

## A New Record of *Perixera punctata* (Lepidoptera: Geometridae) from Korea

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### ABSTRACT

A sterrhine species, *Perixera punctata* (Warren) is reported for the first time from Korea. One male and one female were collected from Jeju Island, South Korea. *Perixera punctata* can be distinguished by the long bipectinate male antennae, the blackish discal dot and a large dark grayish dot on the subcosta of the forewings and a large dark brownish discal dot and blackish undulating postmedial line on the hindwings. In the male genitalia, a long slender valva with two arm-shaped costal processes is a distinguishing character. In the female genitalia, long and medially twisted ductus bursae with a colliculum, and large, ovate corpus bursae with minute dots are distinguishing characters. Diagnosis and description of the species are given with figures of the male and female genitalia.

**Keywords:** Lepidoptera, Geometridae, Sterrhinae, *Perixera punctata*, taxonomy, Korea

### INTRODUCTION

The genus *Perixera* Meyrick was designated based on *Perixera prionodes* Meyrick as the type species and comprises about 80 species mostly from Indo-Australian region (Holloway, 1997; Scoble, 1999). The species of *Perixera* show variable wing pattern and relatively delicate fascination and they are distinguished from *Anisodes* Gueneé (a junior synonym of *Cyclophora* Hübner) by a pair of coremata on the fourth sternite, the coremata between the eighth sternite and the genitalia, a convolute aedeagus apex, the convolution involving the insertion of the ductus ejaculatorius, broad uncus with bifid or serrate, a broad and well developed costal process of valva, often bilaterally asymmetric, the weak or vestigial saccular process and shortening of the hind tibia (Holloway, 1997).

The present study describes a sterrhine species, *Perixera punctata* (Warren), for the first time in Korea. Two specimens were collected at the southern slope of Mt. Halla-san, Jeju-do. Examination of adults including the male and female genitalia refers to Scoble (1992). Abbreviations are as follows: TL, type locality; JJ, Province Jeju-do.

### SYSTEMATIC ACCOUNTS

Order Lepidoptera Linnaeus, 1758  
Family Geometridae Stephens, 1829  
Subfamily Sterrhinae Meyrick, 1892  
Genus *Perixera* Meyrick, 1886

#### <sup>1</sup>\**Perixera punctata* (Warren, 1897) (Figs. 1, 2)

*Pisoraca punctata* Warren, 1897: 22 (TL: North Queensland).  
*Anisodes punctata interpolis* Prout, 1938: 166, pl. 19: a (TL: [Sulawesi] Paloe, Tompoe, 2,700 ft; Rangkoenau, 1,800 ft).

*Perixera punctata calciphila* Holloway, 1997: 59 (TL: Sarawak; Gunung Mulu National Park, G. Api Pinnacles, 1,200 m).

**Material examined.** Korea: [JJ]: 1♂, Seogwipo-si, Tamna Univ. Campus, 33° 18' 19.99"N, 126° 34' 09.20"E, 16 Jul 2010, Kim SS; 1♀, Seogwipo-si, Natural Recreation Forest, 28 Sep 2003, Kim SS.

**Diagnosis.** This species can be distinguished by the bipectinate male antennae with long rami, broad, trapezoidal, whit-

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ish frons, long and laterally reddish labial palpi, reddish foreleg and midlegs, whitish body, light brownish forewings with blackish discal dot, a relatively large dark grayish dot on the subcosta between the postmedian and subtermen and blackish dots along the postmedial line and light brownish hindwings with a large dark brownish discal dot and blackish undulating postmedial line. In Korea, this species is externally similar to *Organopoda carnearia* (Walker), but can be distinguished based on the bipectinate male antennae, light brownish and shorter wingspan and the dark brownish dot on the

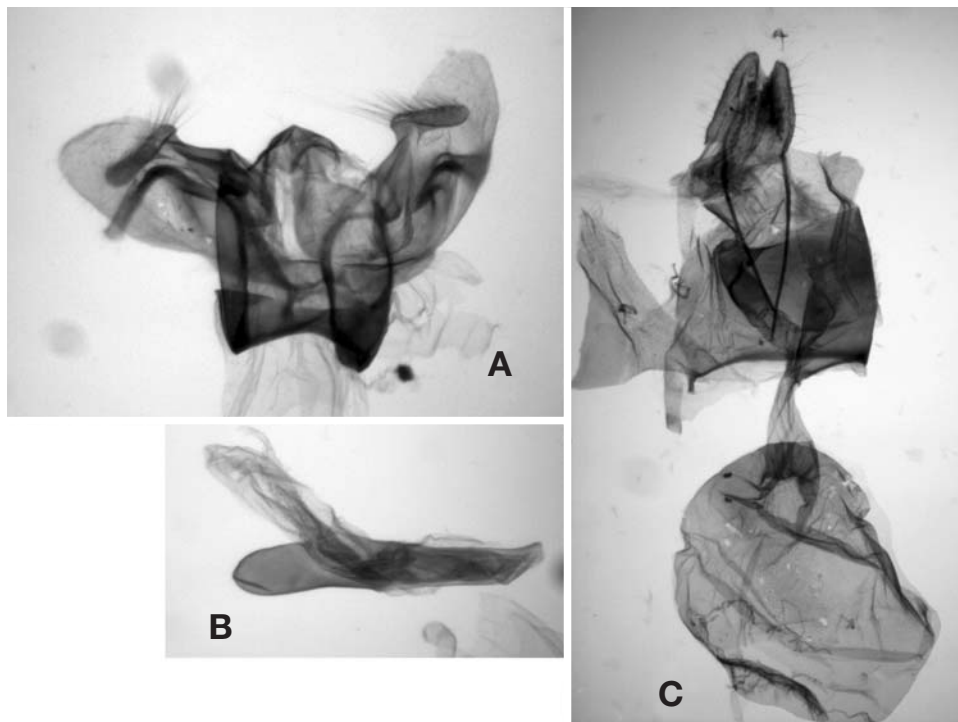
subcostal of the forewing. The male genitalia can be distinguished by the missing uncus, short tegumen and long slender valva with two arm-shaped medially bent costal processes, one digitate process apically expanded and another process apically hairy. The female genitalia can be distinguished by the minute anterior apophyses, long posterior apophyses, narrow antrum, long and medially twisted ductus bursae with a colliculum, and large, ovate corpus bursae of which the inner wall is covered with minute dots at larger areas.

**Description (Fig. 1).** Wingspan 19-21 mm. Antennae in male bipectinate with long rami, female filiform; frons broad, trapezoidal, covered with whitish scales; labial palpi long, almost three times of eye diameter, projected forward, laterally reddish. Body covered with whitish scales. Legs reddish or dark ochreous and white mixed scales. Forewing ground color light brown; basal line light blackish, projected at middle; discal dot blackish; postmedial line dark grayish, undulating; a relatively large dark grayish dot on subcosta between postmedian and subtermen; subtermen with blackish dots along postmedian; termen with black dots along terminal line; single areole. Hindwing ground color light brown; basal line blackish, weakly appearing; discal dot large dark brownish; postmedial line blackish, undulating; termen with a blackish undulating terminal line.



**Fig. 1.** Adult of *Perixera punctata* (Warren) from Korea.

**Male genitalia (Fig. 2A, B):** Abdominal segment A4 and A8



**Fig. 2.** Male and female genitalia of *Perixera punctata* (Warren) from Korea. A, Male genital capsule; B, Aedeagus; C, Female genitalia.

simple, broad without modification. Uncus absent; tegumen triangular, short, about one third of vinculum; transtilla simple, membranous; juxta broad; saccus broad, bridge-shaped. Valva long, slender; costa with two arm-shaped process, a ventral process medially bent and apically strongly expanded, a dorsal process medially bent and apically hairy; sacculus short, weakly sclerotized, dorsal margin with minute hairs. Aedeagus slender, distally sclerotized; vesica membranous, tubular; cornutus a minute process.

**Female genitalia (Fig. 2C):** Papillae anales projected. Anterior apophyses minute, posterior apophyses very long. Antrum narrow and membranous; ductus bursae long, narrow, twisted medially, colliculum present; corpus bursae large, ovate, membranous, inner wall largely covered with minute dots.

**Distribution.** Korea, China (Hong Kong), Mindanao, Borneo, Sulawesi, New Guinea, and Queensland.

## ACKNOWLEDGMENTS

This study was supported by the project on the survey and excavation of Korean indigenous species of the National

Institute of Biological Resources (NIBR) under the Ministry of Environment, Korea.

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Received December 23, 2011  
Revised January 3, 2012  
Accepted January 6, 2012