

Mapping biological diversity in the caves of Vengurla Rocks Archipelago, Sindhudurg, Maharashtra

SACON Technical Report – PR222

Submitted to



Mangrove and Marine Biodiversity Conservation Foundation of
Maharashtra - Small Grants Program

Submitted by

Principal Investigator: Dr. Manchi Shirish S.

Co-Investigator: Dr. Goldin Quadros

Research Fellow: Dhanusha J. Kawalkar



Sálim Ali Centre for Ornithology and Natural History, Anaikatty

P.O., Coimbatore – 641108

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Vengurla Rocks Archipelago

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Abstract

The present study was proposed to understand and map the cave faunal diversity of the Vengurla Rocks Archipelago. We explored the archipelago and recorded four caves. The only accessible cave named '*Pakoli Dhol*' is on Burnt Island. The *Pakoli Dhol* was divided into transects of 1 m in width with a maximum of 2.5 m in height on walls, amounting to a total effort of 54 fixed-width transects. We conducted eight repetitive surveys. All the species recorded were identified using photographic methods. However, since some vertebrates and most invertebrates can be identified only by laboratory examination, the essential ones were collected whenever required. Since identifying fauna, especially invertebrates up to species level, is time-consuming, we report such fauna only up to the Order level. We generated 2D and 3D maps of the study cave using standard survey methods. This sea cave, known as the Indian Swiftlet nesting site, is 54 meters in length and 18 meters in height. Algae was observed inside the study cave during all the seasons (pre-monsoon, monsoon, and post-monsoon). As for fauna, we recorded fishes, nematodes, crabs and gastropods from the tide pools at the entrance and inside the cave. Five vertebrate and 21 invertebrate orders were documented during the entire study period covering pre-monsoon, monsoon, and post-monsoon seasons. Of the 21, only six orders depicted significant (>5% of total) presence. The most dominant Order was Araneae (22.13 %), followed by Diptera (18.08 %) and Hymenoptera (15.07 %). Most invertebrate orders (80.9 %) use the Entrance Zone, only 42.8 % use the Twilight zone, and 33.3% of orders were observed in the Dark Zone. Around 23.08% of orders were found using all three-zone, 28.5% of orders were using the twilight zone, and 9.5% were exclusively found in the dark zone. The high invertebrate diversity in the pre-monsoon (15 invertebrate orders) and post-monsoon (10 invertebrate orders) seasons can be attributed to the ambient micro-climate and ample food resources available inside the cave.

Considering the high species diversity inside the caves, we do not suggest any cave tourism here. Instead, we identified the geo-tourism possibilities on one of the islands as an opportunity to develop a sustainable alternate livelihood for local people.