

DISTRIBUTION OF ANTS (FORMICIDAE) DIVERSITY FROM GHATBORI FOREST REGION OF MEHKAR, BULDHANA DISTRICT (M.S.), INDIA

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ABSTRACT: - The distribution of ant's diversity in Ghatbori forest region of Mehkar, Buldhana District has been studied. Ghatbori forest is located to the south-east of Buldhana city. In this forest we are collecting and an identified different type of ant's belonging to family formicidae. This study was tried to analyze distribution of ant diversity. In Ghatbori forest ten different species of ant's were identified namely *Camponotus pennsylvanicus*, *Paratrechina longicornis*, *Tapinoma melanocephalum*, *Tapinoma sessile*, *Technomyrmex albipes*, *Crematogaster*, *Pheidole*, *Monomorium minimum*, *Monomorium pharaonis*, *Solenopsis* were observed. Out of these *Camponotus pennsylvanicus* and *Tapinoma sessile* was most abundant in study region.

KEYWORDS: formicidae, *tapinoma sessile*, Ghatbori forest, ant diversity

INTRODUCTION

The ant family contains more than 4,500 described species that can be found in a tropical and temperate area around the world. Ants are member of family of the social insects meaning that they live in organized colonies. Ants make up the family of Formicidae of the order Hymenoptera. Most of the described and unknown species are found in the forest, however, due to the distribution of those forest most of them will probably never be categorized. Ants are found on all continents except Antarctica, and only a few large islands. (Jones and Alice S. 2008; Thomas and Philip 2007).

According to Shabina A. Nagariya and Santosh S. Pawar 2012 three species of ant was dominant and abundantly found. Most ant build some sort of nest under and above the ground, in trees and houses where they live and bring their food to, but are generally omnivorous, but some need special food. Myrmecology (Prons; m3rmi, from Greek; myrmex: ant and >logos, study) is the scientific study of ants, branch of entomology. Some early myrmecologist considered ant society as the ideal forms of sociality and shout to find solution to human problems by standing them.

MATERIALS AND METHODS :

Study area

The Ghatbori forest is situated about 65Km south-east of Buldhana city at a latitude of 20°-15'-05". The Mun dam lies on 76°-56'-76". Longitude and covers an area of the forest is fulfilling with diversity of different insects, animals and plant species. Ghatbori forest faces extreme variation in climatic condition with very hot summer and very cold winter as well as average rainfall. The annual average rainfall in the forest ranges between 800mm to 850mm and temperature ranges between 18°C to 45°C.

Collection of ants of family formicidae:-

Various methods of collection of ants are as per different studies. The type of vegetation determines the kind of ants, (Formicidae) were collected from the different locations of forest. The capture and collected ant species kept into dry container or directly transfer into absolute alcohol. Methods suggested by Koh (1989) namely refer for the collection and preservation of ants.

Identification of ants: - Ants (Formicidae) collected from the Ghatbori forest region was identified by using identification key (Mathews R. N. and Tiwari 2000; Bolten B, 1994; and Krebs C.J. 1999)

RESULT AND DISCUSSION

Ants are social insect of the family Formicidae. The family Formicidae belongs to the order Hymenoptera, which also include sawflies, bees and wasps. Fossil evidence indicates that ants were present in the late Jurassic, 150 millions year ago. Ants are distinct in their morphology from their insects in having elbowed antennae, metapleural glands. Ant societies have division of labour communication between individual and an ability to solve complex problems. Ant bodies, like other insects, have an exoskeleton, and external covering that provides a protective casing around the body and a place to attached muscles.

Identified Species:-

1. Camponotus pennsylvanicus:-



Vertex of head is indented, non with a deep groove. Antenna is 10 segmented. Two Numbers of teeth present on the front of head. Eyes are large and black in colour. Spines are absent on the thorax and thorax is smooth and evenly rounded when viewed from the site. One node is present. Abdomen is divided in to four segments. Small spiny hairs present on the abdomen.

2. Paraterechina longicornis:-



Vertex of head is with deep groove head pattern with foveoled punctures. Mandible is with distinct teeth and triangular shape. Two numbers of teeth present on the head. Eyes are large and black in colour. Ten segmented antenna are present. Spines are absent on the thorax. Thorax is uneven when viewed from the side. One node is present. No circle of hairs at the tip of the abdomen. Small spiny hairs are present on the abdomen and it divided into five segments.

3. Tapinona melanocephalum:-



Vertex of head indented, non with a deep groove. Head pattern is without foveolet punctures. Mandible are triangular and with distinct teeth. Two teeth present on

head. Eye is large in size and reddish to orange brown in colour. Ten segmented antennae are present on the head with two segmented club. Spines are absent on the thorax. Thorax is uneven when viewed from the side. One node is present. Abdomen divided into four segments. Small spiny hairs present on the abdomen. No circle of hairs at the tip of the abdomen. Stinger are absent on the abdomen.

4. Tapinoma sessile:-



Vertex of head indented, non with a deep groove. Head pattern is without foveolet punctures. Mandible is with distinct and teeth with triangular in shape. Two teeth present on the front of the head. Eye is large with reddish to orange brown in colour. Twentieth segmented antennae are present on head without club. One pair of spine present on the thorax. Small spiny hairs present on the body. One node is present. Abdomen divided into four segment small spiny hairs present on the abdomen. Circle of the hairs at the tip of the abdomen are present. Stinger is absent.

5. Technomyrmex albipes:-



Vertex of hair is with deep groove head pattern without foveolet punctures. Mandible is without teeth and elongated and linear. Numbers of teeths are absent. Eye is large in size. Body colour is reddish to orange brown. Twentieth segmented antennae are present on the head without club. Thorax is uneven when viewed from the side. Two pair of spine present on thorax. One node is present. Abdomen divided into five segments. Small spiny hair present on the abdomen. No circle of hair at the tip of the abdomen. Stinger are absent on the abdomen.

6. Crematogaster:-



Vertex of head is with a deep groove. Head pattern is without feveolet punctures. Mandible is without teeth and triangular in shape small spiny hair present on the hair. Two teeth present on the front of the head. Eye is large in size with yellow to light brown in colour. Three segmented club are present. One pair of spine present on the thorax. Thorax is uneven when viewed from the side. Small spiny hairs present on the thorax. Two nodes are present on the petiole. Circle of hair present at the tip on the abdomen. Abdomen is divided into four segments. Small spiny hairs present all over the body. Stingers are present on the abdomen.

7. Pheidole:-



Vertex of head is with deep groove. Head pattern is with foveolet punctures. Mandible are without teeth and triangular in shape. Eye size is small with reddish to orange brown in colour. Twentieth segmented antennae are present on the head with three segmented club. No teeth are present on the front of head. One pair of spine present on the thorax. Thorax is uneven when viewed from the side. Small spiny hairs present all over the body. Two nodes are present. Abdomen divided into four segment and small spiny hair present on the abdomen. Circle of hairs are present at the tip of the abdomen and stinger are absent.

8. Monomorium minimum:-



Vertex of head with a deep groove and head pattern is foveolet punctures mandible with distinct teeth, elongated and linear in shape two teeth are present on the front of head. Eyes are large and black in colour. 10 segmented antennae are present with three segment club. Spines are absent on the thorax. Thorax is smooth and evenly rounded when viewed from the side. Small spiny hairs are present on the thorax. Two nodes are present on petiole. Circle of hair present at the tip of abdomen. Abdomen is divided into four segment and stinger are absent on the abdomen. Small spiny hairs present all over the body.

9. Monomorium pharaonis:-



Vertex of head is indented, non with a deep groove. Head pattern is with foveolet punctures and mandible is with a distinct teeth. Mandible shape is elongated and linear. Eyes are small in size. Eye colour is black. Twentieth segmented antennae are present on head. Two teeth are present on the front of head. Spine are absent on the thorax. Thorax is smooth and evenly rounded when viewed from the side. And two nodes are present on petiole. Abdomen is divided in to four segmented and circle of hair present at tip of abdomen. Small spiny hairs are present all over the body. Stringers are present on the abdomen.

10. Solenopsis:-



Vertex of head is indented, non with a deep groove. Head pattern is without foveolet punctures mandible is with distinct teeth. Mandible shape is elongated and linear. One pair of teeth present on front of the head. Eyes are small in size. Eye colour is reddish to orange brown. Ten segmented antennae are present on head is with a two segmented club. Spine are absent on the

thorax. Thorax is uneven when viewed from the side. Abdomen is divided in to four segmented and circle of hair present at tip of abdomen. Small spiny hairs are present all over the body.

CONCLUSION

The present study has been focused on diversity of ants and its environmental associations. Our results will help for assessing the richness and diversity of ants. This investigation also focuses on reducing the number of ant species due to human activity and helps in improve social and cultural importance of forest and its scenario.

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