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First Report of *Rusicada pindraberensis* Singh and Ranjan, 2016 (Lepidoptera: Erebidae: Erebinae) from the Western Ghats, India

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ABSTRACT

The species, *Rusicada pindraberensis* Singh & Ranjan, 2016 is originally described from Pindrabera, Jharkhand, India. The adult male specimen was collected from Nelliampathi hill station, Palakkad district, using the light trap method. The first occurrence of *Rusicada pindraberensis* from the Western Ghats is highlighted in this study.

Key words: New record, Western ghats, Hibiscus-leaf caterpillar, Male genitalia, Kerala

Introduction

The genus *Rusicada* was first described by Walker in 1858 with *Rusicada nigritarsis* as type species. The genus was later considered a subgenus of *Anomis* Hubner for a long period of time. Despite having several characteristics in common with the genus *Anomis* Hubner and *Cosmophila* Boisduval, Holloway (2005) restored *Rusicada* to full generic status based on a thorough morphologic and genitalia analysis. Deeply based valvae, slightly double coremata, and distally bifid strong juxta are the other prominent features of this species. (Holloway 2005). He listed a total of 17 species worldwide including 11 novel combinations. The genus was primarily found in Oriental and Australian regions. *Rusicada pindraberensis* is an Indian species described by Singh and Ranjan in 2016. The type species was collected from Pindrabera, Jharkhand, India (Figure 1). Later in 2017 and 2018, the species is reported from various localities of Jharkhand, viz; Topchanchi Wildlife Sanctuary (Singh *et al.* 2017a),

Koderma (Singh *et al.* 2018), Masanjor, and Dumka (Singh *et al.*, 2017b). This species is not reported

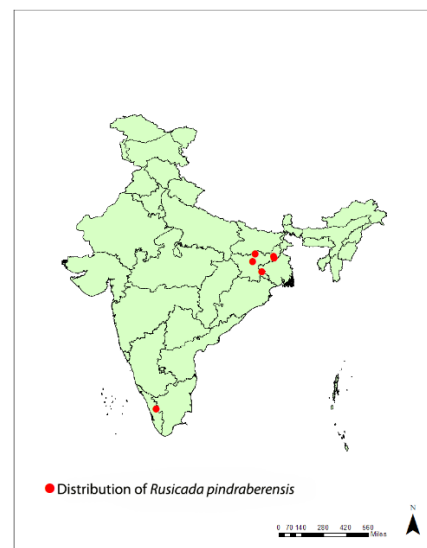


Fig. 1. Map showing the distribution of *Rusicada pindraberensis* in India.

from anywhere outside the Jharkhand state. There are eight *Rusicada* species reported so far from India. In this paper, the species *R. pindraberensis* is reported for the first time from the Western Ghats of India based on the morphologic and genitalia analysis of a male specimen.

Materials and Methods

The male adult specimens were collected using the light trap method from Nellyyampathi hill station (10.5354° N 76.6936° E, altitude. 1000m), Palakkad district, which is part of the Western Ghats of Kerala, India, on 20th June 2024. A plastic jar filled with ethyl acetate vapour was used to kill the live specimens. A fumigated entomological box containing naphthalene balls was used to preserve the specimen after it had been pinned, dried, and identified. The identification of species was done based on the literature published by Singh and Ranjan (2016) and Holloway (2005). The procedure proposed by Robinson (1976) was used to dissect the genitalia. The genitalia preparation was examined under the Labomed Luxeo 4D stereo zoom microscope. Adult male specimens with genitalia preparations are deposited in the insect collection of Entomo Taxonomy Lab (ETL), Zoology Department, Christ College (Autonomous), Irinjalakuda. The photographs were taken using a high-quality mobile camera and the distribution map was generated using the free downloadable software ArcGIS 10.8 version.

Results and Discussion

Because of their similar morphologies, the species in the genus *Rusicada* can only be distinguished by their genital characteristics. The main distinguishing characteristic is the juxta's arrangement and form. The species *Rusicada pindraberensis* is morphologically similar to *Rusicada revocans* Walker. In *R. revocans*, the arms of juxta are robust reaching the base of uncus, whereas in *R. pindraberensis* the arms of juxta are small and do not reach the base of the uncus. Other species reported from India differ considerably in their morphological and genital features from *Rusicada pindraberensis*. In *Rusicada leucolopha* Prout juxta is apically narrower and rounded. The arms of juxta are slender and long in *Rusicada nigritarsis* Walker. The species *Rusicada albitibia* Walker have juxta rounded and not bilobed as in *R.*

pindraberensis and *R. revocans*.

Systematic status

Superfamily: Noctuoidea Latreille

Family: Erebidae Leach

Subfamily: Scoliopteryginae Herrich-Schäffer

Tribe: Scoliopterygini Herrich-Schäffer

Genus: *Rusicada* Walker, 1858

Species: *pindraberensis* Singh & Ranjan, 2016

Rusicada pindraberensis Singh & Ranjan, 2016 (Fig. 2)

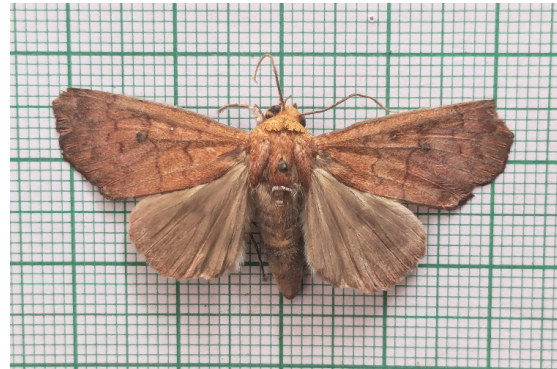


Fig. 2. Habitus of *Rusicada pindraberensis*

Diagnosis: Male. Wing span 46mm. Head, collar, tegula and thorax yellowish orange irrorated with red; antennae simple filiform, labial palpi upright, pale brown irrorated with red, second joint stout and curved, third joint narrow and equal length of the second; abdomen grayish reaching beyond hindwing margin; legs stout and long, hind tibia with one pair of spur; forewing short and broad, apex pointed, outer margin medially projected outward; ground colour orange red; basal incomplete brick red line, crenulated antemedial, medial and postmedial line present; veins greyish, white centered orbicular brick red spot present; reniform with posterior and anterior lobe of same size, first one dark greyish black; submarginal line brownish denticulate and indistinct; hind wing fuscous without any markings. Underside pale brown with pinkish tinge; antemedial brownish incomplete line present in both wings; forewing possess reniform faded and a grey marking present on costa near the apex.

Male genitalia (Figure 3): Uncus short and curved, basally broad; a bulbous projection dorsally and distally digitate; subunci arrow-like; tegumen narrow and wide at base, longer than vinculum; vinculum short with saccus concave at base; valvae thin filmy flap-like in structure, moderately sclerotized, basally



Fig. 3. Male genitalia

hairy with coremata; juxta well modified with distal arms on each side which are stout, short, dark and well sclerotized; length of arms do not reach base of the uncus; aedeagus short, narrow with two apical sclerotized projections (Figure 4); vesica with two prominent spines.



Fig. 4. Aedeagus

Distribution: India (Jharkhand and Kerala).

Conclusion

The species *Rusicada pindraberensis* is reported from various localities of Jharkhand, viz; Topchanchi Wildlife Sanctuary, Koderma, Masanjor, and Dumka. This species is not reported from anywhere outside Jharkhand, India. This study reports *Rusicada pindraberensis* for the first time from the Western Ghats of India based on the morphologic and genitalia analysis of a male specimen.

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Conflict of Interest: None

References

- Holloway, J.D. 2005. The moths of Borneo: Family Noctuidae, subfamily catocalinae. *Malayan Nature Journal*. 58.
- Robinson, G.S. 1976. The preparation of slides of Lepidoptera genitalia with special reference to the microlepidoptera. *Entomologist's Gazette*. 27: 127-132.
- Singh, N., Ahmad, J. and Joshi, R. 2018. Moths (Lepidoptera) diversity of district Koderma, Jharkhand. *Journal of Entomology and Zoology Studies*. 6(2): 1253-1263.
- Singh, N. and Ranjan, R. 2016. Additions to the moth fauna of Dalma Wildlife Sanctuary, Jharkhand (India). *Records of Zoological Survey of India*. 323-336.
- Singh, N., Ahmad, J. and Joshi, R. 2017a. An inventory of moths (Lepidoptera) from Topchanchi Wildlife Sanctuary, Jharkhand. *Journal of Entomology and Zoology Studies*. 5(4): 1456-1466.
- Singh, N., Ahmad, J. and Joshi, R. 2017b. Diversity of moths (Lepidoptera) with new faunistic records from North East Jharkhand, India. *Records of the Zoological Survey of India*. 326-340.
- Walker, F. 1858. List of the specimens of lepidopterous insects in the collection of the British Museum: Part XV- Noctuidae. *British Museum (Natural History)*. 1522-1888.