

한국산 밤나방과 미기록 4종의 보고(나비목)

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Four species of the family Noctuidae (Lepidoptera) New to Korea

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ABSTRACT : In the present study, we reports four species of Noctuidae are reported for the first time from Korea: *Hadennia obliqua* (Wileman), *Zanclognatha lui* Han and Park, *Premusia intrahens* Walker, and *Cucullia hostilis* Boursin. The adults and genital characteristics of the species are briefly redescribed with illustrations and their biological and distributional notes are given as necessary.

KEY WORDS : Herminiinae, Ophiderinae, Cuculliinae, Korea

초 록 : 밤나방과에 *Hadennia obliqua* (Wileman), *Zanclognatha lui* Han and Park, *Premusia intrahens* Walker, and *Cucullia hostilis* Boursin 등 4종이 한국에서 처음으로 보고 된다. 이들 미기록 4종에 대해 성충의 형태적 특징과 암수생식기를 간략히 기술하고 도해한다.

검색어 : Herminiinae, Ophiderinae, Cuculliinae, 한국

Introduction

Since Kononenko *et al.* (1998)'s first comprehensive systematic catalogue, a total of 983 species in the family Noctuidae *sensu lato* (excluding Nolinae), one of the highly-diversified lepidopterous groups, have been recorded from the Korean peninsula with recent faunistic additions by several researchers (Sohn and Ronkay, 2001; Sohn and Kim, 2003; Sohn and Han, 2005; Sohn *et al.*, 2005a-b; Han *et al.*, 2005). However, the taxonomic resolution of the Korean noctuids is far from maturity, as still leaving many faunistic novelties.

In this article, four species of Noctuidae new to Korea: *Hadennia obliqua* (Wileman, 1911), *Zanclognatha lui* Han and Park, 2005, *Premusia intrahens* Walker, 1858 and *Cucullia hostilis* Boursin, 1934, are reported. Among them, the genus *Premusia* Walker, 1858 originally one of the Oriental genera, is first time reported in the Korean fauna and even in Eastern Asia, but assumed to be an occasional migrant or accidentally distributed. The adults and genitalic characteristics of the species are briefly redescribed and illustrated. Their biological and distributional information are also provided as available.

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Materials and Methods

Materials examined in this study are mainly based on the entomological collection at the Center for Insect Systematics, Kangwon National University, Chuncheon (CIS/KWNU), Korea National Arboretum (KNA), Pocheon, and National Institute of Agricultural Sciences and Technology, Rural Development Administration, Suwon (NIAST). We examined all available specimens with dissecting and describing genitalia according to Holloway *et al.* (1987)'s protocol and terminology.

Systematic Accounts

Hadennia obliqua (Wileman, 1911) 외줄검은띠수염나방(新稱) (Figs. 1, 5)

Nodaria obliqua Wileman, 1911. Trans. Ent. Soc. Lond. 1911: 255, pl. 31:15. (TL: Mt. Takakuma-yama, Prov, Osumi, Kyushu, Japan [BMNH, London]).

Hadennia obliqua: Owada, 1978: Bull. Natn. Sci. Mus. A. 4(4): 281; Owada, 1982; Owada, 1987.

Diagnosis (Fig. 1). Wingspan 26-31 mm. This species is superficially similar to *H. incongruens* (Butler), but can be distinguished as following: ante-and median line

of forewing blurred; postmedial line double, straight, bright gray in outer part; stigmata small; hindwing with cleared postmedial line and obscured median line; discal spot small, gray, blurred.

Male genitalia (Fig. 5). Uncus long, gently curved inwardly, with numerous short hairs dorsally at distal 2/3. Valva thickened, relatively straight, roundly at apex; sacculus distinctly broad, strongly sclerotized. Saccus round, thick. Juxta tongue-shaped. Aedeagus slender, straight; vesica with six small diverticula, covered with rather small cornuti.

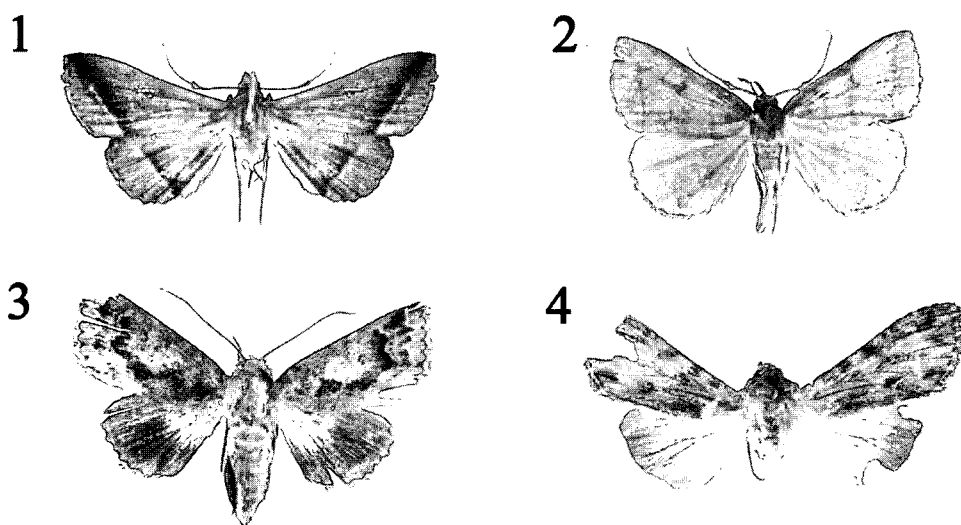
Material examined. 1 ♂, Isl. Wando, Prov. Jeonnam, 29. vii. 2002; 1 ♂, same locality, 12. viii. 2003-coll. KNA.

Distribution. Korea (new record), Japan (Honshu, Shikoku, Kyushu, Ryukyu Islands).

Remark. The species has been known as being endemic to Japan. The present record is the first one from the continental part of East-Asia.

Zanclognatha lui Han and Park, 2005 장백수염나방(新稱) (Figs. 2, 6)

Zanclognatha lui Han and Park, 2005. Korean J. Syst. Zool. 21(1): 2-3, Figs, 1, 3. (TL: China, Jilin Prov., Mt. Changbai [coll. H.L. Han]).



Figs. 1-4. Adult: 1. *Hadennia obliqua* (Wileman); 2. *Zanclognatha lui* Han and Park; 3. *Premusia intrahens* Walker; 4. *Cucullia hostilis* Boursin.

Diagnosis (Fig. 2). Wingspan 28-35mm. This species is superficially similar to *Z. lunalis* (Scopoli) in Korea, but can be distinguished as following: antemedial line of forewing strongly convex before middle; median band well-developed; postmedian line less convex medially; subterminal line without creamy white line outwardly.

Male genitalia (Fig. 6). Uncus convex beyond middle dorsally, shorter than that of *lunalis*. Valva trifurcate, asymmetrical; costa almost straight before middle; 1st process of distal part short and acute; 2nd digitate with round apex; 3rd slender, taeniated. Aedeagus almost straight; cornuti consist of 2 series of horn-shaped spines: one row of 5-6 horn-shaped spines and the other mixed with 3-4 long and 5-6 short horn-shaped spines on spiculate surface.

Material examined. 1 ♂, Mt. Palbong, Prov. Kangwon, 5. vii. 1990-coll. CIS/KWNU; 1 ♂, Gwangreung, Prov. Gyeonggi, 17. vii. 2002-coll. KNA.

Distribution. Korea (new record), China (Jilin: Mt. Changbai).

Remark. The species has been known as being endemic to China. The condition of specimen is badly, so holotype image is used in here.

***Premusia intrahens* Walker, 1858 큰검은무늬밤나방(新稱)** (Figs. 3, 7)

Premusia intrahens Walker, 1858. List Specimens lepid.

Insects Colln Br. Mus. 15: 1780. (TL: Sarawak, Borneo, Malaysia [BMNH, London]).

Dysedia zibellina Felder & Rogenhofer, 1874. Reise öst. Fregatte Novara (Zoll.) 2: pl. 112: 8. (TL: Borneo, Sarawak).

Anophia smaragdina Walker, 1858. List specimens lepid. Insects Colln. Br. Mus. 15: 1811. (TL: Borneo, Sarawak).

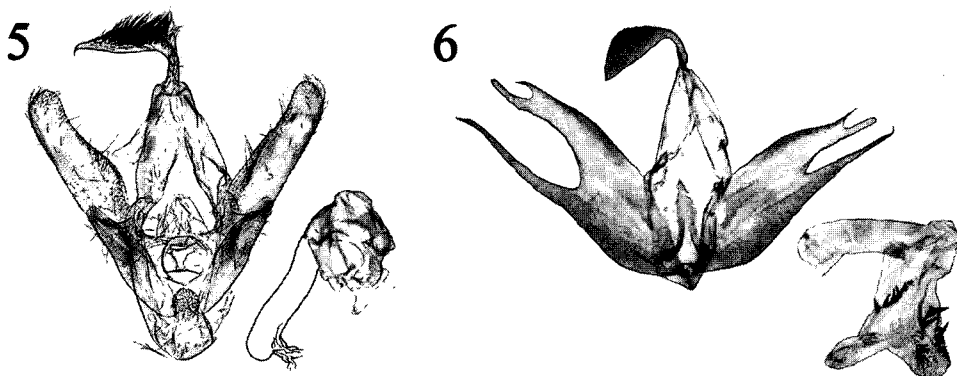
Diagnosis (Fig. 3). Wingspan 36 mm. This species is superficially similar to *Aedia leucomelas* (Linnaeus) in Korea, but can be distinguished as following: forewing yellowish gray, with broadly outer margin; antemedial line blurred, wider; postmedial line black, sharply curved after Cu_1 - Cu_2 ; costal part of subterminal line presented as dark spot, and other form by blurred stigmata; hindwing yellowish gray interiorly, without white apex.

Female genitalia (Fig. 7). Apophysis anterioris 2/3 of ductus bursae in length; ostium wide; ductus bursae broad, slightly shriveled at anterior part; corpus bursae pyriform with many wrinkles at caudal 1/3.

Material examined. 1 ♀, Osu, Prov. Jeonbuk, 3. vi. 2005-coll. NIAST

Distribution. Korea (new record), Thailand, Vietnam, Indonesia (Sumatra, Borneo).

Remark. This species distributes in the Asian Tropics. We assume that the species might migrate accidentally to Korea by accident, considering its general distribution in Indo-China region.



Figs. 5-6. Male genitalia: 5. *Hadennia obliqua* (Wileman); 6. *Zanclognatha lui* Han and Park

Cucullia hostilis Boursin, 1934 큰점곱추밤나방(新稱) (Figs. 4, 8)

Cucullia hostilis Boursin, 1934. *Revue Francaise d'Entomologie*. 1: 143. pl. 2. fig. 3 (TL: Vladivostok, Ussuri, Russia [LN, Karlsruhe]).

Diagnosis (Fig. 4). Wingspan 40-42mm. This species is superficially similar to *C. maculosa* Studing, but can be distinguished as following: broader forewing with round apex; antemedial line wider and blurred; post- and median line thinning; basal dash longer; apical and anal dash little and thin.

Female genitalia (Fig. 8). Ductus bursae slender, longer, thin at terminal part, membranous before middle, swollen with well sclerotized zone; corpus bursae egg-shape, broader.

Material examined. 1 ♀, Gangchon, Prov. Kangweon, 17. viii.2003-coll. CIS/KWNU.

Distribution. Korea (New record), Russia (Ussuria).

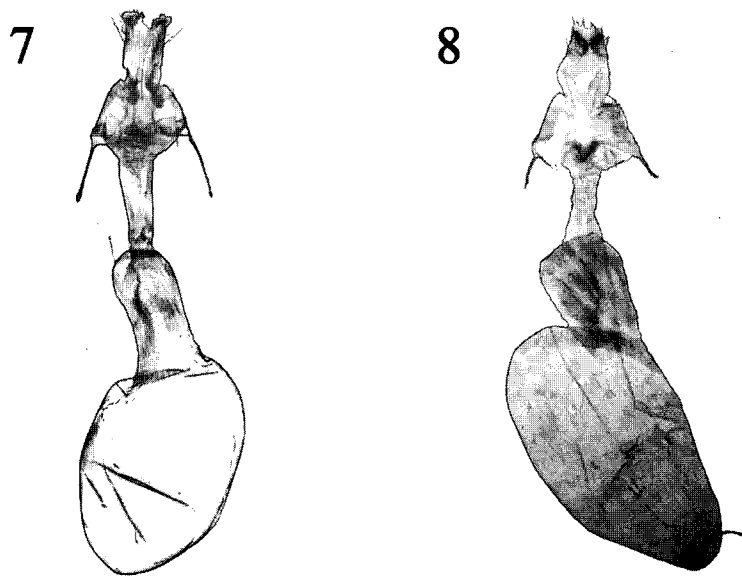
Remarks. This is the first record from outside of the type locality. In the present study, female was collected in Gangchon which is closed to Chuncheon city, Prov. Kangweon, Korea, the southernmost border of the species.

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Figs. 7-8. Female genitalia: 7. *Premusia intrahens* Walker; 8. *Cucullia hostilis* Boursin.

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