

Studies on Click Beetles (Coleoptera: Elateridae)
of Gujarat and Rajasthan, India

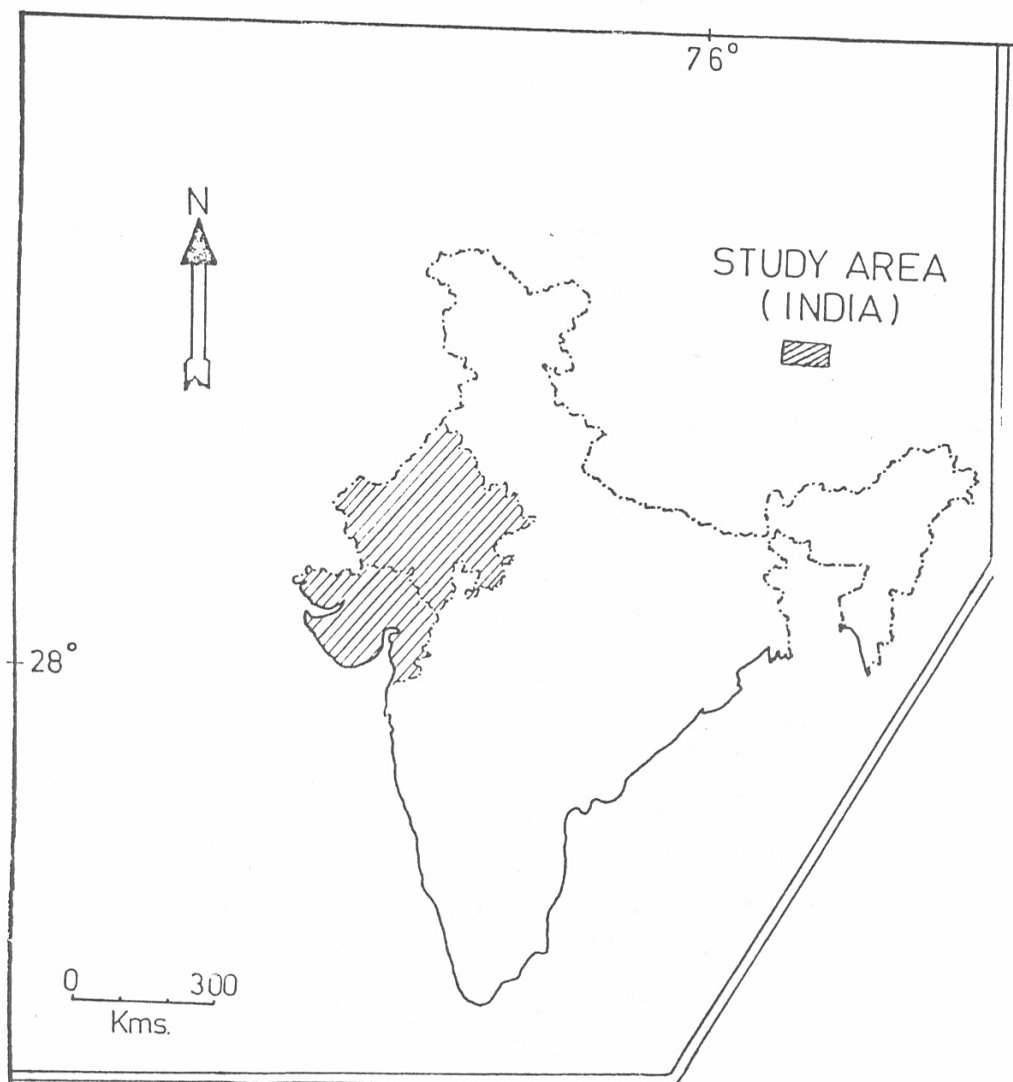
V.P. Uniyal and L.K. Vats
Department of Zoology
Kurukshetra University
Kurukshetra 132 119, INDIA

The family Elateridae is one of the most important and interesting groups of Coleoptera. It is represented in all zoogeographical regions of the world. They are commonly called click beetles. Some species are important pests of vegetables, root crops and cereals. Generally, the adults of Elateridae occur in many situations: under grasses, on flowers and foliage, in rotten wood and under bark. Many appear at night, while others are diurnal in habit. The majority of the species are a uniform brownish or blackish; some are bicolored, some are conspicuously spotted and a few are metallic shining. The body is elongate, somewhat flattened and tapers more or less towards each end. The eleven segmented antennae are generally moderately elongated and serrate.

Candeze (1857, 1859, 1860) has described elaterid fauna of the world. Though it is the most important reference work on the taxonomy of Elateridae it is in need of revision in light of recent advances in insect taxonomy. Schenkling (1925) contributed to the Coleopterorum Catalogus on Elateridae. Arnett (1952) published a review of the Nearctic Adelocerina. Ohira (1970, 1973) published an account of elaterids collected from Nepal on the Canadian Nepal Expedition of 1957. Von Hayek (1973) reclassified the subfamily Agrypninae and Vats (1984) published on two new species of Dicronychus from India.

In spite of its great economic importance, attention has not been paid to the study of Indian Elateridae. Its biological and ecological aspects remain almost neglected. So far only taxonomic studies have been taken up.

The Elateridae for the present investigation were collected from different regions of Gujarat and Rajasthan (map 1). The collection trips were arranged so as to cover maximum numbers of localities with different bioclimatic regions. The diurnal forms were collected from the places under stones and dry grasses in agricultural fields and roadsides, on dry leaves and under the bark of trees in the forest. The collection was also made at light sources. Light traps with mercury vapor bulbs were used as a source of light in the field. The species were picked up by hand. The following climatically different regions of Gujarat and Rajasthan were surveyed: GUJARAT - (1) rugged central upland and coastal lowlands of Kutch, (2) Porbandar-Varaval coastal region, (3) northern lowlands of Saurashtra, (4) arid north Gujarat and semi-arid plains of Banas and gravelly plains of Mehsana, (5) Namada-Tapi doab and sub-humid south Gujarat and (6) peninsular neck of Saurashtra; RAJASTHAN - (1) Aravalli region, (2) semi-arid region, (3) eastern agro-industrial



region, (4) southeastern agricultural region, (5) canal region and (6) western arid region.

As a result of this extensive survey 30 species of Elateridae, in 13 genera and 7 subfamilies, were collected:

Subfamily AGRYPNINAE

Genus Lanelater Arnett, 1952

L. mosetus (Candeze)

L. bipunctatus (Candeze)

Agrypnus Eschscholtz, 1829

A. lupinosus (Candeze)

A. modestus (Candeze)

A. palliditarsis (Candeze)

A. serrula (Candeze)

A. transversus (Candeze)

Adellocera Latreille, 1829

A. obesus (Candeze)

Rismethus Fleutiaux, 1947

R. pistrinarius (Candeze)

OCTOCRYPTINAE

Octocryptus Candeze, 1892

O. cardoni Candeze

MELANOTIDAE

Melanotus Eschscholtz, 1829

M. effetus Candeze

M. verberans LeConte

DICREPIDIINAE

Heterocrepidius Guermar, 1838

H. mendax Candeze

H. tibialis Candeze

CONODERINAE

Heteroderes Latreille, 1834

H. coctus Candeze

H. lenis Candeze

H. modestus Candeze

H. spinicollis Candeze

H. triangularis Eschscholtz

Conoderus Eschscholtz, 1829

C. coxialis Candeze

C. spurcus Candeze

ELATERINAE

Drasterius Eschscholtz, 1829

D. collaris Candeze

D. sulcatulus Candeze

Elater Linnaeus, 1758

E. manipularis Candeze

CARDIOPHORINAE

Cardiophorus Eschscholtz, 1829

C. dilutus Erichson

C. instrenuus Candeze

C. servilis Candeze

C. stolidus Candeze

Dicronychus Brulle, 1832

D. scobis Vats

D. submontanus Vats

Acknowledgements

The authors are deeply indebted to the University Grants Commission, New Delhi (India) for financial assistance during the study period.

Thanks are also due to the Director of Biological Research, Forest Research Institute, Dehra Dun, and the Head Division of Entomology, Indian Agricultural Research Institute (National Pusa Collection), New Delhi for making available their reference collection and type specimens, and providing laboratory facilities during visits to their museums.

Specimens are deposited in the Museum, Department of Zoology, Kurukshetra University, Kurukshetra, India.

Literature Cited

- Arnett, R.H. 1952. A review of the Nearctic Adelocerina (Coleoptera, Elateridae, Pyrophorinae, Pyrophorini). *Wasmann J. Biol.* 10: 103-126.
- Candeze, E. 1857. *Monographie des Elaterides*, Vol. 1.
- Candeze, E. 1859. *Monographie des Elaterides*, Vol. 2.
- Candeze, E. 1960. *Monographie des Elaterides*, Vol. 3.
- Ohira, H. 1970. A list of Elater-beetles from south Asia in the Hungarian Natural History Museum, Parts I-V. *Ann. Hist. Nat. Mus. Hung. Zool.* 62: 207-243.
- Ohira, H. 1973. Coleoptera: Elateridae from Ceylon. *Ent. Scand. Suppl.* 4: 27-38.
- Ohira, H. and E.C. Becker 1973. Elaterid (Coleoptera) from the Canadian Nepal Expedition (1967). *Oriental Insects* 7(4): 461-469.
- Schenkling, S. 1925. *Coleopterorum Catalogus Elateridae*. Pars 80: 1-263, Junk, Berlin.
- Vats, L.K. 1974. Two new species of *Dicronychus* Brulle (Cardiophorini: Elateridae). *Ann. Entomol.* 2(1): 7-9.
- Von Hayek, C.M.F. 1973. A reclassification of the subfamily Agrypninae (Coleoptera: Elateridae). *Bull. British Museum *Nat. Hist.* Ent. Suppl.* 20: 1-309.