

A WIDESPREAD INFESTATION OF *CYCLOPDELTA SICCIFOLIA* (HEMIPTERA: HETEROPTERA: DINIDORIDAE) ON *BAUHINIA PURPUREA* L. (PURPLE ORCHID TREE) IN DAUND TALUKA, DISTRICT PUNE (MAHARASHTRA)

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Article History: Received 13th November 2025; Accepted 10th January 2026; Published 31st January 2026

ABSTRACT

In Daund taluka, Pune district, Maharashtra, India, a large-scale infestation of *Cyclopelta siccifolia* (Hemiptera: Heteroptera: Dinidoridae) on the purple orchid tree *Bauhinia purpurea* L. (Fabaceae) was noted. Through sap-feeding, this bug, which is known to form enormous aggregations on host plants, seriously damaged trees, causing yellowing of the leaves, early drop, and restricted growth. *Cyclopelta siccifolia* Westwood belongs to Dinidoridae, characterized by its broad body, reddish-brown coloration, and gregarious behaviour. Nymphal and adult aggregations, often numbering more than the hundreds per tree, covered branches and foliage during the monsoon season. The *Bauhinia purpurea* plant in this instance was severely afflicted by *C. siccifolia*, which mostly likes leguminous hosts.

Keywords: *Cyclopelta*, Pentatomidae, *Bauhinia* plant, Daund, Westwood.

INTRODUCTION

The purple orchid plant, *Bauhinia purpurea* L., is a blooming member of the Leguminosae family. This plant's leaves, stem, flowers, and pods are all edible and have a variety of therapeutic uses. There are 300 species in the genus *Bauhinia*, family Leguminosae (Subfamily: Caesalpinioideae), with about 15 species known to exist in India as trees, shrubs, or a few climbers (Gupta *et al.*, 2024).

The dinidoridae belonging to the superfamily pentatomoidea under the suborder Heteroptera, as this family comprises 65 species under the 16 genera and are separated into two subfamilies. They have huge, robust bodies with keeled heads (Henry, 2009). The scutellum has a broad apex and does not extend past the middle of the abdomen. The hemelytra have enormous membranes. The two main characteristics of this family are the broad membrane and the tiny scutellum. It is extensively dispersed (Distant, 1902). Dinidoridae is a small family of pentatomoidea present mostly in the afro tropical, Indomalaya and Oceanian realms. The dinidoridae of the world wide comprises 95 species under the 16 genera in the

catalog of the dinidoridae of the world (Rolston *et al.*, 1996). Three dinidoridae species belongs to one genera *Coridius* reported from Chhattisgarh, India during the period of 2011 (Biswas *et al.*, 2014). Five species of dinidoridae under 4 genera were recorded from India by Datta *et al.*, 1985. Also, three species of dinidoridae belonging to two genera i. e. *Cyclopelta* and *Coridius* were found from Madhya Pradesh during the period of 2014 (Chandra *et al.*, 2014). Heteropteran bugs frequently aggregate for mating or parental care, primarily in the families Coreidae, Pentatomidae, Dinidoridae, Rhopalidae, and Blissidae (Hassan *et al.*, 2016).

MATERIAL AND METHODS

Daund region is It's located about 76-80 km from the city of Pune. Daund is a significant town and tehsil (sub-district) in the Pune district, Maharashtra, India, situated on the Bhima River and known for its major railway junction connecting to Mumbai, Chennai, Solapur, and Hyderabad, making it a key transport hub in the region. Coordinates: 18°27'47"N 74°34'44"E / 18.4631°N 74.5789°E / 18.4631;

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74.5789. Daund, is a significant agricultural region known for crops like sugarcane, wheat, cotton, oranges, and sweet

limes, with its farming activity.



Picture 1. Host plant of *Cyclopelta siccifolia*, 2, 3, 4, 5. Heavy infestation of *Cyclopelta siccifolia* obtained from *Bauhinia purpurea* L. from Daund taluka.

Collection and preservation method: The *Cyclopelta Siccifolia* bugs were collected by hand picking method from purple orchid plant, *Bauhinia purpurea* L., from Daund region. The slow motion of the bugs makes handpicking ideal for non-crop trees like *Bauhinia*. The bugs were then killed by chloroform in the killing jar bottle and then it is preserved in glass bottle by 70% alcohol.

RESULTS AND DISCUSSION

Beyond usual hosts like *Millettia pinnata* and *Sesbania*, this represents a newly recorded host connection with *Bauhinia purpurea* on 16th November 2025 in Daund taluka, Pune, Maharashtra. After two to three years of repeated infestation, the Dinidoridae bug *Cyclopelta siccifolia* creates large aggregations on Fabaceae hosts, inflicting sap-feeding damage that weakens trees and may even cause mortality. Infestations on the Fabaceae ornamental *Bauhinia purpurea* may result in leaf burn, wilting, and sooty mold, although precise Daund damage details are still unknown outside of human observation. *Cyclopelta Siccifolia* Westwood, 1837, Body is black. Ventral part of the body is brown. Head is small, the lateral lobes are little longer than the central lobe. Antennae are four segmented. First segment is longer than the central lobe of head. Rostrum is reaching to the mesothoracic coxa. The lateral angles of pronotum are round. The scutellum is short and the apex is long and broad. It has a pale reddish spot at the base in the centre. The membrane is brownish in colour. Connexivum is brownish black and not having the any spots. Length is 11 to 16mm.

Kulkarni *et al.*, (2012) recorded the first-time occurrence of *Cyclopelta siccifolia* on *Holigarna grahmii* from Maharashtra of India. Rudresh and Hosetti, (2013) reported *Cyclopelta siccifolia* on *Pongamia glabra* from Western Ghats. *Pongamia glabra* (now it is called as *Pongamia pinnata*) trees in the B.R. Project area in Shimoga, Karnataka, within the Western Ghats, were severely infested by pentatomid bugs, particularly *Cyclopelta siccifolia* Westwood (Pentatomidae: Heteroptera) (Naveed *et al.*, 2000). Joshi *et al.*, (2011), suggested brief notes on a noteworthy infestation occurrence that was seen in Pune, India, including unique photographic evidence of the effects of this dinidorid bug on a host plant.

A prominent pest on *Bauhinia purpurea* (Fabaceae: Caesalpinioideae) in Daund taluka, Pune district, Maharashtra, is the dinidorid bug *Cyclopelta siccifolia*, which is native to some regions of India. During the post-monsoon season (September–December), this decorative and sometimes fodder tree, also called the purple orchid tree, exhibits widespread infestation, with nymphs and adults congregating on delicate shoots, leaves, and inflorescences. Chlorosis, leaf bending, early defoliation, and decreased flowering are signs of damage that may affect local agroforestry applications and aesthetic value. Along with Kerala, Maharashtra, particularly Pune and nearby side regions, reports significant infestation rates.

There are no previous reports of *Bauhinia purpurea* for Daund, indicating a first regional relationship that might be related to the local climate or environment.

CONCLUSION

An underreported Hemiptera danger in Maharashtra's urban-rural interfaces is highlighted by the extensive *C. siccifolia* infestation on *Bauhinia purpurea* in Daund taluka, necessitating careful IPM to protect ornamental biodiversity. While taxonomic studies may show more extensive Pentatomomorpha-host interactions in changing climates, prompt, tailored treatments can reduce damage.

ACKNOWLEDGEMENT

I am grateful to Dr. H.V. Ghate, taxonomic expert at the Modern College, Shivajinagar, Pune for confirming the species through morphological examination.

CONFLICT OF INTERESTS

The authors declare no conflict of interest

ETHICS APPROVAL

Not applicable

FUNDING

This study received no specific funding from public, commercial, or not-for-profit funding agencies.

AI TOOL DECLARATION

The authors declares that no AI and related tools are used to write the scientific content of this manuscript.

DATA AVAILABILITY

Data will be available on request

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