

Lecithoceridae (Lepidoptera) of Taiwan (IV): Subfamily Torodorinae: Genus *Deltoplastis* Meyrick

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Kyu-Tek Park and John B. Heppner (2001) Lecithoceridae (Lepidoptera) of Taiwan (IV): Subfamily Torodorinae: Genus *Deltoplastis* Meyrick. *Zoological Studies* 40(1): 44-48. Three species belonging to the genus *Deltoplastis* of the subfamily Torodorinae are recognized from Taiwan, including a new species: *Deltoplastis ovatella* sp. nov.. *D. lobigera* Gozmány is reported for the first time from Taiwan. A key to the species is provided.

Key words: Systematics, Description, New species, *Deltoplastis*, Taiwan.

This article is the 4th part (for the 1st and 2nd, see Park 1999a, Park 2000; the 3rd, see Park and Heppner 2001) of a series of taxonomic studies of the Lecithoceridae in Taiwan. The genus is superficially similar to *Torodora* Meyrick and *Thubana* Walker, but it is characterized by the well-developed dark-brown markings on the forewing and the coincidence of M_2 and M_3 in the hindwing. In Taiwan, only one species of the genus, *D. commatopa* Meyrick, has previously been reported. The materials examined for this study were largely based on collections in the Smithsonian Institution, US National Museum of Natural History (USNM), Washington DC, the Florida State Collection of Arthropods (FSCA), Gainesville, FL and on the author's recent collections (1996-1997) from Taiwan. Original references for the previously known genera and species are cited with their abbreviations; sources of types and type specimens are provided; and type localities for the valid or invalid species are indicated in square brackets. Collecting localities are cited as the same as in the specimen's labels, but some old invalid names are indicated with present ones in parentheses. Abbreviations for depositories of material are as follows: USNM and FSCA (as indicated above), Taiwan Forestry Research Institute (TFRI), Taipei, Taiwan; and Center for Insect Systematics

(CIS), Kangwon National University, Chuncheon, Korea. Types which are indicated as "to CIS on indefinite loan from Taiwan" will be placed in the National Taiwanese Museum (NTM), Taipei or another institute in Taiwan.

SYSTEMATICS

Deltoplastis Meyrick, 1925

Genera Insectorum, in Wytzman, 184: 5.

Type species: *Onebala ocreata* Meyrick, 1910 [India].

This genus is well defined by the following characters: forewing with distinct fascia, relatively narrow, termen sinuate; cell usually opened; CuA_1 and CuA_2 stalked beyond $2/3$. Hindwing without M_2 , M_3 stalked with CuA_1 near base; cell open (Fig. 1). Abdomen with zones of spines on tergites. Twenty-five species have been reported from the Oriental Region and one species from the Palaearctic Region. In Taiwan, only one species was previously known.

Key to the species of *Deltoplastis* Meyrick, based on external characters

1. Forewing with large, triangular dark-brown patches before half

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- on inner margin and beyond half on costa
 *commatopa* Meyrick
- Forewing without such large patches 2
2. Forewing length longer than 16.0 mm, ground color brown, median fascia similar to diamond-shaped, but often irregular
 *lobigera* Gozmány
- Forewing length shorter than 15.0 mm, ground color pale brown; median fascia diamond-shaped *ovatella* sp. nov.

Key to the species of *Deltoplastis* Meyrick based on male genitalia

1. Ventral margin of valva with a cut trace medially
 *commatopa* Meyrick
- Ventral margin of valva without such a cut trace 2
2. Lateral lobes of juxta with acute apex; aedeagus with plate bearing dentates *ovatella* sp. nov.
- Lateral lobes of juxta with obtuse apex; aedeagus with 2-3 well sclerotized lobes *lobigera* Gozmány

***Deltoplastis commatopa* Meyrick, 1932**

(Figs. 2, 5, 5a)

Deltoplastis commatopa Meyrick, 1932: 205; Gaede, 1937: 506; Clarke, 1965: 36, table 18, fig. 4; Gozmány, 1978: 225, table 14, fig. 149; Wu, 1997: 95. Type: ♂, Formosa, Kuraru, BMNH-8875/Clarke, Coll. BM.

Diagnosis: Wingspan, 16.0-22.0 mm. This species is very close to *D. gypsopoda* Meyrick, described from Nepal, in the wing color pattern, but it can be separated by the following: median fascia almost triangular, extending to just below costa, and connected to costa with a narrow and curved line, whereas that of the latter ending below upper margin of cell, with no connecting line to costa. Genital characters also differ from each other. Female specimen not found.

Male genitalia (Fig. 5, 5a): Distal part of valva triangular, with more or less acute apex; ventral margin with a cut trace medially. See also Gozmány

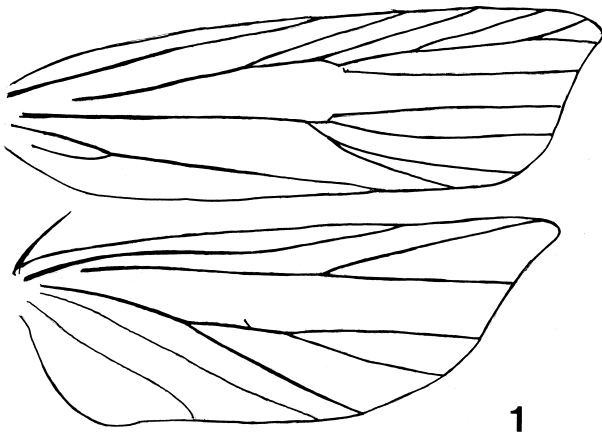


Fig. 1. Wing venation of *Deltoplastis lobigera* Gozmány.

(1978, pl. 84, fig. 149); Wu (1997, fig. VI-5).

Female genitalia: See Clarke (1965, pl. 18, fig. 4-4c; Gozmány (1978, pl. 84, fig. 149); Wu (1997, fig. VI-5).

Materials examined: 1 ♀, Hassenzan (= Pahsienshan), 6 June 1942 (S Issiki); 2 ♂♂, 10-11 km NE Chiahsiehen ca. 300 m, Kaohsiung Co., 3-8 July 1980 (D Davis), gen. slide no. 4086/Park, USNM; 1 ♂, Dona, 16 km NE Maolin, 500 m, Kaohsiung Co., 3 Oct. 1984 (JB Heppner and H Wang); 5 ♂♀, Upper Palin, 1500 m, Taoyuan Co., 7-9 July 1985 (JB Heppner and H Wang); 6 ♂♀, Fenchihwu, 1450 m, Chiayi Co., 2-4 July 1985 (JB Heppner and H Wang); 2 ♂♂, Liukuei For. Stn., Kaohsiung Co., 29 Apr.-3 May 1989 (JB Heppner and H Wang); 1 ♀, Manyueyuan, 900 m, Taipei Co., 16-17 May 1989 (JB Heppner and H Wang), FSCA; 1 ♂, 1 ♀ Upper Palin 2260 m, Taoyuan Co., 11-12 July 1996 (KT Park), CIS.

Distribution: Taiwan, China (Jiangxi, Hunan, Hubei, Sichuan).

Remarks: This species was described based on a female from Kuraru (Pingtung Co.), Taiwan, and recently Wu (1997) also reported this species from the eastern central part of China. This is one of the common species in Taiwan.



Figs. 2-4. Adults: 2. *Deltoplastis commatopa* Meyrick; 3. *D. lobigera* Gozmány; 4. *D. ovatella* sp. nov., paratype, 4a. ditto, paratype.

***Deltoplastis lobigera* Gozmány, 1978**
(Figs. 3, 6, 6a, 8)

Deltoplastis lobigera Gozmány, 1978: 228, fig. 153; Wu, 1994: 129; Wu, 1997: 95, figs. VI-6, XXVII-7. Type: ♂, West Tienmushan, Zhejiang, China, H Hone, Gu-4321-Gozmány, Coll. ZFMK.

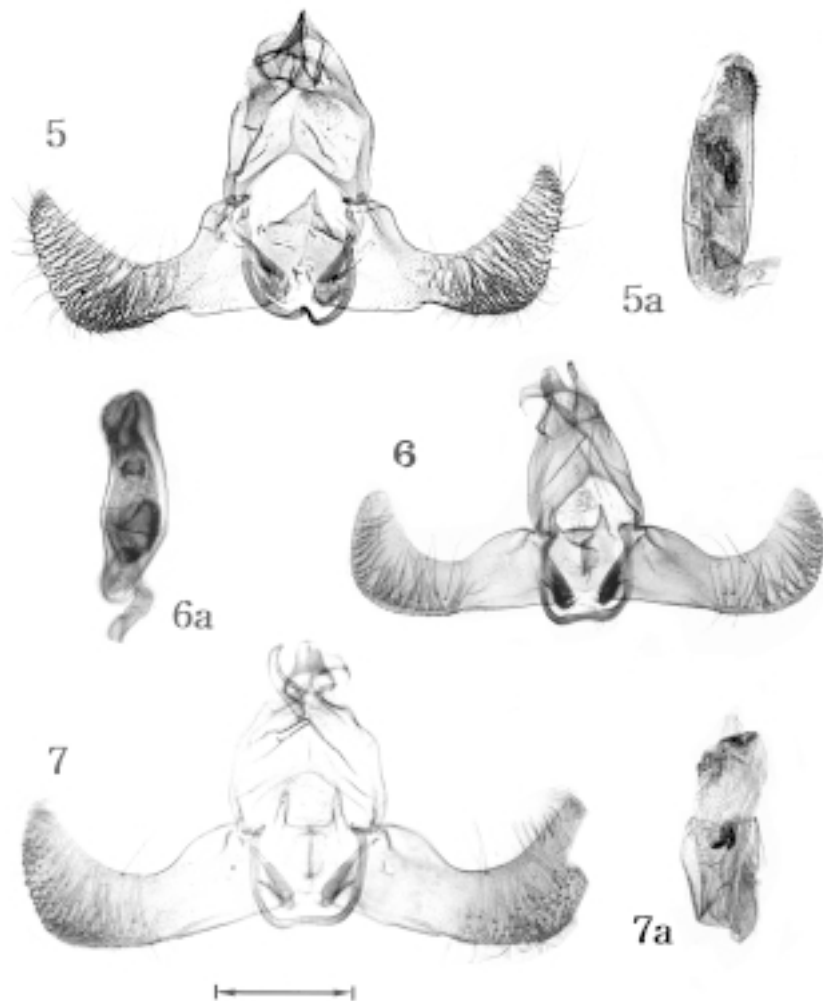
Diagnosis: Wingspan, 12.5-15.0 mm. This species is hardly distinguishable in appearance from *D. apostatis* Meyrick, which is known from Japan, but the male genital characters can be differentiated by the shape of the valva and juxta. This species is also similar to the preceding new species, but it is much smaller than the latter, and the discal spots in the forewings are larger and more distinct.

Male genitalia (Fig. 6, 6a): See also Gozmány (1978, table 51, fig. 153); Wu (1997, fig. 6-6). Valva foot-shaped; costa more heavily curved and ventral margin forms almost a right angle at corner; apex

rather obtuse. Juxta with well-developed lateral lobes; aedeagus 3/4 as long as valva.

Female genitalia (Fig. 8): See also Wu (1997, fig. 12-7). Similar to those of the preceding species, but can be separable from the latter by the following: distal margin of 8th sternite less emarginate; ductus bursae much broader.

Materials examined: 1 ♂, Kenting Park, Pingtung Co., 23-28 Apr. 1989 (JB Heppner and H Wang), gen. slide no. 4088/Park; 1 ♂, same locality as holotype, 50 m, 29-31 Aug. 1983; 1 ♂, same locality, 1-5 Sept. 1983; 2 ♀♀, 5 km N Nanao 1100 m, Ilan Co., 11-13 Oct. 1984; 1 ♀, Santimen For. Stn., 9 km SE Liukuei, 100 m, Kaohsiung Co., 4-7 Nov. 1984; Liukuei, For. Stn., 750 m, Kaohsiung Co., 29 Apr.-3 May 1989; 1 ♀, Fenchihwu, 1450 m, Chiayi Co., 2-4 July 1985 (JB Heppner and H Wang), in FSCA.



Figs. 5-7. Male genitalia with their aedeagus (a): 5. *Deltoplastis commatopa* Meyrick; 6. *D. lobigera* Gozmány; 7. *D. ovatella* sp. nov. (scale: 0.5 mm).

Distribution: Taiwan (new record), China (Zhejiang, Hubei, Sichuan).

Remarks: This species is reported for the first time from Taiwan.

***Deltoplastis ovatella*, sp. nov.**

(Figs. 4, 7, 7a, 9)

Diagnosis: The wing pattern of this new species is very similar to those of *D. figurata* (Meyrick) known from Sri Lanka, *D. prionaspis* Gozmány known from China (Yunnan), and *D. apostatis* Meyrick known from Japan, but it can be distinguished by the male genitalia. It is also similar to the preceding species, *D. lobigera* Gozmány, but some differences are found in the external and genital characters, as stated in the following description.

Description: Forewing length, 15.0-17.0 mm. Head grayish brown, with light gray scales laterally. Tegula and thorax concolorous. Antenna relatively short, about 4/5 of wing; scape normal; flagellum without cilia, with distinct dark-brown annulations in male, but not in female. Labial palpus strongly upturned; 2nd segment slightly thickened, brown outwardly, ochreous inwardly; 3rd as long as 2nd, dark brown throughout. Forewing relatively narrow, costa almost straight; costal patch before middle, small, elongated; median fascia ovate, dark brown, extending over upper margin of cell, connected to

dorsum; a pair of distinct, small discal spots presented at end of cell; postmedian line yellowish white, S-shaped, dark-brown scales scattered in inner areas; apex more or less acute; termen slightly sinuate; CuA₁ and CuA₂ very shortly stalked, at about basal 1/4; cell open. Hindwing pale gray, broader than forewing; termen strongly oblique, slightly sinuate.

Male genitalia (Fig. 7, 7a): Generally very similar to those of *lobigera* Gozmány, but differing from the latter as follows: costa of valva less emarginate; apex relatively acute; lateral lobes of juxta longer, and stouter. Aedeagus shorter than valva, with spinuous plates medially and apically.

Female genitalia (Fig. 9): Distal margin of 8th sternite deeply emarginate at middle. Ostium broadly expanded. Ductus bursae relatively long; ductus seminalis arising from near anterior 1/3. Corpus bursae ovate; signum asteroid.

Types: Holotype: ♂, Kuangwu For. Stn., 2000 m, Hsinchu Co., 18-25 Aug. 1988 (JB Heppner and H Wang), gen. slide no. 4085/Park. Paratypes: 2 ♂♂, 4 ♀♀, data as holotype, gen. slide no. 4299/Park (♀). Holotype to FSCA on definite loan from Taiwan, 4 paratypes are deposited in FSCA and 2 paratypes in CIS.

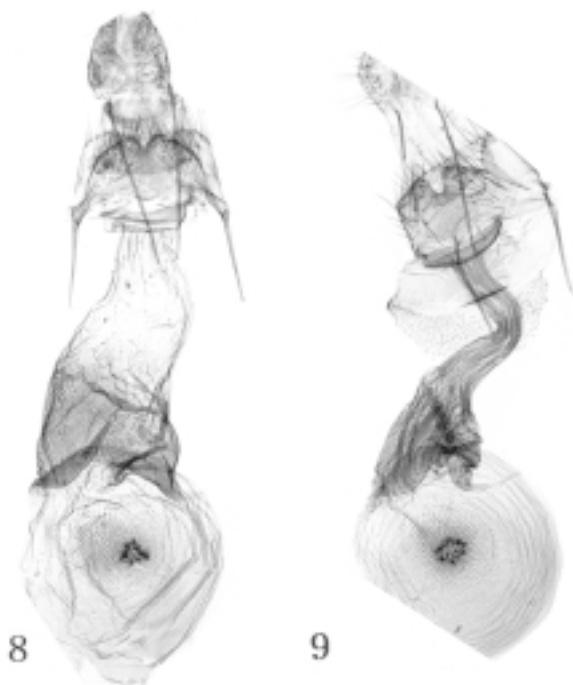
Distribution: Taiwan.

Etymology: The name is derived from the oval-shaped median fascia on the forewings.

DISCUSSION

Moths of the genus *Deltoplastis* are characterized by the clearly marked, dark fascia on the forewing. Gozmány (1978) stated that this genus can be distinguished from *Torodora* Meyrick by the open cell of both wings and the coincidence of the M₂ and M₃ veins of the hindwing. They also are separable from *Athymoris* Meyrick by the different venation, but the male genitalia of both genera are hardly distinguishable. To define these complexes, a further study is needed with more species and specimens.

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Figs. 8-9. Female genitalia: 8. *Deltoplastis lobigera* Gozmány; 9. *D. ovatella* sp. nov. (scale: 0.5 mm, as same on Figs. 5-7).

and 21 Jan.-9 Feb. 1998 in Canberra). We also thank Dr. Donald R. Davis, Department of Entomology, Smithsonian Institution, Washington DC, USA, for providing valuable specimens for this study.

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臺灣之祝蛾科 (鱗翅目)(IV) : 灰祝蛾亞科 *Deltoplastis* Meyrick 屬

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本文描述臺灣之灰祝蛾亞科 *Deltoplastis* Meyrick 屬之三個種：包括一新種 *Deltoplastis ovatella* 以及 *D. lobigera* Gozmány 之新記錄種。文中並製有種之檢索表。

關鍵詞：系統分類，描述，新種，*Deltoplastis*，臺灣。

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