

## **Seven Species of Crambinae (Lepidoptera: Pyralidae) new to Korea**

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### **ABSTRACT**

Seven species of the subfamily Crambinae [*Crambus silvellus* Hübner, *C. pseudargyrophorus* Okano, *Flavocrambus picassensis* Bleszynski, *Glaucobaris moriokensis* (Okano), *G. copernici* Bleszynski, *G. electra* Bleszynski, and *Miyakea expansa* (Butler)], are reported for the first time in the Korean peninsula. Diagnostic characters with illustrations of the male and female genitalia are given. The genus *Miyakea* Marumo is also the first record in Korea.

Key word: Systematics, Lepidoptera, Pyralidae, Crambinae, new record, Korea

### **INTRODUCTION**

The subfamily Crambinae comprises more than 700 species belonging to about 50 genera in the world, which is most abundant in the Palaearctic region, with more than 370 known species (Bleszyński, 1965), including 161 species in Europe (Karsholt and Razowski, 1996), 86 species in Japan (Sugi, 1994), and 19 species in China (Wang, 1983).

Some of the previous authors (Meyrick, 1890; Hasenfuss, 1960; Kuznetsov and Stekolnikov, 1979) treated this group as a tribe or an independent family, but most of recent authors (Park, 1980; Inoue, 1982; Hodges, 1983; Flecher and Nye, 1984; Heppner and Inoue, 1992) have placed it as a subfamily of Pyralidae.

In Korea, Park (1983) reviewed 30 species of the subfamily Crambinae in his comprehensive publication, Illustration Flora and Fauna of Korea, No. 27, with a full citations and synonym of all the previously known species. Park (1990) described a new species of Crambinae, *Metaeuchromius flavofasciata* from Korea. Recently Park *et al.* (1994) listed 31 species belonging to 16 genera of

the subfamily Crambinae in Korea. In this study, seven species and a genus, *Miyakea* Marumo, are reported for the first time Korea.

The material studied are based on collections of the Center for Insects Systematics, Kangwon National University; National Institute of Agricultural Sciences and Technology, Suweon; Incheon University, Incheon. Abbreviations for the provinces in Korea and her adjacent countries: GG-Gyeonggido, GW-Gangwondo, CB-Chungchungbukdo, CN-Chungchungnamdo, JB-Jeolabukdo, JN-Jeolanamdo, GN-Gyongsangnamdo, CJ-Chejudo. RFE-Russian Far East.

## SYSTEMATIC ACCOUNTS

### ***Glaucocharis electra* (Bleszyński, 1965) 애쌍점줄포충나방 (新稱) (Figs. 1, 8, 15)**

*Pareromene electra* Bleszyński, 1965, p. 56, fig. 4. TL: China.

**Remarks.** Wingspan, 7 mm. This species is closely similar to *G. exsectella* (Christoph) by the pattern of the forewing, but the forewing is more darkened and the reniform stroma is more straight than that of *G. exsectella* (Christoph). The male genitalia (Fig. 8) can be distinguished from those of *G. exsectella* (Christoph) by the strongly curved cornutus, rounded saccus, and well sclerotized costalarm; the female genitalia (Fig. 15) have relatively small sized papillae anales.

**Material examined.** GW 14 ♂, 4 ♀, Mt. Seolag-san, 10 VIII 1989, K. T. Park and B. K. Byun.

**Distribution.** Korea (Central), China (Prov. Chekiang).

### ***Glaucocharis copernici* (Bleszyński, 1965) 작은점포충나방 (新稱) (Figs. 2, 9, 16)**

*Pareromene copernici* Bleszyński, 1965, p. 58, fig. 8. TL: China.

**Remarks.** Wingspan, 7 mm. This species is similar to *G. moriokensis* (Okano), but differs from the indistinct subbasal line, thick and zigzag-shaped inner line, smoothly curved submarginal line, and the vertical reniform stigma. The male genitalia (Fig. 9) are characterized by the broad valva and costalarm with more or less rounded apex; the female genitalia (Fig. 16) has a small triangular ostium plate.

**Material examined.** GG 1 ♀, Mt. Suri-san Gunpo, 3 VII 1997, Jeon and Lee; 1 ♀, Mt. Soyo-san, Dongduchon, 9 VI 1996, Y. S. Bae.

**Distribution.** Korea (Central), China (Prov. Chekiang).

### ***Glaucocharis moriokensis* (Okano, 1962) 쌍점줄포충나방 (新稱) (Figs. 3, 10, 17)**

*Diptychophra moriokensis* Okano, 1962, p. 127, fig. 9. TL: Japan.

*Pareromene moriokensis*: Bleszyński, 1965, p. 59.

*Pareromene moriokensis*: Inoue, 1982, p. 315.

*Glaucocharis moriokensis*: Sugi, 1994, p. 41.

**Remarks.** Wingspan, 5.5–6 mm. This species is closely similar to *G. copernici* (Bleszyński) superficially, but it can be separated by the larger size and the white submarginal line of the hindwing. The male genitalia (Fig. 10) are characterized by the sharply elongated costalarm, thick and curved uncus, star-shaped juxta plate, and aedeagus more stout than that of *G. copernici*; the female genitalia (Fig. 17) have a lip-like ostium plate.

**Material examined.** GG 1 ♂, Mt. Soyo-san, Dongduchon, 9 VI 1996, Y. S. Bae; GN 1 ♂, Mt. Gaji-san, Yangsan, 19 VIII 1993, K. T. Park.

**Distribution.** Korea (Central), Japan (Honshu).

***Miyakea expansa* (Butler, 1881) 큰칠점박이포충나방 (新稱) (Figs. 4, 11, 18)**

*Eromene expansa* Butler, 1881, p. 590. TL: Japan.

*Miyakea expansa*: Bleszyński, 1965, p. 89.

**Remarks.** Wingspan, 16–24 mm. This species is similar to *Metaeuchromius flavofasciata* Park externally, but much larger in size, with obviously yellow medianline and seven black spots along marginal line. The male genitalia (Fig. 11) are characterized by the well-sclerotized sacculus apically, and five spine-like cornuti in the aedeagus; the female genitalia (Fig. 18) have triangular papillae anales, rounded and well sclerotized ostium plate.

Genus *Miyakea* was erected by Marumo (1933) based on type species *Eromene expansa* Butler. The genus are characterized by well developed ocelli; cell between  $M_1$  and  $M_2$  at hindwing. Only one species, *Miyakea expansa* (Butler) of the genus *Miyakea* is distributed throughout the palaeartic region.

**Material examined.** GG 1 ♀, Mt. Soyo-san, Dongduchon, 9 VI 1996, Y. S. Bae, 1 ♂, 5 VIII 1996, Bae, Paek, Lee, & An, 1 ♀, 7 VII 1996, Bae, Paek, Lee, & An; 1 ♀, Mt. Bum-Uh, Gumjong, 21 VIII 1994, J. Y. Choi.



**Figs. 1-7.** Adults: 1. *Glaucocharis electra* Bleszyński; 2. *G. copernici* Bleszyński; 3. *G. moriokensis* (Okano); 4. *Miyakea expansa* (Butler); 5. *Crambus pseudargyrophorus* Okano; 6. *C. silvellus* Hübner; 7. *Flavocrambus picassensis* Bleszyński.

**Distribution.** Korea (Central), Japan (Honshu), China (Prov. Kwangtung, Shantung, Yünnan, Szetschwan), RFE (Amur).

***Crambus psedargyrophorus* Okano, 1960** 엽은테포충나방 (新稱) (Figs. 5, 12, 19)

*Crambus psedargyrophorus* Okano, 1960, p. 8. TL: Japan.

*Crambus psedargyrophorus*: Bleszyński, 1965, p. 224.

*Crambus psedargyrophorus*: Inoue, 1982, p. 322.

**Remarks.** Wingspan, 22-25 mm. This species is similar to *C. argyrophorus* Butler superficially, but differs by the large size, with a broad area between marginal and submarginal line. The male genitalia (Fig. 12) is characterized by the partially sclerotized saccus and large apicular dorn that connected with cornuti; the female genitalia (Fig. 19) have a relatively indistinct signum, and a broad and well sclerotized ostium plate, comparing with that of *C. argyrophorus* Butler.

**Material examined.** GW 1 ♂, 1 ♀, Mt. Dukga-san, Wonju, 24 VII 1997, Bae, Paek, and Ahn; 4 ♂, 1 ♀, Chuncheon, 21 VII 1992; K. T. Park & B. K. Byun; 1 ♂, 5 IX 1980, K. T. Park; 1 ♂, 8 VI 1990, K. T. Park; 3 ♀, Jiamri, Chuncheon, 19 VII 1995, M. S. Go & J. S. Lee; 1 ♂, Weonchanggogae, Chuncheon, 6 IX 1990, B. K. Byun & S. W. Cho; 1 ♂, 1 ♀, Gotan, Chuncheon, 15 VIII 1992, K. T. Park & B. K. Byun; 1 ♀, Bongmyoung-ri, Chuncheon, 23 VII 1992, K. T. Park & B. K. Byun; 2 ♀, Mt. Samak-san, Chuncheon, 22 V 1990, K. T. Park; 2 ♀, 19 VII 1989, K. T. Park; 1 ♂, Hwengsung, 22 VIII 1994, B. K. Byun; 2 ♂, Seomyun, Yangyang, 25 VII 1987, K. T. Park; 1 ♂, 1 ♀, Moonsan-ri, Youngweol, 25 VII 1996, K. T. Park; 1 ♂, 1 ♀, Hweanggye, 1 VIII 1991, K. T. Park; 1 ♂, Yongpyong, 1 VIII 1991, K. T. Park; 2 ♀, Mt. Jeambong-san, 10 VIII 1992, K. T. Park; 2 ♂, 4 ♀, Jeongsun, 30 VII 1991, K. T. Park; 1 ♀, Mt. Seolag-san, 17 VIII 1992, K. T. Park and B. K. Byun; GG 1 ♀, Mt. Hwaya-san, Yangpyung, 18 VII 1997, Bae, Paek, Lee, Oh, and Ahn; 2 ♂, Mt. Cheonggae Kwachon, 23 VII 1996, Paek, Jeon, and Lee; 1 ♀, 26 VII 1997, Jeon, Lee, Jang, and Gu; 1 ♀, Mt. Kwangduk-san, Pochon, 9 VII 1997, Paek, Jang, Choi, and Lee; 1 ♂, Mt. Cheonma-san, Namyangju 29 VII 1997, Bae, Kim, and Ahn; 1 ♀, Gwangrung, 4 VIII 1988, K. T. Park; 2 ♂, 7 VIII 1986, K. T. Park and U Park; 2 ♂, Ipo-ri Yeosu, 20 VIII 1990, D. S. Park & S. Y. Joo; 1 ♂, Junghwa-dong, Is. Beakryung-do, 23 VIII 1995, M. S. Go & C. G. Lee; GN 2 ♂, Sang-ri, Kosung, 3-4 VI 1997, S. B. Ahn; JN 1 ♂, Mt. Pekun-san, 19 VIII 1992, K. T. Park and B. K. Byun; CB 1 ♀, Mt. Sokri-san, 19 VIII 1986, K. T. Park and B. K. Byun; 1 ♀, Mt. Weolak-san, Chungju, 9 VIII 1997, Y. S. Bae and N. H. Ahn; CJ 1 ♂, Seongpanak, 24 VI 1994, B. K. Byun; 2 ♀, 3 VII 1994, B. K. Byun; 2 ♂, Youngsil, 2 VII 1994, B. K. Byun; 2 ♂, 1 ♂, Cheju, 13 VIII 1997, B. W. Lee and N. H. Ahn.

**Distribution.** Korea (Central, South, Cheju), Japan, North China, RFE (Amur, Ussuri).

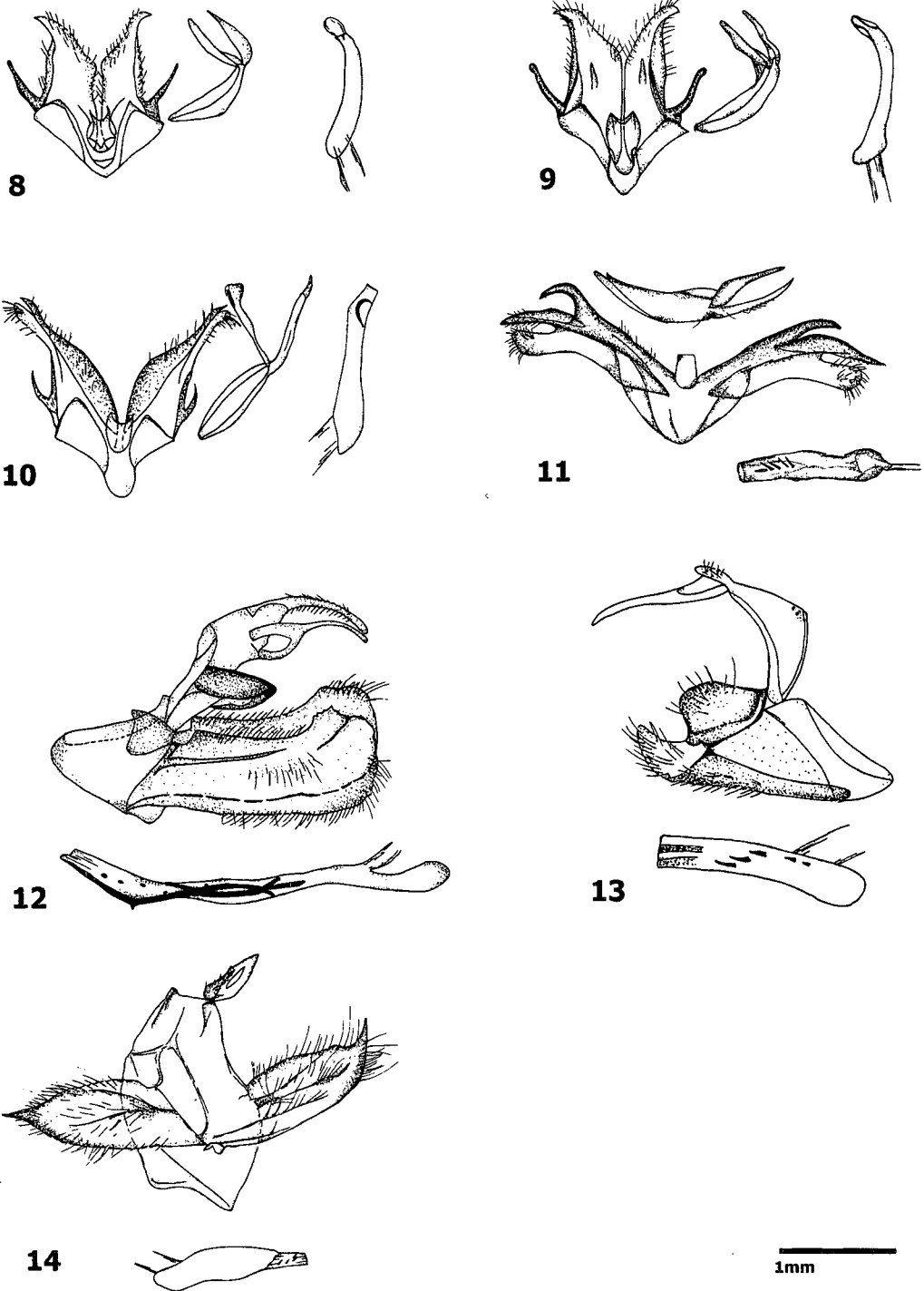
***Crambus silvellus* (Hübner, [1813])** 흰갈매기포충나방 (新稱) (Figs. 6, 13, 20)

*Tinea silvella* Hübner [1813], p. 369, 370. TL: Germany.

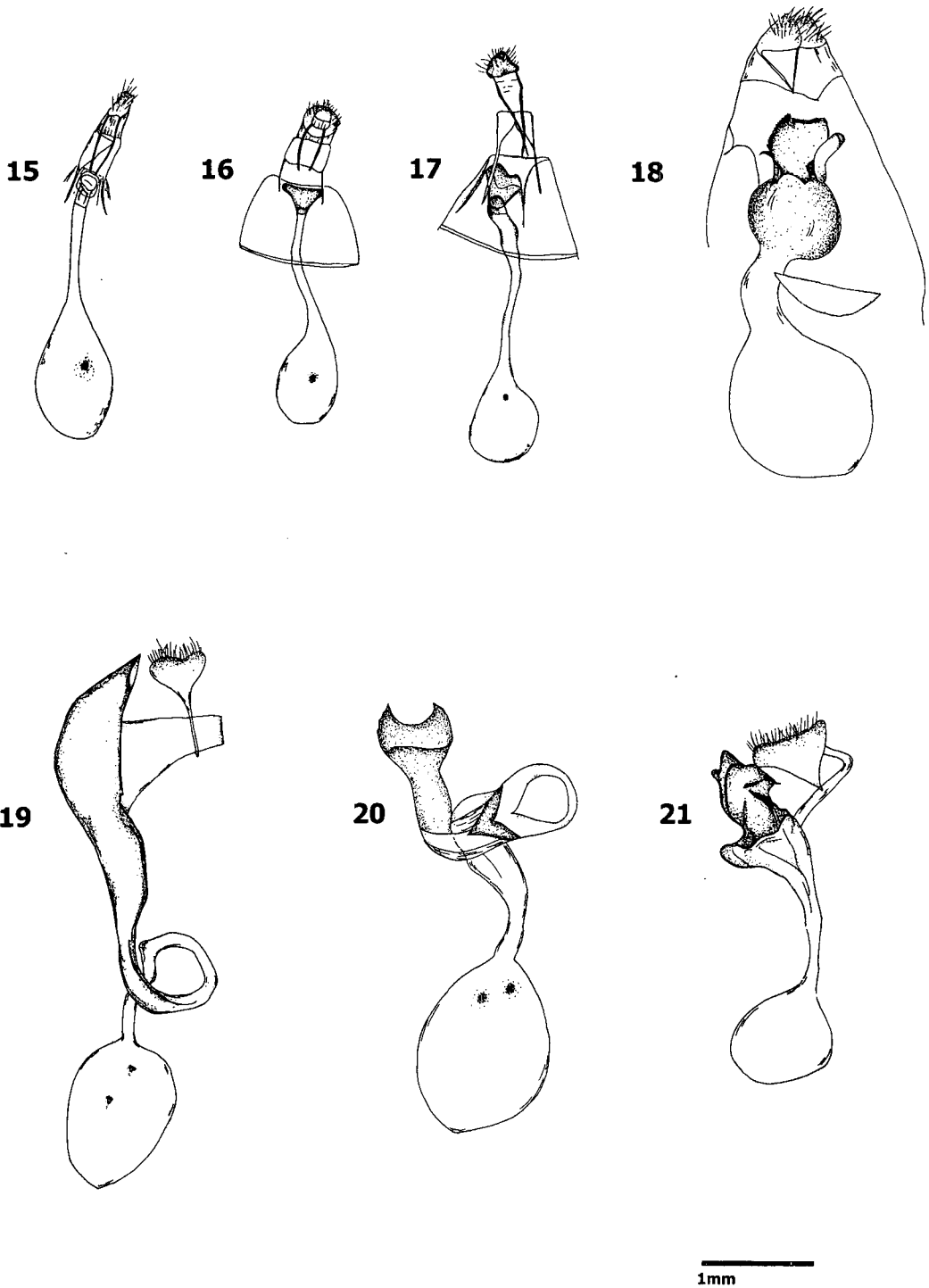
*Crambus silvellus*: Bleszyński, 1965, p. 204.

*Crambus silvellus*: Inoue, 1982, p. 321.

**Remarks.** Wingspan, 17-21 mm. This species is similar to *C. pascuellus* Linne, but the forewing is more brownish dark, with a long, thick, white fascia running horizontally, whereas the white fascia divided into two parts in *C. pascuellus* Linne. The male genitalia (Fig. 13) are characterized



**Figs. 8-14.** Male genitalia: 8. *Glaucocharis electra* (Bleszynski); 9. *G. copernici* (Bleszynski); 10. *G. moriokensis* (Okano); 11. *Miyakea expansa* (Butler); 12. *Crambus pseudargyrophorus* Okano; 13. *C. silvellus* (Hübner); 14. *Flavocrambus picassensis* Bleszynski.



**Figs. 15-21.** Female genitalia: 15. *Glaucocharis electra* (Bleszynski); 16. *G. copernici* (Bleszynski); 17. *G. moriokensis* (Okano); 18. *Miyakea expansa* (Butler); 19. *Crambus pseudargyrophorus* Okano; 20. *C. silvellus* (Hübner); 21. *Flavocrambus picassensis* Bleszyński.

by large spine like cornutus, and the valva sharpened at apex; the female genitalia (Fig. 20) have a well-sclerotized and large ostium plate which concaved on distal margin.

**Material examined.** CJ 1 ♂, 1 ♀, Is. Cheju, 13 VII 1997, B. W. Lee and N. H. Ahn.

**Distribution.** Korea (Cheju), Japan, China (Mandschuria), RFE, Europe.

***Flavocrambus picassensis* Bleszyński, 1965** 빛살포충나방 (新稱) (Figs. 7, 14, 21)

*Flavocrambus picassensis* Bleszyński, 1965, p. 324. TL: Amur (Radde 03 Korb; coll. Museum G. Antopa, Bukarest).

**Remarks.** Wingspan, 15-19 mm. This species is closely similar to *F. striatellus* (Leech) superficially, but it can be separated by the larger size, with obviously large black spots along marginal line inwardly. The male genitalia (Fig. 14) are characterized by the valva with the sharply pointed apex and aedeagus with five cornuti; the female genitalia (Fig. 21) have a smaller and less sclerotized ostium plate than that of *F. striatellus* (Leech).

**Material examined.** GW 2 ♂, Mt. Jeombong-san, 11 VII 1997, Paek, Lee, Jang, Choi, and Kim; GG 1 ♂, Mt. Suri-san, Gunpo 15 VI 1990, S. H. Oh and H. Y. Choi; 1 ♂, Mt. Yaksu-san, Yangyang, 9 VIII 1989, K. T. Park and B. K. Byun; 3 ♂, Is. Ganghwa, 26 VII 1997, Lee and Ahn.

**Distribution.** Korea (Central), RFE (Amur, Ussuri), C. Europe.

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RECEIVED: 10 March 1999

ACCEPTED: 6 April 1999

## 한국産 포충나방 亞科 (나비 目, 명나방 科)의 7未記錄種

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### 요 약

포충나방 亞科의 *Crambus silvellus* (Hübner) (흰갈매기포충나방), *Crambus pseudargyrophorus* Okano (넓은테포충나방), *Flavocrambus picassensis* Bleszynski (빛살무늬포충나방), *Glaucocharis moriokensis* (Okano) (쌍점줄포충나방), *Glaucocharis copernici* (Bleszynski) (작은점포충나방), *Glaucocharis electra* (Bleszynski) (애쌍점줄포충나방) 및 *Miyakea expansa* (Butler) (큰칠점박이포충나방)을 우리나라 未記錄種으로 보고한다, 또한 *Miyakea* 屬을 우리나라에서 처음으로 보고한다.