

Diversity of Ants (Hymenoptera : Formicidae) in an Organic Farm of North 24 Parganas, West Bengal

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The ants belong to a single, very large family, the Formicidae. In West Bengal it is represented by nearly 250 species. The aim of this study is to know the diversity of ants in an agricultural field of West Bengal, where organic manure has been used for growing crops and vegetables.

The study was carried out during May, 2015 to April, 2016 in an agricultural field of Gobardanga, under Block-Gaighata, of District North 24-Parganas. The crops in that area are mainly Paddy and some green leafy vegetables like Spinach (*Spinacia oleracea*), Ladies finger (*Abelmoschus esculentus*), Til (*Sesamum indicum*), Lal Shak (*Amaranthus gangeticus*) etc.

After collection, the ants were preserved in 70% alcohol. Mounting and tagging was done following standard procedure. Identification up to genus level was done as per Holldobler & Wilson (1990), Bolton (1994) and Sheela (2008) and up to species level as per Bingham (1903), Bolton (1977) and Ward (2001).

In the present study, 24 species of ants belonging to 19 genera and seven sub-families were encountered.

Diversity of vegetation might have an influence on ants' diversity. Organic manure like chicken litter, excreta of cattle and vegetable compost may also have the potentiality to attract and create colonies of ants by providing various food sources. Based on the frequency of observation, ant species are classified as very rare (observed < 20%), rare (observed 20% - 40%), regular (> 40% but < 60%) and abundant (> 60%). The study reveals that *Solenopsis geminata* (Fab.) is most abundant species.

The list of ant species observed in an organic farm, N 24 Pgn., W. Bengal, is given as follows :

Order : Hymenoptera

Family : Formicidae

Subfamily : Aenictinae

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|--------------------------------------|------|
| 1. <i>Aenictus</i> sp. | Rare |
| 2. <i>Aenictus ceylonicus</i> (Mayr) | Rare |

Subfamily : Dolichoderinae

- | | |
|--|---------|
| 3. <i>Tapinoma melanocephalum</i> (Fab.) | Regular |
|--|---------|

Subfamily : Formicinae

- | | |
|--|-----------|
| 4. <i>Anoplolepis gracilipes</i> Smith | Rare |
| 5. <i>Camponotus compressus</i> (Fabr.) | Abundant |
| 6. <i>Camponotus sericeus</i> (Fab.) | Abundant |
| 7. <i>Lepisiota opaca</i> (Forel) | Rare |
| 8. <i>Oecophylla smaragdina</i> Fab. | Very rare |
| 9. <i>Paratrechina longicornis</i> (Latr.) | Abundant |
| 10. <i>Polyrhachis illaudata</i> Walker | Regular |
| 11. <i>Polyrhachis lacteipennis</i> Smith | Regular |
| 12. <i>Polyrhachis rastellata</i> (Latr.) | Regular |

Subfamily : Myrmicinae

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|---|-----------|
| 13. <i>Crematogaster rogenhoferi</i> Mayr | Rare |
| 14. <i>Crematogaster subnuda</i> Mayr | Very rare |
| 15. <i>Meranoplus bicolor</i> (Guer.) | Regular |
| 16. <i>Monomorium pharaonis</i> (Linn.) | Regular |
| 17. <i>Myrmecaria brunnea</i> Saunders | Rare |
| 18. <i>Pheidole</i> sp. | Regular |
| 19. <i>Solenopsis geminata</i> (Fab.) | Abundant |

Subfamily : Ponerinae

- | | |
|---|---------|
| 20. <i>Diacamma rugosum</i> (Le Guill.) | Regular |
| 21. <i>Leptogenys processionalis</i> (Jerdon) | Regular |
| 22. <i>Bothroponera rufipes</i> (Jerdon) | Regular |

Subfamily : Pseudomyrmicinae

- | | |
|---|------|
| 23. <i>Tetraoponera rufonigra</i> Smith | Rare |
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Subfamily : Dorylinae

- | | |
|--|------|
| 24. <i>Dorylus orientalis</i> Westwood | Rare |
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This study provides a preliminary knowledge on the diversity of ants in an agricultural field where various crops and vegetables have been grown and organic manure has been applied. Detailed study may generate much more diverse ants fauna, which may be considered as worthy to the taxonomic study on ants in West Bengal.

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Letters

Thank you for recently sending us Vol. 18 No. 2 (Apr-Jun 2016) of "Bionotes"—we will gratefully add it to our collection.

According to our records, we did not receive Vol. 18 No. 1 and I wondered if it would be possible for you to supply us with a copy? Apologies if this was sent to us, however it does not seem to have reached us.

Many thanks for your assistance.

—Bobbie Winter-Burke,
Serials Librarian (Presentations & Exchanges),
Library and Archives,
The Natural History Museum,
London SW7 5BD (United Kingdom).

My name is Jeyanth and I'm working with the development sector for the past 20 years. I have completed my Masters in Physics and Social Sciences and worked with National and International NGOs.

With my grass-root level experience I have published 44 articles in various National and International Journals.

I came to know that you are publishing 'Bionotes'. I have prepared an article titled, 'Integral role of Ocean and Climate', by Jeyanth K. Newport & Keny J. Newport, which highlights the importance of ocean.

I request your esteemed Newsletter to consider this article for publication.

—Jeyanth K. Newport,
IISD, Yesudian Street,
Nagercoil-629 001 (Tamil Nadu).

Dear Sir

My son is a dedicated Butterfly enthusiast and has sighted the Dark Himalayan Oakblue *Arhopala rama* (Lepidoptera : Papilionoidea : Lycaenidae : Theclinae) from Tenga valley, W. Arunachal Pradesh. This appears to be the first record of the species from Arunachal Pradesh.

Please guide how can an article be submitted to you for publication?

Thanks and best wishes,

—Bhanu Pratap,

E-mail : bhanupratap2@gmail.com



Dear Dr. Varshney,

The BBC World Service carried news of the 'A Synoptic Catalogue of the Butterflies of India', in Newshour today. Here is the link : <http://www.bbc.co.uk/programmes/p036hn7k>

The news is from 42.12 to 45.00 of this program.

Warm regards,

—Peter Smetacek,

The Retreat, Jones Estate,
Bhimtal, Nainital (Uttarakhand).



Garbage plantation

Today garbage disposal has become a major problem. The heaps of garbage are seen near every city. This garbage can be converted into thick plantation site.

The tissue culture of any plant can be produced in millions. These tissue-cultured saplings can be spread on the heaps of garbage in the beginning of the rainy season. This operation can be done through helicopter. Even if 25% of the plants survive, whole area will be green within 5 years. This is the easiest and better method of converting 'garbage into greenery'.

Rain water harvesting : Sieve plantation method

This paper was presented at the Centre for Science & Environment, Delhi.

Use of sewage water for plantation

Even sewage water can be used for raising plantations, after a little treatment.

CSSRI, Karnal (Haryana), has developed such technology. Dr. Ranbir Chhabra, Scientist there can be contacted.

I retired as Professor, Osmania University, Hyderabad, working as Environmentalist for the last 30 years. As Green Belt Officer, I planted 2.5 lakh of plants in Osmania campus. As convener of 'Save Lakes', saved 170 lakes of Hyderabad.

—Dr. K. L. Vyas,

Flat No. 6, Block No. 3, Kendriya Vihar, Miyapur,
Hyderabad-500 049 (Telangana).

