

CORRESPONDENCE

Four new species of Limacodidae from China (Lepidoptera: Zygaenoidea)

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Abstract Four new species, *Epsteinius luoi* sp. nov., *Aphendala notoseusa* sp. nov., *Aphendala mina* sp. nov. and *Striogyia acuta* sp. nov., are described and illustrated from China.

Key words Zygaenoidea, Limacodidae, slug caterpillar moths, new species, China.

In this paper, four species of Limacodidae (Lepidoptera: Zygaenoidea) are described as new to science. It's the subsequent work following a series taxonomic work on Limacodidae (Wu & Fang, 2008; Wu, 2011). All specimens examined, including the types, are deposited in the National Zoological Museum of China, Institute of Zoology, Chinese Academy of Sciences, Beijing, China (IZCAS). Specimens were collected by light trap in this study. The photographs of the moths were taken with a NIKON D7000 digital camera.

Epsteinius luoi sp. nov. (Figs 1, 5, 9)

Diagnosis. The new species is similar to *Epsteinius translucidus* Lin, 2020, but differs from the latter by the valva with a much longer basal process in the male genitalia and the signa consisting of thinner spines in the female genitalia.

Description. Wing expanse about 14.0 mm. Forewing length 5.0–7.0 mm. Head dark brown. Antenna brown. Labial palpus porrect, with 2nd segment pointed upwards and 3rd segment short, yellowish brown. Forewing reddish copper brown, with a dark purple black spot at apex; terminal fascia dark purple black; cilia pale copper at basal half, yellow at terminal half. Hindwing greyish black; cilia pale yellow. Hind leg tibia with four slender spurs, two longer in the middle and two shorter at the end.

Male genitalia. Uncus pointed; gnathos bifurcated apically, upper lobe short and obtuse, lower lobe long and acute; juxta expanded laterally at apical part, apex bifurcate (upper lobe shorter and lower lobe longer, which are turned out in *E. translucidus*); valva short and broad, apical part densely with bristles; sacculus with a long process at base, which much longer than that in *E. translucidus*; aedeagus relatively thick, longer than valva-length, apex with a small sclerite and 2 long spines.

Female genitalia. Apophysis anteriores vestigial, posteriores slender; a reversed V-shaped sclerite around ostium, post margin with dense bristles; ductus bursae thick and short; corpus bursae small relatively, signa consist of two spines, which thinner than those in *E. translucidus*.

Larva. Body length of mature larvae 5.0–7.0 mm. Body ovate in shape, pale green, front wider slightly. There is a row of D tubercles, each bearing 2 spines. Dorsal middle has a big purple brown spot.

Cocoon. Ovate in shape, yellowish brown in colour, 5.0×3.0 mm in size.

Biology. There are 3 generations in Xishuangbanna, Yunnan. It overwinters as mature larva in the cocoon. Cocoons are made under wilted leaves, soil or on rootstocks.

Host plant. *Camellia* spp.

Material examined. Holotype (♂). Yunnan, Xishuangbanna, Menghai, 1200 m, 1982.VIII.12, Hengwen Luo leg. (gen.

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slide no. L06103). Paratypes. 2♀1♂, same data as holotype (gen. slide no. L06104). All deposited in IZCAS.

Distribution. Yunnan (Menghai).

Etymology. The species is named in honour of Prof. Hengwen Luo for providing the type specimens and the information on the biology and immature stages of this new species.

Remarks. The new species is the second known species in this genus. The type species, *Epsteinius translucidus* Lin, original described from Taiwan (Lin *et al.*, 2020), was formally misidentified as *Trichogyia nigrimargo* Hering (original described from India) in Chinese mainland (Zhejiang, Anhui, Guizhou).

***Aphendala mina* sp. nov.** (Figs 2, 6)

Diagnosis. The new species is similar to *A. kalinini* Solovyev, 2010 in external, but differs from the latter by the forewing with a black discal spot. It can be easily distinguished from other species of this genus by the aedeagus with a cluster of lateral spines near apex.

Description. Wing expanse about 22.0 mm. Forewing length about 10.0 mm. Labial palpus short, yellowish brown. Antenna yellowish brown, short pectinations. Head, thorax and abdomen greyish brown, tegula dark brown. Forewing brown, a dark oblique line from apical 2/3 of costal margin to basal 1/3 of inner margin, wing basal part blackish brown inside the line, outside of the line bordered by a white fascia; discal spot small, black; dark brown submarginal fascia bordered by a greyish white line. Hindwing yellowish brown. Tibial spurs: 0-2-2.

Male genitalia. Uncus long; gnathos thick, apex pointed; valva narrow and long, wider in middle; juxta long, bullet like; aedeagus thin and long, waved, with a cluster of lateral spines near apex.

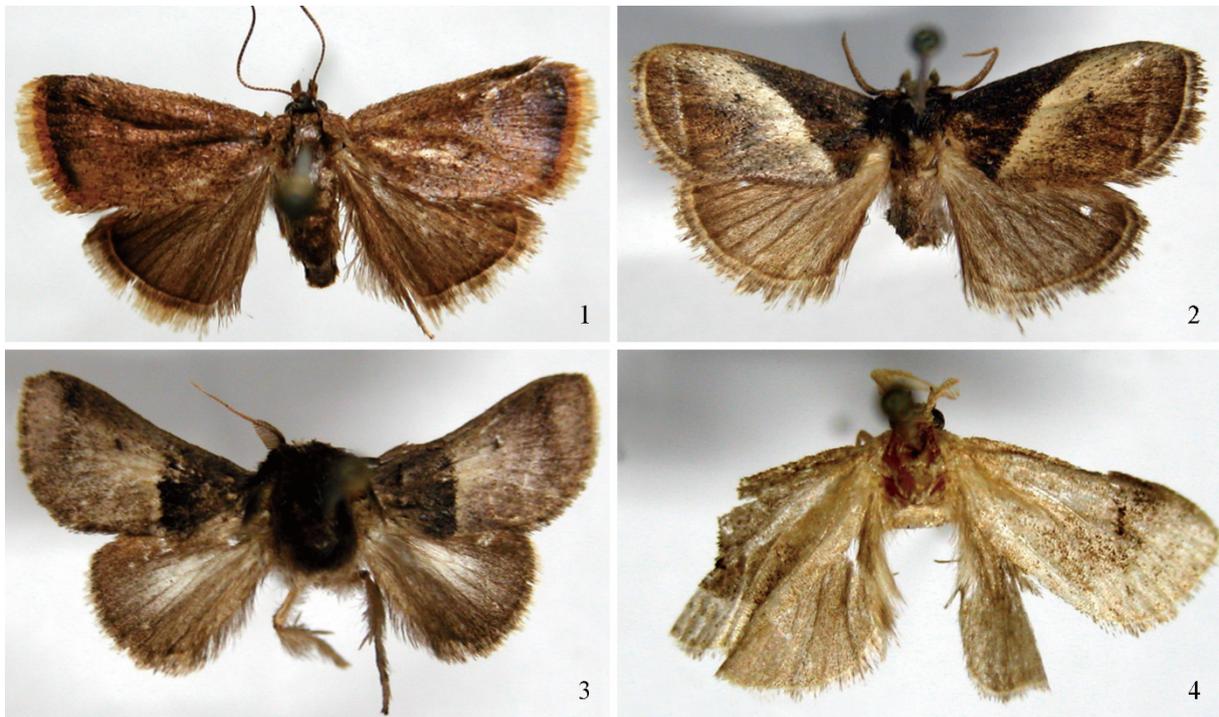
Female genitalia. Unknown.

Material examined. Holotype (♂). Fujian, Wuyishan, 1979.VIII.10, Shimei Song leg. (gen. slide no. L06185). Paratype. 1♂, same locality as holotype, 1982.VI.29, Fan Jiang leg. All deposited in IZCAS.

Distribution. Fujian (Wuyishan).

Etymology. The specific name is named after the type locality, Fujian. Min is the abbreviation for Fujian.

***Aphendala notoseusa* sp. nov.** (Figs 3, 7, 10)



Figures 1–4. Adults. 1. *Epsteinius luoi* sp. nov., paratype. 2. *Aphendala mina* sp. nov., holotype. 3. *Aphendala notoseusa* sp. nov., holotype. 4. *Striogyia acuta* sp. nov., holotype.

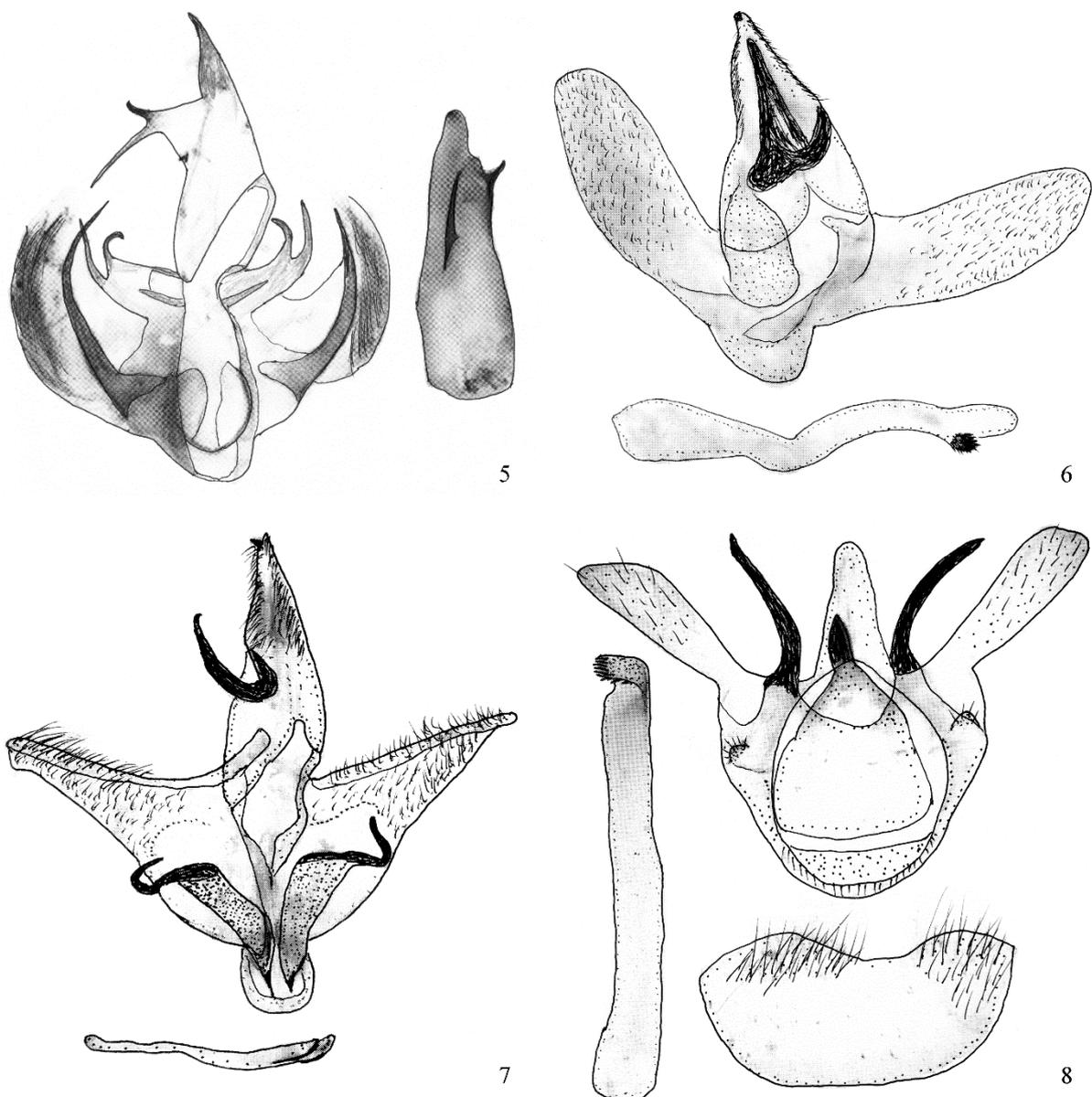
Diagnosis. The new species is similar to *A. unicolor* (Moore, 1859), but differs from the latter by the hindwing with a large greyish white spot in middle. It can be easily distinguished from other species of this genus by the long triangular valva.

Description. Wing expanse about 20.0 mm. Forewing length 9.0–10.0 mm. Male antenna bipectinate in basal 1/3, yellowish brown. Labial palpus dark brown. Body dark brown. Forewing brown, basal part blackish brown inside inner fascia; discal spot small, black; submarginal fascia indistinct, dark brown. Hindwing brown, middle greyish white. Tibial spurs: 0-2-4.

Male genitalia. Uncus long; gnathos narrow and long, apex pointed; valva long, triangular, sacculus broad, with a long hooked process; aedeagus thin and long, apically with a thick spine.

Female genitalia. Apophysis anteriores very short, posteriores thick and long; ductus bursae long; corpus bursae small relatively, with a crescent signum.

Material examined. Holotype (♂). Fujian, Putian, 1978.VI.29, Bangkan Huang leg. (gen. slide no. W10067). Paratype. 1♀, Fujian, Putian, 1978.VI.29, Shicheng Qi leg. (gen. slide no. W10066). All deposited in IZCAS.



Figures 5–8. Male genitalia. 5. *Epsteinius luoi* sp. nov., holotype, gen. slide no. L06103. 6. *Aphenalata mina* sp. nov., holotype, gen. slide no. L06185. 7. *Aphenalata notoseusa* sp. nov., holotype, gen. slide no. W10067. 8. *Striogvia acuta* sp. nov., including 8th sternite, holotype, gen. slide no. W10038.

Distribution. Fujian (Putian).

Etymology. The specific name is derived from Greek “*notos*” (= south) and “*eus*” (= east), corresponding to the position of type locality in China.

***Striogyia acuta* sp. nov.** (Figs 4, 8)

Diagnosis. The new species is similar to *S. obatera* Wu, 2011, but differ from the latter by the longer valva and the acute apex of the juxta in the male genitalia. The main external difference in external is that *S. acuta* does not have the discal spot found on the forewing of *S. obatera*. The 8th sternite is shorter than that of *S. obatera*. The juxtal apex of *S. obatera* is chimney-shaped.

Description. Male wing expanse about 20.0 mm. Forewing length about 9.0 mm. Labial palpus long, porrect, apex pointed. Body pale brown. Forewing pale yellowish brown; discal spot bar-shaped; postmedial line pale gray, straight. Hindwing pale brown.

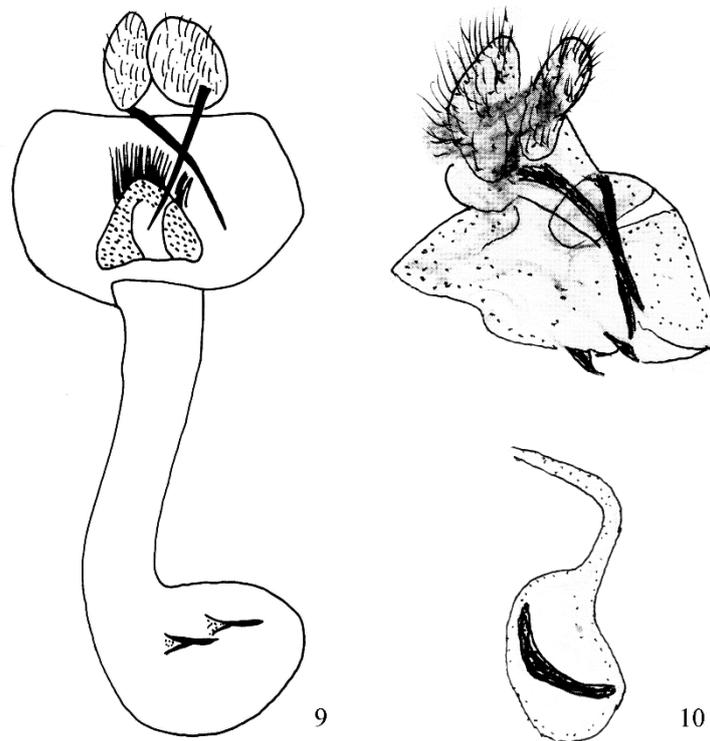
Male genitalia. Eighth sternite concave in distal margin, bearing dense spines; tegumen sclerotized weakly; uncus and gnathos absent; valva long, arm-shaped, narrow near base; transtillae combined into one, bearing a pair of short lobes and a pair of long processes, which longer than half of valva-length; juxta ring-shaped, apically with a long angular process, apex pointed; aedeagus slender, longer than valva-length, densely with small spines in apical portion.

Female genitalia. Unknown.

Material examined. Holotype (♂). Shaanxi, Taibai, 1350 m, 1980.VII.13, Baolin Zhang leg. (gen. slide no. W10038, deposited in IZCAS).

Distribution. Shaanxi (Taibai).

Etymology. The specific name is derived from Latin “*acutus*” (= acute), corresponding to the acute apex of the juxta.



Figures 9–10. Female genitalia. 9. *Epsteinius luoi* sp. nov., paratype, gen. slide no. L06104. 10. *Apendala notoseusa* sp. nov., paratype, gen. slide no. W10066.

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