MURRAYA KOENIGII (RUTACEAE), A NEW LARVAL HOST PLANT OF *ANTHENE LYCAENINA* (INSECTA: LEPIDOPTERA: LYCAENIDAE)

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Abstract
Murraya koenigii, curry leaf plant is newly recorded as a larval host plant of *Anthene lycaenina*, pointed ciliate blue butterfly from Panihati (22.6994°N, 88.3702°E), North 24 Parganas district, West Bengal, India.

Introduction

Anthene lycaenina (Felder, 1868), commonly known as pointed ciliate blue, is a species of butterfly, belongs to family Lycaenidae, found in India, Nepal, Bhutan, Bangladesh, Myanmar, and Sri Lanka (Kehimkar, 2016). In India, it is found from Sikkim to north-east India, Gujarat southwards to Kerala, eastwards to Odisha and West Bengal (Varshney & Smetacek, 2015). It also occurs in Andaman islands (Kehimkar, 2016). Previously reported larval host plants of *Anthene lycaenina* are *Buchanania axillaris* (Anacardiaceae), *Buchanania cochinchinensis* (Anacardiaceae), *Bridelia retusa* (Phyllanthaceae), *Putranjiva roxburghii* (Putranjivaceae), *Leucaena leucocephala* (Fabaceae), *Acacia nilotica* (Fabaceae), *Acacia pennata* (Fabaceae), *Dalbergia latifolia* (Fabaceae), *Moullava spicata* (Fabaceae), *Pithecellobium dulce* (Fabaceae), *Caesalpinia bonduc* (Fabaceae), *Ventilago denticulata* (Rhamnaceae), *Allophylus cobbe* (Sapindaceae) (Wynter-Blyth, 1957; Robinson *et al*., 2010; Nitin *et al*., 2018). Nayanathara & Narayana (2020) reported mango (Anacardiaceae) as a larval host plant of *Anthene lycaenina*. The curry leaf tree *Murraya koenigii* (L.) Spreng (Rutaceae) is a small tree with compound leaves, and small flowers, produced in clusters, native to tropical parts of Asia (Sachdeva & Tongbram, 2017). Flowers are white and 10 to 12 millimetres across (Krishen, 2013). Lepidopteran insects that are known to use *Murraya koenigii* as larval host plant are *Phyllocnistis citrella* (Gracillariidae), *Psorosticha zizyphi* (Oecophoridae), *Tinthia cymbalistis* (Sesiidae), *Papilio polytes* (Papilionidae), *Papilio demoleus* (Papilionidae), *Papilio polymnestor* (Papilionidae) and *Papilio nephelus* (Papilionidae) (Robinson *et al*., 2010; Karmakar *et al*., 2018). Previously, *Anthene lycaenina* was not known to feed on *Murraya koenigii* in the larval stage. In the present study, *Murraya koenigii* is reported as a new larval host plant of *Anthene lycaenina* from Panihati (22.6994°N, 88.3702°E), North 24 Parganas district, West Bengal, India.

Materials and Methods

Study Area

Panihati (22.6994°N, 88.3702°E) is an urban locality in North 24 Parganas district of West Bengal state, India and is a part of Gangetic plains biogeographic zone. Panihati is located beside the Ganga river. Average elevation of Panihati above mean sea level is 13 metres.

Methodology

Visual observation and rearing of *Anthene lycaenina* was carried out during the study. Rearing was done in a clean, aerated plastic container. Study period was from 07.iii.2021 to 15.iii.2021. The season of the study period

was spring. Adult *Anthene lycaenina* was identified using Wynter-Blyth (1957) and Kehimkar (2016). *Murraya koenigii* was identified using Krishen (2013) and Sachdeva & Tongbram (2017). Photographs of observations were taken using a Lenovo K33a42 smart phone.

Results and Discussion

On 07.iii.2021, at 4:50 p.m., one small lepidopteran larva was observed on an inflorescence of an about 4 feet tall flowering *Murraya koenigii* plant, on the roof-top garden of the author's residence. The height of the roof was about 11 feet from the ground. The larva was feeding on a flower bud, on the inflorescence. This larva was then collected for rearing. It was reared in a clean, aerated plastic container, provided with the same inflorescence along with the leafy branch, on which it was observed. The inflorescence contained some flower buds and some open flowers. At 5:34 p.m., the larva was observed to feed on a flower bud. It was feeding from one side of the bud and made a hole in it, laterally. After that, at about 6:17 p.m., the larva was observed to feed on petals and stamens of an open flower from the inflorescence. It was defecating on the container's surface during feeding. Faecal matter was removed carefully from the container. On 08.iii.2021, at 11:31 a.m., the larva was seen on a *Murraya koenigii* leaf's dorsal surface, having oriented itself to align with the midrib of the leaf. The larva was dark green at that time. It remained in the same position, on the leaf, for the rest of the day and was not feeding. On 09.iii.2021, at 1:51 p.m., it was observed that, the larva had pupated on the same leaf surface. The pupa was green and was about 9 millimetres in length. From the date of pupation (09.iii.2021), it remained in the pupal stage for 6 days. On 15.iii.2021, at about 7:25 a.m., it was found that, an adult *Anthene lycaenina* had eclosed from the pupa. The adult individual was then released and it flew away.

In the present study, *Anthene lycaenina* larva was observed to feed on a white open flower and flower buds of *Murraya koenigii*, and then pupation and adult eclosion took place. Hence, *Murraya koenigii* (Rutaceae) is a larval host plant of *Anthene lycaenina*. This is a new record of larval host plant for this butterfly.

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Fig.1. *Anthene lycaenina* larva feeding on a flower bud of *Murraya koenigii*. 07.iii.2021

Fig.2. *Anthene lycaenina* larva feeding on a flower bud of the inflorescence of *Murraya koenigii*. 07.iii.2021.

Fig.3. Hole made on lateral side of a flower bud of *Murraya koenigii* by *Anthene lycaenina* larva.

Fig.4. *Anthene lycaenina* larva feeding on an open flower of *Murraya koenigii*. 07.iii.2021

Fig.5. *Anthene lycaenina* larva (dorsal view) on leaf of *Murraya koenigii*. 08.iii.2021

Fig.6. *Anthene lycaenina* larva (lateral view) on leaf of *Murraya koenigii*. 08.iii.2021.

Fig.7. Pupa of *Anthene lycaenina* on *Murraya koenigii* leaf. 09.iii.202108.iii.2021.

Fig.8. Eclosed adult *Anthene lycaenina*. 15.iii.2021.