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Three Species of Microlepidoptera (Lepidoptera) New to Korea

Jun-Mo Koo[1], Jae-Dong Kim[2], Da-Som Kim[3], Kyu-Tek Park[4,*]

[1]Insect Systematic Bioinformatics Laboratory, Department of Plant Medicine, Chungbuk National University, Cheongju 28644, Korea
[2]Department of Applied Biology, College of Agriculture and Life Science, Chungnam National University, Daejeon 34134, Korea
[3]Department of Biological Science and Biotechnology, Hannam University, Daejeon 34430, Korea
[4]Bioresource and Environmental Center, Incheon National University, Incheon 22012, Korea

ABSTRACT

From a result of the faunal study for microlepidoptera in Korea, three species are reported for the first time from Korea: *Agnoea josephinae* (Toll, 1956) of the family Lypusidae; *Ochromolopis kaszabi* Gaedike, 1973 of the family Epermeniidae; and *Elachista kurokoi* Parenti, 1983 of the family Elachistidae. Of them, two genera, *Agnoea* Walsingham and *Ochromolopis* Hübner, are reported for the first time from Korea. Adults and their genitalia for the first two species, *A. josephinae* and *O. kaszabi*, are given, but the last species, *E. kurokoi* with missing abdomen, is illustrated only with adult. Diagnostic characteristics with brief descriptions of the genitalia are also provided.

Keywords: taxonomy, Lepidoptera, new records, Korean fauna, Korean peninsula

INTRODUCTION

Since the comprehensive monograph and a check list for the microlepidoptera in Korea were published by Park (1983a, 1983b) with a total of 632 species (excluding the superfamily Pyraloidea), Byun et al. (2009) revised the check list, listing 1,304 species for the fauna. An updated check list for the insect fauna of Korea is scheduled to be published by the Korean Society of Applied Entomology and the Entomology Society of Korea in 2021. Authors examined specimens, which were collected from various localities in Korea, by using the sweeping-net or light traps. From the result, three species of microlepidoptera belonging to three families are reported for the first time from Korea: *Agnoea josephinae* (Toll, 1956) of the family Lypusidae; *Ochromolopis kaszabi* Gaedike, 1973 of the family Epermeniidae; and *Elachista kurokoi* Parenti, 1983 of the family Elachistidae. Among them, two genera, *Agnoea* Walsingham and *Ochromolopis* Hübner, are reported for the first time from Korea.

For identification of the species, genitalia were dissected and examined. The last of the three species presented, *E. kurokoi* with missing abdomen, is illustrated only with adult.

MATERIALS AND METHODS

The present study is based on the specimens collected from various localities in Korea from 1994 to 1999. Wingspan was measured from one side apex of the forewing including the fringe to the other side apex. The dissected genitalia were stained mainly with chlorazol black or mercurochrome and were slide-mounted in Euparal. The color standard for the description of adults followed Kornerup and Wanscher (1978).

SYSTEMATIC ACCOUNTS

Order Lepidoptera Linnaeus, 1758
Family Lypusidae Herrich-Schäffer, 1857
Genus *Agnoea* Walsingham, 1907

[1]** ***Agnoea josephinae* (Toll, 1956) (Fig. 1A–E)**

Tubuliferola josephinae Toll, 1956: 185. TL: Poland.
Pseudatemelia josephinae De Prins, 1988: 107; Lvovsky, 1999: 54.
Agnoea josephinae; Sinev & Lvovsky, 2014: 142; Lvovsky, 2016b: 110.

Korean name: [1]**유라시아원뿔나방(신칭)

***To whom correspondence should be addressed**
Tel: 82-43-261-2552, Fax: 82-43-271-4414
E-mail: ktpark02@gmail.com

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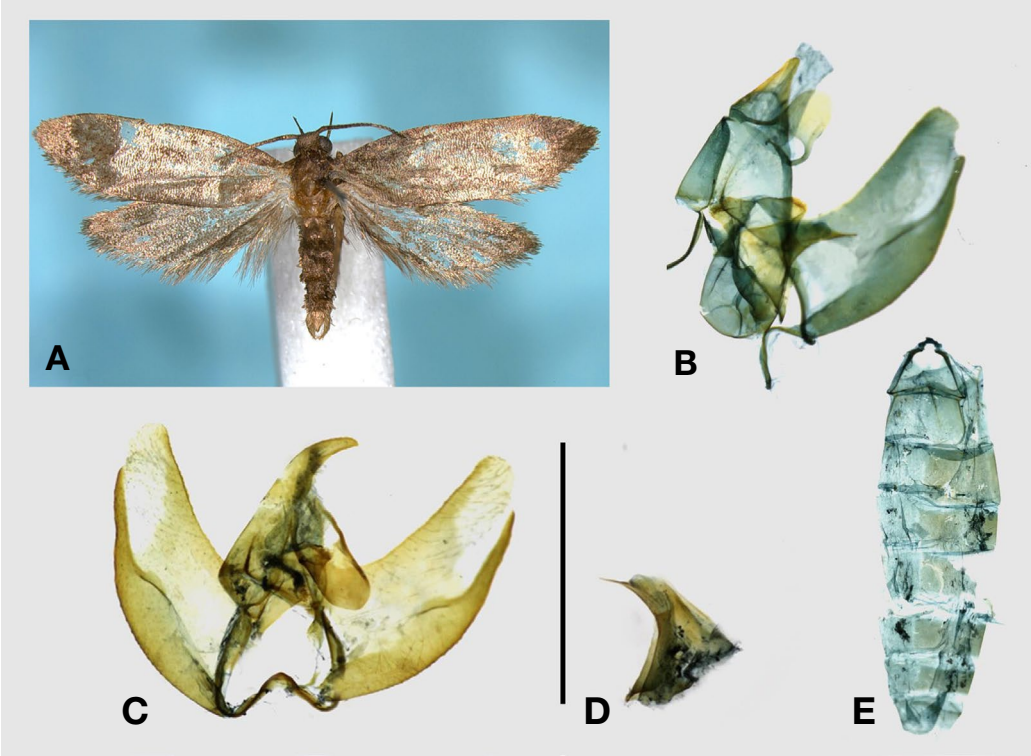

Fig. 1. *Agnoea josephinae* (Toll, 1956): A, Adult; B, Male genitalia; C, Different view of male genitalia; D, Aedeagus; E, Abdomen. Scale bar = 1 mm.

Material examined. Korea: 3♂♂, Gyeonggi Prov.: Mt. Soyosan, 7 Jul 1996, leg. Bae, Paik, Lee & Ahn; gen slide no. CIS-8032; 2♂♂, Mt. Soyosan, 13 Jul 1996, leg. Bae, Paik, Lee & Ahn; gen slide no. CIS-8033; 1♂, Gangwon Prov.: Mt. Daeduksan, 11 Jul 1997, leg. Bae & Ahn; 1♂, Mt. Seoraksan, Namseorak, 12 Jul 1997, leg. Paik, Lee, Jang, Choi & Kim; 1♂, Mt. Jeombongsan, 13 Jul 1997, leg. Paik, Lee, Jang, Choi & Kim.

Diagnosis. Wingspan, 18–20 mm. The species is superficially similar to *A. flavifrontella* (Denis & Schiffermüller, 1775), but it can be distinguished by the longer and more sharply produced sacculus than that of *A. flavifrontella* in the male gentialia.

Male genitalia (Fig. 1B–D): See also De Prins (1988, fig. 1a, b). Uncus elongated; gnathos large and spatulate; valva narrowed toward apex with gently arched ventral margin; sacculus lanceolate; aedeagus pear-shaped with an acute spine apically.

Distribution. Korea (new record), Japan (Hokkaido), Europe (Western to North western), Austria, Albania, Russia (European part, Altai-Sajan Region, Russian Far East).

Remarks. The family Lypusidae is distributed in the Palaearctic and Oriental region, comprising 168 species belonging to 10 genera, and of them, more than 150 species have been known in the Palaearctic Region. The family was first introduced to Korea, describing two new species of the genus *Meleonoma* Meyrick, belonging to Lypusidae (Park and Park, 2016).

The genus *Agnoea* Walsingham of the subfamily Lypusinae is one of the Palaearctic genus, comprising 19 species. Following four previously known genera, *Pseudatemelia* Rebel, 1910, *Tubulifera* Spuler, 1910, *Tubuliferola* Strand, 1917, and *Tubuliferodes* Toll, 1956, were synonymized with *Agnoea* by Sinev and Lvovsky (2014). Two species, *A. josephinae* (Toll, 1956) and *A. kurentzovi* (Lvovsky, 2001), have been reported from Primorsky Territory, Russian Far East. Of them, *A. josephinae* has been reported from Hokkaido, Japan (Sinev and Lvovsky, 2014) and the species is known for the first time from Korea.

Family Epermeniidae Spuler, 1910

Genus *Ochromolopis* Hübner, [1825]

[1]***Ochromolopis kaszabi* Gaedike, 1973 (Fig. 2A–I)**

Ochromolopis kaszabi Gaedike, 1973: 96; 2007: 103; Gae-

Korean name: [1]*긴띠미나리좀나방(신칭)

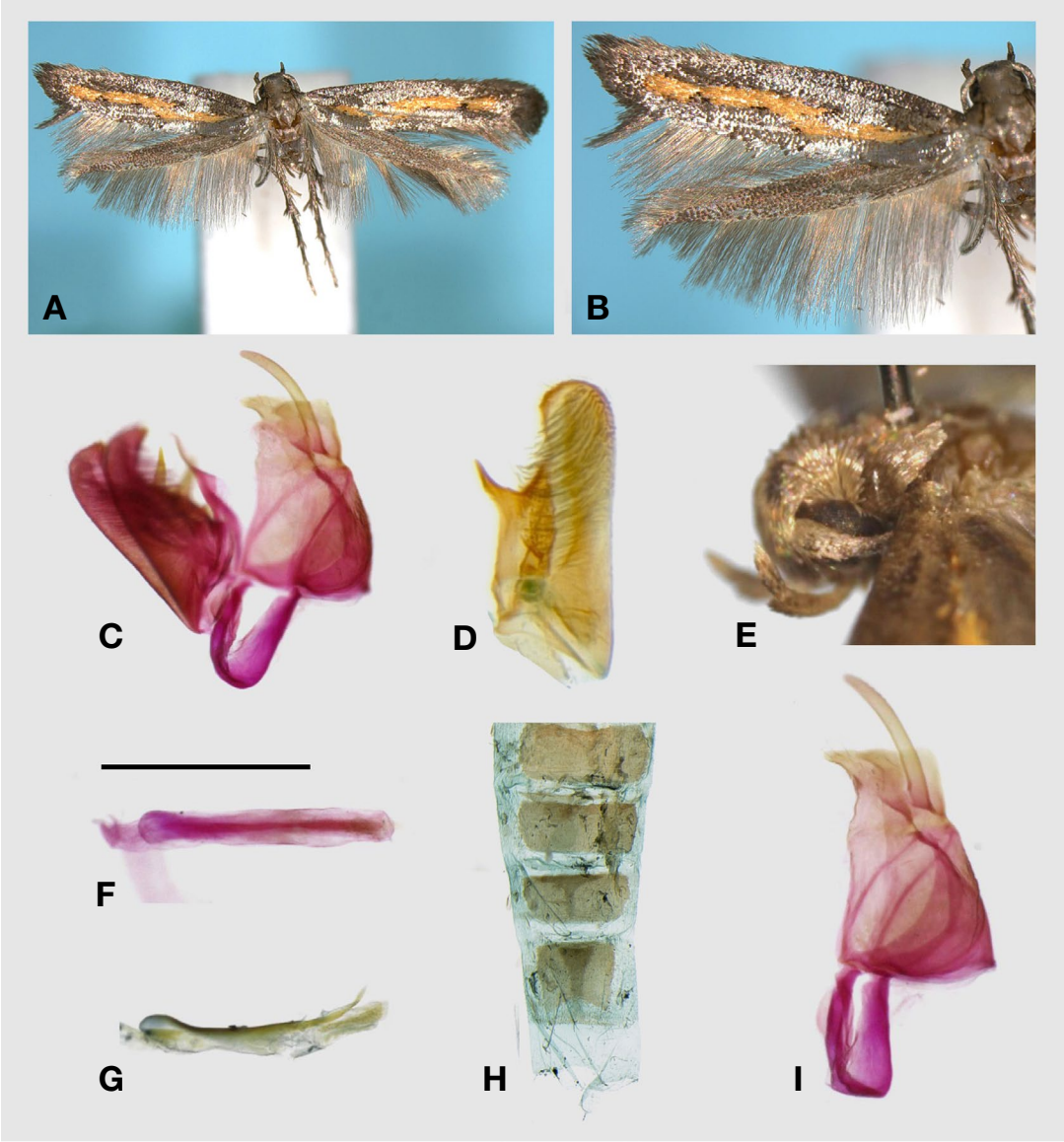

Fig. 2. *Ochromolopis kaszabi* Gaedike, 1973: A, Adult; B, Close-up left wing; C, Male genitalia, lateral view; D, Different view of valva; E, Labial palpus, lateral view; F, Aedeagus; G, Different view of aedeagus; H, Abdomen; I, Close-up uncus and tegumen. Scale bar = 0.5 mm.

dike & Mally, 2014: 62; Lvovsky, 2016a: 150; Gaedike & Šumpich, 2017: 272. TL: Mongolia.

Material examined. Korea: 1♂, Gangwon Prov.: Chuncheon-si, Gajeon-ri, 10 Jun 1999, leg. JW Jung & SH Won; gen. slide no. CIS-8031; 1♂, Mt. Gwangdeoksan, 23 Jun 1994, leg. KT Park; gen. slide no. CIS-8066.

Diagnosis. This species is superficially similar to *O. ictella* (Hübner, 1813) and *O. zagulajevi* Budashkin & Satshkov, 1991, but it can be distinguished by the broader socius with a more or less sharply produced corner, and the costal arm of valva with a more pointed costal branch than those of *O. ictella* and *O. zagulajevi* in the male genitalia.

Male genitalia (Fig. 2C, D, F, G, I): See also Gaedike (1973, figs. 1–4). Uncus long and narrow; socius broad, quadrate with more or less sharply produced lower corner and flat caudal margin; valva rectangular with rounded distal end; costal arm of valva with a large spine-like process on costa; aedeagus slender and about 1.2 times longer than the length of valva.

Distribution. Korea (new record), Mongolia, Russian Far East, S. Siberia, China.

Fig. 3. *Elachista kurokoi* Parenti, 1983, adult.

Remarks. The genus comprises 11 species in the world (Gaedike and Mally, 2014) and is reported for the first time from Korea in this study. A subspecies, *Ochromolopis kaszabi minima* Budashkin & Satshkov, 1991 was described from the Russian Far East.

Family Elachistidae Bruand, 1851
Genus *Elachista* Treitschke, 1883

[1]***Elachista kurokoi*** **Parenti, 1983 (Fig. 3)**

Elachista kurokoi Parenti, 1983: 9; Kaila, 1999: 168; Sugisima, 2005: 9; 2013: 209; Kaila, 2019: 81. TL: Kyushu, Japan.

Material examined. Korea: 1♀, Gyeonggi Prov.: Mt. Cheonggyesan, 31 May 1997, leg. KT Park (abdomen missing).
Diagnosis. Wingspan 5 mm. This species is similar to *E. caliginosa* Parenti, 1983, *E. fasciocaliginosa* Sugisima, 2005, and *E. miscanthi* Parenti, 1983, but it can be distinguished from the latter by having a silvery-white longtitudinal fascia at the base of the forewing. Only female specimen, missing abdomen, is available, but it can be identified by the distinct basal fascia.
Distribution. Korea (new record), Japan (Kyushu), Palaearctic.
Remarks. It is known that larvae feed on *Oplismenus undatifolius* (Ard.) P. Beauv. (Poaceae) (Parenti, 1983; Sugisima, 2005).

ORCID

Jun-Mo Koo: https://orcid.org/0000-0003-2639-6456
Jae-Dong Kim: https://orcid.org/0000-0001-5452-2857
Da-Som Kim: https://orcid.org/0000-0002-9988-0225
Kyu-Tek Park: https://orcid.org/0000-0001-9933-4497

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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