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RESULTS OF THE AUSTRIAN-CEYLONESE HYDROBIOLOGICAL MISSION 1970 OF THE 1ST ZOOLOGICAL INSTITUTE OF THE UNIVERSITY OF VIENNA (AUSTRIA) AND THE DEPARTMENT OF ZOOLOGY OF THE VIDYALANKARA UNIVERSITY OF CEYLON, KELANIYA

## Part IX: Dytiscidae (Coleoptera)

by

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The intensive collecting of Prof. Dr. F. Starmühlner and Prof. Dr. H. H. Costa in Ceylon in 1970 produced among others some Dytiscidae. The material turned out to be especially interesting as it comes altogether from running waters, in which otherwise collecting is infrequent.

From Ceylon quite a lot of species of Dytiscidae are already known. SHARP (1890), REGIMBART (1892, 1902) and VAZIRANI (1969) worked on large collections and they give a good general account of the Dytiscidae of Ceylon

I am much obliged to Prof. Dr. Starmühlner and to Prof. Dr. H. H. Costa for sending me their collection of Dytiscidae from Ceylon.

### 1. *Guignotus flammulatus* (SHARP)

*Bidessus flammulatus* SHARP, 1880-82 Sci. Trans. R. Dublin Soc., 2 : 359 ; FENG, 1933 Peking Nat. Hist. Bull., 8 : 98.

*Guignotus flammulatus*, GUIGNOT, 1954 Opusc. ent., 19 : 221 ; GUIGNOT, 1959 Bull. Soc. Linn. Lyon, 28 : 9 ; VAZIRANI, 1967 Oriental. Ins., 1 : 104 ; VAZIRANI, 1969 Oriental Ins., 4 : 313 ; VAZIRANI, 1969 Spolia Zeylanica, 31 : 401.

*Bidessus antennatus* REGIMBART, 1892 Ann. Soc. Ent. Belg., 36 : 118 ; REGIMBART, 1899 Ann. Soc. Ent. Fr., 68 : 225 ; REGIMBART, 1902 Ann. Soc. Ent. Fr., 71 : 468.

*Guignotus antennatus*, CHUJO & SATO, 1961 Nature & Life in South East Asia, p. 304 ; FERNANDO, 1963 Bull. Fish Res. Stn., Ceylon, 16 : 25.

LOCATION : Ceylon, Belihuloya, Kuda-Oya, near Buttala, 9.12.1970, FC 27a, at the bank of the little river. 1♂, leg. Prof. Dr. F. Starmühlner.

Size 2,3-2,5 mm. The typical elytral marking is figured by REGIMBART (1899). The sutural striae are complete but not very distinctly carved. Elytral striae and a transverse groove behind the eyes are missing.

DISTRIBUTION : India, Ceylon, Pakistan, Japan, Thailand, Cambodia, China, Formosa, Burma.

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2. *Canthydrus luctuosus* (AUBE)

*Hydrocanthus luctuosus* AUBE, 1838 Spec. Col., 6 : 408.

*Canthydrus luctuosus*, SHARP, 1880-82 Sci. Trans. R. Dublin soc., 2 : 276 ; REGIMBART, 1899 Ann. Soc. Ent. Fr., 68 : 248 ; VAZIRANI, 1953 Rec. Indian Mus., 50 : 424 ; FERNANDO, 1961 Ceylon J. Sci. (Biol. Sci.), 4(1) : 46 ; VAZIRANI, 1967 Oriental Ins., 1 : 100 ; VAZIRANI, 1969 Oriental Ins., 2 : 231 ; VAZIRANI, 1969 Spolia Zeylanica, 31 : 401.

*Canthydrus frontalis* SHARP, 1880-82 Sci. Trans. R. Dublin, Soc., 2 : 276.

*Canthydrus sexpunctatus* SHARP, 1880-82 Sci. Trans. R. Dublin Soc., 2 : 276.

*Canthydrus orientalis* SHARP, 1880-82 Sci. Trans. R. Dublin Soc., 2 : 276.

LOCATION : Ceylon, Deniyaya, Thanipita-Dola, 600 m, 12.11.1970, FC 7a, at the bank of the little cascade-brook, 1—♀ leg. Prof. Dr. F. Starmühlner.

DISTRIBUTION: Ceylon, India, Persia, Syria.

3. *Laccophilus ceylonicus* ZIMMERMANN

*L. horni* REGIMBART, 1902 Ann. Soc. Ent. Fr. 71 : 468.

*L. ceylonicus* ZIMMERMANN, 1920 Coleopt. Catal. 71 : 71.

LOCATION : Ceylon, Belihuloya, Veli-Oya, 700 m. 8.12.1970, FC 26a, at the bank of the little cascade-brook, 1♂, leg. Prof. Dr. F. Starmühlner.

DISTRIBUTION : Ceylon.

4. *Laccophilus chinensis inefficiens* (WALKER)

*Laccophilus chinensis* BOHEMAN, 1858 Eugen, Resa, Col. 4 : 21.

*Hydroporus inefficiens* WALKER, 1859 Ann. Mag. Nat. Hist. (3) 3 : 51.

*Laccophilus inefficiens*, SHARP, 1890 Trans. Ent. Soc. Lond., p. 341.

*Laccophilus chinensis* v. *inefficiens* REGIMBART, 1899 Ann. Soc. Ent. Fr. 68 : 260 ; REGIMBART, 1902 Ann Soc. Ent. Fr. 71 : 469 ; ZIMMERMANN, 1920 Coleopt. Catal. 71 : 17.

GUIGNOT, 1954 Ark. Zool., 6 : 565

*Laccophilus chinensis inefficiens*, VAZIRANI, 1969 Oriental Ins., 2 : 243-245 ; VAZIRANI, 1969 Spolia Zeylanica, 31 : 401 ; VAZIRANI, 1970 Rec. Zool. Surv. India, 62 : 33 ; VAZIRANI, 1971 Oriental Ins., 4 : 443.

LOCATION : Ceylon, Belihuloya, Veli-Oya, 700m, 8.12.1970, FC 26a, at the bank of the little cascade-brook, 1♂, leg. Prof. Dr. F. Starmühlner.

DISTRIBUTION : India, Burma, Ceylon, Persia, Pakistan, Nepal.

5. *Neptosternus starmühlneri* n.sp.

Size 3.7 mm, breadth 2mm. Oval moderately convex, behind the middle dilated, upper surface shining, head and pronotum testaceous, the anterior and posterior margin of the pronotum broadly

dark-brown. Elytra dark-brown with four testaceous spots, a long transverse spot behind the base with an irregular anterior margin, two median spots, one longitudinal near the sutura and a triangular one at the margin, a big apical spot is triangular (Fig. 1).

Head, anteriorly widely rounded, microreticulated finely, punctuation sparse and fine.

Pronotum transverse, slightly convex, sides scarcely bended, posterior margin largely curved near the lateral angles, produced backwards. Microreticulation as on the head, punctuation generally fine and sparse but an irregular row of punctures along the anterior and posterior margin.

Elytra little convex, broadest extension behind the middle, obliquely attenuated at the apex, microreticulation transverse and punctuation very fine, two longitudinal series of fine punctures placed regularly.

Ventral side microreticulated finely, testaceous, epipleura darker. The prosternal process is tridentate, the lateral spines of the process longer than half the length of the median spine. Antenna and legs testaceous.

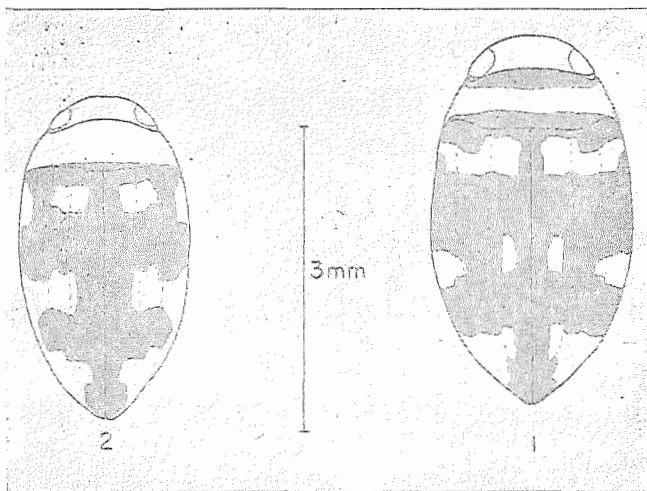


Fig. 1. *Neptosternus starmühlneri* n.sp. Holotypus ♀  
Fig. 2. *Neptosternus taprobanicus* Sharp ♀

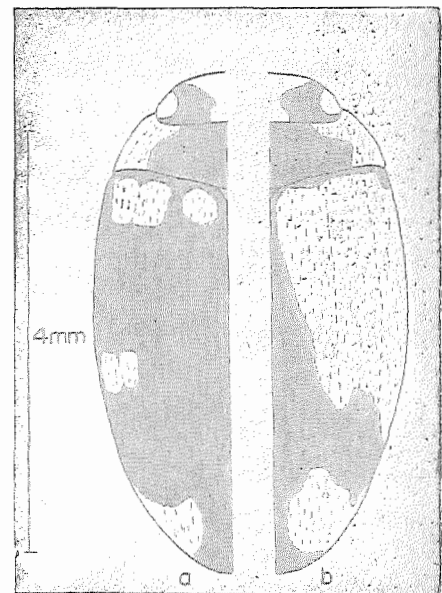


Fig. 3. *Lacconectus simoni* Reg.

*N. starmühlneri* n.sp. resembles *N. horai* VAZIRANI in elytral marking and in design of the prosternal process. In general appearance and elytral markings it is similar to *N. sumatrensis* REG. but can be separated from both species by the bigger size. From *N. taprobanicus* SHARP this species can be separated among other things by the more dilated form of the elytra.

HOLOTYPE: ♀, Ceylon, Ratnapura, Kalu-Ganga near Malwala, 21.11.1970, FC 13d, in aquatic plants of the river, leg. Prof. Dr. F. Starmühlner in Coll. Wewalka.

6. *Neptosternus taprobanicus* SHARP

*N. taprobanicus* SHARP, 1890 Sci. Trans. Ent. Soc. Lond., p. 342 ; REGIMBART, 1899 Ann. Soc. Ent. Fr. 68 : 269, VAZIRANI, 1963 Bull. Ent. Loyola Coll. 4 : 16 ; VAZIRANI, 1969 Oriental Ins., 2 : 251.

LOCATION: Ceylon, Kitulgala, Kelani-Ganga near Kitulgala, 28.12.1970, FC37a, at the bank of the big river, 2♀♀, leg. Prof. Dr. F. Starmühlner.

Ceylon, Ratnapura, Rajanawa-Dola, 19.11.1970, FC11a, at the bank of the small cascade-brook, 1♀, leg. Prof. Dr. F. Starmühlner.

Size 3 mm, long oval, head and pronotum testaceous besides a narrow dark-brown band at the posterior margin of the pronotum. Elytra dark-brown with a testaceous lateral margin and four spots (Fig. 2). Lateral spines of the prosternal process less than half the length of the median spine.

DISTRIBUTION : Ceylon, South-India.

7. *Lacconectus (Paralacconectus) simoni* REGIMBART

*Lacconectes simoni* REGIMBART, 1893 Ann. Soc. Ent. Fr. 62 : 102 ; REGIMBART, 1899 Ann. Soc. Ent. Fr. 68 : 292.

*Lacconectus simoni* GUEORGUIEV, 1968 Bull. Inst. Zool. Mus. 28 : 40 ; VAZIRANI, 1970 Oriental Ins., 4 : 327.

LOCATION : Ceylon, Maskeliya, Maskeliya-Dola, 1800 m, 1.12.1970, FC20a at the bank of the mountain-brook, 1♂, leg. Prof. Dr. F. Starmühlner.

DISTRIBUTION : Ceylon.

*Lacconectus simoni* REGIMBART, COLOUR-VARIATION.

LOCATION: Ceylon, Maskeliya, Gartmore-Dola, 2000 m. 29.11.1970, FC 17a at the bank of the little brook, 1♂ leg. Prof. Dr. F. Starmühlner.

The variation distinguishes from the typical form (Fig 3a) by the large extension of the yellowish colouring on the elytra (Fig. 3b).

8. *Hydaticus luczonicus* AUBE.

*H. luczonicus* AUBE, 1838 Sec. Col. 6 : 179 ; REGIMBART, 1899 Ann. Soc. Ent. Fr. 68, p. 314, fig. 44. PPVAZIRANI, 1967 Oriental Ins., 1 : 110 ; VAZIRANI, 1969 Oriental Ins., 2 : 262 ; VAZIRANI, 1970 Rec. 2001. Surv. 62: 46  
Rec. Zool. Surv., 62 : 46.

LOCATION : Ceylon, Deniyaya, Pasumale-Dola, 800m. 10.11.1970, FC 4a at the bank of the big cascade-brook, 1♂, leg. Prof. Dr. F. Starmühlner.

Ceylon, Maskeliya, Gartmore-Dola, 2000m. 29.10.1970, FC 17a at the bank of the small brook, 1♂, leg. Prof. Dr. F. Starmühlner.

DISTRIBUTION : India, Ceylon, Tonkin, Philippines.

## SUMMARY

The paper gives a list of the Dytiscidae collected by Prof. Dr. F. Starmühlner and Prof. Dr. H.H. Costa in Ceylon in 1970. A new species of the genus *Neptosternus* and an extreme colour-variation of *Lacconectus simoni* REG. are described and figured.

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