

# First record of *Alloclita* Staudinger, 1859 (Lepidoptera, Cosmopterigidae) from Korea

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## 창날개뿔나방과 모래창날개뿔나방속(*Alloclita* Staudinger, 1859)의 국내 첫 기록

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**ABSTRACT:** A cosmopterigid species, *Alloclita mongolica* Sinev is reported for the first time from Korea. This is the first record of the genus *Alloclita* Staudinger for the Korean fauna and the southernmost records of *A. mongolica*. The collecting data of the species in Korea suggest a habitat association of *A. mongolica* with coastal sand-dunes. The features of external appearance and male genitalia are described and illustrated for this rare species.

**Key words:** Cosmopterigidae, Korea, Lepidoptera, New records, Taxonomy

**초 록:** 창날개뿔나방과의 모래창날개뿔나방(*Alloclita mongolica* Sinev)을 국내에서 처음으로 보고한다. 본 보고는 모래창날개뿔나방속(*Alloclita*)의 국내 첫 기록이며, 모래창날개뿔나방의 세계 분포 상 최남단 기록이기도 하다. 국내 채집기록으로 보아 모래창날개뿔나방은 주로 해안사구에서 식하는 것으로 보인다. 이 희귀종의 외부 형태 및 수컷 생식기의 특징을 기술하고 사진을 도시하였다.

**검색어:** 창날개뿔나방과, 한국, 나비목, 미기록, 분류

The genus *Alloclita* was once assigned to Oecophoridae (Fletcher, 1929), but later transferred to Cosmopterigidae by Kasy (1969). Sinev (1985) agreed the latter opinion and further assigned it to the subfamily Antequerinae, based on its close affinity with *Pancalia*. Adults of *Alloclita* are small to medium in size and can be recognized by the presence of a broad, contrasting antemedian fascia on the rather broad forewings in comparison with most other Cosmopterigidae, and only slightly asymmetrical male genitalia. The published information on life

history is limited to only one congener, *A. francoeuriae* Walsingham, 1905, whose larvae feed on Asteraceae (Walsingham, 1905; Koster and Sinev, 2003).

The *Alloclita* comprises 17 species exclusively from the Old World (Sinev, 2002; Koster et al., 2020). Many of these occur in drylands or deserts in the Mediterranean areas (Koster et al., 2020), hinting their preference on arid environments. Only the nine congeners are distributed in the Palearctic region. Of them, *A. mongolica* Sinev, 1993 is the only species of *Alloclita* still known in the East Asia. It was originally described from eastern Mongolia (Sinev, 1993) and then was found in the southern part of the Primorsky Territory in Russia (Sinev, 2008). In the present study, we report this species from the

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coastal sand-dunes along the western coastline of South Korea.

## Material and methods

The specimens examined were collected in the first author's field trips to explore the Lepidopteran fauna of the coastal sand-dunes in South Korea. All of them have been deposited in two institutional collections in Korea: the Gongju National University of Education, Gongju (GJUE) and the National Institute of Biological Resources, Incheon (NIBR). The Korean specimens were compared to the type series of *Alloclita mongolica* Sinev by the second author. Genitalia were dissected following Clarke (1941) except chlorazol black and Euparal resin used for staining and slide mounting, respectively. Terms for genitalia follow Koster and Sinev (2003).

## Taxonomic Accounts

### *Alloclita* Staudinger, 1859

*Alloclita* Staudinger, 1859: 247. Type species: *Alloclita recisella* Staudinger, 1859.

*Proceleustis* Meyrick, 1914: 267. Type species: *Proceleustis paraphracta* Meyrick, 1914.

*Dhahrania* Amsel, 1958: 78. Type species: *Dhahrania*

*fasciella* Amsel, 1958.

### *Alloclita mongolica* Sinev, 1993 모래창날개벌나방 (Figs. 1A–C)

*Alloclita mongolica* Sinev, 1993: 135. Type locality: Mongolia, Dornod Province, Terkhiin Tsagaan Lake.

**Description** (Fig. 1A). Head - Vertex and frons pale yellowish gray. Antenna 2/3 as long as forewing; scape pale yellowish brown; flagellomere pale grayish brown in basal half, dark grayish brown in distal half. Labial palpus slightly upcurved; 1<sup>st</sup> segment dark grayish brown; 2<sup>nd</sup> segment white, tinged with dark grayish brown on basal 1/3 and subapical area of ventral side; 3<sup>rd</sup> segment white, tinged with dark grayish brown ventrally. Thorax - Patagium pale yellowish gray; tegula dark yellowish gray, tinged with pale yellow in posterior 1/3; mesonotum grayish brown, tinged with pale yellowish gray laterally. Forewing length 5-5.5 mm, gray or dark gray, acuminate apically; antemedian line broad, pale orange, intermixed with pale-gray and reddish-brown scales in some individuals, accompanied with dark brown, angulate line along anterior and posterior margins; postmedian line zigzagged, pale orange, intermixed with reddish-brown scales in some individuals; discal spot small, black; apical patch pale orange; cilia brownish gray.

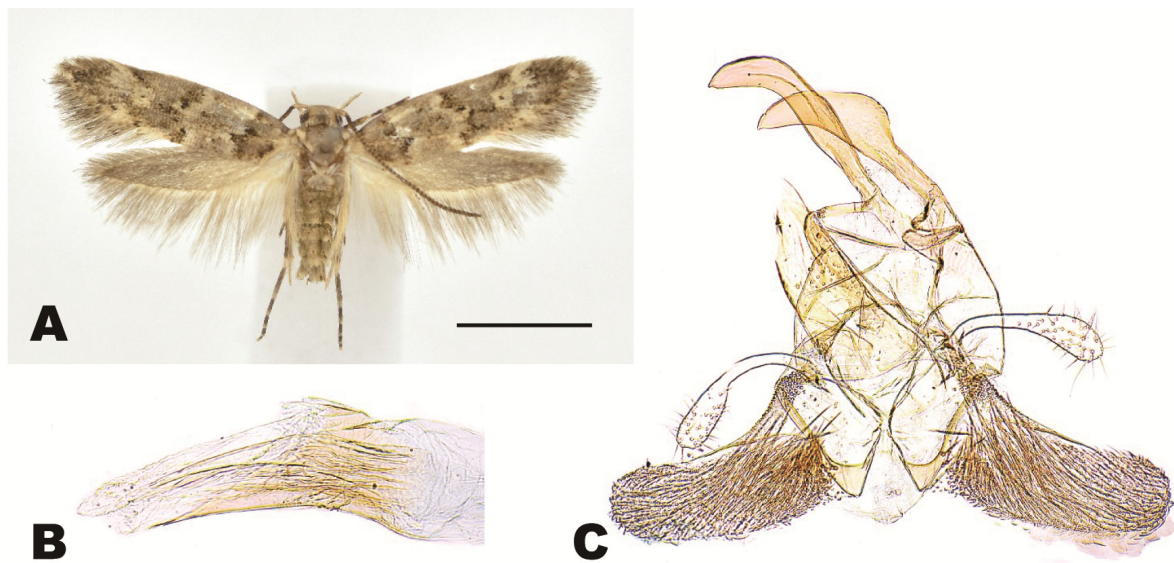


Fig. 1. *Alloclita mongolica* Sinev. A: habitus, male (scale bar = 3 mm); B: phallus, SJC-1213; C: male genital capsule, SJC-1213.

Hindwing pale fuscous; fringe pale grayish orange. Abdomen pale grayish orange dorsally, pale yellow ventrally. Male genitalia (Figs. 1B, 1C) - Brachia elongate, as long as tegumen, falcate, enlarged in distal 2/3; right brachium broader than left one in distal 2/3. Tegumen broadly round laterally. Valva elongate, slightly curved dorsad, slightly emarginated at basal 1/7 of ventral margin, densely setose in distal 3/4, round apically; sacculus triangular, accompanied with elliptical basal cavity; costal process dilated apically, sparsely setose in distal half. Anellus as long as brachium, tapered to apex, sclerotized. Vinculum narrowly round distally. Phallus (Fig. 1C) stout, oblique apically, with horn-like sclerotized zone inside.

**Material examined.** 2♂, Chunnam Prov., Seochon-gun, Seo-myeon, Sinhap-ri sand-dunes (36°08'47.6"N 126°32'33.6"E), 20 June 2020 (JC Sohn), genitalia slide number: SJC-1213, GJUE & NIBR. 1♀, Jeonnam Prov., Sinan-gun, Is. Jaeundo, Jaeun-myeon, Gojang-ri, Oegi sand-dunes (34°53'44.5"N, 126°00'27.4"E), 16 July 2017 (JC Sohn), GJUE.

**Distribution.** Korea (new record), Russia (Primorsky Territory), Mongolia (Dornod Province).

**Biology.** All known localities of *A. mongolica* represent sandy places (dunes) in the littoral zone: of the Terkhin Tsagaan and Buir lakes in Mongolia, the Lake Khanka in Russia, and the Yellow Sea in Korea. The larval life style and host plants remain unknown; in other species of the genus *Alloclita*, the larvae make silky galleries covered with sand at the crown of roots of the xerophilous Asteraceae and Fabaceae.

**Remarks.** The Korean populations of *A. mongolica* exhibited no significant differences from the Mongolian and Russian ones. It is recognized as one of the littoral lepidopterans in Korea. The species is closely related to *A. delozona* Meyrick, 1919, the latter known from Egypt, Saudi Arabia, United Arab Emirates, Pakistan and India.

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## Statements for Authorship Position & contribution

Sohn, J.C.: Gongju National University of Education, Professor; performed overall procedures of research and wrote the manuscript

Sinev, S.Y.: Zoological Institute of the Russian Academy of Sciences, Researcher; helped examining the specimens and writing the manuscript

All authors read and approved the manuscript.

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