

Checklist of the Aquatic Beetles (Coleoptera) of Manipur

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Research Article

Received date: 03/05/2017

Accepted date: 17/09/2017

Published date: 19/09/2017

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Keywords: Checklist, Aquatic coleoptera, Faunas
tic, Manipur, India

ABSTRACT

The aquatic beetle's fauna of Manipur has never been studied from the last decade despite of State Fauna Series 10, Fauna of Manipur (Part-2) Insects published by Zoological Survey of India in 2004. In the present study, we provide an updated checklist of aquatic and semi aquatic coleopteran from Manipur based on the study of aquatic beetles diversity of Manipur (2012 to till date) and data from previous literatures were used to compile a checklist of the Manipur. The checklist includes data on the type localities, type specimens, descriptors, distributions and previous literature for 15 families of aquatic and semi aquatic coleopteran belonging to 49 genus and 100 valid species. From all this families, family *Dytiscidae* is the most abundant and diverse than the remaining. In the family *Dytiscidae* 45 species are recorded followed by 35 species of *Hydrophilidae*, 4 species of family *Noteridae*, 2 species each of family *Gyrinidae*, *Hydraneidae*, *Haliplidae* and 1 species each belonging to family, *Curculionidae*, *Chrysomelidae*, *Dryopidae*, *Limnichidae*, *Histeridae*, *Hydrochidae*, *Sphericidae*, *Styphylinidae* and *Helophoridae* respectively. Out of 100 species, 43 species were reported as new records from Manipur as well as 7 species from India

INTRODUCTION

The aquatic beetles of Manipur belong in two sub-orders of order Coleoptera, under 15 families (i) sub order Adephaga and (ii) sub order Polyphaga. Out of these 15 families, 4 families such as *Dytiscidae*, *Haliplidae*, *Noteridae* and *Gyrinidae* belongs to sub order adephaga and 11 families such as *Hydraneidae*, *Hydrochidae*, *Hydrophilidae*, *Histeridae*, *Staphylinidae*, *Helophoridae*, *Limnichidae*, *Curculionidae*, *Chrysomelidae*, *Scirtidae* and *Dryopidae* belong to sub-order Polyphaga. Except *Histeridae*, *Staphylinidae*, *Limnichidae*, *Curculionidae*, *Chrysomelidae*, *Scirtidae* and *Dryopidae* were semi aquatic and the remaining was aquatic. The catalogues and review work on aquatic beetles of world were published earlier^[1-11]. In India, the first pioneer in contribution to the taxonomy of Indian aquatic beetles was^[12]. The work on aquatic beetles species from Central India were done by^[13-18]. Subsequently total seventy two aquatic beetle species from Madhya Pradesh was reported by^[19] and 332 species of diving beetles of India was reported by^[20]. However, the aquatic beetle fauna from Manipur state was not known since the State Fauna Series No. 10 (Zoological Survey of India) by^[21]. The present study was conducted to prepare a checklist on the aquatic beetles of Manipur. From the family *Dytiscidae* 45 species were recorded followed by 35 species of *Hydrophilidae*, 4 species of family *Noteridae*, 2 species each of family *Gyrinidae*, *Hydraneidae*, *Haliplidae* and 1 species each belonging to family, *Curculionidae*, *Chrysomelidae*, *Dryopidae*, *Gyrinidae*, *Limnichidae*, *Histeridae*, *Hydrochidae*, *Sphericidae*, *Styphylinidae*, and *Helophoridae* respectively^[22]. The present checklist documents 100 species of aquatic and semi aquatic beetles recorded from Manipur. Out of 100 species, 43 species were reported as new record from Manipur as well as 7 species from India. Recently, 8054 species of aquatic beetles were known from the world, 588 species were represented in India and 100 species from Manipur. In India, among freshwater Coleoptera, there are certain zoo geographically interesting groups e.g., out of five species of *Amphizoidae* known from the world; one species is recorded from Kashmir in India. Family *Psephenidae* is known from North America and Tibet. In recent surveys specimens have been collected from torrential rivers and streams of Arunachal Pradesh and Uttar Pradesh.

A check list of the species recorded from India and adjoining areas was published by (14). *Hydrophilidae* is the dominant family and other four smaller families namely *Hydraenidae*, *Hydrochidae* and *Sperchidae* were often treated as subfamilies of *Hydrophilidae*. However in our finding family *dytiscidae* is the most diverse and abundant followed by *Hydrophilidae*.

MATERIALS AND METHODS

The aquatic beetles study was carried out from 1st February 2012 up to 2017 March during the survey work of the major research project in different regions of 9 districts of Manipur, 4 in the valley and 5 in the hills. The aquatic beetles were collected using D-Frame net, Pond net, Kicking net as well as triangular dip net and circular net with a mesh size of 0.5 mm and dragged around the vegetation for one minute and such three drags constituted a sample. The number of individual was noted down. The large sized insects were captured using bottle traps in horizontal position and also vertical position. After two days the bottle traps were removed and trapped insects were preserved in 70% alcohol and brought back to the laboratory of Entomology, PG Department of Zoology, DM College of Science, Imphal. And identified with the help of standard identification manuals and published literature. A number of identified insects were confirmed in the division of Entomology, IARI, Pusa New Delhi. Male genitalia were removed from specimens that were first relaxed in lightly boiling water for 10 minute. An insect pin with a bent apex was inserted into the abdominal cavity to hook the base of the genital capsule. The entire capsule was then removed from the abdomen and placed in alcohol to dissect and examine. Male genitalia were then glued to a point and placed on the pin beneath the specimen.

The present checklist is presented in a taxonomic order; family, genus and species. It is also prepared by referring documents, consulting published books and journals. For every species in the checklist (genera with unidentified species), name of the species, author and sex of the species respectively is given.

AQUATIC AND SEMI-AQUATIC COLEOPTERA OF MANIPUR

Order- Coleoptera Linnaeus, 1758

Suborder- Adhephaga Schellenberg, 1806

Family- *Dytiscidae* Leach, 1815

Dytiscidae Leach, 1815:84; type genus: *Dytiscus*

Subfamily *Agabinae* Thomson, 1867

Agabides Thomson, 1867:84, as subtribe of *Dytiscina*; type genus: *Agabus*

Genus *Agabus* Leach, 1817

Agabus Leach, 1817:69; type species: *Agabus paykullii*

Agabus sinuaticollis Regimbart, 1899:278

Genus *Platambus* Thomson, 1859

Platambus Thomson, 1859:14; type species: *Dytiscus maculatus* Linnaeus, 1758:412.

Platambus lindbergi Gueorguiev, 1963:218

Genus *Platynectes* Regimbart, 1887

Platynectes Regimbart, 1879:454; type species: *Agabus decemnotatus*

Aube, 1838b:319

Platynectes kashmiranus kashmiranus J. Balfour- Browne, 1944

Platynectes kashmiranus J. Balfour-Browne, 1944:352,

Subfamily *Colymbetinae* Erichson, 1837

Colymbetini Erichson, 1837:149; type genus: *Colymbetes*; sDESCR: Miller 2001:81.

Genus *Rhantus* Dejean, 1833

Rhantus Dejean, 1833:54; type species: *Colymbetes pulverosus*

Stephens, 1828:69 (*Colymbetes suturalis* W.S. Macleay, 1825:31).

Rhantus rugulosus Regimbart, 1899

Rhantus rugulosus Regimbart, 1899:310; TL: India; Holotype MNHN; DESCR: Balke 1995:233.

Rhantus taprobanicus Sharp, 1890

Rhantus taprobanicus Sharp, 1890b:346; TL: Sri Lanka: Bogawantalawa, Hadley; Syntypes BMNH; DESCR: Balke 1992:291.

Subfamily Copelatinae Branden, 1885

Copelatinae Branden, 1885:82; type genus: *Copelatus*

Genus Copelatus Erichson, 1832

Copelatus Erichson, 1832:18; type species: *Dytiscus posticatus*

Copelatus indicus Sharp, 1882

Copelatus indicus Sharp, 1882:582; TL: India; LT: Vazirani 1970a:312 BMNH; DESCR: Vazirani 1970a:312.

Genus Lacconectus Motschulsky, 1855

Lacconectus Motschulsky, 1855:83; type species: *Lacconectus fulvescens* Motschulsky, 1855:83. *Paralacconectus* Vazirani, 1970a:304; type species: *Lacconectus scholzi* Gschwendtner, 1922a:134.

Lacconectus biswasi Brancucci, 1986

Lacconectus biswasi Brancucci, 1986:121; TL: India: Manipur: Kamluvan; Holotype ZSI.

Lacconectus ritsemae Regimbart, 1883

Lacconectus ritsemae Regimbart, 1883:229; TL: Indonesia: Java; Holotype RMNH; DESCR: Brancucci 1986:115 (as ritsemai). *Lacconectus ritsemai* Vazirani, 1977a:59

Lacconectus fulvescens Motschulsky, 1855

Lacconectus fulvescens Motschulsky, 1855:83; TL: East India (Indesorientalis); LT: Brancucci 1986:108 ZMUM; DESCR: Brancucci 1986:107.

Subfamily Dytiscinae Leach, 1815

Dyticides Leach, 1815:84; type genus: *Dytiscus*. *Aubehydrinae* Guignot, 1942b:11; type genus: *Aubehydrus*

Genus Rhantaticus Sharp, 1882

Rhantaticus Sharp, 1880: cl; type species: *Hydaticus signatipennis* Laporte, 1835:95 (*Hydaticus congestus* Klug, 1833:48).

Rhantaticus congestus Klug, 1832

Hydaticus congestus Klug, 1833:48; TL: Madagascar; LT: Angus 2003:14 ZMHB; DESCR: Guignot 1961:843; N. COMB: Branden 1885:107.

Rhantus spp.

Genus Graphodesus Dejean, 1833

Graphodesus Dejean, 1833, Cat Col coll Dejean 2:54

Graphodesus sp.

Genus Sandracottus Sharp

Sandracottus Sharp, 1882:672; type species: *Dytiscus fasciatus* Fabricius, 1775:825 (*Hydaticus mixtus* Blanchard, 1843: pl. 4).

Sandracottus manipurensis Vazirani, 1969

Sandracottus manipurensis Vazirani, 1969b:277; TL: India: Manipur: Phaiphengmun (Phaiphenggaum); Holotype ZSI.

Genus Cybister Curtis, 1827

Cybister Curtis, 1827:151; type species: *Dytiscus lateralis* Fabricius, 1798:64 (*Dytiscus tripunctatus* Olivier, 1795:14).

Cybister confusus Sharp, 1882

Cybister confusus Sharp, 1882:739; TL: India, Sri Lanka, China; Syntypes BMNH; DESCR: Vazirani 1969b:295. *Dytiscus zeylanicus* Gmelin, 1790:1954; TL: Sri Lanka; Syntypes; N. SYN.: Zimmermann 1920:258.

Cybister limbatus, Fabricius, 1775

Dytiscus limbatus Fabricius, 1775:230; TL: China; Syntypes BMNH; DESCR: Vazirani 1969b:294; N. COMB.: Aube 1838b:55. *Dytiscus aciculatus* Herbst, 1784:123; TL: East Indies (Ostindien) Syntypes; N. SYN.: Schonherr 1808:10.

***Cybister tripunctatus lateralis* Fabricius, 1798**

Dytiscus lateralis Fabricius, 1798:64; TL: India: Tamil Nadu Tranquebar; Syntypes ZMUC; DESCR: Zaitzev 1972:357 (as *gotschi*); N. STAT: Nilsson 2001:90.

***Cybister sugillatus* Erichson, 1834** *Cybister sugillatus* Erichson, 1834:227; TL: China; Syntypes ZMHB; DESCR: Vazirani 1969b:281.

***Cybister posticus* Aube, 1838**

Cybister posticus Aube, 1838b:87; TL: East India (Indes orientales); Syntypes; DESCR: Vazirani 1969b:284.

Genus *Dytiscus* Linnaeus, 1758

Dytiscus Linnaeus, 1758:411; type species: *Dytiscus marginalis*

Dytiscus sp.

Genus *Eretes* Laporte, 1833

Eretes Laporte, 1833:397; type species: *Dytiscus griseus* Fabricius, 1781:293.

***Eretes sticticus* Linnaeus, 1767**

Dytiscus sticticus Linnaeus, 1767:666; TL: Africa: Barbaria; Syntypes BMNH; DESCR: Miller 2002:264; N. COMB.: Sharp 1882:699. *Eunectes conicollis* Wollaston, 1861a:97; TL: Cabo Verde; LT: Miller 2002:266 BMNH; N. SYN.: Branden 1885:108.

Genus *Hydaticus* Leach, 1817

Hydaticus Leach, 1817:69; type species: *Dytiscus transversalis*

Pontoppidan, 1763:677.

***Hydaticus bipunctatus bipunctatus* Wehncke, 1876**

Hydaticus bipunctatus Wehncke, 1876a:196; TL: Philippines; Syntypes; DESCR: Wewalka 1975b:92.

***Hydaticus fabricii fabricii* W.S. Macleay, 1825**

Rhantaticus Sharp, 1880: cl; type species: *Hydaticus signatipennis* Laporte, 1835:95 (*Hydaticus congestus* Klug, 1833:48).

***Hydaticus vittatus vittatus* Fabricius, 1775**

Dytiscus vittatus Fabricius, 1775:825; TL: India; LT: Wewalka 1975b:88 HMUG; DESCR: Wewalka 1975b:87; N. COMB.: Leach 1817:72.

Genus *Clypeodytes* Regimbart, 1894

Clypeodytes Regimbart, 1894:230; type species: *Hydroporus cribrosus* Schaum, 1864:107.

***Clypeodytes severini* Regimbart, 1892**

Bidessus severini Regimbart, 1892:116; TL: India: Jharkhand (Bihar): Mandar; Syntypes MNHN; DESCR: Vazirani 1969b:325; N. COMB: Regimbart 1899:216.

Genus *Hydroglyphus* Motschulsky, 1853

Hydroglyphus Motschulsky, 1853:5; type species: *Dytiscus geminus* Fabricius, 1792:199.

Guignotus Houlbert, 1934:53; type species: *Dytiscus geminus* Fabricius, 1792:199.

***Hydroglyphus flammulatus* Sharp, 1882**

Bidessus flammulatus Sharp, 1882:359; TL: China: Jiangxi: Jiujiang (Kiu Kiang); Syntypes BMNH; DESCR: Vazirani 1969b:314; N. COMB: Bistrom 1988:12.

***Hydroglyphus inconstans* Regimbart, 1892**

Bidessus inconstans Regimbart, 1892:119; TL: India: Bihar: Konbir-Nowatoli, Mandar; Syntypes MNHN; DESCR: Vazirani 1969b:322; N. COMB: Bistrom 1988:14.

Genus *Leiodytes* Guignot, 1936

Leiodytes Guignot, 1936:20; type species: *Hydroporus evanescens* Boheman, 1848:252.

***Leiodytes nicobaricus* Redtenbacher, 1867**

Hydroporus nicobaricus Redtenbacher, 1867:21; TL: India: Nicobar Islands: Fau; LT: Wewalka 1982:124 NMW; DESCR: Nakane 1993:3; N. COMB.: Biström 1988:27.

Genus *Hydrovatus* Motschulsky, 1853

Hydrovatus Motschulsky, 1853:4; type species: *Hyphydrus cuspidatus* Kunze, 1818:68.

***Hydrovatus confertus* Sharp, 1882**

Hydrovatus confertus Sharp, 1882:329; TL: Thailand (Siam); LT: Vazirani 1970b:102 BMNH; DESCR: Bistrom 1997:524.

***Hydrovatus bonvouloiri* Sharp, 1882**

Hydrovatus bonvouloiri Sharp, 1882:335; TL: India (India bor.); Syntypes BMNH; DESCR: Bistrom 1997:392.

***Hydrovatus acuminatus* Motschulsky, 1859**

Hydrovatus acuminatus Motschulsky, 1859:42; TL: SE Asia (continent Indien); Syntypes; DESCR: Bistrom 1997:351.

Genus *Hyphydrus* Illiger, 1802

Hyphydrus Illiger, 1802:299; type species: *Dytiscus gibbus* Fabricius, 1777:238 (*Dytiscus ovatus* Linnaeus, 1761:547).

***Hyphydrus birmanicus* Regimbart, 1888**

Hyphydrus birmanicus Regimbart, 1888:614; TL: Myanmar: Bhamo (Bhamo); LT: Vazirani 1977a:21 MNHN; DESCR: Bistrom 1982:100.

***Hyphydrus sumatrae* Regimbart, 1880**

Hyphydrus sumatrae Regimbart, 1880:211;

Genus *Laccophilus* Leach, 1815

Laccophilus Leach, 1815:84; type species: *Dytiscus minutus* Linnaeus, 1758:412.

***Laccophilus anticatus anticatus* Sharp, 1890**

Laccophilus anticatus Sharp, 1890b:341.

***Laccophilus chinensis* Boheman, 1858**

Laccophilus chinensis Boheman, 1858:21; TL: China: Hong Kong; LT: Wewalka 1975a:152 NHRS; DESCR. Brancucci 1983b:329.

***Laccophilus beroni* Rocchi, 1986**

***Laccophilus* Leach, 1815:84; type species: *Dytiscus minutus* Linnaeus, 1758:412. SOFM.**

Laccophilus* Leach, 1815:84; type species: *Dytiscus minutus* Linnaeus, 1758:412. ***Laccophilus flexuosus* Aube, 1838*

Laccophilus flexuosus Aube, 1838b:430;

***Laccophilus indicus* Gschwendtner, 1936**

Laccophilus solutus var. *indicus* Gschwendtner, 1936:366; TL: India: Assam, Bengal, Punjab; Syntypes OLML; DESCR: Brancucci 1983b:322; N. STAT.: Brancucci 1983b:322.

***Laccophilus inefficiens* (Walker, 1859)**

Hydroporus inefficiens Walker, 1859:51; TL: Sri Lanka; LT: Wewalka 1975a:152 BMNH; DESCR: Brancucci 1983b:332; N. COMB.: Sharp 1882:287.

***Laccophilus medialis* Sharp, 1882 *Laccophilus medialis* Sharp, 1882:309;**

***Laccophilus parvulus parvulus* Aube, 1838 *Laccophilus parvulus* Aube, 1838b:429;**

***Laccophilus ritsemae* Regimbart, 1880**

Laccophilus ritsemae Regimbart, 1880:209; TL: Indonesia: Sumatra: Moaralabuh (Moeara Laboe); Holotype RMNH; DESCR: Brancucci 1983b:335.

***Laccophilus sharpi* Regimbart, 1889**

Laccophilus sharpi Regimbart, 1889:151, by indiation to *Laccophilus flexuosus* Aube sensu Sharp 1882:310; TL

***Laccophilus parvulus obtusus* Sharp, 1882**

Laccophilus obtusus Sharp, 1882:311; TL: Singapore; LT: Brancucci 1983b:361 BMNH; DESCR: Brancucci 1983b:360; N. STAT.: Brancucci 1983b:360.

***Laccophilus uniformis* Motschulsky, 1859**

Laccophilus uniformis Motschulsky, 1859:46; TL: SE Asia (continent Indien); LT: Brancucci 1983b:367 ZMUM; DESCR: Brancucci 1983b:366.

***Laccophilus* sp.**

Genus *Neptosternus* Sharp, 1882

Neptosternus Sharp, 1882:286; type species: *Neptosternus ornatus* Sharp, 1882:317.

***Neptosternus horai* Vazirani, 1953**

Neptosternus horai Vazirani, 1953:424; TL: India: Chennai (Madras): Hoganical Falls; Holotype ZSI; DESCR: Vazirani 1969b:253.

FAMILY *Noteridae*

Genus *Canthydrus* Sharp, 1882

1882. *Canthydrus* Sharp, *Sci. Trans. R. Dublin Soc.*

***Canthydrus* sp.**

Genus *Neohydrocoptus* Sato 1972

Neohydrocoptus Sato, 1972: *Annls Hist. Nat. Mus. Nat. Hung.* 64:144.

***Neohydrocoptus subvittulus* Motschulsky, 1859.**

Hydrocoptus subvittulus Motschulsky, 1859:48; Wehncke, 1883:148. Zimmermann, 1919a: 11: 1920.

Genus: *Hydrocanthus* Sharp, 1882

Hydrocanthus Sharp, 1882: *Scient. Trans. R. Dublin Soc.* 2(2): 268, 920.

***Hydrocanthus guignoti* Young, 1985**

Hydrocanthus debilis Guignot 1957:5 (Central and South America) *Hydrocanthus guignoti* Young, 1985: *Proceeding of the Academy of Natural sciences of Philadelphia* 137:90-98.

FAMILY: *Haliplidae*

Genus: *Halipus* Latreille, 1802

1802. *Halipus* Latreille, *Hist. Nat. Crust. Ins.* 3:77.

***Halipus manipurensis* Vazirani**

1966. *Halipus manipurensis* Vazirani *Proc. Zool. Soc. Calcutta* 19: 132.

***Halipus* sp.**

FAMILY *Gyrinidae*

Genus: *Dineutus* Macleay, 1825

1825. *Dineutus* Macleay, *Annulosa javanica.*, 1: 30.

***Dineutus (Protodineutus) indicus* Aube, 1938**

1938. *Dineutus indicus* Aube, *Species coleopteres*, 6: 772

Sub Order Polyphaga Emery, 1886

FAMILY *Dryopidae* Billberg, 1820

Genus: *Elmomorphus* Sharp, 1888

Elmomorphus Sharp, 1888: 242; Sato, 1985: 255; Kodada et al., 2003: 455; Satô and Yoshitomi, 2005: 636. *Dryopidius* Grouvelle, 1896: 33. *Elmomorphellus* Chujo and Sato, 1964: 193. Type species: *Elmomorphus brevicornis* Sharp, 1888: 243.

***Elmomorphus brevicornis* Sharp**

Elmomorphus brevicornis Sharp, 1888: 243

(Natural History Museum, London): South Japan, ***Laccophilus*** Leach, 1815:84; type species: *Dytiscus minutus* Linnaeus, 1758:412. ***Laccophilus*** Leach, 1815:84; type species: *Dytiscus minutus* Linnaeus, 1758:412.

FAMILY: Hydraneidae

Genus: Ochthebius Leach, 1815

1815, *Ochthebius* Leach in Brewster's Edinb. Enc., 9:95

***Ochthebius* sp.**

FAMILY Helophoridae Leach, 1815

Genus: Helophorus Fabricius 1775

Helophorus sp.

FAMILY Hydrochidae Thomson 1859

Genus: Hydrochus Leach, 1817

1903. *Hydrochus* Leach, Zool. Misc, 3:90.

1924. *Hydrochus* Leach: Knisch, Col. Cat., 14 (Pars.79):96-104

***Hydrochus annamita* Regimbart, 1903**

1903. *Hydrochus annamita* Regimbart, Ann. Soc. Ent. Fr., 72:64

***Hydrochus locustris* Nietner, 1856**

1856. *Hydrochus locustris* Nietner, Journ. As. Soc. Berg., 25:537.

***Hydrochus* spp.**

FAMILY: Hydrophilidae Latreille, 1802

Sub family Shaeridiinae

Tribe I. Sphaeridiini Latreille, 1802

Genus: Sphaeridium Fabricius, 1775.

1775. *Sphaeridium* Fabricius, Syst. Ent., PP. 66.

1924. *Sphaeridium* Fabricius: Knisch, Col. Cat., 14 (Pars.79): 119-127.

***Sphaeridium severini* D'Orchymont 1919**

1919. *Sphaeridium severini* d'orchymont, Ann. Soc. Ent. Fr. 88: 116, f 7.

1924. *Sphaeridium severini*: Knisch, Col. Cat., 14 (Pars 79): 127.4. *S. severini* d' orchymont, 1919

***Sphaeridium quinquemaculatum* Fabricius, 1798**

1798. *Sphaeridium quinquemaculatum* Fabricius, Syst. Ent. Suppl., P: 39.

1924. *Sphaeridium quinquemaculatum*: Knisch, Col. Cat., 14 (Pars. 79): 124.

Genus Coleostoma Brulle, 1835

Coelostoma Brulle, 1835:293. Type species: *Hydrophilus orbicularis*, Fabricius 1775 (Monotypy)

Coelostoma subditum D'occhymont 1936

Genus Cercyon Leach, 1817

1817. *Cercyon* Leach, Zool. Misc., 3:95

1924. *Cercyon* Leach: Knisch, Col. Cat., 14 (Pars.79): 127-152.

***Cercyon lineolatus* Motschulsky, 1863**

Trichopoda lineolata Motschulsky, 1863. Bull. Soc. Imp. Nat. Mosc. 36: 444.

Cercyon lineolatus: Sharp 1890. Trans. R. ent. Soc. Lond. 2: 357.

Cercyon (C. S. Str.) *punctigerum* Knisch

1921. *Cercyon* (C. S. Str.) *pllnctigerllm* Knisch, Archiv. Natllrg, 85 (A-8): 79.

Cercyon (*Cercyon* S. Str.) *vicinalis* Walker

1859. *Cercyon* (C. S. Str.) *vicino/is* Walker. Ann. Mag. Nat. Hist., (3) 3: 258.

1924. *Cercyon* (C. S. Str.) *vicinalis*: Knisch. Col. Cat., 14 (Pars. 79): 150.

***Cercyon* sp.**

Genus 5. *Dactylosternum* Woll.; 1854

1854. *Dactylosternum* Woll., *Ins. Mader.* P. 99, t.3. f. 1.

Dactylosternum hydrophiloides M'cLeay 1825.

1825. *Dactylosternum hydrophiloides* M'Leay, *Annul. Javan.* P: 36.

Dactylosternum abdominale Fabricius, 1792

1792. *Dactylosternum abdominale* F., *Ent. Syst.* 1: 79.

Genus: *Oosternum* Sharp, 1882

1882. *Oosternum* Sharp, *Bioi. Centro Amer.* 1: 112.

1924. *Oosternum*: Knisch, *Col. Cat.*, 14 (Pars 79): 154.

Oosternum horni d' orchymont, 1914

1914. *Oosternum horni* d'orchymont. *Em. Millei*, 3: 326, f.2, P. 327.

Tribe III. Megastemini

Genus: *Pachysternum* Motsch, 1863

1863. *Pachysternum* Motsch, *Bull. Soc. Imp. Nat. Moscoll.* 36: 446.

Pachysternum coomani d'Orchymont 1926

1926. *Pachysternum coomani* d'Orchymont, *Ann. & Bull. Soc. Ent. Belg.*, 66: 221. 225.

Pachysternum nigrovittatum Motsch. 1863

1863. *Pachysternum nigrovittatum* Motsch, *Bull. Soc. Imp. Nat. Moscou*, 36: 447, 1. 9, f. 22.

Subfamily IV. *Hydrophilinae* Latreille, 1802

Tribe I. *Acidocerini* Zaitzev, 1908

Genus: *Helochares* Mulsant, 1844

Helochares Mulsant, 1844, *Palp.* P. 197

Helochares: Knisch, 1924, *Col. Cat.*, 14 (Pars 79): 192-199.

***Helochares pallens* MacLeay, 1825**

1825: *Enhydrus pallens* MacLeay, *Annul. Javan.* P. 35.

1924. *Helochares pallens*: d' Orchymont, *Ann. Bull. Soc. Ent. Belg.* 66:232.

***Helochares anchoralis* Sharp 1890**

1890. *Helochares anchoralis* Sharp, *Trans. Ent. Soc. Lond.* P: 352.

***Helochares atropiceus* Regimbart, 1903**

Helochares atropiceus Regimbart, 1903, *Ann. Soc. Ent. F.* 72:53

***Helochares crenatus* Regimbart, 1903**

1903. *Helochares crenatus* Regimbart, *Ann. Soc. Ent. Fr.* 72: 54.

Helochares lentus Sharp 1890

1890. *Helochares lentus* Sharp. *Trans. Ent. Soc. Lond.* P: 352.

1924. *Helochares lentus*: Knisch., Col. Cat., 14 (pars.79): 193.

Helochares taprobanicus Sharp

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Genus Tropisternus Solier, 1834

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Paracymus sp.

Tribe *Laccobiini* Bertrand, 1954

Genus *Laccobius* Erichson, 1837

1937. *Laccobius* Erichson.

***Laccobius* sp.**

Family: *Curculionidae* Latreille, 1802

Genus *Neochetina* Hustache, 1926

Neochetina bruchi Hustache 1926

Neochetina sp.

Family: *Chrysomelidae* Latreille, 1802

Genus: *Donacia* Fabricius, 1775

Donacia Fabricius, 1775; Type species: *Donacia crassipes*, Fabricius 1775.

Donacia sp.

FAMILY *Histeridae* Gyllenhal, 1808

Genus: *Histerus*

Histerus sp.

FAMILY Scirtidae Fleming, 1821

Genus: Scirtid

Limnicus sp.

FAMILY *Staphylinidae* Latreille, 1802

Genus: *Paedrus*

Paedrus sp.

ACKNOWLEDGEMENTS

The authors are thankful to the Council of Scientific and Industrial Research (CSIR), PUSA, New Delhi for giving financial assistance of MRP Ref. no.37 (1633)/14/EMR-II during the course of the work. Thanks are also due to the Principal and Head, PG Department of Zoology, DM College of Science, Imphal for providing laboratory facilities.

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