© Entomological Society of Indochina
អ្នកជំនាញខាងជាណកសាស្ត្រឥណ្ឌូចិន
The Indochina Entomologist
OPEN ACCESS
New Taxon
ICE, 1 (25): 245–251 (2025)
ISSN (Online) 3065-1107
www.indochinaentomologist.com

https://doi.org/10.70590/ice.2025.01.25
http://zoobank.org/urn:lsid:zoobank.org:pub:FBD5258E-448E-4B2B-91B6-71A266E6798D

A new species and a new record of the genus *Campylotes* Westwood, 1839 from mainland China (Lepidoptera, Zygaenidae, Chalcosiinae)

Si-Yao HUANG[1*], Kiyoshi HORIE[2] & Liang GUO[3]

[1]Leibniz Institute for the Analysis of Biodiversity Change, Museum Koenig, Adenauerallee 127, Bonn 53113, Germany; https://orcid.org/0000-0002-9859-9212; S.Huang@leibniz-lib.de; huangsiyao2007@aliyun.com

[2]1-27-21, Sangenjaya, Setagaya-ku, Tokyo154-0024, Japan; https://orcid.org/0009-0004-7558-9822; eterusia@me.com

[3]Room 303, Building No. 84, Gaoyanxincun, Sanyuan District, Sanming City, Fujian Province, China; https://orcid.org/0000-0003-4280-3664; 793421139@qq.com

[*]Corresponding author

Abstract: A new species of the genus *Campylotes* Westwood, 1839 is described from Fujian, Southeast China and Guangdong, South China, viz. *C. jiangfani* **sp. n.** *Campylotes altissima* Elwes, 1890 is recorded from Xizang, Southwest China for the first time. The adult and genitalia of the aforementioned and related taxa are illustrated.

Keywords: Burnet moth, Oriental Realm, taxonomy

中国大陆产曲斑蛾属一新种与一新纪录种（鳞翅目，斑蛾科，锦斑蛾亚科）

黄思遥 [1*]，堀江清史 [2] & 郭亮 [3]

[1]莱布尼茨生物多样性变化分析所，柯尼希博物馆，阿登纳大街 127 号，波恩 53113，德国

[2]1-27-21，三轩茶屋，世田谷区，东京 154-0024，日本

[3]303 室，高岩新村 84 幢，三元区，三明市 365000，福建省，中国

[*]通讯作者

摘要：本文描述了一产自中国福建省及广东省的曲斑蛾属 *Campylotes* Westwood, 1839 新种，即江氏曲斑蛾 *Campylotes jiangfani* **sp. n.**。高山曲斑蛾 *Campylotes altissima* Elwes, 1890 亦于中国大陆西藏自治区被首次记录。本文图示并比较了文中涉及的分类单元之成虫及两性生殖器。

关键词：斑蛾，东洋区，分类学

Citation: Huang S-Y, Horie K & Guo L 2025: A new species and a new record of the genus *Campylotes* Westwood, 1839 from mainland China (Lepidoptera, Zygaenidae, Chalcosiinae). *The Indochina Entomologist*, 1 (25): 245–251. [黄思遥, 堀江清史 & 郭亮 2025: 中国大陆产曲斑蛾属一新种与一新纪录种（鳞翅目，斑蛾科，锦斑蛾亚科）. 中南半岛昆虫学家, 1 (25): 245–251.]
https://doi.org/10.70590/ice.2025.01.25

Accepted by Cheng-Bin WANG: 14.I.2025; published online: 15.I.2025

Introduction

The genus *Campylotes* Westwood, 1839 (type species *C. histrionicus* Westwood, 1839) is characterized superficially by the curved radial veins on forewing, the presence of semitransparent or yellow irregular subapical and apical spots and the yellow and red streaks stretching along the cells on both wings. In male genitalia, *Campylotes* can be distinguished from the related genera by the reduced, short and stout uncus and the slender and elongated phallus, and in female genitalia it is characterized by the funnel-shaped antrum and the sclerotised and slender ductus bursae. The adults can be found on wing from late spring to early autumn, and are usually observed flying around the treetop of *Pinus* spp. In China, *Campylotes* is currently known by seven species distributed from most parts of China except the Northeastern part, Northwestern part and Hainan Island (Yang & Liang 1987; Yen 1996; Xue & Han 2003).

During the study of Chalcosiinae from China, a series specimens of an unknown *Campylotes* taxon were discovered from Northwest Fujian Province, Southeast China. Later, individuals with identical characters were also found from North Guangdong Province, South China. After examining the genitalia of both sexes, it turns out that this taxon represents a new species of the genus and it is described herein. In addition, *Campylotes altissima* Elwes, 1890 is recorded from South Xizang Autonomous Region, representing the first record of this species in mainland China. These new discoveries demonstrate that the diversity of the genus *Campylotes* in China is still underestimated, and more new findings are expected in the future.

Material and methods

Specimens examined are deposited in the following institutional and private collections: the Lepidoptera collection of Fujian Academy of Forestry Sciences (**FAFS**), Fuzhou, China; South China Agricultural University (**SCAU**), Guangzhou, China; Leibniz Institute for the Analysis of Biodiversity Change, Museum Koenig (**ZFMK**, former Zoologisches Forschungsmuseum Alexander Koenig), Bonn, Germany; the private collection of Kiyoshi Horie (**CKH**), Tokyo, Japan; the private collection of Liang Guo (**CLG**), Sanming, China, the private collection of Zhou Chang (**CZC**), Kunming, China and the private collection of Fan Jiang (**CFJ**), Fuzhou, China. Photos of imagoes were taken by a Sony DSC-RX100 v1.00 camera. Abdomens were removed and macerated in hot 10% NaOH or KOH solution for examination of male genitalia. Photos of genitalia were taken under a Keyence VHX-5000 or a Olympus SZX10 microscope with Olympus DP23 digital camera attached. Adult and genitalia photos were all processed by Adobe Photoshop CS5 ® software. Terminology of adult and genitalia morphology follows Yen *et al*. (2005). Abbreviations used in the legends to the illustrations: **HT** = holotype, **PT** = paratype, **ST** = syntype.

Data on the comparative material examined. *Campylotes romanovi* Leech, 1898. Syntype: 1 male, Moupin, Kricheldorff coll., June 1890, ex Leech coll. (ZFMK). **Additional material examined:** 2 males, 1 female, VII. 1937, Mien-shan (Mianshan), Pr. Shansi (Shanxi Province), altitude ca. 2000 m, leg. H. Höne, slide ZFMK Lep153594 (male) and ZFMK Lep153595 (female) (ZFMK); 1 male, same data, but 20.VII.1937, slide ZFMK Lep177604 (ZFMK); 1 female, same data, but 7.VII.1937, ZFMK Lep177606 (ZFMK); 1 male, 19.VII.2009, Moxi, Sichuan Province (SCAU).

Taxonomy

Campylotes jiangfani sp. n. 江氏曲斑蛾

https://zoobank.org/2AD83CB8-EFF9-428E-B13D-A9F01E2A07FA

Figs 1–4, 11a-c, g, 12, 13, 16

Campylotes kotzschi: Horie & Wang 2011: 39, pl. 1, fig. 3.

Type material. Holotype (Figs 1, 11c, 12): male, 20.VII.2012, Emeifeng, Taining County, Sanming City, Fujian Province, leg. Fan Jiang, slide No. JF001 (CFJ, will be deposited in FAFS). **Paratypes: FUJIAN:** 1 male, 1 female, same data as

in holotype (CFJ); 1 female, 3.VII.2014, Donghai'an, Taining County, Sanming City, leg. Fan Jiang, slide No. JF002 (CFJ); 1 male, Lianhuatai, Longyan City, leg. Fan Jiang, slide No. JF003 (CFJ); 1 male, 1 female, altitude 1450 m, 18.VI.2016, Luoboding, Sanming City, leg. Liang Guo (CLG). **GUANGDONG:** 1 male, 2 females, 28.VII–4.VIII.2002, Nanling Natural Reserve, Shaoguan City, leg. Kiyoshi Horie (CKH); 1 male, 3 females, altitude 1730 m, 8.VI.2012, Nanling Natural Reserve, Shaoguan City, leg. Keiichiro Shikata (CKH).

Etymology. The new species is dedicated to Mr Fan Jiang (Fujian, China) for his help during the study on Chalcosiinae of the first author.

Diagnosis. *Campylotes jiangfani* **sp. n.** is superficially reminiscent of *C. romanovi* (Figs 5–9, 11d-f, h, 14, 15, 17) from West, Central and North China, but can be readily distinguished by the yellow subapical spots (subapical spots ochreous in *C. romanovi*) as well as the more yellowish streaks in cells CuA_2 to 1A+2A on forewing and in cells CuA_2 to 3A on hindwing (such streaks ochreous in *C. romanovi*). In addition, the tegulae of *C. jiangfani* **sp. n.** bear bright yellow patch medially (Fig. 11a-c) and the ventral side of the abdomen is yellow with intersegmental membrane broadly suffused with black (Fig. 11g), while in *C. romanovi* the tegulae bear dark red patch medially (Fig. 11d-f) and the ventral side of the abdomen is totally black (Fig. 11h). In male genitalia, compared to *C. romanovi*, the genitalia capsule of *C. jiangfani* **sp. n.** differs in the distally thicker posterior tegumenal projection and the markedly broader and slightly longer valva. The phallus of *C. jiangfani* **sp. n.** is longer than that of *C. romanovi*. The female genitalia of *C. jiangfani* **sp. n.** are very similar to those of *C. romanovi*, but differ in the longer papilla analis, the somewhat broader antrum and the slightly narrower ductus bursae.

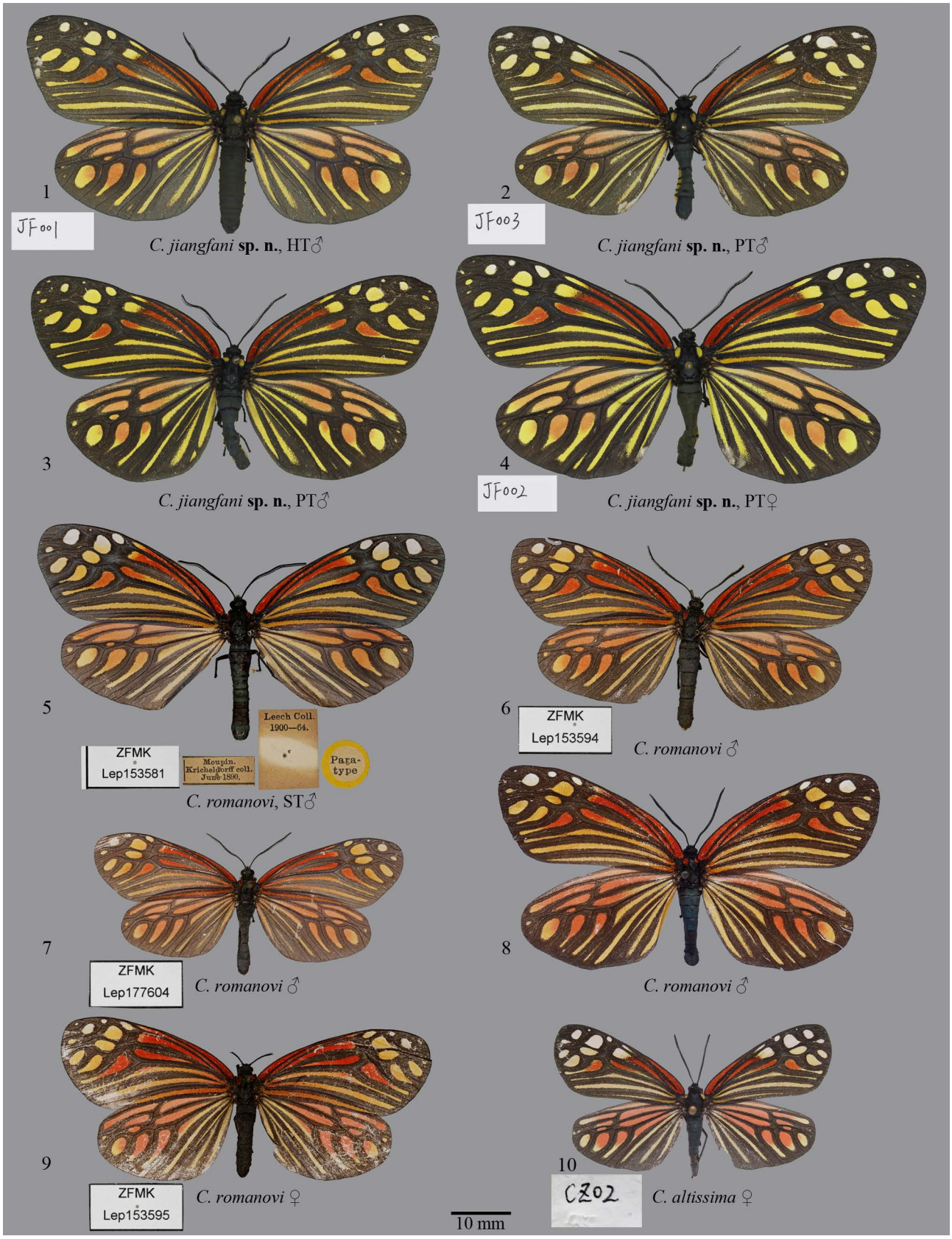
Male. Forewing length 33–35.5 mm. Antennae bipectinate with short rami. Head black. Thorax with tegulae bearing bright yellow patch medially. Abdomen black dorsally and yellow ventrally with intersegmental membrane broadly suffused with black. Forewing ground color black. Red streaks presented at costa and in cells Sc and the upper subcell of discal cell, and the red streaks in the latter two cells ended with yellow short bar and patch, respectively. Subapical area with yellow or yellowish white spots of irregular shapes in each cell except for cell R_3. The lower subscell of discal cell and cell CuA_1 occupied by a rodlike, bicolorous (yellow and red) streak, respectively. A yellow streak presented medially in cells CuA_2 to 1A+2A, and the streak in cell CuA_2 usually broken near the medial section. Cilia black. Hindwing ground color black, with each cell occupied by streak or irregular spot of different sizes. The streaks and spots in discal cell and cells $Sc+R_1$ to CuA_1 pale red or bicolorous (red and yellow). Cilia black. Eighth tergite nearly rectangular, with its posterior margin rounded and shallowly concave medially.

Male genitalia. Uncus reduced, short and stout with two pairs of setae distally. Tegumen with rounded margins, slightly broader than valva. Posterior tegumenal projection paired and rodlike. Vinculum moderately broad (ca 1 × posterior tegumenal projection width). Saccus distally rounded and broad V-shaped. Valva relatively broad (ca. 4 × uncus width) and long (ca. 5 × uncus width), with the trapezoid dorsal section membranous and the oval ventral section heavily sclerotised. Phallus simple, slightly curved downwards medially and gradually narrowed towards its distal end.

Female. Forewing length 37.5–40 mm. Size larger, Body and wings similar in male.

Female genitalia. Papillae anales moderately long (ca. 0.5 × apophysis posterioris length). Apophysis posterioris much longer than apophysis anterioris, both heavily sclerotised. Ostium bursae rounded. Antrum funnel-shaped. Ductus bursae mostly sclerotised, with anterior one fifth membranous. Corpus bursae membranous, with granulation medially.

Distribution. Currently known from Northwest Fujian, Southeast China and North Guangdong, South China.



FIGURES 1–10. Adults of *Campylotes* spp. Depositories of the specimens: **1–4** in CFJ **5–7, 9** in ZFMK **8** in SCAU **10** in CZC.

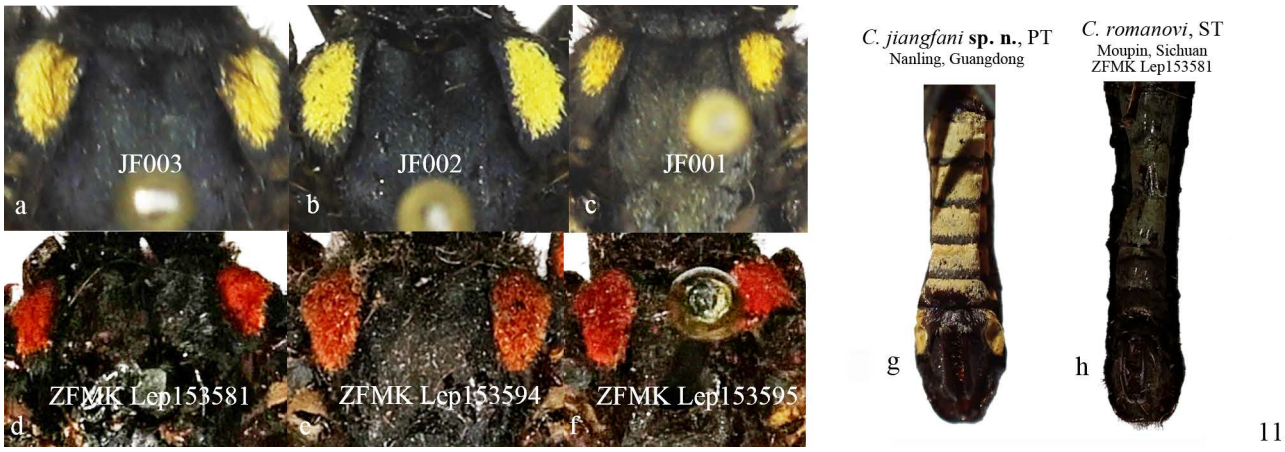
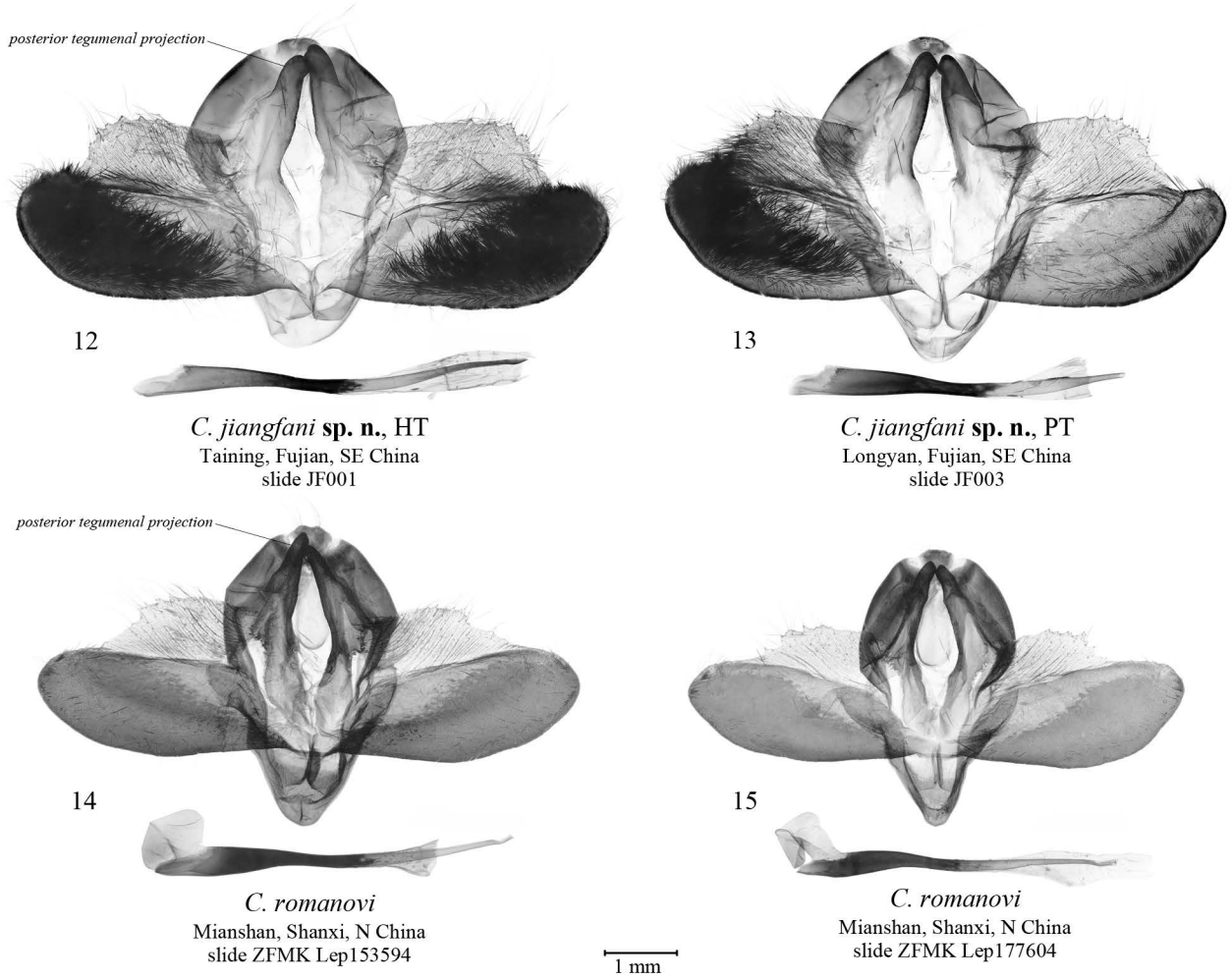
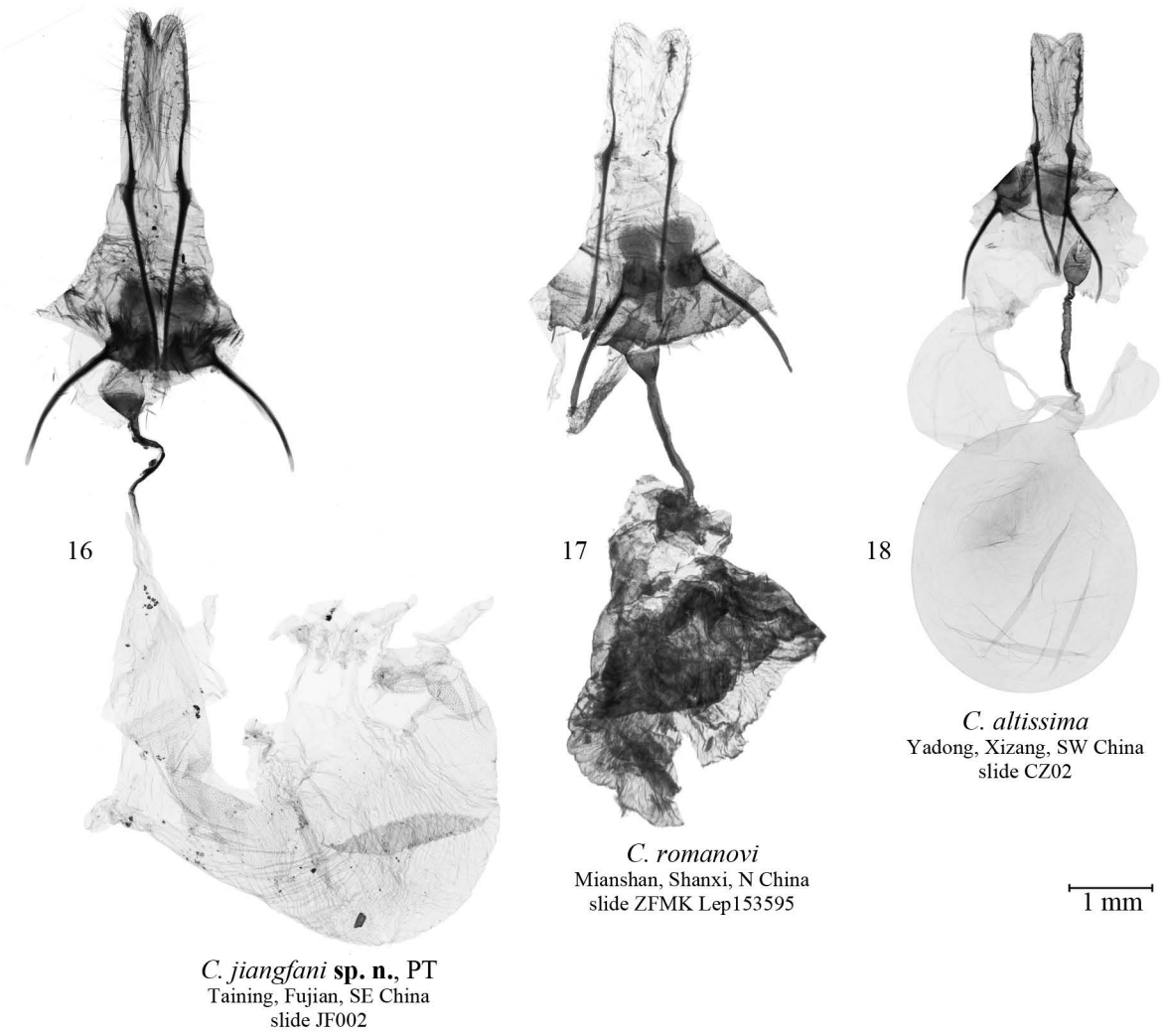


FIGURE 11. Details of thorax and ventral side of abdomen of *Campylotes* spp.: **a-c, g** *C. jiangfani* **sp. n. d-f, h** *C. romanovi* **a-f** magnified area of thorax, showing tegulae **g & h** magnified ventral side of abdomen.



FIGURES 12–15. Male genitalia of *Campylotes* spp. Depositories of the specimens: **12 & 13** in CFJ **14 & 15** in ZFMK.



FIGURES 16–18. Female genitalia of *Campylotes* spp. Depositories of the specimens: **16** in CFJ **17** in ZFMK **18** in CZC.

***Campylotes altissima* Elwes, 1890 高山曲斑蛾**

Figs 10, 18

Campylotes histrionicus var. *altissima* Elwes, 1890: 384, pl. 33, fig. 1.

Campylotes altissimus [sic!]: Yen 1996: 289, figs. 1–3, 7 & 10.

Campylotes altissima: Yen et al. 2005: 288.

Material examined. 1 female, 17.VI.2017, Yadong Town, Shigatse City, Xizang Autonomous Region, China, leg. Zhou Chang, slide No. CZ02 (CZC).

Remarks. This species was recorded previously from Alishan, Taiwan Island by Yen (1996) based on two males. However, only one of them was figured and this specimen was from the former Shiraki collection, which was well-known for mislablling, i.e., the original label was replaced by label with various locations of Taiwan Island (Chu 2011). Therefore, it is possible that this record from Taiwan Island was based on mislabelled Indian specimen. However, since the second male was not illustrated by any subsequent work, this distribution record requires further investigations. Here we provide the first record of this species from Xizang, mainland China.

Acknowledgements

The authors would like to express their sincere thanks to Mr Fan Jiang (Fuzhou, China) and Mr Zhou Chang (Kunming, China) for permission to examine their Chalcosiine collections and Dr Marianne Espeland (Bonn, Germany) for permission to have access to the Chalcosiine collection held in ZFMK.

References

Chu Y-I 2011: Additional Notes on the "Shiraki collection". *Taiwan Natural Science*, 30 (2): 40–47.

Elwes HJ 1890: On some new moths from India. *Proceedings of the Zoological Society of London*, 1890: 378–401, pls. 32–34.

Horie K & Wang M 2011: Zygaenidae. *In* Wang M & Kishida Y (Ed) *Moths of Guangdong Nanling National Nature Reserve*. Goecke & Evers, Keltern, pp. 39–45.

Leech JH 1898: Lepidoptera Heterocera from Northern China, Japan and Corea. *Transactions of the Entomological Society of London*, 1898 (3): 261–379.

Westwood JO 1839: Descriptions of Insects figured in plates 9 and 10. *In* Royle JF (Ed) *Illustrations of the botany and other branches of the natural history of the Himalayan Mountains and of the flora of Cashmere, vol 1*. Wm. H. Allen, London, pp. 53–55.

Xue D-Y & Han H-X 2003: The current situation and recent progress of taxonomic research on Zygaenidae (Lepidoptera) in China. *In* Efetov KA, Tremewan WG & Tarmann GM (Ed) *Proceedings of the 7th International Symposium on Zygaenidae Innsbruck 4–8 September, 2000.* Crimean State Medical University Press, Simferopol, pp. 243–279.

Yang J-K & Liang C-M 1987: Notes on *Campylotes* (Zygaenidae: Lepidoptera) with two new species and a new genus from Guizhou, China. *Guizhou Science*, 1987 (2): 1–9.

Yen S-H 1996: A new addition of *Campylotes* (Lepidoptera, Zygaenidae) of Taiwan. *Tinea*, 14 (4): 289–292.

Yen S-H, Robinson GS & Quicke DLJ 2005: The phylogenetic relationships of Chalcosiinae (Lepidoptera, Zygaenoidea, Zygaenidae). *Zoological Journal of the Linnean Society*, 143: 161–341. https://doi.org/10.1111/j.1096-3642.2005.00139.x

Additional information

Author contributions: Conceptualization: S-Y Huang & K Horie. Project administration: S-Y Huang. Resources: S-Y Huang. Supervision: S-Y Huang. Visualization: S-Y Huang. Writing–original draft: S-Y Huang. Writing–review and editing: S-Y Huang, K Horie & L Guo.

Conflict of interest: The authors have declared that no competing interests exist.

Data availability: All of the data that support the findings of this study are available in the main text.

Ethical statement: No ethical statement was reported.

Funding: This study was self-funded by the authors.