteriorly; fringes blackish-brown basally, greyish-brown terminally. Hindwing blackish-brown, basal half slightly transparent, veins black; fringes same color as forewing. Underside: forewing with basal half light greyish-brown, terminal half dark greyish-brown; hindwing with almost transparent basal half, terminal half blackish-brown. Abdomen. Brown. Male genitalia. Uncus long, pointed apically. Gnathos short, connected at middle, forming a small round process at base of uncus. Base of costa with a quadrate bulge, ending with elongate process, about half length of bulge; sacculus expanded. Juxta heart shaped. Saccus elongate, almost same length as valva. Aedeagus long and narrow, slightly expanded basally. Female genitalia. Unknown.

**Material examined. Holotype:** male, CHINA, Hainan: Jianfengling, 28.VIII.1982, coll. Liu Yuanfu (IZCAS).

**Distribution.** China (Hainan).

**Etymology.** The specific name derived from the Latin word *purpura*, which means purple, and the suffix *-fera*, which means present. This refers to the purple shining at the anal margin of the forewing.

### *Lophoptera trigonoprocessa* Qi & Xue, sp. nov.

Figs. 94, 95, 128, 154, 180

**Diagnosis.** *L. trigonoprocessa* has a more distinct longitudinal white band on the forewing and a more distinct transparent zone at the base of the hindwing than the previous two species. *L. trigonoprocessa* also resembles *L. vittigera* Walker, 1865 (Australia), but can be distinguished from that species in the male genitalia, the valva has a triangular process at the middle of the costa, which is absent in *L. vittigera*.

**Description.** Head. Frons convex, greyish-brown, mixed with grey hairs basally. Male and female antennae filiform, brown. Labial palpus brown, extended beyond frons, the second segment with thick and long scales terminally. Thorax. Forewing length: male 13–16 mm, female 15–16 mm. Thorax greyish-brown; tegulae covered with brown scales; patagia longer than half of mesothorax, covered with blackish-brown scales. Legs brown, ends of segments grey; hind tibia with two pairs of spurs and with two hair-pencils at opposite side of spurs. Wing-pattern. Costal margin of forewing with longitudinal black band from base to apex, widest near postmedial line, bordered below by longitudinal white band from base to postmedial line, with several black spots basally; antemedial line black, double; medial line black; reniform obscure, ringed with black; postmedial line double, black, wavy; antemedial and medial lines visible only between longitudinal white band and anal margin, postmedial line visible below black band; a wavy black line between postmedial and greyish-white submarginal lines, outlined with greyish-white shadow anteriorly; terminal line black, interrupted on vein ends; fringes blackish-brown at ends of veins, greyish-brown between veins. Hindwing blackish-brown with basal half transparent, tinged with purple shining, veins black. Underside: forewing basal half greyish-white, terminal half greyish-brown, submarginal line slightly visible at apex; hindwing blackish-brown, transparent in basal half. Abdomen. Brown, segments ends greyish-brown. Male genitalia. Uncus long, beak-like apically. Gnathos absent. Valva wide, with basal process of costa long and narrow, covered with short hairs; costa with a triangular process at middle; sacculus with a series of long hairs. Juxta oval, concave posteriorly. Saccus inverted triangular. Aedeagus long, narrow, with small bulge at apical one fourth. Female genitalia. Ovipositor short and wide, with thick hairs. Apophyses posteriores longer than apophyses anteriores. Lateral lobes reduced, post-ostial invagination not clearly expressed, ostium surrounded with folds. Appendix bursae same size as corpus bursae, corpus bursae rounded, with a short spinose signum.

**Material examined. Holotype:** male, CHINA, Hainan: Jianfengling, Tianchi, 934 m, 14.XII.2007, coll. Li Jing (IZCAS). **Paratypes:** Hainan: 1 male, 2 females, Jianfengling, 8.VI.1973, coll. Chen Yixin; 1 female, Wanning, Xinglong, 52 m, 21–22.III.2008, coll. Wu Chunsheng (IZCAS).

**Distribution.** China (Hainan).

**Etymology.** The specific name is derived from the Latin prefix *trigono-*, which means triangular, and *processus*, which means process. This refers to the triangular process at the middle of the costa of the male genitalia.

**Remarks.** The post-ostial invagination of the female genitalia of this species is not distinct, but since it has the similar wing patterns as the previous species, we placed it in the species group D for the moment.

### ***Lophoptera obliquilinea* Prout, 1928**

Figs. 96, 97, 129, 155, 181

*Lophoptera obliquilinea* Prout, 1928, *Bulletin of the Hill Museum*, 2: 166. Holotype: female, [Indonesia]: Sumatra, Mount Korintji (BMNH).

**Diagnosis.** This species can be easily distinguished from other congeners by presence on forewing the oblique greyish-yellow band, extending from the basal one fourth of the costal margin to the middle of the anal margin, which divides the basal reddish half into two parts. In the male genitalia, the valva has a characteristic longitudinal ridge. In the female genitalia, the lateral lobes are reniform. The male genitalia are firstly illustrated and described here.

**Description.** Male genitalia. Uncus short, wide, hook-like apically. Gnathos short, connected at middle, forming a small round process at base of uncus. Valva long and wide; sacculus narrow, elongate apically; a longitudinal ridge produced from the base of valva, reaching nearly two thirds length of valva. Juxta oval, deeply concave posteriorly. Saccus very long, cone-shaped. Aedeagus short, with short needle-like cornutus centrally and a spinous patch terminally.

**Material examined.** CHINA, Hainan: 1 male, Ledong Jianfengling Mingfenggu, 983 m, 6.XII.2009, coll. Yang Chao; 1 female, Ledong, Jianfengling, Sichang, 666 m, 5.XII.2009, coll. Yang Chao (IZCAS).

**Distribution.** China (Hainan), Burma, Malaysia, Indonesia. The species is reported for China for the first time.

### ***Lophoptera hypenistis* (Hampson, 1905)**

Figs. 98, 99, 130, 156, 182

*Stictoptera hypenistis* Hampson, 1905, *Ann. Mag. nat. Hist.*, (7) 16: 536. Holotype: male, Burma: Hsipaw (BMNH).

*Lophoptera hypenistis* Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 193, pl. 179: 10.

**Diagnosis.** *L. hypenistis* resembles *L. partitistis* Holloway, 1985, but can be distinguished by reddish brown color of forewing, while that of *L. partitistis* is dark greyish-brown; the postmedial line is single, straight, and surrounded with a series of black dots posteriorly, but that of *L. partitistis* is double and wavy. In the male genitalia, the apex of the uncus is snake-head-shaped, but that of *L. partitistis* is scrolled apically. In the female genitalia, the lateral lobes are long and nephroid, but that of *L. partitistis* are short and rounded.

**Material examined.** CHINA, Guangxi: 2 males, 1 female, Napo, Defu, 1300 m, 14–16.VIII.1998, coll. He Tongli (IZCAS). Sichuan: 5 males, 7 females, Dukou, 22.VIII.1980, 14.VI.1981, coll. Zhang Baolin (IZCAS). Yunnan: 1 female, Qujing, 10.VII.1982; 1 male, Lanping, 20.VIII.1984, coll. Chen Yixin; 1 male, 2 females, Lijiang, Yulongshan, 2800–3200 m, 14–17.VII.1984, coll. Chen Yixin and Liu Dajun (IZCAS).

**Distribution.** China (Guangxi, Sichuan, Yunnan), Burma, India (Sikkim).

### ***Lophoptera partitistis* Holloway, 1985**

Figs. 100, 101, 183

*Lophoptera partitistis* Holloway, 1985, *Malay. Nat. J.*, 38: 278, pl. 7: 299, 303. Holotype: male, Borneo: Sarawak, Gunong Mulu Nat. Park (BMNH).

**Diagnosis.** This species resembles *L. hypenistis*, differs mainly by dark greyish-brown color of the forewing, which is reddish-brown in *L. hypenistis*; the postmedial line is wavy and double, but that of *L. hypenistis* is single and

straight, with a series of black dots posteriorly. The differences in the male and female genitalia are as discussed above.

**Material examined.** CHINA, Hainan: 2 females, Diaoluoshan, 930 m, 11–12.XII.2007, coll. Li Jing & Chen Fuqiang; 1 female, Jianfengling, Tianchi, 934 m, 15.XII.2007, coll. Li Jing (IZCAS).

**Distribution.** China (Hainan), Malaysia, Indonesia. The species is recorded for China for the first time.

## Genus *Diascoides* Holloway, 1985

*Diascoides* Holloway, 1985, *Malay. Nat. J.*, 38: 281. Type-species: *Diascoides metaphaea* (Walker, 1863), by original designation.

**Diagnosis.** The genus *Diascoides* resembles *Lophoptera* on the wing patterns, but is distinguishable by yellow forewing coloration. In the male genitalia, the uncus is bifid basally, but that of *Lophoptera* is complete. In the female genitalia, the ostium has fold structures, which are absent in *Lophoptera*.

**Description.** Head. Distance between compound eyes same as eye diameter. Frons convex, brown. Male antenna filiform, brown. Vertex brown, with short erected scales. Labial palpus yellowish-brown, extended beyond frons, the third segment long and narrow. Thorax. Yellowish-brown; patagia and tegulae covered with blackish-brown scales, patagia longer than half of mesothorax. Legs greyish-yellow, segments ends grey; mid tibia with a pair of spurs; hind tibia with two pairs of spurs, two pale yellowish hair-pencils present at opposite side of spurs. Wing shape and venation. Forewing triangular with outer margin slightly wavy, anal margin slightly incurved centrally. Hindwing wide, apex and tornus rounded, costal and anal margin straight, outer margin arch-like, slightly incurved between M veins. Forewing venation: Sc and R<sub>1</sub> free; R<sub>2</sub> and R<sub>3,5</sub> connected by a short vein and formed an areole before upper angle of cell; R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> stalked and diverging from upper angle of cell, R<sub>5</sub> diverging from upper angle of areole; R<sub>3</sub> and R<sub>4</sub> separate after terminal one third of stalk; M<sub>2</sub> and M<sub>3</sub> diverging from lower angle of cell, Cu<sub>1</sub>A diverging a little before lower angle of cell; CuA<sub>2</sub> diverging at terminal one third of lower margin of cell. Hindwing venation: Rs and M<sub>1</sub> diverging from upper angle of cell; M<sub>2</sub>, M<sub>3</sub> and CuA<sub>1</sub> diverging from lower angle of cell; CuA<sub>2</sub> diverging at terminal one third of lower margin of cell; 2A present (Fig. 9). Wing-pattern. Forewing greyish-yellow or yellowish-brown, with brown or blackish-brown lines and patches; a dark-brown patch at base of anal margin; antemedial line double; medial line thin, wavy, sometimes thickened on costal margin; reniform ringed with brown scales; postmedial line double, dentate, outer line darker; submarginal line greyish-yellow, wavy, with brown patch between M<sub>2</sub> and M<sub>3</sub> anteriorly; terminal line brown, interrupted on vein ends; fringes greyish-yellow between veins, blackish-brown at vein ends. Hindwing dark greyish-brown with basal half almost transparent, veins dark or blackish-brown; fringes same color as forewing. Underside: forewing dark yellowish-brown, paler near anal margin; costal margin with several yellow dots on terminal half; postmedial line greyish-brown, wide; submarginal line greyish-brown, wavy; hindwing brown, postmedial line dark greyish-brown, wide; basal half same as upper side. Abdomen. Grey or brown, ends of segments dark-brown. Male genitalia. Uncus bifid, divided into two slender arms basally. Gnathos absent. Tegumen simple, slightly expanded basally. Valva wide and long; costa always concave at middle, sometimes with short process. Saccus nearly rectangular. Aedeagus short (followed Holloway 1985). Female genitalia. Ovipositor short, wide, covered with short hairs. Apophyses posteriores long and narrow, apophyses anteriores short. Ostium with folded structures or with small lobes, sometimes with a inverted triangular sclerotization posteriorly. Ductus bursae long and narrow. Appendix bursae developed; corpus bursae with spinose signum.

**Distribution.** Oriental and Australian regions. The genus is firstly recorded for China.

**Remarks.** Holloway (1985) mentioned that the female of this genus lacks the signum. In the present study, we found that the female of the following species has a signum; the other characters are as described above for the genus *Diascoides*, so we treat it as a species of this genus.

### ***Diascoides ferruginea* (Hampson, 1905)**

Figs. 9, 102, 103, 184

*Stictoptera ferruginea* Hampson, 1905, *Ann. Mag. nat. Hist.*, (7) 16: 535. Syntypes: 2 males, Indonesia: Pulo Laut (BMNH).

*Lophoptera sordida* Warren, 1914, *Novit. zool.*, 21: 416.

*Diascoides ferruginea* Holloway, 1985, *Malay. Nat. J.*, 38: 282.

*Lophoptera ferruginea*: Poole, 1989, in Heppner, *Lepidopterorum Catalogus*, Fasc. 118 Noctuidae: 602.

**Diagnosis.** This species resembles *D. metaphaea* (Walker, 1864) from Malaysia, but differs by shorter forewing and pale color. In the male genitalia, both arms of the uncus are slightly expanded centrally, but those of *D. metaphaea* are slender and not expanded; the costa of *D. ferruginea* has a short process arising from the basal one third, but that of *D. metaphaea* does not have any process.

**Material examined.** CHINA, Yunnan: 1 female, Mangshi, Judong, 1200 m, 5.V.1980, coll. Gao Ping (IZCAS).

**Distribution.** China (Yunnan), N.E. Himalaya, Peninsular Malaysia, Indonesia. This species is reported for China for the first time.

**Remarks.** Poole (1989) referred this species in *Lophoptera*. Based on the genitalia characters of both sexes, we follow the treatment by Holloway (1985), placing it in *Diascoides*.

### **Genus *Sigmuncus* Holloway, 1985**

*Sigmuncus* Holloway, 1985, *Malay. Nat. J.*, 38: 283. Type-species: *Sigmuncus albigrisea* (Warren, 1914), by original designation.

**Diagnosis.** This genus resembles *Lophoptera*, but differs by having the specialized male genitalia: the uncus is spearhead-shaped or bended, but that of *Lophoptera* is long, sometimes expanded or upfurled apically; the tegumen is wide and nearly rounded, but that of *Lophoptera* is triangular; the valva is constricted centrally, but not so much as in *Lophoptera*.

**Description.** Head. Distance between compound eyes equal to eye diameter. Frons greyish-brown, convex. Male and female antennae brown, filiform. Labial palpus extended beyond frons, brown. Thorax. Patagia and tegulae yellowish-brown; patagia longer than half of mesothorax. Legs greyish-yellow, segments ends grey. Wing shape and venation. Forewing triangular and elongate; base of costal margin slightly arched; outer margin slightly wavy; anal margin slightly incurved centrally. Hindwing wide, apex and tornus rounded, costal and anal margin straight, outer margin arch-like, slightly incurved between M veins. Forewing venation: R<sub>1</sub> and R<sub>2</sub> anastomosing for a short distance and formed an areole; R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> stalked and diverging from upper angle of cell, R<sub>3,5</sub> and R<sub>2</sub> anastomosing at a point and formed an areole before upper angle of cell; R<sub>5</sub> diverging from upper angle of the second areole; R<sub>3</sub> and R<sub>4</sub> separate after terminal one third of stalk; M<sub>2</sub> and M<sub>3</sub> diverging from lower angle of cell, CuA<sub>1</sub> diverging before lower angle of cell. Hindwing venation: Rs and M<sub>1</sub> diverging from upper angle of cell; M<sub>2</sub>, M<sub>3</sub> and CuA<sub>1</sub> diverging from lower angle of cell (Fig. 10 and 11). Wing-pattern. Antemedial line of forewing brown, wavy; filled with blackish-brown anteriorly; area between antemedial line and medial line sometimes blackish-brown above CuA<sub>2</sub>; medial line blackish-brown, wavy; reniform ringed with brown; postmedial line brown, double, wavy; a blackish-brown patch placed on costal margin between postmedial line and submarginal line; submarginal line grey, wavy; terminal line black, interrupted on vein ends; fringes blackish-brown basally, greyish-brown terminally. Hindwing greyish-brown, basal half hardly transparent, veins blackish-brown. Abdomen. Greyish-brown, segments ends black. The third segment sometimes with dorsal crest. Male genitalia. Apex of uncus spearhead-shaped or bended terminally, sometimes with dense hairs centrally, base of uncus sometimes wide. Gnathos short, connected at middle, forming a small round process at base of uncus. Tegumen wide, nearly round. Valva wide, constricted centrally, sometimes extremely constricted (*S. albigrisea* (Warren, 1914)), rounded apically; costa with short, slightly bended process. Saccus inverted triangular. Aedeagus short. Female genitalia. Ovipositor short and wide, with thick hairs. Apophyses posteriores long and narrow, apophyses anteriores short. Ostium occasionally with a transversal fold posteriorly. Ductus bursae long and narrow. Signum round, composed of short spines.

**Distribution.** Oriental and Australian regions.

**Remarks.** We did not find any specimens from China of this genus in collections. Two species listed below are reported according to the records of Heppner & Inoue (1992) and Ades & Kendrick (2004). The descriptions and diagnosis follow Hampson (1912) and Holloway (1985).

### Key to species of *Sigmuncus* in China

1. Forewing length more than 15 mm; in male genitalia uncus straight, thick and strong, spearhead-like apically . . . *S. albigrisea*  
Forewing length less than 10 mm; in male genitalia uncus narrow and long, banded . . . . . *S. arcuata*

### *Sigmuncus albigrisea* (Warren, 1914)

*Lophoptera albigrisea* Warren, 1914, *Novit. zool.*, 21: 416. Syntypes: 3 males, 2 females, [India]: [Meghalaya], Khasia Hills (BMNH).

*Stictoptera intermixta* Wileman, 1915, *Entomologist.*, 48: 146.

*Sigmuncus albigrisea*: Holloway, *Malay. Nat. J.*, 38: 283.

**Diagnosis.** Externally *S. albigrisea* is similar to *S. arcuata*, but differs by bigger size, with the forewing length more than 15 mm, and darker forewing color. In the male genitalia, the uncus is straight and wide, spearhead-shaped apically, but that of *S. arcuata* is narrow and long, bended apically; the middle of the valva in *S. albigrisea* is constricted into the same width as the base of the uncus, but that of *S. arcuata* is much wider than the base of uncus.

**Material examined.** None.

**Distribution.** China (Taiwan), India, N.E. Himalaya, Malaysia, Indonesia. The species was reported for China by Heppner & Inoue (1992).

### *Sigmuncus arcuata* (Hampson, 1897)

Figs. 10, 11

*Sadarsa arcuata* Hampson, 1897, *J. Bombay nat. Hist. Soc.*, 11: 454. Syntypes: India: Sikkim; Meghalaya; Khasis (BMNH).

*Gyrtona camptobasis* Hampson, 1897, *J. Bombay nat. Hist. Soc.*, 11: 454.

*Gyrtona arcuata*: Hampson, 1912, *Cat. Lepid. Phal. Br. Mus.*, 11: 207.

*Sigmuncus arcuata*: Holloway, 1976, *Malay. Nat. J.*, 38: 284.

**Diagnosis.** This species is close to *S. albigrisea*. Besides the differences mentioned above, there is also a black patch at the tornus of the forewing in *S. arcuata*, but no black patch in *S. albigrisea*.

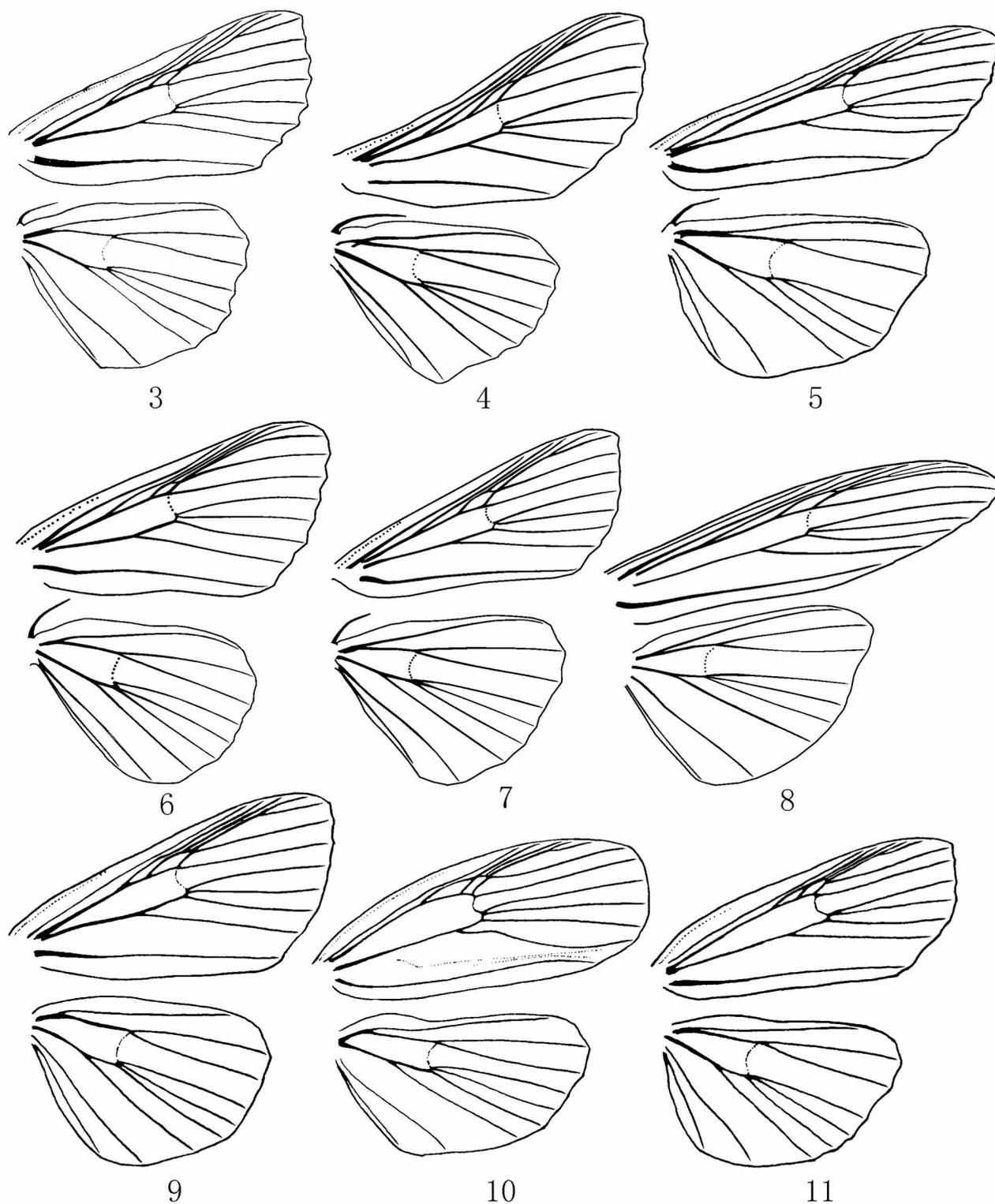
**Material examined.** None.

**Distribution.** China (Hainan, Hong Kong), India, Southeast Asia. The species was reported for China by Ades & Kendrick (2004).

**Remarks.** Poole (1989) referred this species as a *Gyrtona*. Based on the wing patterns and the genitalia, we follow the treatment of Holloway (1985), placed it to the genus *Sigmuncus*.

### Acknowledgements

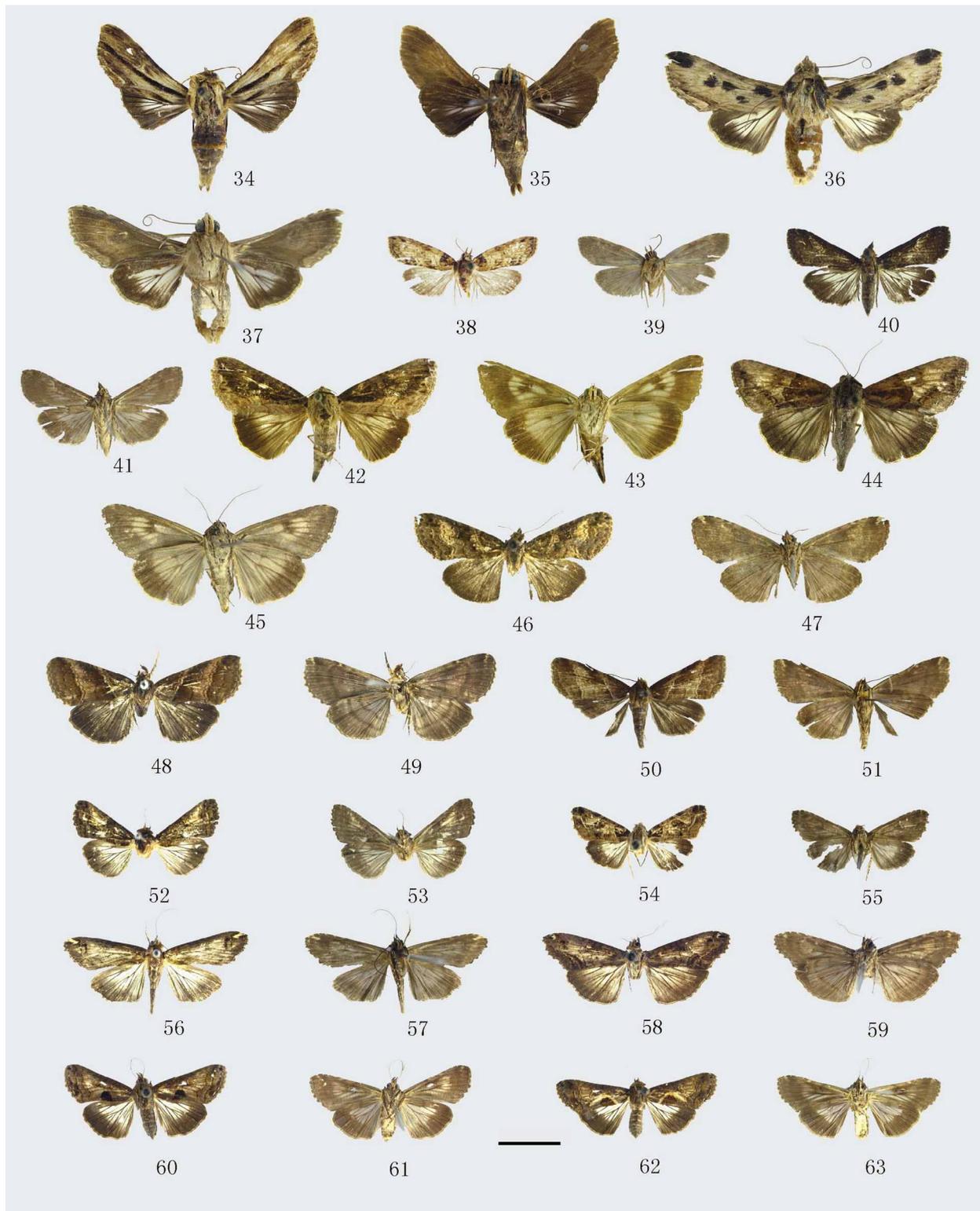
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**FIGURES 3–11.** Venations. 3. *Stictoptera signifera*. 4. *Aegilia describens*. 5. *Gyrtona lapidarioides*. 6. *Odontodes aleuca*. 7. *Lophoptera squammilinea*. 8. *Lophoptera longipennis*. 9. *Diascoides ferruginea*. 10–11. *Sigmuncus arcuata*. 10, male; 11, female.



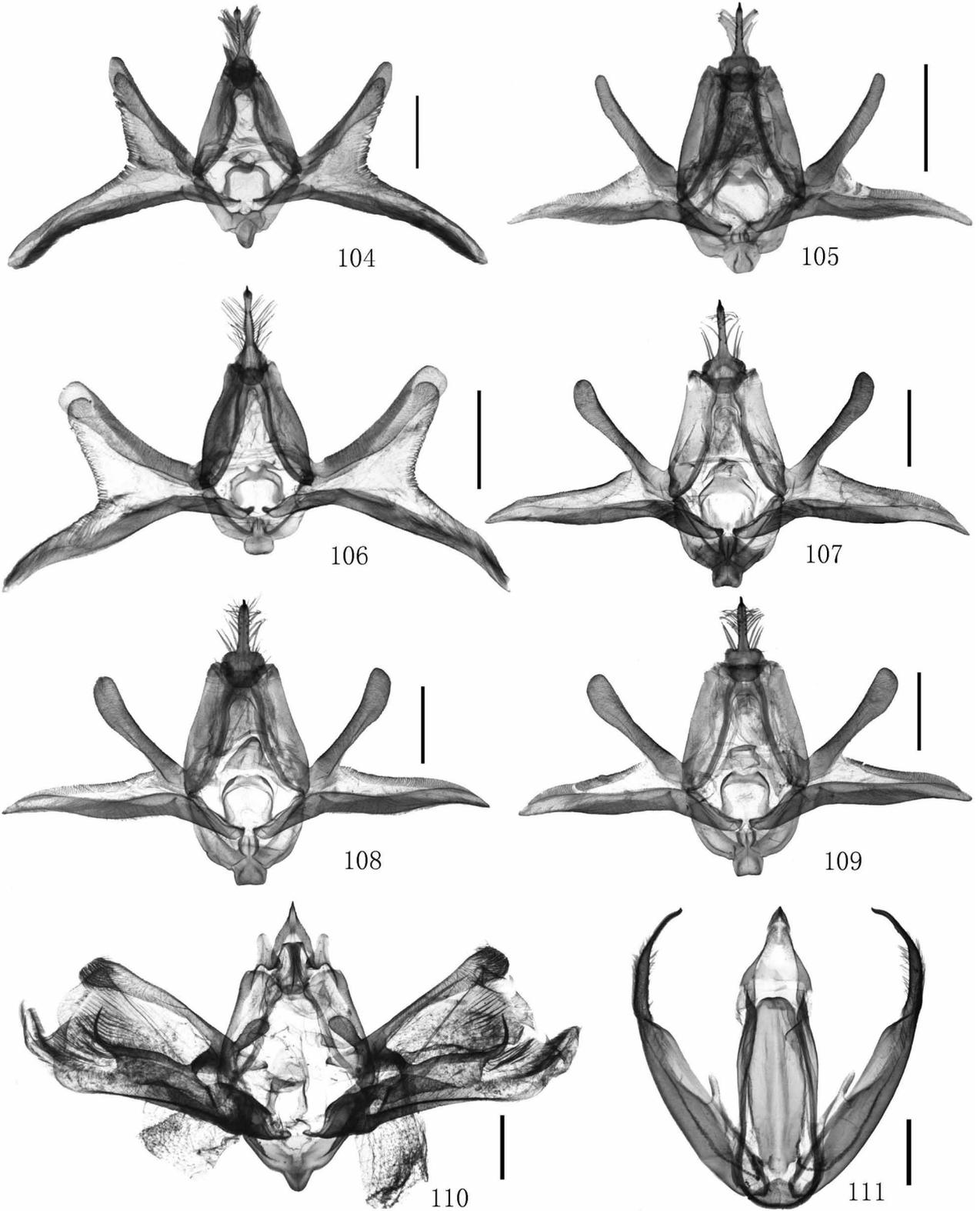
**FIGURES 12–33.** Adults. 12–13. *Stictoptera trajiciens*. 12, male, upperside; 13, male, underside. 14–15. *Stictoptera repleta*. 14, male, upperside; 15, male, underside. 16–25. *Stictoptera cucullioides*. 16, female, upperside; 17, female, underside; 18, male, upperside; 19, male, underside; 20, female, upperside; 21, female, underside; 22, male, upperside; 23, male, underside; 24, female, upperside; 25, female, underside. 26–27. *Stictoptera macromma*. 26, male, upperside; 27, male, underside. 28–29. *Stictoptera grisea*. 28, male, upperside; 29, male, underside. 30–31. *Stictoptera semialba*. 30, male, upperside; 31, male, underside. 32–33. *Aegilia describens*. 32, male, upperside; 33, male, underside. Scale bar = 1 cm.



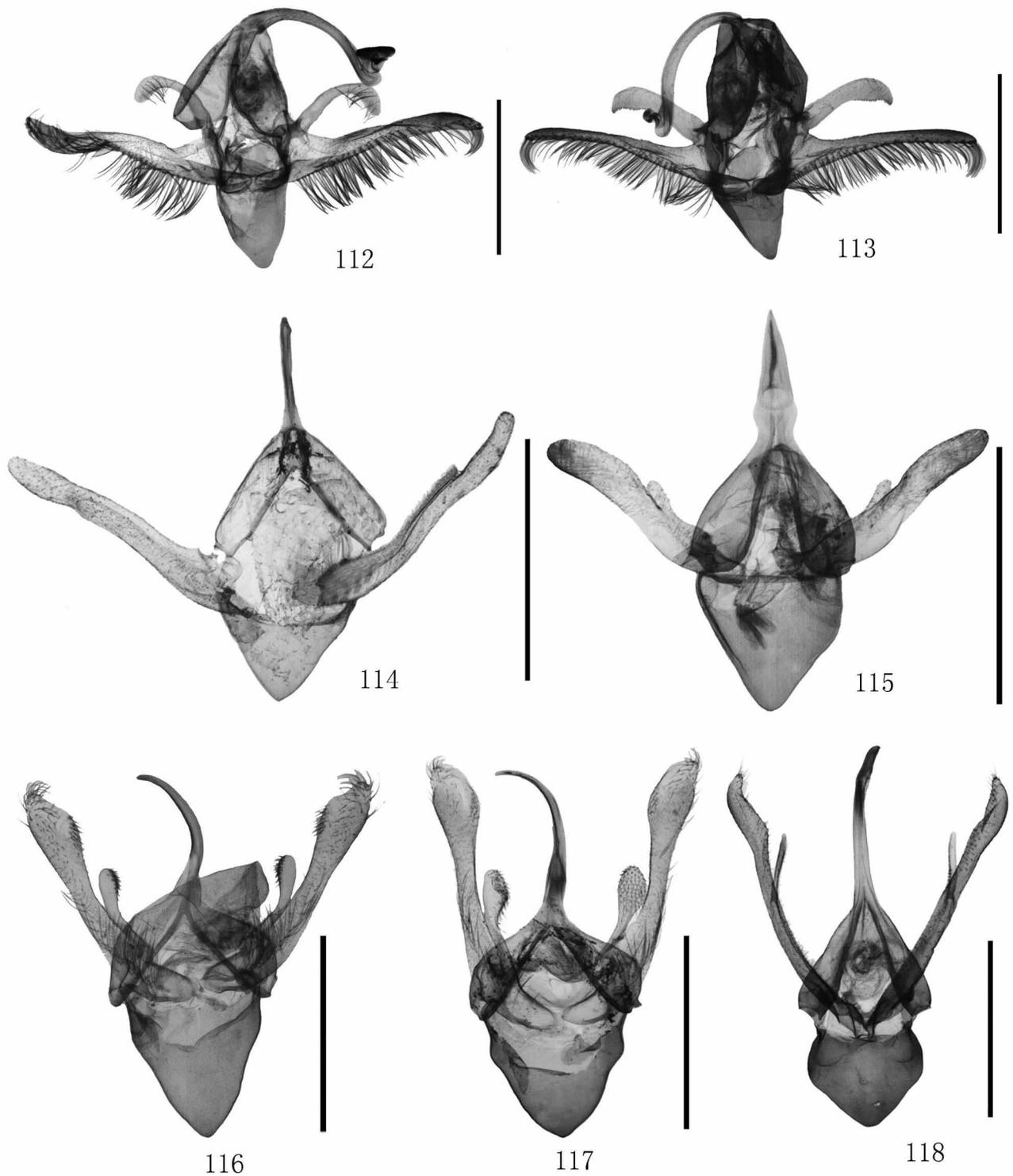
**FIGURES 34–63.** Adults. 34–37. *Aegilia describens*. 34, female, upperside; 35, female, underside; 36, female, upperside; 37, female, underside. 38–39. *Gyrtona semicarbonalis*. 38, female, upperside; 39, female, underside. 40–41. *Gyrtona ochreographa*. 40, female, upperside; 41, female, underside. 42–45. *Odontodes aleuca*. 42, female, upperside; 43, female, underside; 44, male upperside; 45, male, underside. 46–47. *Lophoptera anthyalus*. 46, female, upperside; 47, female, underside. 48–51. *Lophoptera hamata*. **sp. nov.**, paratype. 48, male, upperside; 49, male, underside; 50, female, upperside; 51, female, underside. 52–53. *Lophoptera coangulata*. 52, male, upperside; 53, male, underside. 54–55. *Lophoptera stipata*. 54, female, upperside; 55, female, underside. 56–57. *Lophoptera nama*. 56, male, upperside; 57, male, underside. 58–59. *Lophoptera brunnama*. 58, male, upperside; 59, male, underside. 60–63. *Lophoptera illucida*. 60, female, upperside; 61, female, underside; 62, female, upperside; 63, female, underside. Scale bar = 1 cm.



**FIGURES 64–103.** Adults. 64–71. *Lophoptera illucida*. 64, female, upperside; 65, female, underside; 66, female, upperside; 67, female, underside; 68, male, upperside; 69, male, underside; 70, male, upperside; 71, male, underside. 72–73. *Lophoptera longipennis*. 72, female, upperside; 73, female, underside. 74–75. *Lophoptera tenuis*. 74, female, upperside; 75, female, underside. 76–77. *Lophoptera acutiprocessa*. **sp. nov.**, paratype. 76, female, upperside; 77, female, underside. 78–79. *Lophoptera phaeobasis*. 78, female, upperside; 79, female, underside. 80–81. *Lophoptera negretinoides*. 80, male, upperside; 81, male, underside. 82–83. *Lophoptera negretina*. 82, female, upperside; 83, female, underside. 84–85. *Lophoptera solealis*. **sp. nov.**, holotype. 84, male, upperside; 85, male, underside. 86–87. *Lophoptera huma*. 86, male, upperside; 87, male, underside. 88–89. *Lophoptera squammigera*. 88, female, upperside; 89, female, underside. 90–91. *Lophoptera squammilinea*. 90, male, upperside; 91, male, underside. 92–93. *Lophoptera purpurfera*. **sp. nov.**, holotype. 92, male, upperside; 93, male, underside. 94–95. *Lophoptera trigonoprocessa*. **sp. nov.**, paratype. 94, female, upperside; 95, female, underside. 96–97. *Lophoptera obliquilinea*. 96, female, upperside; 97, female, underside. 98–99. *Lophoptera hypenistis*. 98, female, upperside; 99, female, underside. 100–101. *Lophoptera partitistis*. 100, female, upperside; 101, female, underside. 102–103. *Diascoides ferruginea*. 102, female, upperside; 103, female, underside. Scale bar = 1 cm.



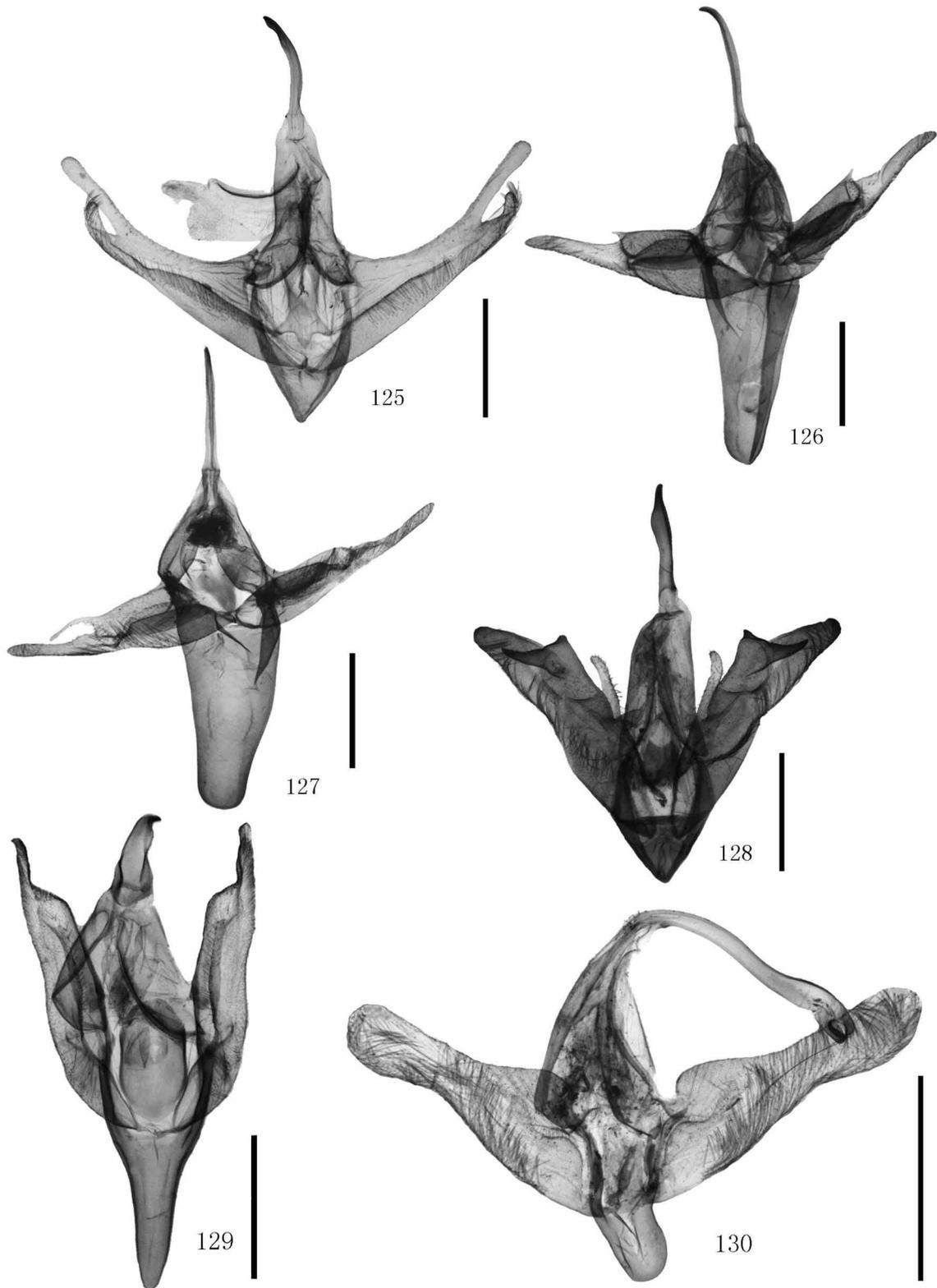
**FIGURES 104–111.** Male genitalia. 104. *Stictoptera trajiciens*. 105. *Stictoptera repleta*. 106. *Stictoptera cucullioides*. 107. *Stictoptera macromma*. 108. *Stictoptera grisea*. 109. *Stictoptera semialba*. 110, *Aegilia describens*. 111. *Odontodes aleuca*. Scale bars = 1 mm.



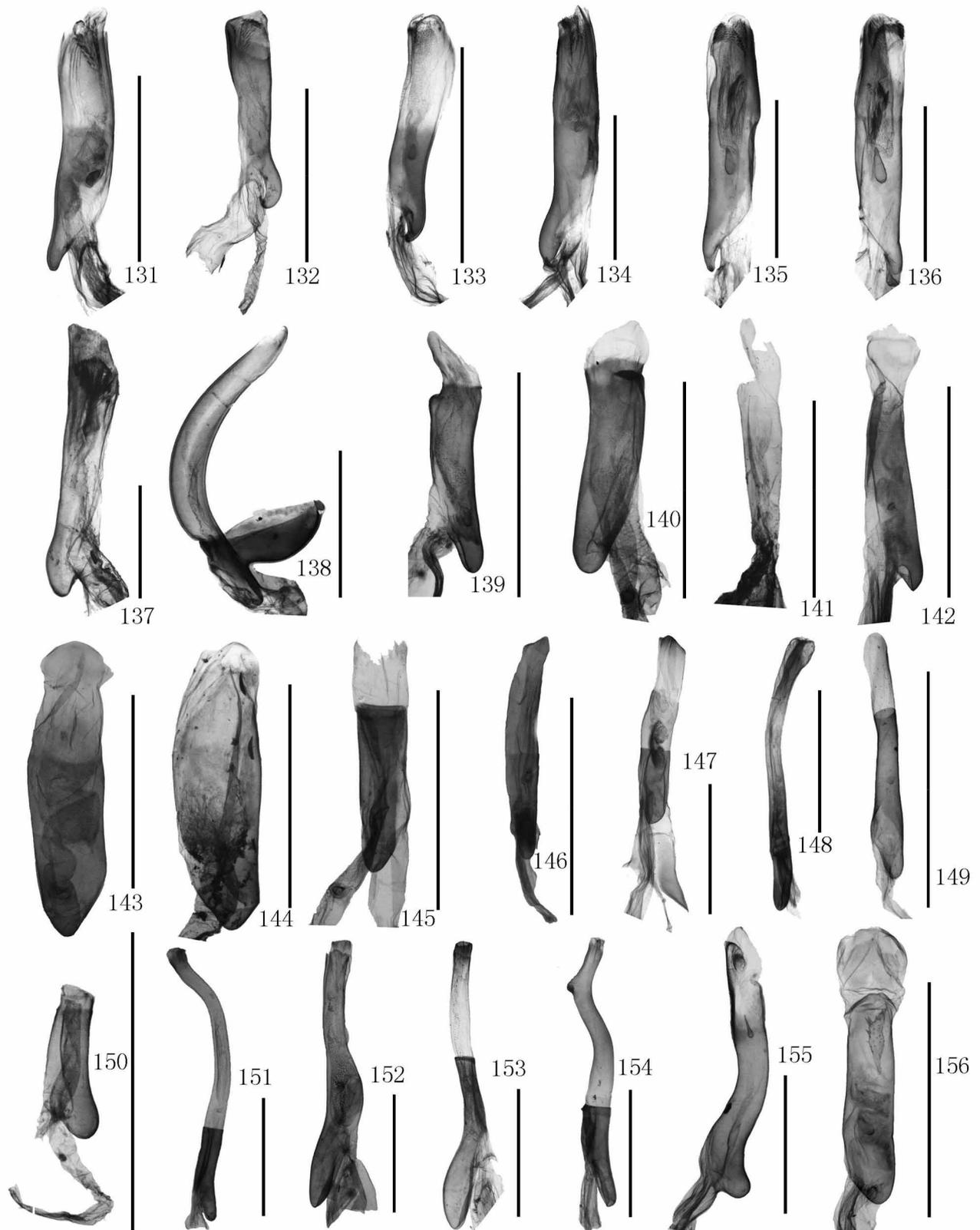
**FIGURES 112–118.** Male genitalia. 112. *Lophoptera anthyalus*. 113. *Lophoptera hamata* **sp. nov.** 114. *Lophoptera coagulata*. 115. *Lophoptera stipata*. 116. *Lophoptera nama*. 117. *Lophoptera brunnama*. 118. *Lophoptera illucida*. Scale bars = 1 mm.



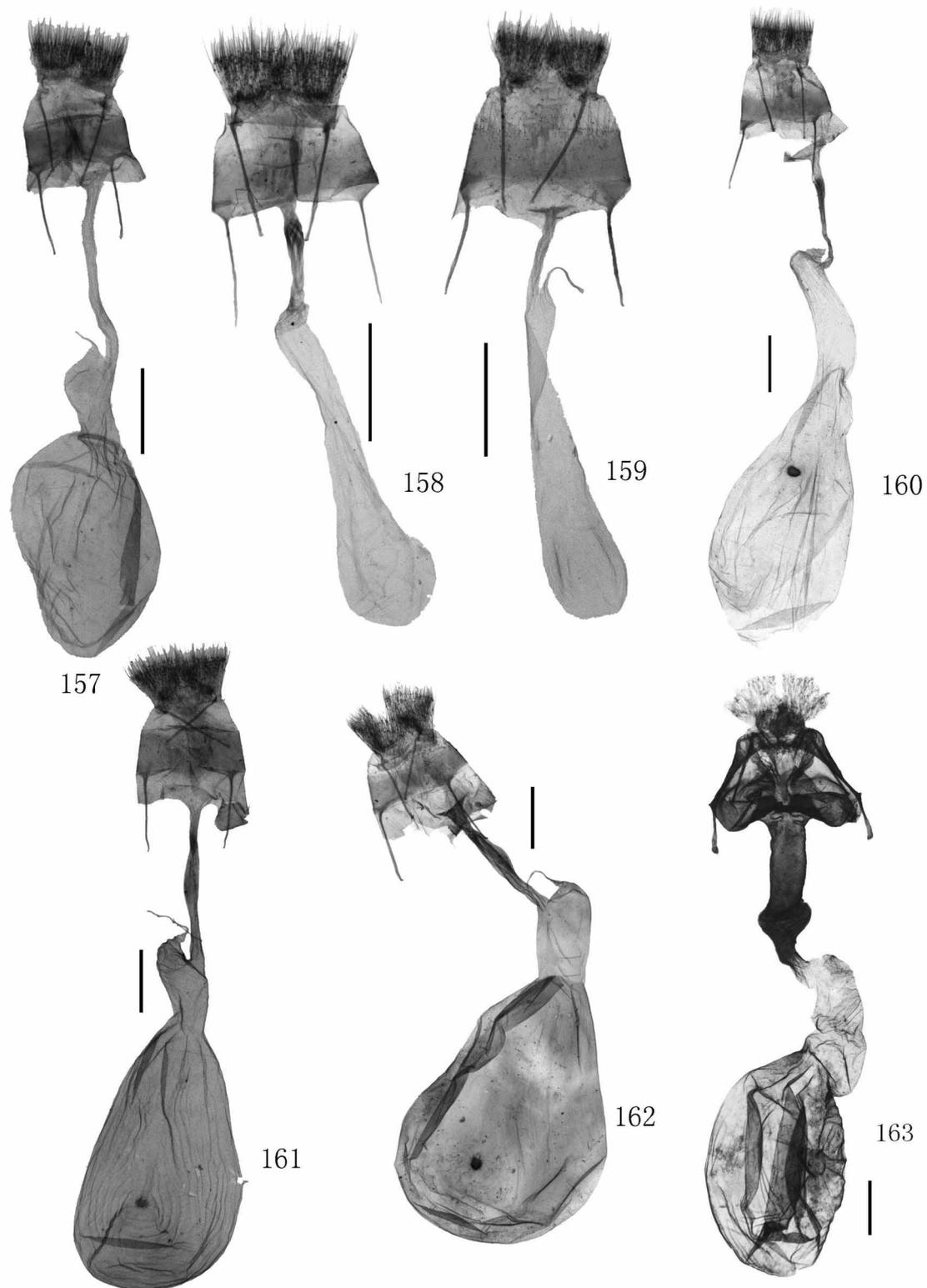
**FIGURES 119–124.** Male genitalia. 119. *Lophoptera longipennis*. 120. *Lophoptera tenuis*. 121. *Lophoptera acutiprocessa* **sp. nov.** 122. *Lophoptera negretinoides*. 123. *Lophoptera solealis* **sp. nov.** 124. *Lophoptera huma*. Scale bars = 1 mm.



**FIGURES 125–130.** Male genitalia. 125. *Lophoptera squammigera*. 126. *Lophoptera squammilinea*. 127. *Lophoptera purpurifera* **sp. nov.** 128. *Lophoptera trigonoprocessa* **sp. nov.** 129. *Lophoptera obliquilinea*. 130. *Lophoptera hypenistis*. Scale bars = 1 mm.



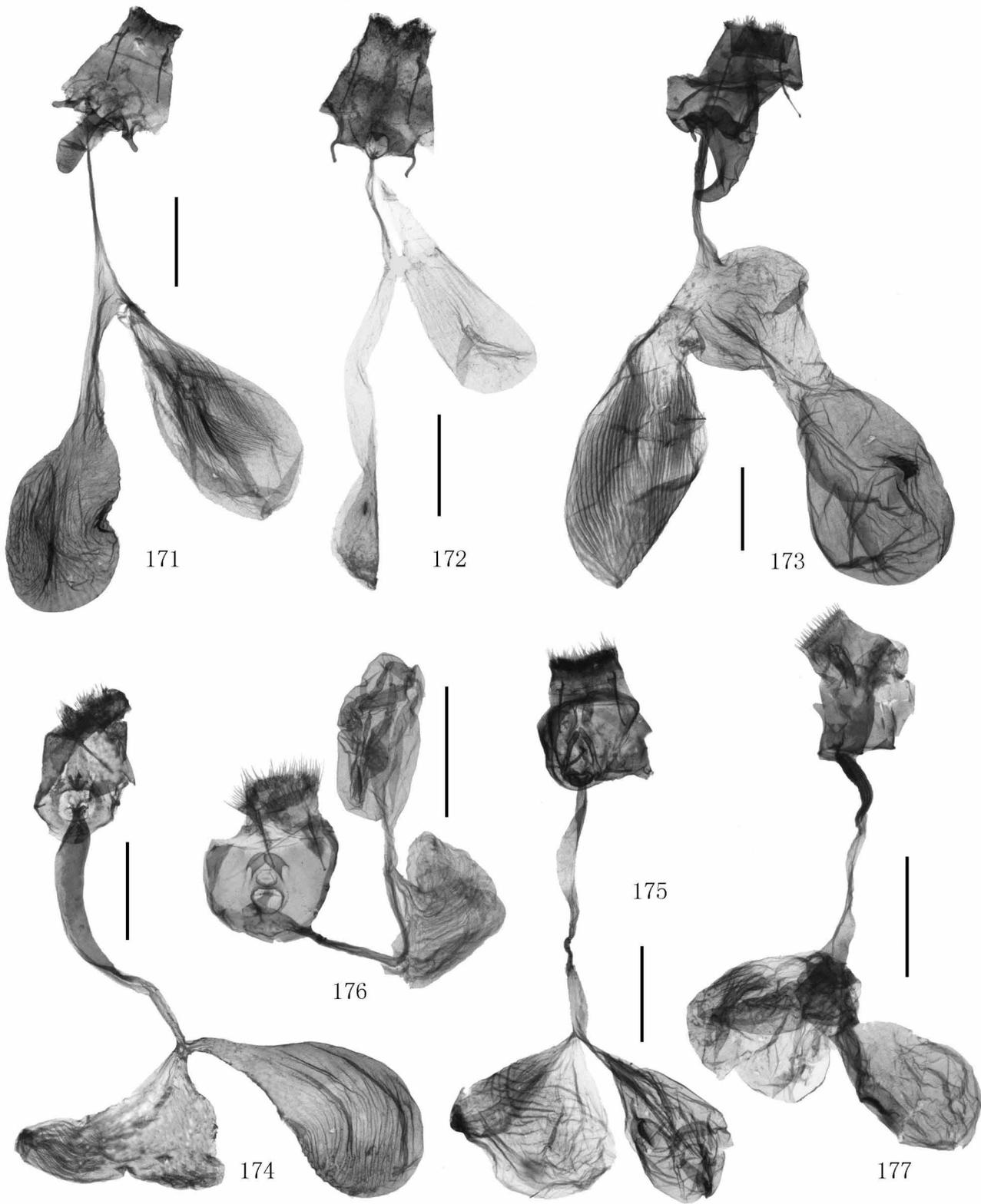
**FIGURES 131–156.** Aedeagus. 131. *Stictoptera trajiciens*. 132. *Stictoptera repleta*. 133. *Stictoptera cucullioides*. 134. *Stictoptera macromma*. 135. *Stictoptera grisea*. 136. *Stictoptera semialba*. 137. *Aegilia describens*. 138. *Odontodes aleuca*. 139. *Lophoptera anthyalus*. 140. *Lophoptera hamata* **sp. nov.** 141. *Lophoptera coagulata*. 142. *Lophoptera stipata*. 143. *Lophoptera nama*. 144. *Lophoptera brunnama*. 145. *Lophoptera illucida*. 146. *Lophoptera longipennis*. 147. *Lophoptera acutiprocessa* **sp. nov.** 148. *Lophoptera negretinoides*. 149. *Lophoptera solealis* **sp. nov.** 150. *Lophoptera huma*. 151. *Lophoptera squammigera*. 152. *Lophoptera squammilinea*. 153. *Lophoptera purpurfera* **sp. nov.** 154. *Lophoptera trigonoprocessa* **sp. nov.** 155. *Lophoptera obliquilinea*. 156. *Lophoptera hypenistis*. Scale bars = 1 mm.



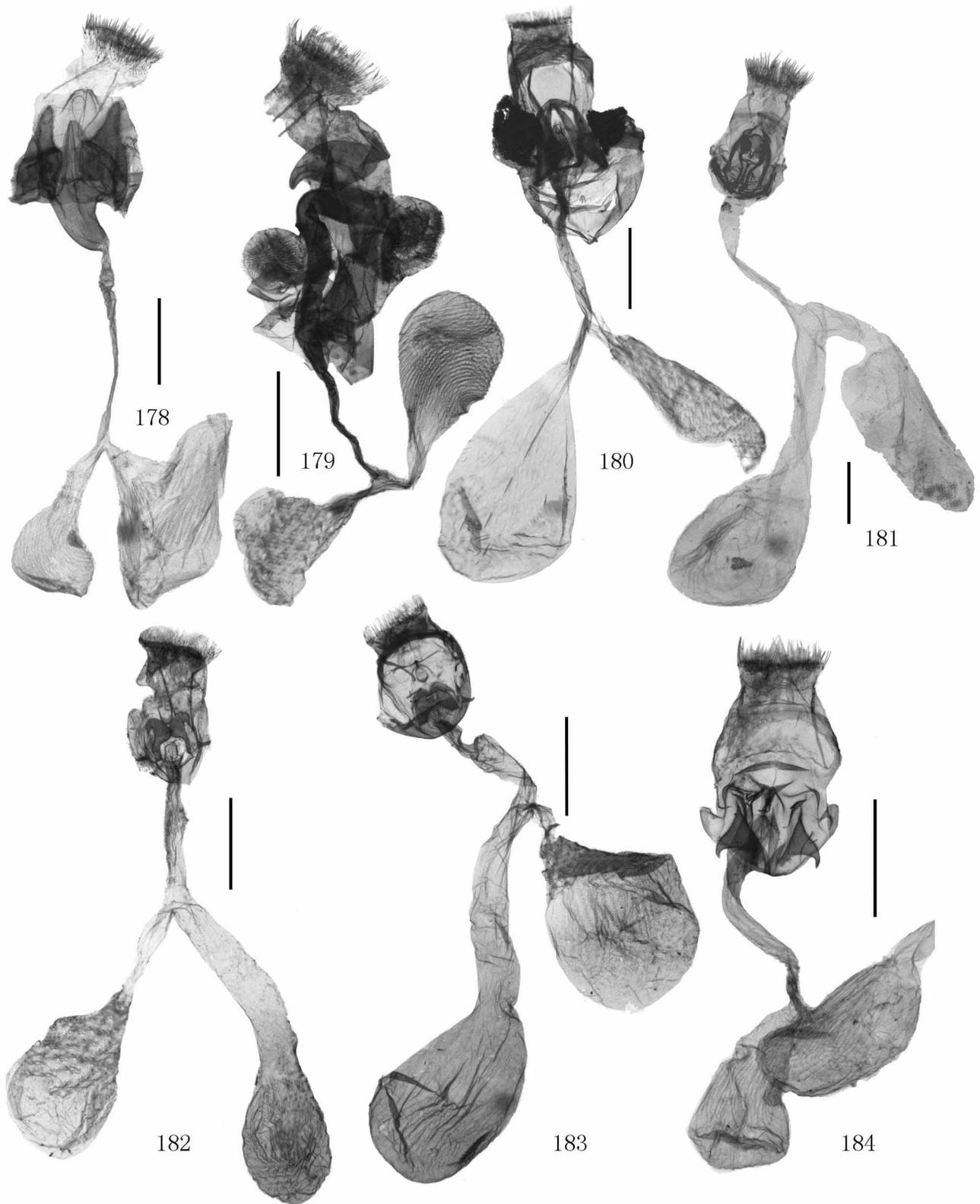
**FIGURES 157–163.** Female genitalia. 157. *Stictoptera trajiciens*. 158. *Stictoptera repleta*. 159. *Stictoptera cucullioides*. 160. *Stictoptera macromma*. 161. *Stictoptera grisea*. 162. *Stictoptera semialba*. 163. *Aegilia describens*. Scale bars = 1 mm.



**FIGURES 164–170.** Female genitalia. 164. *Odontodes aleuca*. 165. *Lophoptera anthyalus*. 166. *Lophoptera hamata* **sp. nov.** 167. *Lophoptera coagulata*. 168. *Lophoptera stipata*. 169. *Lophoptera nama*. 170. *Lophoptera brunnama*. Scale bars = 1 mm.



**FIGURES 171–177.** Female genitalia. 171. *Lophoptera illucida*. 172. *Lophoptera longipennis*. 173. *Lophoptera tenuis*. 174. *Lophoptera acutiprocessa* **sp. nov.** 175. *Lophoptera phaeobasis*. 176. *Lophoptera negretina*. 177. *Lophoptera solealis* **sp. nov.** Scale bars = 1 mm.



**FIGURES 178–184.** Female genitalia. 178. *Lophoptera squammigera*. 179. *Lophoptera squammilinea*. 180. *Lophoptera trigonoprocessa* **sp. nov.** 181. *Lophoptera obliquilinea*. 182. *Lophoptera hypenistis*. 183. *Lophoptera partitistis*. 184. *Diascoides ferruginea*. Scale bars = 1 mm.

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