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Two Newly Recorded Species of the Genus *Ypsolopha* Latreille (Lepidoptera: Ypsolophidae) from Korea

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한국산 *Ypsolopha*속 (나비목: Ypsolophidae)의 2미기록종의 보고

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ABSTRACT: Two species of the genus *Ypsolopha* Latreille are reported for the first time from Korea: *Ypsolopha vittella* (Linnaeus) and *Y. nigrofasciata* Yang. The diagnosis, description, distribution, host plants, adult photographs, and pictures of female genitalia are provided.

Key words: Lepidoptera, Ypsolophidae, *Ypsolopha vittella*, *Ypsolopha nigrofasciata*, new records, Korea

초 록: *Ypsolopha*속 (나비목:Ypsolophidae)의 2종, *Ypsolopha vittella* (Linnaeus, 1758)와 *Ypsolopha nigrofasciata* (Yang, 1977)를 우리나라에서는 처음으로 보고한다. 이 두 종의 진단형질, 기재, 분포, 기주식물, 성충사진 및 암컷 생식기 사진을 제시하였다.

검색어: 나비목, Ypsolophidae, *Ypsolopha vittella*, *Ypsolopha nigrofasciata*, 미기록종, 한국

The genus *Ypsolopha* Latreille 1796, belongs to the family Ypsolophidae, with over 140 described species worldwide. More than 70% of the ypsolophids are described from the Palaearctic and Oriental Regions (Jin et al., 2013). Latreille (1796) established *Ypsolopha* without a type or any associated species. Taxonomic study of this genus have been carried out by several researchers from the end of 18th to early 20th century: Fabricius (1798), Hübner (1826), Agassiz (1846), Walshingham (1881, 1889), Busck (1903, 1906), and Meyrick (1914-1938). Recently Moriuti (1964, 1977) studied 17 species of Japanese *Ypsolopha* and classified them into three groups based on fore- and hindwing venations, and the shape of labial palpus. Zagulajev (1989) provided 26 species for the European part of the former USSR. In Korea, a taxonomic study of *Ypsolopha* was carried out by Park (1983), who discovered four species from Korea: *Y. blandella*, *Y. yasudai*, *Y. strigosa*, and *Y. acuminata.* Later, *Y. longa* was recognized by Jeong et al. (1995). In 2001, Byun and Park described one new species, *Y. nigrimaculata*. Also, Byun and Bae (2001) reported 3 newly recorded species from Korea: *Y. cristata, Y. japonica,* and *Y. parenthesella*. Up to now, 14 species have been recorded from Korea including *Y. amoenella*, *Y. asperella*, *Y. contractella*, and *Y. acerella* which were recently reported from Korea (Sohn et al., 2010).

In this study, two *Ypsolopha* species, *Ypsolopha vittella* (Linnaeus, 1758) and *Y. nigrofasciata* Yang, 1977, are recorded from Korea for the first time. *Ypsolopha vittella* is distributed in the Palaearctic region, while *Y. nigrofasciata* was recorded

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only from China and the Far East of Russia. The Diagnosis, description, distribution, host plants, adult photographs, and pictures of female genitalia are provided.

Materials and Methods

Specimens examined are based on materials collected from Korea. The specimens were mostly collected using by light traps with a mercury vapor lamp (200V/ 200W). Abbreviations used herein are as follows: TL, type locality; GW, Gangwon Province; GN, Gyeongnam Province; INU, Incheon National University. All of the specimens were deposited at Incheon National University (INU), Incheon, Korea.

Taxonomic accounts

Family Ypsolophidae Guenée, 1845

Subfamily Ypsolophinae Guenée, 1845

***Ypsolopha vittella* (Linnaeus, 1758) 수염좀나방(신칭)**

Phalaena Tinea vittella Linnaeus, 1758: 538; Linnaeus, 1761: no.1366; Gmelin, 1790: 890. TL: Europe (Sweden).

Phalaena Tinea vitella (Linnaeus) [sic]: Linnaeus, 1767: 890.

Tinea sisymbrella [Denis & schiffermüller], 1775: 140.

Tinea maurella [Denis & Schiffermüller], 1775: 142; Fabricius, 1787: 244.

Alucita vittella (Linnaeus): Fabricius, 1775: 668; Fabricius, 1781: 307; Fabricius, 1787: 254; Fabricius, 1794: 332.

Phalaena Tinea maurella: Gmelin, 1790: 2591.

Alucita dorsella Fabricius, 1794: 336.

Ypsolophus vittatus Fabricius, 1798: 506 (amended spelling for *vittella* Linnaeus).

Ypsolophus dorsatus Fabricius, 1798: 507 (amended spelling for *dorsella* Fabricius).

Yposophus unguiculatus Fabricius, 1798: 506.

Anadetia vitella (Linnaeus) [sic]: Hübner, 1826: 405.

Galanthia maurella [Denis & Schiffermüller]: Hübner, 1826: 417.

Ypsolophus vittellus (Linnaeus): Moriuti, 1964: 198; Friese, 1966: 456; Zagulajev, 1989: 487.

Chatochilus maurellus [Denis & Schiffermüller]: Stephens, 1834: 340.

Cerostoma vittella (Linnaeus): Rebel, 1901: 138; Meyrick, 1914: 57; Caradja, 1920: 93; Meyrick, 1928: 801; Issiki, 1957: 21.

Cerostoma dorsimaculella Kearfott, 1907: 211; McDunnough, 1939: 89.

Cerostoma vittellum (Linnaeus): Spuler, 1910: 450; Matsumura, 1931: 1103; Hering, 1932: 42.

Ypsolophus vittella (Linnaeus): Pierce & Metcalfe, 1935: 86; Inoue, 1954: 35.

Cerostoma vitella (Linnaeus) [sic]: Meyrick, 1938: 23; Werner, 1958: 71.

Cerostoma vitellum (Linnaeus) [sic]: Heddergott & Weidner, 1953: 36.

Ypsolopha vittellus (Linnaeus): Moriuti, 1977: 78; Moriuti, 1982: 208.

Ypsolopha vittella (Linnaeus): Kuzmits, 2003: 65; Baraniak & Vives, 2005: 325; Sohn et al., 2010: 34; Gershenson & Kozhevnikova, 2013: 117.

Diagnosis.

This species is very similar to *Y. japonica* Moriuti, 1964, superficially, but can be distinguished by its very short ductus

1 2

Figs. 1-2. Adults, 1. *Ypsoiopha vittella* (Linnaeus); 2. *Ypsolopha nigrofasiciata* Yang.

bursae. In addition, *Y. vittella* has basal half of the corpus bursae sclerotized (Moriuti, 1964) while *Y. japonica* has this membranous.

Adult (Fig. 1). Wingspan 18-20 mm. Vertex rough, whitish gray, mixed with dark gray, elongated narrow scales, frons whitish gray, smoothly scaled, dark gray around compound eyes. Antenna filiform; scape whitish gray; each subsegment of flagellum dark gray, with white tip. Labial palpus antrorse, pointed terminally; whitish gray, with tuft on ventral surface of second segment. Thorax gray, with one indistinct dark gray longitudinal line; tegula whitish gray. Fore- and mid-legs white, spotted with black-brown; tarsi dark fuscous, mixed with whitish scales. Hind leg femur white; tibia to tarsus white, sprinkled with pale brown. Forewing apex acutely produced; ground color pale gray, scattered with black or pale brown; dorsum forming a longitudinal irregular dark patch from near base to near tornus; apex with a black spot; cilia whitish gray. Hindwing with cilia pale grayish brown.

Female genitalia (Figs. 3, 3a).

Papilla analis semi-ovate. Apophysis posterioris 1.8 times as long as apophysis anterioris. Apophysis anterioris branched at base. Ductus bursae similar to antrum in length, membranous, with bulla seminalis. Corpus bursae elongate, ovate, with sclerotized basal half; signum bean pod-like, straight at middle, with two transeverse ridges.

Material examined.

[GW]1♀, Geomryong-so, Changjuk-dong, Taebaek-si (37°13' 43.01"N, 128°55'30.73"E), 8.VIII.2014, coll. Y. D. Ju, M. J. Qi, Aya, B. U. and S. Orgilbold, genitalia slide no. INU-4563.

Host Plants.

Unknown in Korea. In Europe, *Ulmus* spp. (Ulmaceae), *Fagus* and *Quecus* spp. (Fagacaeae), and *Lonicera* (Caprifoliaceae) (Spuler, 1910; Zagulajev, 1989 and Agassiz, 1996).

Distribution.

Korea (GW), Japan (Hokkido and Honsyu), China (Hebei, Heilongjiang, Jilin and Qinghai Province), Asia Minor, Mid-East, Asia, and Europe.

Remark.

Only one female specimen has been collected from Gangwon Province, Korea.

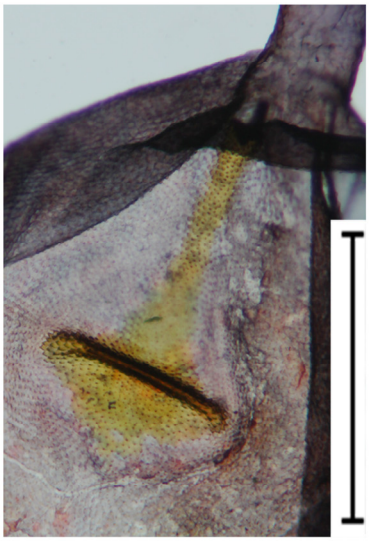
***Ypsolopha nigrofasciata* Yang, 1977 세줄수염좀나방(신칭)**

Ypsolopha nigrofasciatus Yang, 1977: 105. TL: China (Hebei).

Ypsolopha nigrofasciata Yang: Sohn et al., 2010: 24, 34; Ponomarenko & Zinchenko, 2013: 31.

Figs. 3-4. Female genitalia. 3. *Ypsolopha vittella* (Linnaeus), slide no. INU-4563; 4. *Ypsolopha nigrofasiciata* Yang, Genitalia slide no. INU-4547. Scale bar: 1 mm.

3a



4a

Figs. 3a-4a. Signum. 3a *Ypsolopha vittella* (Linnaeus); 4a. *Ypsolopha nigrofasciata* Yang. Scale bar: 0.5 mm.

Diagnosis.

This species has a unique wing pattern on forewing, divided into three longitudinal areas: the anterior third white, with 1/3 length of yellowish brown line basally, middle third brown darker toward base, mixed with pale brown at distal half and posterior third pale brown.

Adult (Fig. 2). Wingspan 23 mm. Vertex rough, with pale yellowish white, elongated narrow scales, frons white smoothly scaled, brown around compound eye. Antenna filiform; scape white; each subsegment of flagellum white on basal half, darkish brown on dorsal half. Labial palpus porrect, pointed terminally; tuft on ventral surface of second segment dark brown outside and white inside. Thorax white, with two faint yellowish brown longitudinal line, tegula pale brown. Foreleg femur white; tibia to tarsus white ventrally, pale brown dorsally. Mid- and hindleg white. Forewing apex acutely produced; anterior third white, with a yellowish brown horizontal streak on basal third; median third brown, darker towards base mixed with pale brown at distal half; posterior third pale brown. Hindwing and cilia pale grayish brown.

Female genitalia (Fig. 4, 4a)

Papilla analis semi-ovate. Apophysis posterioris 1.5 times as long as apophysis anterioris. Apophysis anterioris branched at base. Ductus bursae length 1.3 times longer than corpus bursae, tubular, membranous, with bulla seminalis. Corpus bursae semiovate; signum granulars round, straight at middle, with one transeverse ridge.

Material examined.

[GW] 1♂, 1♀, Mt. Daedeok-san, 8.VIII.1997, coll. Y. S. Bae and N. H. Ahn, genitalia slide no. INU-4547.

Host Plants.

Unknown

Distribution.

Korea (GW), China (Hebei), Russia (Far East).

Remark.

One male and female specimens have been collected from Gangwon Province, Korea. But male abdomen has lost.

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