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A new species of the genus *Ditrigona* Moore, 1888 (Lepidoptera: Drepanidae) in China

Yan Li[1], *De-Yu Xin*[2], *and Min Wang*[1,*]

Abstract

A new species of the genus *Ditrigona* Moore, 1888 (Lepidoptera: Drepanidae: Drepaninae), *Ditrigona clavata* **sp. nov.** is described from Guangxi and Guangdong provinces in China. The new species can be distinguished from its congeners by 5 transverse fasciae in the forewing and 4 transverse fasciae in the hindwing. Adults and their genitalia are illustrated. The key for the separation of the species-group *D. triangularia* by Wilkinson is modified. The type specimens are deposited in the Entomological Laboratory, South China Agricultural University, Guangzhou, China.

Key Words: Drepaninae; key; taxonomy; Guangxi province; Guangdong province

Resumen

Se describe una nueva especie del género *Ditrigona* Moore, 1888 (Lepidoptera: Drepanidae: Drepaninae), *Ditrigona clavates* **sp. nov.** de las provincias de Guangxi y Guangdong en China. La nueva especie se distingue de sus congéneres por 5 fascias transversales en el ala delantera y 4 fascias transversales en las alas posteriores. Se incluyen ilustraciones de un macho y una hembra y su genitalia. Se presenta una clave para los machos y hembras que pertenecen al grupo de especies *triangularia*. Los especímenes tipo fueron depositados en el Laboratorio de Entomología de la Universidad Agrícola del Sur de China, Guangzhou, China.

Palabras Clave: Drepaninae; clave; taxonomía; provincia de Guangxi; provincia de Guangdong

Ditrigona Moore, 1888 was established for the type species *Urapteryx triangularia* Moore, 1867, which was found in India. Classification and identification of the genus was controversial (Hampson 1893, 1905; Leech 1898; Strand 1911; Warren 1922; Oberthür 1923; Gaede 1931; Bryk 1943; Inoue 1962), until Wilkinson revised the genus in 1968, and he recorded 40 species and 12 subspecies in this revision. Chu & Wang (1988) described 36 species from mainland China. Wang (1995) recorded 1 species and 1 subspecies from Taiwan, China. Later Holloway (1998) added 2 new species and 1 unknown species from Borneo.

In his revisional study on the genus *Ditrigona*, Wilkinson (1968) enumerated the generic characters as follow: antennal form variable, serrate, unipectinate or bipectinate; thorax and abdomen usually white; forewing not strongly falcate; the fasciae gray to brown; uncus present either bifid, bifurcate or single; valves variably developed; aedeagus strongly developed and variously shaped; ostium variable; corpus bursae in most species with signum and with an accessory sac.

The genus is mainly distributed in the Oriental region and with high diversity in the N. E. Himalaya (Holloway 1998). The result of our survey in Mao'ershan National Nature Reserve in Guangxi province and Nanling National Nature Reserve in Guangdong province, China, revealed a new species which will be described in this article.

Materials and Methods

Specimens were collected by light trap in Guangdong and Guangxi provinces (China). Abdomens of the specimens were cleared in 10% sodium hydroxide (NaOH), and mounted in glycerine ($C_3H_8O_3$). Photographs of adults were taken by Nikon COOLPIX S8000 digital camera and those of genitalia were taken by Carl Zeiss Discovery V12. Processing of the photos was done with Adobe Photoshop 6.0. The type specimens are deposited in Entomological Laboratory, South China Agricultural University (SCAU), Guangzhou, China.

Results

Ditrigona clavata **sp. nov.** (Figs. 1-7)

DIAGNOSIS

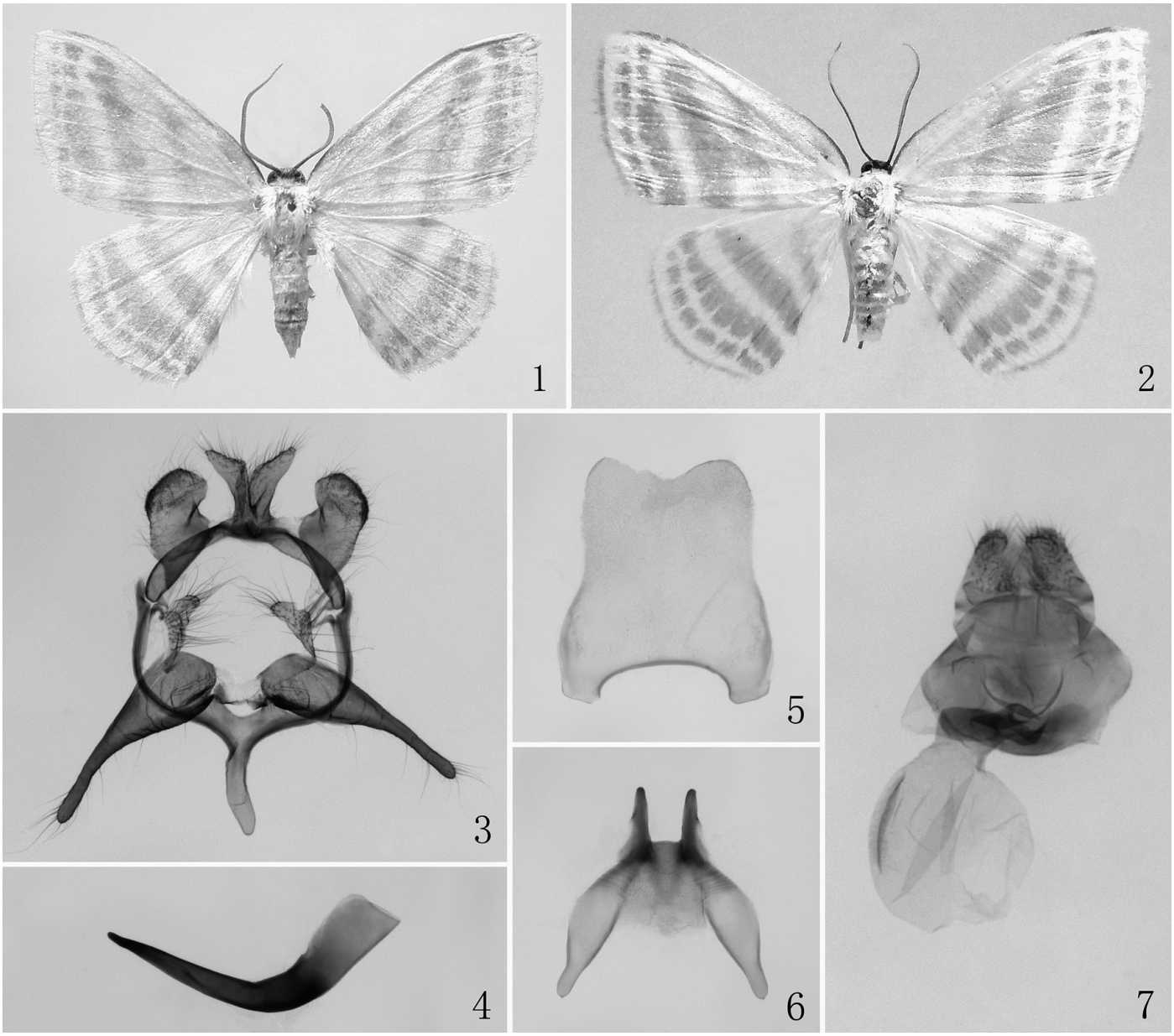
Adults are externally close to those of *D. polyobotaria* (Oberthür, 1923), but can easily be separated by the following features: 5 transverse fasciae in the forewing, 4 transverse fasciae in the hindwing; 8th segment of abdomen strongly sclerotized, ostium arc-shaped, corpus bursae circular and without filiform structure in female genitalia.

DESCRIPTION: MALE (FIG. 1)

Wingspan 27 mm. Head brown, vertex white; antenna yellowish brown except dark brown at base, serrate; labial palpus blackish brown, long and stretch forwardly; proboscis strongly developed. Thorax covered with white scales. Abdomen grayish white. Forewing ground color white; costal margin smooth, brown; barely falcate at apex; subbasal fascia gray and weakly marked; antemedial fascia light color and broad; medial fascia dark color and rather broad; postmedial fascia dark color,

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Figs. 1-7. *Ditrigona clavata* **sp. nov.** 1. Male, holotype; 2. Female, Paratype. 3. Male genitalia; 4. Aedeagus; 5. 8th tergite; 6. 8th sternite; 7. Female genitalia.

broad and slight excurved in middle; subterminal fascia slender, grayish brown; cilia short, grayish white. Hindwing ground color white; subbasal fascia unmarked; antemedial and medial fasciae nearly as same as forewing's, but postmedial fascia broader than forewing's, strongly excurved in middle; subterminal fascia same as forewing's; outer margin cilia short, grayish white; inner margin cilia long, white.

MALE GENITALIA (FIGS. 3-6)

Uncus bifurcated at base, 1/2 times as long as tegument, each fork medium-long, slender at apex, broad at base; tegumen wide and arc-shaped, socii broad and wide, incurved at apex and strongly setose, shorter than uncus; gnathos degenerated; 1 pulvinus between tegument and valva, finger-shaped protuberance at pulvini; valva clavate, wide and thick at base; cucullus thin and long, strongly sclerotized; juxta similar triangle-shaped; saccus medium-long and thin. Aedeagus medium-long, horn-shaped, pointed at extremity; coecum broad and long, similar rectangle, weakly sclerotized, 1/3 times as long as aedeagus; vesica without cornuti. 8th tergite without octaval, weakly sclerotized; 8th sternite with octavals, strongly sclerotized.

DESCRIPTION: FEMALE (FIG. 2)

Wingspan 31 mm. Head brown, vertex white; antenna dark brown, serrate; labial palpus blackish brown, long and stretch forwardly. Thorax covered with white scales. Abdomen grayish white. Forewing ground color white; costal margin smooth, dark brown; barely falcated at apex; subbasal fascia gray and weakly marked; antemedial fascia light color and broad; medial fascia dark color and very broad; postmedial fascia dark color, broad and slight excurved in middle; subterminal fascia slender,; cilia medium-long, dark gray. Hindwing ground color white; subbasal fascia unmarked; antemedial fascia slender and light brown; medial fasciae broad, grayish brown; postmedial fascia broad, grayish brown and strongly excurved in middle; outer margin cilia medium-long, dark gray; inner margin cilia long, white.

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FEMALE GENITALIA (FIG. 7)

Anal papillae broad; 8th segment of abdomen strongly sclerotized; anterior and posterior apophyses absent; ostium arc-shaped; ductus bursae broad and short; corpus bursae large, circular and with a leaf-shaped sclerotized signum.

TYPE MATERIAL

HOLOTYPE. Male, CHINA, Guangxi province, Mao'ershan National Nature Reserve, 1-VII-2003, leg. Min Wang and Guo-hua Huang. Paratypes. 1 male, China, Guangdong province, Nanling National Nature Reserve, 7-VIII-2003, leg. Liu-sheng Chen and Hong Lin; 1 female, locality same as paratype, 7-V-2009, leg. Min Wang; 1 female, locality same as paratype, 2-VII-2012, leg. Hai-ming Xu; 1 male, locality same as paratype, 13-VII-2013, leg. Hai-ming Xu, Lan-lan Huang & Feng-ying Yang.

DISTRIBUTION

China (Guangxi and Guangdong Provinces).

Etymology

The specific name is derived from the character of valva.

To assign the new species, *D. clavata* **sp. nov.**, the key to the species-group *D. triangularia* proposed by Wilkinson (1968) is modified as follows:

Couplets 1-6 without change.

7. Wings with 4 transverse fasciae. Straight subterminal and subbasal fascia present 8

—. Wings with 2 distinct transverse fasciae. No straight subterminal and subbasal fasciae . . . . . *D. fasciata* Hampson, 1893

8. Ostium slit-like, corpus bursae oval-shaped and with filiform structure in female genitalia . . . . . *D. polyobotaria* (Oberthür, 1923)

—. Ostium arc-shaped, corpus bursae circular and without filiform structure in female genitalia . . . . . *D. clavata* Li, Xin & Wang **sp. nov.**

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References Cited

Bryk F. 1943. Entomological results from the Swedish Expedition 1934 to Burma and British India. Lepidoptera: Drepanidae. Arkiv för Zoologi 34A (13): 1-30.

Chu HF, Wang LY. 1988. On the Chinese species of the genus *Ditrigona* Moore (Lepidoptera: Drepanidae). Sinozoologia 6: 199-208.

Gaede M. 1931. Drepanidae, *In* Strand E. Lepidopterorum Catalogus Pars 49: 1-60. Dr. W. Junk, Berlin.

Hampson GF. 1893. The fauna of British India including Ceylon and Burma. Moths 1. Taylor & Francis, London.

Hampson GF. 1905. Moths of India. Supplement. Journal of the Bombay Natural History Society 16: 193-216.

Holloway JD. 1998. The Moths of Borneo: Families Castniidae, Callidulidae, Drepanidae and Uraniidae. Malayan Nature Journal 52: 20-22, pl. VI, Figs. 26-28.

Inoue H. 1962. Insecta Japonica. 2 (1): 1-54. Hokuryukan Publ. Co., Tokyo.

Leech JH. 1898. Lepidoptera Heterocera from N. China, Japan and Korea. Transactions of the Entomological Society London 15: 261-379.

Moore F. 1867. On Bengalese Lepidoptera. Proceedings of the Zoological Society of London 1867: 612-686.

Moore F. 1888. Heterocera, pp. 199-299 *In* Hewitson WC, Moore F [eds], Descriptions of new Indian Lepidoptera in Atkinson Collection. Asiatic Society of Bengal, Calcutta.

Oberthür C. 1923. Révision iconographique des espèces de phalénites (*Geometra* Linné) enumérées et décrites par Guenée dans le volume X du Species general des Lépidoptères, publié à Paris, chez l'editeur Roret en 1857. Etudes de Lépidoptérologie Comparée. Fasc. 20: 214-283. Oberthür, Rennes.

Strand E. 1911. Drepanidae, *In* Seitz A [ed.], Die Gross-Schmetterlinge der Erde 2: 195-206. Alfred Kernen, Stuttgart.

Wang HY. 1995. Guide book to Taiwan insects (10): Brahmaeidae Eupterotidae Cyclidiidae Drepanidae Notodontidae. Shuxin Press, Taipei, pp. 48-49.

Warren W. 1922. Drepanulidae *In* Seitz A [ed.], Die Gross-Schmetterlinge der Erde. 10: 443-490. Alfred Kernen, Stuttgart.

Wilkinson C. 1968. A taxonomic revision of the genus *Ditrigona* (Lepidoptera: Drepanidae: Drepaninae). Transactions of the Zoological Society of London 31: 403-517.

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