

ORIGINAL ARTICLE

A taxonomic review of the genus *Eoophyla* Swinhoe, 1900 (Lepidoptera: Crambidae: Acentropinae) from China

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Abstract Twenty-one species of the genus *Eoophyla* Swinhoe, 1900 are recognized from China, of which 7 species are described as new to science, namely *E. tenuisa* **sp. nov.**, *E. minisigna* **sp. nov.**, *E. fusca* **sp. nov.**, *E. clarusa* **sp. nov.**, *E. leiokellula* **sp. nov.**, *E. minita* **sp. nov.** and *E. ciliensis* **sp. nov.** Two species, *E. peribocalis* and *E. sejunctalis*, are not recorded in this paper as their record were doubted. All adults and their genital structures examined are illustrated. A key to the Chinese species is provided. All type materials are deposited in IZCAS.

Key words Pyraloidea, aquatic moths, taxonomy, new species.

1 Introduction

The genus *Eoophyla* was erected by Swinhoe (1900), with *Cataclysta peribocalis* Walker, 1859 as type species. It was widespread from Southeast Asia to Africa, described by Speidel (1984, 2003), Yoshiyasu (1979, 1985, 1987), Li *et al.* (1995), Li, You & Wang (2003), Jaenicke & Mey (2011) and Agassiz (2012). The taxonomy of the genus was very confusing in history. Many species of the genus *Eoophyla* were original described in other genera, such as *Cataclysta* Hübner, 1826, *Aulacodes* Guenée, 1854, *Oligostigma* Guenée, 1854, *Parthenodes* Guenée, 1854, *Theila* Swinhoe, 1900, which are still valvid (Jaenicke & Mey, 2011). Recently, the genus was revised (Speidel, 1984), and plenty of species were found from Southeast Asia (Speidel, 1998, 2003; Speidel & Mey, 1999b; Speidel, Mey & Schulze, 2002; Mey & Speidel, 2005, 2010; Mey, 2006; Jaenicke & Mey, 2011), Asia (Yoshiyasu, 1979, 1985, 1987; Li *et al.*, 1995; Li, You & Wang, 2003) and Africa (Mey & Speidel, 1999; Mey, 2009a, b, 2011; Agassiz, 2012).

So far, the genus has about 166 species reported all over the old world (Klima, 1937; Nuss *et al.*, 2013–2019), including 16 species recorded from China (Wu, 1938; Lu & Guan, 1953; Wang, 1980; Li *et al.*, 1995; Li, You & Wang, 2003).

In this paper, 21 species of the genus *Eoophyla* are reported, of which 7 species are described as new to science. Two species, *E. peribocalis* and *E. sejunctalis*, are not recorded in this paper as their record were doubted.

2 Materials and methods

Materials are mostly from the collections from the Institute of Zoology, Chinese Academy of Sciences, Beijing, China (IZCAS), partly from the Insect Collection, College of Life Science, Nankai University, Tianjin, China (NKU). Over 1300 specimens from all over China were checked. Materials are seldom found in other collections in China. The specimens were collected most by UV-VIS light traps, seldom by net-catching, artificial feeding or from the providing of the local plant-

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protection department.

In the laboratory, specimens were examined under the binocular stereomicroscope. Wing venation was checked after soaking several hours in 75% ethanol, followed by slight brushing of the scales on wings. The wings were placed and kept on glass slides. Genitalia were dissected after soaking overnight in 10% KOH, then clearing in boiling water, or soaking 10–30 minutes in 10% KOH with near-boiling water bath. Species were dissected using the entire abdomen for getting the tympanal organ at base. The genitalia were placed in a 1:1 mixture of glycerine and ethanol.

Photos of adults were taken with a digital camera. Illustrations of the venations and genital structures were drawn with a camera lucida. The images were adjusted by Adobe Photoshop CS5® and Adobe Illustrator CS6® software.

Methods of dissection, morphometrics and terminology follow Speidel (1984), Jaenicke & Mey (2011) and Chen & Wu (2014).

3 Systematics

Eoophyla Swinhoe, 1900

Eoophyla Swinhoe, 1900, *Cat. East. And Aust. Lepid. Heterocera Colln Oxf. Univ. Mus.*, 2: 442; Speidel, 1984, *Neue Ent. Nachrichten*, 12: 33; Yoshiyasu, 1987, *Microlep. Thai.*, 1: 160; Speidel & Mey, 1999a, *Tijds. v. Ent.*, 142: 129; Li, You & Wang, 2003, *Acta Zootaxonomica Sinica*, 28(2): 295. Type species: *Cataclysta peribocalis* Walker, 1859 by subsequent designation by Shibuya, 1928, *J. F. Agric. Hokkaido imp. Univ.*, 22: 152.

Diagnosis. The genus can be diagnosed by the incision present below apex. The male genitalia in most cases are distinguished by its specialized setae on apical valva. And the 8th segment of the female genitalia has weakly sclerotized plates on both dorsum and sternum. In China, the species of the genus (Table 1) usually has androconial hairs present in male forewing and one to four eyespots on the outer margin of hindwing. In venation, the genus is different from others by R_1 stalked with R_{2+3+4} in forewing (Fig. 1, same with *Strepsinoma* and *Potamomusa*) and Radius vein not stalked with M_1 beyond the cell in hindwing.

Description. Frons flat; antennae filiform, male with a side projection in base; labial palpi upturned, the first and second segments expanded, the third segment usually slender and pointed; maxillary palpi porrect. Thorax and abdomen usually yellow to brown. Legs and tarsi slender. Wings with yellow to brown fasciae.

On forewing, male with androconial hairs present in cell, arising from upper edge of cell; a longitudinal fascia arising along inner margin; an irregular patch beyond discocellulares, outer edge waved, straight or inversed V-shaped; postmedial fascia band-like or wedge-like; submarginal fascia band-like. On hindwing, antemedial and postmedian fasciae band-like; an incision present below apex; one to four black eyespots present along outer margin, with silvery scales in central or lateral; submarginal fascia band-like.

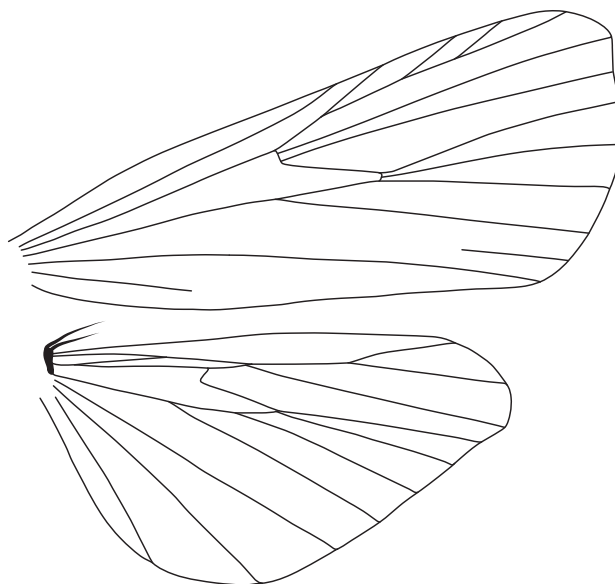


Figure 1. Venation of *Eoophyla sinensis* (Hampson, 1897).

Venation (Fig. 1). On forewing, R_1 stalked with R_{2+3+4} ; R_2 and R_{3+4} stalked; all radius veins and M_1 arising from upper angle of cell; M_2 and M_3 arising from lower angle of cell; Cu_1 near lower angle of cell; Cu_2 before the lower angle of cell. On hindwing, $Sc+R_1$ and Rs stalked; M_1 from upper angle of cell; M_2 and M_3 stalked or not.

Male genitalia. Uncus slender; ganthos little shorter than uncus, several dorsal teeth present at apex; tegumen with sclerotized dorsal ridge X-shaped or inversed U-shaped; valva covered with dense setae, 1–3 strong specilized setae or a tuft of slender setae present at apex; vinculum broad; saccus round; juxta usually plate-like, bilobed at apex; aedeagus slender, vesica with many minute spines.

Female genitalia. Anal papillae narrow, covered with slender setae; apophysis anterioris and posterioris slender, swollen near base; antrum elongated, collar sclerotized and ringlike; ductus seminalis arising below collar; ductus bursae short, with minute spines; corpus bursae membranous, 1–2 pairs of adjacent signa present, signa consist of dense minute spines.

Biology. The larvae live on the surface of rocks in rapid rivers, make sheet-like nests by spinning the silk. Their head and body are flat and with many plumose gills on lateral side of thoracic and abdominal segments. They feed on attached algae and diatoms on the rocks by using the large and elongate mandibles (Yoshiyasu, 1987).

Distribution. Oriental, Palaearctic, Australian and African Regions.

Key to species of the genus *Eoophyla* from China.

1. Outer margin of hindwing with 1 to 3 eyespots 2
Outer margin of hindwing with 4 eyespots (*perbocalis* group) 3
2. Outer margin of hindwing with 1 eyespot (*nigripilosa* group) *E. nigripilosa*
Outer margin of hindwing usually with 3 eyespots, sometimes the lower one reduced (*gibbosalis* group) 9
3. Androconial hairs in male covered whole cell from upper edge. Hindwing with a dark fuscous area above submarginal fascia band *E. conjunctalis*
Androconial hairs in male covered part of cell from upper edge. Hindwing without dark fuscous area above submarginal fascia band 4
4. Eyespots of hindwing with silvery scales present in central 5
Eyespots of hindwing with silvery scales present in lateral 6
5. Forewing fuscous. Androconial hairs in male account for about 1/3 of cell *E. halialis*
Forewing yellow. Androconial hairs in male account for about 2/3 of cell *E. melanops*
6. Female genitalia with a pair of minute signa present at basal corpus bursae, about 1/5 length of corpus bursae *E. minisigna* sp. nov.
Female genitalia with two pairs of well-developed signa 7
7. Androconial hairs in male relatively small, account for about 1/4 of cell. Male genitalia with 2 strong specialized setae. Female genitalia with short pair of signa about 1/10 length of corpus bursae, longer pair about 3/5 length of corpus bursae *E. menglensis*
Androconial hairs in male relatively large, account for about 2/5 to 1/2 of cell. Male genitalia with 3 strong specialized setae. Female genitalia with shorter pair of signa about 1/5 length of corpus bursae, longer pair about half length of corpus bursae 8
8. Androconial hairs in male relatively large, account for about 2/5 of cell. Male genitalia with apex of third specialized seta knife-shaped *E. tenuisa* sp. nov.
Androconial hairs in male relatively large, account for about 1/2 of cell. Male genitalia with apex of third specialized seta expanded but not knife-shaped *E. thaiensis*
9. Androconial hairs in male covered whole cell from upper edge. Both wing mostly covered with brown scales except white are between postmedial and submargina fasciae in forewing *E. gibbosalis*
Androconial hairs in male covered no more than 1/2 of cell from upper edge. Wings generally with several white areas, such as white areas between triangular patch and postmedial fascia, posemedial and submarginal fasciae in forewing, and white are between antemedial and postmedial fasciae in hindwing 10
10. Hindwing with two eyespots 11
Hindwing with three eyespots 12
11. Forewing yellow, hindwing with lower eyespot reduced, smaller than upper one. Male genitalia with two strong specialized present on valva. Female genitalia with two pairs of signa present on corpus bursae *E. ochripicta*
Forewing dark fuscous, hindwing with two eyespots well-developed in equal size. Male genitalia with three strong specialized present on valva. Female genitalia with a pair of signa present on corpus bursae *E. simplicialis*
12. Androconial hairs in male absent. Male genitalia with a tuft of specialized setae present on valva *E. leiokellula* sp. nov.
Androconial hairs in male well-developed. Male genitalia with two to three strong specialized setae present on valva 13
13. Female genitalia with two pairs of signa present 14
Female genitalia with a pair of signa or signa completely reduced 15
14. Male genitalia with three strong specialized setae about 3/4 length of valva. Female genitalia with shorter pair of signa about 1/6 length of corpus bursae and longer pair of signa about 2/3 length of corpus bursae *E. evidens*

- Male genitalia with three strong specialized setae about 1/2 length of valva. Female genitalia with shorter pair of signa about 1/5 length of corpus bursae and longer pair of signa about 1/2 length of corpus bursae *E. mimetialis*
15. Female genitalia with signa completely reduced *E. hamalis*
 Female genitalia with a pair of signa present 16
16. Female genitalia with a shorter pair of signa present at basal corpus bursae, about 1/7 length of corpus bursae *E. minita* sp. nov.
 Female genitalia with signa longer than 1/2 length of corpus bursae 17
17. Male genitalia with two specialized setae, about 1/3 length of valva, apex pointed. Female genitalia with signa about 2/3 length of corpus bursae *E. clarusa* sp. nov.
 Male genitalia with three specialized setae, about 1/2 to 3/4 length of valva, apex of third seta more or less expanded. Female genitalia with signa about 3/4 to 4/5 length of corpus bursae 18
18. Androconial hairs in male account for about 1/3 of cell. Male genitalia with specialized setae about 3/4 length of valva, third seta with apex knife-shaped. Female genitalia with signa about 3/4 length of corpus bursae 19
 Androconial hairs in male account for about 1/2 of cell. Male genitalia with specialized setae shorter than 3/4 length of valva, third seta with apex slightly expanded. Female genitalia with signa about 4/5 length of corpus bursae 20
19. Wing span larger, ♂ 28–34 mm ($n=20$), ♀ 33–46 mm ($n=78$) *E. sinensis*
 Wing span smaller, ♂ 21 mm ($n=1$), ♀ 26 mm ($n=1$) *E. ciliensis* sp. nov.
20. Male genitalia with first seta little longer than half of another two, second and third setae about 1/2 length of valva
 *E. fusca* sp. nov.
 Male genitalia with all three setae about 2/3 length of valva *E. abstrusa*

3.1 The *peribocalis* group

Diagnosis (Table 1). The species group can be easily diagnosed by its four eyespots present on the outer margin of hindwing. These eyespots are distinct and larger than those in *gibbosalis* group.

Eoophyla conjunctalis (Wileman & South, 1917) (Figs 2–3, 10–11)

Aulacodes conjunctalis Wileman & South, 1917, *Entomologist*, 50: 176. Type-locality: Taiwan.

Oligostigma aulacodealis Strand, 1919, *Ent. Mitt.*, 8: 106. Type-locality: Taiwan.

Eoophyla conjunctalis: Shibuya, 1928, *J. Fac. Agric. exp. Stn Taihoku, Formosa*, 22: 152; Yoshiyasu, 1985, *Scientific Rep. Kyoto prefect. Univ. (Agric.)* 37: 114; Speidel & Mey, 1999a, *Tijds. v. Ent.*, 142: 129; Li, You & Wang, 2003, *Acta Zootaxonomica Sinica*, 28(2): 298.

Diagnosis. The species is diagnosed by the androconial hairs in male covered with the whole cell from the upper edge and the hindwing with a dark fuscous area above the submarginal band. In male genitalia, it is special by the three strong specialized setae present at apex, about half length of valva, third seta with minute spines laterally and a knife-shaped apex. In female genitalia, it is special by the ductus bursae about the same length of corpus bursae, and corpus bursae with a pair of broad signa, little shorter than corpus bursae.

The species is very closed to *E. inouei* Yoshiyasu, 1979. Both species can be easily distinguished from other species by their hindwing have the area between postmedial band and submarginal band suffused with dark scales. However, *E. conjunctalis* is different from *E. inouei* Yoshiyasu, 1979 by the latter species with more fuscous ground color on both wings and 3 smaller marginal spots at the underside of hindwing, contrasting with 4 spots in *E. conjunctalis* (Yoshiyasu, 1979, 1985).

Male genitalia (Fig. 10). Uncus with base broad; gnathos about 2/3 length of uncus, apex with several dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely covered with setae, widened from base to apex, apex truncated, three strong specialized setae present at apex, about half length of valva, third seta with minute spines laterally and a knife-shaped apex; vinculum broad; saccus round; juxta plate-like, with apex bifid; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising from middle.

Female genitalia (Fig. 11). Anal papillae relatively narrow, densely covered with setae; apophysis anterioris and posterioris near same length; antrum relatively short; collar sclerotized; ductus seminalis arising below collar; ductus bursae elongated, as long as corpus bursae, with many minute spines; a pair of signa present, little shorter than corpus bursae, and consisting of many minute spines, with base half thin and terminal half broad.

Material examined. Taiwan, Nantou, Lianhuachi, 1♀, 1984.VI.9, Wang Hsiauyue; Taiwan, Nantou, Lianhuachi, 1♀, 1995.XI.12, Wang Hsiauyue; Taiwan, Nantou, Huisun, 2♀, 1984.XI.12, Wang Hsiauyue; Guangxi, Yangshuo, Baisha, 1♀, 1963.VII.22, Wang Chunguang; Guangxi, Mt. Miao'er, 1♂, 1985.VII.9, Song Shimei; Guangxi, Longrui, 1♀, 1984.V.20, Song Shimei. All deposited in IZCAS.

Distribution. China (Guangxi, Taiwan).

***Eoophyla halialis* (Walker, 1859)** (Figs 4–5, 12–13)

Cataclysta halialis Walker, 1859, *List Spec. Lep. Ins. Brit. Mus.*, 17: 447. Type-locality: China.

Cataclysta sabrina Pryer, 1877, *Cistula Ent.*, 2: 232. Type-locality: Snowy Valley, ZheJiang, China.

Eoophyla halialis: Speidel, 1984, *Neue Ent. Nachr.*, 12: 35; Speidel & Mey, 1999a, *Tijds. v. Ent.*, 142: 129; Li, You & Wang, 2003, *Acta Zootaxonomica Sinica*, 28(2): 298.

Aulacodes peribocalis (nec. Walker): Song, 1993, In: Huang (ed.), *Animals of Longqi Mountain*: 447; Song, 2001, In: Huang (ed.), *Fauna of Insects in Fujian Province of China*, Vol. 5: 164; Song, 2002, In: Huang (ed.), *Forest Insects of Hainan*: 518 [misidentification].

Diagnosis. The species is different by the forewing of male has the upper edge of cell diffused with fuscous long setae at basal half and androconial hairs covered with apical 1/3 of the cell from the upper edge. In male genitalia, it is characteristic by the three strong specialized setae about 3/5 length of valva, and the third seta with minute spines laterally and a knife-shaped apex. In female genitalia, it can be distinguished by its signa about 5/6 length of corpus and the shape of signa.

Male genitalia (Fig. 12). Uncus slender; gnathos about 4/5 length of uncus, apex with several dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely covered with setae, slightly constricted in base and apex, three strong specialized setae present at apex, about 3/5 length of valva, third seta with minute spines laterally and a knife-shaped apex; vinculum broad; saccus round; juxta plate-like, with apex bifid; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising from middle.

Female genitalia (Fig. 13). Anal papillae relatively broad, densely covered with setae; apophysis anterioris and posterioris near same length; antrum elongated, cylindric; collar sclerotized; ductus seminalis arising below collar; ductus bursae about 1/3 length of corpus bursae, with many minute spines; a pair of signa present, about 5/6 length of corpus, consisting of many minute spines, and with base and apex constricted.

Material examined. Heilongjiang, Dailing, 390 m, 1♀, 1962.VIII.2, Bai Jiuwei; Jiangxi, Mt. Jiulian, 1♀, 1975.VII.25, Song Shimei; Hunan, Suoxiyu, 1♂6♀, 1988.IX.3–X.16, Song Shimei; Hunan, Cili, 1♀, 1988.VIII.28, Song Shimei; Guangdong, Guangzhou, Liuxihe, 1♂, 2005.VII.24, Chen Fuqiang; Hainan, 1♀, 1980.III.26, Zhang Baolin; Hainan, Jianfengling, 1♀, 1980.III.19, Zhang Baolin; Hainan, Jianfengling, 5♀, 1981.XI.4, Gu Maobin; Hainan, Jianfengling, Tianchi, 1♀, 1982.IV.15; Hainan, Jianfengling, 1♀, 1984.III.22, Song Shimei; Hainan, Jianfengling, Tianchi, 828 m, 1♀, 2007.V.4, Chen Fuqiang; Hainan, Jianfengling, Tianchi, 934 m, 5♀, 2007.XII.14, Chen Fuqiang; Hainan, Mt. Diaoluo, 2♀, 1984.III.12, Song Shimei; Hainan, Mt. Diaoluo, 920 m, 4♂25♀, 2007.V.3–4, Han Hongxiang & Lang Songyun; Hainan, Lingshui, Mt. Diaoluo, 260 m, 1♂9♀, 2007.V.5, Han Hongxiang & Lang Songyun; Hainan, Mt. Diaoluo, 8♂30♀, 2007.XII.11–12, Chen Fuqiang; Hainan, Bawangling, Dong'erlinchang, 1015 m, 7♂8♀, 2007.V.8–9, Chen Fuqiang; Hainan, Mt. Wuzhi, Shuiman, 730 m, 2♂7♀, 2007.V.8–11, Han Hongxiang & Lang Songyun; Hainan, Mt. Wuzhi, 727 m, 21♂32♀, 2007.XII.6–7, Chen Fuqiang; Hainan, Qiongzong, Limuling, 620 m, 2♀, 2007.V.14, Han Hongxiang & Lang Songyun; Hainan, Yinggeling, Hongxin, 434 m, 16♂34♀, 2007.XII.3–4, Chen Fuqiang; Hainan, Wuzhishan, 340 m, 1♀, 1973.VI.7, Chen Yixin; Guangxi, Longsheng, Baiyan, 1150 m, 1♀, 1963.VI.20, Wang Chunguang; Guangxi, Longrui, 1♀, 1984.V.20; Guangxi, Mt. Miao'er, 6♀, 1985.VII.3–11, Song Shimei; Guangxi, Napo, Beidou, 550 m, 1♂, 1998.IV.9, Zhou Haisheng; Guangxi, Napo, Beidou, 1♀, 2000.VI.22, Li Wenzhu; Sichuan, Mt. Emei, Qingyinge, 800–1000 m, 148♂153♀, 1957.IV.23–IX.22, Zhu Fuxing, Lu Youcai, Huang Keren & Wang Zongyuan; Sichuan, Mt. Emei, Baoguosi, 550–750 m, 1♂, 1957.IX.20, Zhu Fuxing; Sichuan, Mt. Emei, Baoguosi, 550–750 m, 1♂, 1964.V.2; Sichuan, Mt. Emei, 600 m, 1♀, 1979.VI.20, Shang Jinwen; Yunnan, Cangyuan, 750 m, 1♀, 1980.V.22, Shang Jinwen; Yunnan, Cangyuan, 5♀, 1980.V.18–19, Song Shimei; Yunnan, Xiaguan, 2050 m, 1♀, 1955.V.29; Yunnan, Wenshan, Malipo, 1105 m, 2♀, 2003.XI.8, Lu Shengxian; Xizang, Motuo, Maniweng, 895 m, 1♂1♀, 2006.VIII.14, Chen Fuqiang. All deposited in IZCAS.

Distribution. China (Heilongjiang(?), Zhejiang, Hubei, Jiangxi, Hunan, Guangdong, Hainan, Guangxi, Sichuan, Yunnan, Xizang), Vietnam, India, Nepal, Afghanistan, Ethiopia.

Remarks. The specimens examined were mostly from South China, except a female from Heilongjiang Province (Dailing). The discontinuous distribution is hard to explain. We doubt the specimens from Heilongjiang was mislabeled. So the distribution of Heilongjiang is in doubt.

In China, the species was misidentified as *E. peribocalis* (Walker, 1859) partly. Caradja (Caradja, 1925; Caradja & Meyrick, 1934) reported the distribution of this species in Jiangxi, Fujian and Guangdong Provinces in China. Speidel (1984) rechecked the materials collected by Caradja between 1925–1938, and proposed those materials are the misidentification of *E. halialis*. By examining all materials from IZCAS and part materials from NKU, we agreed the point that the past “*E. peribocalis*” in China should really be *E. halialis*. The “*E. peribocalis*” from Song (1993, 2001, 2002) should be *E. halialis*. The “*E. peribocalis*” from Li, You & Wang (2003) should be the mixture of *E. halialis* and *E. menglensis*. The real *E. peribocalis* is not distributed in China.

****Eoophyla peribocalis* (Walker, 1859)**

Cataclysta peribocalis, Walker, 1859, *List Spec. Lep. Ins. Brit. Mus.*, 17: 446. Type-locality: Hindostan, India.

Oligostigma papualis Snellen, 1890, *Trans. Ent. Soc. Lond.*, 1890: 640. Type-locality: Sikkim.

Eoophyla peribocalis: Speidel, 1984, *Neue Ent. Nachr.*, 12: 36; Speidel & Mey, 1999a, *Tijds. v. Ent.*, 142: 129.

Distribution. India.

***Eoophyla melanops* (Hampson, 1896) (Figs 6–7, 14–15)**

Aulacodes melanops Hampson, 1896, *Fauna Br. India (Moths)*, 4: 214. Type-locality: Sikkim.

Eoophyla melanops: Yoshiyasu, 1987, *Microlep. Thai.*, 1: 163; Speidel & Mey, 1999a, *Tijds. v. Ent.*, 142: 129; Li, You & Wang, 2003, *Acta Zootaxonomica Sinica*, 28(2): 299.

Diagnosis. The species is different by the forewing of male has the upper edge of cell diffused with fuscous long setae at basal half and androconial hairs covered with apical 2/3 of the cell from the upper edge. In male genitalia, it is special by three strong specialized setae about 2/3 length of valva, the third seta with minute spines laterally and a knife-shaped apex. In female genitalia, it is characteristic by its signa slender, about 5/6 length of corpus.

The species is very similar to *E. halialis*. It's hard to distinguish them in external characters, except that the species has the androconial hairs obvious larger than *E. halialis*, and more or less yellower than the latter. In genitalia, the species has its uncus little slender than the latter in male and the signa slender than *E. halialis* in female.

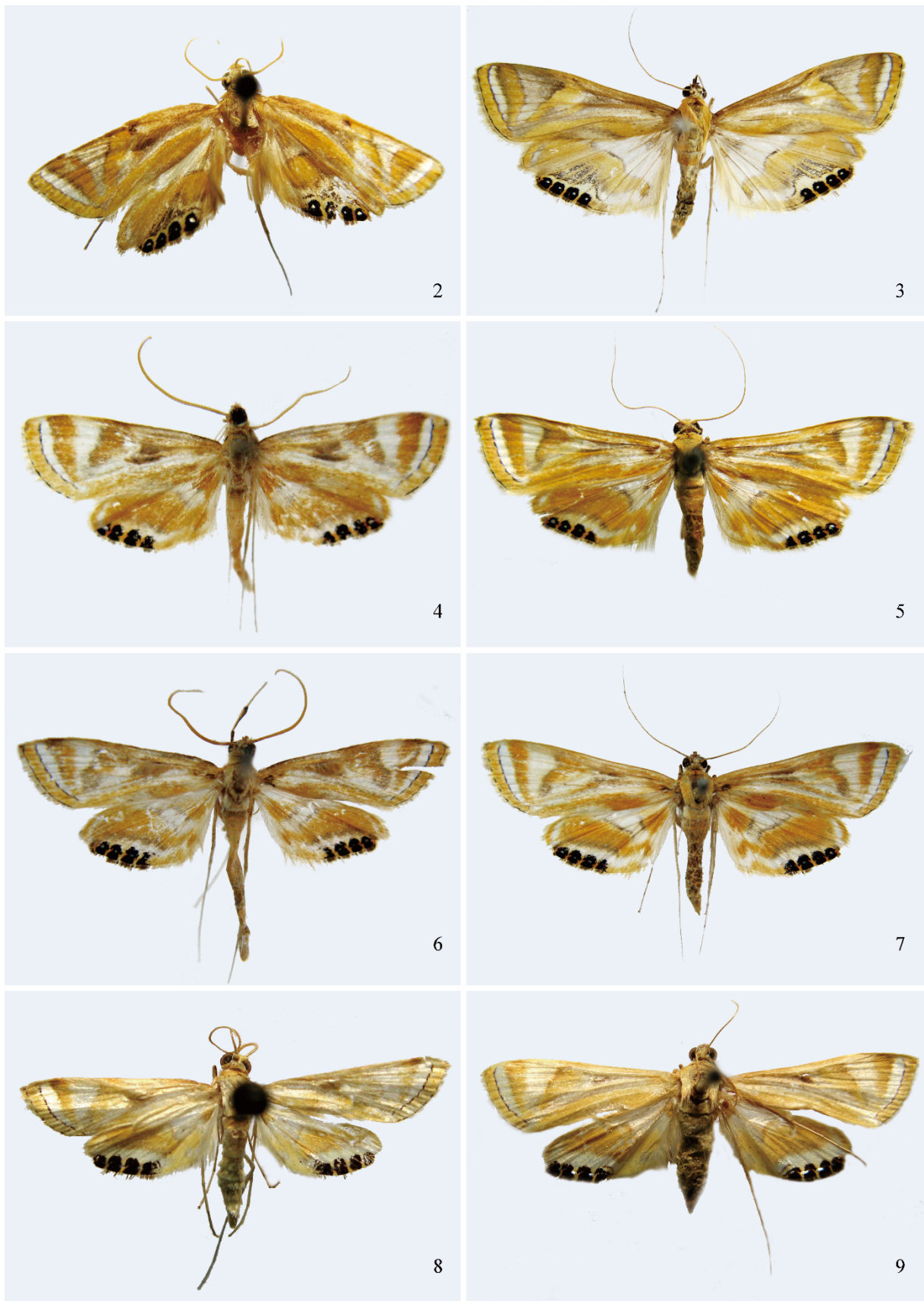
Male genitalia (Fig. 14). Uncus slender, apex pointed; gnathos about 3/4 length of uncus, with several dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely covered with setae, slightly constricted in base and apex, three strong specialized setae present at apex, about 2/3 length of valva, third seta with minute spines laterally and a knife-shaped apex; vinculum broad; saccus round; juxta plate-like, with apex slightly incurved; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising from middle.

Female genitalia (Fig. 15). Anal papillae relatively broad, densely covered with setae; apophysis anterioris and posterioris near same length; antrum elongated, cylindric; collar sclerotized; ductus seminalis arising below collar; ductus bursae about 1/3 length of corpus bursae, with many minute spines; a pair of slender singa present, about 5/6 length of corpus bursae, consisting of many minute spines.

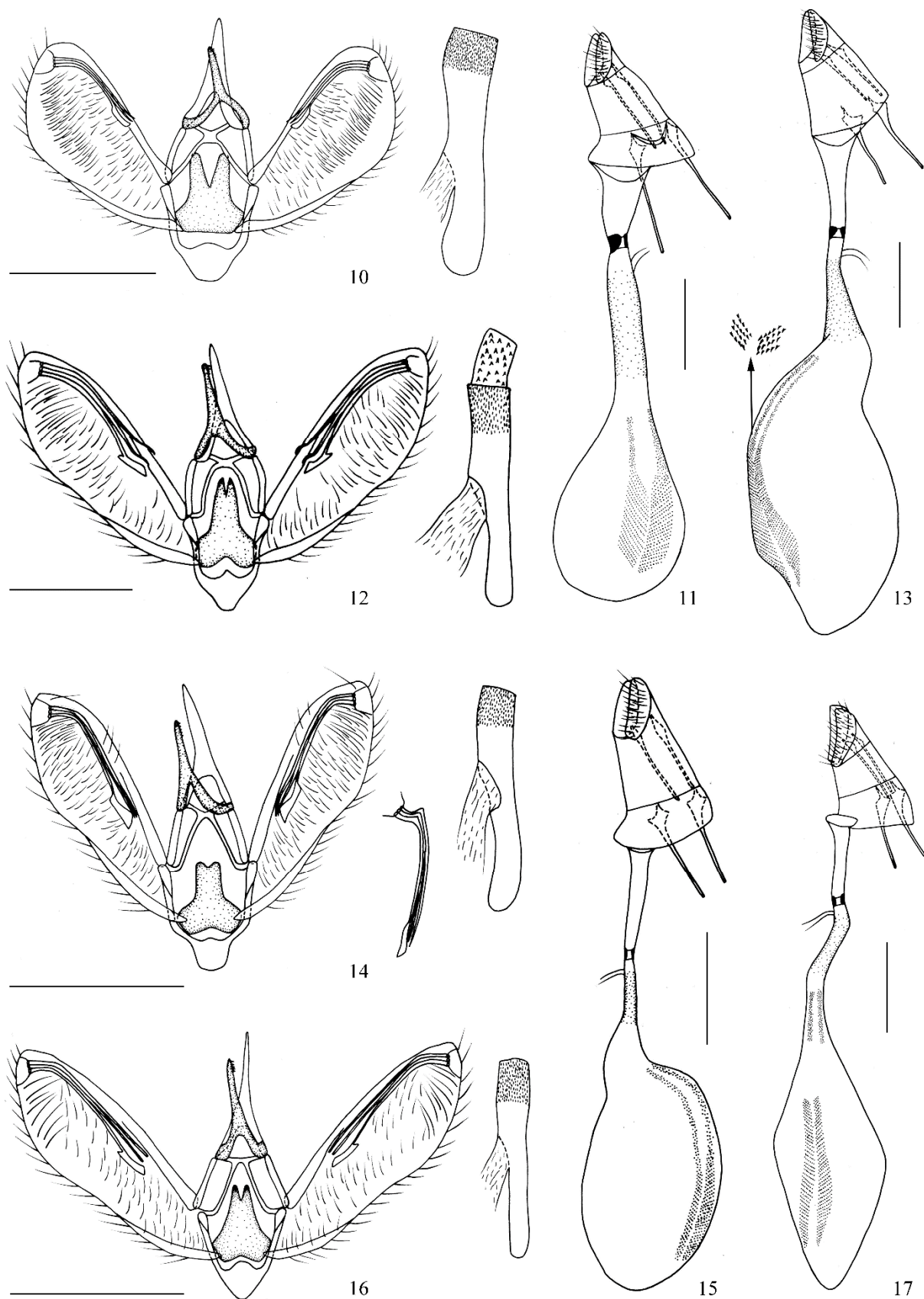
Material examined. Gansu, Wenxian, Bikou, Bifenggou, 900–1450 m, 3♀, 1998.VI.25, Yao Jian; Zhejiang, Mt. Tianmu, 1♀, 1998.VII.26, Yu Zhiyong; Zhejiang, Xitianmu, 2♀, 1973.VII.30; Zhejiang, Mt. Tianmu, 7♀, 1981.IX.1–5, Song Shimei; Zhejiang, Anji, Mt. Longwang, 1♀, 1996.VI.11; Hubei, Badong, 1300 m, 1♀, 1989.V.19, Li Wei; Hubei, Hefeng, 650 m, 3♀, 1989.V.30, Li Wei; Jiangxi, Mt. Lu, 1♀, 1974.VI.12, Song Shimei; Jiangxi, Mt. Jiulian, 2♂14♀, 1975.VI.4–VII.27, Song Shimei; Jiangxi, Doushui, 1♂1♀, 1975.VI.29–VII.3, Song Shimei; Jiangxi, Dayu, 1♂, 1975.VII.14, Song Shimei; Jiangxi, Dayu, 2♂10♀, 1985.VIII.12–16, Song Shimei; Hunan, Zhangjiajie, 2♀, 1988.X.11, Fang Chenglai; Hunan, Cili, Suoxiyu, 400 m, 1♀, 1988.X.18, Zhao Zhongling; Fujian, Mt. Longxi, 200–650 m, 3♂11♀, 1991.VIII.7–20, Song Shimei; Fujian, Jiangle, 800 m, 1♂2♀, 1990.IX.7–10, Yang Bin; Fujian, Mt. Wuyi, Guadun, 10♀, 1979.VIII.11, Song Shimei; Fujian, Mt. Wuyi, Sangang, 1♂1♀, 1979.VII.27–VIII.8, Song Shimei; Fujian, Mt. Wuyi, Sangang, 1♀, 1979.IX; Fujian, Mt. Wuyi, Sangang, 1♀, 1980.X.18, Lin Yuyin; Fujian, Mt. Wuyi, Huangkeng, 1♂2♀, 1980.VI.15–18, Jiang Fan; Fujian, Mt. Wuyi, Pikeng, 520 m, 1♀, 2000.VI.29, Wu Yanyu; Fujian, Mt. Wuyi, Huanggangshan, 2150 m, 1♀, 2000.VII.26, Song Shimei; Fujian, Liancheng, Mt. Meihua, 2♀, 1989.V.26, Song Shimei; Fujian, Nanjing, Tiankui, 2♀, 1980.IX.5, Cai Rongquan; Fujian, Nanjing, Tiankui, 1♂6♀, 1980.XI.5–6, Cai Rongquan; Guangxi, Longzhou, Mt. Daqing, 360 m, 1♀, 1963.VI.16, Wang Chunguang; Guangxi, Longsheng, 2♂4♀, 1980.VI.10–16; Guangxi, Mt. Miao'er, 1♀, 1985.VII.10, Song Shimei; Guangxi, Napo, Baihe, 440 m, 4♀, 1998.IV.6–7, Wu Chunsheng & Li Wenzhu; Guangxi, Napo, Beidou, 550 m, 1♀, 1998.IV.9, Wu Chunsheng; Guangxi, Napo, Beidou, 550 m, 3♀, 2000.VI.22, Li Wenzhu; Guangxi, Napo, Defu, 1350 m, 4♀, 2000.VI.18–19, Chen Jun, Yao Jian & Zhu Chaodong; Guangxi, Jinxiu, Yinshan, 1100 m, 1♀, 1999.V.10, Zhang Xuezhong; Guangxi, Jinxiu, Jinzhong Road, 1100 m, 2♀, 1999.V.10–12, Li Wenzhu & Han Hongxiang; Guangxi, Fangcheng, Fulong, 350 m, 1♂, 1999.V.23, Li Wenzhu; Guizhou, Mt. Leigong, Xiaodanjiang, 740–950 m, 20♂40♀, 2005.V.31, Chen Fuqiang. All deposited in IZCAS.

Distribution. China (Gansu, Zhejiang, Hubei, Jiangxi, Hunan, Fujian, Guangxi, Guizhou), Thailand, India.

Remarks. A male specimen from Mt. Jiulian (Jiangxi) has the specialized setae basally kinked (Fig. 15), rather than smoothed. By contrasting with other materials from Mt. Jiulian and other localities, we treated this material as a variation of *E. melanops*.



Figures 2–9. Adults of *Eoophyla* spp. 2. *E. conjunctalis* (Wileman & South, 1917), male. 3. Ditto, female. 4. *E. halialis* (Walker, 1859), male. 5. Ditto, female. 6. *E. melanops* (Hampson, 1896), male. 7. Ditto, female. 8. *E. tenuisa* **sp. nov.**, male. 9. Ditto, female.



Figures 10–17. Genitalia of *Eoophyla* spp. 10. *E. conjunctalis* (Wilemuan & South, 1917), male. 11. Ditto, female. 12. *E. halialis* (Walker, 1859), male. 13. Ditto, female. 14. *E. melanops* (Hampson, 1896), male. 15. Ditto, female. 16. *E. tenuisa* sp. nov., male. 17. Ditto, female. Scale bars = 1 mm.

***Eoophyla tenuisa* sp. nov.** (Figs 8–9, 16–17)

Diagnosis. The new species is very similar to *E. sejunctalis*, but can be easily distinguished by having three strong specialized setae in valva and two pairs of signa in female, while the latter has two setae in male and one pair of signa in female.

Moreover, the new species is also similar to *E. menglensis*. The main different in external is that the latter has the postmedial band of forewing with obviously broader fuscous outer edge, about 1/2 to 1/3 of the postmedial band. In this species, the ground color of both wings is little yellower than *E. menglensis*, and the androconial hairs is little larger than *E. menglensis*. In male genitalia, the new species has the uncus slenderer than *E. menglensis*, and has 3 strong specialized setae rather than 2 setae in the latter. In female genitalia, the new species has the basal pair of signa obvious longer than *E. menglensis*.

Description. Wing span ♂ 18–21 mm ($n=4$), ♀ 16–25 mm ($n=18$). Head pale yellow; antennae filiform, base with a side projection present in male; labial palpi upturned, as long as compound eyes, densely suffused with long scales in ventral. Thorax and abdomen pale yellow. Legs and tarsi slender.

Male. Forewing pale yellow; costa with basal half yellow; upper edge of cell diffused with fuscous long setae on basal half and androconial hairs covered with apical 2/5 of cell from upper edge; a longitudinal fascia arising along inner margin; a triangular pale yellow patch beyond discocellulares, with outer edge fuscous, slightly bended; postmedial fascia pale yellow, with fuscous outer edge, touched with triangular patch beyond discocellulares; submarginal fascia band-like, pale yellow, with fuscous edges on both sides; cilia fuscous. Hindwing pale yellow; basal area white; antemedial fascia pale yellow, with fuscous outer edge; postmedial fascia pale yellow, with fuscous edges on both sides; an incision present below apex; four eyespots present along outer margin, with silvery scales in lateral; submarginal fascia pale yellow, without obvious darker edges; cilia fuscous. Female same with male except androconial hairs absent.

Male genitalia (Fig. 16). Uncus slender, with pointed apex; gnathos little broader than uncus, about 5/6 length of uncus, apex with dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely covered with setae, nearly same width from base to apex, three strong specialized setae present at apex, about 5/7 length of valva, third seta with minute spines laterally and a knife-shaped apex; vinculum broad; saccus round; juxta plate-like, with apex bilobed; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising from middle.

Female genitalia (Fig. 17). Anal papillae relatively broad, densely covered with setae; apophysis anterioris and posterioris near same length, about 1.3 times as long as anal papillae; antrum elongated; collar sclerotized; ductus seminalis arising below collar; ductus bursae about 1/3 length of corpus bursae, with minute spines; corpus bursae membranous, with two pairs of signa present, consisting of many minute spines; shorter pair present at base, about 1/5 length of corpus bursae; longer pair present at middle, about half length of corpus bursae.

Material examined. Holotype (♂). Yunnan, Xishuangbanna, Menglun, 650 m, 1964.IV.15, Zhang Baolin. Paratypes. Yunnan, Yiwubana, Menglun, 650 m, 2♂9♀, 1964.IV.13–V.9, Zhang Baolin; Yunnan, Menglun, 650 m, 1♀, 1962.V.7, Song Shimei; Yunnan, Menglun, 4♀, 1980.V.6, Wang Linyao; Yunnan, Menglun, 1♀, 1982.VII.11, Song Shimei; Yunnan, Yiwu, 800–1000 m, 1♀, 1958.X.26, Pu Fuji; Yunnan, Cangyuan, 1♂1♀, 1980.V.21, Song Shimei; Yunnan, Jinghong, 1♀, 1982.IV.12, Song Shimei. All deposited in IZCAS.

Distribution. China (Yunnan).

Etymology. The specific name is from the Latin “*tenuis*”, corresponding to its tenuous outer edge of the postmedial band.

Remarks. The species *E. sejunctalis* (Snellen, 1876) was firstly recorded in Hainan (Li & An, 1995), then in Guangxi, Yunan Provinces (Li, You & Wang, 2003). By partly rechecking the materials from NKU and contrasting the redescription of Yoshiyasu (1987), we doubt that the “*E. sejunctalis*” from China should be the misidentification of the new species named here.

****Eoophyla sejunctalis* (Snellen, 1876)**

Oligostigma sejunctalis, Snellen, 1876, *Tijds. v. Ent.*, 19: 196, 207. Type-locality: Dharmasala, India.

Cataclysta delicata Moore, [1887] 1884–7, *Lepid. Ceylon*, 3: 556. Type-locality: Sri Lanka.

Eoophyla sejunctalis: Yoshiyasu, 1987, *Microlep. Thai.*, 1: 160; Speidel & Mey, 1999a, *Tijds. v. Ent.*, 142: 129.

Distribution. Thailand, Sri Lanka, India.

***Eoophyla menglensis* Li & An, 1995** (Figs 18–19, 24–25)

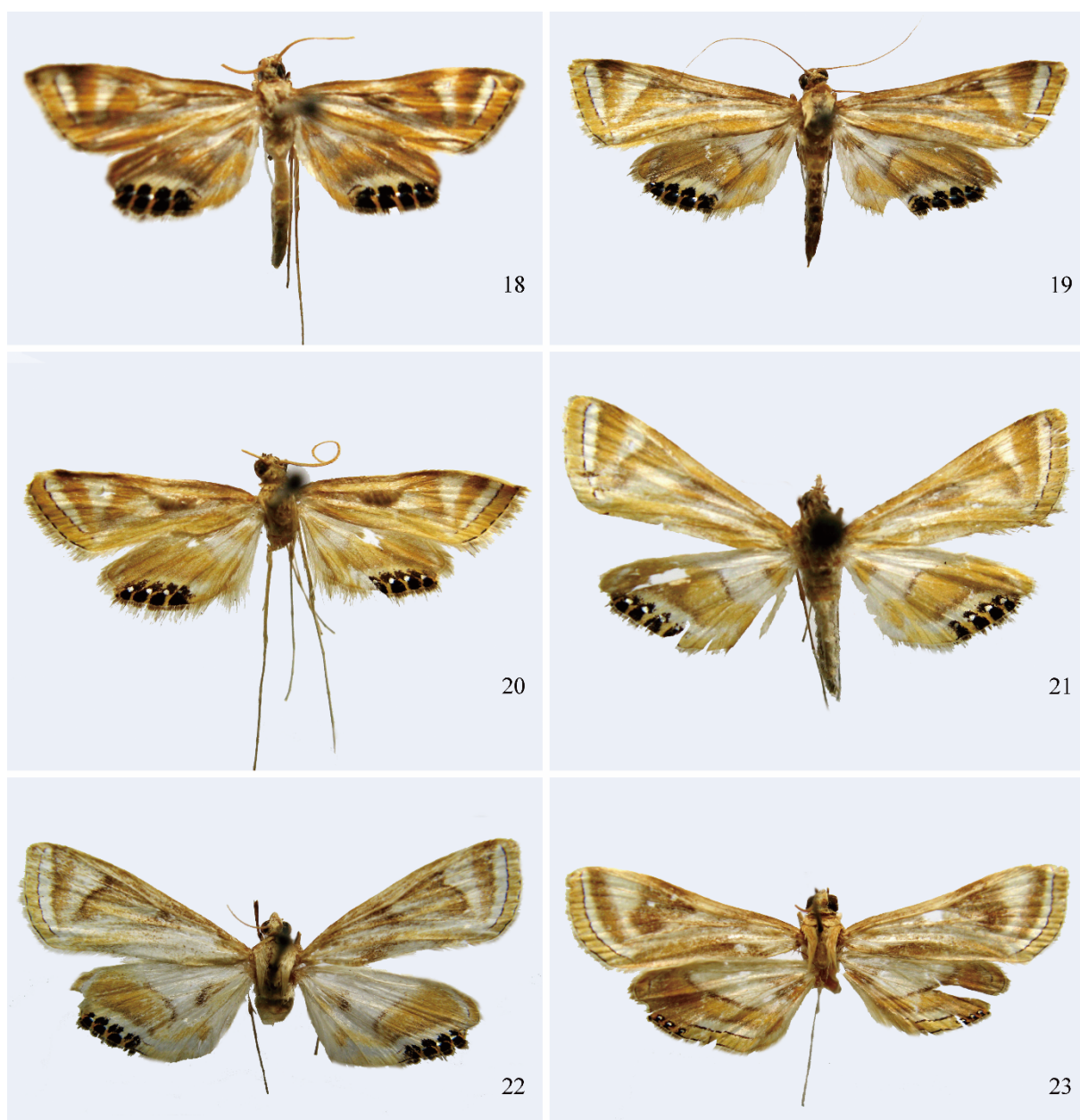
Eoophyla menglensis Li & An, 1995, *Journal of Northwest Forestry College*, 10(2): 94; Li, You & Wang, 2003, *Acta Zootaxonomica*

Sinica, 28(2): 299. Type-locality: Menglun, Yunnan, China.

Diagnosis. The species is special by its androconial hairs covered with apical 1/4 of the cell from the upper edge. In male genitalia, it can be easily distinguished from other species by only two specialized setae present, and about 3/5 length of valva, the second seta with minute spines laterally and an expanded apex. In female genitalia, it is different by the slender signa, the shorter pair of signa about 1/10 length of corpus bursae and the longer pair of signa about 3/5 length of corpus bursae.

Male genitalia (Fig. 24). Uncus slender; gnathos about 3/4 length of uncus, with several dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely covered with setae, nearly same width from base to apex, two strong specialized setae present at apex, about 3/5 length of valva, second seta with minute spines laterally and an expanded apex; vinculum broad; saccus round; juxta plate-like, with apex bifid; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising from middle.

Female genitalia (Fig. 25). Anal papillae relatively broad, densely covered with setae; apophysis anterioris and



Figures 18–23. Adults of *Eoophyla* spp. 18. *E. menglensis* Li & An, 1995, male. 19. Ditto, female. 20. *E. thaiensis* Yoshiyasu, 1987, male. 21. Ditto, female. 22. *E. minisigna* **sp. nov.**, female. 23. *E. leiokellula* **sp. nov.**, male.

posterioris near same length, about 1.5 times of anal papillae; antrum elongated, cylindric; collar sclerotized; ductus seminalis arising below collar; ductus bursae about 2/5 length of corpus bursae, with many minute spines; corpus bursae membranous, two pairs of signa present, consisting of many minute spines; shorter pair present at base, about 1/10 length of corpus bursae; longer pair present at middle, about 3/5 length of corpus bursae.

Material examined. Gansu, Chengxian, Feilongxia, 1♀, 1999.VII.4, Yaojian; Hunan, Dong'an, 1♀, 1955.V.25; Guangdong, Mt. Dinghu, 1♀, 1973.VI.12, Zhang Baolin; Guangdong, Guangzhou, 50 m, 1♂, 1958.IX.3, Zhang Baolin; Guangdong, Nanling, 865 m, 1♂, 2005.VII.15, Chen Fuqiang; Guangdong, Guangzhou, Liuxihe, 1♀, 2005.VII.24, Chen Fuqiang; Hainan, Jianfengling, 1♂4♀, 1981.XI.4; Hainan, Jianfengling, 1♀, 1982.IV.1; Hainan, Jianfengling, 1♂2♀, 1984.III.22–25, Song Shimei; Hainan, Mt. Diaoluo, 6♂2♀, 1984.III.12, Song Shimei; Hainan, Xinglong, 1♀, 1963.V.19, Zhang Baolin; Hainan, Jianfengling, Chahekou, 220 m, 2♂, 2007.V.5, Chen Fuqiang; Hainan, Jianfengling, Tianchi, 828 m, 4♀, 2007.V.1–5, Chen Fuqiang; Hainan, Bawangling, 345 m, 1♀, 2007.V.12, Chen Fuqiang; Hainan, Bawangling, Dong'erlinchang, 1015 m, 3♀, 2007.V.9, Chen Fuqiang; Hainan, Lingshui, Mt. Diaoluo, 920 m, 5♀, 2007.V.3, Han Hongxiang & Lang Songyun; Hainan, Mt. Diaoluo, 190 m, 2♀, 2007.V.7, Han Hongxiang & Lang Songyun; Hainan, Mt. Wuzhi, Shuiman, 730 m, 1♀, 2007.V.11, Han Hongxiang & Lang Songyun; Hainan, Yinggeling, Hongxin, 434 m, 2♂2♀, 2007.XII.3, Chen Fuqiang; Hainan, Mt. Wuzhi, 727 m, 2♂7♀, 2007.XII.6, Chen Fuqiang; Hainan, Mt. Wuzhi, 710 m, 5♀, 2007.XII.9, Chen Fuqiang; Hainan, Mt. Diaoluo, 930 m, 1♂15♀, 2007.XII.11, Chen Fuqiang; Hainan, Jianfengling, Tianchi, 934, 2♀, 2007.XII.14–16, Chen Fuqiang; Guangxi, Xiuren, 1♀, 1958.IV.19; Guangxi, Yangshuo, 1♀, 1980.VI.19, Song Shimei; Guangxi, Fangcheng, Dalu, 250 m, 2♀, 2000.VI.8, Li Wenzhu; Guangxi, Shangsi, Nanping, 350 m, 2000.VI.10, Yao Jian; Yunnan, Xishuangbanna, Menglun, 650 m, 1♀, 1964.IV.18, Zhang Baolin. All deposited in IZCAS.

Distribution. China (Gansu, Hunan, Guangdong, Hainan, Guangxi, Yunnan).

Remarks. The species was firstly reported by Li & An (1995), and recorded again by Li, You & Wang (2003). It's original recorded in Yunnan Province. By contrasting with the paratype deposited in NKU, the species was confirmed widely distributed in South China, especially in Hainan.

Eoophy thaiensis Yoshiyasu, 1987 (Figs 20–21, 26–27)

Eoophyla thaiensis Yoshiyasu, 1987, *Microlep. Thai.*, 1: 164; Speidel & Mey, 1999a, *Tijds. v. Ent.*, 142: 129; Li, You & Wang, 2003, *Acta Zootaxonomica Sinica*, 28(2): 300. Type-locality: Thailand.

Diagnosis. The species is special by the forewing of male has its upper edge of cell diffused with brown long setae at basal half and androconial hairs covered with apical half of the cell from the upper edge. In male genitalia, the species is different by its three strong specialized setae about 2/3 length of valva, the third seta with minute spines laterally and an expanded apex. In female genitalia, the species has two pairs of signa present, the shorter pair about 1/5 length of corpus bursae and the longer pair about half length of corpus bursae.

Male genitalia (Fig. 26). Uncus slender, with pointed apex; gnathos little broader than uncus, about 3/4 length of uncus, apex with dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely covered with setae, nearly same width from base to apex, three strong specialized setae present at apex, about 2/3 length of valva, third seta with minute spines laterally and an expanded apex; vinculum broad; saccus round; juxta plate-like, with apex bilobed; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising from middle.

Female genitalia (Fig. 27). Anal papillae relatively broad, densely covered with setae; apophysis anterioris and posterioris near same length, about 2 times as long as anal papillae; antrum elongated, cylindric; collar sclerotized; ductus seminalis arising below collar; ductus bursae about 1/3 length of corpus bursae, with many minute spines; corpus bursae membranous, with two pairs of signa present, consisting of many minute spines; shorter pair thin, present at base, about 1/5 length of corpus bursae; longer pair broad, present at middle, about half length of corpus bursae.

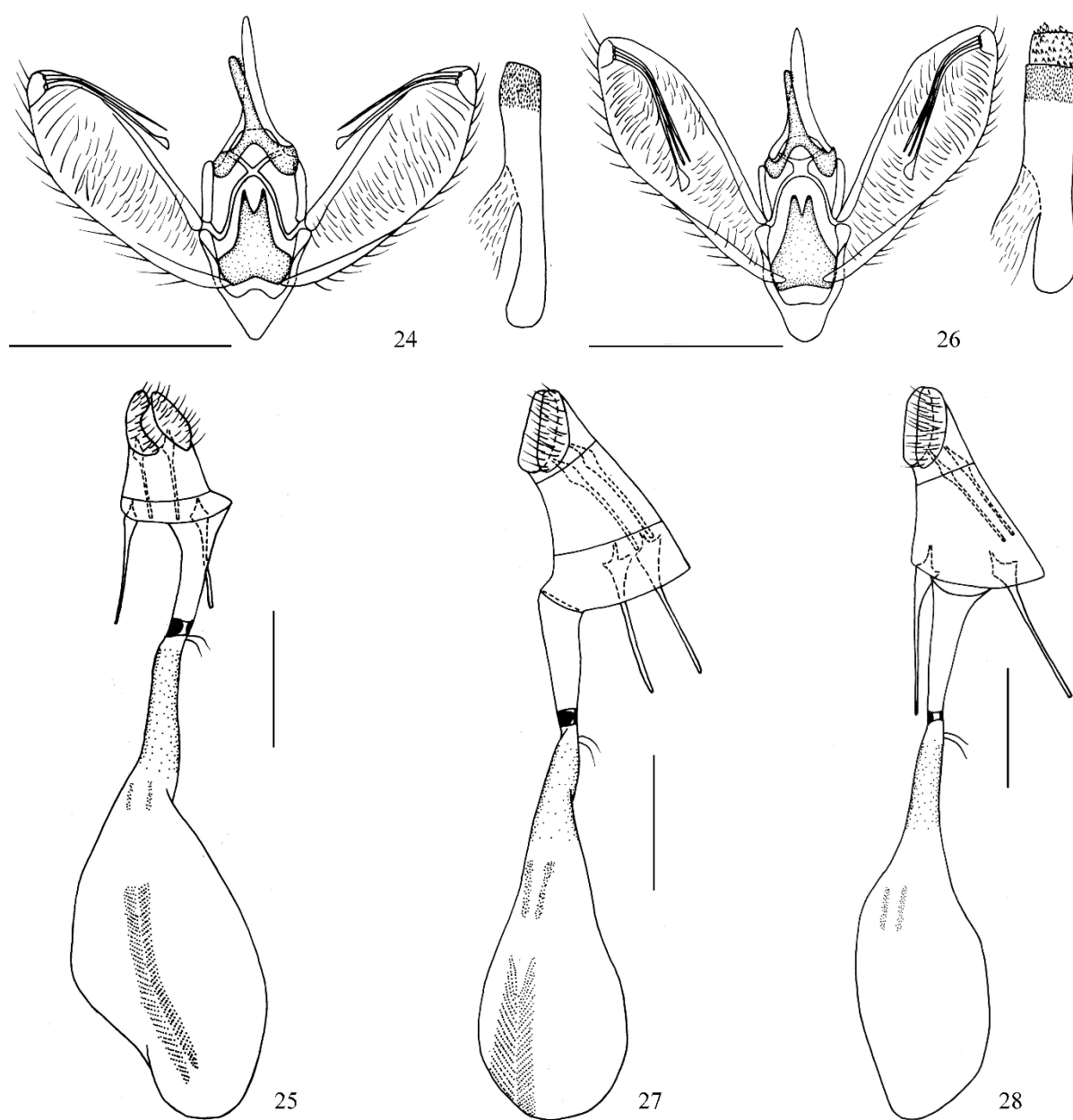
Material examined. Fujian, Mt. Wuyi, Pikeng, 520 m, 1♂, 2000.VI.29, Wu Yanyu; Fujian, Nanjing, Tiankui, 1♂, 1980.IX.5, Cai Rongquan; Fujian, Nanjing, Tiankui, 4♀, 1980.XI.5, Cai Rongquan; Guangxi, Napo, Baihe, 440 m, 1♀, 1998.IV.6, Zhu Chaodong; Jiangxi, Mt. Jiulian, 1♂, 1975.VI.22, Song Shimei; Guangxi, Napo, Beidou, 550 m, 2♀, 2000.VI.22, Zhu Chaodong, Li Wenzhu; Guangxi, Fangcheng, Fulong, 250 m, 2♀, 1998.III.20, Qiao Gexia; Guangxi, Fangcheng, Fulong, 240 m, 1♀, 1998.IV.21, Li Wenzhu; Guangxi, Fangcheng, Fulong, 100 m, 1♀, 1998.VIII.24, He Tongli; Guangxi, Fangcheng, Fulong, 200–500 m, 1♂3♀, 1999.V.24–25, Li Wenzhu, Zhang Yanzhou; Guangxi, Napo, Defu, 1440 m, 1♀, 1998.IV.4, Wu Chunsheng; Guangxi, Shangsi, Nanping, 350 m, 1♀, 2000.VI.10, Yao Jian; Guangxi, Shangsi, Hongqilinchang, 250 m, 1♀, 1999.V.8, Yuan Decheng; Guangxi, Shangsi, Hongqilinchang, 300 m, 2♀, 1999.V.27–29, Li Wenzhu, Zhang Xuezhong; Guangxi, Fangcheng, Banba, 550 m, 1♂, 2000.VI.4, Yao Jian; Guangxi, Fangcheng, Fulong, 240 m, 1♀, 1998.III.14, Li Wenzhu; Guangxi, Napo, Defu, 1300 m, 1♂, 1998.VIII.14, He Tongli; Sichuan, Nanchong, 1♀, 1973.VII.6, Song Shimei. All deposited in IZCAS.

Distribution. China (Jiangxi, Sichuan, Fujian, Guangxi), Thailand.

***Eoophyla minisigna* sp. nov.** (Figs 22, 28)

Diagnosis. The species can be obvious distinguish from other species by the minute signa in female genitalia.

Description. Wing span ♀ 23–31 mm ($n=14$). Female. Head pale yellow; antennae filiform; labial palpi upturned, as long as compound eyes, densely suffused with long scales in ventral. Thorax and abdomen yellowish-brown. Legs and tarsi slender. Forewing pale yellow, base area pale yellowish-brown; a pale yellow longitudinal fascia arising along inner margin; a triangular pale yellow patch beyond discocellulares, with outer edge fuscous, incurved; postmedial fascia pale yellow, with fuscous outer edge, touched with triangular patch beyond discocellulares; submarginal fascia bank-like, pale yellow, with fuscous edges on both sides; cilia fuscous. Hindwing pale yellow; basal area white; antemedial fascia pale yellow, with fuscous outer edge, not touched with postmedial fascia; postmedial fascia pale yellow, with fuscous edges on both sides; an



Figures 24–28. Genitalia of *Eoophyla* spp. 24. *E. menglensis* Li & An, 1995, male. 25. Ditto, female. 26. *E. thaiensis* Yoshiyasu, 1987, male. 27. Ditto, female. 28. *E. minisigna* sp. nov., female. Scale bars = 1 mm.

incision present below apex; four eyespots present along outer margin, with silvery scale in lateral; submarginal fascia pale yellow; cilia fuscous.

Female genitalia (Fig. 28). Anal papillae relatively broad, densely covered with setae; apophysis anterioris and posterioris near same length, about 1.5 times as long as anal papillae; antrum elongated; collar sclerotized; ductus seminalis arising below collar; ductus bursae about 3/5 length of corpus bursae, with minute spines; corpus bursae membranous, with a pair of minute signa at base, consisting of many minute spines, about 1/5 length of corpus bursae.

Material examined. Holotype (♀). Yunnan, Xiaomenglun, 1980.V.6, Gao Ping. Paratypes. Jiangxi, Mt. Lu, 1♀, 1974.VI.12, Song Shimei; Guangxi, Napo, Beidou, 550 m, 2♀, 1998.IV.9, Li Wenzhu; Guangxi, Napo, Baihe, 440 m, 4♀, 1998.IV.6, Li Wenzhu, Wu Chunsheng; Guangxi, Napo, 990 m, 1♀, 1998.IV.7, Qiao Gexia; Yunnan, Cangyuan, 790 m, 3♀, 1980.V.20–22, Song Shimei, Shang Jinwen; Yunnan, Yingjiang, Nabangba, 300 m, 1♀, 1982.V.12; Yunnan, Xishuangbanna, Menglun, 650 m, 1♀, 1964.V.2, Zhang Baolin. All deposited in IZCAS.

Distribution. China (Jiangxi, Guangxi, Yunnan).

Etymology. The specific name is from the Latin “*mini*”, corresponding to its minute signa.

3.2 The *gibbosalis* group

Diagnosis (Table 1). The species group usually has three eyespots present along the outer margin of hindwing, sometimes the lower one to two eyespots reduced, only with a blurry trace. The eyespots are smaller than the *peribocalis* group.

Remarks. The species group was reported by Mey & Speidel (1999), including 9 species and 1 subspecies, then Speidel, Mey & Schulze (2002) and Li, You & Wang (2003) reported another 3 species. The species group is mostly distributed in Asia continent, except *E. gibbosalis* distributed in Indonesia and Philippines.

Eoophyla gibbosalis (Guenée, 1854) (Figs 29–30, 37–38)

Oligostigma gibbosalis Guenée, 1854, *Hist. Nat. Insectes (Spec. Gén. Lipid.)*, 8: 262. Type-locality: Indes orientales.

Oligostigma plicatalis Walker, [1866] 1865, *List Spec. Lep. Ins. Brit. Mus.*, 34: 1332. Type-locality: Makian, Indonesia.

Oligostigma tripunctalis Walker, [1866] 1865, *List Spec. Lep. Ins. Brit. Mus.*, 34: 1531. Type-locality: Java, Indonesia.

Eoophyla gibbosalis: Speidel & Mey, 1999a, *Tijds. v. Ent.*, 142: 130; Li, You & Wang, 2003, *Acta Zootaxonomica Sinica*, 28(2): 298.

Diagnosis. The species can be easily distinguished from others by its wings mostly covered with brown scales and the androconial hairs in male covered with the whole cell from the upper edge. In male genitalia, it is characteristic by its strong specialized setae about 3/5 length of valva, all with expanded apex, third seta with minute spines laterally. In female genitalia, it is special by the ductus bursae about the same length of corpus bursae, and corpus bursae with a pair of broad signa, about the same length of corpus bursae.

Male genitalia (Fig. 37). Uncus slender, apex pointed; gnathos about 2/3 length of uncus, apex with several dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely covered with setae, nearly same width from base to apex, three strong specialized setae present at apex, about 3/5 length of valva, all with expanded apex, third seta with minute spines laterally; vinculum broad; saccus round; juxta plate-like, with two spiniform apices; aedeagus strong, vesica with many minute spines, ductus ejaculatorius arising from middle.

Female genitalia (Fig. 38). Anal papillae relatively narrow, densely covered with setae; apophysis anterioris and posterioris near same length; antrum cylindric; collar sclerotized; ductus seminalis arising below collar; ductus bursae about same length of corpus bursae, with many minute spines; corpus bursae membranous, with a pair of broad signa, consisting of many minute spines, about same length of corpus bursae.

Material examined. Taiwan, Nantou, Lianhuachi, 1♂, 1995.XI.12, Wang Hsiauyue; Taiwan, Yilan, Mt. Duli, 1♀, 1998.I.3, Wang Hsiauyue; Yunnan, Jinghong, 1♀, 1980.IV.11. All deposited in IZCAS.

Distribution. China (Taiwan, Yunnan), India, Indonesia, Philippines, New Guinea.

Eoophyla sinensis (Hampson, 1897) (Figs 31–32, 39–40)

Aulacodes sinensis Hampson, 1897, *Trans. Ent. Soc. Lond.*, 1897: 176; Wang, 1980, *Economic Insect Fauna of China*, 21: 110; Wang, 1981, *Iconographia Heterocerorum Sinicorum*, 1: 68. Type-locality: Mt. Emei, China.

Eoophyla sinensis: Speidel, 1984, *Neue ent. Nachr.*, 12: 37; Yoshiyasu, 1987, *Microlep. Thai.*, 1: 172; Speidel & Mey, 1999a, *Tijds. v. Ent.*, 142: 130; Li, You & Wang, 2003, *Acta Zootaxonomica Sinica*, 28(2): 300.

Diagnosis. The species is widely distributed in China. It can be distinguished from others by the forewing of male has its upper edge of cell diffused with fuscous long setae from base to 2/3 section and androconial hairs covered with apical 1/3 of the cell from the upper edge. In male genitalia, it is different by its strong specialized setae about 3/4 length of valva, first

and second setae without obvious expanding, third seta with minute spines laterally and a knife-shaped apex. In female genitalia, it is different by its signa about 3/4 length of corpus bursae.

Male genitalia (Fig. 39). Uncus slender, with apex pointed; gnathos about 2/3 length of uncus, apex with several dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely with setae, nearly same width from base to apex, three strong specialized setae present at apex, about 3/4 length of valva, first and second setae without obvious expanding, third seta with minute spines laterally and a knife-shaped apex; vinculum broad; saccus round; juxta plate-like, apex bifid; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising from middle.

Female genitalia (Fig. 40). Anal papillae relatively broad, densely covered with setae; apophysis anterioris and posterioris near same length; antrum cylindric; collar sclerotized; ductus seminalis arising below collar; ductus bursae relatively short, about half length of corpus bursae, with many minute spines; corpus bursae membranous, with a pair of signa, consisting of many minute spines, about 3/4 length of corpus bursae.

Material examined. Gansu, Kangxian, Qinghelinchang, 1450–1650 m, 7♂3♀, 1998.VII.14–15, Yao Jian, Wang Shuyong, Yang Xingke; Gansu, Zhouqu, Shantanlinchang, 2350 m, 1♀, 1998.VII.5, Yuan Decheng; Gansu, Kangxian, Qinghelinchang, 1400 m, 1♂4♀, 1999.VII.7–8, Yao Jian, He Tongli; Beijing, Miyun, 1♀, 1972.VIII.19, Zhang Baolin; Beijing, Sanpu, 2♂6♀, 1964.VII.20–23, Liao Subai, Zhou Qin; Beijing, Sanpu, 1♂5♀, 1965.VII.15–16, Zhang Baolin; Beijing, Miyun, Nanshicheng, 1♀, 2005.VII.12, Chen Fuqiang; Shaanxi, Zhenba, 3♀, 1981.VI; Shaanxi, Lueyang, 3♀, 1981.VI; Shaanxi, Baoji, 1♀, 1980; Shaanxi, Ningshan, 2♀, 1981.VI.5, Guo Zhonghua; Shaanxi, Weinan, 1♀, 1981.IV.23; Shaanxi, Zhouzhi, 2♀, 1981.VIII.16; Shaanxi, Xi'an, 1♀, 1981.VIII.28; Shaanxi, Zhen'an, 1♀, 1981.VI.5; Shaanxi, Tongguan, 1♀, 1981.VII.7; Shaanxi, Liuba, 1020 m, 1♂, 1998.VII.18, Yao Jian; Shaanxi, Liuba, Miaotaizi, 1350 m, 1♀, 1998.VII.21, Yao Jian; Shaanxi, Foping, 950 m, 1♀, 1998.VII.24, Yuan Decheng; Hubei, Shennongjia, 1♂1♀, 1980.VII.3; Hubei, Shennongjia, 500 m, 1♂4♀, 1981.V.30–VI.1, Han Yinheng; Hubei, Shennongjia, Songluo, 920 m, 2♀, 1981.VIII.31, Han Yinheng; Hubei, Hefeng, 650 m, 1♀, 1989.V.30, Li Wei; Jiangxi, Mt. Jiulian, 1♂, 1975.VII.25, Song Shimei; Sichuan, Mt. Emei, Qingyinge, 800–1000 m, 4♂30♀, 1957.VI.20–VII.18, Huang Keren, Zhu Fuxing, Lu Youcai; Sichuan, Mt. Emei, Baoguosi, 550–750 m, 1♂, 1957.VII.18, Huang Keren; Sichuan, Mt. Emei, 1♀, 1974.VI.12, Wang Ziqing; Fujian, Mt. Wuyi, Sangang, 740 m, 1♀, 2000.VII.31, Song Shimei. All deposited in IZCAS.

Distribution. China (Gansu, Beijing, Shaanxi, Hubei, Jiangxi, Sichuan, Fujian), Thailand, Nepal.

Eoophyla ciliensis sp. nov. (Figs 33–34, 41–42)

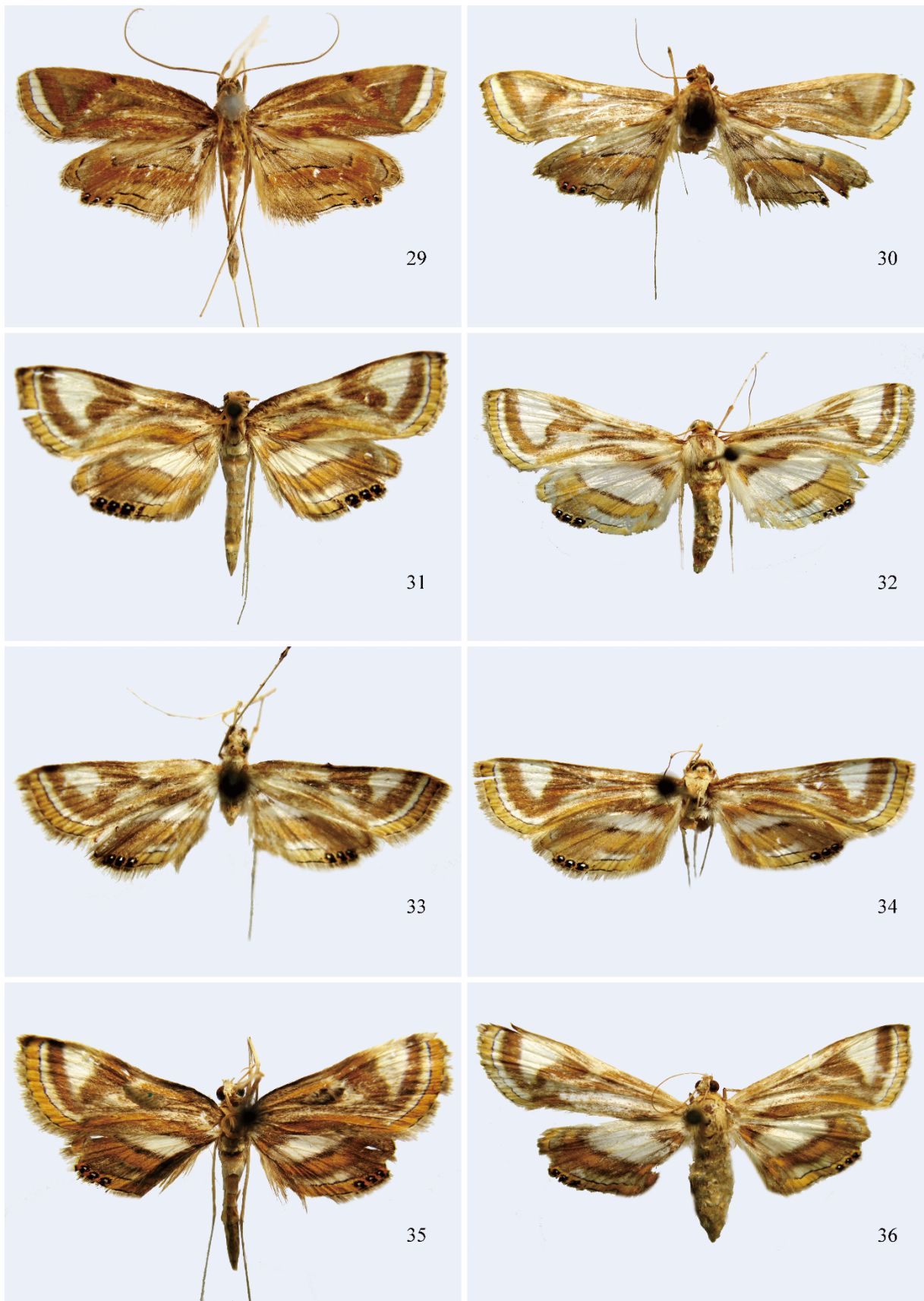
Diagnosis. The species is very similar to *E. sinensis* in both external and genital characters, but has obvious smaller size not only in external but also in genital. In adult, the new species has the fuscous triangular patch in forewing connected with postmedial fascia rather than touched in *E. sinensis*. Moreover, the white patch surrounding by the triangular patch and postmedial fascia in forewing and the white area between ante- and postmedial fasciae in hindwing are obviously smaller than those in *E. sinensis*. Besides the size, the new species also has the uncus more pointed than *E. sinensis* and different shape of juxta in male genitalia.

Description. Wing span ♂ 21 mm ($n=1$), ♀ 26 mm ($n=1$). Head pale fuscous; antennae filiform, base with a side projection present in male; labial palpi upturned, as long as compound eyes, densely suffused with long scales in ventral. Thorax and abdomen brown. Legs and tarsi slender.

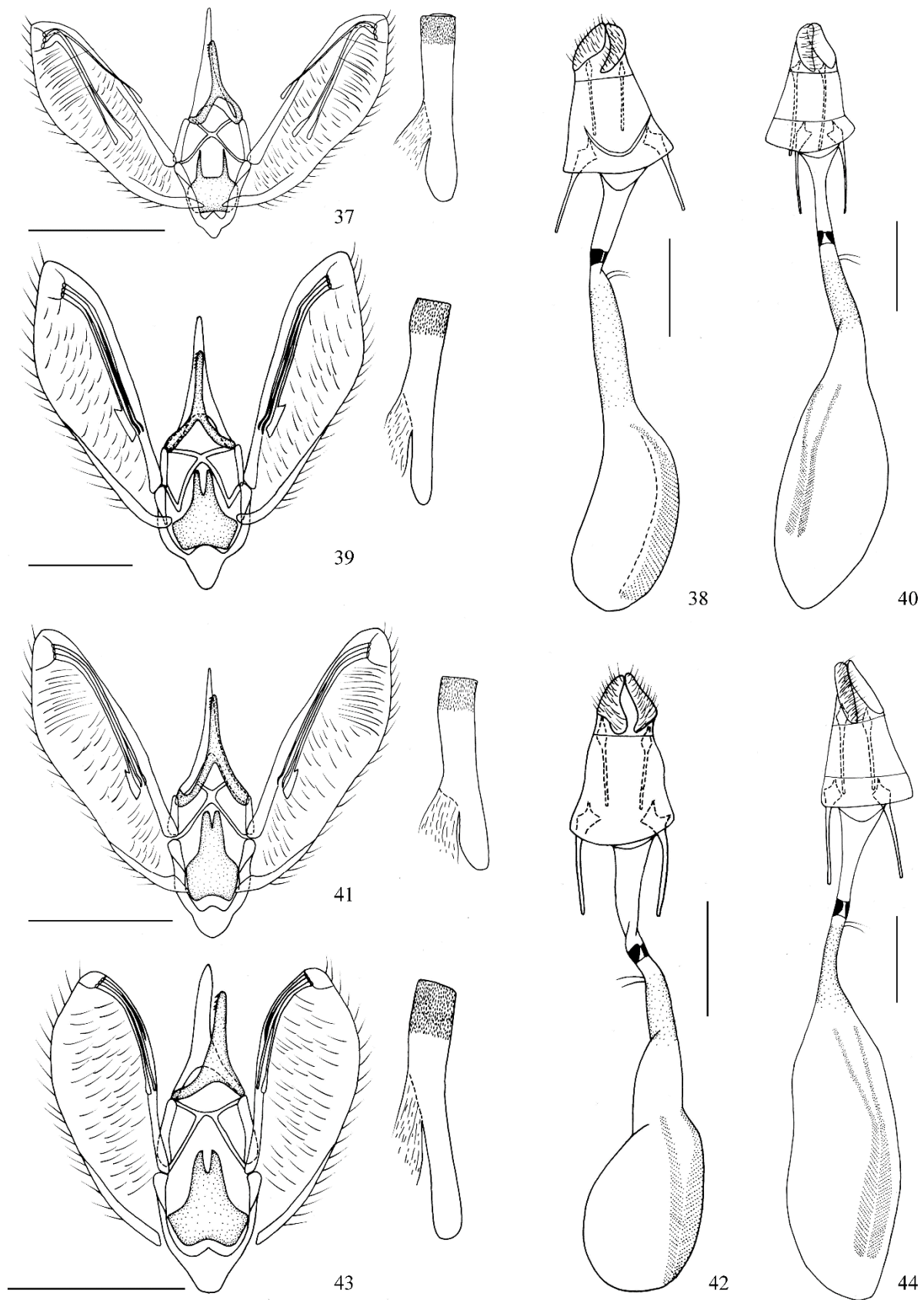
Male. Forewing brown, little paler in basal half; upper edge of cell diffused with fuscous long setae in basal half and androconial hairs covered with apical 1/3 of cell from upper edge; a longitudinal brown fascia arising along inner margin; a triangular fuscous patch beyond discocellulares, with outer edge slightly bended, connected with postmedial fascia; postmedial fascia band-like, fuscous; submarginal fascia band-like, yellow, with fuscous edges on both sides; cilia fuscous. Hindwing with base white; antemedial fascia brown; postmedial fascia brown, with fuscous edges on both sides; an incision present below apex; three eyespots present along outer margin, with silvery scales centrally; submarginal fascia band-like, yellow, with fuscous edges on both sides; cilia fuscous. Female same with male except androconial hairs absent.

Male genitalia (Fig. 41). Uncus slender, with apex pointed; gnathos about 4/5 length of uncus, apex with several dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely covered with setae, nearly same width from base to apex, three strong specialized setae present at apex, about 3/4 length of valva, third seta with minute spines laterally and a knife-shaped apex; vinculum broad; saccus round; juxta plate-like, with apex bifid; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising from middle.

Female genitalia (Fig. 42). Anal papillae relatively broad, densely covered with setae; apophysis anterioris and posterioris near same width, about 1.5 times length of anal papillae; antrum elongated, cylindric; collar sclerotized; ductus seminalis arising below collar; ductus bursae about half length of corpus bursae, with many minute spines; corpus bursae membranous, a pair of signa present, consisting of minute spines, about 3/4 length of corpus bursae.



Figures 29–36. Adults of *Eoophyla* spp. 29. *E. gibbosalis* (Guenée, 1854), male. 30. Ditto, female. 31. *E. sinensis* (Hampson, 1897), male. 32. Ditto, female. 33. *E. ciliensis* **sp. nov.**, male. 34. Ditto, female. 35. *E. fusca* **sp. nov.**, male. 36. Ditto, female.



Figures 37–44. Genitalia of *Eoophyla* spp. 37 *E. gibbosalis* (Guenée, 1854), male. 38. Ditto, female. 39. *E. sinensis* (Hampson, 1897), male. 40. Ditto, female. 41. *E. ciliensis* **sp. nov.**, male. 42. Ditto, female. 43. *E. fusca* **sp. nov.**, male. 44. Ditto, female. Scale bars = 1 mm.

Material examined. Holotype (♂). Hunan, Cili, 1988.VIII.28, Song Shimei, Paratype. Hunan, Cili, 1♀, 1988.VIII.28, Song Shimei. All deposited in IZCAS.

Distribution. China (Hunan).

Etymology. The specific name named after its typical locality, Cili, Hunan, China.

***Eoophyla fusca* sp. nov.** (Figs 35–36, 43–44)

Diagnosis. The new species is very similar to *E. sinensis*, but has the ground color darker, the androconial hairs of forewing larger, the eyespots of hindwing smaller (but larger than other species of the group). It is also special by the upper edge of cell diffused with fuscous long setae on basal half and androconial hairs covered with apical half of the cell from the upper edge. In male genitalia, the species has the first specilized seta little longer than half of others, second and third setae little longer than half length of valva, third seta with minute spines laterally and a slightly expanded apex. The expanded apex of the third seta smaller than *E. sinensis*. In female genitalia, the species has the signa longer than *E. sinensis*.

Description. Wing span ♂ 22–28 mm ($n=88$), ♀ 33–38 mm ($n=35$). Head pale brown; antennae filiform, base with a side projection present in male; labial palpi upturned, as long as compound eyes, densely suffused with long scales in ventral. Thorax and abdomen brown. Legs and tarsi slender.

Male. Forewing dark brown, with basal half slightly paler; costa with basal half dark brown, covered with short setae; upper edge of cell diffused with fuscous long setae on basal half and androconial hairs covered with apical half of cell from upper edge; a longitudinal yellow fascia arising along inner margin; a triangular pale yellow patch beyond discocellulares, with outer edge slightly bended; postmedial fascia band-like, touched with triangular patch; submarginal fascia band-like, yellow, with fuscous edges on both sides; cilia fuscous. Hindwing dark brown, with basal area white; antemedial fascia brown, with dark fuscous edge; white between ante- and postmedial fasciae; postmeidal fascia brown, with dark fuscous edges on both sides; an incision present below apex; three eyespots present along outer margin (smaller than *E. sinensis*, but larger than others), with silvery scales centrally; submarginal fascia band-like, yellow, with dark fuscous edges on both sides; cilia fuscous. Female same with male except androconial hairs absent.

Male genitalia (Fig. 43). Uncus slender, with apex pointed; gnathos about 3/4 length of uncus, apex with several dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely with setae, slight widen from base to apex, three strong specialized setae present at apex, first seta little longer than half of others, second and third setae little longer than half length of valva, third seta with minute spines laterally and a slightly expanded apex; vinculum broad; saccus round; juxta plate-like, apex bifid; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising from middle.

Female genitalia (Fig. 44). Anal papillae relatively narrow, densely covered with setae; apophysis anterioris and posterioris near same length, about 1.5 times as long as anal papillae; antrum cylindric; collar sclerotized; ductus seminalis arising below collar; ductus bursae relatively short, about 1/3 length of corpus bursae, with many minute spines; corpus bursae membranous, with a pair of signa, consisting of many minute spines, about 4/5 length of corpus bursae.

Material examined. Holotype (♂). Sichuan, Mt. Emei, Qingyinge, 800–1000 m, 1957.VII.16, Huang Keren. Paratypes. Sichuan, Mt. Emei, Qingyinge, 800–1000 m, 84♂33♀, 1957.VI.23–VII.18, Zhu Fuxing, Huang Keren, Lu Youcai; Sichuan, Mt. Emei, Baoguosi, 550–750 m, 2♂, 1957.VII.16–17, Zhu Fuxing, Huang Keren; Sichuan, Mt. Emei, Jiulaodong, 1800–1900 m, 1♂1♀, 1957.VII.15–17, Huang Keren; Sichuan, Mt. Emei, 710 m, 1♀, 1979.VI.19, Gao Ping. All deposited in IZCAS.

Distribution. China (Sichuan).

Etymology. The specific name is from the Latin “*fuscus*”, referring to its fuscous color.

***Eoophyla hamalis* (Snellen, 1876)**

Oligostigma hamalis Snellen, 1876, *Tijdschr. Ent.*, 19: 192, 199. Type-locality: Dharmasala, India.

Eoophyla hamalis: Speidel, 1984, *Neue Ent. Nachr.*, 12: 37; Speidel & Mey, 1999a, *Tijds. v. Ent.*, 142: 130; Li, You & Wang, 2003, *Acta Zootaxonomica Sinica*, 28(2): 299.

Diagnosis. The species can be easily distinguished from others by its female genitalia has the signa completely reduced and its male genitalia has three strong specialized setae no longer than half of valva (Speidel, 1984).

Material examined. None.

Remarks. Speidel revised the Palaearctic Acentropinae in 1984. In the paper, he firstly reported the genitalia of *E. hamalis* and treated “*Aulacodes ochripicta*” of Caradja (1927) from Sichuan as the misidentification of *E. hamalis*. The species is characteristic by its three specialized setae shorter than half of the valva. However, we did not find any materials in accord with the character. We doubt that its record from China is not right, but keep the current status before more evidence

is found.

***Eoophyla abstrusa* Li, You & Wang, 2003** (Figs 45–46, 53–54)

Eoophyla abstrusa Li, You & Wang, 2003, *Acta Zootaxonomica Sinica*, 28(2): 296. Type-locality: Jiangkou, Guizhou, China.

Diagnosis. The species is different by the forewing of male has its upper edge of cell diffused with fuscous setae on basal half and androconial hairs covered with apical half of the cell from the upper edge. In male genitalia, the species has three strong specialized setae about 2/3 length of valva, third seta with minute spines laterally and an expanded apex. In female genitalia, the species has the pair of slender signa little shorter than corpus bursae.

The species is similar to *E. fusca* **sp. nov.** and *E. clarusa* **sp. nov.** in external, but has the eyespots smaller than *E. fusca* **sp. nov.** and has the androconial hairs larger than *E. clarusa* **sp. nov.** Additionally, the species has the specialized setae longer than *E. fusca* **sp. nov.** in male and signa little longer than *E. fusca* **sp. nov.** and *E. clarusa* **sp. nov.** in female.

Male genitalia (Fig. 53). Uncus slender, apex pointed; gnathos about 3/4 length of uncus, with several dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely covered with setae, widen from base to apex, apex constricted, three strong specialized setae present at apex, about 2/3 length of valva, third seta with minute spines laterally and an expanded apex; vinculum broad; saccus round; juxta plate-like, with apex incurved; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising below middle.

Female genitalia (Fig. 54). Anal papillae relatively broad, densely covered with setae; apophysis anterioris about 1.5 times length of anal papillae, apophysis posterioris about 2/3 length of anterioris; antrum elongated, cylindric; collar sclerotized; ductus seminalis arising below collar; ductus bursae about 1/2 length of corpus bursae, with many minute spines; corpus bursae long, with a pair of slender signa, consisting of many minute spines, about 4/5 length of corpus bursae.

Material examined. Fujian, Mt. Wuyi, Guadun, 1200 m, 4♂7♀, 1979.VIII.11–12, Song Shimei; Fujian, Mt. Wuyi, Mali, 1260 m, 2♀, 2000.VII.30, Song Shimei; Fujian, Mt. Wuyi, Sangang, 740–900 m, 1♂3♀, 1960.VI.27–VII.16, Zhang Yiran; Fujian, Mt. Wuyi, Sangang, 1♂, 1979.VII.27, Song Shimei; Fujian, Mt. Wuyi, 1♀, 1980.VI.29; Fujian, Mt. Wuyi, Xianfengling, 1200 m, 1♂, 2000.VI.27, Wang Jiashe; Fujian, Chong'an, 240 m, 1♀, 1960.VI.30, Zuo Yong; Guangxi, Longsheng, Hongtan, 900 m, 1♀, 1963.VI.14, Wang Chunguang; Guangxi, Mt. Miao'er, 1♂, 1985.VII.11, Song Shimei. All deposited in IZCAS.

Distribution. China (Guangxi, Guizhou).

***Eoophyla clarusa* sp. nov.** (Figs 47–48, 55–56)

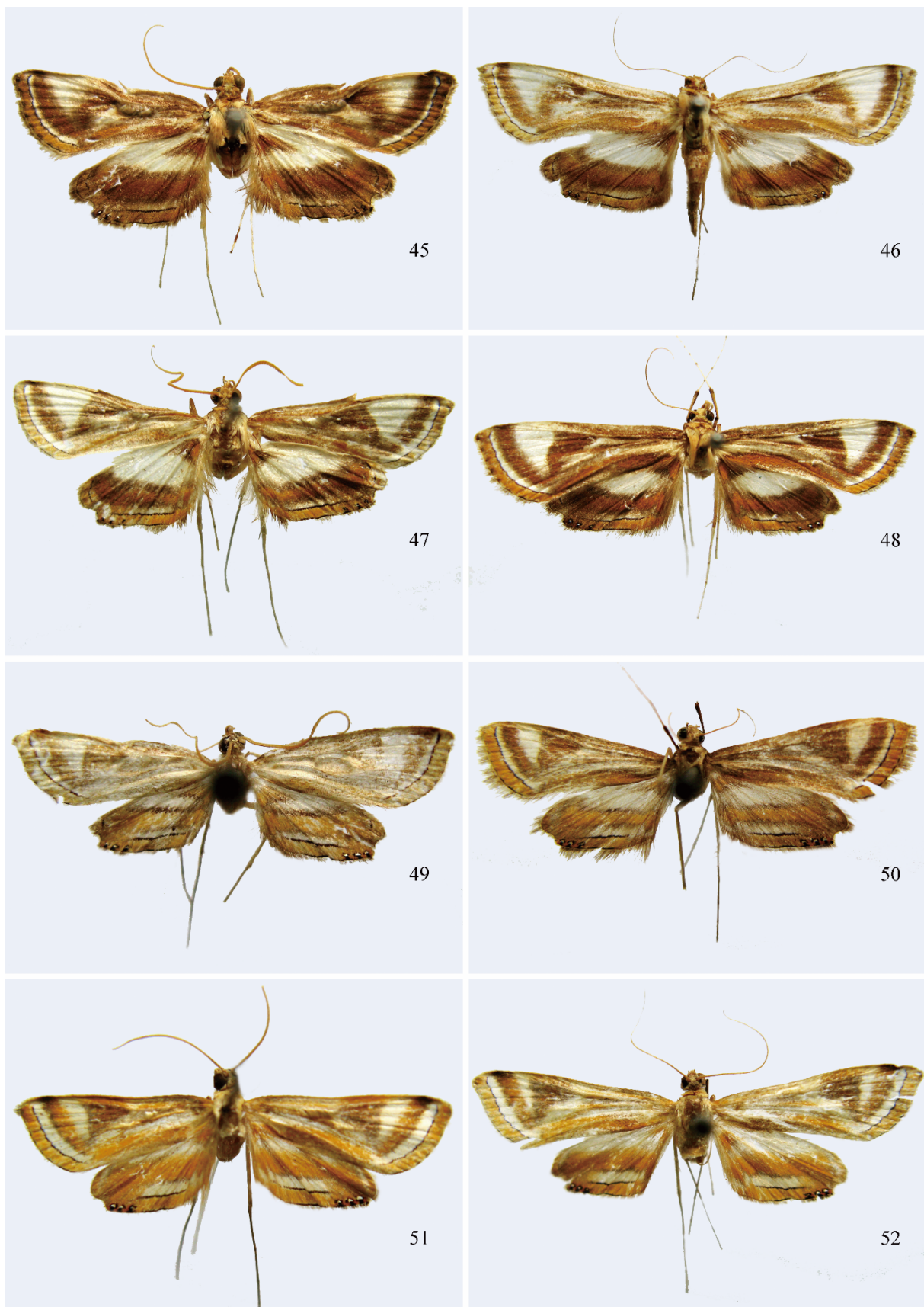
Diagnosis. The species is different by the forewing of male has its upper edge of cell diffused with fuscous setae from base to 2/3 length, and androconial hairs covered with apical 1/3 of the cell from the upper edge. In male genitalia, the species has two short strong specialized setae about 1/3 length of valva. In female genitalia, the species has the pair of slender signa about 2/3 length of corpus bursae.

The species is very similar to *E. abstrusa*, but has the triangular patch on forewing with clear outer edge while blurry in the latter. Moreover, the species has the androconial hairs obvious smaller than *E. abstrusa*. In genitalia, the species has the specialized setae and the signa shorter than those of *E. abstrusa*.

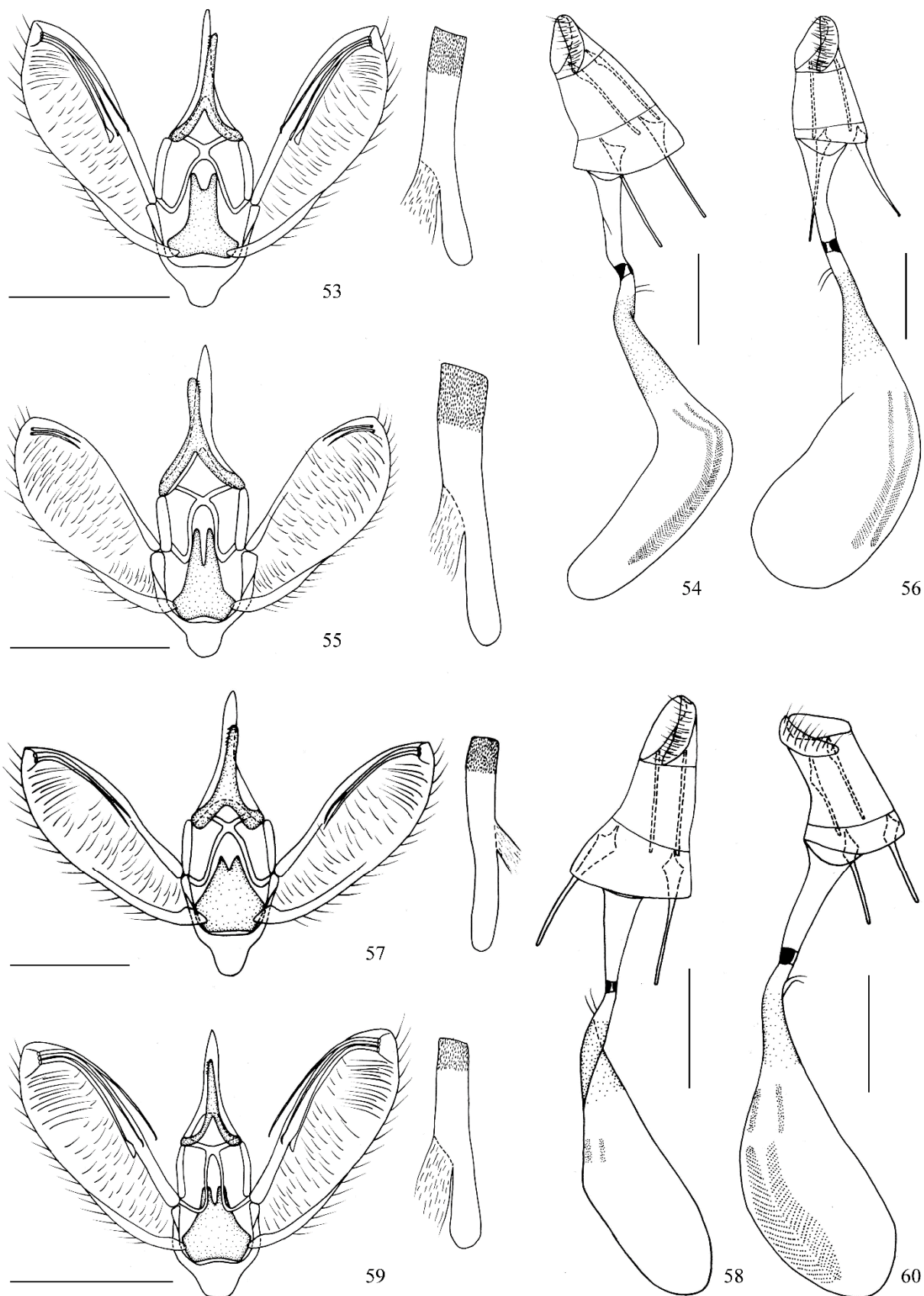
Description. Wing span ♂ 27–29 mm ($n=5$), ♀ 27–35 mm ($n=12$). Head pale yellow brown; antennae filiform, base with a side projection present in male; labial palpi upturned, little longer than compound eyes, densely suffused with long scales in ventral. Thorax and abdomen brown. Legs and tarsi slender.

Male. Forewing rufous, little paler in basal half; upper edge of cell diffused with fuscous long setae from base to 2/3 length, and androconial hairs covered with apical 1/3 of cell from upper edge; a longitudinal brown fascia arising along inner margin; a triangular fuscous patch beyond discocellulares, with outer edge straight; postmedial fascia band-like, fuscous, surrounding a triangular white patch with triangular fuscous patch; submarginal fascia band-like, yellow, with black edges on both sides; cilia fuscous. Hindwing with basal half white; antemedial fascia rufous, with dark fuscous outer edge; postmedial fascia rufous, with dark fuscous edges on both sides; an incision present below apex; three eyespots present along outer margin, with silvery scales centrally; submarginal fascia band-like, yellow, with black edges on both sides; cilia fuscous. Female same with male except androconial hairs absent.

Male genitalia (Fig. 55). Uncus slender, with apex pointed; gnathos about 2/3 length of uncus, with several dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely covered with setae, nearly same width from base to apex, two short strong specialized setae present at apex, about 1/3 length of valva; vinculum broad; saccus round; juxta plate-like, with apex bilobed; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising from middle.



Figures 45–52. Adults of *Eoophyla* spp. 45. *E. abstrusa* Li, You & Wang, 2003, male. 46. Ditto, female. 47. *E. clarusa* **sp. nov.**, male. 48. Ditto, female. 49. *E. minita* **sp. nov.**, male. 50. Ditto, female. 51. *E. evidens* Li, You & Wang, 2003, male. 52. Ditto, female.



Figures 53–60. Genitalia of *Eoophyla* spp. 53. *E. abstrusa* Li, You & Wang, 2003, male. 54. Ditto, female. 55. *E. clarusa* **sp. nov.**, male. 56. Ditto, female. 57. *E. minita* **sp. nov.**, male. 58. Ditto, female. 59. *E. evidens* Li, You & Wang, 2003, male. 60. Ditto, female. Scale bars = 1 mm.

Female genitalia (Fig. 56). Anal papillae relatively broad, densely covered with setae; apophysis anterioris about 1.5 times as long as anal papillae, apophysis posterioris little shorter than anterioris; antrum elongated, cylindric; collar sclerotized; ductus seminalis arising below collar; ductus bursae about half length of corpus bursae, with many minute spines; corpus bursae long, with a pair of slender signa, consisting of many minute spines and about 2/3 length of corpus bursae.

Material examined. Holotype (♂). Fujian, Mt. Wuyi, Sangang, 740–900 m, 1960.VI.25, Zhang Yiran. Paratypes. Fujian, Mt. Wuyi, Sangang, 740–900 m, 3♂3♀, 1960.VI.25–VII.15, Zhang Yiran; Fujian, Mt. Wuyi, Sangang, 740 m, 3♀, 1979.VII.27, Song Shimei; Fujian, Mt. Wuyi, Sangang, 740 m, 1♀, 2000.V.21, Wang Jiashe; Guangxi, Longsheng, Huaping, 1♂4♀, 1980.VI.13–14, Song Shimei; Yunnan, Cangyuan, 1♀, 1980.V.19, Song Shimei. All deposited in IZCAS.

Distribution. China (Fujian, Guangxi, Yunnan).

Etymology. The specific name is from the Latin “*clarus*”, means clear, corresponding to its clear edges of the triangular patch on forewing, different from *E. abstrusa*.

***Eoophyla minita* sp. nov.** (Figs 49–50, 57–58)

Diagnosis. The species has the adults obvious smaller than other species of the group. It has the androconial hairs covered with apical 1/3 of the cell from the upper edge. In male genitalia, the species has two strong specialized setae about half length of vlava. In female genitalia, the species has the pair of signa shorter, at base of corpus bursae, about 1/7 length of it.

Description. Wing span ♂ 15–16 mm ($n=8$), ♀ 17–27 mm ($n=13$). Head pale yellow; antennae filiform, base with a side projection present in male; labial palpi upturned, as long as compound eyes, densely suffused with long scales in ventral. Thorax and abdomen brown. Legs and tarsi slender.

Male. Forewing brown, little paler in basal half; androconial hairs covered with apical 1/3 of cell from upper edge; a longitudinal brown fascia arising along inner margin; a triangular fuscous patch beyond discocellulares, with straight outer edge, touched with postmedial fascia; postmedial fascia band-like, fuscous; submarginal fascia yellow, with dark fuscous edges on both sides; cilia fuscous. Hindwing with base white; antemedial and postmedial fasciae yellow, with dark fuscous edges on both sides; an incision present below apex; three eyespots present along outer margin, with silvery scales centrally; submarginal fascia band-like, yellow, with black edges on both sides; cilia fuscous. Female same with male except androconial hairs absent.

Male genitalia (Fig. 57). Uncus slender, with apex pointed; gnathos about 2/3 length of uncus, apex blunt, with several dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely covered with setae, nearly same width from base to apex, two strong specialized setae present at apex, about half length of vlava, apex not expanded; vinculum broad; saccus round; juxta plate-like, with apex incurved; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising below middle.

Female genitalia (Fig. 58). Anal papillae relatively narrow, densely covered with setae; apophysis anterioris about 2 times length of anal papillae, apophysis posterioris little shorter than anterioris; antrum elongated, cylindric; collar sclerotized; ductus seminalis arising below collar; ductus bursae about 1/3 length of corpus bursae, with many minute spines; corpus bursae long, with a pair of signa at base, consisting of many minute spines, about 1/7 length of corpus bursae.

Material examined. Holotype (♂). Jiangxi, Neiliang, 1985.VIII.23, Song Shimei. Paratypes. Jiangxi, Doushui, 6♀, 1975.VII.3, Song Shimei; Jiangxi, Neiliang, 1♂, 1985.VIII.23, Song Shimei; Guangxi, Longsheng, Sanmen, 300 m, 6♂2♀, 1963.VI.28, Wang Chunguang; Guangxi, Longsheng, Baiyan, 1150 m, 1♀, 1963.VI.20, Wang Chunguang; Guangxi, Longzhou, Mt. Daqing, 360 m, 1♀, 1963.IV.22, Wang Chunguang; Guangxi, Xing'an, 2♀, 1981.VI.3, Song Shimei; Sichuan, Mt. Emei, 710 m, 1♀, 1979.VI.21, Gao Ping. All deposited in IZCAS.

Distribution. China (Jiangxi, Guangxi, Sichuan).

Etymology. The specific name is from the Latin “*minut*”, means small, corresponding to its smaller size than other species of the group.

***Eoophyla evidens* Li, You & Wang, 2003** (Figs 51–52, 59–60)

Eoophyla evidens Li, You & Wang, 2003, *Acta Zootaxonomica Sinica*, 28(2): 297. Type-locality: Guangxi, China.

Diagnosis. The species is different by its forewing of male has the upper edge of cell diffused with fuscous long setae from basal half and androconial hairs covered with apical 1/3 of the cell from the upper edge. And it can be distinguished from other species of the group that the postmedial fascia of both wings without the fuscous inner edge. In male genitalia, the species is special by three strong specialized setae about 3/4 length of valva, and the third seta with minute spines laterally

and a slightly expanded apex. In female genitalia, two pairs of singa are present by the shorter pair thin, about 1/6 length of corpus bursae and the longer pair broad, about 2/3 length of corpus bursae.

Male genitalia (Fig. 59). Uncus slender, with apex pointed; gnathos about 2/3 length of uncus, apex with several dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely covered with setae, nearly same width from base to apex, apex constricted; three strong specialized setae present at apex, about 3/4 length of valva, third seta with minute spines laterally and a slightly expanded apex; vinculum broad; saccus round; juxta plate-like, with apex bifid; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising from middle.

Female genitalia (Fig. 60). Anal papillae relatively broad, densely covered with setae; apophysis anterioris and posterioris nearly same width, about 1.5 times length of anal papillae; antrum elongated, cylindric; collar sclerotized; ductus seminalis arising below collar; ductus bursae about half length of corpus bursae, with many minute spines; corpus bursae membranous, two pairs of singa present, consisting of many minute spines; shorter pair thin, present at base, about 1/6 length of corpus bursae; longer pair broad, present at middle, about 2/3 length of corpus bursae.

Material examined. Jiangxi, Dayu, 1♂1♀, 1975.VII.14, Song Shimei; Jiangxi, Doushui, 1♀, 1975.VII.3, Song Shimei; Fujian, Nanjing, Tiankui, 2♀, 1980.XI.5–6, Cai Rongquan; Guangxi, Jinxiu, Mt. Shengtang, 900 m, 1♀, 1999.V.17, Li Wenzhu; Guizhou, Mt. Leigong, Xiaodanjiang, 740–950 m, 1♂1♀, 2005.V.31, Chen Fuqiang. All deposited in IZCAS.

Distribution. China (Jiangxi, Fujian, Guangxi, Guizhou).

Eoophyla mimeticalis (Caradja, 1925) (Figs 61–62, 66–67)

Aulacodes mimeticalis Caradja, 1925, *Memle Sect. Stiint. Acad. Rom.* (3)3(7): 332. Type-locality: China.

Eoophyla mimeticalis: Speidel & Mey, 1999a, *Tijds. v. Ent.*, 142: 130; Li, You & Wang, 2003, *Acta Zootaxonomica Sinica*, 28(2): 299.

Diagnosis. The species is very similar to *E. evidens*, but has the postmedial fascia of both wings with fuscous inner edge, rather than absent in *E. evidens*. In male genitalia, the species has the specialized setae shorter, about half length of valva rather than 3/4 in *E. evidens*. In female genitalia, the species has the signa shorter and thinner than *E. evidens*.

Male genitalia (Fig. 66). Uncus slender, with apex pointed; gnathos about 2/3 length of uncus, apex with several dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely covered with setae, nearly same width from base to apex, apex constricted; three strong specialized setae present at apex, about half length of valva; third seta with minute spines laterally and a slightly expanded apex; vinculum broad; saccus round; juxta plate-like, with apex bifid; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising from middle.

Female genitalia (Fig. 67). Anal papillae relatively broad, densely covered with setae; apophysis anterioris and posterioris nearly same width, about 1.5 times length of anal papillae; antrum elongated, cylindric; collar sclerotized; ductus seminalis arising below collar; ductus bursae about half length of corpus bursae, with many minute spines; corpus bursae membranous, two pairs of singa present, consisting of many minute spines; shorter pair thin, present at base, about 1/5 length of corpus bursae; longer pair thin, present at middle, about 1/2 length of corpus bursae.

Material examined. Fujian, Mt. Wuyi, Lijiatang, 1♂1♀, 2000.V.27, Wang Jiashe; Fujian, Mt. Wuyi, Lijiatang, 1♀, 2000.VII.23, Song Shimei; Fujian, Jianyang, Huangkeng, 290–600 m, 1♂, 1960.IV.7, Jiang Shengqiao; Guangxi, Longsheng, Hongtan, 900 m, 1♂, 1963.VI.11, Wang Chunguang; Guangxi, Longsheng, Neicuijiang, 840 m, 1♀, 1963.VI.6, Wang Chunguang; Guangxi, Fangcheng, Fulong, 350 m, 1♀, 1999.V.23, Li Wenzhu. All deposited in IZCAS.

Distribution. China (Fujian, Guangdong, Guangxi).

Eoophyla leiokellula sp. nov. (Figs 23, 68)

Diagnosis. The species is obvious different with other species of the group by following: the androconial hairs absent, the triangular fuscous patch beyond discocellulares not touched with postmedial fascia. In male genitalia, the species is specific by its valva with a tuft of specialized setae rather than strong specialized setae and the gnathos with a slightly expanded apex.

Description. Wing span ♂ 27 mm ($n=1$). Head pale brown; antennae filiform, base without side projection present; labial palpi upturned, as long as compound eyes, densely suffused with long scales in ventral. Thorax and abdomen brown. Legs and tarsi slender.

Male. Forewing brown, little paler in basal half; upper edge of cell diffused with brown long setae in basal half, without androconial hairs; a longitudinal brown fascia arising along inner margin; a triangular fuscous patch beyond discocellulares, with outer edge waved, not touched with postmedial fascia; postmedial fascia band-like, fuscous; submarginal fascia band-like, yellow, with dark fuscous edges on both sides; cilia fuscous. Hindwing with basal half white; antemedial fascia brown, with fuscous outer edge; postmedial fascia brown, with fuscous edges on both sides; an incision present below apex; three

eyespot present along outer margin, with silvery scales centrally; submarginal fascia band-like, yellow, with black edges on both sides; cilia fuscous.

Male genitalia (Fig. 68). Uncus slender, thinner than gnathos, with apex pointed; gnathos about 2/3 length of uncus, apex slightly expanded, round, with several dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely covered with setae, nearly same width from base to apex, apex constricted, a tuft of specialized setae present at apex; vinculum broad; saccus round; juxta plate-like, with apex bilobed; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising from middle.

Female. Unknown.

Material examined. Holotype (♂). Yunnan, Jinping, Hetouzhai, 1700 m, 1956.V.14, Huang Keren, deposited in IZCAS.

Distribution. China (Yunnan).

Etymology. The specific name is from Greek “*lei*” and “*kello*”, corresponding to the androconial hairs absent in the new species.

***Eoophyla ochripicta* (Moore, 1888) (Figs 63–64, 69–70)**

Cataclysta ochripicta Moore, 1888, In: Hewitson & Moore, 1879–88, *Descr. Lipid. Insects Colln late Mr. W. S. Atkinson*, (3): 209. Type-locality: Cherra Punji, India.

Aulacodes ochripicta: Caradja, 1925, *Mem. Acad. Rom. Sect. Stiint.*, (3) 3 mem. 7: 332.

Eoophyla ochripicta: Yoshiyasu, 1987, *Microlep. Thai.*, 1: 168; Speidel & Mey, 1999a, *Tijds. v. Ent.*, 142: 130; Li, You & Wang, 2003, *Acta Zootaxonomica Sinica*, 28(2): 299.

Diagnosis. The species can be distinguished from other species by the forewing of male has its upper edge of cell diffused with fuscous on basal half and androconial hairs covered with apical half of the cell from the upper edge. On hindwing, the species has two eyespots along the submarginal band; the second eyespot is reduced, obvious smaller than the first. In male genitalia, it is special by two strong specialized setae present and their apex pointed. In female genitalia, it is different by two pairs of singa present, the shorter pair about 1/4 length of corpus bursae, the longer pair about half length of corpus bursae.

Male genitalia (Fig. 69). Uncus relatively broad, with apex rounded; gnathos about 3/4 length of uncus, apex with several dorsal teeth; tegumen with sclerotized dorsal ridge X-shaped; valva densely with setae, nearly same width from base to apex, apex constricted, two strong specialized setae present at apex, about half length of valva, with apexes pointed; vinculum broad; saccus round; juxta plate-like, apex forked; aedeagus slender, vesica with many minute spines, ductus ejaculatorius arising below middle.

Female genitalia (Fig. 70). Anal papillae densely covered with setae; apophysis anterioris and posterioris near same length; antrum elongated, cylindric; collar sclerotized; ductus seminalis arising below collar; ductus bursae about half length of the corpus bursae, with many minute spines; corpus bursae elongated, with two pairs of singa, consisting of many minute spines; shorter pair thin, about 1/4 length of corpus bursae; longer pair broad, about half length of corpus bursae.

Material examined. Yunnan, Xishuangbanna, Menglun, 650 m, 2♂1♀, 1964.IV.15–VII.31, Zhang Baolin; Yunnan, Menglun, 1♀, 1980.V.6, Wang Linyao. All deposited in IZCAS.

Distribution. China (Guangdong (Caradja, 1925), Yunnan), Thailand, India.

Remarks. The species has only two eyespots on hindwing, which is fit to *crassicornalis* group (two eyespots present along submarginal fascia of hindwing). However, the *gibbosalis* group is mainly distributed in Asia continent, while the *crassicornalis* group is mainly distributed in Southeast Asia. So *E. ochripicta* was primary put in the current species group.

***Eoophyla simplicialis* (Snellen, 1876)**

Oligostigma simplicialis Snellen, 1876, *Tijdschr. Ent.*, 19: 193, 201. Type-locality: Java, Indonesia.

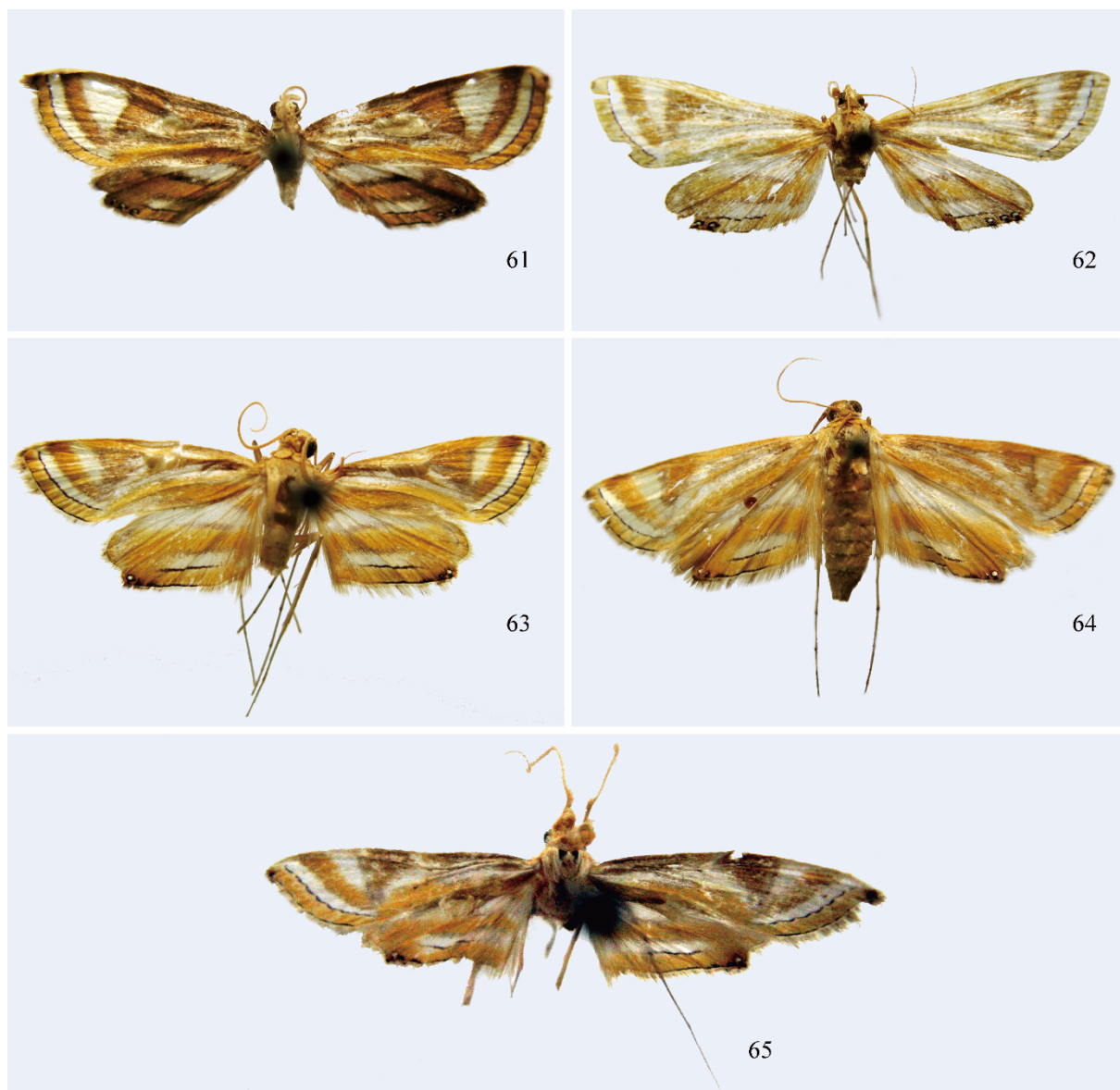
Aulacodes simplicialis f. rufalis Caradja, 1938, *Stettin. Ent. Ztg.*, 99: 256. Type-locality: Shaowu, Fujian, China.

Eoophyla simplicialis: Yoshiyasu, 1987, *Microlep. Thai.*, 1: 166; Speidel & Mey, 1999a, *Tijds. v. Ent.*, 142: 130.

Diagnosis (Yoshiyasu, 1987). The species is different by the hindwing has two distinct eyespots present along the submarginal fascia. In male genitalia, the species has three strong specialized setae about 2/3 length of valva, with apex not expanded. In female genitalia, the species has the pair of signa about 4/5 length of corpus bursae.

Material examined. None.

Distribution. China (Fujian).



Figures 61–65. Adults of *Eoophyla* spp. 61. *E. mimeticalis* (Caradja, 1925), male. 62. Ditto, female. 63. *E. ochripicta* (Moore, 1888), male. 64. Ditto, female. 65. *E. nigripilosa* Yoshiyasu, 1987, male.

3.3 The *nigripilosa* group

Diagnosis (Table 1). The species group has only one eyespot present the outer margin of hindwing. The eyespot has similar size as the *gibbosalis* group, but smaller than the *peribocalis* group.

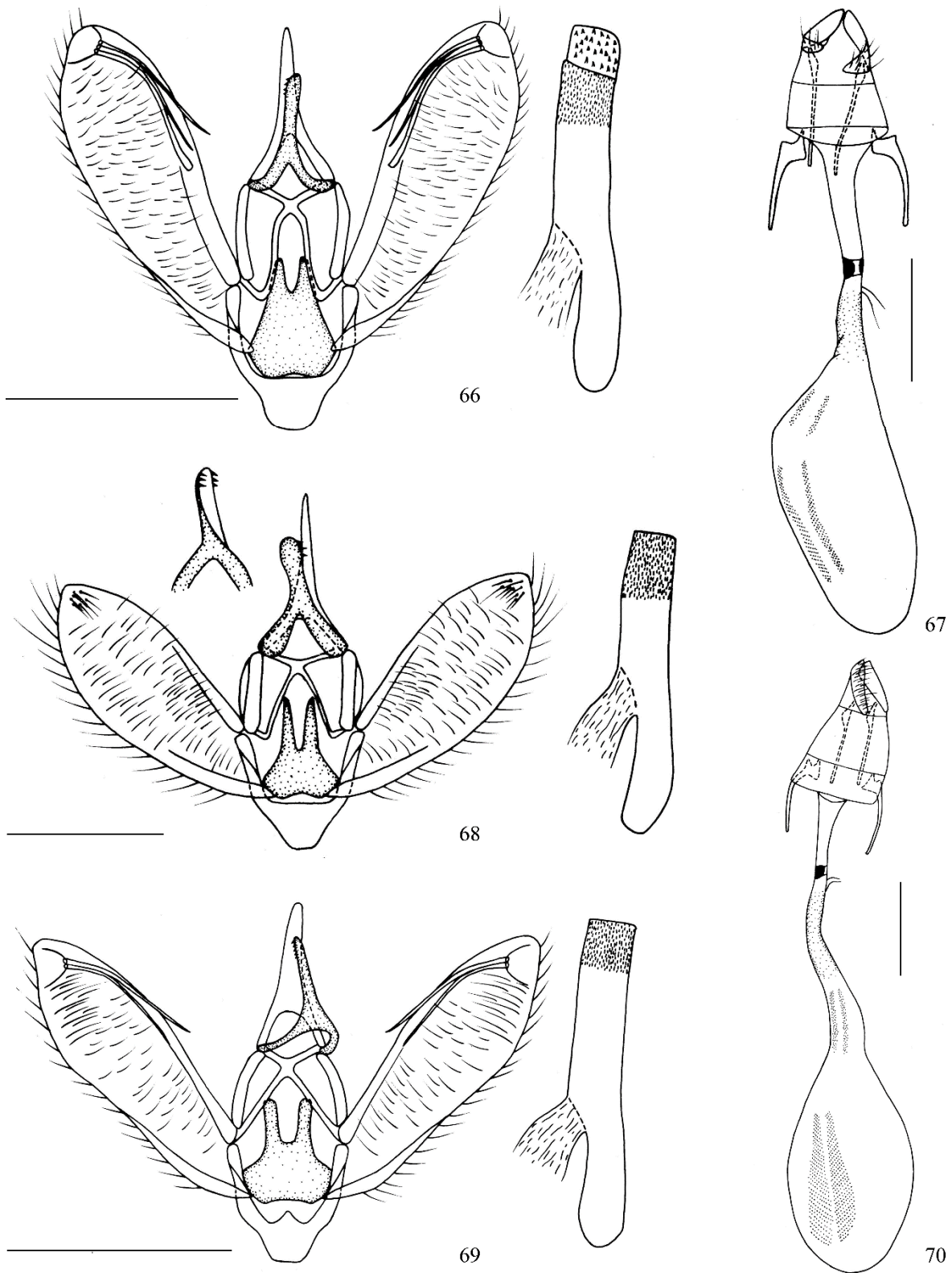
Eoophyla nigripilosa Yoshiyasu, 1987 (Fig. 65)

Eoophyla nigripilosa Yoshiyasu, 1987, *Microlep. Thai.*, 1: 170; Speidel & Mey, 1999a, *Tijds. v. Ent.*, 142: 130; Li, You & Wang, 2003, *Acta Zootaxonomica Sinica*, 28(2): 299. Type-locality: Thailand.

Diagnosis (Yoshiyasu, 1987). The species is different by the hindwing has a single eyespot along the submarginal fascia. In male genitalia, the species has three specialized setae about 2/3 length of valva, the third seta slightly expanded in apex. In female genitalia, the species has a pair of triangular signa, consisting of many stout spines.

Material examined. Yunnan, Xishuangbanna, Mengla, 670 m, 1♂, 1974.V.1–5, Zhou Yao (NKU).

Distribution. China (Fujian, Guangdong, Yunnan), Thailand.



Figures 66–70. Genitalia of *Eoophyla* spp. 66. *E. mimetialis* (Caradja, 1925), male. 67. Ditto, female. 68. *E. leiokellula* **sp. nov.**, male. 69. *E. ochripicta* (Moore, 1888), male. 70. Ditto, female. Scale bars = 1 mm.

Table 1. Characters of the species of *Eoophyla* from China.

	AH ratio ¹	Eyespots ²	Specialized setae in male genitalia ³			Signa in female genitalia ⁴	
			Number	Ratio	Apex	Number	Ratio
The <i>peribocalis</i> group							
<i>E. conjunctalis</i>	1	4	3	1/2	Knife-shaped in 3rd	One pair	5/6
<i>E. halialis</i>	1/3	4	3	3/5	Knife-shaped in 3rd	One pair	5/6
<i>E. melanops</i>	2/3	4	3	2/3	Knife-shaped in 3rd	One pair	5/6
<i>E. tenuisa</i> sp. nov.	2/5	4	3	5/7	Knife-shaped in 3rd	Two pair	1/5+1/2
<i>E. menglensis</i>	1/4	4	2	3/5	Expanded in 3rd	Two pair	1/10+3/5
<i>E. thaiensis</i>	1/2	4	3	2/3	Expanded in 3rd	Two pair	1/5+1/2
<i>E. minisigna</i> sp. nov.	Not observed	4	Not observed			One pair	1/5
The <i>gibbosalis</i> group							
<i>E. gibbosalis</i>	1	3	3	3/5	All expanded	One pair	1
<i>E. sinensis</i>	1/3	3	3	3/4	Knife-shaped in 3rd	One pair	3/4
<i>E. ciliensis</i> sp. nov.	1/3	3	3	3/4	Knife-shaped in 3rd	One pair	3/4
<i>E. fusca</i> sp. nov.	1/2	3	3	1/2	Slightly expanded in 3rd	One pair	4/5
<i>E. hamalis</i>	Not observed	3	3	<1/2	Not observed	Reduced	
<i>E. abstrusa</i>	1/2	3	3	2/3	Slightly expanded in 3rd	One pair	4/5
<i>E. clarusa</i> sp. nov.	1/3	3	2	1/3	Not expanded	One pair	2/3
<i>E. minita</i> sp. nov.	1/3	3	2	1/2	Not expanded	One pair	1/7
<i>E. evidens</i>	1/3	3	3	3/4	Slightly expanded in 3rd	Two pair	1/6+2/3
<i>E. mimetialis</i>	1/3	3	3	1/2	Slightly expanded in 3rd	Two pair	1/5+1/2
<i>E. leiokellula</i> sp. nov.	Absent	3	A tuft of specialized setae			Not observed	
<i>E. ochripicta</i>	1/2	2	2	1/2	Not expanded	Two pair	1/4+1/2
<i>E. simplicialis</i>	Not observed	2	3		Not expanded	One pair	4/5
The <i>nigripilosa</i> group							
<i>E. nigripilosa</i>	Not observed	1	3	2/3	Expanded in 3rd	One pair of triangular	

¹Androconial hairs account ratio for the cell²The numbers of eyespots on hindwing³Specialized setae numbers, ratio for the length of valva and shapes of their apex⁴Singa numbers, ratio for the length of corpus bursae

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