

**Data of Geometridae (Lepidoptera) from the Korean Peninsula  
in the collections of the  
Hungarian Natural History Museum – subfamily Larentiinae\***

Balázs TÓTH\*\*, Gergely KATONA & Zsolt BÁLINT

*Hungarian Natural History Museum, Department of Zoology,  
H-1088 Budapest, Baross utca 13, Hungary.*

*E-mails: toth.balazs@nhmus.hu, katona.gergely@nhmus.hu, balint.zsolt@nhmus.hu*

**Abstract** – Data of 2597 specimens of 155 species collected in Korea from 239 collecting events representing the subfamily Larentiinae are presented. Five species, *Electrophaes recens* (Inoue, 1982), *Horisme aquata* (Hübner, 1813), *Perizoma bifaciata* (Haworth, 1809), *Eupithecia inturbata* (Hübner, 1817) and *Eupithecia caliginea* Butler, 1878 are new for the fauna of the Korean Peninsula and adjacent islands. Differential features, images of habitus and genitalia of these species are given. Further 16 species are new for North Korea, 3 species are new for South Korea. With 13 figures.

**Key words** – checklist, *Electrophaes*, *Eupithecia*, *Horisme*, new record, *Perizoma*, undescribed species

## INTRODUCTION

The subfamily Larentiinae contains ca. 6300 described species, being the second most species-rich group of Geometridae (HAUSMANN & VIIDALEPP 2012).

CHOI (2003) made an important step in the study of Korean Larentiinae material preserved in the Hungarian Natural History Museum. He published data of 108 species from North Korea, including first records of ten species from the entire Korean Peninsula. Later on, he made a detailed overview of the Korean Larentiinae fauna in a series of books (CHOI 2012*a, b*, 2013, 2014).

This paper summarises the Larentiinae material from Korea in the format similar to the work of BÁLINT & KATONA (2011), and is intended to be a continuation of that paper. Another paper will be published on the subfamily Sterrhinae, and a supplementary paper will be prepared to the Geometrinae and Ennominae.

\* Zoological Collectings by the Hungarian Natural History Museum in Korea No. 211

\*\* Corresponding author.

## MATERIAL AND METHODS

The material, deposited in the Lepidoptera Collection of the Hungarian Natural History Museum (HNHM, Budapest), consists of set and unset specimens. Some of them were previously identified by Hiroshi Inoue, Gyula M. László, Vladimir Mironov and András Vojnits; the latter two researchers also dissected specimens. In case of doubtful identification, we also made permanent slides, by using eosine stain and Euparal as mounting medium.

Books of CHOI (2012*a, b*, 2013, 2014), INOUE *et al.* (1982) and MIRONOV (2003) were consulted for the identification of specimens. Reference list of Korean Larentiinae was compiled from the above-mentioned book series of CHOI, with updates from recent publications e.g. CHOI & KIM (2015).

Process of databasing and data handling are like those of described by BÁLINT & KATONA (2011). All specimens listed are deposited in the collection of HNHM.

An unspecified amount of Korean *Eupithecia* specimens is currently on loan from HNHM to the Zoological Institute of the Russian Academy of Sciences, Saint Petersburg (ZISP) for identification, under loan Nos 5882 and 7411 (sent on 24th November, 2000 and 20th December, 2007, respectively). After fruitful personal communication with Vladimir Mironov the correspondence was later interrupted, and attempts for its continuation have remained unsuccessful. Thus, we had to omit these specimens from the list below.

The species are arranged in systematic order, mainly based on HAUSMANN & VIIDALEPP (2012). Species of the genus *Eupithecia* Curtis, 1825 are arranged according to MIRONOV & GALSORTHY (2014). Codes of collecting events follow the Latin names, together with the number of encountered specimens in parentheses.

## LIST OF COLLECTING EVENTS

First the serial number of the HNHM expedition collecting event is given running from No. 193 (year 1971) to No. 1873 (year 2005). After the serial number the geographical identification of the collecting site and the date of the collecting event with the applied methods are given. These are taken verbatim from the HNHM staff collecting reports published in the periodicals *Annales historico-naturales Musei nationalis hungarici* and *Folia entomologica hungarica*. Some expressions have been explained by us, given in brackets. Abbreviations: NK = North Korea, SK = South Korea.

Beyond the serial numbers there are further codes with the following decipherments:



**Fig. 1.** Collecting sites of Larentiinae new to Korea. Circle: *Electrophaes recens* Inoue, 1982; triangle: *Horisme aquata* (Hübner, 1813); asterisk: *Perizoma bifaciata* (Haworth, 1809); square: *Eupithecia inturbata* (Hübner, 1817); diamond: *Eupithecia caliginea* Butler, 1878

2010/## = Collecting events of the HNHM Expedition in 2010

BT-## = Expedition of J. Babics and B. Tóth

GJW-## = Collecting event of G. J. Weon

IAS-## = Collecting event with an abbreviation "I. A. S." and data in Hangul script

JCS-## = Collecting events of J. C. Sohn

K-## = Collecting event of Z. Kaszab

KO-## = Collecting event with only one information: Korea.

KTP-## = Collecting events of K. T. Park

NK-## = Collecting events without exact location in North Korea.

PO-## = Collecting events of A. Popov

RTR-## = Collecting events of L. Ronkay and M. Tóth-Ronkay

SHO-## = Collecting events of S. H. Oh

**193** – Prov. Ryanggang, Hyesan Hotel garden Hyesan, 23.VIII.1971. Caught in Malaise-trap, leg. Papp, J. & Horvatovich, S., NK, exp. no. 2.

**197** – Prov. Ryanggang, Chann-Pay plateau Sam-zi-yan 1600 m, 25.VIII.1971. Singled material on flowers of *Larix-Betula* forest, along a road, leg. Papp, J. & Horvatovich, S., NK, exp. no. 2.

**198** – Prov. Ryanggang, Chann-Pay plateau Sam-zi-yan 1600 m, 25.VIII.1971. Caught in Malaise-trap, leg. Papp, J. & Horvatovich, S., NK, exp. no. 2.

**199** – Prov. Ryanggang, Chann-Pay plateau, Sam-zi-yan Hotel Sam-zi-yan 1600 m, 25.VIII.1971. Singled material at the lamps of Sam-zi-yan Hotel, leg. Papp, J. & Horvatovich, S., NK, exp. no. 2.

**208** – Prov. Ryanggang, Chann-Pay plateau, Sam-zi-yan Hotel Sam-zi-yan 1700 m, 27.VIII.1971. Singled material at the lamps of Sam-zi-yan Hotel, leg. Papp, J. & Horvatovich, S., NK, exp. no. 2.

**219** – Prov. Ryanggang, Chann-Pay plateau Sam-zi-yan 1600 m, 28.VIII.1971. Singling at the lamps in *Larix-Betula* forest, leg. Papp, J. & Horvatovich, S., NK, exp. no. 2.

**257** – Kaesong City, Mts. Pakyon, Pakyon popo, garden of Pakyon rest home 27 km NE of Kaesong, 10.IX.1971 Caught in Malaise-trap, leg. Papp, J. & Horvatovich, S., NK, exp. no. 2.

**265** – Prov. South Pyongan, city park along river Te-dong Pyongyan, 16.VII.1975. Singled material at lamps, leg. Papp, J. & Vojnits, A., NK, exp. no. 3.

**276** – Prov. Ryanggang, room of Hotel Hyesan Hyesan, 22.VII.1975. Collected at Mv lamp, leg. Papp, J. & Vojnits, A., NK, exp. no. 3.

**277** – Prov. Ryanggang, Chann-Pay plateau, on the road between Hyesan and Sam-zi-yan 15 km SSW of Sam-zi-yan 1600 m, 23.VII.1975. Cloudy weather, vegetation wet. Singled material along the road with rich vegetation, leg. Papp, J. & Vojnits, A., NK, exp. no. 3.

278 – Prov. Ryanggang, Chann-Pay plateau Sam-zi-yan 1700 m, 23.VII.1975. Singled material at Mv lamp in cloudy weather with some moonlight, leg. Papp, J. & Vojnits, A., NK, exp. no. 3.

280 – Prov. Ryanggang, Chann-Pay plateau, along the road to Mt. Pektusan 24 km NW of Sam-zi-yan 2000 m, 24.VII.1975. Sunny weather with cloudy sky, 24–26 °C. Singled in more or less devastated [disturbed] clearings of *Larix-Betula* forest, leg. Papp, J. & Vojnits, A., NK, exp. no. 3.

285 – Prov. Ryanggang, Chann-Pay plateau Sam-zi-yan 1700 m, 24.VII.1975. Cloudy weather with full moonlight, 20 °C. Singled material at Mv lamp, leg. Papp, J. & Vojnits, A., NK, exp. no. 3.

294 – Prov. Ryanggang, room of Hotel Hyesan Hyesan, 26.VII.1975. Collected at Mv lamp, leg. Papp, J. & Vojnits, A., NK, exp. no. 3.

315 – Prov. Gangwon, district On-dzong, Kum-gang san, near Hotel Gosong 250 m, 4.VIII.1975. 26 °C. Collected at Mv lamp in a coniferous-locust tree wood, leg. Papp, J. & Vojnits, A., NK, exp. no. 3.

319 – Prov. Gangwon, district On-dzong, Kum-gang san, near Hotel Gosong 250 m, 5.VIII.1975. 22 °C. Collected at Mv lamp in a coniferous-locust tree wood, leg. Papp, J. & Vojnits, A., NK, exp. no. 3.

322 – Prov. Gangwon, district On-dzong, Kum-gang san, near Hotel Gosong 250 m, 6.VIII.1975. Collected at Mv lamp in a coniferous-locust tree wood, leg. Papp, J. & Vojnits, A., NK, exp. no. 3.

325 – Prov. Gangwon, district On-dzong, Kum-gang san, near Hotel Gosong 250 m, 7.VIII.1975. Rainy weather. Collected at Mv lamp in a coniferous-locust tree wood, leg. Papp, J. & Vojnits, A., NK, exp. no. 3.

351 – Prov. Gangwon, Kum-gang san (= Diamond Mountains), Hotel Kumgang at village Ontsong Ontsong, 9.VII.1977. Canopied [selected] coniferous forest. Collecting at Mv lamp in the forest, about 150–200 m, S from the hotel, leg. Dely, O. Gy. & Dely-Draskovits, Á., NK, exp. no. 4.

373 – Prov. Ryanggang, Mt. Pektusan, wooded environs of the Sam-zi-yan hotel, on the shore of a small lake behind the hotel, 18.VII.1977. Collecting at Mv lamp erected on the shore of a small lake behind the hotel (at the edge of the wood), leg. Dely, O. Gy. & Dely-Draskovits, Á., NK, exp. no. 4.

379 – Prov. Ryanggang, Mt. Pektusan, wooded environs of the Sam-zi-yan hotel, 19.VII.1977. Collecting at Mv lamp, leg. Dely, O. Gy. & Dely-Draskovits, Á., NK, exp. no. 4.

380 – Prov. Ryanggang, Mt. Pektusan, Mupo, brook Dehongdan, 20.VII.1977. Netting in grass vegetation along the brook, leg. Dely, O. Gy. & Dely-Draskovits, Á., NK, exp. no. 4.

383 – Prov. Ryanggang, Mt. Pektusan, wooded environs of the Sam-zi-yan hotel, 20.VII.1977. Collecting at Mv lamp erected on the shore of a big lake be-

fore the hotel (at the edge of the wood), leg. Dely, O. Gy. & Dely-Draskovits, Á., NK, exp. no. 4.

**423** – Prov. North Hwanghae, Sariwon, 28.IX.1978. Collecting at mixed light in hotel's window, leg. Vojnits, A. & Zombori, L., NK, exp. no. 5.

**450** – Prov. Ryanggang, Samjiyon, 3.X.1978. Collecting at black lamp and mixed light at a temperature of about 10–12 °C from 18.30 to 23 h, leg. Vojnits, A. & Zombori, L., NK, exp. no. 5.

**484** – Prov. Gangwon, Mt. Kumgang-san, some 50 m, from the rest-house, 11.X.1978. Collecting at mixed light some 50 m, from the rest-house in the forest, leg. Vojnits, A. & Zombori, L., NK, exp. no. 5.

**490** – Prov. Gangwon, Mt. Kumgang-san, 12.X.1978. Collecting at mixed light and Mv lamp, leg. Vojnits, A. & Zombori, L., NK, exp. no. 5.

**492** – Prov. Gangwon, Samil-po Inlet, 13.X.1978. Collecting in the vicinity of the lake on steep hillside with *Pinus* and bamboo plantation, singled material, leg. Vojnits, A. & Zombori, L., NK, exp. no. 5.

**539** – Pyongyang City, Hotel Tae Dong Pyongyang, 15.IX.1979. At the light of a 160 W MV bulb in the window of Hotel Tae Dong, leg. Steinmann, H. & Vásárhelyi, T., NK, exp. no. 6.

**577** – Prov. Gangwon, Mt. Kumgang-san, Hotel Kumgang, 25.IX.1979. At the light of a 250 W MV bulb on the terrace of Hotel Kumgang, leg. Steinmann, H. & Vásárhelyi, T., NK, exp. no. 6.

**591** – Prov. Gangwon, Mt. Kumgang-san, Hotel Kumgang, 27.IX.1979. At the light of a 250 W MV bulb on the terrace of Hotel Kumgang, leg. Steinmann, H. & Vásárhelyi, T., NK, exp. no. 6.

**599** – Prov. Gangwon, Mt. Kumgang-san, Hotel Kumgang, 28.IX.1979. At the light of a 250 W Mv bulb on the terrace of Hotel Kumgang, leg. Steinmann, H. & Vásárhelyi, T., NK, exp. no. 6.

**624** – Pyongyang City, Hotel Tsang kang-san Pyongyang 9.IX.1980. At the light of a 160 W Mv bulb on the terrace of Hotel Tsang kang-san, leg. Forró, L. & Topál, Gy., NK, exp. no. 7.

**652** – Prov. Chagang, Mt. Myohyang-san, Hotel Myohyang, 12.IX.1980. Singled in the vicinity of the hotel, mainly from lamps standing around the hotel, leg. Forró, L. & Topál, Gy., NK, exp. no. 7.

**663** – Prov. Chagang, Mt. Myohyang-san, Hotel Myohyang, 13.IX.1980. Singled in the vicinity of the hotel, mainly at lamps standing around the hotel, leg. Forró, L. & Topál, Gy., NK, exp. no. 7.

**673** – Prov. Chagang, Mt. Myohyang-san, Hotel Myohyang, 14.IX.1980. Singled in the vicinity of the hotel, mainly at lamps standing around the hotel, leg. Forró, L. & Topál, Gy., NK, exp. no. 7.



**690** – Prov. Gangwon, Mt. Kumgang-san, Hotel Kumgang, 17.IX.1980. At the light of a 160 W Mv bulb in the window of the hotel and singled from lamps around the hotel and from grasses, leg. Forró, L. & Topál, Gy., NK, exp. no. 7.

**705** – Prov. Gangwon, Mt. Kumgang-san, Hotel Kumgang, 18.IX.1980. At the light of a 160 W Mv bulb on the terrace of the hotel, leg. Forró, L. & Topál, Gy., NK, exp. no. 7.

**720** – Prov. Gangwon, Mt. Kumgang-san, Hotel Kumgang, 19.IX.1980. At the light of a 160 W Mv bulb on the terrace of the hotel, leg. Forró, L. & Topál, Gy., NK, exp. no. 7.

**737** – Pyongyang City, River Taedong-gang near Hotel Pyongyang Pyongyang, 7.VII.1982. Material singled and netted along the shoreline [bank] of River Taedong-gang near Hotel Pyongyang, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**744** – Pyongyang City, Mt. Daesong-san, Sasum-mot pond, 8.VII.1982. Singled material near Sasum-mot pond, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**762** – Pyongyang City, Mt. Ryongak-san, near Mangyongdae Children's Union Camp, 10.VII.1982. Singled material from a mixed forest near Mangyongdae Children's Union Camp, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**778** – Pyongyang City, Mt. Ryongak-san, near Mangyongdae Children's Union Camp, 12.VII.1982. Singled material collected in a mixed forest near Mangyongdae Children's Union Camp, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**780** – Prov. North Pyongan, Mt. Myohyang-san, around Hotel Myohyang-san and along the pathway in Manpoktong, 13.VII.1982. Singled Lepidoptera material around Hotel Myohyang-san and along the pathway in Manpoktong, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**783** – Prov. North Pyongan, Mt. Myohyang-san, Hotel Myohyang-san, 13.VII.1982. Collecting from white sheet illuminated by a mixed light on the balcony of the hotel, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**788** – Prov. North Pyongan, Mt. Myohyang-san, pathway in Manpoktong to Pison waterfall, 14.VII.1982. Singled material along the pathway in Manpoktong to Pison waterfall, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**793** – Prov. North Pyongan, Mt. Myohyang-san, Hotel Myohyang-san, 14.VII.1982. Collecting from white sheet illuminated by mixed light and at an other place by two black lamps, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**800** – Prov. North Pyongan, Mt. Myohyang-san, pathway to Sangwonam, 15.VII.1982. Singled material along the pathway to Sangwonam, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**803** – Prov. North Pyongan, Mt. Myohyang-san, Hotel Myohyang-san, 15.VII.1982. Collecting from white sheet illuminated by a mixed light, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**812** – Prov. North Pyongan, Mt. Myohyang-san, road to Manpoktong near Hotel Myohyang-san, 16.VII.1982. Singled material along the road to Manpoktong near Hotel Myohyang-san, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**813** – Prov. North Pyongan, Mt. Myohyang-san, Hotel Myohyang-san, 16.VII.1982. Collecting from white sheet illuminated by a mixed light, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**815** – Prov. North Pyongan, Mt. Myohyang-san, under Hwajangam, 17.VII.1982. Singled material from the valley under Hwajangam, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**818** – Prov. North Pyongan, Mt. Myohyang-san, behind Hotel Myohyang-san, 17.VII.1982. Singled material in a mixed forest behind Hotel Myohyang-san, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**821** – Prov. North Pyongan, Mt. Myohyang-san, Hotel Myohyang-san, 17.VII.1982. Collecting from white sheet illuminated by mixed light, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**829** – Prov. North Pyongan, Mt. Myohyang-san, Hotel Myohyang-san, 18.VII.1982. Collecting from white sheet illuminated by mixed light, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**850** – Prov. Gangwon, Mt. Kumgang-san, Hotel Kumgang-san, 22.VII.1982. Collecting from white sheet illuminated by a mixed light, on the balcony of the hotel, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**857** – Prov. Gangwon, Mt. Kumgang-san, pathway to Kuryong Falls, 23.VII.1982. Singled material collected along the pathway to Kuryong Falls, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**859** – Prov. Gangwon, Mt. Kumgang-san, Hotel Kumgang-san, 23.VII.1982. Collecting from white sheet illuminated by a mixed light lamp and at an other place by a black lamp, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**861** – Prov. Gangwon, Mt. Kumgang-san, Hotel Kumgang-san, 24.VII.1982. Collecting from white sheet illuminated by a mixed light lamp and at an other place by a black lamp, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**865** – Prov. Gangwon, Mt. Kumgang-san, Hotel Kumgang-san, 25.VII.1982. Collecting from white sheet illuminated by a mixed light lamp and at an other place by a black lamp, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**870** – Pyongyang City, Mt. Ryongak-san, near Mangyongdae Children's Union Camp, 27.VII.1982. Singled material around lampshades near Mangyongdae Children's Union Camp, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**873** – Kaesong City, Hotel Janamsan Kaesong, 29.VII.1982. Collecting from white sheet illuminated by a mixed light lamp, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.



**888** – Kaesong City, Hotel Janamsan Kaesong, 30.VII.1982. Collecting from white sheet illuminated by a mixed light lamp, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**890** – Prov. North Hwanghae, Sugong-ri, 31.VII.1982. Singled material collected in the rest-house, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**894** – Prov. South Hwanghae, Mt. Suyong-san Haeju, 31.VII.1982. Collecting from white sheet illuminated by a mixed light lamp, leg. Forró, L. & Ronkay, L., NK, exp. no. 8.

**923** – Pyongyang City, Mt. Daesong-san, 17.V.1985. Night collecting at blended light (250 W) by using a Honda generator, from 20 h till 22 h, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**927** – Prov. North Pyongan, Mt. Myohyang-san, 20.V.1985. Cool evening. Night collecting at blended light (250 W) on the balcony of the hotel, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**929** – Prov. North Pyongan, Mt. Myohyang-san, 21.V.1985. Blue sky with some white clouds, a warm afternoon. Singled material, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**933** – Prov. North Pyongan, Mt. Myohyang-san 21.V.1985 Cool evening. Night collecting at blended light in the balcony of the hotel, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**934** – Prov. North Pyongan, Mt. Myohyang-san, pathway to Bulyongdae temple 1000 m, 22.V.1985. Warm forenoon, cloudless, blue sky. Pathway to Bulyongdae temple (about 1000 m). Collecting mostly by sweeping net either by singling specimens or sweeping the vegetation, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**938** – Prov. North Pyongan, Mt. Myohyang-san, 22.V.1985. Pleasant evening. Collecting at blended light on the balcony of the hotel, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**939** – Prov. North Pyongan, Mt. Myohyang-san, River Hyangsan-chon, 22.V.1985. Pleasant evening. Night collecting at blended light (250 W) by using a Honda generator, some three kilometres off the hotel, by the River Hyangsan-chon, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**940** – Prov. North Pyongan, Mt. Myohyang-san, 23.V.1985. Warm, sunny forenoon. Collecting specimens mainly by singling, also sweeping the sparse vegetation in a mixed wood around the hotel, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**942** – Pyongyang City, Mt. Ryongak-san, 24.V.1985. Pleasant evening. Night collecting at blended light (250 W) fed by a Honda generator, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**945** – Prov. Gangwon, Mt. Kumgang-san, around the rest house Oe-Kumgang, 26.V.1985. Warm, sunny afternoon, temperature about 26 °C. Singled material in a mixed forest around the rest house Oe-Kumgang, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**948** – Prov. Gangwon, Mt. Kumgang-san, some 100 m, from the rest house Oe-Kumgang, 26.V.1985. Cool night. Collecting at blended light, fed by a Honda generator, some 100 m, from the rest house Oe-Kumgang, in a mixed forest, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**949** – Prov. Gangwon, Mt. Kumgang-san, foot-path from Kumgang-mun Gate to the waterfall Kuryong-popo, 27.V.1985. Warm, sunny morning, about 24 °C. Singling along the foot-path from Kumgang-mun Gate to the waterfall Kuryong-popo, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**950** – Prov. Gangwon, Mt. Kumgang-san, on the way to Kuryong-popo, 27.V.1985. Warm, sunny morning, about 24 °C. Collecting caterpillars and galls on the way to Kuryong-popo, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**954** – Prov. Gangwon, Mt. Kumgang-san, Kumgang-mun Gate, 27.V.1985. Very cool evening. Night collecting at blended light (250 W) fed by a Honda generator at Kumgang-mun Gate, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**958** – Prov. Gangwon, Mt. Kumgang-san, serpentine to Kwinyon-am Rock, 28.V.1985. Night collecting at blended light fed by a Honda generator on the serpentine to Kwinyon-am Rock, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**962** – Pyongyang City, Ryongak-san, 30.V.1985. Pleasant night. Collecting at a blended light (250 W) fed by a Honda generator, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**969** – Pyongyang City, Mt. Daesong-san, 31.V.1985. Cool, windy evening with bright moon in the sky. Night collecting at blended light (250 W) fed by a Honda generator, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**972** – Pyongyang City, Mt. Daesong-san, 1.VI.1985. Overcast sky, temperature about 20 °C, with a slight wind. Singling material, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**974** – Prov. Ryanggang, Hyesan, 2.VI.1985. Cool evening, temperature about 18 °C. Collecting at blended light (250 W) on the balcony of the hotel, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**981** – Prov. Ryanggang, on the way back from Mt. Paekdu-san Samjiyon 2000 m, 3.VI.1985. Clear day, on the way back from Mt. Paekdu-san. Material was singled in a *Larix-Betula* forest at an altitude of about 2000 m, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**995** – Prov. Ryanggang, Samjiyon 2100 m, 4.VI.1985. Night collecting at blended light (250 W) fed by a Honda generator, in a *Picea* stand at an altitude

of about 2100 m. Temperature about 16 °C, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**996** – Prov. Ryanggang, Samjiyon, 4.VI.1985. Night collecting at blended light (250 W) in the park of the hotel with *Larix*, planted *Picea*, ornamental shrubs and *Salix*. Altitude 1800 m, temperature about 18 °C, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**1005** – Prov. Ryanggang, Samjiyon, 5.VI.1985. Night collecting in the park of the hotel. Blended light (250 W), temperature about 20 °C, leg. Vojnits, A. & Zombori, L., NK, exp. no. 9.

**1018** – Pyongyang City, Hotel Potonggang Pyongyang, 5.X.1987. Singled at light between 20.00 and 22.00 h in the vicinity of the hotel (gardens, dead arms [dried out river arms] and small ponds skirted with willow, poplar and various other trees), leg. Korsós, Z., Ronkay, L., Kováts, D. & Szollát, Gy., NK, exp. no. 11.

**1020** – Pyongyang City, Hotel Potonggang Pyongyang, 6.X.1987. Collected at light between 20.00 and 03.00 h in the vicinity of the hotel, leg. Korsós, Z., Ronkay, L., Kováts, D. & Szollát, Gy., NK, exp. no. 11.

**1025** – Prov. North Pyongan, Mt. Myohyang-san, Hotel Myohyang-san, 8.X.1987. Collected at light at Hotel Myohyang-san, leg. Korsós, Z., Ronkay, L., Kováts, D. & Szollát, Gy., NK, exp. no. 11.

**1030** – Prov. North Pyongan, Mt. Myohyang-san, Hotel Myohyang-san, 9.X.1987. Collected at light and with sugar [bait] around the hotel, leg. Korsós, Z., Ronkay, L., Kováts, D. & Szollát, Gy., NK, exp. no. 11.

**1034** – Prov. North Pyongan, Mt. Myohyang-san, Hotel Myohyang-san, 10.X.1987. Collected at light around the hotel, leg. Korsós, Z., Ronkay, L., Kováts, D. & Szollát, Gy., NK, exp. no. 11.

**1038** – Prov. North Pyongan, Mt. Myohyang-san, Hotel Myohyang-san, 11.X.1987. Material collected on lampshade at the hotel, leg. Korsós, Z., Ronkay, L., Kováts, D. & Szollát, Gy., NK, exp. no. 11.

**1042** – Pyongyang City, Hotel Potonggang Pyongyang, 13.X.1987. Singled at light around the hotel, leg. Korsós, Z., Ronkay, L., Kováts, D. & Szollát, Gy., NK, exp. no. 11.

**1050** – Prov. South Hwanghae, Mt. Suyong-san Haeju, 16.X.1987. Material collected from a white sheet illuminated by a mercury vapour lamp, leg. Korsós, Z., Ronkay, L., Kováts, D. & Szollát, Gy., NK, exp. no. 11.

**1055** – Prov. South Hwanghae, Mt. Suyong-san Haeju, 17.X.1987. Material collected from a white sheet illuminated by a mercury vapour lamp, leg. Korsós, Z., Ronkay, L., Kováts, D. & Szollát, Gy., NK, exp. no. 11.

**1057** – Prov. Gangwon, Mt. Kumgang-san, Hotel Kumgang-san Onjong-ri, 20.X.1987. Material collected at light around the hotel, leg. Korsós, Z., Ronkay, L., Kováts, D. & Szollát, Gy., NK, exp. no. 11.

**1060** – Prov. Gangwon, Mt. Kumgang-san, Hotel Kumgang-san Onjong-ri, 21.X.1987. Moths collected at light near the Hotel Kumgang-san, leg. Korsós, Z., Ronkay, L., Kováts, D. & Szollát, Gy., NK, exp. no. 11.

**1064** – Prov. Gangwon, Mt. Kumgang-san, Hotel Kumgang-san Onjong-ri, 22.X.1987. Material collected at light around the Hotel Kumgang-san, leg. Korsós, Z., Ronkay, L., Kováts, D. & Szollát, Gy., NK, exp. no. 11.

**1066** – Prov. Gangwon, Mt. Kumgang-san Onjong-ri, 23.X.1987. Collected at light and with sugar [bait] in the vicinity of the hotel. leg. Korsós, Z., Ronkay, L., Kováts, D. & Szollát, Gy., NK, exp. no. 11.

**1068** – Prov. Gangwon, Mt. Kumgang-san, Hotel Kumgang-san Onjong-ri, 24.X.1987. Collected at light in the vicinity of the Hotel Kumgang-san, leg. Korsós, Z., Ronkay, L., Kováts, D. & Szollát, Gy., NK, exp. no. 11.

**1344** – Prov. Ryanggang, Hotel Hyesan, Hyesan, 26.VI.1988. Singling in the windows and dark corners [lampshade] of the Hotel Hyesan, leg. Merkl, O., Szél, Gy., Lőkös, L. & Szerdahelyi, T., NK, exp. no. 12.

**1379** – Pyongyang City, Mt. Daesong-san, 21.V.1991. Singled insects collected at late afternoon in a dry hillside, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1381** – Pyongyang City, Mt. Ryongak-san, 22.V.1991. Netted insects from a dry rocky forest and a brook valley, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1385** – Prov. North Pyongan, Mts. Myohyang-san, Isonnam valley, 23.V.1991. Lepidoptera netted in the valley in late afternoon, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1386** – Prov. North Pyongan, Mts. Myohyang-san, Isonnam valley, 23.V.1991. Lepidoptera collected by a light trap in the lower part of the valley, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1388** – Prov. North Pyongan, Mts. Myohyang-san, Isonnam valley, 23.V.1991. Lepidoptera collected by light (at a white sheet illuminated by a 160 W mixed lamp) in the valley, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1390** – Prov. North Pyongan, Mts. Myohyang-san, Hotel Myohyang, 23.V.1991. Lepidoptera collected by light around the hotel, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1392** – Prov. North Pyongan, Mts. Myohyang-san, Isonnam valley, Habiro temple and Isonnam waterfall, 24.V.1991. Netted insects collected at the Habiro temple and the Isonnam waterfall, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1394** – Prov. North Pyongan, Mts. Myohyang-san, Hotel Myohyang, 24.V.1991. Lepidoptera collected by a light trap at the hotel, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1396** – Prov. North Pyongan, Mts. Myohyang-san, Hotel Myohyang, 24.V.1991. Lepidoptera collected by light on the balcony of the hotel, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1398** – Prov. North Pyongan, Mts. Myohyang-san, Hotel Myohyang, 25.V.1991. Lepidoptera collected by light in a mixed forest near to the hotel, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1400** – Prov. North Pyongan, Mts. Myohyang-san, Hotel Myohyang, 25.V.1991. Lepidoptera collected by a light trap in the vicinity of the hotel, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1404** – Prov. North Pyongan, Mts. Myohyang-san, Hotel Myohyang, 26.V.1991. Lepidoptera collected at light at the clearing of a mixed forest near to the hotel, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1405** – Prov. North Pyongan, Mts. Myohyang-san, Hotel Myohyang, 26.V.1991. Lepidoptera collected by a light trap in the vicinity of the hotel, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1406** – Prov. North Pyongan, Mts. Myohyang-san, river Hyangsan, 27.V.1991. Singled and netted insects collected along the river Hyangsan in the morning and at noon, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1408** – Prov. North Pyongan, Mts. Myohyang-san, Isonnam valley, 27.V.1991. Lepidoptera netted along the valley in late afternoon, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1411** – Prov. North Pyongan, Mts. Myohyang-san, Hyangsan valley near to the Hwajangam cloister, 27.V.1991. Lepidoptera collected at light at the same place, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1412** – Prov. North Pyongan, Mts. Myohyang-san, Hyangsan valley near to the Hwajangam cloister, 27.V.1991. Lepidoptera collected by light trap near to the previous site, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1417** – Prov. North Pyongan, Mts. Myohyang-san, Hotel Myohyang, 28.V.1991. Lepidoptera collected at light in a mixed forest near the hotel, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1419** – Prov. North Pyongan, Mts. Myohyang-san, Hotel Myohyang, 28.V.1991. Lepidoptera collected by light trap in the vicinity of the hotel, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1421** – Prov. North Pyongan, Mts. Myohyang-san, Hotel Myohyang, 28.V.1991. Lepidoptera collected by a black light lamp on the balcony of the hotel, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1422** – Prov. North Pyongan, Mts. Myohyang-san, river Hyangsan, 29.V.1991. Insects singled along the river Hyangsan at morning, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1426** – Prov. North Khamgen, Chondjin, 1.VI.1991. Lepidoptera collected by light trap, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1427** – Prov. North Khamgen, Chondjin, 1.VI.1991. Lepidoptera collected at light near to the previous place, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1432** – Prov. North Khamgen, O-sang-il valley ~20 km SW of Chondjin, 3.VI.1991. Lepidoptera collected at light, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1433** – Prov. North Khamgen, Chondjin, 3.VI.1991. Lepidoptera collected by a light trap in a mixed forest near to the previous place, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1437** – Prov. North Khamgen, Chondjin, 4.VI.1991. Lepidoptera collected by a light trap, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1439** – Prov. North Khamgen, Chondjin, 4.VI.1991. Lepidoptera collected at light in a forest clearing near the brook valley, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1440** – Prov. North Khamgen, in the vicinity of Kumgang 15 km NW of Chondjin, 5.VI.1991. Lepidoptera collected in a hilly forest clearing in the vicinity of Kumgang, 15 km NW of Chondjin, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1442** – Prov. North Khamgen, Chondjin, 5.VI.1991. Lepidoptera collected by a light trap, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1444** – Prov. North Khamgen, Chondjin, 5.VI.1991. Lepidoptera collected at light at the edge of a mixed deciduous forest, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1446** – Pyongyang City, Mts. Ryongak-san Pyongyang, 8.VI.1991. Lepidoptera netted along a valley in daytime, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1449** – Prov. Gangwon, Mts. Kumgang-san, Hotel Kumgang, 9.VI.1991. Lepidoptera collected at light on the balcony of the hotel, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1451** – Prov. Gangwon, Mts. Kumgang-san, near to Hotel Kumgang, 9.VI.1991. Lepidoptera collected by a light trap in a side valley near to Hotel Kumgang, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1454** – Prov. Gangwon, Mts. Kumgang-san, near to Hotel Kumgang, 10.VI.1991. Lepidoptera collected at light in a side valley near to Hotel Kumgang, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1455** – Prov. Gangwon, Mts. Kumgang-san, Hotel Kumgang, 10.VI.1991. Lepidoptera collected by a light trap in an other side valley in the vicinity of the hotel, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1461** – Prov. Gangwon, Mts. Kumgang-san, road between Onjong-ri and Kumgang, 12.VI.1991. Lepidoptera collected in a side valley along the road between Onjong-ri and Kumgang in daytime, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1463** – Prov. Gangwon, Mts. Kumgang-san, pathway to Manmulsang Rocks, 750 m, 12.VI.1991. Lepidoptera collected by light trap at the beginning of the pathway to Manmulsang Rocks, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.



**1465** – Prov. Gangwon, Mts. Kumgang-san, pathway to Manmulsang Rocks, 750 m, 12.VI.1991. Lepidoptera collected at light at the beginning of the pathway to Manmulsang Rocks, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1467** – Prov. Gangwon, Mts. Kumgang-san NW of Onjong-ri, 13.VI.1991. Lepidoptera collected in daytime in a side valley NW of Onjong-ri, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1468** – Prov. Gangwon, Mts. Kumgang-san, Kuryong valley, 13.VI.1991. Lepidoptera collected in afternoon in the lower part of the valley, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1470** – Prov. Gangwon, Mts. Kumgang-san, near to Hotel Kumgang, 13.VI.1991. Lepidoptera collected at light in a side valley near to Hotel Kumgang, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1472** – Prov. Gangwon, Mts. Kumgang-san, near to Hotel Kumgang, 13.VI.1991. Lepidoptera collected by a light trap near to the previous place, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1474** – Prov. Gangwon, Mts. Kumgang-san, Kuryong valley, 14.VI.1991. Lepidoptera collected by light trap in the lower part of the valley, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1476** – Prov. Gangwon, Mts. Kumgang-san, Kuryong valley, 14.VI.1991. Lepidoptera collected at light in a clearing of a mixed pine forest at the lower part of the Kuryong valley, leg. Ronkay, L. & Vojnits, A., NK, exp. no. 13.

**1589** – Prov. Chagang, Chongchon Hotel Hyangsan village, 8.VIII.1991. Night collecting from white wall illuminated by black light at the Chongchon Hotel, leg. Báldi, A. & Waliczky, Z., NK, exp. no. 15.

**1607** – Prov. Gangwon, 12 km NE of Chuncheon, 15.VIII.1992. In the valley of a small river. Material collected at a white screen illuminated with a 125 W mercury vapour lamp, leg. Ronkay, L. & Vojnits, A., SK, exp. no. 17.

**1608** – Prov. Gangwon, Mts. Seolak-san, near Sorak-plaza, 16.VIII.1992. Material collected at an illuminated white screen, leg. Ronkay, L. & Vojnits, A., SK, exp. no. 17.

**1608–1609** – Prov. Gangwon, Mts. Seolak-san, near Sorak-plaza, 16.VIII.1992. Material collected at an illuminated white screen or a portable light trap of a 6 W UV-tube, leg. Ronkay, L. & Vojnits, A., SK, exp. no. 17.

**1609** – Prov. Gangwon, Mts. Seolak-san, near Sorak-plaza, 16.VIII.1992. Material collected with a portable light trap of a 6 W UV-tube, leg. Ronkay, L. & Vojnits, A., SK, exp. no. 17.

**1610** – Prov. Gangwon, Mts. Seolak-san, 15 km W of Sorak-plaza, 700 m, 17.VIII.1992. Material collected at an illuminated white screen at a forest edge in a deep river-valley, cca 700 m, leg. Ronkay, L. & Vojnits, A., SK, exp. no. 17.

**1611** – Prov. Gangwon, Mts. Seolak-san, 15 km W of Sorak-plaza, 17.VIII.1992. Lepidoptera collected with a portable light trap placed in a mixed deciduous forest, leg. Ronkay, L. & Vojnits, A., SK, exp. no. 17.

**1614** – Prov. Gangwon, Mts. Seolak-san, on the highest pass between Sokcho and Juje 1100 m, 18.VIII.1992. Lepidoptera collected in daytime on the walls of the resthouse on the highest pass [point] between Sokcho and Juje, cca 1100 m, leg. Ronkay, L. & Vojnits, A., SK, exp. no. 17.

**1615** – Prov. South Jeolla, Mts. Paekun-san 500 m, 19.VIII.1992. Lepidoptera collected at an illuminated screen in a mixed forest near a small brook-valley, about 500 m, leg. Ronkay, L. & Vojnits, A., SK, exp. no. 17.

**1615–1618** – Prov. South Jeolla, Mts. Paekun-san 500 m, 19.VIII.1992. Lepidoptera collected at light in a mixed forest near a small brook-valley, about 500 m, leg. Ronkay, L. & Vojnits, A., SK, exp. no. 17.

**1627** – Prov. Jeju, Jeju-do island, Mts. Halla-san, Halla-san National Park 1280 m, 22.VIII.1992. Lepidoptera collected at an illuminated white screen in a forest clearing, leg. Ronkay, L. & Vojnits, A., SK, exp. no. 17.

**1631–1634** – Prov. Jeju, Jeju-do island, Mts. Halla-san, at the eastern edge of the Halla-san National Park Songpanak 750 m, 23.VIII.1992. Lepidoptera collected at light at a forest clearing, leg. Ronkay, L. & Vojnits, A., SK, exp. no. 17.

**1633** – Prov. Jeju, Jeju-do island, Mts. Halla-san, at the eastern edge of the Halla-san National Park Songpanak 750 m, 23.VIII.1992. Lepidoptera collected by a portable light trap at a forest clearing, leg. Ronkay, L. & Vojnits, A., SK, exp. no. 17.

**1637** – Prov. Jeju, Jeju-do island, Mts. Halla-san 5 km SW of Jeju city 500 m, 24.VIII.1992. Lepidoptera collected at an illuminated screen in a bushy forest clearing before a heavy thunderstorm, leg. Ronkay, L. & Vojnits, A., SK, exp. no. 17.

**1639** – Prov. Jeju, Jeju-do island, Mts. Halla-san 5 km SW of Jeju city 500 m, 24.VIII.1992. Lepidoptera collected by a portable light trap placed on a small forest clearing, leg. Ronkay, L. & Vojnits, A., SK, exp. no. 17.

**1641** – Prov. Gangwon, vic. of Chuncheon, Chuncheon-Dam Chuncheon 400 m, 37° 55' N, 127° 40' E, 19.X.1993. A steep rocky slope covered by dry, warm, partly shrubby, mixed forests near to an artificial lake. Lepidoptera collected with a 125 W mercury vapour lamp and two portable light-traps operating with 6 W UV-tubes, leg. Peregovits, L. & Ronkay, L., SK, exp. no. 18.

**1644** – Prov. Gangwon, Bongmyong-ri 21 km SE of Chuncheon 500 m, 21.X.1993. A long, rather narrow brook-valley and a north-western slope with mixed deciduous forests. Lepidoptera collected at a white screen illuminated by a 125 W mercury vapour lamp, by two portable light-traps and with sugar-baits, leg. Peregovits, L. & Ronkay, L., SK, exp. no. 18.

**1649** – Prov. Gangwon, vic. of Chuncheon, Chuncheon-Dam Chuncheon 400 m, 37° 55' N, 127° 40' E, 24.X.1993. A steep rocky slope covered by dry,

warm, partly shrubby mixed forests near an artificial lake. Lepidoptera collected with sugar baits, a white screen illuminated by 125 W mercury vapour lamp and by two portable light-traps, leg. Peregovits, L. & Ronkay, L., SK, exp. no. 18.

**1651** – Prov. Gangwon, vic. of Chuncheon, Chuncheon-Dam Chuncheon 400 m, 37° 55' N, 127° 40' E, 24.X.1993. Lepidoptera collected with sugar-baits and with torches, leg. Peregovits, L. & Ronkay, L., SK, exp. no. 18.

**1653** – Prov. Jeju, Halla-san National Park 1000 m, 33° 15' N, 126° 00' E, 27.X.1993. A mixed deciduous forest with dense, often bushy herbaceous vegetation, understory dominated by *Sasa* sp. (bamboo). Lepidoptera collected by sugar baits, a white screen illuminated by a 125 W mercury vapour bulb and by two portable light traps, leg. Peregovits, L. & Ronkay, L., SK, exp. no. 18.

**1663** – Prov. South Jeolla, Mt. Paekun-san, at the vicinity of Nonshil Nonshil 550–600 m, 31.X.1993. A deep, narrow brook valley and its less steep slopes covered with rich, mixed deciduous forests. Various insect groups collected by sugar baits, a white screen illuminated by a 125 W mercury vapour bulb and by two portable light traps operating with 6 W UV-tubes, leg. Peregovits, L. & Ronkay, L., SK, exp. no. 18.

**1665** – Prov. South Jeolla, Mt. Paekun-san, at the vicinity of Nonshil Nonshil 550–650 m, 1.XI.1993. Lepidoptera collected along two deep, narrow brook valleys, in rich, mixed deciduous forests with sugar baits, at a white screen illuminated by a 125 W mercury vapour bulb and by two portable light traps operating with 6 W UV-tubes, leg. Peregovits, L. & Ronkay, L., SK, exp. no. 18.

**1668** – Prov. North Gyeongsang, Mt. Palgong-san, Natural Park 15 km N, of Taegu 700 m, 35° 59' N, 128° 40' E, 21.IV.1994. Lepidoptera collected at light, by light traps and sugar baits at a steep, rocky slope with shrubby forests and grassland patches and in a narrow stream valley, leg. Peregovits, L., Ronkay, L. & Vojnits, A., SK, exp. no. 19.

**1670** – Prov. North Gyeongsang, Mt. Palgong-san, Natural Park 16 km N, of Taegu 750 m, 35° 59' N, 128° 40' E, 22.IV.1994. Lepidoptera, Trichoptera and Hymenoptera collected at light, also by light traps and sugar baits at edges of a mixed forest close to a Christian temple, in misty weather with drizzling rain, leg. Peregovits, L., Ronkay, L. & Vojnits, A., SK, exp. no. 19.

**1671–1672** – Prov. North Gyeongsang, Mts. Pohyonsan, at the forest experimental station, between Wolmae and Pohyon-sa 800 m, 36° 09' N, 129° 00' E, 23.IV.1994. Lepidoptera collected at light, leg. Peregovits, L., Ronkay, L. & Vojnits, A., SK, exp. no. 19.

**1672** – Prov. North Gyeongsang, Mts. Pohyonsan, at the forest experimental station, between Wolmae and Pohyon-sa 800 m, 36° 09' N, 129° 00' E, 23.IV.1994. Lepidoptera collected at white screen illuminated by 125 W UV lamp, leg. Peregovits, L., Ronkay, L. & Vojnits, A., SK, exp. no. 19.

**1677** – Prov. North Gyeongsang, Mts. Pohyonsan, at the forest experimental station, between Wolmae and Pohyon-sa, cca 3 km S of the forest experimental station 600 m, 36° 09' N, 128° 59' E, 24.IV.1994. Another side-valley, cca 3 km S of the forest experimental station. Lepidoptera collected at light, by light-traps and sugar baits, leg. Peregovits, L., Ronkay, L. & Vojnits, A., SK, exp. no. 19.

**1680** – Prov. Jeju, Mt. Halla-san, Yongshil route, edge of the Halla-san National Park 1050 m, 33° 21' N, 126° 30' E, 27.IV.1994. Lepidoptera collected at light, by light-traps and sugar baits, leg. Peregovits, L., Ronkay, L. & Vojnits, A., SK, exp. no. 19.

**1682** – Prov. Jeju, Andok valley 300 m, 33° 15' N, 126° 22' E, 28.IV.1994. Lepidoptera collected at light and by light-traps, leg. Peregovits, L., Ronkay, L. & Vojnits, A., SK, exp. no. 19.

**1684** – Prov. Jeju, Mt. Halla-san 3 km S of Songpanak 630–650 m, 33° 22' N, 126° 36' E, 29.IV.1994. Lepidoptera collected at light and by light-traps. A mixed deciduous forest with scattered *Sasa* patches but without stronger covering of *Sasa*, one of the light traps was placed close to a dried stream valley, leg. Peregovits, L., Ronkay, L. & Vojnits, A., SK, exp. no. 19.

**1686** – Prov. Jeju, Mt. Halla-san, Yongshil route, edge of the Halla-san National Park 1050 m, 33° 21' N, 126° 30' E, 30.IV.1994. Lepidoptera collected at light, by light-traps and sugar baits. Mixed deciduous forests with a few conifers and with dense *Sasa* undergrowth, leg. Peregovits, L., Ronkay, L. & Vojnits, A., SK, exp. no. 19.

**1688** – Prov. Jeju, Mt. Halla-san, Yongshil route 1300–1700 m, 1.V.1994. Arthropods singled along the pathway during the day, leg. Peregovits, L., Ronkay, L. & Vojnits, A., SK, exp. no. 19.

**1690** – Prov. Gangwon, vic. of Chuncheon, Chuncheon-Dam Chuncheon 400 m, 37° 55' N, 127° 40' E, 5.V.1994. A steep rocky slope covered by dry, warm, partly shrubby mixed forests near to an artificial lake. Lepidoptera collected at light and by three portable light-traps, leg. Peregovits, L., Ronkay, L. & Vojnits, A., SK, exp. no. 19.

**1692** – Prov. Gangwon, Jiam-ri ~20 km NW of Chuncheon 700 m, 37° 55' N, 127° 40' E, 6.V.1994. A deep, montane brook-valley with various types of forest habitats and with large patches of plantated coniferous trees. Lepidoptera collected by three portable light-traps and at light, leg. Peregovits, L., Ronkay, L. & Vojnits, A., SK, exp. no. 19.

**1693** – Prov. Gangwon, Jiam-ri ~20 km NW of Chuncheon 700 m, 37° 55' N, 127° 40' E, 6.V.1994. Other insects collected by light-traps and at light, leg. Peregovits, L., Ronkay, L. & Vojnits, A., SK, exp. no. 19.

**1695** – Prov. Gangwon, vic. of Chuncheon, Soyang-Dam Chuncheon 700 m, 37° 55' N, 127° 50' E, 20.X.1993. A narrow, gorge-like rocky valley with a small

brook with dense herbaceous and shrubby vegetation and with old mixed forests. Lepidoptera collected at a white screen illuminated by a 125 W mercury vapour lamp and by three portable light-traps, leg. Peregovits, L., Ronkay, L. & Vojnits, A., SK, exp. no. 19.

**1696** – Prov. Gangwon, vic. of Chuncheon, Soyang-Dam Chuncheon 700 m, 37° 55' N, 127° 50' E, 20.X.1993. Other insects collected at light and by light-traps, leg. Peregovits, L., Ronkay, L. & Vojnits, A., SK, exp. no. 19.

**1701.b** – Prov. Gangwon, Chuncheon-Dam Chuncheon, 11.X.2001. Collecting at light and on sugar baits, leg. Kun, A. & Ronkay, L., SK, exp. no. 21.

**1702.b** – Prov. Gangwon, Sorak-san, on road no. 44 700 m, 38° 05' 20" N, 128° 23' 18" E, 12.X.2001. Collecting at light and on sugar baits, leg. Kun, A. & Ronkay, L., SK, exp. no. 21.

**1703.b** – Prov. Gangwon, Mt. Sorak-san, Misir-yong, on the road back to Chunchon 350 m, 13.X.2001. Nocturnal moths collected around the lights of the hostel and restaurant in the daytime, leg. Kun, A. & Ronkay, L., SK, exp. no. 21.

**1705.b** – Prov. Gangwon, ~8 km Chuncheon City 37° 46' 81" N, 127° 42' 19" E, 15.X.2001. Collecting at light and on sugar baits, leg. Kun, A. & Ronkay, L., SK, exp. no. 21.

**1706.b** – Prov. South Jeolla, Paekun-san Nonshil 550 m, 37° 46' 81" N, 127° 42' 19" E, 18.X.2001. Collecting at light and on sugar baits, leg. Kun, A. & Ronkay, L., SK, exp. no. 21.

**1707.b** – Prov. South Jeolla, Jiri-san 500 m, 35° 24' 15" N, 124° 46' 69" E, 19.X.2001. Collecting at light and on sugar baits, leg. Kun, A. & Ronkay, L., SK, exp. no. 21.

**1709.b** – Prov. Jeju, Jeju Island near Seogwipo 250 m, 33° 18' 09" N, 126° 34' 94" E, 21.X.2001. Collecting at light, leg. Kun, A. & Ronkay, L., SK, exp. no. 21.

**1736.b** – Prov. Gangwon, Chuncheon-Dam 169 m, 37° 57' N, 127° 39' E, 26.VIII.2003. Collecting at light, leg. Földvári, M. & Kun, A., SK, exp. no. 23.

**1739.b** – Prov. Gangwon, Gumdae-ri Chuncheon 227 m, 37° 51' N, 127° 47' E, 28.VIII.2003. (Lepidoptera, Diptera), leg. Földvári, M. & Kun, A., SK, exp. no. 23.

**1741.b** – Prov. Gangwon, Wolgok-ri Chuncheon 104 m, 37° 55' N, 127° 47' E, 29.VIII.2003. Collecting at light, leg. Földvári, M. & Kun, A., SK, exp. no. 23.

**1742.b** – Prov. Gangwon, Heasan ryung Hwancheon 476 m, 38° 12' N, 127° 54' E, 30.VIII.2003. Collecting at light, leg. Földvári, M. & Kun, A., SK, exp. no. 23.

**1744.b** – Prov. Gangwon, Mt. Dukga Wonju 368 m, 37° 14' N, 127° 53' E, 1.IX.2003. Collecting at light, leg. Földvári, M. & Kun, A., SK, exp. no. 23.

**1746.b** – Prov. North Gyeongsang, Mt. Noak Sangju 165 m, 36° 25' N, 128° 06' E, 3.IX.2003. Collecting at light, leg. Földvári, M. & Kun, A., SK, exp. no. 23.



**1750.b** – Prov. Gangwon, Wangsanmyeon Kangreung city 662 m, 37° 37' N, 128° 46' E, 7.IX.2003. Collecting at light on forest road near brook, leg. Földvári, M. & Kun, A., SK, exp. no. 23.

**1752.b** – Prov. Gangwon, Sochomyeon, Haggok-ri, Chiak-san NP (Kuryong area) Wonju 330 m, 37° 24' N, 128° 02' E, 8.IX.2003. Collecting at light, leg. Földvári, M. & Kun, A., SK, exp. no. 23.

**1832** – Prov. North Gyeongsang, Palgong Mts., Dong Hwa Sa 500 m, 35° 60' N, 128° 42' E, 25.IX.2003. Collected at light, leg. Csorba, G., Matskási, I. & Mészáros, F., SK, exp. no. 24.

**1873** – Prov. Gangwon, Chuncheon 110 m, 37° 52' N, 127° 45' E, 14.X.2005. Singled in a building, leg. Korsós, Z. & Kun, A., SK, exp. no. 25.

**2010/03** – Prov. Gangwon, Yangyang-gun, Seorak Mts, Osaek-Oncheon, 2 km W of the settlement, parking lot at the entrance of Yongso falls, 520 m, N 38° 05.180', E 128° 26.021', 08.IX.2010. At HgLi light, leg. Forró, L., Makranczy, Gy., Murányi, D., Sun Jae Park & Jung Do Yoon, SK.

**2010/23** – Prov. South Gyeongsang, Hadong-gun, Jiri Mts, Ssanggyesa valley, parking lot beneath Daesung camp, Hwagaecheon stream and its sidebrook in deciduous forest, 270 m, N 35° 16.523', E 127° 39.131', singled, beaten, water-net, 14.IX.2010. At HgLi light, leg. Hye Woo Byeon, Forró, L., Tae Woo Kim, Makranczy, Gy. & Murányi, D., SK.

**2010/29** – Prov. North Jeolla, Namwon city, Jiri Mts, Jeongnyeongchi pass, parking lot at the pass, 1170 m, N 35° 21.812', E 127° 31.332', at HgLi light 15.IX.2010. Leg. Hye Woo Byeon, Tae Woo Kim, Makranczy, Gy. & Murányi, D., SK.

**2010/44** – Prov. South Gyeongsang, Sancheong-gun, Jiri Mts, Ogeok valley, 3 km NW of Daewon temple, N, branch of Yup-yeong, mixed forest, forest stream, open spring and its outlet, forest edge, 675 m, N 35° 22.926', E 127° 47.112', (singled, beaten, water-net, butterfly net, soil samples, 16.IX.2010. At HgLi light, leg. Hye Woo Byeon, Forró, L., Tae Woo Kim, Makranczy, Gy. & Murányi, D, SK.

**BT-01** – Prov. Gangwon, Taebaek Mts., Seorak Mt., 500 m NW of Pilrye spring, N 38° 04.439', E 128° 22.063', light trap, 622 m, 2.XI.2016. leg. J. Babics & B. Tóth, SK.

**BT-02** – Prov. Gangwon, Kwangju Mts., old road 46, 6 km NNW Soyang Dam, N 37° 59.718', E 127° 47.357', light trap, 594 m, 3.XI.2016. leg. J. Babics & B. Tóth, SK.

**BT-03** – Prov. Gyeonggi, Kwangju Mts, Yeonin Mt., Gapyeong co., Jomurakgol rd., N 37° 59.247', E 127° 26.760', light trap, 360 m, 4.XI.2016. leg. J. Babics & B. Tóth, SK.



**BT-04** – Prov. Gyeonggi, Kwangju Mts, Yeonin Mt., Gapyeong co., Jomurakgol rd., N 37° 59.247', E127° 26.760', light trap, 360 m, 5.XI.2016. leg. J. Babics & B. Tóth, SK.

**GJW-01** – Gwang-Reung [Prov. Gyeonggi, Gwangreung Forest], 6.VII.1994. leg. Gab-Jae Weon, SK.

**HK-01** – Prov. Gangwon, Mt Kumgang-San Hotel Kumgang-San. Missing date and collectors label, but it may refer to Nos. 850, 859, 861, 865.: VII. 1982. leg. Forró, L. & Ronkay, L., NK.

**IAS-01** – Prov. North Gyeongsang, Andong, I. A. S., [?].VII.1988. leg. Gngang Seop [in Hangul script], SK.

**JCS-01** – Prov. North Chungcheong, Chungbuk, Jacheon, Songgyae, Mt. Weolak-san 222 m, 18.VI.2004. leg. J. C. Sohn, SK.

**JCS-02** – Prov. South Jeolla, Gurae-Gun, Sandong-Myeon, Mt. Jirri-San Nogodan 1344 m, 20.VII.2004. leg. J. C. Sohn, SK.

**K-01** – Prov. Gangwon, Kumgang-San Hotel Go-Song, 30.VIII.1974. leg. Z. Kaszab, NK.

**KO-01** – Korea.

**KTP-01** – Prov. Gangwon, Chuncheon Dam, 24.IV.1991. leg. K. T. Park, SK.

**KTP-02** – Prov. Gyeonggi, Gwangleung GG, 29.III.1990. leg. K. T. Park, SK.

**KTP-03** – Prov. Gangwon, Chuncheon, 11.VI.1990. leg. K. T. Park, SK.

**KTP-04** – Prov. Gangwon, Chuncheondam, 12.VIII.1991. leg. K. T. Park, SK.

**NK-01** – 28.VII.1987. NK.

**NK-02** – 21.VIII.1987. NK.

**PO-01** – Prov. Chagang, Mt. Myohyang-san, 13.VIII.1981. leg. Popov, NK.

**PO-02** – Prov. Gangwon, Kumgang-San, Ondzong-ri, 20.VIII.1982. leg. Popov, NK.

**RTR-01** – Prov. Gangwon, Kangchon 100 m, 21.III.2006. leg. L. Ronkay & M. Tóth-Ronkay, SK.

**RTR-02** – Prov. Gangwon, Chuncheon University Campus 400 m, 22.III.2006. leg. L. Ronkay & M. Tóth-Ronkay, SK.

**RTR-03** – Prov. Gangwon, Bongmyeung-Ri Near the University Research station 230 m, 23.III.2006. leg. L. Ronkay & M. Tóth-Ronkay, SK.

**RTR-04** – Prov. Gangwon, 20 km NW of Chuncheon, Jiam-ri 350–400 m, 30–31.III.2006. leg. L. Ronkay & M. Tóth-Ronkay, SK.

**RTR-05** – Prov. South Jeolla, Jiri-San Gurye 400–500 m, Spec. Restor. Centr., 4–5.IV.2006. leg. L. Ronkay & M. Tóth-Ronkay, SK.

**RTR-06** – Prov. South Jeolla, Mokpo Mt. Sabaek-San 200 m, 6 IV. 2006. leg. L. Ronkay & M. Tóth-Ronkay, SK.

**RTR-07** – Prov. North Jeolla, Kwangju Mt. Mudeng 550 m, 8.IV.2006. leg. L. Ronkay & M. Tóth-Ronkay, SK.

**RTR-08** – Prov. Gangwon, Chuncheon University Campus 400 m, 9.IV.2006. leg. L. Ronkay & M. Tóth-Ronkay, SK.

**RTR-09** – Prov. Gangwon, Jiam-ri 350–400 m, 12.IV.2006. leg. L. Ronkay & M. Tóth-Ronkay, SK.

**RTR-10** – Prov. Gangwon, Chuncheon University Campus 400 m, 13.IV.2006. leg. L. Ronkay & M. Tóth-Ronkay, SK.

**RTR-11** – Prov. South Jeolla, Mokpo Mt. Seungdal-San 200–250 m, 24–30.X.2012. leg. L. Ronkay & M. Tóth-Ronkay, SK.

**RTR-12** – Prov. South Jeolla, Mokpo Mt. Seungdal-San 200–250 m, 1–6. XI.2012. leg. L. Ronkay & M. Tóth-Ronkay, SK.

**RTR-13** – Prov. South Jeolla, Mokpo Mt. Seungdal-San 200–250 m, 8–14. XI.2012. leg. L. Ronkay & M. Tóth-Ronkay, SK.

**SHO-01** – Prov. Gangwon, Chuncheon, 22.IV.1992. leg. S. H. Oh, SK.

**SHO-02** – Prov. Gangwon, Chuncheon, 30.VI.1992. leg. S. H. Oh, SK.

#### LIST OF SPECIES

The species are listed according to their systematic order. Tribal names are indicated after HAUSMANN & VIIDALEPP (2012). Asterisk (\*) is used for marking species new for North Korea; superscript S (<sup>S</sup>) indicates species new for South Korea; and those species which are new for the entire Korean peninsula are marked by exclamation mark (!).

#### Cataclymini Herbulot, 1962

\* *Grammorhoe caespitaria* (Christoph, 1881) – 1018 (1).

*Orthonama obstipata* (Fabricius, 1794) – 265 (1), 423 (2), 492 (1), 539 (1), 624 (1), 705 (2), 720 (2), 737 (1), 1020 (1), 1042 (1), 1050 (4), 1055 (2), 1404 (1), 1411 (4), 1417 (1), 1427 (1), 1455 (2), 1680 (2), 1684 (1), 1686 (1), 1692 (1), 1706b (1), 1744b (1), RTR-12 (1), RTR-13 (1).

#### Xanthorhoini Pierce, 1914

*Xanthorhoe rectantemediana* Wehrli, 1927 – 958 (1), 1386 (1), 1417 (1), 1419 (1).

*Xanthorhoe muscipata* (Christoph, 1881) – 663 (1), 705 (1), 780 (1), 783 (1), 821 (1), 859 (1), 861 (1), 865 (1), 923 (1), 933 (1), 938 (1), 939 (1), 1386 (9), 1388 (10), 1394 (2), 1396 (7), 1398 (1), 1404 (5), 1406 (1), 1411 (6), 1417 (4), 1419 (1), 1427 (1), 1432 (2), 1433 (2), 1439 (2), 1444 (1), 1449 (1), 1470 (1), 1472 (2), 1607 (2), 1639 (1), 1684 (1), 1692 (1), 1695 (18), 1709b (1), 1736b (1), 1739b (1), 1750b (3), 2010/44 (1).

- <sup>s</sup> *Xanthorhoe fluctuata malleola* Inoue, 1955 – 1695 (2).  
*Xanthorhoe abraxina* (Butler, 1879) – 285 (2), 379 (2), 812 (1), 821 (1), 1444 (1), 1742b (1).  
*Xanthorhoe quadrifasiata ignobilis* (Butler, 1881) – 276 (4), 285 (2), 322 (2).  
*Xanthorhoe saturata* (Guenée, 1859) – 1610 (1), 1615 (1), 1682 (2), 1709b (3).  
*Catarhoe yokohamae* (Butler, 1881) – 322 (1), 813 (1).  
*Catarhoe obscura* (Butler, 1878) – 1639 (2), 1752b (1).  
*Glaucorhoe unduliferaria albostrigaria* (Bremer, 1864) – 197 (1), 285 (1), 815 (1).  
*Epirrhoe supergressa albigrassa* (Prout, 1938) – 294 (1), 325 (1), 962 (4), 1427 (3), 1439 (1), 1444 (2), 1449 (1), 1457 (1), 1608 (1), 1693 (1), 1739b (1), 1742b (1).

## Euphyiini Herbulot, 1962

- Euphyia cineraria* (Butler, 1879) – 285 (1), 379 (1), 813 (1), 1386 (1), 1427 (1), 1433 (1), 1611 (1), 1631–1634 (2), 1684 (2), 1686 (1), 1690 (1), 1692 (1), 1695 (2).  
*Euphyia unangulata gekatsungensis* Bryk, 1949 – 373 (1), 379 (1).

## Larentiini Duponchel, 1845

- Mesoleuca albicillata casta* (Butler, 1878) – 380 (1), NK-01 (1).  
*Mesoleuca mandshuricata* Bremer, 1864 – 285 (1), 1426 (1), 1427 (2), 1433 (1), 1444 (1).  
*Pelurga comitata* (Linnaeus, 1758) – 276 (1).  
*Photoscotosia atrostrigata* (Bremer, 1864) – 577 (1), 599 (1), 673 (1), 690 (1), 1455 (1), 1644 (2), 1649 (2), 2 (1), 1750b (6), 2010/29 (1).  
*Idiotephria amelia* (Butler, 1878) – 1668 (3), 1671–1672 (2), 1677 (2), 1693 (3), 1695 (2), 1696 (1), RTR-10 (1), RTR-04 (4).  
*Idiotephria debilitata* (Leech, 1891) – 1670 (1), 1672 (3), 1677 (1), 1693 (1), RTR-10 (1), RTR-04 (4), RTR-07 (1), RTR-05 (1), RTR-08 (1).  
\* *Idiotephria evanescens* (Staudinger, 1897) – 933 (1), 1668 (9), 1670 (26), 1692 (1), RTR-04 (12), RTR-05 (1).

## Hydriomenini Meyrick, 1892

- Hydriomena furcata* (Thunberg, 1784) – 278 (1), 285 (2).  
*Hydriomena impluviata* ([Denis et Schiffermüller], 1775) – 1437 (1).

## Cidariini Duponchel, 1845

- Heterothera postalbida* (Wileman, 1911) – 484 (9), 490 (6), 663 (4), 673 (1), 690 (3), 705 (12), 720 (5), 948 (10), 954 (1), 969 (1), 1042 (1), 1057 (2), 1060 (1),

1064 (7), 1066 (13), 1068 (1), 1449 (3), 1451 (1), 1455 (7), 1457 (1), 1470 (2), 1589 (1), 1665 (3), 1706b (3), 2010/29 (4), RTR-11 (3).

*Pennithera djakonovi* (Kurentzov, 1950) – 981 (1), 995 (10), 996 (3), 1005 (19).

*Thera variata bellisi* (Viidalepp, 1977) – 285 (1).

*Trichodezia kindermanni* (Bremer, 1864) – 929 (1), 1408 (1).

*Electrophaes corylata faberfactaria* (Oberthür, 1880) – 783 (1), 933 (1), 939 (1), 1388 (3), 1411 (1), 1432 (1), 1457 (1), 1692 (1).

! *Electrophaes recens* (Inoue, 1982) – 1686 (1).

*Hysterura declinans* (Staudinger, 1897) – 285 (2), 829 (1), 1388 (2), 1404 (1), 1417 (2), 1421 (1).

*Sibatania mactata* (Felder et Rogenhofer, 1875) – 1610 (1), 1736b (2), 1744b (1), 1750b (2).

*Eustroma reticulata obsoleta* Djakonov, 1929 – 379 (1), 1684 (1).

*Eustroma aerosum* (Butler, 1878) – 783 (1), 813 (1), 818 (1), 923 (1), 933 (1), 939 (4), 950 (1), 958 (1), 1386 (2), 1388 (17), 1394 (1), 1396 (5), 1398 (8), 1400 (2), 1404 (13), 1405 (21), 1408 (1), 1411 (5), 1417 (34), 1419 (21), 1421 (1), 1433 (1), 1444 (1), 1455 (1), 1457 (3), 1465 (2), 1682 (1), 1695 (24), JCS-02 (1).

*Eustroma melancholicum* (Butler, 1878) – 780 (1), 933 (2), 948 (1), 958 (1), 1386 (14), 1388 (33), 1390 (1), 1394 (3), 1396 (6), 1398 (4), 1400 (2), 1404 (9), 1405 (2), 1406 (1), 1411 (16), 1412 (2), 1417 (28), 1419 (8), 1421 (1), 1427 (1), 1433 (1), 1439 (1), 1449 (1), 1463 (3), 1465 (3), 1474 (1), 1476 (1), 1631–1634 (1), 1680 (2), 1686 (6), 1690 (1), 1736b (3), 1739b (1), 1746b (1), 2010/03 (2), 2010/29 (1).

*Evecliptopera illitata* (Wileman, 1911) – 1637 (1), 1682 (2), 1686 (6).

*Eulithis ledereri* Bremer, 1864 – 577 (1), 705 (3), 1030 (1), 1034 (1), 1472 (1).

*Eulithis convergenata* (Bremer, 1864) – 783 (1).

\* *Eulithis testata* Linnaeus, 1761 – NK-02 (1).

*Gandaritis whitleyi* (Butler, 1878) – 793 (1), 1446 (1), 1449 (1), 1451 (6), 1470 (4), 1472 (8), 1476 (2).

*Gandaritis fixseni* (Bremer, 1864) – 351 (1), 577 (1), 652 (1), 663 (6), 783 (2), 788 (3), 793 (1), 813 (2), 1030 (6), 1038 (2), 1455 (1), 1472 (1), 1614 (1), 1707b (1), 1736b (8), 1739b (1), 1832 (1), 2010/03 (1), 2010/23 (1), RTR-11 (1).

*Gandaritis agnes* (Butler, 1878) – 780 (1), 783 (3), 783 (1), 788 (1), 793 (1), 813 (1).

*Callabraxas ludovicaria* (Oberthür, 1880) – 783 (1), 793 (1), 829 (1), 859 (1).

*Callabraxas compositata* (Guenée, 1857) – 351 (1), 383 (1), 780 (1), 783 (5), 813 (1), 1344 (1), 1446 (1), 1451 (1), 1455 (3), 1470 (2), 1474 (1), 1476 (7).

*Callabraxas fabiolaria* (Oberthür, 1884) – 591 (1), 663 (1), 813 (1), 1025 (1), 1030 (4), 1038 (1), 1451 (1), 1703b (1), 1707b (1), 1736b (1), 1741b (1), RTR-12 (1), RTR-11 (1).

*Ecliptopera capitata capitulata* (Staudinger, 1897) – 276 (1), 933 (2), 939 (2), 1386 (1), 1388 (4), 1394 (1), 1417 (3), 1419 (1), 1432 (1), 1457 (1), 1465 (1), 1692 (1), 1695 (1), 1750b (1).

*Ecliptopera umbrosaria* (Motschulsky, 1861) – 322 (1), 778 (1), 783 (1), 793 (1), 818 (1), 850 (3), 923 (1), 923 (1), 939 (3), 942 (1), 948 (2), 1381 (1), 1386 (3), 1388 (4), 1396 (3), 1398 (1), 1404 (1), 1417 (6), 1419 (1), 1421 (2), 1432 (2), 1433 (2), 1437 (1), 1444 (1), 1451 (3), 1455 (1), 1468 (1), 1611 (1), 1615–1618 (1), 1637 (1), 1639 (3), 1682 (18), 1684 (9), 1686 (4), 1692 (3), 1695 (7), 1739b (1), K-01 (1), RTR-06 (1).

*Dysstroma cinereata japonica* (Heydemann, 1929) – 450 (1), 942 (1), 1038 (2), 1050 (5), 1451 (1), 1457 (4), 1465 (1), 1641 (1), 1644 (1), 1649 (1), 1651 (1), 1680 (4), 1686 (11), 1706b (1).

*Dysstroma citrata* (Linnaeus, 1761) – 199 (1), 208 (2), 219 (1), 962 (2), 1050 (1), 1344 (1), 1465 (1), 1470 (1).

*Dysstroma korbi* Heydemann, 1929 – 208 (2), 219 (5), 1750b (1), 1750b (1), NK-01 (1).

*Dysstroma latefasciata* (Staudinger, 1889) – 198 (1), 285 (1), 373 (2), 379 (2).

*Xenortholitha propinguata* (Kollar, 1884) – 285 (1), 325 (1), 815 (1), 1417 (1), 1433 (1), 1444 (1), 1607 (1), 1690 (1), 1695 (3), 1741b (1).

*Lampropteryx minna* (Butler, 1881) – 1433 (1), 1457 (1).

*Lampropteryx jamesa* (Butler, 1878) – 1439 (1).

#### Operophterini Packard, 1876

*Operophtera relegata* Prout, 1908 – 1034 (1), 1038 (1), 1649 (1), BT-01 (4), BT-02 (1), BT-03 (1), BT-04 (4).

*Epirrita viridipurpurescens* Prout, 1937 – 1038 (1), 1663 (1), 1665 (2), 1702b (6), 1703b (1).

*Epirrita autumnata autumnata* (Bryk, 1942) – 1030 (1).

#### Asthenini Warren, 1894

*Laciniodes denigrata ussuriensis* Prout, 1939 – 193 (1), 1388 (1), 1411 (1), 1427 (2), 1432 (6), 1433 (1), 1439 (2), 1444 (1), 1451 (1), 1627 (1).

*Laciniodes unistirpis* (Butler, 1878) – 319 (2), 1344 (1), 1417 (1), 1433 (1), 1451 (1), 1455 (5), 1470 (1), 1472 (1), 1476 (1), 1608 (2), 1610 (1), 1627 (2), 1633 (1).

*Pseudostegania defectata* (Christoph, 1881) – 829 (1), 1607 (1).

*Asthena ansearia corculina* Butler, 1878 – 948 (1), 1388 (1), 1404 (1), 1611 (1).

*Asthena amurensis* (Staudinger, 1897) – 1442 (1), 1608–1609 (1).

*Asthena nymphaeata* (Staudinger, 1897) – 319 (1), 322 (1), 351 (1), 744 (2), 762 (4), 778 (1), 850 (1), 865 (1), 942 (9), 962 (14), 969 (1), 972 (1), 1433 (1), 1444

(1), 1455 (6), 1457 (2), 1461 (1), 1463 (1), 1609 (2), 1610 (1), 1611 (3), 1615 (1), 1615–1618 (1), 1692 (2), 1695 (1).

*Hydrelia adesma* Prout, 1930 – 780 (2), 783 (2), 793 (1), 850 (1), 857 (1), 859 (4), 865 (1), 894 (1), 1381 (1), 1390 (1), 1417 (2), 1433 (1), 1440 (2), 1451 (1), 1472 (1), 1476 (1), 1610 (5), HK-01 (1).

*Hydrelia flammeolaria* (Hufnagel, 1767) – 294 (1), 373 (1), 379 (2), 783 (1), 829 (1), 1449 (1), 1472 (2), 1692 (1).

*Hydrelia bicauliata* Prout, 1914 – 1386 (1), 1390 (1), 1396 (1).

*Hydrelia parvulata* (Staudinger, 1897) – 322 (1), 1388 (1).

*Venusia cambrica aphrodite* Bryk, 1942 – 276 (1), 278 (1), 285 (3), 322 (1), 783 (1), 815 (1), 859 (1).

*Venusia semistrigata* (Christoph, 1881) – 948 (1), 1692 (4).

#### Phileremini Pierce, 1914

*Philereme transversata* (Hufnagel, 1767) – 813 (1).

\* *Telenomeuta punctimarginaria* (Leech, 1891) – 325 (1), 1455 (1), 1680 (1), 1686 (1), 1695 (2).

#### Rheumapterini Herbulot, 1962

*Hydria hedemannaria* (Oberthür, 1880) – 1427 (3), 1432 (3).

*Hydria undulata* (Linnaeus, 1758) – 276 (1), 278 (1), 285 (1).

*Hydria neocervinalis* (Inoue, 1982) – 1690 (3), 1692 (3).

*Rheumaptera hecate* (Butler, 1878) – 280 (1), 940 (4), 945 (1), 949 (1), 1379 (1), 1392 (1), 1440 (1), 1461 (6), 1467 (4).

*Triphosa dubitata amblychiles* Prout, 1937 – 285 (1), 829 (1), 1038 (1).

*Triphosa sericata* (Butler, 1879) – 1651 (1).

*Amoebotricha grataria* (Leech, 1891) – 1050 (1), 1653 (3), 1663 (1), 1665 (1), RTR-12 (1), RTR-11 (1).

*Pareulype taczanowskii* (Oberthür, 1880) – 294 (1), 958 (1), 1615–1618 (1), 1682 (2).

#### Solitaneini Leraut, 1980

*Baptria tibiale mychioleuca* Prout, 1938 – 929 (1), 1392 (1), 1422 (1), 1427 (1).

#### Melanthiini Duponchel, 1845

*Horisme vitalbata staudingeri* Prout, 1939 – 1432 (1).

! *Horisme aquata* (Hübner, 1813) – 1439 (3).



*Horisme tersata* ([Denis et Schiffermüller], 1775) – 861 (1), 1432 (5), 1433 (1), 1468 (1), 1695 (3), 1741b (1).

\* *Horisme stratata* (Wileman, 1911) – 1050 (5), 1055 (1), 1701b (2), 1705b (1), 1873 (1), RTR-12 (1).

*Melanthia procellata* ([Denis et Schiffermüller], 1775) – 257 (1), 1405 (1), 1432 (3), 1433 (1), 1437 (1), 1449 (1), 1451 (1), 1457 (1), 1465 (1), 1468 (1), 1476 (1), 1633 (2), 1639 (1), 1736b (1).

#### Perizomini Herbulot, 1961

*Gagitodes parvaria* (Leech, 1891) – 1742b (1), 1750b (1), 2010/03 (1), 2010/44 (1).

*Piercia bipartaria* (Leech, 1897) – 663 (5).

*Martania saxea* (Wileman, 1911) – 208 (2), 219 (1), 319 (1), 373 (2), 379 (1), 663 (3), 720 (1), 783 (1), 813 (1), 829 (1).

*Martania minimata* (Staudinger, 1897) – 780 (1), 793 (4), 813 (1).

! *Perizoma bifaciata* (Haworth, 1809) – 894 (1).

#### Eupitheciini Pierce, 1914

*Spiralisigna subpumilata* (Inoue, 1972) – 1631–1634 (1).

*Gymnoscelis esakii* Inoue, 1955 – 1631–1634 (3), 1637 (3).

*Gymnoscelis deleta* (Hampson, 1891) – 1615–1618 (1), RTR-12 (1), RTR-13 (1).

*Chloroclystis v-ata lucinda* (Butler, 1879) – 319 (1), 783 (1), 861 (1), 870 (1), 1388 (1), 1396 (4), 1439 (2), 1451 (1), 1692 (4).

\* *Pasiphila rectangulata* (Linnaeus, 1758) – 813 (1), 942 (1), 1457 (1).

*Pasiphila obscura* (West, 1929) – 1440 (2), 1446 (2), 1455 (2).

\* *Pasiphila debiliata* (Hübner, 1817) – 285 (2), 373 (1), 373 (2), 379 (2).

*Pasiphila chloerata* (Mabille, 1870) – 1449 (1).

\* *Pasiphila subcinctata* Prout, 1915 – 783 (1).

! *Eupithecia inturbata* (Hübner, 1817) – RTR-11 (1).

\* *Eupithecia subtacincta* Hampson, 1895 – 1427 (1), 1430 (2), 1609 (1).

*Eupithecia rufescens* Butler, 1878 – 1682 (1).

*Eupithecia proterva* Butler, 1878 – 1668 (1), 1670 (1), 1692 (1).

*Eupithecia subbreviata* Staudinger, 1897 – 1695 (1), RTR-04 (5), RTR-08 (1), RTR-03 (1), RTR-01 (1), RTR-01 (1), RTR-02 (1).

*Eupithecia clavifera* Inoue, 1955 – 1668 (7), 1670 (12), 1672 (9), 1677 (2), 1690 (4), 1692 (6), 1695 (3), RTR-08 (4).

*Eupithecia signigera* Butler, 1879 – 1668 (4), 1670 (1), 1672 (1), 1677 (4), 1680 (3), 1686 (3), 1690 (1), 1692 (2), KTP-01 (2), KTP-02 (3), RTR-06 (1).

- Eupithecia antivulgaria* Inoue, 1965 – RTR-12 (1), RTR-13 (1).  
*Eupithecia consortaria* Leech, 1897 – 2010/03 (1).  
*Eupithecia homogrammata* Dietze, 1906 – 276 (1), 319 (4), 322 (10), 325 (1), 373 (1), 379 (2), 783 (12), 793 (2), 803 (1), 813 (6), 821 (2), 829 (26), 859 (5), 861 (1), 870 (1), 873 (1), 890 (1), 894 (10), 1381 (1), 1432 (1), 1433 (1), 1610 (2), 1615 (2), 1615–1618 (1), 1631–1634 (3), K-01 (9), PO-01 (2), PO-02 (1).  
<sup>s</sup>*Eupithecia pusillata* ([Denis et Schiffermüller], 1775) – 1050 (12), 1055 (2), 1057 (1), 2010/03 (5), RTR-12 (4), RTR-13 (1).  
*Eupithecia takao* Inoue, 1955 – 1005 (2).  
*Eupithecia okadai* Inoue, 1958 – 1692 (5).  
*Eupithecia lariciata mesodeicta* Prout, 1938 – 278 (4), 285 (11), 373 (29), 379 (30), 974 (10), 996 (2), 1005 (12), 1381 (3), 1411 (1), 1412 (1), 1432 (1), 1444 (1).  
*Eupithecia emanata* Dietze, 1906 – 219 (1).  
*Eupithecia tripunctaria* Herrich-Schäffer, 1852 – 1607 (1), 1736b (1), 1739b (1), 1750b (1).  
*Eupithecia selinata fusei* Inoue, 1980 – 1005 (1), 1432 (4), 1444 (1).  
<sup>\*</sup>*Eupithecia persuastrix* Mironov, 1990 – 208 (1), 705 (8), 720 (10).  
<sup>\*</sup>*Eupithecia actaeata praenubilata* Inoue, 1958 – 1417 (1), 1744b (1).  
*Eupithecia detritata* Staudinger, 1897 – 793 (1), 958 (1), 1404 (1), 1411 (2), 1432 (1), 1444 (1), 1454 (1).  
*Eupithecia quadripunctata* Warren, 1888 – 1692 (2), 1695 (2), 1736b (1), 1752b (1), 2010/03 (6), RTR-06 (1).  
<sup>\*</sup>*Eupithecia repentina* Vojnits et de Laever, 1978 – 1388 (2), 1670 (1), 1680 (11), 1684 (13), 1686 (95), 1690 (1), 1692 (8), 1832 (1), 1750b (1), 2010/03 (1).  
*Eupithecia virgaureata invisata* Butler, 1878 – 948 (1), 1411 (1), 1427 (1), 1668 (4), 1670 (1), 1690 (1), 1692 (8), 1702b (1), 1741b (1), 1744b (1).  
*Eupithecia kobayashii* Inoue, 1958 – 793 (1), 1695 (5).  
*Eupithecia subbrunneata* Dietze, 1906 – 1386 (1), 1426 (5), 1427 (11), 1432 (13), 1433 (9), 1437 (5), 1439 (7), 1444 (4), 1476 (1).  
*Eupithecia insignioides* Wehrli, 1923 – 927 (1), 933 (1), 938 (1), 1677 (4), 1688 (1), 1692 (1).  
*Eupithecia costimaculata* Leech, 1897 – 1684 (4).  
*Eupithecia addictata* Dietze, 1908 – 294 (2: holotype and paratype of *Eupithecia koreana* Vojnits et de Laever, 1978), 325 (2), 850 (3), 859 (3), 861 (1), 865 (1), 1451 (1).  
<sup>!</sup>*Eupithecia caliginea* Butler, 1878 – 1388 (1).  
*Eupithecia veratraria perpaupera* Inoue, 1965 – 285 (1).  
<sup>s</sup>*Eupithecia mandschurica* Staudinger, 1897 – 995 (1), 1465 (1), 1690 (1), 1692 (3), 1695 (1).  
<sup>\*</sup>*Eupithecia pernotata* Guenée, 1858 – 1439 (1), KTP-03 (1).

*Eupithecia amplexata* Christoph, 1881 – 285 (1).

\**Eupithecia scribai* Prout, 1938 – 285 (3).

*Eupithecia absinthiata* (Clerck, 1759) – 1627 (1).

*Eupithecia interpunctaria* Inoue, 1979 – 319 (2), 322 (1).

\**Eupithecia supercastigata* Inoue, 1958 – 577 (2), 705 (1), 720 (1).

*Eupithecia neosatyrate* Inoue, 1979 – 1427 (2), 1433 (1).

*Eupithecia vulgata* (Haworth, 1809) – 285 (1).

*Eupithecia* sp. 1 – 1465 (1).

*Eupithecia* sp. 2 – SHO-01 (1).

*Pareupithecia spadix* (Inoue, 1955) – 315 (1), 319 (2), 783 (1), 793 (4), 813 (2), 821 (1), 850 (4), 859 (2), 861 (2), 873 (1), 923 (2), 948 (1), 969 (1), 1050 (1), 1055 (1), 1057 (1), 1066 (2), 1417 (1), 1437 (1), 1607 (10), 1610 (3), 1615–1618 (1), 1633 (2), 1692 (1), 1695 (3), GJW-01 (1), IAS-01 (1), KTP-04 (1), RTR-09 (1), SHO-02 (1).

\**Mesoptila melanolopha* (Swinhoe, 1895) – 888 (1).

#### Chesiadini Herbulot, 1963

*Leptostegna tenerata* Christoph, 1881 – 923 (1), 933 (1), 934 (1), 939 (2), 1385 (1), 1386 (1), 1404 (1), 1408 (1), 1411 (2), 1417 (1), 1439 (1), 1449 (1), 1454 (1), 1457 (1), 1476 (1), 1692 (1), 1695 (1).

*Odezia atrata* (Linnaeus, 1758) – 277 (1).

#### Trichopterygini Warren, 1894

*Brabira artemidora* (Oberthür, 1884) – 1417 (2), 1419 (1), 1433 (1), 1457(4), 1472 (1), 1607 (1), 1750b (1).

*Tyloptera bella* (Butler, 1878) – 319 (1), 788 (1), 793 (2), 859 (2), 933 (1), 948 (1), 1381 (1), 1388 (2), 1390 (1), 1396 (1), 1411 (2), 1417 (3), 1419 (1), 1432 (1), 1451 (1), 1454 (1), 1457 (5), 1465 (2), 1470 (5), 1472 (1), 1476 (3), 1589 (2), 1610 (1), 1627 (1), 1637 (1), 1631–1634 (13), 1639 (1), 1695 (1), JCS-01 (1).

*Lobophora halterata* (Hufnagel, 1767) – 1396 (1).

*Acasis appensata* (Eversmann, 1832) – 1005 (1), 1390 (1), 1394 (1), 1427 (1), 1695 (1), RTR-06 (1).

*Acasis viretata* (Hübner, [1799]) – 829 (1), 1432 (1), 1627 (6), 1631–1634 (8), 1633 (1), 1680 (24), 1682 (3), 1684 (1), 1686 (123), 1692 (3).

! *Gen. et sp. indescr.* – 1746b (1).

*Trichopteryx hemana* (Butler, 1878) – 1005 (1), 1398 (1), 1668 (1), 1672 (1), 1677 (4), 1690 (1), 1692 (3).

*Trichopteryx terranea* (Butler, 1879) – 1386 (1), 1411 (1).

*Trichopteryx polycommata anna* Inoue, 1957 – RTR-04 (2), RTR-03 (1).

*Trichopteryx incerta* Yazaki, 1978 – 1668 (2), 1670 (1), 1671–1672 (13), 1692 (3), RTR-04 (2), RTR-09 (1).

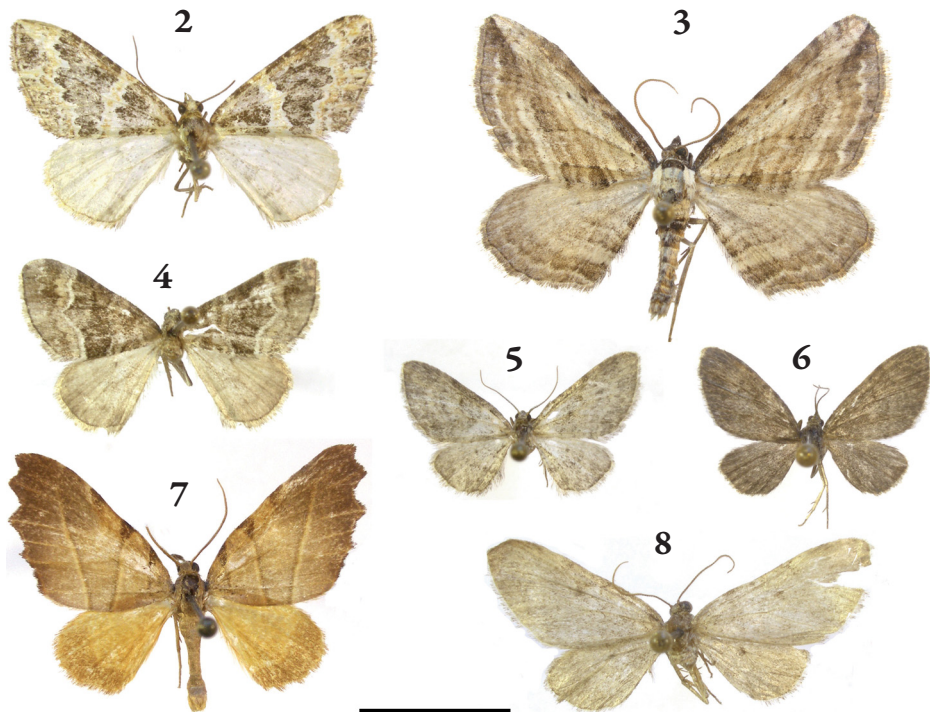
*Carige cruciplaga* (Walker, 1861) – 322 (1), 857 (1).

*Heterophleps fusca* (Butler, 1878) – 800 (1), 813 (1), 1417 (3), 1455 (3), KO-01 (1).

## DISCUSSION

### Species new for Korea

*Electrophaes recens* Inoue, 1982 (Figs 2, 9) – This species is known from Japanese islands Hokkaido, Honshu, Shikoku and Kyushu; we hereby present its first record from Korea: 1 male, “Prov. Cheju, 1050 m, Mt. Halla-san; Yongshil route, 126° 30’ E; 33° 21’ N, 30.IV.1994. leg. Peregovits, Ronkay & Vojnits, No. 1686”; slide No. TB1300m. – Externally this species can be distinguished from its



**Figs 2–8.** Adults of Larentiinae species new to Korea or unidentified. 2 = *Electrophaes recens* Inoue, 1982, 3 = *Horisme aquata* (Hübner, 1813), 4 = *Perizoma bifaciata* (Haworth, 1809), 5 = *Eupithecia inturbata* (Hübner, 1817), 6 = *Eupithecia caliginea* Butler, 1878, 7 = genus and species undescribed, 8 = *Eupithecia* sp. 1. Scale = 10 mm

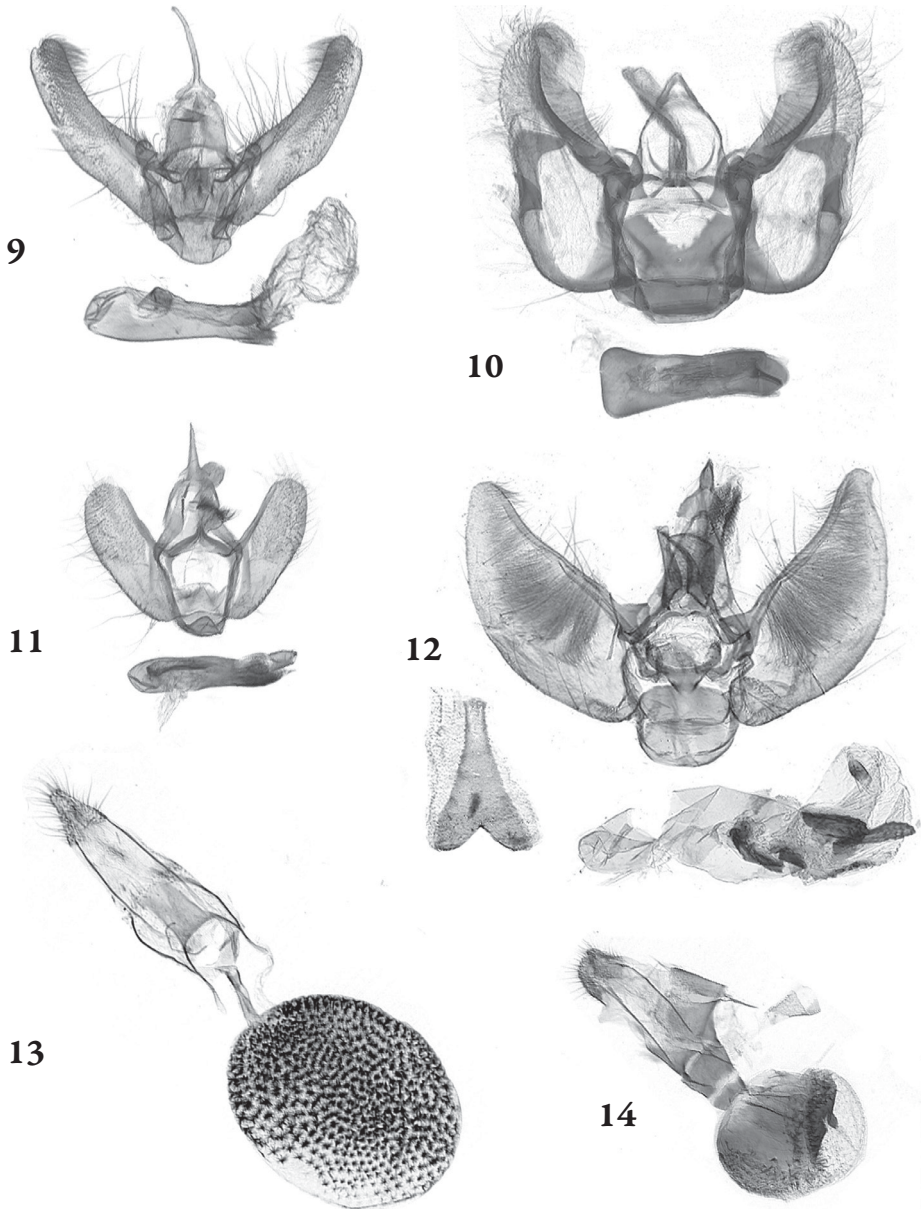
closest relative, *E. corylata* (Thunberg, 1792) by the smaller size and the ochreous ground-colour. In the male genitalia, the uncus is longer, the labides are shorter and broader than those of *E. corylata*, the valva of *E. recens* is curved and lacks the costal process present on the straight valva of *E. corylata*.

*Horisme aquata* (Hübner, 1813) (Figs 3, 10) – Distributed from France across the Eurasian steppe belt to NE China and the Upper Amur Basin, the known area of this species is extended by the following specimens: 3 males, “Prov. North Khamgen; Puryong, cca. 40 km NE of Chondjin; 04.06.1991. No. 1439; leg. L. Ronkay & A. Vojnits”; slide No. TB862m. – In habitus it differs from *H. vitalbata staudingeri* Prout, 1939 by the straighter transverse lines and the overall lack of brownish shade. The male genitalia of *H. aquata* have broad, spine-like saccular terminal processes, gradually tapering valvae and relatively narrow aedeagus, while in *H. vitalbata staudingeri* the saccular processes are replaced by symmetrical sclerotised plates, the valva is much narrower beyond sacculus and the aedeagus is broader than in *H. aquata*. In the male genitalia of the Korean specimen presented here (Fig. 10) the saccular processes are larger and symmetrical, the valva and the aedeagus are somewhat broader than those of European specimens. In order to clarify the subspecific affiliation of Korean populations, genitalia of several European, NE Chinese and Far East Russian specimens should be studied.

*Perizoma bifaciata* (Haworth, 1809) (Figs 4, 11) – The hitherto known range of this species extends from Portugal to Northern Kazakhstan and from Southern Finland to Morocco, Cyprus and the southeastern corner of Turkey. Occurrence of this Euro-Turanian species in Korea is surprising. One male is recorded: “Prov. South Hwanghae, Haeju, Mt. Suyong-san, 31.07.1982., No. 894, leg. Dr. L. Forró and Dr. L. Ronkay”; slide No. TB1299m. – It cannot be confused with any other known *Perizoma* species in Korea, although somewhat similar to *Martania saxea* (Wileman, 1911) especially by the two-coloured forewing post-medial line. The forewing of *P. bifaciata* is less elongate, the postmedial line is less jagged and the hindwing is somewhat darker in colour than those of *M. saxea*. In the male genitalia of *P. bifaciata* the uncus is much more prominent, the valva is narrower, straighter and shorter, the vinculum is much shorter and the aedeagus is much broader than in *M. saxea* (i.e. they show the diagnostic differences of genera *Perizoma* Hübner, 1825 and *Martania* Mironov, 2000).

*Eupithecia inturbata* (Hübner, 1817) (Figs 5, 13) – This species is found in Europe, Caucasus and Northeastern Turkey. Material examined: 1 female, “Chollanam Prov., Mokpo, Mt. Seungdal-san, 200–250 m, 37°55’N, 126°27’E, 24–30.X.2012. leg. L. Ronkay & M. Tóth-Ronkay”; slide No. TB1201f. *Eupithecia inturbata* occurs in European deciduous forests, with *Acer* spp. as larval host plant. The Korean record is highly isolated from the hitherto known range of this species in such an extent that this is the first record from Asian areas east of the Urals. –





**Figs 9–14.** Genitalia of Larentiinae species new to Korea or unidentified. 9 = *Electrophaes recens* Inoue, 1982; slide No. TB1300m (aedeagus below), 10 = *Horisme aquata* (Hübner, 1813); slide No. TB862m (aedeagus below), 11 = *Perizoma bifaciata* (Haworth, 1809); slide No. TB1299m (aedeagus below), 12 = *Eupithecia* sp. 1; slide No. TB1063m (aedeagus below right, sternum A8 below left), 13 = *Eupithecia inturbata* (Hübner, 1817); slide No. TB1201f, 14 = *Eupithecia caliginea* Butler, 1878; slide No. TB1064f. Scale = 1 mm (all photos by B. Tóth).

Most *Eupithecia* specimens cannot be identified without genitalia dissection. The most similar species of *E. inturbata* in Korea is *E. proterva* Butler, 1878 with more contrasted pattern on wings, narrower medial area and more prominent discal spot on forewing. The male genitalia are characterized by much more rounded sternum A8, straighter costa and much more angled ventral edge of valva. The female possesses narrower ductus bursae, broader appendix and smaller proportion of corpus bursae covered with spines than those of *E. inturbata*.

*Eupithecia caliginea* Butler, 1878 (Figs 6, 14) – This species is known only from Japan (Honshu, Hokkaido). Material examined: 1 female, “Prov. North Pyongan, Mts. Myohyang-san, Isonnam valley, 23.05.1991., No. 1388, leg. L. Ronkay & A. Vojnits”; slide No. TB1064f. – With the dark grey ground-colour this species is mostly similar to *E. homogammata* Dietze, 1906. The forewing is slightly more elongate and the light grey transverse lines are more conspicuous on fresh *E. caliginea* specimens than in *E. homogammata*. In the female genitalia of *E. caliginea* the corpus bursae is more globular in shape, its surface is covered with smaller spines in smaller area, and the cervix is broader than in *E. homogammata*.

#### Species new for North Korea

- Eulithis testata* Linnaeus, 1761
- Eupithecia actaeata praenubilata* Inoue, 1958
- Eupithecia pernotata* Guenée, 1858
- Eupithecia persuastrix* Mironov, 1990
- Eupithecia repentina* Vojnits et de Laever, 1978
- Eupithecia scribai* Prout, 1938
- Eupithecia subtacincta* Hampson, 1895
- Eupithecia supercastigata* Inoue, 1958
- Grammorhoe caespitaria* (Christoph, 1881)
- Horisme stratata* (Wileman, 1911)
- Idiotephria evanescens* (Staudinger, 1897)
- Mesoptila melanolopha* (Swinhoe, 1895)
- Pasiphila rectangulata* (Linnaeus, 1758)
- Pasiphila debiliata* (Hübner, 1817)
- Pasiphila subcinctata* Prout, 1915
- Telenomeuta punctimarginaria* (Leech, 1891)

#### Species new for South Korea

- Eupithecia mandschurica* Staudinger, 1897
- Eupithecia pusillata* ([Denis et Schiffermüller], 1775)
- Xanthorhoe fluctuata malleola* Inoue, 1955



## Specimens with unclarified status

*Eupithecia* sp. 1 (Figs 8, 12) – Material examined: 1 male, “Prov. Kangwon, Mts. Kumgang-san, Manmulsung Rocks, 750 m, 12.06.1991. No. 1465., leg. L. Ronkay & A. Vojnits”; slide No. TB1063m. – According to MIRONOV (*pers. comm.*) this specimen belongs to the “*satyrata*-group” of the genus (MIRONOV & GALSWORTHY 2014). A relatively large specimen, with a wingspan of 25 mm and the length of its forewing is 12.5 mm. Worn, without any recognisable pattern apart from the conspicuous discal spots on all wings. In the male genitalia the shape of valva and the configuration of cornuti in the aedeagus are very similar to those of *E. absinthiata* (Clerck, 1759) but the presence of the large discal spot on hindwing and the shape of sternum A8 contradict this association. The sternum shape is rather similar to that of *E. mandschurica* Staudinger, 1897 or (extra-limital) *E. expallidata* Doubleday, 1856.

Genus and species undescribed (Fig. 7) – The species representing a new genus, related to *Heterophleps* Herrich-Schäffer, 1854, is currently under description by an international team of lepidopterists (DIETER STÜNING, *pers. comm.*; see Barcode of Life Database (RATNASINGHAM & HEBERT 2007) under No. BC ZSM Lep. 30038.). We have one record of a male specimen from Mt. Noak, Gyeongsangbuk Province, SK.

\*

*Acknowledgements* – We are indebted to Dr Sei-Woong Choi (Mokpo) for provision of valuable literature. Our thanks are due to Vladimir Mironov (ZISP) and Dieter Stünig (Bonn) for help in identification.

## REFERENCES

- BÁLINT ZS. & KATONA G. 2011: Data of Geometridae (Lepidoptera) from the Korean Peninsula in the collections of the Hungarian Natural History Museum; subfamilies Ennominae and Geometrinae. – *Folia entomologica hungarica* 72: 79–107.
- CHOI S. W. 2003: Faunistic study of the Larentiinae (Lepidoptera: Geometridae) of North Korea. – *Insecta Koreana* 20(3–4): 313–342.
- CHOI S. W. 2012a: Geometrids I. – In: AHN Y. (ed.): *Insect fauna of Korea* 16 (5). – National Institute of Biological Resources, Incheon, 130 pp.
- CHOI S. W. 2012b: Geometrids II. – In: AHN Y. (ed.): *Insect fauna of Korea* 16 (7). – National Institute of Biological Resources, Incheon, 101 pp.
- CHOI S. W. 2013: Geometrids III. – In: AHN Y. (ed.): *Insect fauna of Korea* 16 (10). – National Institute of Biological Resources, Incheon, 109 pp.
- CHOI S. W. 2014: Geometrids IV. – In: AHN Y. (ed.): *Insect fauna of Korea* 16 (14). – National Institute of Biological Resources, Incheon, 93 pp.

- CHOI S. W. & KIM S. S. 2015: New records of seven Eupithecia (Lepidoptera, Geometridae) from Korea. – *Animal Systematics, Evolution and Diversity* 31(2): 128–134.  
<https://doi.org/10.5635/ASED.2015.31.2.122>
- HAUSMANN A. & VIIDALEPP J. 2012: Larentiinae I. – In: HAUSMANN A. (ed.): *The geometrid moths of Europe, vol. 3.* – Apollo Books, Vester Skerninge, 743 pp.
- INOUE H., SUGI SH., KUROKO H., MORIUTI S. & KAWABE A. 1982: *Moths of Japan.* – Kodansha, Tokyo. Volume 1: Text, 966 pp, Volume 2: Plates and Synonymic Catalogue, 522 pp.
- MIRONOV V. 2003: Larentiinae II. – In: HAUSMANN A. (ed.): *The geometrid moths of Europe, vol. 4.* – Apollo Books, Stenstrup, 463 pp.
- MIRONOV V. & GALSWORTHY A. 2014: *The Eupithecia of China: a revision.* – Brill, Leiden-Boston, 613 pp.
- RATNASINGHAM S. & HEBERT P. D. N. 2007: BOLD: The Barcode of Life data system ([www.barcodinglife.org](http://www.barcodinglife.org)). – *Molecular Ecology Notes* 7(3): 355–364.