

First record of *Ecpatia spiculivalva* Pellinen & Mutanen, 2019 from India (Lepidoptera: Noctuidae, Noctuinae)

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Abstract

Ecpatia spiculivalva Pellinen & Mutanen, 2019 is recorded for the first time from the Indian mainland. The specimen was collected from the Western Ghats Forest areas of Nelliampathy, Palakkad district, Kerala, India.

Keywords: Lepidoptera, Noctuidae, Noctuinae, *Ecpatia*, new record, India.

Primer registro de *Ecpatia spiculivalva* Pellinen & Mutanen, 2019 de la India (Lepidoptera: Noctuidae, Noctuinae)

Resumen

Ecpatia spiculivalva Pellinen & Mutanen, 2019 se registra por primera vez en la India continental. El espécimen se recolectó en las zonas forestales de los Ghats occidentales de Nelliampathy, distrito de Palakkad, Kerala, India.

Palabras clave: Lepidoptera, Noctuidae, Noctuinae, *Ecpatia*, nuevo registro, India.

Introduction

Genus *Ecpatia* Turner, 1902 belongs to the tribe Elaphriini of subfamily Noctuinae with 17 valid species world-wide (Pellinen & Mutanen 2019). The genus *Ecpatia* was described with *Ecpatia dulcistriga* (Walker, 1858) as the type species. Poole (1989) suggested the generic placement under the tribe Catephiini Guenée, 1852. Later Holloway (2009) placed the genus under the subfamily Aediinae Beck, 1960 stating the morphological similarities with the genus *Aedia* Hübner, [1823]. The dark forewing colouration and white hindwings with dark border are common to both genera. These similarities were largely superficial (Pellinen & Mutanen 2019). The genus *Ecpatia* was then placed under tribe Elaphriini Beck, 1996 of subfamily Heliiothinae Boisduval, [1828] by Zahiri et al. (2013) and later in the subfamily Noctuinae Latreille, 1802 (Keegan et al. 2021).

In this work, *Ecpatia spiculivalva* Pellinen & Mutanen, 2019 is reported for the first time from India. *E. spiculivalva* and *E. longinquua* (Swinhoe, 1890) are therefore the only two of the 17 valid species that have been identified by this investigation as existing in India.

Materials and methods

The adult male moth specimen was collected from the Western Ghats Forest areas of Nelliampathy, Palakkad district, Kerala, India (10.5354° N, 76.6936° E, altitude: 1000 m) using a light trap. The collected specimen was then killed using ethyl acetate, pinned, and dried under a 100-watt incandescent lamp for 3 hours. The dried specimen was attached with a data label and stored in an airtight insect box. Species- level

identification was done using the literature published by Pellinen & Mutanen (2019). The genitalia study was done as per the Robinson (1976) method. The last four abdominal segments were removed from the specimen and were soaked in a 10% KOH solution overnight. It was then washed with water and dissected under the microscope for species identification. Images were taken using a Labomed Luxeo 4D stereozoom microscope and a good-quality Samsung mobile (SM-A336E). The studied moth specimen and its genitalia have been deposited in the Entomo Taxonomy Lab's insect collections at Christ College (Autonomous), Irinjalakuda, Kerala, India with voucher number CZOR288.

Results and discussion

SYSTEMATIC STATUS

Superfamily Noctuoidea Latreille, 1809
Family Noctuidae Latreille, 1809
Subfamily Noctuinae Latreille, 1809
Tribe Elaphriini Beck, 1996

Genus: *Ecpatia* Turner, 1902

Type: *Ecpatia dulcistriga* (Walker, 1858), Type locality: South Africa

Ecpatia spiculivalva Pellinen & Mutanen, 2019

Material Examined: India, Kerala, Palakkad district, Nelliampathy (10.5354° N, 76.6936° E), 1000 m, 1 ♂, 20-VI-2024, Coll. Joslin Treasa Jacob.

Distribution: Thailand, India [Kerala (present study)].

Diagnosis: Forewing broadly triangular. Blackish brown ground colour with three reddish blotches one close to costa, other near to tornus and one anterior to sub basal line; orbicular and reniform spot lighter than ground colour; hind wing with a distinct central white spot and dark border; two white patches present on fringes. Cucullus wide as valva with strong spines and setae; a narrow constriction divides cucullus and sacculus; a small projection present on costa just below cucullus; lobe shaped process present from each side of tegumen; tegumen longer than vinculum; juxta moderately sclerotized, rectangular; three spikes present in the middle of sacculus; sacculus 'v' shaped with strong harpe; vesica small with one strong cornutus, a spatulate sclerite and two patches of spicules (Figures 1-3).

Remarks: The collected specimen showed striking morphological similarity to the known species *E. spiculivalva* with a slight fuscous colour change in the forewing, which made the first author tentatively identify it as *E. longinquua*. However, upon detailed genitalia studies and comparison with other known taxa, it was revealed that the species was *E. spiculivalva* because of the three spikes present in the middle of the sacculus. The presence of spikes is unique, which segregates all other known species, hence the name *spiculivalva* (Figure 2).

Discussion: *Ecpatia spiculivalva* is described as a new species from Thailand (Pellinen & Mutanen, 2019). It is reported for the first time from India and verified after comparing the male genitalia illustrations provided in Pellinen & Mutanen (2019). Out of the 17 valid species, *E. spiculivalva* (present study) and *E. longinquua* form the only species known from India till date.

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Conflict of Interest

The authors declare that they have no known financial interest or personal relationships that could have influenced the work presented in this article.

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Figures 1-3. 1. Habitus of *Ecpatia spiculivalva* male. 2. Male genitalia. 3. Aedeagus.

