

Notes on the genus *Ilyocryptus* Sars, 1862 (Cladocera: Anomopoda: Ilyocryptidae). 5. On male of *Ilyocryptus brevidentatus* Ekman, 1905

Заметки о роде *Ilyocryptus* Sars, 1862 (Cladocera: Anomopoda: Ilyocryptidae). 5. Самец *Ilyocryptus brevidentatus* Ekman, 1905

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KEY WORDS: Cladocera, Anomopoda, *Ilyocryptus*, morphology, male, South America.

КЛЮЧЕВЫЕ СЛОВА: ветвистоусые ракообразные, Cladocera, Anomopoda, *Ilyocryptus*, морфология, самец, Южная Америка.

ABSTRACT. The unknown male of *Ilyocryptus brevidentatus* Ekman, 1905 is described from a pond in Tierra del Fuego, Argentina.

РЕЗЮМЕ. Ранее неизвестный самец *Ilyocryptus brevidentatus* Ekman, 1905 описан по материалу из пруда на Огненной Земле, Аргентина.

Introduction

The genus *Ilyocryptus* Sars, 1862 (Cladocera: Anomopoda: Ilyocryptidae) has recently been revised [Štifter, 1991; Kotov *et al.*, 2002; Kotov & Štifter, 2005]. However, males are unknown or poorly described for most valid species of the genus. For example, Kotov *et al.* [2002] recently re-described *I. brevidentatus* Ekman, 1905, but no males were available. Here we describe gamogenetic specimens of *I. brevidentatus*, obtained from the collections of the late Prof. D.G. Frey in Bloomington, U.S.A.

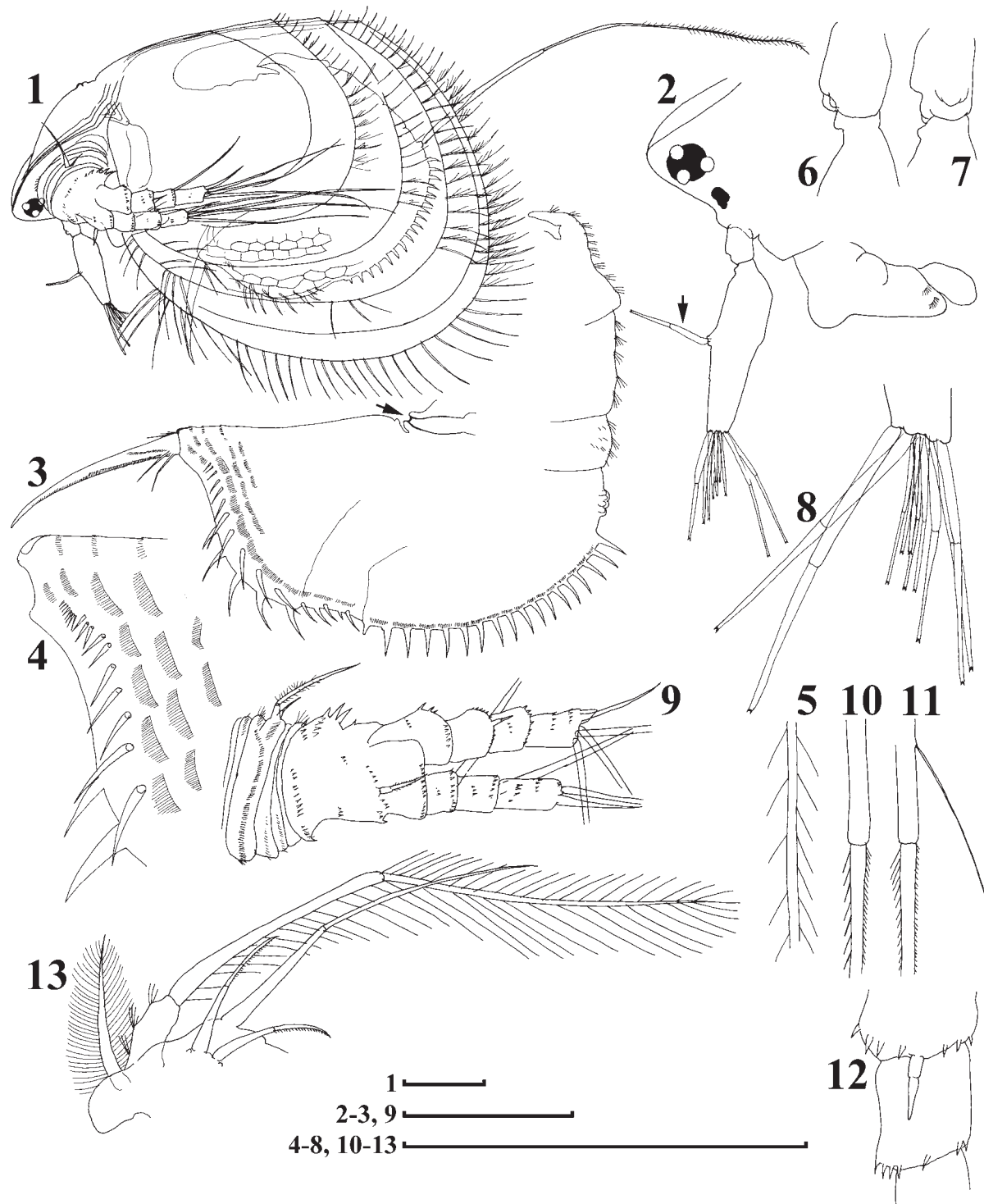
Material and methods

In total, the examined sub-sample from the sample DGF 89-45 contained 21 parthenogenetic ♀♀, 2 ehippial ♀♀, 2 ehippia, 8 exuvia, and 5 adult ♂♂ from a pond E of Route E crossing the Rio MacLenan, Tierra del Fuego, Argentina, collected on 17.i.1989 by D.G. Frey. See previous articles for methods and abbreviations of measured parameters.

Results

Ilyocryptus brevidentatus Ekman, 1905
Figs 1–13.

DESCRIPTION OF MALE. Body triangular-ovoid in lateral view (Fig. 1), less high than in female (BH/BL = 0.74–0.77 *versus* 0.78–0.86 in females), but body thickness as in female, and dorsal keel also massive and low. Head large, in lateral view with a rounded distal extremity (Fig. 2); eye large, but ocellus, in contrast to female, relatively small. Labrum with massive projection in its basal portion. Abdomen with well-developed transverse rows of setules, projection on first segment small (Fig. 3). Postabdomen very similar to that in female, with gonopore opening near its base (Fig. 3, arrow). Preanal margin somewhat shorter than in female (PR/PL = 0.59–0.62 *versus* 0.62–0.68 in females) slightly convex, preanal teeth relatively small and numerous (NT = 18–19), slightly bent toward distal end, no denticles at base of postabdomen; 7–9 paired spines large and rarely distributed, their row reaches anus; largest lateral setae reduced in number (NL = 7–8 *versus* 10–12 in females), smaller than the spines and located far from postanal contour, their row also reaches the anus. Rudimentary setules near base of postabdominal claw numerous (Fig. 4). No denticles in distal portion of postabdominal claw, distalmost spine on base of postabdomen somewhat longer than basalmost spine. Postabdominal setae as in female, long and with distal segment bearing numerous, short setules (Fig. 5). Antenna I large (AL/BL = 0.21–0.22), markedly thicker than the female antennae (DA/AL = 0.26–0.28 *versus* 0.15–0.17 in female), basal segment with low hillocks, but without a finger-like projection (Figs 6, 7). Distal segment markedly extended and with an additional male seta located in middle (Fig. 2, arrow), this seta as long as half of the segment. End of antenna I with a concentric row of low hillocks (smaller than those in female) and ten aesthetascs, two of them markedly long, next three aesthetascs somewhat shorter than



Figs 1–13. *Ilyocryptus brevidentatus*, adult ♂♂ from a pond E of Route E crossing the Rio MacLenan, Tierra del Fuego, Argentina, collected in 17.i.1989 by D.G. Frey: 1 — lateral view; 2 — head; 3, 4 — postabdomen and its distal portion; 5 — postabdominal seta; 6, 7 — proximal segment of antenna I in lateral and anterior view; 8 — distal end on antenna I; 9 — antenna II; 10, 11 — apical and proximal lateral swimming seta; 12 — spine on second segment of exopod of antenna II; 13 — distal portion of limb I. Scale 100 μ m.

Рис. 1–13. *Ilyocryptus brevidentatus*, взрослые ♂♂ из пруда западнее пересечения трассы Е и реки Мак Ленан, Огненная Земля, Аргентина, собранные Дэвидом Фраем 17 января 1989 г.: 1 — вид сбоку 2 — голова; 3, 4 — постабдомен и его дистальная часть; 5 — постабдоминальная щетинка; 6, 7 — проксимальный членик антенны I, вид сбоку и спереди; 8 — дистальный конец антенны I; 9 — антенна II; 10, 11 — апикальная и проксимальная латеральная плавательные щетинки; 12 — шип на втором членике антенны II; 13 — дистальная часть ноги I. Масштаб 100 μ m.

the former, other aesthetascs significantly smaller (Fig. 8). In reality, one of these 'aesthetascs' (apparently among larger members) is another additional male seta. Antenna II as in female (Fig. 9), apical and lateral swimming setae (Figs 10, 11) as in female. Spine on second segment of exopod, as in female, naked, with blunt tip (Figs 9, 12). Limbs as in female, limb I not modified (Fig. 13), as in all other studied species.

SIZE. 590–615 μm ($n = 5$) versus 470–905 μm in females ($n = 21$) from the same sample.

Discussion

Unfortunately, it is difficult to discuss differences between males of different ilyocryptid species due to absence of information on majority of them. In contrast to many other anomopods, sexual dimorphism is reduced in ilyocryptids [Smirnov, 1976]. Gonopores opening at the postabdomen base and absence of a copulatory hook on limb I are among most distinctive traits of the family Ilyocryptidae Smirnov, 1976 emend. Smirnov, 1992. Only antenna I in ilyocryptid males is modified as compared with females. In some species, i.e. *I. spinifer*, *I. agilis*, and some others (see Kotov [1999]; Kotov & Williams [2000]), it is supplied terminally with three very long "aesthetascs" (one of them is the additional male seta, see above), while other aesthetascs are significantly smaller and of subequal size. In other species, i.e. *I. brevidentatus* or *I. denticulatus* (see Kotov & Stifter [2005]), antenna I is more primitive, differences between aesthetascs are not too obvious. At the same time, a very thick distal segment

of antenna I in male of *I. brevidentatus* is an autoapomorphic character, which was not known for any other species with well-described males.

ACKNOWLEDGEMENTS. We are very grateful to Prof. N.N. Smirnov for help at different stages of our work, and the late Prof. D.G. Frey for the material and help during visit of PS to U.S.A. This work is supported by the Russian Foundation for Basic Research (grant 03-04-48879 for AAK) and US National Science Foundation grant PEET (DEB-0331095).

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