



AQUATIC BEETLES (COLEOPTERA) OF CHHATTISGARH, INDIA

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INTRODUCTION

With more than 3.8 lakh described species of beetles (Coleoptera) throughout the world (Zhang, 2011), 12,604 species belong to aquatic beetles (Jach and Balke, 2008). Despite the vast fresh water bodies in India, the information on aquatic beetles of several states is still lacking.

The catalogues and review work on aquatic beetles of world are published by Schenkling (1910-40), Knisch (1924), Wewalka (1975 & 1979), Brancucci (1983), Pederzani (1995), Miller (2002), Andrew and Martin (2011), Nilsson [2011 (palcat.) & 2013 (world cat.)], Fery (2003), Toledo (2009). The information on aquatic beetles of India is known through the works of D'Orchymout (1928) and Vazirani (1969a, 1969b, 1977, 1984), where in the species from Central India were also included. Subsequently, Chandra *et. al* (2010) and Ghosh & Nilsson (2012) reported total seventy two aquatic beetle species from Madhya Pradesh. However, the aquatic beetle fauna from Chhattisgarh state was not known. Hence the present work was undertaken.

The present work is based mainly on the collection made by the scientific team of Zoological Survey of India from HQs, Kolkata and Central Zone Regional Centre, Jabalpur from different water bodies of various districts (Surguja, Raipur, Bastar, Korba, Bilaspur and Raigarh) and Barnawapara Wildlife Sanctuary (BWLS)) in Chhattisgarh. The study yielded identification of 19 species of aquatic beetles belonging to 10 genera and 4 families namely Gyrinidae, Noteridae,

Dytiscidae and Hydrophilidae. For current valid names of the taxa, the work on "World catalogue of the Hydrophilidae" by Andrew & Martin (2011), "World catalogue of Noteridae" by Nilsson (2011) and "Catalogue of India & adjacent countries of Dytiscidae" by Ghosh & Nilsson (2012) was followed.

Order COLEOPTERA

I. Family GYRINIDAE

Subfamily ENHYDRINAE

Genus *Dineutus* Macleay, 1825

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

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

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

Material examined: Surguja dist, Baharghat, 16.I.1975, coll. S.K. Misra (1ex) (Reg. No. I10498); Tiger point, 21.XI.2011, coll. A. Raha & party (2ex); Raipur dist, BWLS, Mohda village, 5.X.2011, coll. S. Gupta & party (5ex); Jagdalpur dist, Makdi FRH, 10.XI.2011, coll. R.P. Gupta & party (3ex).

Distribution: India (Andhra Pradesh, Assam, Bihar, Chhattisgarh, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Pondicherry, West Bengal), Pakistan.

II. Family NOTERIDAE

Subfamily NOTERINAE

Tribe *Noterini*

Genus *Canthydrus* Sharp, 1882

1882. *Canthydrus* Sharp, *Sci. Trans. R. Dublin Soc.*, 2: 269.

2011. *Canthydrus*: Nilsson, A World Catalogue of the family Noteridae. Version 16.VIII.2011, p. 9.

2. *Canthydrus ritsemae* (Regimbart, 1880)

1880. *Hydrocanthydrus ritsemae* Regimbart, 1880: *Notes Leyden Mus.*, **2**: 213.

1977. *Canthydrus ritsemai*: Vazirani, *Rec. zool. surv. India, Occ. paper No.*, **6**: 8.

2011. *Canthydrus ritsemae*: Nilsson, A World Catalogue of the family Noteridae. Version 16.VIII.2011, p. 17.

Material examined: Surguja dist, Ambikapur, 09.I.1975, coll. H. Khajuria & Party (3ex) (Reg. No. I10465).

Distribution: India (Andhra Pradesh, Assam, Bihar, Chhattisgarh, Madhya Pradesh, Odisha, West Bengal), Thailand, Indonesia, Myanmar, Singapore, Vietnam.

III. Family DYTISCIDAE

Subfamily DYTISCINAE

Tribe ACILIINI

Genus *Sandracottus* Sharp, 1882

1882. *Sandracottus* Sharp, *Sci. Trans. R. Dublin Soc.*, **2**: 672.

2012. *Sandracottus*: Ghosh & Nilsson, *Skorvnoopparn supplement*, **3**: 18.

3. *Sandracottus dejeani* (Aube, 1838)

1838. *Hydaticus dejeani* Aube, *In Dejeans species Coleopteres*, **6**: 165.

2012. *Sandracottus dejeani*: Ghosh & Nilsson, *Skorvnoopparn supplement*, **3**: 18.

Material examined: Surguja dist, Tiger point, 21.XI.2011, coll. A. Raha & party (4ex).

Distribution: India (Arunachal Pradesh, Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal), Pakistan, Iran, Afrotropical region, Australian region.

Tribe *Cybistrini*

Genus *Cybister* Curtis, 1827

1827. *Cybister* Curtis, *Brit. Entom. Lond.*, **4**: 151.

2012. *Cybister*: Ghosh & Nilsson, *Skorvnoopparn supplement*, **3**: 19.

4. *Cybister (s.str.) cognatus* Sharp, 1882

1882. *Cybister cognatus* Sharp, *Sci. Trans. R. Dublin Soc.*, (2) **2**: 744.

2012. *Cybister (s.str.) cognatus*: Ghosh & Nilsson, *Skorvnoopparn supplement*, **3**: 19.

Material examined: Raipur dist, BWLS, 07.VII.2011, coll. S. Gupta & party (1ex).

Distribution: India (Bihar, Chhattisgarh, Goa, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, West Bengal), Indonesia.

5. *Cybister (s.str.) confusus* Sharp, 1882

1882. *Cybister confusus* Sharp, *Sci. Trans. R. Dublin Soc.* (2) **2**: 739.

2012. *Cybister (s.str.) confusus*: Ghosh & Nilsson, *Skorvnoopparn supplement*, **3**: 19.

Material examined: Raipur dist, BWLS, 07.VII.2011, coll. S. Gupta & party (1ex).

Distribution: India (Bihar, Chhattisgarh, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Odisha, Tamil Nadu, Tripura, West Bengal), Bangladesh, Pakistan, Sri Lanka.

6. *Cybister (s.str.) cardoni* Severin, 1890

1890. *Cybister cardoni* Severin, *Ann. Soc. ent. Belg.* **34**, C.R.: **4**(12):193.

2012. *Cybister (s.str.) cardoni*: Ghosh & Nilsson, *Skorvnoopparn supplement*, **3**: 19.

Material examined: Raipur dist, BWLS, 07.VII.2011, coll. S. Gupta & party (1ex).

Distribution: India (Chhattisgarh, Jharkhand), Bangladesh, Myanmar, Pakistan, Sri Lanka.

7. *Cybister (s.str.) limbatus* (Fabricius, 1775)

1775. *Dytiscus limbatus* Fabricius, *Systema Ent.*, 230.

2012. *Cybister (s.str.) limbatus*: Ghosh & Nilsson, *Skorvnoopparn supplement*, **3**: 20.

Material examined: Raipur dist, BWLS, 08.VII.2011, coll. S. Gupta & party (1ex).

Distribution: India (Arunachal Pradesh, Bihar, Chhattisgarh, Goa, Gujarat, Jharkhand, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal),

Afghanistan, Pakistan, China, Japan, Indonesia, Philippines, Taiwan, Vietnam.

8. *Cybister (s.str.) pectoralis* Sharp, 1882

1882. *Cybister pectoralis* Sharp, *Sci. Trans. R. Dublin Soc.*, **2**: 736.

1977. *Cybister (Melanectes) pectoralis*: Vazirani, *Rec. zool. Surv. India, Occ. Paper No.* **6**: 91.

2012. *Cybister (s.str.) pectoralis*: Ghosh & Nilsson, *Skorvnoopparn supplement*, **3**: 21.

Material examined: Bastar, 08.I.1974, coll. R.K. Singh (1ex) (Reg. No. No. I9831).

Distribution: India (Andhra Pradesh, Bihar, Chhattisgarh, Madhya Pradesh, Maharashtra, West Bengal).

9. *Cybister (s.str.) tripunctatus lateralis* (Fabricius, 1798)

1798. *Dytiscus lateralis* Fabricius, *Suppl. Entom. Syst.*, p. 64.

1832. *Cybister asiaticus* Sharp: *Sci. Trans. R. Dublin Soc.*, **2**: 731.

1977. *Cybister tripunctatus asiaticus*: Vazirani, *Rec. zool. Surv. India, Occ. Paper No.* **6**: 62.

2012. *Cybister (s.str.) tripunctatus lateralis*: Ghosh & Nilsson, *Skorvnoopparn supplement*, **3**: 21.

Material examined: Korba dist, Katghora, 24.XI.2011, coll. A. Raha & party (1ex); Pali RH, 25.XI.2011, coll. A. Raha & party (1ex).

Distribution: India (Andaman & Nicobar Islands, Andhra Pradesh, Assam, Chhattisgarh, Delhi, Gujarat, Himachal Pradesh, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Odisha, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal), Afghanistan, Bangladesh, Bhutan, Myanmar, Nepal, Pakistan, Sri Lanka, China, Cyprus, Iran, Iraq, Japan, Kyrgyzstan, Mongolia, Russia, Syria, Tajikistan, Turkmenistan, Turkey, Uzbekistan, Europe.

10. *Cybister (Melanectes) sugillatus* Erichson, 1834

1834. *Cybister sugillatus* Erichson, *Beiträge zur Zoologie, Supplement*, **28**: 227.

2012. *Cybister (Melanectes) sugillatus*: Ghosh & Nilsson, *Skorvnoopparn supplement*, **3**: 22.

Material examined: Raipur dist, BWLS, 07.VII.2011, coll. S. Gupta & party (1ex)

Distribution: India (Assam, Bihar, Chhattisgarh, Himachal Pradesh, Madhya Pradesh, Maharashtra, Manipur, Odisha, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal), Afghanistan, Bhutan, Myanmar, Nepal, Pakistan, Sri Lanka, China, Indonesia, Japan, Philippines.

Tribe **Eretini**

Genus *Eretes* Laporte, 1833

1833. *Eretes* Laporte, *Ann. Soc. Entom. France*, **1**: 397.

2012. *Eretes* Laporte: Ghosh & Nilsson, *Skorvnoopparn supplement*, **3**: 23.

11. *Eretes griseus* (Fabricius, 1781)

1781. *Dytiscus griseus* Fabricius, *Species Ins.*, **1**: 293.

2012. *Eretes griseus*: Ghosh & Nilsson, *Skorvnoopparn supplement*, **3**: 23.

Material examined: Raipur dist, BWLS, 03.VII.2011, coll. K. Chandra & party (1ex).

Distribution: India (Chhattisgarh, Himachal Pradesh, Jammu & Kashmir, Uttar Pradesh), Afghanistan, Bhutan, Nepal, Pakistan, China, Iran, Iraq, Japan, Kuwait, Oman, Russia, Sinai, South Korea, Syria, Turkey, Yemen, Afrotropical region, Australian region, Europe, North Africa.

Remarks: This species is recorded for the first time from Chhattisgarh. This species was earlier reported and identified as *Eretes sticticus* (Linnaeus) from India.

Tribe **Hydaticini**

Genus *Hydaticus* Leach, 1817

1817. *Hydaticus* Leach, *zool. Miscell.*, **3**: 69.

2012. *Hydaticus* Leach: Ghosh & Nilsson, *Skorvnoopparn supplement*, **3**: 24.

12. *Hydaticus (Prodatiscus) ricinus* Wewalka, 1979

1979. *Hydaticus ricinus* Wewalka, *Koleopterologische Rundschau*, **54**: 128.

2012. *Hydaticus (Prodaticus) ricinus*: Ghosh & Nilsson, *Skorvnoopparn supplement*, 3: 27.

Material examined: Raipur dist, BWLS, 08.VIII.2011, coll. S. Gupta & party (1ex).

Distribution: India (Assam, Chhattisgarh, Tamil Nadu), Afghanistan, Bhutan, Myanmar, Nepal, Pakistan, Sri Lanka, China, Laos, Thailand, Vietnam.

Subfamily LACCOPHILINAE

Genus *Laccophilus* Leach, 1815

1815. *Laccophilus* Leach, *the Edinburgh encyclopaedia*, 9(1): 84.

2012. *Laccophilus* Leach: Ghosh & Nilsson, *Skorvnoopparn supplement*, 3: 46.

13. *Laccophilus elegans* Sharp, 1882

1882. *Laccophilus elegans* Sharp, *Sci. Trans. R. Dublin Soc.*, 2: 302.

2012. *Laccophilus elegans*: Ghosh & Nilsson, *Skorvnoopparn supplement*, 3: 27.

Material examined: Bilaspur dist, 08.III.1992, coll. U.A. Gajbe (1ex) (Reg. No. I14980).

Distribution: India (Andaman & Nicobar Islands, Andhra Pradesh, Bihar, Chhattisgarh, Karnataka, Madhya Pradesh, Nagaland, Odisha, West Bengal), Vietnam.

14. *Laccophilus ellipticus* Regimbart, 1889

1889. *Laccophilus ellipticus* Regimbart, *Ann. Soc. Ent. Fr.*, (6) 9: 152.

2012. *Laccophilus ellipticus*: Ghosh & Nilsson, *Skorvnoopparn supplement*, 3: 47.

Material examined: Bilaspur dist, 09.III.1992, coll. U.A. Gajbe (1ex) (Reg. No. I14987).

Distribution: India (Andhra Pradesh, Assam, Bihar, Chhattisgarh, Goa, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Meghalaya, Odisha, Pondicherry, Tamil Nadu, West Bengal), Myanmar, Sri Lanka, China, Cambodia, Indonesia, Thailand, Vietnam.

15. *Laccophilus inefficiens* (Walker, 1859)

1859. *Hydroporus inefficiens* Walker, *Ann. Mag. Nat. Hist.*, 3: 51.

2012. *Laccophilus inefficiens*: Ghosh & Nilsson, *Skorvnoopparn supplement*, 3: 49.

Material examined: Bastar dist, 09.I.1974, coll. R.K. Singh & party (1ex) (Reg. No. I9852); Sarguja dist, Bharaghat nala, 16.I.1974, coll. S.K. Misra (60 ex) (Reg. No. I10497).

Distribution: India (Andaman & Nicobar Islands, Andhra Pradesh, Assam, Bihar, Chhattisgarh, Goa, Gujarat, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Odisha, Punjab, Rajasthan, Sikkim, Tripura, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal), Bangladesh, Bhutan, Myanmar, Nepal, Pakistan, Sri Lanka, Indonesia, Iran, Malaysia.

16. *Laccophilus uniformis* Motschulsky, 1859

1859. *Laccophilus uniformis* Motschulsky, *Etudes Entom.*, 8: 46.

2012. *Laccophilus uniformis*: Ghosh & Nilsson, *Skorvnoopparn supplement*, 3: 52.

Material examined: Bilaspur, Katani, 06.VI.2000, coll. Y.N. Gupta, (1ex) (Reg. No. I8796).

Distribution: India (Andaman & Nicobar Is., Andhra Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Madhya Pradesh, Manipur, Odisha, Sikkim, West Bengal), Bangladesh, Myanmar, Sri Lanka, Cambodia, China, Indonesia, Laos, Thailand, Vietnam.

IV. Family HYDROPHILIDAE

Subfamily HYDROPHILINAE

Tribe **Hydrophilini**

Genus *Hydrophilus* Muller, 1764

1764. *Hydrophilus* Muller, *Fauna Ins. Fridrichsdalina*, p. 16.

17. *Hydrophilus olivaceus* Fabricius, 1781

1781. *Hydrophilus olivaceus* Fabricius, *Spec. ins.*, 1: 289.

Material examined: Rajgarh dist, Betwa River, 03.X. 1995, coll. H.S. Sharma & Party (3ex) (Reg. No. I25583).

Distribution: India (Andhra Pradesh, Chhattisgarh, Madhya Pradesh, Maharashtra, Manipur, West Bengal).

Genus *Sternolophus* Solier, 1834
1834. *Sternolophus* Solier, *Ann. Soc. ent. Fr.*, **3**: 302, 310.

18. *Sternolophus rufipes* (Fabricius, 1792)
1792. *Hydrophilus rufipes* Fabricius, *Entom. Syst.*, **1**: 183.

Material examined: Raipur dist, BWLS, 30.VII.2011, coll. S. Gupta & party (1ex); Latadodar, 27.IX.2011 (2ex); Jagdalpur dist, Makdi Forest Rest House, 08.XI.2011 (2ex); 10.XI.2011, coll. R.P. Gupta & party (1ex).

Distribution: India (Andhra Pradesh, Bihar, Chhattisgarh, Jammu & Kashmir, Maharashtra, Meghalaya, Manipur, Punjab, Sikkim, Tripura, Uttar Pradesh, West Bengal), Sunda Is., Myanmar, Philippines, Japan, Formosa, Indonesia, Indochina, China, Sri Lanka.

Tribe **Acidocerini**

Genus *Helochares* Mulsant, 1844
1844. *Helochares* Mulsant, *Hist. Nat. Col. Fr., Palp.*, p. 197.

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

Material examined: Surguja dist, Baharghat, 06.I. 1975, coll. H. Khajuria (3ex) (Reg. No. I10442).

Distribution: India: (Andhra Pradesh, Bihar, Chhattisgarh, Madhya Pradesh, Pondicherry, Tripura, West Bengal), Cambodia, Indonesia, Philippines.

SUMMARY

The study comprises of 19 species of aquatic beetles belonging to 10 genera and 4 families namely Gyrinidae, Noteridae, Dytiscidae and Hydrophilidae. All the species are reported for the first time from Chhattisgarh state.

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