

Gelechiidae (Lepidoptera) from Changbai-san in China

中國 長白山 (백두산)의 빨나방과 (나비목)

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Abstract – During 1999~2000 expedition to Mt. Changbai-san in China, twenty species of Gelechiidae were recognized. Most of the species, except *Anacamptis popullela* (Clerk), are known for the first time from Mt. Changbai-san, and nine species are newly known from China. *Scrobipalpa atriplicella* (Fisher and Röslerstamm) and *Anarsia lineatella* (Zeller) are unknown species from the Korean Peninsula. A new combination, *Carpatolechia dehania* (Park, 1993), comb. nov. is given.

Key Words – Lepidoptera, Gelechiidae, Mt. Changbaik, China

초 록 – 지난 2년간(1999~2000)의 장백산 곤충조사결과 빨나방과의 20종이 채집 확인되었다. *Anacamptis popullela*를 제외한 전종은 모두 장백산에서 처음 확인되는 종이었으며, *Scrobipalpa atriplicella* (Fisher and Röslerstamm)와 *Anarsia lineatella* (Zeller)는 한반도에서 그 분포가 알려지지 않은 종이다. *Carpatolechia dehania* (Park, 1993)는 *Pseudotelphusa* 속에서 새로운 속명으로 재조합되었다.

검색어 – 나비목, 빨나방과, 장백산, 중국

This article is the first report on the expedition for the Microlepidoptera from Mt. Changbai-san, which has almost not been explored to date. Before this survey, only a record of *Anacamptis popullela* is available for Mt. Changbai-san. All material examined are based on the collections from the vicinity of Mt. Changbai-san, which was scheduled by a collaborative survey program between the Yanbian University, China and the Center for Insect Systematics, Korea, under the financial support by the Korea Research Institute of Bioscience and Biotechnology (KRIBB) from 1999. For this program, a preliminary survey was undertaken in August, 1999, with a night collecting by a light trap at the entrance of the electric power-plant, about 10 km away from Erdaobaihe (= Idobekwha) towards Changbai Waterfall. This year our investigation team consists of five specialists (two of

which are lepidopterists), and surveyed from just below the border of the forest of deciduous trees, ca. 1,750~1,800 m, to near Idobekwha, Chongshan (= Sungseon), and near Longjing (= Yongjung), for 8 days. Gelechiids were mostly collected by a light trap, and a few of them were collected in the daytime.

A total of 20 species of Gelechiidae were recognized from this first expedition. Most of these species are common in Korea, but *Scrobipalpa atriplicella* (Fisher and Roslerstamm) and *Anarsia lineatella* (Zeller) are unknown species from the Korean Peninsula.

Collecting dates and sites in Mt. Changbai-san and its vicinities:

Site 1: 1. VIII. 1999; electric power plant, 760 m (42° 22'34"E, 128° 05'55"N), 10 km from Idobekwha towards

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Changbai-Waterfall: coll. by K.T. Park and L.S. Lu.

Site 2: 27. VII. 2000; near Heping Lin Chang, 850 m, (42° 19'04"E, 128° 07'37"N); about 20 km far away from Idobekwha towards Changbai-waterfall: coll. by K.T. Park and J.S. Lee.

Site 3: 28. VII. 2000; upper limit of the deciduous tree belt, including *Betula* spp., 1750 m (42° 03'36"E, 128° 03'23"N), about 500 m from Hotel (Doogyunsanjang): coll. by K.T. Park and J.S. Lee.

Site 4: 29. VII. 2000; at the entrance of Dixiashenlin, 1700 m, (42° 04'28"E, 128° 03'55"N): coll. by K.T. Park and J.S. Lee.

Site 5 (almost same as the site 1): 30. VII. 2000; electric power plant, 760 m (42° 22'34"E, 128° 05'55"N), 10 km from Idobekwha towards Changbai-waterfall: coll. by K.T. Park and J.S. Lee.

Site 6: 31. VII. 2000; Chongshan (= Sungseon), 600 m (42° 05'33"E, 128° 59'33"N); The screen was placed just a side of the Duman River, close to North Korea. Most of the collected specimens were flown from the North Korean side: coll. by K.T. Park and J.S. Lee.

Site 7: 1~2. VIII. 2000; Jiashan, 600 m (42° 38'40"E, 128° 54'28"N), 50Km NE from Yongjung: coll. by K.T.

Park and J. S. Lee.

Systematic accounts

Subfamily Gelechiinae

Genus *Euramprotes* Bradleyi, 1971

Euramprotes wikella (Linnaeus, 1758)

Euramprotes wikella Linnaeus, 1758, Syst. Nat. (ed. 10) 1: 541.

Material examined: 2 ♂, site 6.

Distribution: Korea, China (Gangsu, Qinghai, Xinji-ang), Europe.

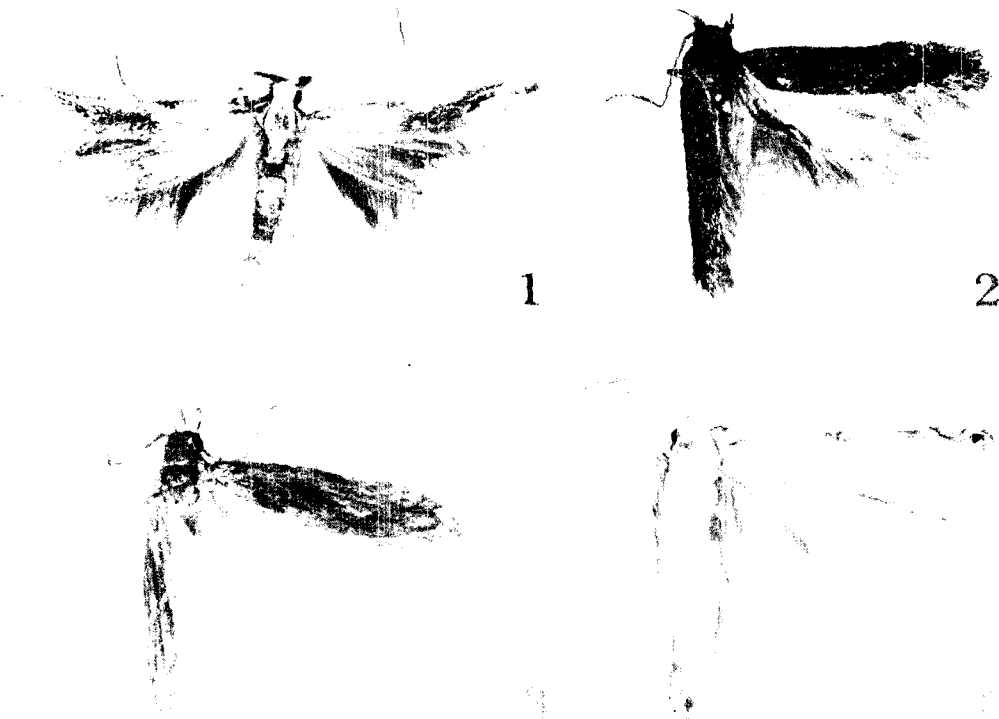
Remarks: It is known that the larvae feed on *Ceras-tium fontanum* and *C. holosteoides* (Caryophyllaceae) (Elsner *et al.*, 1999).

Genus *Metzneria* Zeller, 1839

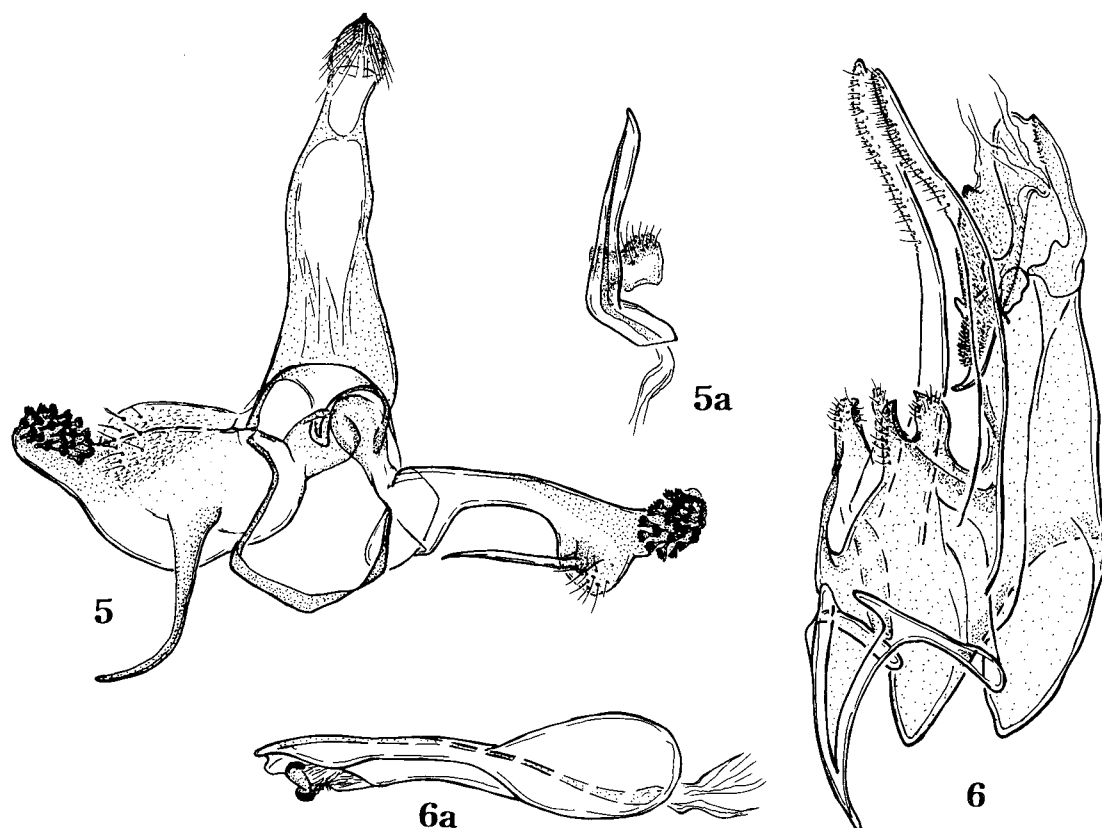
Metzneria sp.

Material examined: 1 ♂, site 5.

Remarks: No species of this genus was known from



Figs. 1-4. Adults: 1, *Metzneria* sp.; 2, *Scrobipalpa atriplicella* (Fisher and Rolerstamm); 3, *Anarsia lineatella* Zeller; 4, *Thiotricha* sp.



Figs. 5-6. Male genitalia: 5, *Anarsia lineatella* Zeller; 5a, ditto, aedeagus; 6, *Scrobipalpa atriplicella* (Fisher and Rolerstamm); 6a, ditto, aedeagus.

China, and two species, *inflammatella* (Christoph) and *paucipunctella* Zeller, are known from the Korean Peninsula.

Genus *Bryotropha* Heinemann, 1870
***Bryotropha svenssoni* Park, 1984**

Bryotropha svenssoni Park, 1984, Kor. J. Ent., 14 (2): 1.

Material examined: 1 ♂, site 7.

Distribution: Korea, China (new record).

Genus *Scrobipalpa* Janse, 1951
Scrobipalpa atriplicella
(Fisher and Rolerstamm, 1841) (Figs 2, 5, 5a).

Scrobipalpa atriplicella Fisher and Rolerstamm, 1841, Abb. Bericht. Erg. Schmett.: 223.

Material examined: 1 ♂, site 7, genital slide no. 4694.

Male genitalia is illustrated in Figs 5, 5a.

Distribution: Japan, Kamtschatka, China (new record), Europe, N. America.

Remarks: This species is unknown in Korea. *Atriplex* spp. and *Chenopodium* spp. are known to be its host plants (Elsner *et al.*, 1999).

Genus *Chorivalva* Omelko, 1988
***Chorivalva bisaccula* Omelko, 1988**

Chorivalva bisaccula Omelko, 1988, Ent. Obozr. 67 (1): 144, figs. 5~7; Park, 1994: 286.

Material examined: 1 ♂, site 2; site 5.

Distribution: Korea, Russian Far East, China (Shaanxi).

Remarks: It is known that the larvae feed on *Quercus mongolica* K. (Li, 199).

Genus *Carpatolechia* Capuse, 1964
***Carpatolechia dehania* (Park, 1993), comb. nov.**

Pseudotelphusa dehania Park, 1993. Jpn. J. Ent. 61 (2): 307, figs 1, 3, 3a~b, 4, 4a~b.

Material examined: 2 ♂, site 2.

Distribution: Korea, Japan, China (new record).

***Carpatolechia fugitivella* (Zeller, 1839)**

Pseudotelphusa fugitivella (Zeller), 1839. Isis: 200; Piskunov, 1973: 939; Park, 1992: 14.

Material examined: 2 ♂, site 7.

Distribution: Korea, Russian Far East, China (new record), Europe.

***Carpatolechia flavipunctella* (Park, 1992)**

Teleiodes flavipunctella Park, 1992. Ins. Koreana 9: 9, figs 7, 27, 46

Material examined: 3 ♂ ♀, site 6; 3 ♂ ♀, site 7.

Distribution: Korea, China (new record).

Remarks: Only one species of the genus has been known from China (Li, 1996), and 13 species from the Korean Peninsula (Park, 1992). This species is one of the common species and distributed throughout the Korean Peninsula.

Genus *Teleiodes* Sattler, 1960***Teleiodes bradleyi* Park, 1992**

Teleiodes bradleyi Park, 1992. Ins. Koreana 9: 12, figs 11, 50.

Material examined: 7 ♂ ♀, site 2; 5 ♂ ♀, site 5; 1 ♂, site 7.

Distribution: Korea, China (new record).

Remarks: This species was only reported from the central part of Korean peninsula, especially in the high altitude in mountainous area.

Genus *Evippe* Chambers, 1873***Evippe albidorcella* (Snellen, 1884)**

Recurvaria albidorcella Snellen, 1884, Tijds. Ent. 27: 169.

Material examined: 5 ♂ ♀, site 7.

Distribution: Korea, Japan, Siberia, Russian Far East, China (Shaanxi, Beijing, Zhejiang, Jiangsu, Jiangxi, Anhui).

Subfamily Dichomeridinae**Genus *Hypatima* Hübner, [1825]*****Hypatima venefica* Ponomarenko, 1991**

Hypatima venefica Ponomarenko, 1991, Ent. Obozr. 708(3): 615, figs 4, 23, 24, 32; Park, 1993: 35, figs 13,

26, 38, 51, 66)

Material examined: 8 ♂ ♀, site 2; 7 ♂ ♀, site 5; 1 ♂, site 7.

Distribution: Korea, Russian Far East, China (new record)

Genus *Faristenia* Ponomarenko, 1991***Faristenia acerella* Ponomarenko, 1991**

Faristenia omelkoi Ponomarenko, 1991, Ent. Obozr. 70 (3): 606, figs 3, 15, 16, 29; Park, 1993: 33, figs 10, 24, 48, 65)

Material examined: 1 ♂, site 7.

Distribution: Korea, Russian Far East, China (new record)

Remarks: Fifteen species of the genus *Faristenia* have been known from China (Li and Zheng, 1998), and nine species from the Korean Peninsula (Park, 1993).

***Faristenia ussuriella* Ponomarenko, 1991**

Faristenia omelkoi Ponomarenko, 1991, Ent. Obozr. 78 (3): 615, figs 4, 23, 24, 32; Park, 1993: 35, figs 13, 26, 38, 51, 66)

Material examined: 5 ♂ ♀, site 7.

Distribution: Korea, Russian Far East, China (Shaanxi, Gangsu, Jiangxi).

***Faristenia quercivora* Ponomarenko, 1991**

Faristenia omelkoi Ponomarenko, 1991, Ent. Obozr. 78 (3): 615, figs 5, 21, 23, 31; Park, 1993: 34, figs 12, 50, 68)

Material examined: 1 ♂, site 2; 3 ♂ ♀, site 5; 2 ♂ ♀, site 7.

Distribution: Korea, Russian Far East, China (Shaanxi, Gangsu, Jiangxi).

Remarks: It is known that *Quercus* sp. is a host plant.

***Faristenia omelkoi* Ponomarenko, 1991**

Faristenia omelkoi Ponomarenko, 1991, Ent. Obozr. 78 (3): 603, figs 1, 10~12, 27; Park, 1993: 36, figs 15, 53)

Material examined: 17 ♂ ♀, site 7.

Distribution: Korea, Russian Far East, China (Shaanxi, Gangsu, Sichuan).

Genus *Dendrophilia* Ponomarenko, 1993***Dendrophilia neotaphronoma* Ponomarenko, 1993**

Faristenia neotaphronoma Ponomarenko, 1993. Zool. Jour. 72(4): 69.

Dendrophilia obscurella Park, 1993: 30.

Material examined: 1 ♂, site 5; 1 ♂, site 7.

Distribution: Korea, Russian Far East, Japan, China.

Remarks: *D. obscurella* Park, 1993, which was described from Korea, was synonymized with this species by Park and Ponomarenko (1996). Fourteen species of the genus have been known from China (Li and Zheng, 1998), and other three species were known from the Korean Peninsula Park (1991, 1993).

Genus *Tornodoxa* Meyrick, 1921***Tornodoxa tholocorda* Meyrick, 1921**

Tornodoxa tholocorda Meyrick, 1921. Exot. Microl., 2: 432.

Material examined: 1 ♂, site 1.

Distribution: Korea, Japan, Russian Far East, China (Shaanxi, Gangsu, Jiangxi, Sichuan, Guangdong).

Remarks: This species was known from China (Li, 1996).

Genus *Anarsia* Zeller, 1839***Anarsia lineatella* Zeller, 1839 (Figs 2, 4)**

Anarsia lineatella Zeller, 1839, Isis: 190.

Material examined: 1 ♂, site 6, gen. slide no. 4614.

Male genitalia is illustrated in fig. 4.

Distribution: China (Shaanxi, Xingjiang, Guangdong); Europe, European part of Russia, Southern and Western part of Asia (India, Pakistan), N. America, N. Africa.

Remarks: This species is unknown in Korea, and known as a serious pest of *Prunus*, *Malus* and *Pyrus* spp. in Europe. In the eastern part of Asia, It was known from Guangdong (Southern China), but it has been extended to Shaanxi, Xingjiang (Lee, 1994). The discovery of this species at Chongshan, the border of China and North Korea, indicates that there is high possibility of its extended distribution into the northern part of the Korean Peninsula, because we placed a light trap at the border, just a side of the River Duman-gang, towards a small mountain in the North Korean side.

Subfamily Pexicopinae**Genus *Thiotricha* Meyrick, 1886*****Thiotricha pontifera* Meyrick, 1932**

Thiotricha pontifera Meyrick, 1932, Exot. Microl., 47 (7): 196.

Material examined: 3 ♀, site 2; 1 ♀, site 1; 3 ♀, site 5; 1 ♀, site 6; 1 ♂, site 7.

Distribution: Korea, Japan, China (new record)

***Thiotricha* sp.**

Material examined: 1 ♀, site 5.

Distribution: China (new record)

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