

One new species in the genus *Dichomeris* Hübner (Lepidoptera: Gelechiidae) from China

Chenyang LI¹, Xuan LIU¹, Houhun LI^{1,2}①

1. College of Life and Geographic Sciences, Kashi University, Xinjiang Key Laboratory of Biological Resources and Ecology of Pamirs Plateau, Kashi, Xinjiang 844000, China

2. College of Life Sciences, Nankai University, Tianjin 300071, China

Abstract: Two species in the genus *Dichomeris* Hübner, 1818 are discussed. *Dichomeris duplicornuta* Li **sp. nov.** is described as new, and the female of *D. rufumbrina* Li, 2002 is recorded for the first time. Images of adults and genitalia are provided.

Key words: Microlepidoptera; Gelechioidea; Dichomeridinae; taxonomy

中国棕麦蛾属 *Dichomeris* Hübner 一新种记述 (鳞翅目: 麦蛾科)

李晨阳¹, 刘璇¹, 李后魂^{1,2}①

1. 喀什大学生命与地理科学学院, 新疆帕米尔高原生物资源与生态重点实验室, 新疆 喀什 844000;
2. 南开大学生命科学学院, 天津 300071

摘要: 记述中国棕麦蛾属 *Dichomeris* Hübner, 1818 两种, 包括 1 新种: 双角棕麦蛾 *Dichomeris duplicornuta* Li **sp. nov.**, 首次记录了红棕麦蛾 *Dichomeris rufumbrina* Li, 2002 的雌性, 提供了 2 个种的成虫和外生殖器特征图。

关键词: 小蛾类; 麦蛾总科; 棕麦蛾亚科; 分类

Introduction

Dichomeris is the type genus of the subfamily Dichomeridinae. It consists of 654 species worldwide (Hübner 2024) and occurs in all regions except New Zealand, the Pacific Islands, the arctic and the subarctic areas (Hodges 1986). Species of *Dichomeris* are distinguishable by the combinations of the following features: the second segment of the labial palpus with well-developed tufts of scales on the dorsal or ventral surface, and the scape of the antenna without pecten; the vinculum usually with lateral lobes arising from different points, the sicae consisting of symmetrical or asymmetrical sclerotized lobes, and the aedeagus usually with several sclerotized lobes in the male genitalia; the stout ductus bursae often with sclerotized lobes extending into the corpus bursae in the female genitalia.

More than 130 species have been recorded in China based on our current study (Liu & Qian 1994; Park & Hodges 1995; Li & Zheng 1996; Li 1997, 2002; Li *et al.* 1997, 2010; Li &

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① Corresponding author, E-mail: lihohun@nankai.edu.cn

Wang 1999; Park 2001; Li & Liao 2002; Zhao & Li 2017; Zhao *et al.* 2017; Park *et al.* 2020). This paper describes one new species of *Dichomeris*. In addition, the female of *D. rufumbrina* Li, 2002 is described for the first time in science.

Material and methods

Specimens were collected by light traps. Additional material was studied from the Insect Collection of Nankai University, Tianjin (NKU) and the Institute of Zoology, the Chinese Academy of Sciences, Beijing (IZCAS). Genitalia dissections followed the methods introduced by Li (2002). Images of adults and genitalia were captured using Leica M205A and Leica DM750 microscopes respectively, coupled with Leica Application Suite 4.2 software, and finally processed using Adobe Photoshop CS5 software.

The type specimens are deposited in the above-mentioned two institutions.

Taxonomy

Dichomeris Hübner, 1818: 25. Type species: *Dichomeris ligulella* Hübner, 1818, by subsequent designation. (Synonyms, see Hodges 1986).

1. *Dichomeris duplicornuta* Li sp. nov. (Fig. 1)

Description. Adult (Fig. 1A). Wingspan 12.0–13.0 mm. Head greyish-brown. Labial palpus with second segment about twice length of diameter of eye, longer than third segment, with triangular scale tuft on dorsal surface distally; first and second segments dark brown on outer surface, greyish brown on inner surface, yellowish white on dorsal surface, dorsal scale tuft white apically; third segment yellow on dorsal surface, greyish brown on ventral surface. Antenna with scape dark brown on dorsal surface, yellowish white on ventral surface; flagellum greyish yellow and dark brown alternately.

Thorax and tegula grey. Forewing slightly broadened before apex, apex obtusely rounded, termen obliquely straight; ground color greyish brown, with scattered dark brown scales, costal margin dark brown basally; dark brown spots at 3/5 length of cell and at 2/3 length of fold, the spot at 3/5 length of cell larger; short brown streak from end of cell to 3/4 length of dorsum, faint near dorsum; yellowish-white fascia from costal 4/5 length to before tornus, arched outward, from its outer margin to termen dark brown; fringe yellowish brown. Hindwing and fringe dark grey. Fore- and midlegs greyish brown on outer surface, yellowish white on inner surface; hindleg with femur greyish brown, tibia mixed with brown, tarsus dark brown on outer surface except tarsomeres yellowish white apically, pale yellow on inner surface.

Male genitalia (Fig. 1B). Uncus with anterior margin slightly sclerotized, concave in broad triangle, posterior margin rounded, ventral surface longitudinally with a sclerotized medial ridge. Gnathos slender, curved at middle, sharp apically; culcitula semicircular. Valva almost as long as tegumen-uncus complex, gradually broadened from base to 3/4 length, distal 1/4 slightly broad, parallel sided; ventral free lobe clubbed, inflated in distal 3/5, with long setae at apex. Vinculum about 3/5 length of tegumen-uncus complex; lateral lobes arising from posterior 1/3, about 2/3 length of vinculum, clubbed, slightly dilated and with sparse setae distally. Saccal region broad, almost straight on anterior margin. Sicae single, clubbed,

with sparse setae, sharp apically, about equal to length of vinculum. Aedeagus shorter than valva, weakly sclerotized; two sclerotized lobes arising laterally from zone, short, horned.

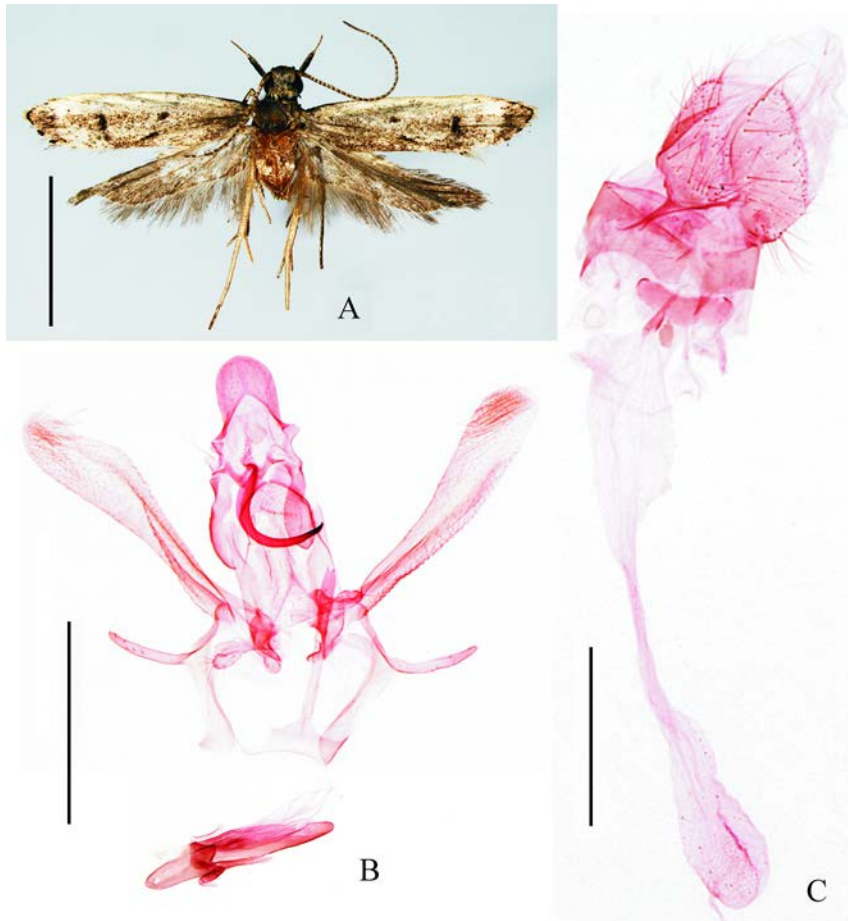


Figure 1. *Dichomeris duplicornuta* Li **sp. nov.** A. Adult ♂, paratype, Kuankuoshui, Suiyang, Guizhou; B. Male genitalia, holotype, slide No. LX24535; C. Female genitalia, paratype, slide No. LX24531. Scale bars = 3.0 mm (A); 0.5 mm (B, C).

Female genitalia (Fig. 1C). Papillae anales broad, with long setae. Apophyses anteriores broad, rather short, approximately 1/3 length of apophyses posteriores. Eighth tergite with posterior margin protruding medially. Antrum nearly funnel-shaped. Ductus bursae narrowed gradually, ventral surface anteriorly with a sclerotized, apex-sharpened lobe extending into corpus bursae. Corpus bursae elongate ovate, 1/3 length of ductus bursae, dilated anteriorly; ductus seminalis arising posteriorly; accessory bursae arising anteriorly.

Holotype. ♂, **China**, Chongqing, Wangtai, Mt. Simian, 900 m, 18-VII-2012, leg. YH SUN & AH YIN, gen. slide No. LX24535. **Paratypes.** **China**, Chongqing, 1♂, Mt. Laosimian, 1,280 m, 10-VIII-2015, leg. XF YANG & TT LIU, gen. slide No. LX24653; 1♂, Dahonghai, 1,200 m, 13-VIII-2012, leg. XF YANG & TT LIU, gen. slide No. LX24671. Sichuan, 12♂2♀, Mt. Qingcheng, 16–28-VII-1980 (IZCAS); 2♂2♀, Fuhu Temple, Mt. E'mei, 24–25-V-1979

(IZCAS). Guizhou, 1♂, Xiannvdong, Dashahe, Daozhen County, 600 m, 29-V-2004, leg. SL HAO; 1♂, Fengshuilong, Kuankuoshui Nature Reserve, Suiyang County, 15-VIII-2010, leg. LL YANG, gen. slide No. LX24235, 1♂, La'neicun, Shuizuxiang, Limingguan, Libo County, 800 m, 22-VII-2015, leg. MQ YANG & GE LI, gen. slide No. LX24255; Jiangxi, 1♂, Dayu, 14-VI-1976 (IZCAS). Yunnan, 1♀, Yayi, Pu'er, 21-X-2010, leg. BB HU, J ZHANG & YP CAI, gen. slide No. LX24531.

Etymology. The specific epithet is derived from the Latin “duplus” and “cornutus”, indicating the two horn-shaped lobes of the aedeagus in the male genitalia.

Remarks. The new species is similar to *D. qinlingensis* Li & Zheng, 1996 superficially. It can be separated from the latter in the male genitalia by the uncus with a sclerotized longitudinal ridge at middle on ventral surface, the clubbed sicae about equal to the length of the vinculum and the aedeagus with two horned lobes from the zone. In *D. qinlingensis*, the male uncus lacks the sclerotized ridge, the trapeziform sicae is rather short and the aedeagus bears four slender lobes from the zone. In addition, the two species can be easily separated from each other by the female genital characters.

2. *Dichomeris rufumbrina* Li, 2002 (Fig. 2)

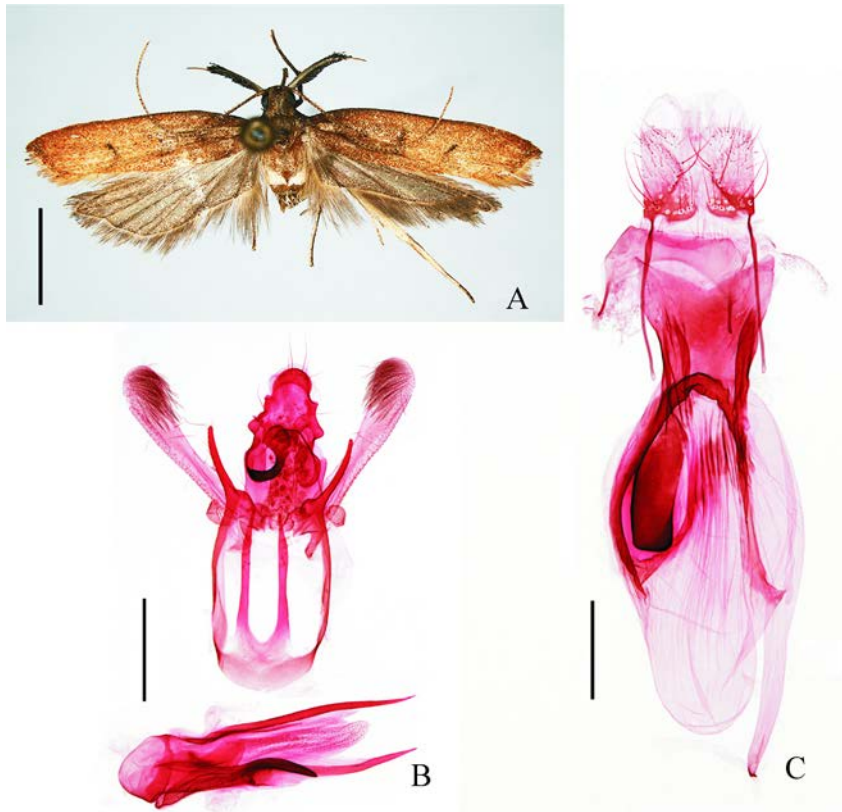


Figure 2. *Dichomeris rufumbrina* Li, 2002. A. Adult ♂, Mt. Laosimian, Chongqing; B. Male genitalia, gen. slide No. LX24609; C. Female genitalia, gen. slide No. LX24612. Scale bars = 3.0 mm (A); 0.5 mm (B, C).

Type specimen examined. ♂ (holotype), **China**, Guizhou, Dongtang, Maolan, 25.2°N, 108°E, 26-V-1998, leg. QR LIAO, gen. slide No. L99093.

Other specimen examined. **China**, Chongqing, 1♂3♀, Mt. Laosimian, 1,280 m, 10-14-VII-2012, leg. XF YANG & TT LIU, YH SUN & AH YIN, gen. slide Nos. LX24605♀, LX24612♀, LX24609♀, LX24625♂; 2♀, Mt. Simian, 1,200 m, 09-VIII-2012, leg. XF YANG & TT LIU, gen. slide Nos. LX24217, LX24218; Sichuan, 1♂1♀, Yonghong, Mabian, 1,200 m, 22-VII-2004, leg. YD REN; Guizhou, 1♂, Xianrendong, Daozhen County, 600 m, 18-VIII-2004, leg. YL XIAO.

Adult (Fig. 2A). Wingspan 15.0–20.0 mm.

Male genitalia (Fig. 2B). Description see Li & Liao, 2002: 379, fig. 48.

Female genitalia (Fig. 2C). Papillae analis broad and large, with long setae. Apophyses anteriores 1/6 length of apophyses posteriores. Eighth tergum straight on posterior margin, broadly concave on anterior margin. Antrum inverted trapezoid, concave medially on posterior margin. Ductus bursae broad, very short, with lateral folds first extending vertically into middle of corpus bursae, then curved obliquely outward to approximately anterior 2/5 of lateral margin. Corpus bursae subovate, narrower in anterior 1/3, with longitudinal fine wrinkles; subrectangular plate near left lateral margin extending from near posterior margin to about middle; ribbon-like, C-shaped plate in posterior 3/5, starting from posterior 1/5 near right lateral margin arched to posterior margin, then arched along left lateral margin to anterior 2/5; membranous process from right lateral margin extending beyond anterior margin of corpus bursae, gradually narrowed, approximately 2/3 length of corpus bursae, with granules on inner wall, with a sclerotized ring at end; signum absent.

Distribution. China (Chongqing, Guizhou, Sichuan).

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