

# Photographic Evidence and Confirmatory Record of *Euthalia malaccana* Fruhstorfer, 1899 from India (Lepidoptera: Rhopalocera)

Roshan Upadhaya & Taslima Sheikh

## Abstract

*Euthalia malaccana* Fruhstorfer, 1899, a species previously thought to be dubious in its occurrence in India, is confirmed in Arunachal Pradesh through direct observation and photographic evidence. First described as a subspecies of *Euthalia adonia* (Cramer, [1780]), *Euthalia malaccana* was considered rare, with limited records from Southeast Asia. Previous studies, including Yokochi (1999), raised doubts about its presence in India, citing misidentifications. Our findings provide concrete evidence of this species' distribution in India, marking a significant extension of its range in the region.

**Keywords:** Lepidoptera, Rhopalocera, *Euthalia*, *Euthalia malaccana*, Arunachal Pradesh, new record, distribution, taxonomy, India.

## Evidencia fotográfica y registro confirmado de *Euthalia malaccana* Fruhstorfer, 1899 en la India (Lepidoptera: Rhopalocera)

## Resumen

*Euthalia malaccana* Fruhstorfer, 1899, una especie cuya presencia en la India se consideraba dudosa, se ha confirmado en Arunachal Pradesh mediante observación directa y pruebas fotográficas. Descrita por primera vez como una subespecie de *Euthalia adonia* (Cramer, [1780]), *Euthalia malaccana* se consideraba rara, con registros limitados en el sudeste asiático. Estudios anteriores, como el de Yokochi (1999), planteaban dudas sobre su presencia en la India, citando identificaciones erróneas. Nuestros hallazgos proporcionan pruebas concretas de la distribución de esta especie en la India, lo que supone una ampliación significativa de su área de distribución en la región.

**Palabras clave:** Lepidoptera, Rhopalocera, *Euthalia*, *Euthalia malaccana*, Arunachal Pradesh, nuevo registro, distribución, taxonomía, India.

## Introduction

*Euthalia malaccana* Fruhstorfer, 1899, originally described as *Euthalia adonia malaccana* Fruhstorfer, 1899, has long been a subject of taxonomic debate. This species was initially identified as a subspecies of *Euthalia adonia* (Cramer, [1780]), and later as an independent species by Eliot (1992). *Euthalia malaccana* is found primarily in Southeast Asia, with records from North Thailand, the Malay Peninsula, and the Sunda Islands. However, its presence in India remained questionable, with earlier reports, including that of Yokochi (1999), casting doubt on its occurrence in the Indian subcontinent.

The present study documents the confirmed occurrence of *Euthalia malaccana* in Arunachal Pradesh, India. Photographs and detailed field observations confirm its presence, thus extending its known range in the Indo-Australian region. This paper aims to provide definitive evidence for its occurrence in India, clarifying

previous misidentifications, and contributing to the understanding of the Papilionoidea's distribution.

## Previous Studies

The presence of *Euthalia malaccana* in India has been debated in literature, with earlier records mentioning its potential occurrence in regions such as Assam and Meghalaya. Yokochi (1999) referenced this species in his revision of the *lubentina* group, suggesting that *Euthalia malaccana* could be found in Arunachal Pradesh, though this was considered doubtful due to the lack of confirmed records. The species was also frequently misidentified as *Euthalia lubentina* (Cramer, [1777]) or *Euthalia adonia*, leading to confusion in its reported distribution. Paul van Gasse (2018) acknowledged the dubious nature of the Indian records but indicated the possibility of *Euthalia malaccana* occurring in the region. Our study provides conclusive evidence of its presence in India, specifically in Arunachal Pradesh.

## Materials and Methods

### STUDY AREA

One of the primary sites for the survey was Lai Ho, located along the Basar-Sago Road in Arunachal Pradesh (Latitude: 28.001601, Longitude: 94.733412) (Figure 5). The survey was conducted on 30-VII-2023, at an altitude of 685 meters, within a forest community habitat (Figure 1). In addition, further fieldwork in 2024 included a GPS-captured image (Figure 4) on 14-IX-2024, further confirming the presence of the species in this area.

### METHODS

Fieldwork was carried out across multiple sites, with local guides assisting in navigating remote areas. The species was identified based on distinctive wing patterns, including the blue apical spot on the forewings and reduced red spots on the hindwings. A Nikon Z50 DSLR camera with a 50-250 mm lens was employed to capture high-quality photographs of the specimens, both in flight and at rest. No specimens were collected or harmed during the survey.

Photographic evidence and external morphological characteristics were cross-referenced with descriptions in the literature, including Fruhstorfer (1899) and Eliot (1992).

## Results

*Euthalia malaccana* was observed and photographed at multiple sites in Arunachal Pradesh, including Lai Ho. In total, five individuals of this species were documented between 2023 and 2024. The first observation occurred on 30-VII-2023, and a subsequent GPS-captured image was taken on 14-IX-2024. External morphological characteristics were consistent with the original description by Fruhstorfer (1899), providing definitive evidence of its occurrence in India for the first time.

## Systematic Position

Class Insecta Linnaeus, 1758  
 Order Lepidoptera Linnaeus, 1758  
 Family Nymphalidae Rafinesque, 1815  
 Subfamily Limenitidinae Behr, 1864

*Euthalia malaccana* Fruhstorfer, 1899 (Figures 2-3)

*Euthalia adonia malaccana* Fruhstorfer, 1899. *Berl. ent. Z.*, 44(1/2), 142

TL: Malacca

Identification Features: The species is characterized by a blue apical spot on the forewings, which is

prominent in males, while females display larger apical spots. The hindwings are adorned with reduced red spots. These features distinguish it from closely related species such as *Euthalia lubentina*.

Material Examined: INDIA. Arunachal Pradesh: Lai ho, Basar-Sago Road, 28.001601, 94.733412, 1250 m, 30-VII-2023 and 14-IX-2024, observed and photographed by Roshan Upadhaya.

Distribution: India (Arunachal Pradesh: current study), Thailand, Laos, Cambodia, Vietnam, W. Malaysia.

Taxonomic Notes: *Euthalia malaccana* has been previously recognized as a subspecies of *Euthalia adonia*. However, it is now considered a distinct species (Eliot, 1992).

### Synonymy and Type Materials Information

*Euthalia malaccana regulus* Tsukada, 1991. *Butt. Sth. East Asian Islands*, 5, 406, 549, pl. 233, figs 9 (HT, ♂, 10 (PT, ♂ Un), 11 (PT, ♀ Un), 12 (PT, ♀)

Type Locality: “Chieng Dao” [Chiang Dao, Chiang Mai], N. Thailand

### Type Materials Information

*malaccana*

Lectotype: ♂, Malakka

Designated by: Yokochi, 1999

Repository: NHML

*regulus*

Holotype: ♂, Feb. 1987, “Chieng Dao” [Chiang Dao, Chiang Mai], N. Thailand

Paratypes: All from N. Thailand

4 ♂, 5 ♀: “Chieng Dao” [Chiang Dao]

2 ♀: “Chieng Rai” [Chiang Rai]

1 ♀: “Vien Pa Pao” [Wiang Pa Pao]

3 ♂: Doi Suthep, “Chiang Mai” [Chiang Mai]

### Original Description

*Euthalia adonia malaccana* Fruhstofer, 1899

Reference: *Berl. Ent. Z.*, 44(1/2), 142

Type Locality: Malacca, [W. Malaysia]

Repository: NHML

### Discussion

The confirmation of *Euthalia malaccana* in Arunachal Pradesh provides significant new data on the Papilionoidea’s distribution in India. Previous literature, including Yokochi (1999) and Paul van Gasse (2018), raised the possibility of this species occurring in the region, but lacked photographic evidence. Our findings clarify the species’ presence and extend its known range in the Indian subcontinent.

The misidentification of *Euthalia malaccana* as *Euthalia lubentina* or *Euthalia adonia* may have contributed to the uncertainty surrounding its distribution. Our photographic evidence, along with detailed field observations, offers a clearer understanding of this species’ morphology and ecology.

### Conclusion

This study confirms the presence of *Euthalia malaccana* in Arunachal Pradesh, India, marking the first definitive record of the species in the region. This discovery not only clarifies previous doubts about its distribution but also contributes to the broader understanding of Papilionoidea biodiversity in northeastern India. Future surveys in other parts of India and Southeast Asia may uncover additional populations, further enhancing our knowledge of this species.

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## Conflict of interests

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

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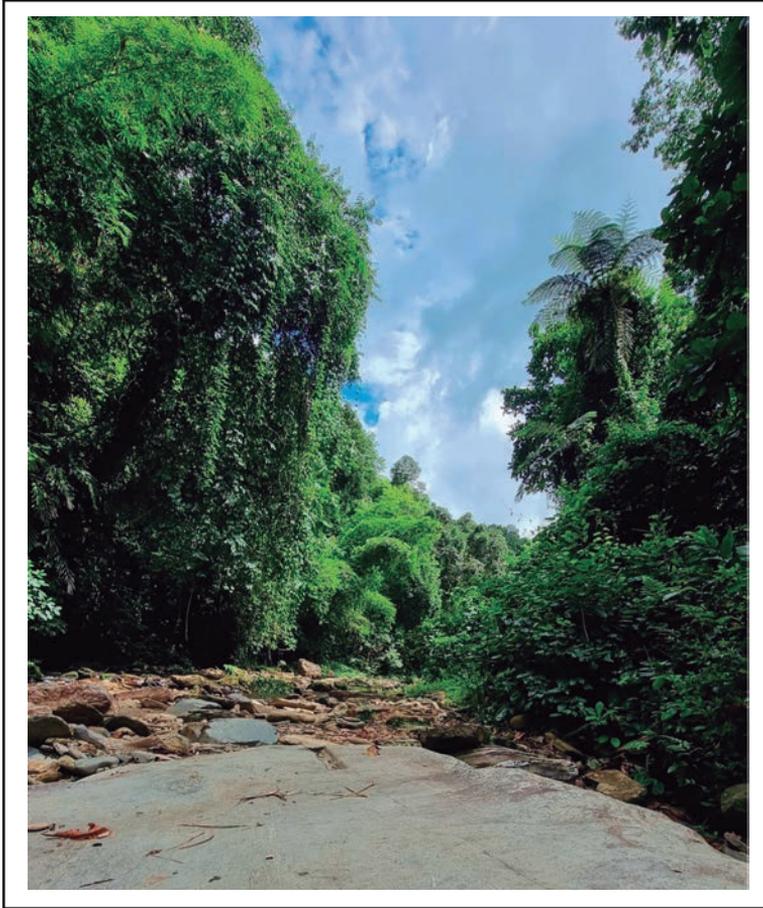
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Figure 1. Habitat type.



Figures 2-3. 2. *Euthalia malaccana* Fruhstorfer, open wing male. 3. Close wing male.

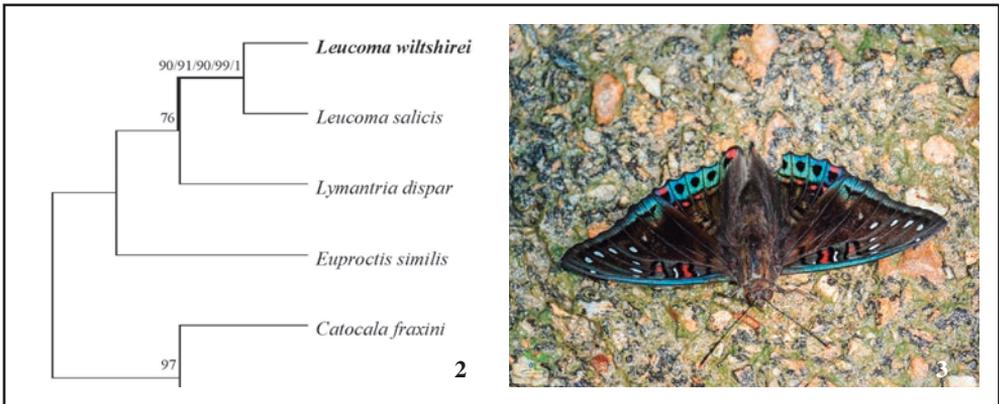


Figure 4. GPS image of *Euthalia malaccana* Fruhstorfer.



Figure 5. Map showing the sighting of *Euthalia malaccana* Fruhstorfer.

