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Review of the genus *Andrioplecta* Obraztsov (Lepidoptera: Tortricidae: Olethreutinae) from China

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Abstract

The Chinese species of *Andrioplecta* Obraztsov, 1968 are reviewed. Six species are treated, including one new species (*A. angusticuculla*, **sp. nov.**) and three species newly recorded from China (*A. phuluangensis*, *A. shoreae* and *A. suboxystaura*). Images and descriptions of adults and genitalia are provided, along with a key to the species in China.

Key words: new species, new record, taxonomy

Introduction

Andrioplecta was proposed by Obraztsov (1968), with *Laspeyresia pulverala* Meyrick as the type species. Members of the genus usually have an oblique submedian patch and lack the ocelloid patch on the forewing; the male genitalia often have an ovate or semiovate cucullus and a straight aedeagus that is abruptly narrowed in the distal 1/4 to 1/3 (in some species the aedeagus curved or sinuate); the female genitalia often have an ostium bursae surrounded by an incomplete sclerotized ring and a ductus seminalis that arises from the posteroventral wall of the corpus bursae.

There are currently nine described species, all of which are restricted to the southeastern Palearctic: Thailand, Philippines, India, Korea, Japan, Indonesia (Java), Malaysia, Nepal and China; only two species were recorded from China previously (Komai 1999; Liu 2002). Here we report six species of *Andrioplecta* from China, with one described as new and three recorded for the first time from China.

Material and methods

This study is based on specimens collected using light traps in China. Morphological terminology follows Baixeras (2002) and Komai (1999). Genitalia were prepared and mounted following the methods described by Li (2002). Images of the adults were captured with a Nikon D300 digital camera plus macro lens, and images of genitalia were captured using an Olympus C-7070 digital camera. All specimens examined, including the types of the new species, are deposited in the Insect Collection, College of Life Sciences, Nankai University, Tianjin, China.

Abbreviations

BMNH	The Natural History Museum, London, England = formerly British Museum (Natural History)
NKUM	Insect Collection, College of Life Sciences, Nankai University, Tianjin, China
OPU	Entomological Laboratory, Osaka Prefecture University = formerly University of Osaka Prefecture), Sakai, Japan
ZMUC	Zoological Museum, University of Copenhagen, Denmark

Taxonomy

Andrioplecta Obratzov, 1968

Andrioplecta Obratzov, 1968: 176.

Type species: *Laspeyresia pulverula* Meyrick, 1912, by original designation.

Key to *Andrioplecta* Obratzov of China based on the male genitalia

(male of *Andrioplecta phuluangensis* unknown)

1. Tegumen with a pair of ear-like flaps (Komai 1992: figs. 30–31) on its lateral wall 2
- Tegumen without ear-like flaps on its lateral wall 4
2. Cucullus narrow, almost parallel-sided (Fig. 7) *A. angusticuculla*, sp. nov.
- Cucullus broad, ovate or semiovate 3
3. Aedeagus bearing four cornuti (Fig. 8) *A. oxystaura*
- Aedeagus lacking cornuti (Fig. 11) *A. suboxystaura*
4. Aedeagus S-shaped (Fig. 10) *A. shoreae*
- Aedeagus nearly straight (Fig. 9) *A. pulverula*

Andrioplecta angusticuculla, sp. nov.

(Figs. 1, 7, 12)

Type material. Holotype ♂, **CHINA:** Mt. Pan, Ji County, Tianjin, 170 m, 20.vii.2004, leg. Haili Yu *et al.*, genitalia slide no. LJM04544, deposited in NKUM.

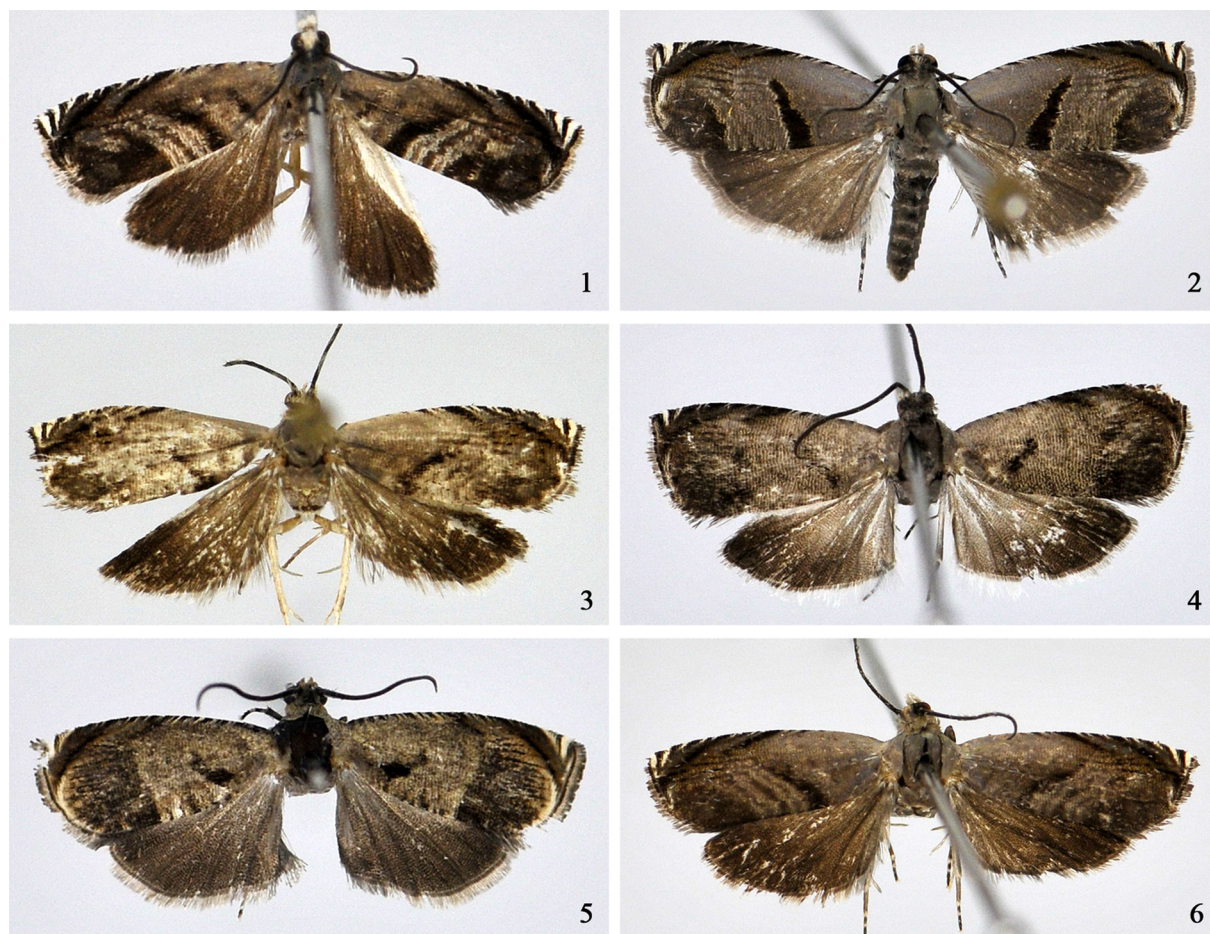
Paratypes: **Henan:** 1 ♂, Baotianman Nature Reserves, Neixiang County, 1350 m, 14.vii.1998, leg. Houhun Li; 1 ♀, Shaolin Temple, Mt. Song, Dengfeng County, 15.vii.2002, leg. Xinpu Wang; 2 ♂, 1 ♀, Mt. Guan, Hui County, 550 m, 26.vii.2006, leg. Denghui Kuang and Hui Zhen. **Tianjin:** 4 ♂, 1 ♀, 170 m, 20–21.vii.2004, Mt. Pan, Ji County, leg. Houhun Li *et al.*; 1 ♂, 20.vii.2007, Mt. Pan, Ji County, leg. Bingbing Hu.

Description. Adult (Fig. 1) with wingspan 8.0–11.0 mm. Head: Grayish brown. Frons white. Antenna brownish black. Labial palpus white, second segment longest, terminal segment extended forward. Thorax: Dorsum and tegula brownish black. Forewing ground color grayish brown; costal strigulae white, nine pairs; 1st and 2nd pairs appear as a single indistinct white mark; basal fascia grayish black, between base and 1st pair of strigulae; 3rd and 4th pairs seemingly splitting into four pairs of narrow strigulae by fine black lines at middle of each pair; subbasal fascia grayish black, between 2nd and 3rd pairs; 5th pair emitting a short plumbeous line; a short black median fascia running from between middle of 4th and 5th pairs of strigulae to upper corner of cell; a black postmedian fascia running from between middle of 6th and 7th pairs of strigulae to upper 2/5 of termen; 7th pair emitting a plumbeous line that reaches upper 1/3 of termen; 9th pair largest and pronounced, splitting into two conspicuous white spots; preterminal fascia between 8th and 9th pairs; submedian patch black, sloped outward, extending upward from basal 2/5 of dorsum to 1/3 width of forewing; dorsal blotch adjacent and parallel to submedian patch, formed by two pairs of yellowish-white lines; cilia pale yellowish brown. Hindwing brown, costal margin grayish white on basal 2/3, cilia gray. Abdomen: Male genitalia (Fig. 7) with tegumen long and narrow, with a pair of ear-like flaps on its lateral wall. Valva long and narrow; costa straight, with some bristles; neck of valva slightly swallowed ventrally, with bristles; cucullus narrow, almost parallel-sided, with bristles and spines, the bristles of cucullus from ventral basally to the middle of the neck of valva. Aedeagus wide in basal 3/4, abruptly narrowed in distal 1/4; cornutus absent. Female genitalia (Fig. 12) with papilla analis narrow, as long as apophysis posteriores; apophyses anteriores about same length as apophyses posteriores; ostium bursae roundly surrounded by an incomplete sclerotized ring; ductus bursae short and narrow, almost entirely sclerotized; corpus bursae ovoid, with two small, horn-shaped signa. Sterigma consisting of a weakly sclerotized plate in relief on the sternite VIII, U-shape concaved posteriorly to the ostium.

Diagnosis. This species can be easily distinguished from its congeners by the narrow, elongate cucullus in the male genitalia, and the U-shaped concave sterigma in the female genitalia.

Distribution. China (Henan, Tianjin).

Etymology. The specific name comes from the Latin prefix *angusti-* (narrow) and *cucullus*, in reference to the narrow cucullus in the male genitalia.



FIGURES 1–6. Adults of *Andrioplecta* spp. 1. *A. angusticuculla*, **sp. nov.**, paratype, ♀; 2. *A. oxystaura* (Meyrick), ♂; 3. *A. phuluangensis* Komai, ♀; 4. *A. pulverula* (Meyrick), ♂; 5. *A. shoreae* Komai, ♂; 6. *A. suboxystaura* Komai, ♂.

***Andrioplecta oxystaura* (Meyrick, 1935)**

(Figs. 2, 8, 13)

Pammene oxystaura Meyrick, 1935: 62. Type locality: China (Tien-Mu-Shan). Lectotype (♂): BMNH.

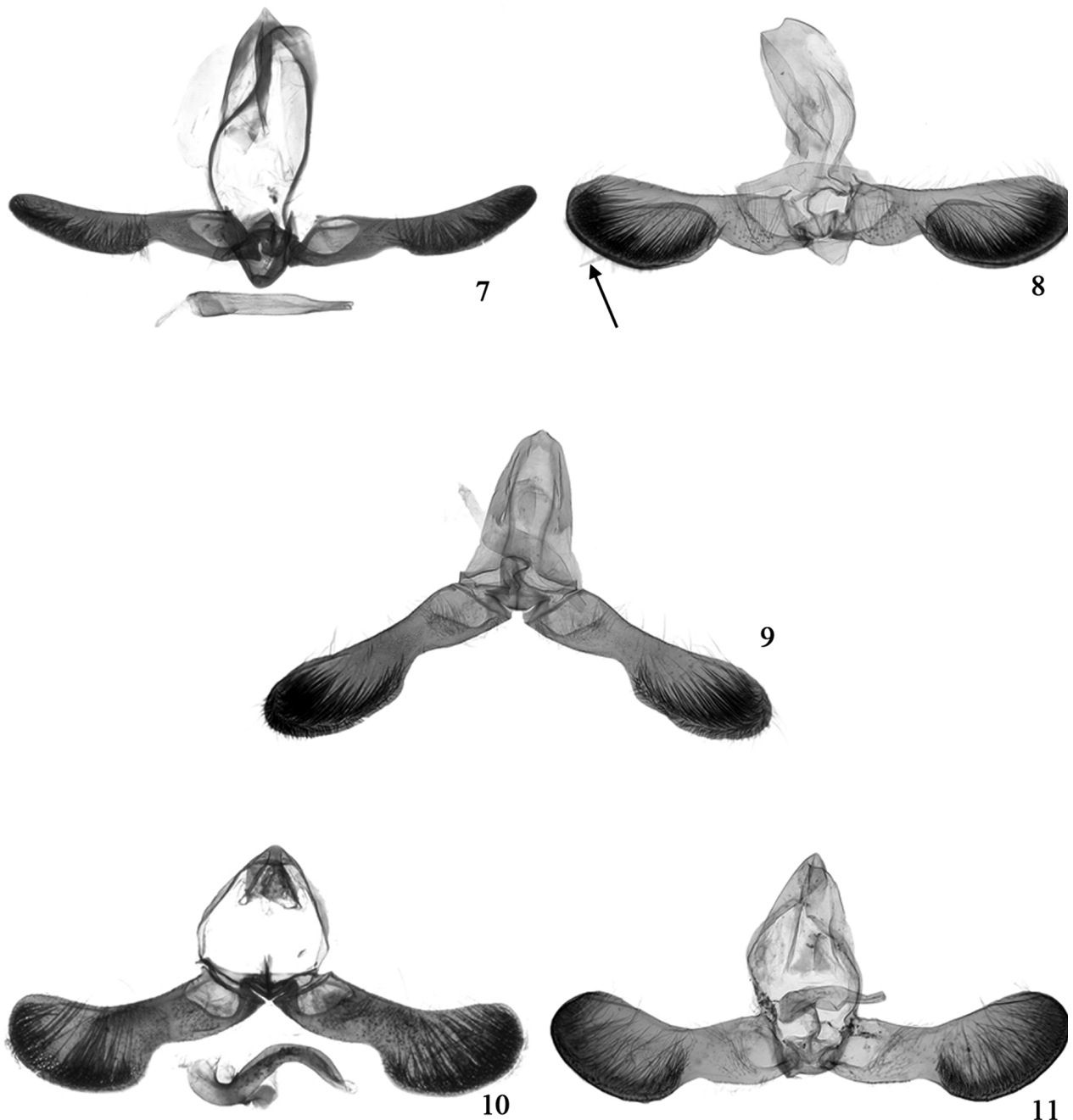
Parapammene oxystaura: Danilevsky & Kuznetsov, 1968: 333.

Andrioplecta oxystaura: Komai, 1992: 160.

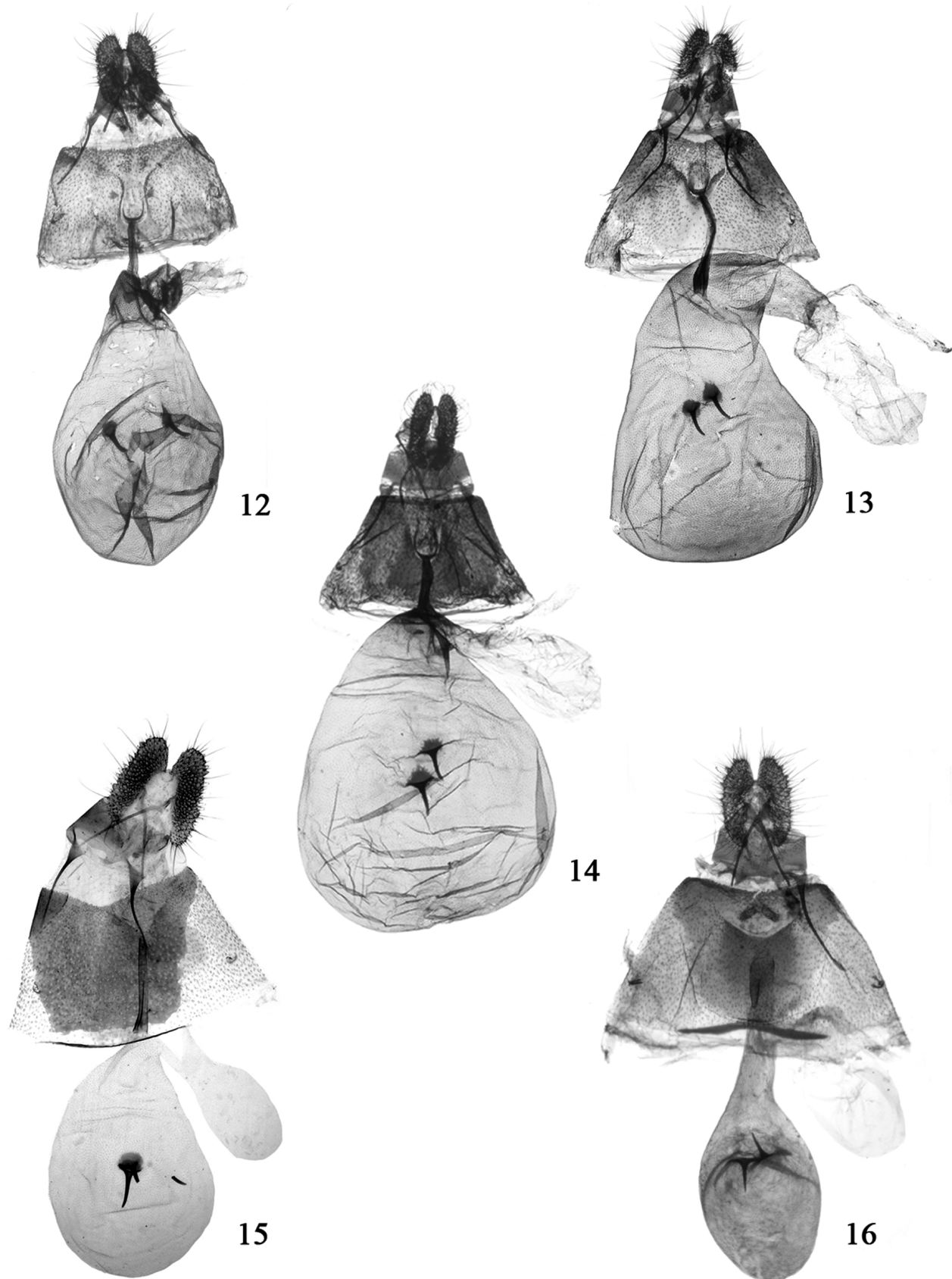
Material examined. **Hunan:** 1 ♂, 1 ♀, Zhangjiajie, 7.viii.2001, leg. Houhun Li and Xinpu Wang. **Shaanxi:** 1 ♀, Pingjiangxing Village, Ankang City, 800 m, 5.vii.2003, leg. Haili Yu. **Anhui:** 1 ♂, Ke Village, Mt. Jiuhua, 8.viii.2004, leg. Jiasheng Xu and Jialiang Zhang. **Gansu:** 15 ♂, 4 ♀, Bifenggou, Wen County, 860 m, 9–14.vii.2005, leg. Haili Yu. **Sichuan:** 1 ♀, Wolong, 2008 m, 25.vii.2005, leg. Haili Yu. **Chongqing:** 1 ♂, Simianshan Town, Mt. Simian, 1280 m, 12.viii.2012, leg. Xiaofei Yang and Tengting Liu. **Guizhou:** 1 ♂, Daheba, Mayanghe, 430 m, 6.vi.2007, leg. Xicui Du; 18 ♂, 18 ♀, Xiasi Village, Kuankuoshui Nature Reserves, Suiyang County, 840 m, 6–9.vi.2010, leg. Linlin Yang. **Hainan:** Mt. Wuzhi: 1 ♀, 700 m, 18.v.2007, leg. Zhiwei Zhang and Weichun Li; 3 ♂, 2 ♀, 740 m, 13–15.iv.2009, leg. Qing Jin and Bingbing Hu. **Henan:** 2 ♂, Lingshansi, Luoshan County, 350 m, 21.v.2000, leg. Haili Yu; 1 ♂, Huguosi, Mt. Fanjing, 390 m, 28.v.2002, leg. Xinpu Wang. **Zhejiang:** Mt. Tianmu, Lin'an City: 2 ♂, Chanyuansi, 350 m, 15.viii.1999, leg. Houhun Li *et al.*; 1 ♂, 1 ♀, Qingliangfeng, 900 m, 8–12.viii.2005, leg. Yunli Xiao; 3 ♂, 350–420 m, 8–12.viii.2007, leg. Qing Jin; 5 ♂, Zhonglieci, 400 m, 27.vii–1.viii.2011, leg. Linlin Yang and Na Chen; 2 ♀, Wuyanling, Taishun City, 400–680 m, 1–2.vii.2005, leg. Yunli Xiao.

Diagnosis. Adult (Fig. 2) with wingspan 10.0–16.0 mm. This species is characterized by the forewing having a distinct black submedian patch followed by an ill-defined grayish-brown dorsal blotch. *Andrioplecta oxystaura* (Meyrick) resembles *A. suboxystaura* Komai, 1992 in genitalia, but in *A. oxystaura* the cucullus has two strong deciduous bristles on the outer surface and the aedeagus bears four deciduous cornuti in the male genitalia (Fig. 8); the ductus bursae is about 1/3 the length of the corpus bursae in the female genitalia (Fig. 13). In *A. suboxystaura* the cucullus lacks such bristles and the aedeagus lacks cornuti, and the ductus bursae is about 1/2 the length of the corpus bursae (Komai 1992: fig. 45).

Distribution. China (Anhui, Chongqing, Gansu, Guizhou, Hainan, Henan, Hunan, Jiangsu, Jiangxi, Shanghai, Shaanxi, Sichuan, Zhejiang), Thailand.



FIGURES 7–11. Male genitalia of *Andrioplecta* spp. 7. *A. angusticuculla*, **sp. nov.**, paratype, slide no. SYH12115; 8. *A. oxystaura* (Meyrick), arrow indicating the strong bristle, slide no. LJM04300; 9. *A. pulverula* (Meyrick), slide no. LJM04296; 10. *A. shoreae* Komai, slide no. SYH12117; 11. *A. suboxystaura* Komai, slide no. LJM04192.



FIGURES 12–16. Female genitalia of *Andrioplecta* spp. 12. *A. angusticuculla*, **sp. nov.**, paratype, slide no. SYH12125; 13. *A. oxystaura* (Meyrick), slide no. SYH12122; 14. *A. phuluangensis* Komai, slide no. LJM04299; 15. *A. pulverula* (Meyrick), slide no. LJM04507; 16. *A. shoreae* Komai, slide no. SYH12113.

***Andrioplecta phuluangensis* Komai, 1992**

(Figs. 3, 14)

Andrioplecta phuluangensis Komai, 1992: 161. Type locality: Thailand (Loei Province, Phu Luang Wildlife Sanctuary). Holotype (♀): ZMUC.

Material examined. Henan: 1 ♀, Huangshi'an, Xixia County, 17.vii.1998, leg. Houhun Li; 2 ♀, Lingshansi, Luoshan County, 350 m, 22–23.v.2000, leg. Haili Yu; 3 ♀, Mt. Wangwu, Jiyuan County, 800–1100 m, 28–29.vii.2006, leg. Hui Zhen and Denghui Kuang.

Diagnosis. Adult (Fig. 3) with wingspan 12.5–15.0 mm. *Andrioplecta phuluangensis* is similar to *A. oxystaura* (Meyrick, 1935) in both wing pattern and female genitalia. It can be distinguished by the rather short ductus bursae (about 1/6 the length of the corpus bursae) in the female genitalia (Fig. 14). In *A. oxystaura* the ductus bursae is about 1/3 length of the corpus bursae.

Distribution. China (Henan), Thailand.

Remarks. This species is recorded for the first time from China; the male remains unknown.

***Andrioplecta pulverula* (Meyrick, 1912)**

(Figs. 4, 9, 15)

Laspeyresia pulverula Meyrick, 1912: 876. Type locality: India (Assam, Khasi Hills). Holotype (♀): BMNH.
Andrioplecta pulverula Obraztsov, 1968: 177.

Material examined. Hainan: 1 ♂, Nancha, Bawangling, 600 m, 6.vi.2007, leg. Zhiwei Zhang and Weichun Li.
Henan: 1 ♀, Zushiliulou, Gushi County, 120 m, 16.v.1995, leg. Guangyun Yan; 1 ♂, Lingshansi, Luoshan County, 350 m, 23.v.2000, leg. Haili Yu.

Diagnosis. Adult (Fig. 4) with wingspan 12.0–13.0 mm. This species is characterized by the forewing pattern which features a black submedian patch originating from the basal 1/3 of the dorsum. The male genitalia of *A. pulverula* are similar to those of *A. oxystaura* (Meyrick, 1935), but they can be distinguished by the aedeagus abruptly narrowed in distal 1/4 and absence of cornuti in the male genitalia (Fig. 9); and the ductus bursae about the same length as the corpus bursae in the female genitalia (Fig. 15). In *A. oxystaura* the aedeagus is abruptly narrowed in the distal 1/3 and bears four deciduous cornuti; and the ductus bursae is about 1/3 the length of the corpus bursae. *Andrioplecta pulverula* is also extremely similar to *A. shoreae* Komai, 1992, and the differences between them are noted under the latter species.

Hosts. The larvae have been found mainly galls of gall wasps (Hymenoptera: Cynipidae) on *Castanea* and *Quercus* (Fagaceae), feeding on the larvae of gall wasps (Komai 1999).

Distribution. China (Anhui, Guangdong, Hainan, Henan, Jiangxi, Shandong, Sichuan, Yunnan), Japan, Korea, India.

***Andrioplecta shoreae* Komai, 1992**

(Figs. 5, 10, 16)

Andrioplecta shoreae Komai, 1992: 173. Type locality: Borneo (Sabah, Sandakan). Holotype (♂): OPU.

Material examined. Guangxi: 3 ♂, 2 ♀, Qingshan Forest Farm, Pingxiang, 300 m, 22.vii.2011, leg. Bingbing Hu.
Hainan: 1 ♀, Jianfengling, 940 m, 6.vi.2007, leg. Zhiwei Zhang and Weichun Li.

Diagnosis. Adult (Fig. 5) with wingspan 10.0–13.0 mm. The forewing of *A. shoreae*, with a short black submedian patch, is extremely similar to that of *A. pulverula* (Meyrick, 1912), but *A. shoreae* can be distinguished by the S-shaped aedeagus in the male genitalia (Fig. 10) and the wide membranous ductus bursae in the female genitalia (Fig. 16). In *A. pulverula* the aedeagus is nearly straight, and the ductus bursae is narrowly sclerotized.

Hosts. The larvae utilize mainly plants in Dipterocarpaceae: *Anisoptera*, *Dipterocarpus baudii*, *Shorea curtisii*, *S. densiflora*, *S. macrophylla*, *S. parvifolia*, *S. platyclados*, *S. robusta* (seeds and seedlings) (Komai 1999).

Distribution. China (Guangxi, Hainan), Malaysia, Philippines, Thailand (Komai 1999).

Remarks. This species is recorded for the first time from China.

***Andrioplecta suboxystaura* Komai, 1992**

(Figs. 6, 11)

Andrioplecta suboxystaura Komai, 1992: 161. Type locality: Thailand (Nakhon Nayok Province, Khao Yai). Holotype (♂): OPU.

Material examined. Henan: 1 ♂, Lingshansi, Luoshan County, 350 m, 23.v.2000, leg. Haili Yu; 3 ♂, Mt. Wangwu, Jiyuan County, 800–1100 m, 28–30.vii.2006, leg. Hui Zhen and Denghui Kuang.

Diagnosis. Adult (Fig. 6) with wingspan 12.0–15.0 mm. *Andrioplecta suboxystaura* is characterized by the forewing pattern which features a dorsal blotch formed by four gray lines. It is very close to *A. oxystaura* (Meyrick, 1935) in genital structures. The differences between them are noted under the latter species.

Distribution. China (Henan), Thailand.

Remarks. This species is recorded for the first time from China.

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