

One New Species of Phycitine Moths with One New Record (Lepidoptera, Pyralidae) in Korea

Mun-Ki Paek* and Yang-Seop Bae*

(*Jirisan Headquarters, National Parks Authority, Sancheong, Gyeongnam Prov. 922-18;
Department of Biology, College of Natural Sciences, University of Incheon, Incheon 402-749, Korea)

ABSTRACT

A new phycitine moth, *Ceroprepes dorsomaculata* sp. nov. is described from Korea. *Acrobasis rufilimbalis* (Wileman) is newly added to the pyralid fauna of Korea, with redescription and illustrations of adult and both sexes of genitalia.

Key words: Lepidoptera, Pyralidae, *Ceroprepes dorsomaculata* sp. nov., *Acrobasis rufilimbalis*, taxonomy, Korea

INTRODUCTION

Recently we examined two unfamiliar phycitine moths from Korea and concluded that they represent a new species of *Ceroprepes* and a species of *Acrobasis* hitherto unrecorded from Korea. In the following lines we describe the former as new to science and record the latter as new to the moth fauna of Korea, with illustrations of adults and both sexes of genitalia.

All the specimens recorded here including type specimens are deposited in the collection of the Department of Biology, College of Natural Sciences, University of Incheon, Incheon, Korea.

Abbreviations used are as follows: UIB: Department of Biology, University of Incheon, Incheon, Korea; GW: Gangweon Prov.; GG: Gyeonggi Prov.; CB: Chungbuk Prov.; CN: Chungnam Prov.; GB: Gyungbuk Prov.; GN: Gyungnam Prov.; JB: Jeonbuk Prov.; JN: Jeonnam Prov.; JJ: Jeju Prov.

* Corresponding author: Yang-Seop Bae
E-mail: baeys@incheon.ac.kr, Tel: 032-770-8246

SYSTEMATICS

Genus *Ceroprepes* Zeller, 1867

Type species: *Ceroprepes patriciella* Zeller, 1867.

***Ceroprepes dorsomaculata* sp. nov.** 큰검은무늬알락명나방 (新稱) (Figs. 1A, 2A, 2C, 3A)

Material examined. Holotype: ♂, Mt. Hambaeksan, Taebaek, Gangweon Province, Korea, 14 July 1999, Lee, Kim & Kim, gen. slide no. UIB-1967 (♂). Paratypes: GW- 1 ♀, Mt. Odaesan, 22 July 2000, Bae, Lee & Lee, UIB; 1 ♀, Mt. Balgyosan, Hweongsung, 7 July 1998, Paek, Lee, Kim and Song, UIB; 2 ♀, Mt. Gariwangsan, 8 July 1998, Paek, Lee, Kim and Song, gen. slide no. UIB-2030 (wing); 1 ♀, Mt. Taebaeksan, 27 June 1996, Bae, Paek, Lee & Ahn, gen. slide no. UIB-1744 (♀); 1 ♀, same locality, 12 June 1999, Bae, Lee and Kim, UIB; 1 ♀, Mt. Hambaeksan, 13 June 1999, Bae, Lee & Ahn, UIB. GG- 1 ♀, Mt. Gwangdeoksan, 9 July 1997, M.K. Paek, gen. slide no. UIB-1643 (♀). GB- 1 ♂, 6 ♀, Mt. Tonggosan, Uljin, 26-30 June 2000, Bae *et al.*, UIB; 1 ♀, Mt. Eoraesan, Youngju, 30 June 1998, Y.S. Bae & M.K. Paek, UIB.

Description. Wingspan, 24-28 mm. Head yellowish brown. Labial palpus strongly upturned, yellowish brown in male, dark grayish brown in female. Antenna of male pale blackish brown, with sensilla trichodea of flagellum long, abundant; sinus distinct. Thorax fuscous brown; patagium reddish brown; tegula blackish brown. Ground color of forewing blackish brown, scattered with dirty white; antemedian line dirty white, waved; inner antemedian line with two large blackish brown dots; dorsum of antemedian line suffused with dirty white; discal dots of ocelloid patch obscure; submarginal line dark grayish brown, dentally waved, obscure. Hindwing dark grayish brown, a normal phycitine type.

Male genitalia (Figs. 2A, 2C). Uncus triangular, covered with rather long hairs. Apical process of gnathos elongate, blunt at apex; transtilla broadly arched, with a semiquadrate central projection; juxta V-shaped, with a slightly bent at apical area, large lateral arm. Valva broad, rounded at apex; costa well-sclerotized about basal 2/3 of costa; harpe nipple-like, with several thin hairs; sacculus well-developed, basally broad, with rather acute lobe near apex. Vinculum rather short, about 0.7 times as long as valva. Aedeagus rather short, almost as long as the length of valva, armed with numerous stout dents at posterior end. Structure of 8th abdomen shown in fig. 2C.

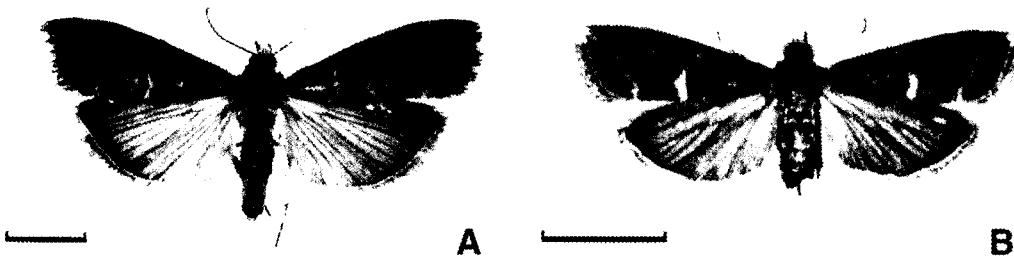


Fig. 1. Adults of Phycitinae moths. A, *Ceroprepes dorsomaculata* sp. nov., ♀; B, *Acrobasis rufilimba* (Wileman), ♀. Scales: 5 mm.

Female genitalia (Fig. 3A). Apophysis anterioris as long as apophysis posterioris. Ostium bursae wide, strongly sclerotized. Ductus bursae rather broad, constricted near middle, minutely dentated anteriorly; colliculum long, about 0.5 times as long as ductus bursae, asymmetrically infolded at inside margin. Ductus seminalis membranous, slender, originating from posterior part of corpus bursae. Corpus bursae oblong; signum very small, nipple-like, with numerous minute dents.

Etymology. The species name was derived from the Latin “dorso” and “maculata” (= spot), corresponding to the forewing markings.

Remarks. This new species is very similar to *Ceroprepes ophthalmicella* (Christoph) (Inoue, 1982: pl. 48: 29, 30) in the superficial appearance, but can be separated from the latter by the blackish brown forewing, inner antemedian line with two larger blackish brown dots, and a smaller signum. Moths are collected from the mid of June to the mid of July in Korea. The genus *Ceroprepes* Zeller is one of the smaller genera of Phycitinae and distributed in the Palearctic and Oriental regions. Two species, *ophthalmicella* (Christoph) and *nigrolineatella* Shibuya, are known to occur in the Korean Peninsula.

Distribution. Korea (GW, GG, GB).

Genus *Acrobasis* Zeller, 1839

Type species: *Tinea consociella* Hübner, 1796.

***Acrobasis rufilimbalis* (Wileman)** 가느흰띠알락명나방 (新稱) (Figs. 1B, 2B, 2D, 3B)

Rhodophaea rufilimbalis Wileman, 1911, Trans. ent. Soc. Lond., 362. TL: Japan.

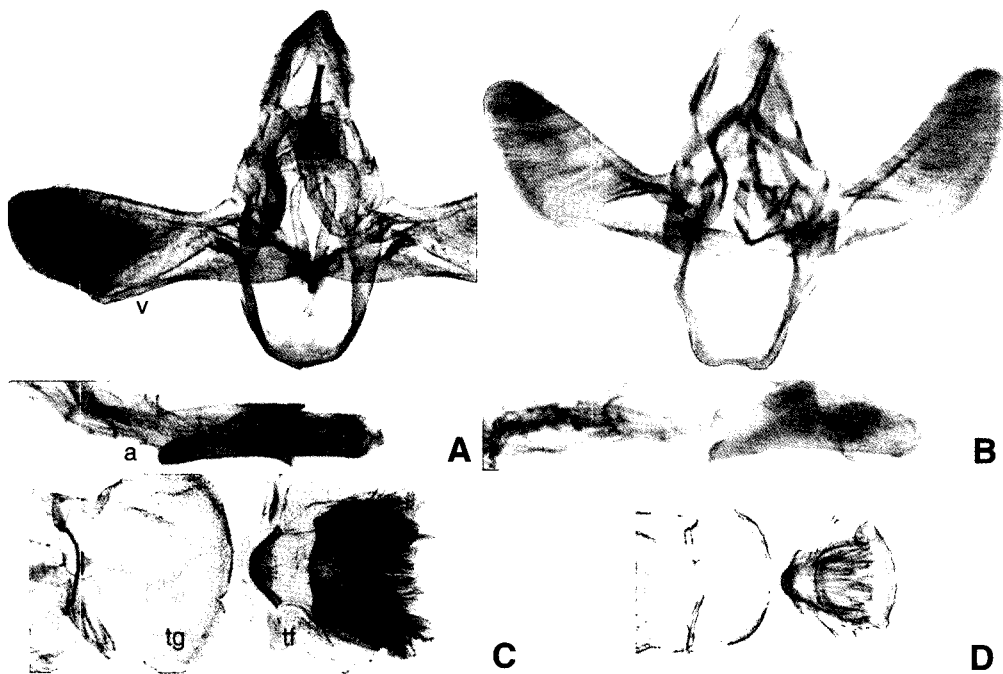


Fig. 2. Male genitalia and 8th abdomen (v; valva, a; aedeagus, tg; tergite, tf; tuft) of Phycitinae moths. A, C, *Ceroprepes dorsomaculata* sp. nov.; B, D, *Acrobasis rufilimbalis* (Wileman).

Acrobasis rufilimbalis: Inoue, 1954, II: 137; Inoue, 1982, 1: 395, 2: 251, pl. 47: 59.

Material examined. GW- 1 ♂, Mt. Jeombongsan, 11 July 1997, Paek *et al.*, gen. slide no. UIB-1738 (♂); 3 ♀, Jinbu-ryeung, Injae, 7 July 1998, Bae, Ahn & Kim, gen. slide no. UIB-1823 (♀); 1 ♀, Mt. Gyebangsang, 15 Aug. 1996, Paek, Lee and Ahn, UIB; 1 ♂, same locality, 19 July 2000, Bae, Lee and Lee, UIB; 3 ♀, Mt. Odaesan, 8 July 1998, Bae, Ahn & Kim, UIB; 1 ♂, 2 ♀, same locality, 22 July 2000, Bae, Lee and Lee, UIB; 4 ♀, Mt. Balgyosan, Hweongsung, 7 July 1998, Paek, Lee, Kim and Song, UIB; 1 ♂, 1 ♀, Mt. Gariwangsan, 8 July 1998, Paek, Lee, Kim and Song, UIB; 1 ♀, Mt. Bokjusan, Hwacheon, 13 July 2000, Paek, Kim, Kim and Ko, UIB. GG- 1 ♂, 1 ♀, Mt. Godaesan, Yeoncheon, 11-12 July 2000, Paek, Kim, Kim and Ko, UIB. GB- 1 ♂, Mt. Seondalsan, Youngju, 29 June 1998, Y.S. Bae and M.K. Paek, gen. slide no. UIB-1954 (♂); 1 ♂, 1 ♀, Mt. Sobaeksan, 17 July 1998, Paek, Lee and Song, UIB.

Description. Wingspan, 14-18 mm. Head dark gray. Labial palpus upturned, dark brownish gray with scattered whitish scales at inner surface. Antenna of male dark grayish brown, with sensilla trichodea of flagellum moderately abundant; scape enlarge, horn-like, with dirty white at inner

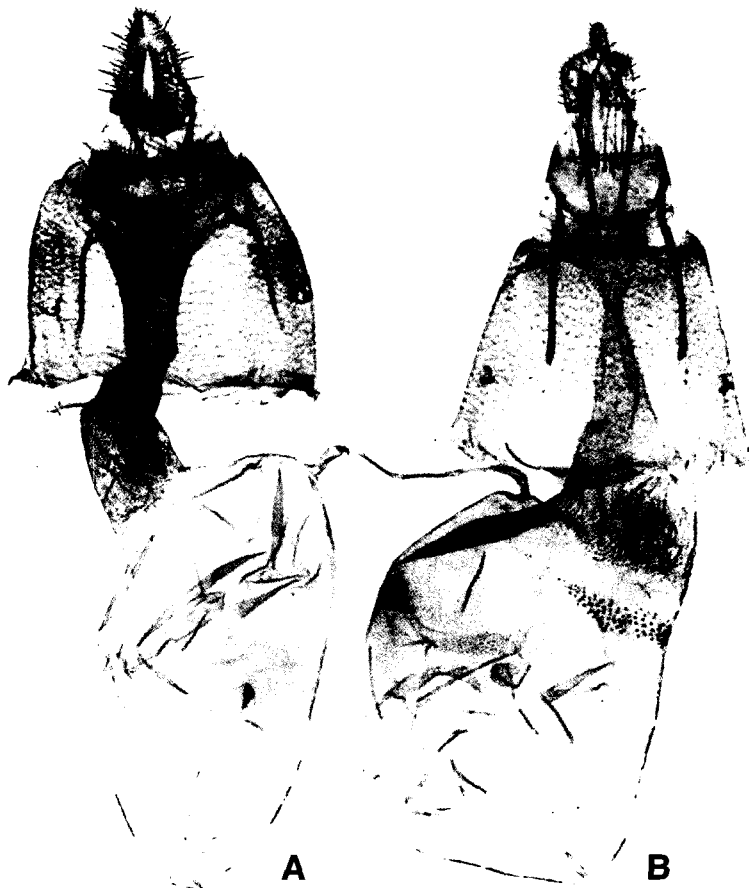


Fig. 3. Female genitalia of Phycitinae moths. A, *Ceroprepes dorsomaculata* sp. nov.; B, *Acrobasis rufilimbalis* (Wileman).

surface; sinus distinct, with a spine-like sensillum at distal area of sinus. Thorax dark gray. Ground color of forewing above dark gray; antemedian line narrow, white, semicircularly curved, running from costa to dorsum; inner antemedian line spread by deep purplish red scales; submarginal line dirty white, obvious, slightly bent. Hindwing brownish gray, a normal phycitine type.

Male genitalia (Figs. 2B, 2D). Uncus subtriangular, pointed at apex, laterally covered with rather long hairs. Apical process of gnathos elongate; transtilla broadly arched, shallowly concave at terminal margin; juxta V-shaped, with slender lateral arm. Valva broadened, sickle-shaped, medially concave; harpe small, semiquadrate; sacculus narrow, weakly developed. Vinculum sclerotized, rather broad, about 0.7 times as long as valva, shallowly convex at terminal margin. Aedeagus stout, about 0.8 times as long as valva. Structure of 8th abdomen shown in fig. 2D.

Female genitalia (Fig. 3B). Apophysis posterioris short, about 0.7 times as long as apophysis anterioris. Ostium bursae simple, cup-shaped, weakly sclerotized. Ductus bursae, membranous, anteriorly broad. Ductus seminalis membranous, slender, originating from posterior part of corpus bursae. Corpus bursae oval, posterior part of corpus bursae with numerous minute spines; signum small, nipple-like, with numerous minute dents.

Remarks. This species is very similar to *Conobathra obrutella* (Christoph) (Park, 1983, 437, pl. 30) in superficial appearance, but it can be distinguished from the latter by the smaller size and narrower antemedian line. This species is new to the fauna of Korea. Moths are collected from the late of July to the mid of August in Korea. This genus is morphologically similar to *Conobathra* Meyrick (type species: *Conobathra automorpha* Meyrick, 1886), but it can be distinguished by the connated M_2 and M_3 of the forewing.

Distribution. Korea (GW, GG, GB) and Japan.

ACKNOWLEDGMENTS

We are very grateful to Professor Kyu Tek Park of the Center for Insect Systematics, Kangwon National University, Chuncheon, for his constant guidance and gave us an opportunity to examine the valuable material. We are especially obliged to Dr. Jin Yeoul Cha of Ministry of Environment, Korea, for his generous help in collecting materials in the National Parks. Many thanks are also due to Messrs. Y.K. Kim and J.H. Kim of UIB, N.H. Ahn and B.W. Lee of Osaka Prefecture University, Japan for their assistance in collecting. This work was supported in part by a grant from the Korea Science and Engineering Foundation (KOSEF, 981-0603-0113-2).

REFERENCES

- Inoue, H., 1954. Pyralidae. In Check List of the Lepidoptera of Japan, **2**: 131-142. Tokyo.
- Inoue, H., 1982. Pyralidae. In H. Inoue, *et al.* (eds.), Moths of Japan, **1**: 307-404, **2**: 223-253. Kodansha, Tokyo.
- Park, K. T., 1983b. Pyralidae. In Y.H. Shin, *et al.* (eds.), Illustrated Flora and Fauna of Korea, Vol. **27**, Insecta (IX): 418-444, pls. 29-30, Ministry of Education, Seoul.

Wileman, A. E., 1911. New and unrecorded species of Lepidoptera Heterocera from Japan. Trans. Ent. Soc. Part 2: 189-406. London.

RECEIVED: 26 March 2001

ACCEPTED: 13 April 2001

알락명나방亞科(나비目, 명나방科)의 1新種과 1 韓國未記錄種

白 文 基*·裴 良 燮

(*국립공원관리공단 지리산국립공원관리사무소, 인천대학교 자연과학대학 생물학과)

요 약

알락명나방亞科의 1新種, *Ceroprepes dorsomaculata* sp. nov. 큰검은무늬알락명나방을 기재하고, 가는흰띠알락명나방 (*Acrobasis rufilimbalis*) 1종을 한국 미기록종으로 보고하며, 이들에 대한 성충, 생식기의 도해 및 생태적 기록을 정리하였다.