International Journal of Biology Research
ISSN: 2455-6548; Impact Factor: RJIF 5.22
Received: 28-12-2020; Accepted: 16-01-2021; Published 05-02-2021
www.biologyjournal.in
Volume 6; Issue 1; 2021; Page No. 01-03

First report of ants (Formicidae) species inhabiting on mango trees of District Matiari, Sindh, Pakistan

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Abstract
This research was based on diversity of ants (Formicidae), started from the year March 2017 to November, 2018. Total 2437 specimens were collected and sorted out into five species, *Camponotus compressus (Fabricius, 1787), Camponotus confuccii Forel, 1894, Meranoplus bicolor (Guerin-Meneville, 1844, Poly rhachis hogsoni, Lioponera longitarsus Mayr, 1879,* and two subfamilies, Formicinae, Ponerinae, Four genera namely Camponotus, Meranoplus, Polyrhachis and Lioponera. All Pictures were captured with the help of Stereoscopic microscope. Identification was done with the help of keys given by Bolton, 1994.

Keywords: diversity, ant's formicidae, mango trees, Matiari, Sindh, Pakistan

Introduction

Associations of few animals are very significant for agriculture. Such as earth worm is well-known for the soil fertility, bees with pollinations, mantids and spiders with pest control, house fly cleanses of debris etc in the same way the ants perform all roles (Predators, Scavengers, Pollinators, Soil turners mean soil fertility and sometimes pests also) in the ecosystem [1]. They are social insects having a variety of colors. This work is support on the diversity of ants related with mango trees developed in Matiari Districts. Ant collection was prepared from mango tress by means of attraction similar to chicken visceral, sweets and insects while placed this bait on white paper sheets.

Ants are known as social insects that well in to family Formicidae and order Hymenoptera. They are known to appear about 120 million years before [15]. Depending upon exact modification, they can have green, black, red or metallic body. They are hemi metallic insects having creative impact. They are soil turners, symbol for the circumstances of ecosystem, predators, pollinators and scavengers to imperative part of food chain. Each species of ant has high impact on diversty. Which make influence diverclty or indirectly for growth and demolition of environment [11].Ants are weakly studied in Pakistan my research will open entrance for new researcher for future studies, particularly in the biological control and the pest managements.

Ants have crucial importance in the ecosystem [8]. Ants are very small arthropodes of the ecosystem [2, 11]. Ants lives in the forms of colonies having different castes I,e Queens, soldiers, workers and drons [3, 9]. Family Formicidae composed of 12000 different species of ants [4, 13].Ants have different morphological Characterstics, physiological and beavioral Characterstics [5, 10, 12]. Ants are dominant animals of ecosystem [6, 15]. Ants (Formicidae) Evoled from the wasp 115 to 135 million years ago [7, 14].

Materials and Methods

Matiari district is very important for Agricultural purposes, it is located at (25° 36' 0" North, 68° 27' 0" East ″) I have worked out my research from this District and their different sites, Hala, Odero lal station, Bhitt shah and Nasarpur. Survey was carried out during the year of 2017 and 2018. Ants' species samples were collected from mango trees. Collections were collected with the help of hand picking and using bait (sweets and chicken visceral).Five colonies were studied and total 2437 specimens were collected and preserved into 75% ethanol with few drops of glycerin in entomological boxes, after that collection were indentified into five species, two sub- families and four genera showed in (Table 1).

Fig 1: Showing Study site during collection of specimens

Results

We have collected total number of samples 2437, and studied 05 different colonies of ants from District Matairi along with its different locations, the material was arranged out into 05 species under 04 genera and 02 sub-famil of Family Formicidae (Table.1), Table; 2 Showing the total No. of Sub-families, Genera and Species found in Matiari from mango crop and Table; 3 showing The site wise collection of Ants (Formicidae) From Matiari.

Table 1: Showing species, sub- families and genera

Name of Species	Sub- Families	Genera
Camponotus compressus (Fabricius, 1787)	Ponerinae	Camponotus
Camponotus confuccii Forel, 1894	Myrmicinae	Meranoplus
Meranoplus bicolor (Guerin-Meneville, 1844)		
Poly rhachis hogsoni		Polyrhachis
Lioponera longitarsus Mayr, 1879		Lioponera

Table 2: Showing the total No. of Sub-families, Genera and Species found in Matiari from mango crop.

Species	05
Sub- Families	02
Genera	04

Table 3: The site wise collection of Ants (Formicidae) From Matiari

S#	Site Name	Number of Specimens
01	Matiari	544
02	Hala	315
03	Odero station	333
04	Bhit Shah	654
05	Nasarpur	591
	Total Specimens	2437

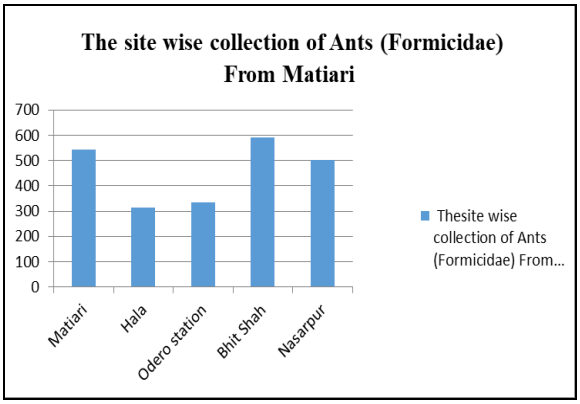

Fig 2: Histogram showing: The site wise collection of Ants (Formicidae) From Matiari

Fig 3: Ventral view of head of *Camponotus campresus*, (b) Dorsal View of the *Camponotus confucci*

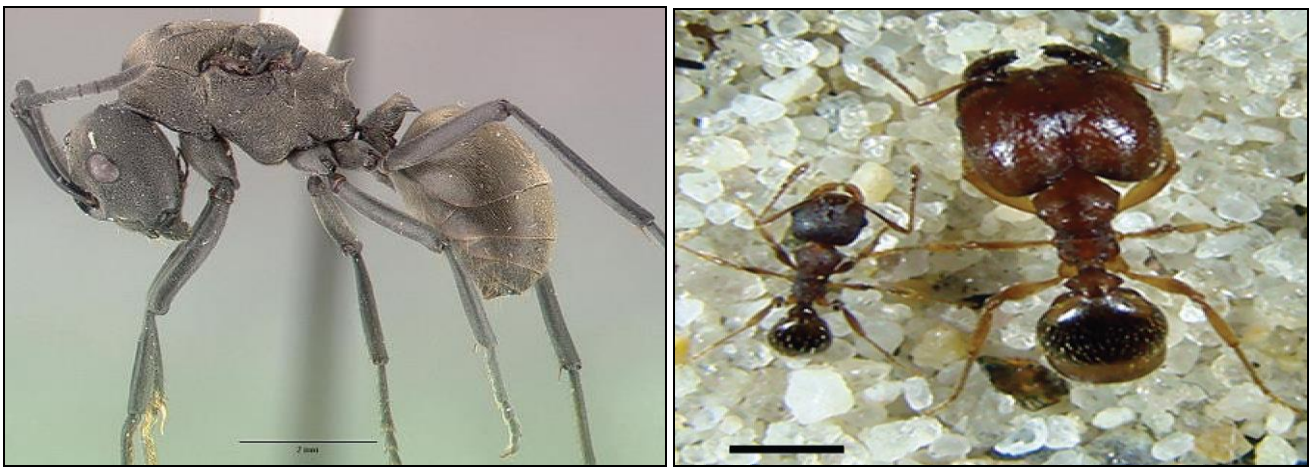

Fig 4: External morphology of Polyrhachis hogsoni

Fig 5: A) The external morphology of *Meranoplus bicolor* b) the external morphology of *Lioponera longitarus*

Discussion

Matiari is The Important District of Sindh, Pakistan, Matiari has so many Oriental, Palearctic and Ethiopian fauna. This research was conducted first time to find out existence of ants faunna species of the District Matiari Sindh, Pakistan. Out of 2437 specie mens of ants (Formicidae) are identified into five species Camponotus compressus (Fabricius, 1787), Camponotus confuccii Forel, 1894, Merano plus bicolor (Guerin-Meneville, 1844, Poly rhachis hogsoni, Lioponera longitarsus Mayr, 1879, and two subfamilies, Formicinae, Ponerinae, Four genera namely Camponotus, Merano plus, Poly rhachis and Lioponera. This is the first time work done on mango trees ants from District Matiari Sindh, Pakistan.

Conclusion

This work is done first time from district Matiari,Sindh, Pakistan, this study is a key for future researchers to explore ant fauna of Pakistan. Collections were sorted out into two sub- Families four genera and five species.

Acknowledgment

I am very Greatful to my Supervisor Prof. Dr. Tahira Jabeen Ursani, Department of Zoology, University of Sindh, Jamshoro and Co-Supervisor Dr Jawaid Ahmed Khokhar Assistant Professor Department of Zoology, University of Sindh, Jamshoro, for their support and guidance and special thanks tomy lab mate Mr Muhammad Luqman Bugi for his cooperation and suggestion during research work.

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