INTRODUCTION

Soil animals may play a range of roles in vineyards. Decomposers (some of which are opportunistic herbivores) are important in nutrient dynamics, because by reducing organic matter to its constituents, they liberate nutrients usable by grapevines. Earthworms are only part of the complex of organisms termed "decomposers" in agroecology. As noted by Charles Darwin in his 1882 classic, *The Formation of Vegetable Mould Through the Action of Earthworms with Observations on Their Habits* (Werner, 1990), earthworms process huge quantities of plant litter and help to convert it into rich topsoil, liberating nutrients for renewed plant growth. More recent studies show that earthworms can help to reduce soil compaction, improving permeability and aeration. Earthworms do this through burrowing activities, ingestion of soil along with plant debris, and subsequent excretion of casts. Upon drying, these casts form water-stable soil aggregates. These aggregates are clumps of soil particles bound together by organic compounds, and their presence helps to improve soil structure, retain nutrients that might otherwise be leached, and reduce the threat of erosion (Lee, 1985). Earthworms are increasingly recognized as indicators of agro-ecosystem health and as important tools for ensuring soil improvement and efficient nutrient cycling.

In India, due to continuous biodiversity surveys of earthworms number of new species is increasing day by day, although in comparison to more than 3000 global species (Stephenson, 1923), the number of Indian species is far less (only 390). In an attempt to enhance the knowledge on biodiversity of Indian earthworms, the present authors explored 11 earthworm species in the district of North 24 Parganas of West Bengal, of which 6 have been identified as new to the district.

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SYSTEMATIC ACCOUNT

Phylum ANNELIDA
Class OLIGOCHAETA
Order HAPLOTAXIDA
Family MEGASCOLECIDAE

1. Genus-Lampito Kingberg


Distribution : INDIA : West Bengal, Andaman and Nicobar islands, Andhra Pradesh, Bihar, Gujarat, Karnataka, Kerala, Laccadep and Minicoy islands, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh.

Outside India : Zanziber, Comoro Isl., Madagascar, Seychelles Isl., Mauritius, Pakistan, China, Maldives, Sri Lanka, Bangladesh, Myanmar, Thailand, Malay Peninsula, Indonesia, Philippines, Hong Kong, New Caledonia.

2. Genus Meiaphire Siams and Easton

(b) Metaphire houlleti (Perrier)


Distribution : INDIA : West Bengal, Andaman and Nicobar islands, Meghalaya.

Outside India : Nepal, Bangladesh, Myanmar, Malay Peninsula, Philippines, Java, Fizi islands, Farmosa, Indonesia, Thailand, U.S.A., Central America, Cuba.

(c) Metaphire posthuma (Vaillant)


Outside India: Pakistan, Bangladesh, Myanmar, Thailand, Vietnam, Malay Peninsula, Indonesia, Philippines and U.S.A.

3. Genus *Perionyx* Perrier

(d) *Perionyx excavatus* Perrier


Distribution: INDIA: West Bengal, Meghalaya, Andaman island, Arunachal Pradesh, Assam, Himachal Pradesh, Maharashtra, Manipur, Orissa, Sikkim, Tamil Nadu and Uttar Pradesh.

Outside India: Madagascar and its adjacent islands, Sri Lanka, Myanmar, Thailand, Vietnam, Malay Peninsula, Indonesia, Philippines, Taiwan and West Indies.

4. Genus *Eutyphoeus* Michaelsen

(e) *Eutyphoeus orientalis* (Beddard)


Distribution: INDIA: West Bengal, Bihar and Uttar Pradesh.

Outside India: Bangladesh.

*(f) Eutyphoeus nicholsoni* (Beddard)


Distribution: INDIA: West Bengal, Bihar and Uttar Pradesh.

Outside India: Not recorded.
*Eutyphoeus incommodus* (Beddard)


*Distribution*: INDIA: West Bengal, Bihar, Harihara, Himachal Pradesh, Orissa, Punjab, Rajasthan and Uttar Pradesh.

*Outside India*: Pakistan.

*Eutyphoeus waltoni* Michaelsen


*Distribution*: INDIA: West Bengal, Bihar, Gujarat, Madhya Pradesh, Punjab and Uttar Pradesh.

*Outside India*: Bangladesh.

5. Genus *Amynthas* Kingberg

(i) *Amynthas diffringens* (Baird)


*Outside India*: Africa, Madagascar and its adjacent islands, Europe, China, Eorea, Japan, Sri Lanka, Nepal, Bhutan, Bangladesh, Myanmar, Indonesia, Philippines, Hainan, Hong Kong, Taiwan, Australia, New Zealand, some islands in the Pacific Ocean, U.S.A., Central America, West Indies and South America.

Family MONILIGASTRIDAE

6. Genus *Drawida* Michaelsen

*(g) Drawida nepalensis* Michaelsen


Distribution: INDIA: West Bengal, Andaman and Nicobar islands, Assam, Bihar, Himachal Pradesh, Meghalaya, Sikkim and Uttar Pradesh.

Outside India: Pakistan, Nepal, Bangladesh, Myanmar and Indonesia.

Family ALMIDAE

7. Genus Glyphidrilus Horst

*(h) Glyphidrilus tuberosus Stephenson


Distribution: INDIA: West Bengal, Orissa and Tamil Nadu.

Outside India: Not recorded.

*New place record.

REFERENCES


