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Discovery of the largest Plume-moth (Lepidoptera: Pterophoridae) from Korea

Sora Kim and Seunghwan Lee*

Laboratory of Insect Biosystematics, Department of Agricultural Biotechnology, Seoul National University, Seoul 08826, Republic of Korea

가장 큰 한국산 털날개나방(나비목: 털날개나방과)의 발견

김소라 · 이승환*

서울대학교 농생명공학부 곤충계통분류학실험실

ABSTRACT: In this study, we newly found the largest *Platyptilia* species, *P. nemoralis* Zeller from Korea. Illustrations of adult and genitalia are provided with information of host plant and distribution.

Key words: Lepidoptera, Pterophoridae, *Platyptilia*, Newly recorded species

초 록: 본 연구를 통해 한국에서 자생하는 털날개나방 중 가장 큰 종, *Platyptilia nemoralis* zeller가 새롭게 추가되었다. 그 성충의 외부 형질과 생식기 형질 특징이 기주식물과 분포 정보와 함께 제공되었다.

검색어: 나비목, 털날개나방과, 미기록종, 한국

The family Pterophoridae, commonly known as 'Plume moth' is easily recognized by the cleft wings. They are distributed all over the world comprising more than 1, 100 speies (Gielis, 2003).

Among them, the genus *Platyptilia* Hübner is the largest genus of the Pterophoridae comprising about 110 species majority from Afrotropical and Palaearctic, less than 15 species from Australasian, Neotropical, Oriental and Nearctic Regions (Gielis, 2003). However, only one species, *Platyptilia suigensis*, has been reported to date in Korea (Matsumura, 1931).

The *Platyptilia* is characterized by followings: i) forewing venation with radius vein I; ii) costal triangular patch at 2/3 of forewing dark brown color; iii) third lobe of hindwing bearing dense tufts (= scale-tooth); iv) male genitalia with symmetircal and lanceolate valva; v) female genitalia with horn-shaped signa.

In this study, we newly added the species of *Platyptilia*, *P. nemoralis*, from the south part of Korea. Illustrations of adult and female genitalia were provided with information of host-plant and distribution.

Material and methods

This study is based on specimens deposited in the Korea National Arboretum (KNA), Pocheon, Korea. For examination, all slide vouchers of abdomen and genitalia were made by the first author and then, they were taken by digital camera, Diagnostic Instruments, Inc. 14.2 Color Mosaic attached on the microscope, Leica DM 400B at a resolution of 600 dpi. The color standard for the description of adults follows Kornerup and Wanscher (1978).

Results

Genus ***PLATYPTILIA*** Hübner, [1825]

Platyptilia Hübner, [1825]: 429.

***Corresponding author:** seung@snu.ac.kr
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Platyptilus Zeller, 1841: 764

Fredericina Tutt, 1905: 37

Type species. *Alucita gonodactyla* [Denis & Schiffermuller, 1775], subsequent designation by Tutt (1905).

***Platyptilia nemoralis* Zeller, 1841 금방망이털날개나방 (신칭)**

Platyptilia nemoralis Zeller, 1841: 778.

Platyptilia nemoralis var. *saracenica* Wocke, 1871: 3127.

Platyptilia grafii Zeller, 1873: 139.

Platyptilia sinuosa Yano, 1960: 137.

Diagnosis (Fig. 1). This species has the largest wingspan among the Korean and Japanese Pterophoridae. It is easily distinguished by following morphological characters: i) largest sized wingspan about 34mm; ii) brownish yellow forewing ground color with dark brown costal triangular patch and terminal line near to termen iii) scale-tooth placed at 2/3 on the 3rd lobe of hindwing.

Female genitalia (Fig. 2). Papilla anales setose. Apophyses posteriores very long, twice than the length of the eight sternum; the terminal tips gradually inflated. Apophyses anteriores very short, 1/4 length of apophyses posteriors. Lamella postvaginalis triangular-shaped with two lateral small lobes; the lobes bearing dense setose. Antrum narrow. Ductus bursae membraneous, narrow, gradually broaden towards corpus bursae. Corpus bursae circular-shaped, bearing two horn-shaped signa.

Material examined. Three females: two females, Suncheon, Jeonlanam Prov., 28. viii. 1971, gen. slide no. 8040/S. Kim; one female, Mt. Baekwoon, Gwangyang, Jeonlanam Prov., 22. viii. 2007, gen. slide no. 8160/S. Kim.

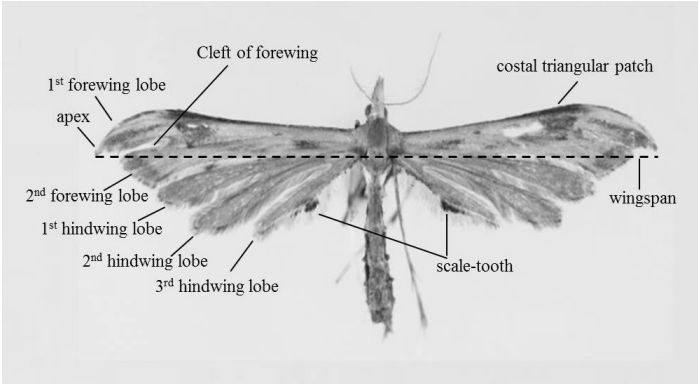

Fig. 1. Adult of *Platyptilia nemoralis*.

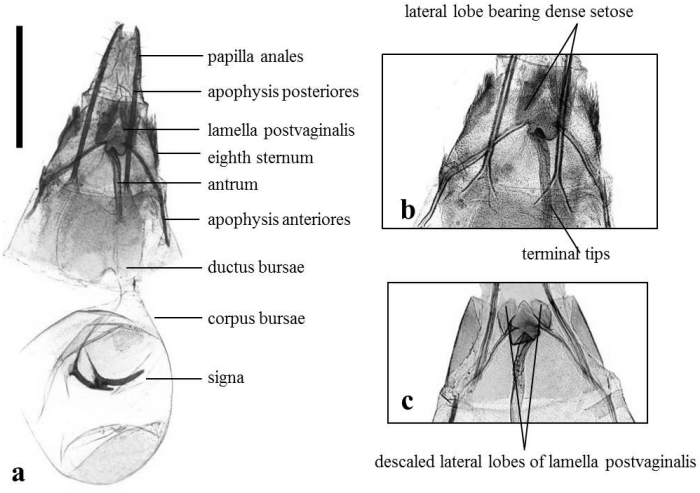

Fig. 2. Female genitalia of *Platyptilia nemoralis*. a: female genitalia (gen. slide no. 8160), b: lamella postvaginalis (Lp) and terminal tips of apophysis posteriores in detail, c: descaled lateral lobes of Lp (gen. slide no. 8040). Scale bar: 1.0 mm.

Hostplant. *Senecio fuchsii* Gmelin, *S. fluviatilis* Wallr., *S. sarracenicus* L., *S. nemorensis* L (Asteraceae). (Matthews and Lott, 2005).

Distribution. Palaearctic: Korea (South: Jeolanam Prov.) (this study), Japan (Hokkaido, Honshu) (Yano, 1963), Russia (Sakalin region, Kuril Is. Primorskii region) (Sinev, 2008), Europe (Gielis, 2003).

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