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A NEW SPECIES OF *CRANGONOBDELLA ORIENTALIS* (HIRUDINEA, PISCICOLIDAE) FROM THE KURIL ISLANDS, A PARASITE OF *ANARHICHAS ORIENTALIS* (OSTEICHTHYES, ANARHICHADIDAE)

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A new Species of *Crangonobdella orientalis* (Hirudinea, Piscicolidae) from the Kuril Islands, a Parasite of *Anarhichas orientalis* (Osteichthyes, Anarhichadidae). Utevsky S. Yu. — *Crangonobdella orientalis* sp. n. is described from coastal waters of Iturup Island. The new species is characterized externally by the well developed suckers, presence of 3 pairs of eyes, segmental ocelli, segmental brown spots, copulatory area surrounding female gonopore. Internal characters include oesophageal diverticula, fused posterior crop caeca have large fenestrae, ejaculatory bulbs are placed anteriorly to atrial cornua, conductive tissue is developed. Maximum length, excluding suckers, is 17.9 mm. Host: wolffish *Anarhichas orientalis*.

Key words: Hirudinea, Piscicolidae, *Crangonobdella orientalis*, Kuril Islands, *Anarhichas orientalis*.

Новый вид *Crangonobdella orientalis* (Hirudinea, Piscicolidae) с Курильских островов — паразит *Anarhichas orientalis* (Osteichthyes, Anarhichadidae). Утевский С. Ю. — Описан вид *Crangonobdella orientalis* sp. n. из прибрежных вод о. Итуруп. Новый вид характеризуется следующими внешнеморфологическими признаками: присоски хорошо развиты, имеются 3 пары глаз, сегментальные глазки, сегментальные коричневые пятна, окружающая женский гонопор копуляционная зона. Для внутреннего строения характерны дивертикулы пищевода, слившиеся с образованием больших отверстий слепые мешки, семяизвергательные каналы перед рогами атриума, проводящая ткань. Максимальная длина, исключая присоски, — 17,9 мм. Хозяин — зубатка *Anarhichas orientalis*.

Ключевые слова: Hirudinea, Piscicolidae, *Crangonobdella orientalis*, Курильские острова, *Anarhichas orientalis*

Introduction

Until the present time, only two marine fish leeches, *Platybdella anarrhichae* (Diesing, 1859) and *Johansonia kolaensis* Selensky, 1914, have been recorded as specific parasites of wolffishes from the North Atlantic and Arctic (see Sawyer, 1986). The leech described here as a new species is a parasite of the Bering wolffish from the North Pacific.

The genus *Crangonobdella* was established for *Crangonobdella murmanica* Selensky, 1914. Epshtein (1961) synonymized *Crangonobdella murmanica* and *Platybdella fabricii* Malm, 1863, but used the combination *Crangonobdella fabricii* because of differences in the reproductive system between this species and *Platybdella anarrhichae* (see Epshtein et al., 1994). It is proposed to include the species described here in the genus *Crangonobdella*.

The leeches were collected on 2nd August, 1973 on the gills of the wolffish *Anarhichas orientalis* off Iturup Island, the Kuril Islands, Russia. There is only one lot containing 342 specimens. The leeches were fixed in 70% alcohol. 2 series of transverse paraffin sections and one series of sagittal sections were cut at 5 µm and stained with Mallory's triple stain. Some leeches were dissected or clarified with glycerine. The holotype and 2 paratypes are deposited in the Schmalhausen Institute of Zoology, National Academy of Sciences, Kyiv, Ukraine. Holotype measurements are followed by data for the largest paratype in parentheses.

Crangonobdella Selensky, 1914

Type species: *Platybdella fabricii* Malm, 1863

Diagnosis. Body elongate, cylindrical to subcylindrical, almost imperceptibly divided into trachelosome and urosome. Skin smooth or with 2 lateral rows of tubercles

on urosome. No pulsatile vesicles. 3 pairs of eyes. Segmental ocelli on urosome. Pigmentation: segmental brown transverse bands or spots. Mouthpore anteriorly located; oesophageal diverticula present. 5 pairs of testisacs; no accessory glands; conductive tissue and copulatory area present. Ventral lacuna expanding laterally from ganglion in each segment of testicular region. Dorsal and lateral lacunae absent.

Crangonobdella orientalis Utevsky, sp. n. (figs 1–2)

Material. Holotype (№ 38), Iturup Island, the Kuril Islands, Russia, 2nd August, 1973; paratypes (№ 39), idem, 2 specimens.

Diagnosis. Maximum length, excluding suckers, up to 18 mm. Skin smooth. Anterior sucker small, eccentrically attached; posterior sucker large, wider than maximum body width, centrally or somewhat eccentrically attached. Mid-body segments 6 (8)-annulate. Posterior crop caeca fused, with large fenestrae; their posterior portions unfused. Female gonopore surrounded by copulatory area. Ejaculatory bulbs located anteriorly to atrial cornua.

Etymology. Named after the host species.

External characters. Body elongate, cylindrical to subcylindrical, indistinctly divided into trachelosome and urosome. Body surface smooth, without tubercles, papillae, gills or pulsatile vesicles. Total length, excluding suckers, 16.0

(17.9) mm; maximum width 1.45 (1.7) mm. Mouthpore anteriorly located in anterior sucker, 1.25 (1.3) mm wide and eccentrically attached to trachelosome. Posterior sucker large, 2.7 (2.75) mm wide, centrally or somewhat eccentrically attached to urosome. Mid-body segments of the holotype 6-annulate (b_1 – b_6), in some specimens 8-annulate (b_1 – b_4 ; c_9 – c_{12}); clitellum 9-annulate. Male gonopore located between 4th and 5th annuli of clitellum. Female gonopore surrounded by copulatory area and located between 7th and 8th annuli of clitellum. Anus separated from posterior sucker by 3 annuli. 2 pairs of eyes located on oral sucker and 1 pair on second annulus of trachelosome. 10 pairs of segmental ocelli located dorsally and ventrally on urosome in some specimens, including holotype. Most of specimens unpigmented after fixation. Anterior sucker with dark spot. Dorsal pigmentation consists of 11 pairs of segmental brown spots on urosome and 4 pairs of spots on trachelosome. Some spots arranged in longitudinal stripes.

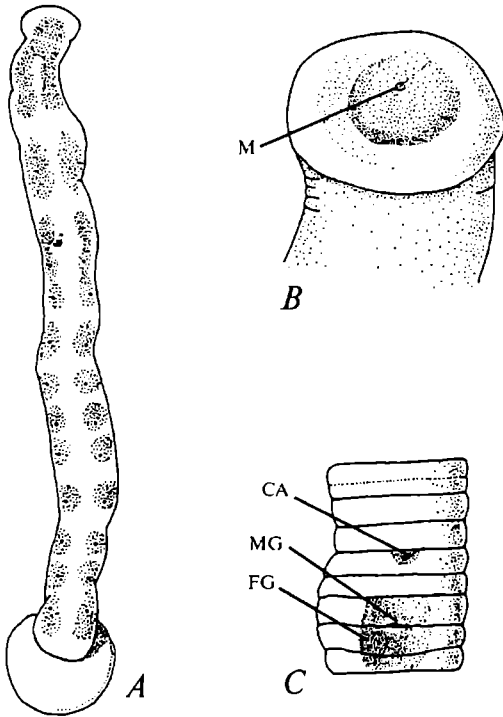


Fig. 1. External characters of *Crangonobdella orientalis*: A — dorsal view of holotype; B — ventral view of anterior sucker; C — ventral view of clitellum (CA — copulatory area; FM — female gonopore; M — mouthpore; MG — male gonopore).

Рис. 1. Внешнее строение *Crangonobdella orientalis*: A — голотип, вид со спинной стороны; B — передняя присоска, вид с брюшной стороны; C — поясок, вид с брюшной стороны (CA — копуляционная зона; FM — женский гонопор; M — ротовое отверстие; MG — мужской гонопор).

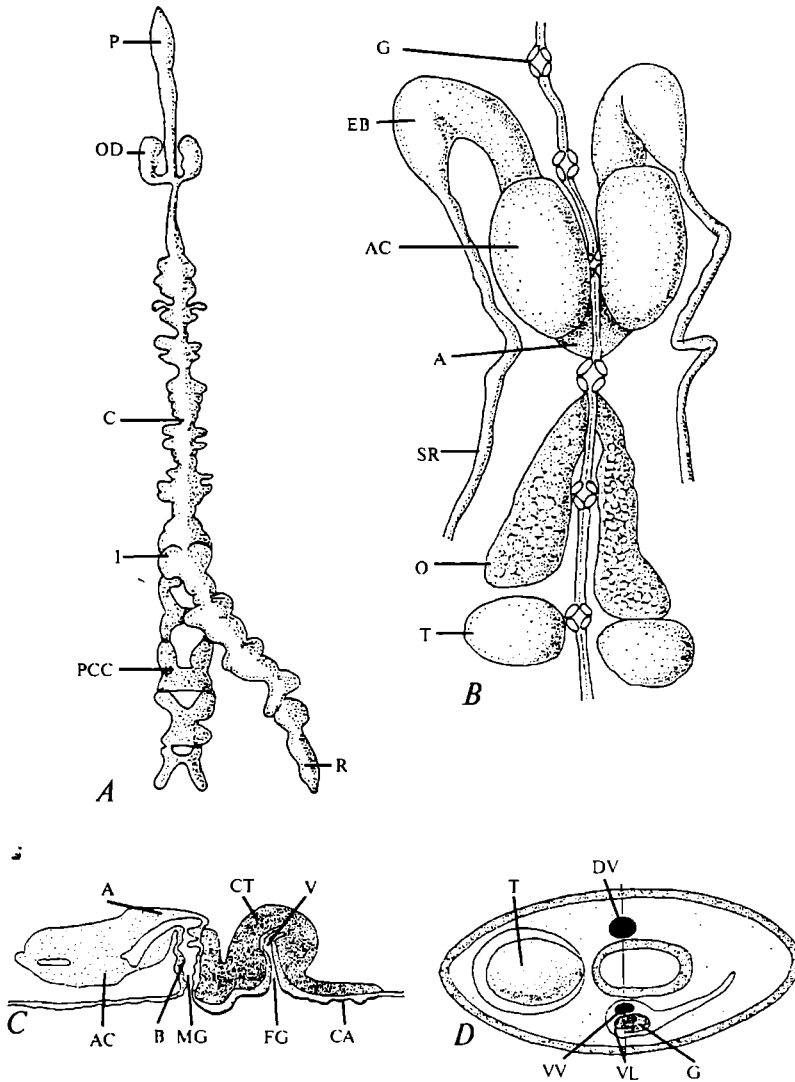


Fig. 2. Internal characters of *Crangonobdella orientalis*: *A* — dorsal view of digestive system; *B* — dorsal view of reproductive system, *C* — diagrammatic lateral view of reproductive system; *D* — diagrammatic view of coelomic system (*A* — common atrium; *AC* — atrial cornu; *B* — bursa; *C* — crop; *CA* — copulatory area; *CT* — conductive tissue; *DV* — dorsal vessel; *EB* — ejaculatory bulb; *FG* — female gonopore; *G* — ganglion; *I* — intestine; *MG* — male gonopore; *O* — ovisac; *OD* — oesophageal diverticulum; *P* — proboscis; *PCC* — posterior crop caecum; *R* — rectum; *SR* — seminal reservoir; *T* — testisac; *V* — vagina; *VL* — ventral lacuna; *VV* — ventral vessel).

Рис. 2. Внутреннее строение *Crangonobdella orientalis*: *A* — пищеварительная система, вид со спинной стороны; *B* — половая система, вид со спинной стороны; *C* — схематическое изображение половой системы, вид сбоку; *D* — схематическое изображение лакунарной системы (*A* — общий отдел атриума; *AC* — рог атриума; *B* — копуляционная сумка; *C* — желудок; *CA* — копуляционная зона; *CT* — проводящая ткань; *DV* — спинной сосуд; *EB* — семяизвергательный канал; *FG* — женский гонопор; *G* — ганглий; *I* — усваивающая кишка; *MG* — мужской гонопор; *O* — яйцевой мешок; *OD* — дивертикул пищевода; *P* — хоботок; *PCC* — слепой мешок; *R* — прямая кишка; *SR* — семенной резервуар; *T* — семенной мешок; *V* — влагалище; *VL* — брюшная лакуна; *VV* — брюшной сосуд).

Digestive system. Proboscis extending to 2nd ganglion of ventral nerve cord. Oesophageal diverticula located between 3rd and 4th ganglia. Crop with 6 bilobed expansions. Posterior crop caeca with 4 fusions, forming 4 large fenestrae; their posterior portions free. Intestine with 4 chambers. Rectum tubular.

Coelomic system. Lateral and dorsal lacunae absent. Ventral lacuna expanding laterally at ganglion in each segment of testicular region.

Reproductive system. 5 pairs of testisacs located intersegmentally. Vasa deferentia enlarge at 7th ganglion of ventral nerve cord to form seminal reservoirs. Epididimus absent. Large ejaculatory bulbs located prior to atrial cornua and extend to 3rd ganglion. Atrial cornua large, oviform. Common atrium large. Bursa moderately small. Accessory glands on atrium absent. Ovisacs extending from 6th to 8th ganglion. Muscularized vagina surrounded by conductive tissue.

Discussion. *Crangonobdella orientalis* is similar to *C. fabricii* in pigmentation, eyes, segmental ocelli, coelomic and reproductive systems. *C. orientalis* differs from its congener which has 2 lateral rows of tubercles on the urosome, the female gonopore in a deep hollow, and small fenestrae between fused posterior crop caeca. Reduced number of fenestrae observed in the new species in comparison with *C. fabricii* and some other fish leeches (Sawyer, 1986) is due to the merging of the first and the second fenestrae (in the holotype) or some of the posterior fenestrae (in other specimens). Posterior crop caeca, coelomic and male reproductive systems of *C. orientalis* are similar to those in *Platybdella anarrhichae*, but the latter species does not possess colouration pattern, eyes, segmental ocelli, and copulatory area. Conductive tissue of *P. anarrhichae* is weakly developed in contrast to *C. orientalis*.

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