

On identification of species of the *Cercyon dux* group (Coleoptera: Hydrophilidae)

S.K. Ryndevich

Ryndevich, S.K. 2001. On identification of species of the *Cercyon dux* group (Coleoptera: Hydrophilidae). *Zoosystematica Rossica*, **10**(1): 79-83.

The use of metendosternite for identification of species of the genus *Cercyon* Leach is discussed. Diagnoses of species of the *dux*-group (*Cercyon dux* Sharp, *C. numerosus* Shatrovskiy and *C. symbion* Shatrovskiy) are presented.

S.K. Ryndevich, Baranovichy State Higher Pedagogical College, Komsomol'skaya ul. 84, Baranovichy, 225320, Brest Prov., Belarus.

Certain species of the genus *Cercyon* Leach can be only identified from the structure of the male genitalia. This is completely true for little known species of the *dux*-group (*C. dux* Sharp, *C. numerosus* Shatrovskiy and *C. symbion* Shatrovskiy) living under decomposing seaweed (Shatrovskiy, 1989, 1992; Ryndevich, 1995). Females of these species cannot be identified from external characters.

The structure of the metendosternite was mainly used for clarifying phylogenetic and taxonomic relationships among genera, tribes and families of beetles (Crowson, 1938, 1944; Konstantinov & Lopatin, 1987). Distinctions of species of the genus *Altica* Geoffr. in the shape of some parts of metendosternite were stated by Konstantinov & Lopatin (1987).

We have found differences between species of the *Cercyon dux* group in the structure of metendosternite (both males and females), particularly in the thickness of the stem and structure of the front edge of branches (Figs 1-5; distinctions shown with arrows). *C. dux* and *C. numerosus* have more developed tendons of mesofurca-metafurcal muscles (Figs 1, 2, 5; shown with triangles). Both *C. dux* and *C. symbion* have a narrow bottom of the stem. Differences in the structure of the metendosternite are found also in other similar species: *C. algarum* Sharp (Fig. 6), *C. aptus* Sharp (Fig. 7), *C. fimbriatus* Mannerheim (Fig. 8). Hence, this character can be used, alongside other characters, for

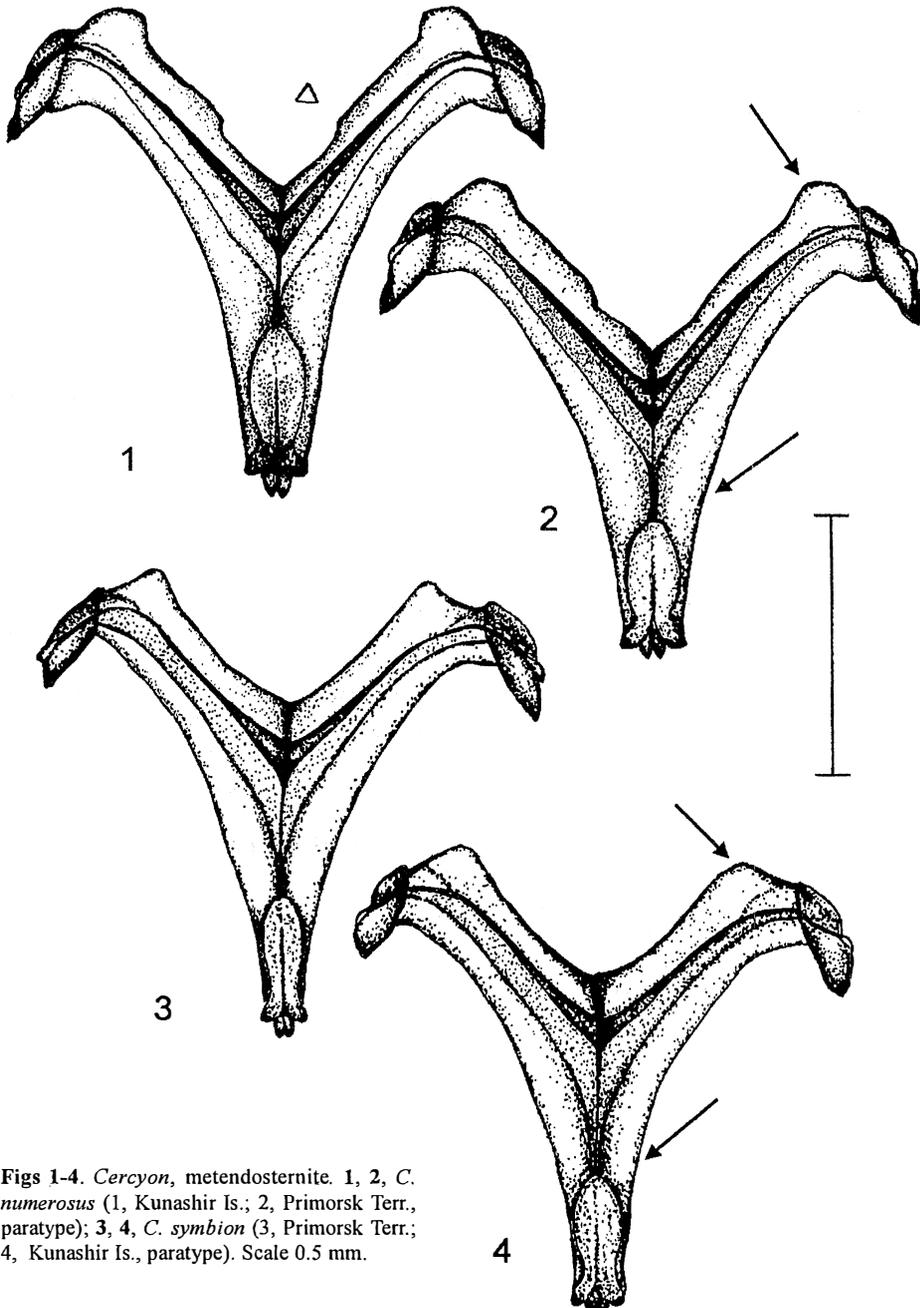
identification of species of the genus *Cercyon*. Diagnoses of species of the *C. dux* group are presented below.

The specimens examined are kept in the collections of the author (CRS), Zoological Institute, St.Petersburg (ZIN) and Zoological Museum of the Moscow University (ZMUM).

***Cercyon dux* Sharp, 1873** (Figs 5, 9-11)

Material examined. **Russia:** Kunashir Island, near Sernovodsk, in decomposing seaweed, 28.VI.1985, leg. S.V. Saluk, 2 spm. (CRS); **Japan:** Kyushu, Misaki, 27.VII.1917, leg. Roshkovskiy, 3 spm. (ZIN).

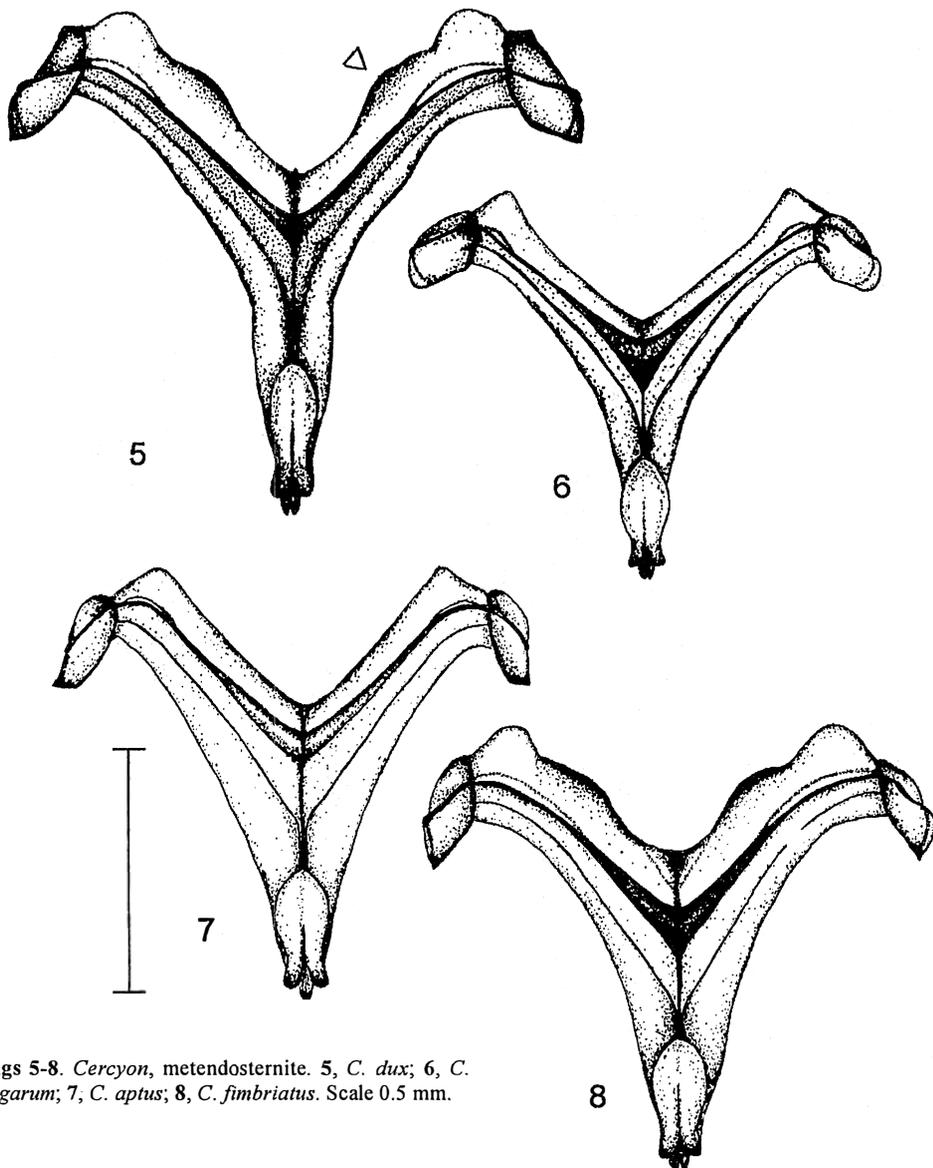
Description. Body oblong-oval, moderately flat. Dorsal side rather shining, without microsculpture. Punctuation fine and dense, uniform. Head black. Antennae and maxillary palpi yellow-brown or brown. Basal parts of segments of palpi and club of antennae darker. Pronotum black with reddish or yellowish brown anterior and lateral sides. Scutellum and elytra black. Elytra laterally with broad yellowish, yellowish red or reddish brown stripe, which is usually broad, but sometimes reduced to thin lateral line and some humeral spots. Suture of elytra black. In some specimens, pronotum and elytra yellowish brown, with central part of pronotum darker. Elytral epipleura of same color as sides of elytra. Elytra with 9 punctate striae becoming deeper near apex. Space between second and third striae with 8-9 irregular rows of punctures. Ventral side brown,



Figs 1-4. *Cercyon*, metendosternite. 1, 2, *C. numerosus* (1, Kunashir Is.; 2, Primorsk Terr., paratype); 3, 4, *C. symbion* (3, Primorsk Terr.; 4, Kunashir Is., paratype). Scale 0.5 mm.

dark brown or black. Elevated middle portion of mesosternum, metendosternal area and posterior abdominal segments brown. Legs yellow-brown or dark brown; tarsi paler. Male tibiae pubescent. Ventral part of tibiae and femora with distinct microsculpture and dense punctation. Metendo-

sternal place and elevated middle portion of mesosternum with dense punctation. Elevated middle portion of mesosternum narrow, 4.4-4.5 times as long as wide. Metasternum without femoral lines. Metendosternite as in Fig. 5. Male genitalia as in Figs 9-11. Length 4.2-4.3 mm.



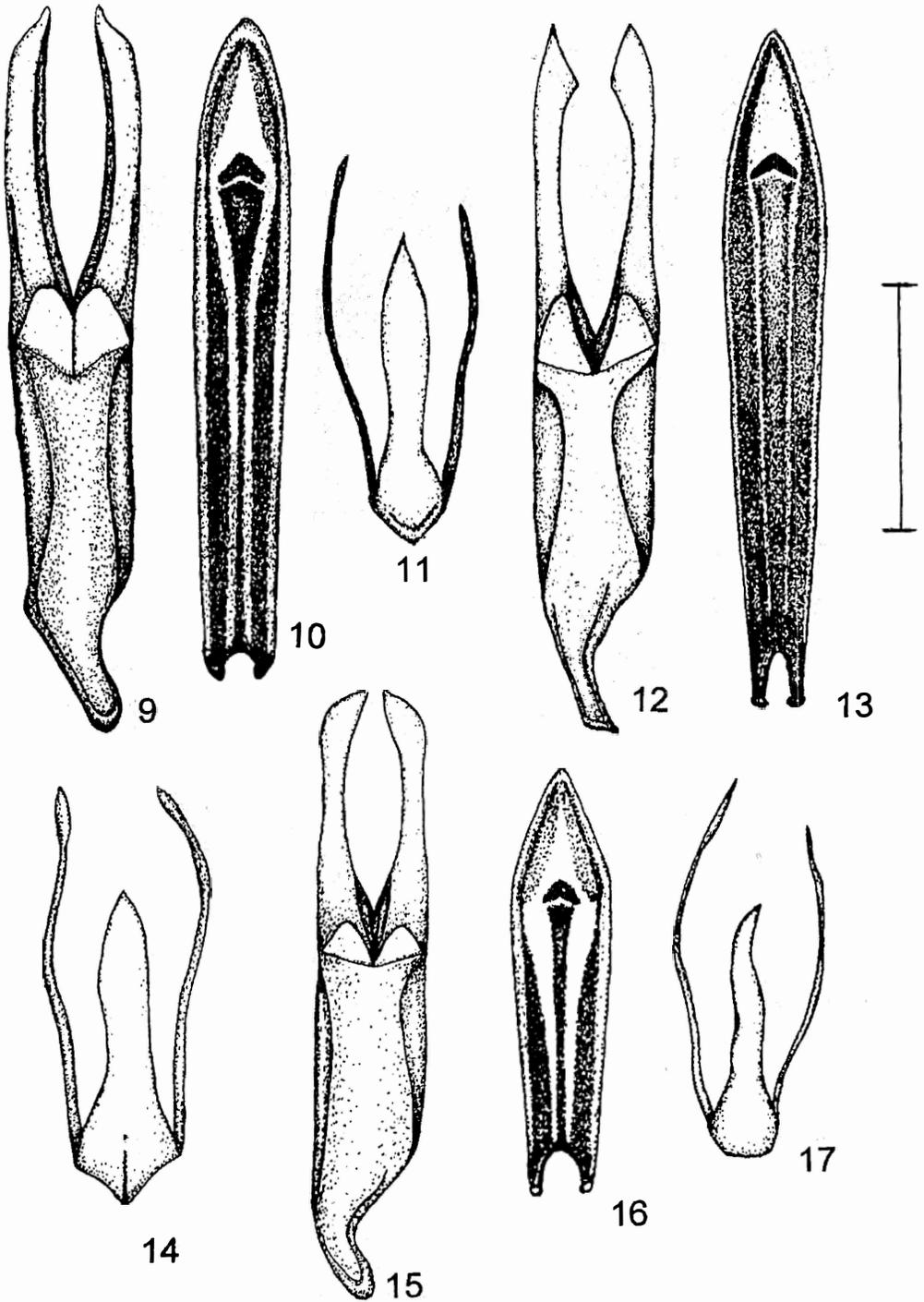
Figs 5-8. *Cercyon*, metendosternite. 5, *C. dux*; 6, *C. algarum*; 7, *C. aptus*; 8, *C. fimbriatus*. Scale 0.5 mm.

***Cercyon numerosus* Shatrovskiy, 1992**
(Figs 1, 2, 12-14)

Material examined. **Russia, Primorsk Terr.:** Kit Bay, Glazkovka, in decomposing seaweed, 20.IX.1986, leg. Shatrovskiy, holotype and 20 paratypes (ZIN); Golubinyi Utes, 8 km E Khasan, 27.VIII.1986, leg. Shatrovskiy, 1 paratype (ZIN); Lazovskiy Nature Reserve, Tachingou, 6.IX.1971, leg. Keleynikova, 4 spm. (ZMUM); Kamenushka, 30.VI.1984, leg. Saluk, 5 spm. (CRS); *Kunashir Island:* Sernovodsk, 28.VI.1985, Nikitskiy, 2 paratypes (ZMUM); near Sernovodsk, in decomposing seaweed,

28.VI.1985, leg. Saluk, 10 spm. (CRS); 15 km of Mendelevo, sulphureous spring, 29.VI.1985, leg. Nikitskiy (ZMUM).

Description. Similar to *C. dux*, but usually smaller, length 3.3-4.1 mm. Space between second and third striae of elytra with 8 irregular punctate rows. Ventral side dark brown or black. Elevated middle portion of mesosternum black, but metendosternal place and posterior abdominal segments brown. Male tibiae glabrous. Ventral part of tibiae and femora with distinct



Figs 9-17. *Cercyon*, male genitalia. 9-11, *C. dux*; 12-14, *C. numerosus*; 15-17, *C. symbion*. 9, 12, 15, tegmen with parameres; 10, 13, 16, penis; 11, 14, 17, genital segment. Scale 0.5 mm.

microsculpture. Elevated middle portion of mesosternum 4.0-4.5 times as long as wide. Metendosternite as in Figs 1 and 2. Male genitalia as in Figs 12-14.

Cercyon symbion Shatrovskiy, 1992
(Figs 3, 4, 15-17)

Material examined. **Russia, Primorsk Terr.:** env. of Vladivostok, 28.VIII.1969, holotype and 8 paratypes, leg. Kryzhanovskiy (ZIN); Lazovskiy Nature Reserve, Melkovodnaya Bay, 25.VII.1973, leg. Storozhenko, 1 spm. (ZIN); Ussuriysk Distr., Kamenushka, 30.VI.1984, S. Churkin leg., 2 spm. (ZIN); *Kunashir Island:* S of Sernovodsk, leg. Kusakin & Shchegolev, 1 paratype (ZIN); S of Goriachiy Klyuch, 27.VII.1981, leg. Kabakov, 1 paratype (ZIN); Sernovodsk, 28.VI.1985, leg. Nikitskiy, 1 paratype (ZMUM).

Description. Very similar to *C. numerosus*, but differs in the structure of the male genitalia and of metendosternite. Male tibiae glabrous. Elevated middle portion 4.0-4.7 times as long as wide. Metendosternite as in Figs 3 and 4. Male genitalia as in Figs 15-17. Length 3.2-3.8 mm.

Acknowledgements

I am very grateful to G.S. Medvedev (Zoological Institute, Russian Academy of Sciences, St. Petersburg), N.B. Nikitskiy (Zoological Museum of Moscow State

University), and S.V. Saluk (Minsk, Belarus) for material supplied, I.K. Lopatin (Belarus State University, Minsk) for valuable comments on my work and E.G. Karapetova (Baranovichy State Higher Pedagogical College) for help in translation of the manuscript.

References

- Crowson, R.A.** 1938. The metendosternite in Coleoptera. *Trans. r. entomol. Soc. London*, **87**: 397-415.
- Crowson, R.A.** 1944. Further studies on the metendosternite in Coleoptera. *Trans. r. entomol. Soc. London*, **94**: 273-310.
- Konstantinov, A.S. & Lopatin, I.K.** 1987. Comparative morphological study of the metendosternite in the leaf-beetles of the subfamily *Alticinae* (Coleoptera, Chrysomelidae). *Entomol. Obozr.*, **66**(2): 247-255. (In Russian).
- Ryndevich, S.K.** 1995. *Cercyon dux* Sharp – new species of Hydrophilidae (Coleoptera) for Russia. *Trudy zool. Muz. Belorus. Univ.*, **1**: 75-76. (In Russian).
- Shatrovskiy, A.G.** 1989. Family Hydrophilidae. In: P.A. Lehr (ed.). *Opredelitel' nasekomykh Dal'nego Vostoka SSSR* [Keys to the Insects of the Far East of the USSR], **3**(1): 264-293. Leningrad: Nauka. (In Russian).
- Shatrovskiy, A.G.** 1992. New and little known Hydrophiloidea (Coleoptera) from the south of Primorsk Territory and adjacent regions. *Entomol. Obozr.*, **71**(2): 359-371. (In Russian).

Received 4 December 2000