Ponda Education Society's
Ravi S. Naik College of Arts and Science,
Farmagudi, Ponda, Goa.

EXECUTIVE SUMMARY

OF UGC MINOR RESEARCH PROJECT

File No.47-1063/09/(WRO)

ANT FAUNAL DIVERSITY

IN BONDLA WILDLIFE SANTUARY, GOA

Dr. S H Bhosale,
Co-Investigator
Associate Professor,
Department of Zoology,

Mrs. Teja Ajay Gramopadhye,
Principal Investigator
Associate Professor
Department of Zoology

Annexure -VIII

UNIVERSITY GRANTS COMMISSION

BAHADUR SHAH ZAFAR MARG NEW DELHI – 110 002.

Final Report of the work done on the Minor Research Project.

1. Project report No. ~~1st/2nd/3rd/~~ **Final**

2. UGC reference No F - **File No.47-1063/09/(WRO)**

3. Period of report: **2010 to 2012**

4. Title of the project **Ant Faunal Diversity in Bondla Wildlife Sanctuary, Goa**

5. (a) Name of the project Investigator : **Mrs. Teja Ajay Gramopadhye**
   (b) Deptt : **Department of Zoology**,
   (c) University/college where work has progressed : **Zoology dept. @ P.E.S's RSN College of Arts and Science, Farmagudi, Ponda, Goa.**

6. Effective date of starting of the project : **20th January 2010**

7. Grant approved and expenditure incurred during the period of the report
   (a) Total amount approved **Rs. 1,35,000.00**
   (b) Total expenditure **Rs. 1,35,000.00**
   Amount released – **1st installment- Rs. 1,07,500.00**
   2nd Installment of Rs.27,500.00 not yet released by UGC

   (c) **Report of the work done**
   Brief objective of the report :
   - **The objective was to study and document with proper taxonomic identification of Ant fauna in Bondla Wildlife Sanctuary.**
   - **To prepare a checklist along with microhabitat data**

ii. Work done so far and results achieved and publication , if any , resulting from the work - **Nil**

iii. Has the progress been according to original plan of work and towards achieving the objective if not , state reasons – **Yes**

iv. Final Copy : **The final copy of the report is enclosed**

Dr. S. H. Bhosale	**Dr. A. S. Dinge**	**Mrs. Teja Gramopadhye**
Co-investigator	Principal	Principal-investigator

UGC SPONSORED RESEARCH PROJECT ENTITLED ‘ ANT FAUNAL DIVERSITY IN BONDLA WILDLIFE SANTUARY, GOA’

Principal Investigator : **Mrs. Teja Ajay Gramopadhye,**
Departments of Zoology, P.E.S’s RSN College of Arts and Science, Farmagudi, Ponda, Goa.

EXECUTIVE SUMMARY

Among the tropical nations India stands out as a fascinating destination, with an incredible diversity among its flora and fauna. All round development will become possible only by exploring the vast potential of the still unknown resources of nature.

The Class Insecta form a major part of the animal biomass in the ecosystem and in recent times they have been used as indicator species. Ants are important components of ecosystem, not only because they constitute a great part of the animal biomass but also act as ecosystem engineers. All the known species of ants are eusocial. Ant represents a unique focal group, to be monitored due to their ability to navigate across all trophic levels, along with their sensitivity to any changes in the environment.

The study carried out at the Bondla Wildlife Sanctuary, Goa aims to determine the species and assemblages of the ant fauna. The existing checklist of ant fauna from Bondla Wildlife Sanctuary indicates that only genus and species belonging to 7 subfamilies of ants have been listed. No investigation seems to have been undertaken so far to document the ant fauna in Bondla Wildlife Sanctuary. Hence the present study was undertaken to pioneer this task of investigating the ant fauna diversity of the Bondla Wildlife Sanctuary, Goa.

During the present investigation, ant samples were collect from 4 sites in the jurisdiction of Bondla Wildlife Sanctuary by pitfall trap, scented trap and by extensive all out search method. The collected samples were identified up so genus and species level according to the keys (by B Bolton, Holdobler & Wilson, 1990) and (Ajay Narendra and Sunil Kumar M, 2006). The collected samples were preserved in 70% alcohol for further study.

The result summarises a total of 45 species of ants belonging to 25 genera and 7 sub-families. Among them sub-family Myrmicinae was the most predominant one, followed by sub-family Formicinae. The dominant genera observed were Camponatous, Oecophylla, Crematogaster,

Lepisiota, Diacamma, Leptogenys, Aphaenogaster, Aenictus, Anoplolepis, Paratrechina. The most frequently occurring species among the ant samples were Weaver ants *Oecophylla smaragdina*, Carpenter ant and Crematogaster spp. Of all the 4 sites studies, Site 2 and Site 3 showed the maximum diversity with respect to the Ant species. These two sites showed mixed vegetation whereas Sites 1 and Site 4 showed less diversity.

Tthe Bondla Wildlife Sanctuary, which has an area of 8 sq. kms., being a small area and covered with Moist Decidous Forest with small patches of Evergreen forest along the nullahs and also a Zoo inside, has a rich ant faunal diversity. This study emphasis the dominancy exhibited by the sub-family Myrmicinae within the ant community, due to their ability to adapt to different niches with a variety of feeding habits.

It is now widely recognized that tropical habitats face much greater threat of destruction than other regions of the globe. This makes the study of the tropical insect communities specially ants, both Urgent and Challenging. It is also noted that the economic conditions of the most tropical countries make a certain amount of developmental activity inevitable. For this reason, ecologists are being increasingly called upon to make assessments of the impact of such developmental projects on tropical biotic communities.

The results of the present study are preliminary and provide the Ant species richness and diversity of the Bondla Wildlife Sanctuary. The result of the present investigation justifies the launching of more detailed investigations on the role of ants in the tropical forest of Bondla Wildlife Sanctuary, Goa and the possible use of ants as indicators of ecological disturbance and of the cause of variation in ant species diversity richness.