

Two species of Olethreutinae (Lepidoptera: Tortricidae) new to Korea

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The Korean Olethreutinae comprises 277 species. In this study, two species of Olethreutinae: *Hedya corni* Oku, 1974 and *Epinotia salicicolana* Kuznetsov, 1968, are reported for the first time from Korea. Our records of *Hedya corni* are based on three specimens in both sexes from Islands Bogildo and Geojedo. The Korean record of *Epinotia salicicolana* is based on one male specimen from Muan-gun. The present records of *Hedya corni* represent the first occurrence out of Japan. *Hedya corni* is similar to *Hedya inornata* (Walsingham) but differs from the latter in having the reddish brown forewings. *Epinotia salicicolana* is similar to *Epinotia solandriana* (Linnaeus) but differs from the latter in having the smaller dorsal patch on the forewing. Habitus and genitalia of the two olethreutine species are illustrated and briefly described. Their bionomics and distribution are summarized. With our new records, the species numbers of the Korean *Hedya* and *Epinotia* are increased to 11 and 23, respectively.

Keywords: *Epinotia*, *Hedya*, Korea, new records, Olethreutinae, Tortricidae

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INTRODUCTION

A tortricid subfamily, Olethreutinae comprises 355 genera and 4,417 species worldwide (Regier *et al.*, 2012). This subfamily includes several notorious pests on fruit industry, such as Codling moths, *Cydia pomonella* (L.) and Oriental fruit moths, *Grapholita molesta* (Busck). Adults of many olethreutines are similar to one another and thus, it is hard to tell them apart with traditional taxonomic approaches.

In Korea, a total of 277 species of Olethreutinae have been known (updated from Sohn and Kim, 2020). This number is far less than those in the neighboring countries. Therefore, many new records of the Korean Olethreutinae are expected. In this study, two species of Olethreutinae are recorded for the first time from Korea. All the specimens examined are deposited in three collections: the Gongju National University of Education (GNUE), the Mokpo National University (MPNU) and the National Institute of Biological Resources (NIBR).

SYSTEMATIC ACCOUNTS

Family Tortricidae

Subfamily Olethreutinae

Hedya corni Oku, 1974

남방큰애기잎말이나방 (Figs. 1A, 2A, 2C)

Hedya corni Oku, 1974: 130. Type locality: Japan, Honshu, Iwate Pref., Takizawa.

Description (Fig. 1A). Head. Vertex dark purplish brown; frons pale grayish brown. Labial palpus purplish brown; 3rd segment 1/7 as long as 2nd segment. Antenna 1/2 as long as forewing; scape dark purplish brown; flagellomeres dark grayish brown. Thorax. Tegula and mesonotum purplish brown, with dark brown transverse fascia at middle. Forewing length 8.1–9.5 mm, dark brown; costal strigulae pale yellow; basal and median areas with pale grayish brown strigulae dorsally; antemedian and postmedian lines arched, dark gray, juxtaposed with brownish white; subterminal area brownish white, with row of ocelloid patches; adterminal line narrow, dark brown; terminal line brownish white, with dashes between veins; fringe dark grayish brown. Hindwing fuscous, paler to base; fringe fuscous on apical and tornal area, pale gray on resting areas. Male genitalia (Fig. 2A). Uncus narrow, linguiform, with a pair of elongate papillae apically. Tegumen narrow, oblique laterally. Socius digitiform, long-se-



Fig. 1. Adults of Olethreutinae. A. *Hedy corni* Oku, 1974, female. B. *Epinotia salicicolana* Kuznetsov, 1968, male.

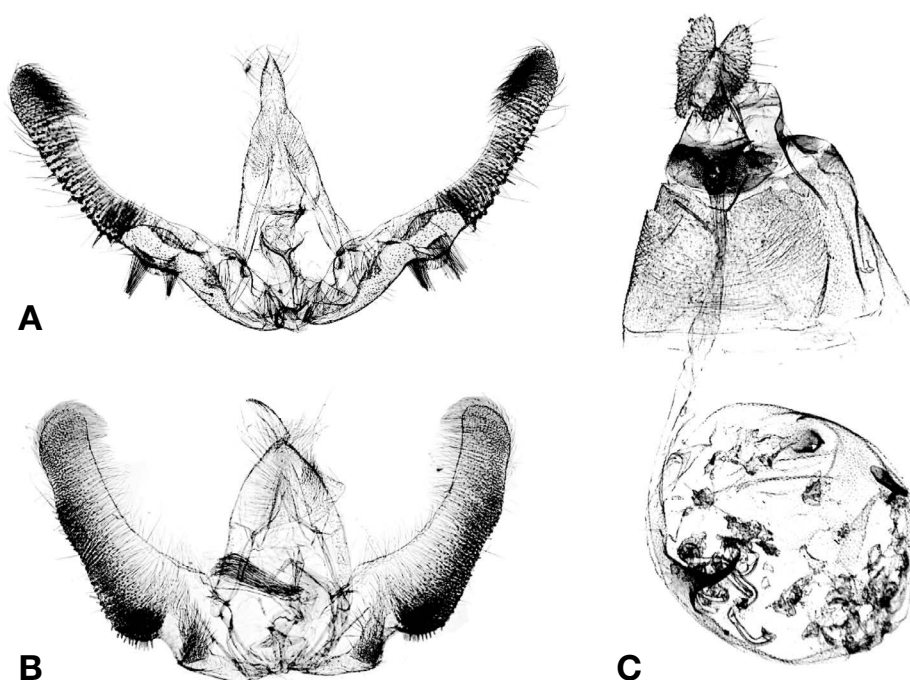


Fig. 2. Genitalia of Olethreutinae. A. *Hedy corni* Oku, 1974, male. B. *Epinotia salicicolana* Kuznetsov, 1968, male. C. *Hedy corni* Oku, 1974, female.

tose, dropping. Valva elongate, narrowly round apically; costa broadly arched; cucullus setose; basal opening of valva accompanied with small, setose area; sacculus with arched bulge at middle and two clusters of spiniform setae along ventral margin. Phallus stout. Female genitalia (Fig. 2C). Papilla anale, semielliptical, setose. Apophysis posterioris as long as apophysis anterioris. Area above ostium bursae with V-shaped folds; sterigma with a pair of subtriangular sclerites. Ostium bursae small, elliptical. Ductus bursae narrow, as long as corpus bursae; anterior 1/4 sclerotized. Corpus bursae globular, with two signa; signum curved, acuminate apically, with broad basal area.

Material examined. 1♂1♀, Jeonnam Prov., Wando-gun, Bogil-myeon, Is. Bogildo (N34°08'46" E126°32'40", 85

m), 30 VI 2008 (J.S. An & J. Lee), [GSN] SJC-1068, MPNU & NIBR. 1♀, Gyongnam, Is. Geojedo, Geoje-si, Mundong Valley, 13 IX 2002 (JC Sohn), [GSN] SJC-414, GNUE.

Distribution. Korea, Japan.

Host plants. Cornaceae. *Cornus kousa* F. Buerger ex Hance (Oku, 1974; Togashi, 1982); *Swida macrophylla* (Wall.) Soják (Oku, 2003).

Remarks. This species occurs in southern provinces of Korea. *Hedy corni* is similar to *Hedy inornata* (Walsingham) but differs from the latter in having the reddish brown forewings (dark brown in *H. inornata*). Oku (2003) stated that the larvae of *H. corni* tie two leaves of host plants and feed inside tissues. Later they cut circularly

one of the leaves and fold to make a pupal chamber.

***Epinotia salicicolana* Kuznetsov, 1968**

원반애기잎말이나방 (Figs. 1B, 2B)

Epinotia salicicolana Kuznetsov, 1968: 577. Type locality: Russia, Kuril Islands, Kunashir, near Sernovodsk.

Description (Fig. 1B). Head. Vertex and frons fuscous. Labial palpus fuscous; 3rd segment tinged with pale grayish brown apically. Antenna 1/2 as long as forewing, fuscous. Thorax. Forewing length 8.1 mm, fuscous, mottled with brown; costal strigulae grayish brown; dorsal patch subtriangular, white, with dark brown strigulae posteriorly; cilia fuscous. Hindwing and cilia fuscous. Male genitalia (Fig. 2B). Uncus long, narrow, lanceolate apically. Tegumen subtriangular, densely setose on lateral area of distal half. Valva elongate, slightly constricted at basal 1/4, with semicircular cavity basally; costa curved, with bulge subbasally; sacculus subtriangular, densely setose on distal half; cucullus long, narrowly-round apically, broadened basally, circularly-convex ventrobasally, densely setose. Phallus broadened to distal end; cornutal zone with long, hair-like needles, nearly as long as phallus.

Material examined. 1♂, Jeonnam Prov., Muan-gun, Bokgil-ri (N34°53' E126°24', Alt. 25 m), 30 VIII 2006 (SW Choi), [GSN] SJC-1083, NIBR.

Distribution. Korea, Japan, China (Shaanxi), Taiwan, Russia (Far East), North America.

Host plants. Salicaceae. *Populus tremula* var. *sieboldii* (Miq.) Kudo; *Salix* spp, including *S. caprea* L., *S. hultenii* Flod., *S. sachalinensis* F. Schmidt (Kuznetsov, 2001; Nasu & Komai, 2013).

Remarks. This species is similar to *Epinotia solandriana* (Linnaeus) but differs from the latter in having the smaller dorsal patch on the forewing. The color of dorsal patch on the forewing in *Epinotia salicicolana* can vary to white or yellowish brown.

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