



## A PRELIMINARY LIST OF AQUATIC COLEOPTERA (ARTHROPODA: INSECTA) IN NATORE AND RAJSHAHI DISTRICTS OF BANGLADESH

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### ABSTRACT

A preliminary list of aquatic Coleoptera (Arthropoda: Insecta) collected from ponds and flood plains of Chalon Beel in Natore and Rajshahi districts of Bangladesh is presented. The list includes 27 species within 3 families and 6 subfamilies under 14 genera.

**Key words :** Aquatic Coleoptera, Ecology, Chalon Beel, Bangladesh.

### INTRODUCTION

Studies on aquatic insects has drawn interest of prominent biologists throughout the world in the twentieth century and has received attention not only of the entomologists, but also of the ecologists, fisheries biologists and scientists with special interest of aquatic biology. Many workers are specialized in the study of certain groups in aquatic insects, thus immensely advancing our knowledge of diversity, relationships and natural histories of the poorly known life forms. The western region of Bangladesh is rich in flood plains, beels, ponds, ditches and other type of lentic water reservoirs in which a diversity of aquatic insects is encountered. No comprehensive taxonomic work on aquatic Coleoptera has been done in Bangladesh except a few scattered list with names of different species. Present work is the first list of aquatic Coleoptera from Natore and Rajshahi.

### MATERIALS AND METHODS

The insects were collected from some selected ponds of Rajshahi University Campus and Rajbari pond, dighi and a part of Chalon beel in Natore using dredge and sweep net. Collection, preservation and other preparation for taxonomic studies were done following Borror *et al.* (1975).

Identification up to family level was done mainly following Usinger (1956), Ward and Whipple (1959) and McCafferty (1981), while species identification followed Ochs and Main (1933), Tonapi and Ozarkar (1952) Vazirani (1953, 1958, 1968, 1971, 1974, 1977 a,b, 1984), Epler (1996), Matsui (1995), Matsui and Nakane (1985), Matsui and Delgado (1997), Matsui and Kitayama (2000), Jach and Matsui (1994) and Shaverdo (2004a, 2004b). The study was conducted between March, 2002 to February, 2004.

### RESULTS

#### List of Aquatic Coleoptera

**Order:** Coleoptera

**Sub order:** Adephaga

**Family:** Dytiscidae

**Subfamily:** Dytiscinae

1. *Cybister sugillatus* Erichson, 1834

This large size insect is found to live in the deeper parts of pond, dighi and beel water.

**Remarks:** this species is variable in size and colour. Some are very shiny and often with metallic iridescence, while others are dull and look greasy, perhaps due to older age (Vazirani, 1968).

2. *Cybister posticus* Aube, 1838

The species is mostly found in deep fish-pond, dighi and beel water with thick aquatic vegetation.

3. *Cybister tripunctatus asiaticus* Sharp, 1882

Found only in deep water beel with thick aquatic vegetation and rare in pond and shallow water dighi.

4. *Cybister ventralis* Sharp, 1882

This species is found mainly in the deeper water body.

5. *Hydaticus fabricii* Macleay, 1833

The species is recorded from weedy ponds, dighi and in marginal aquatic weeds of beel water.

**Subfamily:** Laccophilinae

6. *Laccophilus basalis* Motschulsky, 1859

Recorded from weedy ponds, dighi and in marginal aquatic weeds of beel water.

7. *Laecophilus sharpi* Regimbart, 1889

Recorded from weedy ponds, dighi and in marginal aquatic weeds of beel water.

8. *Laccophilus parvulus* Aube, 1838

The species lives in weedy ponds and dighi where the adults swim and crawl easily. They also found in marginal aquatic weed of beel water.

9. *Laccophilus wewalki* Vazirani, 1974

Mostly found in the root of floating aquatic vegetation in the shallow beel water and pond water.

**Remarks:** This is a new record from Bangladesh.

**Subfamily: Noterinae**

10. *Canthydrus laetabilis* (Walker), 1858

Found with the root of floating vegetation in the shallow marginal water of ponds and beel.

11. *Canthydrus morsbachi* (Wehncke), 1876

The species is found in aquatic weeds of pond and beel water; some also found burrowing into mud around the roots of aquatic plants.

12. *Hydrocoptus subvittulus* Motschulsky, 1861

This small species is often attracted to light.

**Subfamily: Hydroporinae**

13. *Hydrovatus confertus* Sharp, 1882

Found on floating aquatic vegetation and sometimes at shallow margin with debris.

14. *Hydrovatus castaneus* Motschulsky, 1855

This species is mostly found in ponds and dighi under the shade of big trees. Adult specimens frequently occurred in huge aggregations in late summer and autumn (Motschulsky, 1856).

15. *Guignotus flammulatus* (Sharp), 1882

This species is found in the floating aquatic vegetation and sometimes at shallow margin with debris.

**Remarks:** A new record from Bangladesh.

**Family: Gyrinidae**

**Subfamily: Enhydrinae**

16. *Dineutus (Spinodineutus) unidentatus* (Aube), 1833

17. *Dineutus (Spinodineutus) spinosus* (Fabricius), 1781

Usually seen circling about on the water surface, often in huge rafts (Benfield 1972).

**Family: HYDROPHILIDAE**

**Subfamily: Hydrophilinae**

18. *Hydrophilus rufocinctus* (Bedel), 1892

This species is rarely found in bank of ponds and beel; when disturbed the species moves into the thin layer of muddy substratum.

19. *Hydrophilus olivaceus* Fabricius, 1781

The species is found in deep pond and beel water with thick aquatic vegetation.

20. *Enochrus rubrocinctus* (Regimbart), 1903

This species is collected from the muddy borders of small ponds with lots of plant debris.

21. *Helochares crenatus* (Regimbart), 1903

The species is collected from the muddy borders of small ponds.

**Remarks:** This species was rarely collected.

22. *Helochares anchoralis* Sharp, 1890.

23. *Helochares lentus* Sharp, 1890.

**Remarks:** Rarely collected.

24. *Sternolophus rufipes* (Fabricius), 1792.

This species lives in shallow margin of pond and beel water with aquatic vegetation.

25. *Enochrus esuriens* (Walker), 1858.

26. *Berosus indicus* Motschulsky, 1861.

The species lives in shallow muddy ponds and beel water with thin aquatic vegetation.

27. *Regimbartia attenuatu* (Fabricius), 1801.

Found on the banks of pond and beel among aquatic vegetation.

## DISCUSSION

Knowledge relating to the aquatic Coleoptera of Bangladesh is limited to the taxonomists and the available information is chiefly concerned with recording of species from different parts of this Subcontinent. Several investigators worked on aquatic Coleoptera. Vazirani (1953; 1958; 1968; 1970 a,b; 1971; 1972; 1974; 1977 a,b; 1984) published a series of papers where he brought together the information on Indian fauna. A number of other workers contributed greatly, chief among them are Balfour-Browne (1945), Guignot (1952; 1954 a,b; 1959); Wewalka (1975) and Brancucci (1983).

The family Dytiscidae comprises about 4,000 species all over the world of which 223 have been recorded from India. Biswas *et al.* (1995 a,b,c) reported altogether 69 species belonging to 21 genera and 5 subfamilies in West Bengal. Zimmermann (1920) published huge number on Dytiscidae in Germany. In this investigation *Laccophilus wewalki* Vazirani and *Guignotus flatmulatus* (Sharp) are new records from the present Bangladesh territory.

The members of the family Gyrinidae are aquatic in both adult and larval stages. Fabricius (1781) described the first species, viz. *Gyrinus spinosus* (since placed under *unidentatus* (Aube) in 1838) from Coromandal Coast of India. *Dineutus (Spinodineutus) spinosus* (Fabricius) was reported from Bengal by Perty (1831). Biswas *et al.*, (1995b) recorded *Dineutus (Spinodineutus) unidentatus* (Aube) for the first time from West Bengal (Calcutta, Murshidabad and Darjeeling districts).

Mouchamps (1949) studied taxonomy of *Dineutus* in Belgium. In the present study these species are recorded from Natore district. Vazirani (1984) added that as far as the gyrenids are concerned there are no species endemic in Pakistan or Bangladesh.

Majority of hydrophilid group of insects are truly aquatic in habitat and form important constituents of fresh water ecosystem. Balfour Browne (1945) and Sharp (1890) are the major workers who have dealt with Indian subcontinent hydrophilid fauna. Biswas *et al.*, (1995c) studied altogether 40 species under 19 genera belonging to 5 subfamilies of hydrophilids in West Bengal. In the present study altogether 10 species under 6 genera and one subfamily of hydrophilid are recorded.

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