Beetles are a group of insects that form the order Coleoptera, in the superorder Endopterygota. It is estimated that a quarter of all described species in the world belongs to this order. The family Elateridae or click beetles is the ninth-largest family under this order. Wireworms are the larval stage of this family and they play a role in the ecosystem as they are omnivorous and act as pests. There are over 800 species of elaterids recorded from the Indian Subcontinent under eight subfamilies. India is rich in floral and faunal diversity and insect diversity in particular constitute about 6% of all identified insects in the world with a large number being endemic species. But in contrast to its extreme species richness, there is comparatively very little knowledge about this family of beetles when compared to other families. And as such, there is still a lot of potential to study its ecology and diversity. It is also because of this same reason that review of the status of the elaterid family is being done as a prequel to the actual field study.

Keywords: Click beetles, Coleoptera, Diversity, India, taxonomy.
altitude of more than 3000m. The adult stage of this family comprises of both nocturnal and diurnal species. During the day, they can be found hidden under the bark and in rotting wood, stones and crevices, etc. and can also be occasionally found resting on foliage and flowers. At night they are attracted to yellow, black and white light. In terms of feeding habits, adult beetles may be nectarivorous, pollen feeders or phytophagous. The larvae of these beetles are commonly known as “wire worms” and are mostly mycophagous, phytophagous, saproxylic, rhizophagous and even predatory in some species. The larvae are found in soil, moss, leaf litter and in rotting wood. Rhizophagous species are major pests of economically important crops like sugarcane, groundnut, potato, maize, and tobacco.

Early Taxonomic Studies

The first record of Elateridae was given by Linnaeus14 in 1758 and all the then known elaterids were put under one genus Elater Linnaeus. The first elaterid species described from India is Calais speciosus Linnaeus, 1767 and was reported as Elater speciosus Linn.15 Lanelater fuscipes Fabricius was described by Fabricius in 177516 from South India, and the same author also gave description for Elater luridus17 and Elater tomentosus18 (now both under Lanelater) in 1798 and 1891 respectively.

In 1806, Herbst19 provided a description for the species Elater muticus. In 1840, Lacon mustellinus Fabricius was described by Germer20, and Kollar21, in 1844, described a new species Lacon brachychaetus from Kashmir. Candeze,22–31 a Belgian entomologist, also contributed a lot towards the study of this family in India and in between 1857 to 1900, recorded over 50 species from different parts of India. Westwood32 described two click beetles from North-East India. In 1858, Russian entomologist Motchulsky33 described a new species Trachylacon lobicolis (now under Adelocera) from India. Schwarz in 190234 and 190535 described Lacon oberdorferi and Pericus oberdorferi, and Lacon niger and Allotyphus duchasni from South India with specimens collected from Madras and catalogued and described few species from North-East India.36–38 Fowler39 in “Fauna of British India” provided brief reports of elaterids without providing keys to the family. Fleutiaux40 provided a revised description on a number of elaterid species from Indo-Burma region. One of the series of works by Stibick,41 dedicated to Indian species provided a revision of 12 species under 2 genera from different parts of India.

Recent Taxonomic Studies

The more recent works on Elateridae in India include the works by Vats42–48 and his co-workers, who carried out surveys in the North Indian states including Haryana, Himachal Pradesh, Punjab, Rajasthan, Uttarakhand and some parts of Jammu & Kashmir. They reported and described around 168 species of elaterids under 37 genera, and among these, 139 species were reported as new species and among these 57 species belonging to Agrypninae. Garg et al.49–53 reported several new species of elaterids and has also added to the elaterid fauna of North India and also worked on revised keys for a number of genus of this family.

Schimmel54 during the Czech–Republic expedition to the Western Ghats of Maharashtra in India in 2005, collected 23 species belonging to 11 genera of Elateridae and from this expedition reported several new records for the state as well as one new species Podeonius borowiei. Schimmel and Tarnawski55–57 also contributed extensively to the knowledge of elaterid fauna of the Himalayan region and described six new species from the genus Mulsanteus Gozis from regions of China, Malaysia and India. Three new species of the genus Corybitodes Buysson, 1904 from Nepal and India were described by Schimmel and Tarnawski,58 with a description of the male of Corybitodes kambaitiana Fleutiaux, 1942. Patwardhan59–64 and co-workers have also contributed to the elaterid knowledge of the Western Ghats with several new records for the state of Maharashtra and provided description for ten species, as well as description of a new genus Punctodensus which is endemic to this region. The most recent in the taxonomic study of the family elaterid came from Patwardhan & Khot65 who, just recently, reported and described a new species Lampropsephus sulcatus Fleutiaux, 1928 from Konkan in Maharashtra.

Chakraborty & Chakrabarti66–69 reported as many as 172 species under 37 genera from West Bengal and listed about 140 species of elaterids from the subfamily Agrypninae from India. Ghosh et al.70 reported 4 species of Elateridae from Sunderban Biosphere Reserve, out of which 2 species namely Cardiophorus tibialis Ericson, 1991 and Cardiophorus aequabilis Candeze, 1860 are reported for the first time in the state of West Bengal. From Buxa Tiger Reserve within the same state, Sarkar et al.71 reported 12 species of Elateridae.

From among the north-east states, the survey and records of the Zoological Survey of India reported 45 specimens under 16 genera belonging to 9 sub families from Sikkim,72 with description of a new species under the genera Meristhus Candeze and Cardiophorus Eschscholtz. From the state of Manipur, 12 species under 7 genera and 6 subfamilies have been recorded.73 There has not been any other survey work for Elateridae from the other North-East states, nor is there any IUCN status on any elaterid beetles for India.

Conclusion

Although being one of the largest families of
beetles, the elaterids are not studied as extensively as other families and because of this, very little is known about their ecology and life cycle when compared with other families like Scarabaeidae and Cerambycidae. This may be due to its elusive nature or extreme morphological homogeneity. The complete and detailed life cycle is also known only for some economically important species like Cryptalus spp. or Athous spp. whose status as pests gives them higher focus for research. The present knowledge about the faunal composition of elaterids within the Indian Subcontinent is represented by 835 species and 113 genera coming under 8 subfamilies. There is still a lot to be learned about this family of elusive beetles, and especially in the northeast states of the Himalayan biodiversity hotspot region, there is believed to be more species which are yet to be discovered upon further investigations and adding to the present knowledge.

**Conflict of interest**

The author declared no conflict of interest.

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