# *CEROPEGIA SAHYADRICA*: A NEW LARVAL FOOD PLANT OF PLAIN TIGER *DANAUS CHRYSIPPUS* L. (LEPIDOPTERA: NYMPHALIDAE)

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**ABSTRACT**

The study reports the first ever observed butterfly-plant interaction for a vulnerable plant species *Ceropegia sahyadrica* Ansari & B.G.P. Kulk. The plant is endemic to Northern Western Ghats otherwise known as Sahyadri range hence the plant's name. Plain Tiger *Danaus chrysippus* larvae was observed feeding on the leaves of *C. sahyadrica* which has been documented and discussed for the first time here.

**Keywords:** Apocynaceae, *Ceropegia*, Larval Food Plant, Nymphalids

The Nymphalidae butterflies are known to have their host plants in the plant family Apocynaceae, especially Danainae butterflies, also known as milkweed butterflies (Wynter-Blyth, 1957; Kunte, 2000; Robinson *et al*.; 2010; Nitin *et al*., 2018). These butterflies are also known to feed on ecologically important and rare species within the Apocynaceae family. One such genus under this family is *Ceropegia* L., 1753. *Ceropegia* spp. in Indian sub-region such as *Ceropegia attenuata* Hook., *Ceropegia bulbosa* Roxb., *Ceropegia evansii* McCann, *Ceropegia fantastica* Sedwg., *Ceropegia hirsuta* Wight & Arn., *Ceropegia intermedia* Wight, *Ceropegia lawii* Hook. f., *Ceropegia vincifolia* Hook., are reported previously as the larval host plant of several Nymphalidae members such as *Danaus chrysippus chrysippus* (Linnaeus, 1758), *Danaus genutia genutia* (Cramer, [1779]), and *Parantica aglea aglea* (Stoll, 1782) (Table 1).

Among these Danaids, the most migratory and widespread butterfly is *D. chrysippus* or the Plain Tiger butterfly (Smetacek, 2001; Kehimkar, 2016). However, this species is reported to have only two larval host plants in the genus *Ceropegia* viz. *C. lawii* & *C. vincifolia* (Table 1) and it's interactions with the other *Ceropegia* spp. of India remains unknown and unreported till date. This study reports the first ever observation of Plain Tiger caterpillars feeding on *C. sahyadrica*.

Table 1. A list of Butterflies (Nymphalidae: Danainae) and their larval host plants from the genus *Ceropegia* based on literature and observations (Nitin *et al*., 2018 and Lovalekar *et al*., 2023).

| Sr No | Nymphalids (Danaids) | Larval Host (*Ceropegia* spp.) |
|---|---|---|
| 1 | *Danaus chrysippus* | *C. lawii, C. vincifolia* |
| 2 | *Danaus genutia* | *C. attenuata, C. evansii, C. fantastica, C. hirsuta, C. intermedia, C. lawii, C. media, C. vincifolia* |
| 3 | *Parantica aglea* | *C. bulbosa, C. evansii, C. hirsuta, C. lawii, C. media, C. vincifolia* |

During our field visit to Sinhagad Fort, Pune on 27th June 2023, we came across two individual of plants that attracted our attention. Upon closer examination, the plant was identified as *Ceropegia sahyadrica* Ansari & B. G. Kulkarni (1971:688) (Kambale & Yadav, 2019). We observed two caterpillars actively feeding on both the plant specimens, one was younger and one was matured i.e.,the caterpillars were of different instars. This was observed during the advent of rainy season and we were unsure whether the plant was previously reported as the larval host of Plain Tiger at the time of the visit. The plant fall into 'Vulnerable' category (Gore *et al*., 2014; Shigwan *et al*., 2020) therefore we did not collect leaves of the specimen along with the caterpillar for rearing. After a fortnight the site was visited again in search of further larval stages but there were no signs of it. This might be due to continuous heavy rains in the region. Therefore, the full life cycle was not observed on the plant. It was inferred that the plant is an unreported larval host plant from the fact that two different instars of the butterfly were feeding on the leaves.

*Ceropegia* belong to the milkweed family and are the species of concern from the point of view of its distribution, ecology, and vulnerability. The fact that they are larval host plants of a few danaine butterfly species and this observation adds new information to the known larval hosts plants of *D. chrysippus*,

**ACKNOWLEDGEMENT**

We are grateful to both the Departments (Biological Sciences and Environmental Studies) of MIT World Peace University for the necessary support.

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Fig. 1. (A) *Ceropegia sahyadrica* in its habitat — High elevation hill slopes (Captured at Sinhagad Fort). (B) *Danaus chrysippus* larva on *C. sahyadrica*. (C) Young caterpillar feeding on leaves (D) Matured caterpillar. (Photo credits: Ameya Deshpande & Chintan Bhatt)