

RANGE EXTENSION OF THE NILGIRI GRASS YELLOW BUTTERFLY *EUREMA NILGIRIENSIS* TO THIRUVANANTHAPURAM DISTRICT, KERALA

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ABSTRACT

Eurema nilgiriensis Yata, 1990 is reported from lowland evergreen forests of Arippa Ammayambalam Pacha, Thiruvananthapuram, southern Kerala and is a new record from Thiruvananthapuram forests. Earlier, *E. nilgiriensis* was presumed to be restricted to the Nilgiri hills (Yata, 1990). The present sighting extends the known distribution of this species to southern Kerala.

Keywords: *Eurema nilgiriensis* Yata, 1990; endemic butterfly; Western Ghats.

INTRODUCTION

The Nilgiri Grass Yellow *Eurema nilgiriensis* (Yata, 1990) (Insecta: Lepidoptera: Pieridae) is a small yellow butterfly belonging to the 'sari' subgroup of the genus *Eurema* Hübner (1819). The species was first described from the Nilgiri Hills by (Yata, 1990). This species is closely related to *E. andersoni*, *E. omistoni*, *E. celebensis* and *E. beatrix* and these five species form a monophyletic group (*andersoni* complex), which belongs to the *sari* sub group (Yata, 1990).

Of these, *E. andersoni* and *E. nilgiriensis* occur in the southern Western Ghats including Kerala, Karnataka, and Tamil Nadu (Larsen 1987; Varshney & Smetacek, 2015; Kehimkar, 2016; Bhakare & Ogale, 2018; Sujitha *et al.*, 2019).

MATERIALS AND METHODS

The study was undertaken from 5th December 2021 to 11th January 2022 at Arippa Ammayambalam Pacha reserve forests (8°52'02.8"N 77°00'09.7"E), a lowland evergreen forest patch located 53 km northeast of Thiruvananthapuram, Kerala, along the Thiruvananthapuram - Shencottai (Tamil Nadu) state highway (Table 1). The altitude of the site is 120-150 m above MSL). *Myristica* swamps of Arippa Ammayambalam Pacha is the abode of rare and endemic butterflies of Western Ghats. Field surveys were done in morning between 8 am to 1 pm focusing on birds, butterflies and odonates. Field photographs were captured using Canon 6D Mark II DSLR camera mounted with Canon 100-400 mm zoom lens. The species identity was established by comparing the detailed underside and upperside field photographs with the

original description furnished by Yata (1990) and with upperside photographs of *Eurema nilgiriensis* from the collection of Butterfly Research Centre, Bhimtal and Bhakare & Ogale (2018).

RESULTS AND DISCUSSION

The survey resulted in a new record of *Eurema nilgiriensis* Yata 1990 from Thiruvananthapuram District. On 31st December 2021 at around 12.30 pm butterflies belonging to genus *Eurema* Hübner (1819) was observed near the trek path of lowland evergreen forests associated with *Myristica* swamps. One was seen feeding on nectar from a small wild flower (Fig.1). The second one was a freshly emerged one and was perching on dry leaf litter beneath the undergrowth (Fig. 2) while the third was flying restlessly through the bushes and grasses. On 5th January 2022 we visited the same patch at around noon and spotted four individuals fluttering around the bushes and grasses near the trek path. Third visit on 11th January 2022 again resulted in observation of this *Eurema* species in the same habitat. In all the three observations the *E. nilgiriensis* was seen in the same patch of lowland evergreen forests associated with *Myristica* swamps. All sighting was recorded between 12 p.m. and 1 p.m. The photographs taken during

the study were closely compared to the description and figures furnished by Yata (1990) and it was found that the morphological features of the specimens photographed matched with those of *Eurema nilgiriensis*. The identification of the specimen was further confirmed with the help of upperside photographs of *E. nilgiriensis* specimen from the collection of Butterfly Research Centre, Bhimtal.

The presence of Nilgiri Grass Yellow *Eurema nilgiriensis* has been confirmed at different locations of Shendurney Wildlife Sanctuary, Kollam District Kerala south Kerala (Sujitha *et al.*, 2019). Additionally, the presence of *E. nilgiriensis* has been confirmed in the Nilgiri hills, including Malabar Wildlife Sanctuary.

The present record of *E. nilgiriensis* from Arippa Ammayambalam Pacha Reserve forests is a new record of this species from Thiruvananthapuram District. The present record of *E. nilgiriensis* adds to the recently published range extensions of this species from Kodagu District, Karnataka and Agasthyamalais, Kerala (Sujitha *et al.*, 2019) and Palakkad, Malappuram, Kannur and Kozhikode districts of Kerala (Valappil & Chandrasekharan, 2020).

Table 1. Observations of *Eurema nilgiriensis* during the survey period.

S.No.	Date of Observation	No of species	Hours	Activities
01.	31 st December 2021	3 individuals	12.30p.m. to 1pm	1.feeding nectar 2.Freshly emerged ones perching on ground 3.Restless flight
02.	5 th January 2022	4 individuals	12p.m.-1p.m.	All were in a restless flight over bushes and grasses.
03.	11 th January 2022	2 individuals	12 p.m.- 12.30p.m.	Seen perching on bushes, feeding nectar and with restless flight over bushes and undergrowth.

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Figure 1: *Eurema nilgiriensis* feeding on nectar from wild flower



Figure 2: Freshly emerged *E. nilgiriensis* perching on a dry leaf



Figure 3. *E. nilgiriensis* UP