

A Newly Known Genus *Charitoprepes* Warren (Lepidoptera: Pyraloidea: Crambidae) in Korea, with Report of *C. lubricosa* Warren

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한국산 *Charitoprepes* 속 (나비목: 명나방상과: 포충나방과의 1 미기록종 보고

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ABSTRACT: The genus *Charitoprepes* (Warren), a probable vagrant group of the family Crambidae is newly recorded for the first time from the Korean Peninsula, which was described based on *C. lubricosa* (Warren) from Jeju islands. Diagnosis and illustrations of detailed diagnostic characters, including genitalia are provided.

Key words: *Charitoprepes*, New record, Crambidae, Lepidoptera, Korea

초록: 본 연구를 통해 제주도에서 채집된 포충나방과의 *Charitoprepes* (Warren)에 속하는 1종, *Charitoprepes lubricosa* (Warren)을 우리나라에 처음으로 보고한다. 이들의 외부형태적 특징 및 중 동정에 필요한 성충과 수컷 생식기 이미지를 함께 제시한다.

검색어: *Charitoprepes*, 미기록속, 포충나방과, 나비목, 한국

The family Crambidae (Lepidoptera), belonging to the superfamily Pyraloidea (Lepidoptera), is commonly known as “grass moths” due to their peculiar shape during resting with their wings folded roof-like over the abdomen, and taking up closely on grass stems, where they are inconspicuous. This family Crambidae is subdivided into 17 subfamilies (Solis, 2007), with more than 9,655 species classified into 1,020 genera worldwide (Beccaloni et al., 2005; Nuss et al., 2010). It is a cosmopolitan family, with 219 species known from Korea (Bae et al., 2008),

535 species from Japan (www.jpmoth.org), and more than 2,000 species from China (pers., comm), while 1,158 species known from Europe (Karsholt and Razowski, 1996: including Pyralidae).

We report the genus *Charitoprepes* Warren, a vagrant crambid species new to Korea, which was found during the survey of the subtropical-moths was done from the southern part (Jeju islands) of Korea. The genus *Charitoprepes* Warren is a monotypic genus, belonging to the subfamily Pyraustinae. Type species for the genus is *C. lubricosa* Warren, which was described from Khasis, India and the species has mainly been distributed in India and Japan. The genus is characterized by the following: Head and vertex covered with brownish yellow scales; labial palpi short,

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strong, rounded and upturned; maxillary palpi imperceptible; antenna filiform, five-sixth of forewing. Forewing elongate; costa straight, becoming convex towards apex; two stigmata presented at ends of subterminal fascia; posterior margin oblique, slightly concave below. Hindwing with posterior margin entirely curved, slightly perceptible band at the end of postmedian fascia; large discal spots presented. Legs are rather long and weak.

In this study, we report on the crambids genus *Charitoprepes* from the Korean Peninsula for the first time. The morphological information with illustrations based on male genitalia is provided to help for identification.

Materials and Methods

The specimens examined in this study were collected in Jeju islands, southern part of the Korean Peninsula in 2013 by using bucket traps and ultra violet lamps (12V/8W) at night. Morphological structures and genital characters were examined under a stereo microscope (Leica S8APO), and a Nikon D90 and Carl Zeiss Axio Imager M2 were used for a digital photography. Color standard for the description of adults was based on Methuen Handbook of Color (Kornerup and Wanscher, 1978). Specimens examined are deposited in the Plant Quarantine Technology Center, Animal and Plant Quarantine Agency (QIA).

Systematics

Order Lepidoptera Linnaeus, 1758

Family Crambidae Latreille, 1810

Subfamily Pyraustinae Meyrick, 1890

Genus *Charitoprepes* Warren, 1896

Type species: *Charitoprepes lubricosa* Warren, 1896

Charitoprepes lubricosa Warren, 1896 (Fig. 1)

Charitoprepes lubricosa Warren, 1896; Ann. Mag. Nat. Hist. 17: 136. Type locality: Khasis, India.

Heterocnephes lubricosa Warren, 1896

Diagnosis. This species is not externally similar to the species, so it can be easily distinguished from other species by the presence of a dark brown spot following fuscous scales beyond four-fifth of forewing and two dark brown stigmata close to median fascia.

Adult (Figs. 1a-b). Wingspan 32.0 mm. Head: frons shiny white; vertex brownish yellow. Antenna filiform with brownish yellow. Labial palpus white; second and third segment tinged with dark brown. Thorax: Thorax and tegula more or less white dorsally. Forewing ground color grayish brown, with well-developed dark brown orbicular and reniform stigma, surrounded by fuscous scales; fringes pearly grey, rarely mixed with brownish scales; a dark brown patch at apex of forewing; cilia tipped with brown. Hindwing grayish brown, with dark brown discal stigma; fringes like forewing, with a distinct dark basal and postmedian fascia. Abdomen: Abdomen grayish brown. Legs: Legs white; hind tibia whitish with a pair of tibial spurs; tarsus white tinged with shiny white, about 1.5 times longer than tibia.

Male genitalia (Figs. 2a-b). Gnathos elongated, very long and straight, with round apex; uncus membraneous, as long as

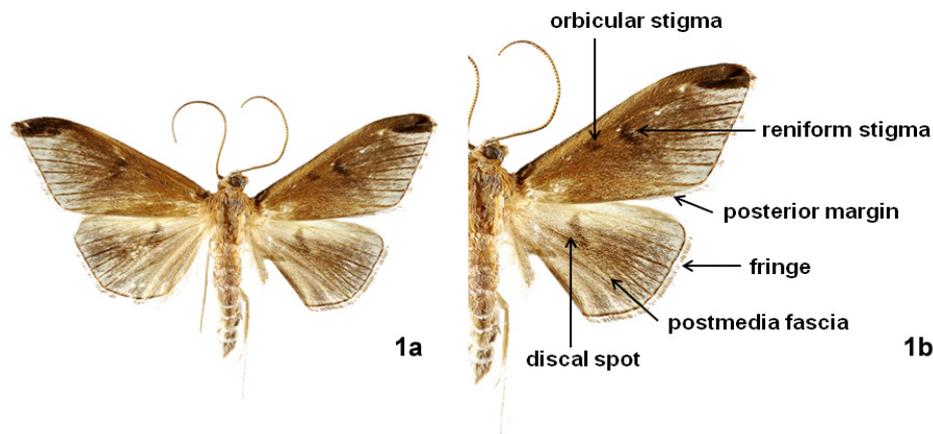


Fig. 1. *Charitoprepes lubricosa* (Warren). 1a. adult; 1b. diagrammatic dorsal views of wing pattern.

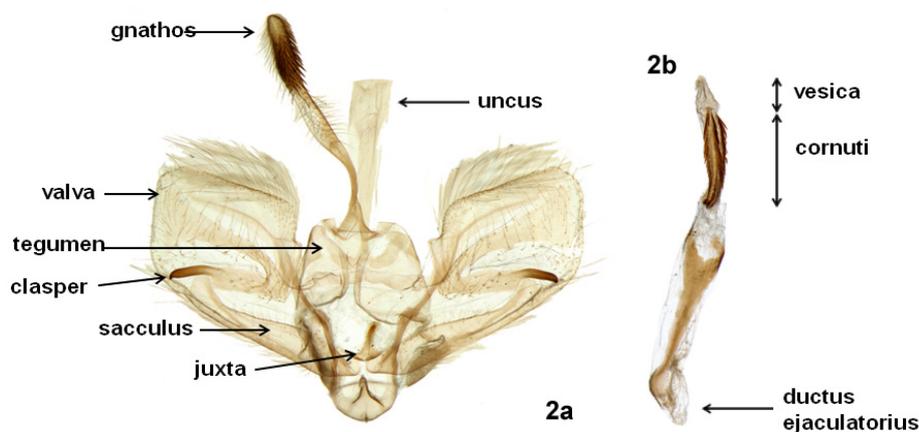


Fig. 2. Male genitalia of *Charitoprepes lubricosa* (Warren). 2a. diagram of male genitalia; 2b. aedeagus.

gnathos. Tegumen sclerotized, well-developed. Valva broad basally, costal margin strongly sclerotized; apex rounded, more or less angular; covered densely with hairs. Sacculus sclerotized, gradually thinner; juxta small; clasper very well-developed, with strong pointed apical process stout, falcate-like. Aedeagus slender, as long as genitalia; cornutus present and one-third length of aedeagus.

Female genitalia. Unavailable in this study.

Specimens examined. Is. Jeju- 7♂, Seonhol-ri, Jocheon-eub, Seogwipo-si, 4.vi.2013, 28.viii.2013 (YK Hyun & RN Sohn), genitalia slide no. QIA- 76, 88, 89; 2♂, Sanghyo-dong, Seogwipo-si, 4.vi.2013 (YK Hyun & RN Sohn); 1♂, Hannam-ri, Namwon-eub, Seogwipo-si, 12.ix.2013 (YK Hyun & RN Sohn).

Host plant. No host plant has been known.

Biology. It is known that moths appear from May to September in Japan (Jinbo et al., 2003-2014).

Distribution. Korea (new record), Japan (Honshu, Shikoku, Kyushu, Tsushima, Yakushima), India.

Remarks. The moth was reported in Honshu and southward, and even its possible distributional spread to Japan. Based on male specimens, we can't at this point give any evidence about the invasion of this species in Korea. Therefore, we tentatively treated the species as an accidental migrant or vagrant species. However, its possible establishment and spread in the Korean fauna can't be ruled out. Thus, it is very important to our weather conditions and further study on the surveillance of this species is needed, considering its possible status as a pest insect.

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