

A Larentiine Species, *Eschatarchia lineata* (Lepidoptera: Geometridae) New to Korea

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ABSTRACT

Eschatarchia lineata Warren, the sole member of the genus, is reported for the first time in Korea. Diagnosis of the genus and species is provided with brief descriptions of adults including male genitalia.

Key words: Larentiinae, Geometridae, Lepidoptera, Korea, *Eschatarchia lineata*, taxonomy

INTRODUCTION

Eschatarchia Warren of the tribe Asthenini Warren, is a monotypic genus widely spread from Myanmar, western China, and Taiwan to Japan (Scoble, 1999; Xue and Scoble, 2002). Warren (1894) erected the genus based on *Eschatarchia lineata* Warren from Japan. Inoue (1970) described the subspecies *formosana* for Taiwanese population because they have the more deeply incurved submarginal dark line on forewing and the more pronounced angle of the termen. Xue and Scoble (2002), however, synonymized this subspecies because the above diagnosing characteristics are also observed in the Japanese specimens. Up to now one species is known from the world, but Prout (1938) and Xue and Scoble (2002) mentioned a possible new species from North Myanmar and west China based on the specimens having a distinct median band on the underside of both wings, a narrow left sacculus lobe and a relatively weak and small bundle of main cornuti in the male genitalia.

In the present paper, *Eschatarchia lineata* is reported for the first time in Korea. A male specimen used in this work was collected by UV light trap and is deposited in the Mokpo National University, Muan, Korea. Nomenclature for adult morphology and genitalia follows Xue and Scoble (2002).

SYSTEMATIC ACCOUNTS

Order Lepidoptera Linnaeus, 1758
Family Geometridae Stephens, 1829
Subfamily Larentiinae Duponchel, 1845
Genus *Eschatarchia* Warren, 1894

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Eschatarchia Warren, 1894, p. 395. Type species: *Eschatarchia lineata* Warren, 1894.

Diagnosis. Moths of *Eschatarchia* have minute palpi, projecting slightly beyond head, and forewing with strong markings at termen that angled at M_3 and crenulated from apex to angle, nearly straight below angle and hind wing with dark brownish termen with medially pointed tip. The male genitalia are distinguished by the large saccus, broad and long labides with expanded head, medially slightly constricted juxta, broad asymmetrical valva with sclerotized sacculus and aedeagus with patch of cornuti and three sclerotized plates. The female genitalia are distinguished by the short apophyses anteriores, strongly sclerotized ducuts bursae and corpus bursae almost entirely covered with minute denticles and radiating denticles of signum (Xue and Scoble, 2002).

¹**Eschatarchia lineata* Warren (Fig. 1)

Eschatarchia lineata Warren, 1894, p. 395. Type Locality: JAPAN (No specific location).

Hydrelia angularia Leech, 1897, p. 82. Type Locality: JAPAN: Gifu, Nagasaki.

Hydrelia lineata: Prout, 1914, p. 269.

Eschatarchia lineata formosana Inoue, 1970, p. 2. Type Locality: TAIWAN: Nan-Tow, Wushe.

Material examined. Jeollanam-do, 1♂ Waenarodo Is.; Goheung E 127° 28'06" N 34° 27'50" 74 m a.s.l., 22. May 2007 (Choi SW).

Diagnosis. This species is distinguished by the markings of termen of both wings: dark brown crenulated apical streak and triangular marking of forewing and narrow band-shaped termen of hindwing. The male genitalia are distinguished by

¹*큰귀무늬물결자나방 (신칭)

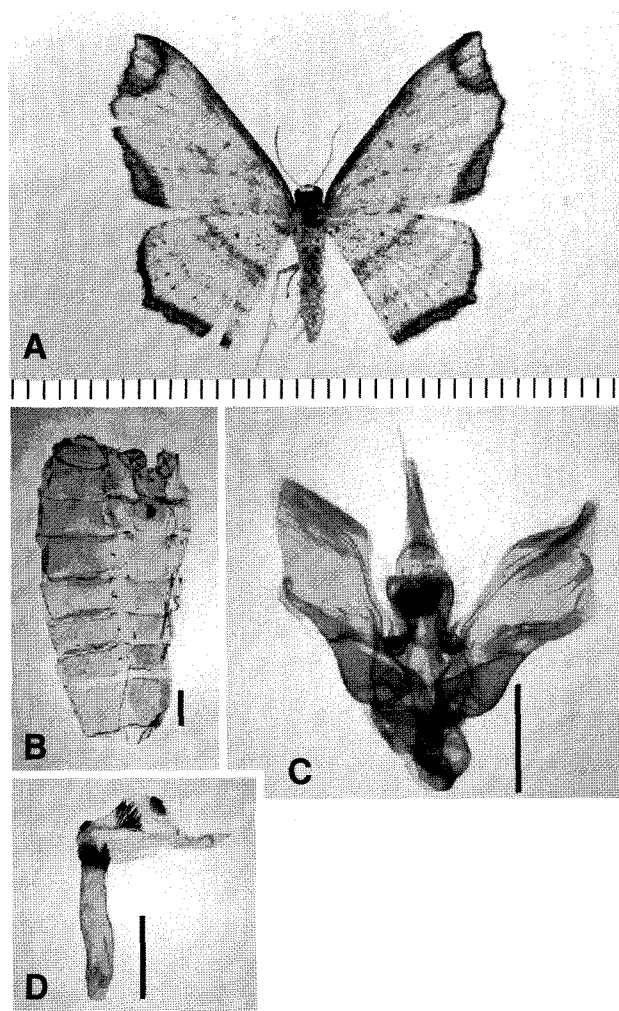


Fig. 1. *Eschatarchia lineata*. A, Adult; B, abdomen; C, male genital capsule; D, aedeagus with everted vesica. Scale bars=1 mm.

the large subscaphium and broad valva with triangularly sclerotized sacculus and distal asymmetrical process.

Description (Fig. 1A). Wingspan 23 mm. Antennae filiform in male; vertex white; frons covered with ochreous scales, protuberant; labial palpi short, as long as the eye diameter. Legs whitish, tibial spur formula 0-2-4. Forewing light yellowish; basal part tinged with light brown band; central fascia tinged with light brown weak band; termen costally crenulated dark brownish apical streak, dorsally triangular dark brownish band. One areole. Hindwing light yellowish; antemedial line distinct with two parallel brownish lines; subermen light brown line with dots; termen with dark brown marginal band with medial minute tip. Male eighth

sternite broad, unmodified (Fig. 1B).

Male genitalia (Figs. 1C, 1D). Uncus absent; subscaphium long, sclerotized; labidies long digitate, medially incurved; juxta well developed with more or less rectangular-shaped spinular patch; saccus large. Valva broad, membranous with long hairs; costa slender, medially expanded; sacculus triangularly sclerotized with a short and relatively broad dorsomedial projection and a large asymmetrical distal process. Aedeagus long, slender; vesica with a large spinular patch and three sclerotized processes.

Female genitalia. Not examined.

Host plant. *Mallotus japonicus* Muller-Argovi (Euphorbiaceae) (Xue and Zhu, 1999).

Distribution. Taiwan, Japan, Korea.

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