

A Preliminary Study on Biodiversity of Beetles from Veer Wajekar Arts Science and Commerce College, Phunde Tal- Uran, Dist-Raigad

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Abstract: The insect is the most diverse group of animals present on the earth playing important role in the ecosystem. Beetles belong to the order Coleoptera constituting a major part of all known lifeforms. Anthropogenic activities in the surrounding college impact the population of beetles. The present study was conducted to prepare a checklist of beetles found on the campus of Veer Wajekar College. The study was carried out from June 2022 - December 2022. In this study, a total of 14 species were recorded from 4 different families, Chrysomelidae, Coccinellidae, Meloidae, and Curculionidae, from this Chrysomelidae, was the most dominating Family.

Keywords: Beetles, Biodiversity, Uran, Coleoptera, Ecosystem.

I. INTRODUCTION

The category of organisms with the greatest variety of species on Earth is comprised primarily of arthropods and insects. They rule every significant terrestrial biome and are in charge of numerous crucial environmental processes. [1] Coleoptera can be found in almost every natural habitat, which includes vegetative vegetation such as trees, their bark, flowers, leaves, and tissue from dead or decomposing plants as well as areas underground near their roots. [2] There are some species that can adapt to almost any type of diet. The beetle is a good indicator of environmental changes in temperature, humidity, and soil characteristics.

[4] A number of animals graze on vital plant parts like flowers, fruits, and seeds, which hurts our economy. Predator species play an important role in biological pest management. [5] Uran Tehsil is where Veer Wajekar ASC College is situated. Urbanization, industrialization, land filling, mangrove clearing for reclamation, shipping, and port-related activities have severely harmed Uran's ecosystem and fragmented its natural habitats. The ecosystems are under a great deal of stress as a result of the planned fourth port at JNPT, Special Economic Zone (SEZ) development, and port-related activities. The habitat and population of beetles may be affected by anthropogenic activities on the Veer Wajekar College campus and its surroundings. The purpose of the current study is to gather basic information about the insect flora at Veer Wajekar ASC College in Phunde. [6]

II. MATERIALS AND METHODS

Study Area:

The research was done between June 2022 and December 2022. Veer Wajekar ASC College is situated between 18.53 and 72.58 degrees north and east. Surveys were taken from 7 am to 5 pm during the day. Using a DSLR camera, beetles were captured before being put back into their native environment. Several reference materials and guides were used to identify beetles. [7]



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III. RESULT AND DISCUSSION

Between June 2022 and December 2022, an effort was conducted to look into the biodiversity of beetles on the Veer Wajekar ASC College Phunde site. Throughout the course of the investigation, a total of 14 individual beetles from 14 genera and 14 species in four families were counted. The four families Chrysomelidae, Coccinellidae, Meloidae, and Curculionidae were noted in the survey. Chrysomelidae, one of these families, has the most species, six species in six genera. With three species and three genera, Coccinellidae and Curculionidae are the two families with the second most species. Meloidae has a minimum of two species reported. Loss of habitat or changes in climatic circumstances may be to blame for the decline in species.

Arya et al. reported [8] a total of 734 individuals of beetles from Navsari Agricultural University that belonged to 23 species, 18 genera, and 6 families. With regard to the overall number of species, the Scarabaeidae family had the most species (8), followed by the Chrysomelidae (5 species), Coccinellidae (2 species), Meloidae (2 species), Lagriidae (1 species each), and Tenebrionidae. From the Jalgaon district of Maharashtra, India, Pawara et al. (2012) investigated 35 species from 28 genera and 13 families of the order Coleoptera. Nine species made up the main family, Scarabaeidae. [9] From the Kopergaon Tehsil, Trimbak S 2018 identified a total of 29 species across 23 genera and 8 families. The monsoon was the best time of year for beetles. [10]

Table 1. Checklist of Beetles Species of Veer Wajekar ASC College, Phunde

Sr.No.	Genus	Species	Family
1.	Aulocophora	foviecollis	Chrysomelidae
2.	Cassida	circumdata	Chrysomelidae
3.	Charidotella	sempunctata	Chrysomelidae
4.	Psylliodes	affinis	Chrysomelidae
5.	Podagric	fuscicornis	Chrysomelidae
6.	Sagra	femorta	Chrysomelidae
7.	Coccinella	transversalis	Coccinellidae

8.	Illeis	cincta	Coccinellidae
9.	Henosepilachna	vigintioctomaculata	Coccinellidae
10.	Cylindralcides	bubo	Curculionidae
11.	Lixus	angustatus	Curculionidae
12.	Sternuchopsis	karelini	Curculionidae
13.	Epicauta	vittata	Meloidae
14.	Mylabris	pustulata	Meloidae

Fig 1: Pictorial checklist of Beetles species of Veer Wajekar ASC College, Phunde

