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Cover: Fish species recorded in the Gowthami-Godavari Estuary, Andhra Pradesh: *Lutjanus johnii* (top left), *Triacanthus biaculeatus* (top right), *Acentrogobius cyanomos*, *Elops machnata*, *Trypauchen vagina*, *Oxyurichthys microlepis*. © Paromita Ray.



First record of *Xanthia (Cirrha) icteritia* (Hufnagel, 1766) (Noctuidae: Xyleninae) from India

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Xanthia Ochsenheimer, 1816 is a genus of moth belong to the family Noctuidae and often tabbed with a common name 'Swallow'. *Xanthia* Ochsenheimer, 1816 is the synonym of the genus *Cirrha* Hübner, 1821. Poole (1989) included *Xanthia* Billberg, 1820; *Cirrha* Hübner, 1821; *Citria* Hübner, 1821; *Mellinia* Hübner, 1821; *Euthemonia* Gistel, 1848; and *Tiliacea* Tutt, 1896 as junior synonyms of *Xanthia* Ochsenheimer, 1816. Ronkay et al. (2001) combined the genus *Xanthia* with the genus *Cirrha* Hübner and treated them as subgenera of *Xanthia*.

In the present study, we report the presence of *Xanthia (Cirrha) icteritia* in Union territory of Jammu & Kashmir, India. A single male *Xanthia (Cirrha) icteritia* (Image 1) was photographed and collected on 20 September 2021 in Tehsil Herman, district Shopian of Kashmir Division (Union territory of Jammu & Kashmir), at 1,596 m (33.705°N, 74.940°E) (Image 1). The specimen was identified based on the morphological and genitalia characters provided in the published literature: Hampson (1894), Parrack & Bay (1986), Mehl & Thiele (1995), Lafontaine & Mikkola (2003), Saldaitis et al. (2011), Sivasankaran et al. (2011), Tarauş & Okyar (2016), Sanyal et al. (2018), Kovtun (2019), and Dar et al. (2020).

The wingspan of individual is 3.7 cm (Image 2) with forewing pale yellow and slightly hooked. The costal end of the median shade, and the subbasal costal blotch prominently dark brown; the dark blotch at base is reniform with a pale centre; the fringe yellow; head and shoulders pale yellow; hindwing whitish: an irregular diffuse median fascia between median and postmedian lines; a subterminal costal blotch; a dotted subterminal line and a faintly outlined oval (Image 3).

The genitalia of the specimen was prepared using KOH in 135°C by clearing the apex of the abdomen for several minutes. The abdomen was transferred to glycerin for further examination after rinsing the KOH with distilled water. After examination, we observed the well-developed, medium and slender uncus of the male genitalia of the species. Tegumen broad, bearing prominent penicula. Juxta shield shaped. Valvae elongated and slender, sclerotized; clasper and ampulla also well sclerotized; corona moderately developed. Vinculum V-shaped. Aedeagus stout, vesica bearing a large scobanate cornutus and a micro cornuti (Image 4). The collected specimen along with its genitalia is deposited in the museum of the Division of Taxonomy and Biodiversity at the Entomology Research Institute, Loyola College Chennai, India with specimen voucher

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Image 1. Map of Shopian District showing location of collection site. (Source: Maps of India, Google maps).

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Major tree species around the site were *Populus deltoides*, *Juglans regia*, *Robinia pseudoacacia*, *Ulmus* sp., *Salix* sp., and *Malus* sp. (Riyaz et al., 2021). The temperature was recorded as 25°C and the habitat mostly consists of agricultural lands with annual precipitation of 660 mm and average temperature of 13°C (Riyaz & Reshi 2021).

Xanthia (Cirrha) icteritia (Hufnagel, 1766), is distributed across Europe to Central Asia including Japan and Korea (GBIF Secretariat 2021). In Europe, *Xanthia (Cirrha) icteritia* is very common in United Kingdom and adjoining countries except for the furthest south (<https://ukmoths.org.uk/species/cirrha-icteritia/adult/>).

Based on the previous observations with similar habitats, the authors propose a tentative area of occurrence for this species to the entire area of Kashmir and northern parts of Jammu division of the Union territory of Jammu & Kashmir in India. The authors expect the possibility of the species to occur in northern parts of Pakistan. The IUCN Red List assessment of this species on the GeoCAT website based on the present identification, type locality and two other possible locations showed the species to be Least Concern with extent of occurrence of 2,449,522.018 km². This record is significant and important, as it constitutes the first



Image 2. Mounted specimen of *Xanthia (Cirrha) icteritia*. (Mounted and stretched by Muzafar Riyaz).

proven evidence of the occurrence of *Xanthia (Cirrha) icteritia* Hufnagel, 1766 (synonym of *Xanthia icteritia* Hufnagel, 1766) in the Indian subcontinent making it a



Image 3. Live photograph of the *Xanthia (Cirrha) icteritia*. © Muzafar Riyaz.

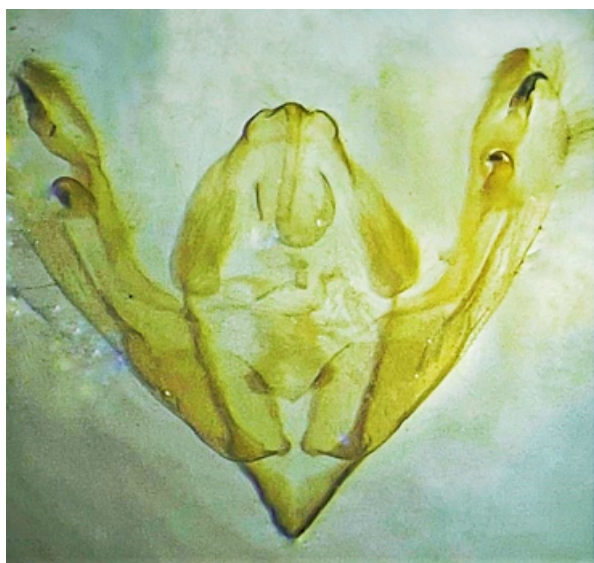


Image 4. Male genitalia and aedeagus of *Xanthia (Cirrha) icteritia*. (Uncus well developed, juxta shield shaped vinculum V-shaped. aedeagus stout). (Genitalia isolated by K. Sivasankaran and photographed by Muzafar Riyaz).

notable range extension for the species into the political boundary of India.

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