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Cover: Parts of *Vachellia nilotica*, medium - watercolours. © P Kritika

INTRODUCTION

Moths belong to the order Lepidoptera of class Insecta. They comprise around 88% of the order Lepidoptera, while remaining 12% comprise of butterflies (Pathania et al. 2021). Crambidae is one of the largest families of moths with 9,655 species described worldwide (Nieukerken et al. 2011). Members of this family show diverse adaptations and behavioural characteristics. Many of its species are serious agricultural pests and are found in and around agricultural fields (Pathania et al. 2021).

Aethaloessa calidalis (Guenée, 1854) is a small, brightly coloured moth belonging to the family Crambidae, subfamily Spilomelinae. It has characteristic orange-yellow wings with dark brown margins and an orange abdomen with dark purplish-brown terminal segment (Walker 1859). It is widely distributed across India, Nepal, Sri Lanka, Myanmar, Bhutan, China, Indonesia, Hong Kong, Africa (Yamanaka 1995; Kendrick 2002, Irungbam et al. 2016) Thailand, Papua New Guinea (Walker 1866), Tahiti (Wallengren 1860), Fiji (Felder et al. 1875), and Singapore (Hampson 1912b). In India, it has been reported from Andhra Pradesh, Tamil Nadu, Meghalaya, West Bengal (Reddy & Murthy 2021), Delhi (Komal et al. 2021), and Kerala (Mahesh et al. 2024). Despite its wide distribution, *Aethaloessa calidalis* has never been recorded from Chhattisgarh. Relevant published literature on the Lepidoptera of Chhattisgarh (Chandra & Nema 2006, 2007 Ramakrishna et al. 2006; Raha et al. 2017, 2018a,b,c,d,e,f,g,h,i,j; Chandrakar et al. 2025) was reviewed to confirm the novelty of the present record.

Therefore, the present observation of *Aethaloessa calidalis* from Semra Village, Dhamtari District, Chhattisgarh, represents the first record of *Aethaloessa calidalis* in the state. This record adds new faunal information to Chhattisgarh and extends the known distribution of the species in central India.

MATERIAL AND METHOD

The present record was made at Semra Village, Dhamtari District, Chhattisgarh, India (20.7377° N, 81.7258° E, 313 m) (Image 1). The village lies close to the Mahanadi River, and the surrounding landscape consists mainly of a mixed agroecosystem. The area is dominated by rice fields, vegetable crops, and pulses, with patches of wild shrubs, herbs, and scattered trees along field margins and uncultivated spaces. This varied vegetation

creates suitable conditions for nocturnal moth activity. The region has a typical tropical monsoon climate with hot summers, a rainy season from July to September, and mild winters.

A nocturnal light-trap moth survey was carried out on 28 September 2025 at Semra Village, Dhamtari District, Chhattisgarh (20.737703° N, 81.725808° E, 313 m), comprising a mixed agroecosystem dominated by rice and vegetable fields with adjoining shrubs and scattered trees. A 1,000 W halogen light was used as the light source, positioned in front of a 3 x 3 m² white cloth screen and operated from 1830–2230 h to attract moths. All the visiting individuals were photographed using a Canon EOS 1300D DSLR camera equipped with an 18–55 mm kit lens and in-built camera flash.

The recorded specimen of *Aethaloessa calidalis* was identified based on distinct external morphological characters, including wing coloration, wing pattern, and marginal markings, which are diagnostic and allow reliable species-level identification, as described by Guenée (1854), Hampson (1896), and Whalley (1961). The species is distinctive and can be reliably identified using photographic evidence alone. No specimen was collected during the study to follow a non-destructive and ethical sampling approach.

RESULT

A single adult specimen of *Aethaloessa calidalis* was recorded during a nocturnal light-trap survey conducted on 28 September 2025 at Semra Village, Dhamtari District, Chhattisgarh, India (20.7377° N, 81.7258° E, 313 m). The individual was attracted to a halogen light source and photographed in situ (Image 2).

Taxonomy and diagnostic features:

Order: Lepidoptera

Family: Crambidae

Subfamily: Spilomelinae

Genus: *Aethaloessa* Lederer, 1863

Species: *Aethaloessa calidalis* (Guenée, 1854)

Original combination: *Glyphodes calidalis* Guenée, 1854.

Type locality: Coromandel Coast, Tamil Nadu, India.

Synonymy: *Syngamia octavialis* (Walker, 1859), *Syngamia tiphalis* (Walker, 1859), *Hyalea fulvidalis* (Wallengren, 1860), *Syngamia secutalis* (Walker, 1866), *Botys witalis* (Felder, 1875), and *Syngamia aurantiaca* (Hampson, 1912b).

The species was transferred to the genus *Aethaloessa*

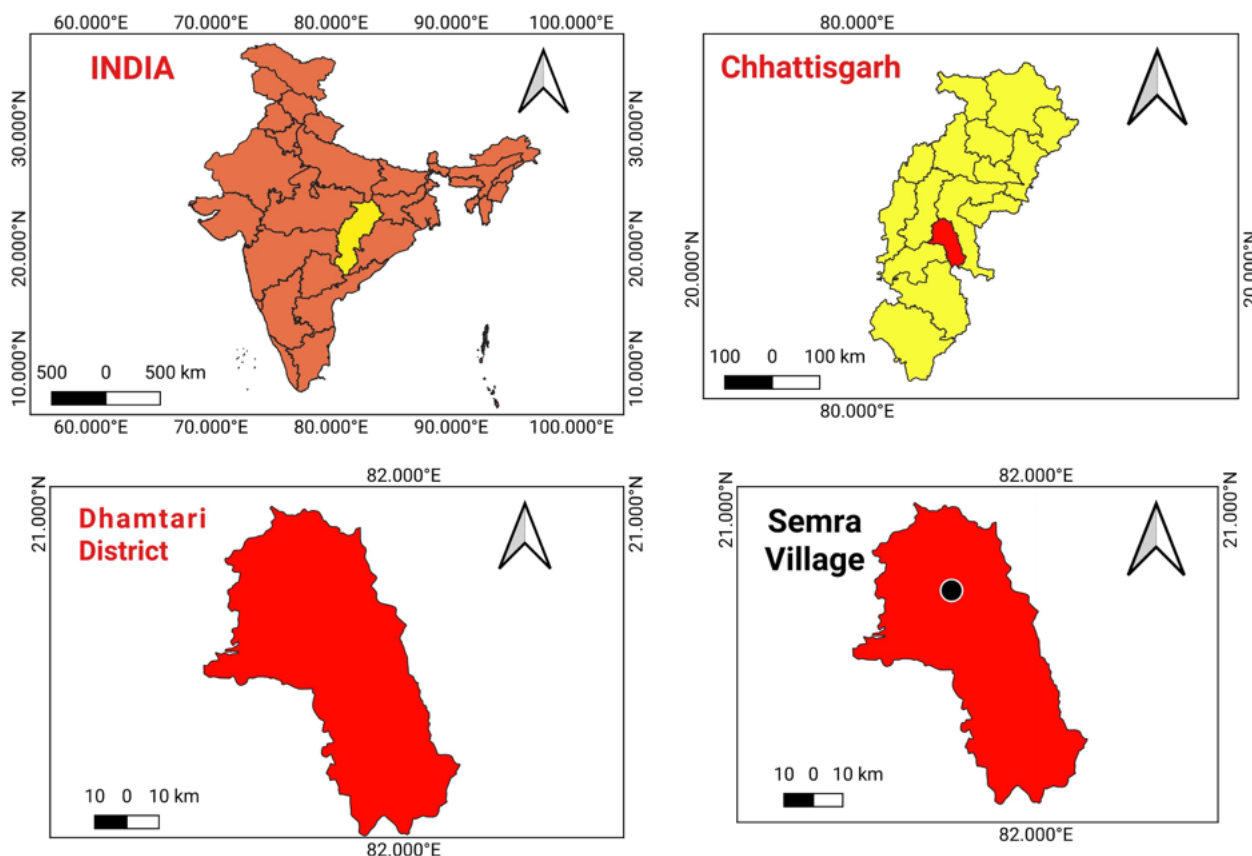


Image 1. Location map showing the study area: Semra Village, Dhamtari District, Chhattisgarh, India. Prepared by the authors using QGIS version 3.22.

by Whalley (1961)

Diagnostic characters: *Aethaloessa calidalis* is a widespread and distinctive species characterized by its bright yellowish-orange and dark brown colour pattern. The forewing length of the observed individual measured approximately 7.0–7.8 mm. The head was orange, the thorax was brown, and the abdomen was orange with a brown basal band and a darkened terminal tip. The forewings bared three large orange areas, sharply defined by a narrow dark brown sub-basal line, a broad brown median fascia, and a broad brown sub-marginal area. The subcostal region was distinctly brown towards the wing base. The hindwing was predominantly orange, with a broad dark brown submarginal band extending from the termen to the postmedial region. These characters were clearly visible in the photographic record and were consistent with published descriptions (Guenée 1854; Hampson 1896; Whalley 1961).

Comparison with other species of *Aethaloessa*

According to Whalley (1961), the genus *Aethaloessa* comprises three species worldwide: *Aethaloessa floralis* (Zeller, 1852), *Aethaloessa calidalis* (Guenée, 1854),

and *Aethaloessa rufula* (Whalley, 1961). *Aethaloessa floralis* is restricted to Africa and Madagascar, and differs from *Aethaloessa calidalis* primarily in genital morphology and geographic distribution. *Aethaloessa rufula*, occurring in the Solomon Islands and surrounding Australasian-Pacific regions, is externally distinguishable from *Aethaloessa calidalis* by the absence of black scales on the dorsal side of the first abdominal segment, a character emphasized by Whalley (1961). *Aethaloessa tiphalis* (Walker, 1859) is treated by Whalley (1961) as a subspecies of *Aethaloessa calidalis*, distributed from southeastern Asia to Australia, showing only minor variation in wing pattern and colour intensity. The present specimen conforms well to the external morphology and geographic range of *Aethaloessa calidalis*, allowing confident identification based on external characters.

DISCUSSION

Although *Aethaloessa calidalis* is widely distributed across India (Whalley 1961; Komal et al. 2021; Reddy & Murthy 2021; Mahesh et al. 2024), it had not previously



Image 2. *Aethaloessa calidalis* (Guenée, 1854) recorded during a light trap survey in Semra Village, Dhamtari District, Chhattisgarh.

been reported from Chhattisgarh. The species was absent in previous lepidopteran records of the state (Chandra & Nema 2006, 2007; Ramakrishna et al. 2006; Raha et al. 2017, 2018a,b,c,d,e,f,g,h,i,j; Chandrakar et al. 2025). It was even not reported from Chhattisgarh in the Moths of India online database (Anonymous 2025), a well-known citizen-science based unstructured data repository of moths found in India. The present finding, therefore, represents the first record of *Aethaloessa calidalis* from Chhattisgarh, extending its known distribution into central India. This record suggests that several widespread crambid moths may be undocumented in the region due to limited sampling efforts. Continued systematic surveys are thus needed to develop a more complete understanding of the state's moth fauna.

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