

Notes on the genus *Ilyocryptus* Sars, 1862 (Cladocera: Anomopoda: Ilyocryptidae). 4. New records of *Ilyocryptus paranaensis paranaensis* Paggi, 1989 in South America

Заметки о роде *Ilyocryptus* Sars, 1862 (Cladocera: Anomopoda: Ilyocryptidae). 4. Новые находки *Ilyocryptus paranaensis paranaensis* Paggi, 1989 в Южной Америке

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КЛЮЧЕВЫЕ СЛОВА: ветвистоусые ракообразные, Cladocera, Anomopoda, *Ilyocryptus*, фаунистика, систематика, Южная Америка.

ABSTRACT. *Ilyocryptus paranaensis paranaensis* Paggi, 1989, previously known from the River Parana basin, Argentina is found in Paraguay and Venezuela.

РЕЗЮМЕ. *Ilyocryptus paranaensis paranaensis* Paggi, 1989, ранее известный только из бассейна реки Параны (Аргентина), найден в Парагвае и Венесуэле.

Introduction

A very characteristic species with lateral horns on valves, *Ilyocryptus paranaensis* Paggi, 1989, was described from three localities in the River Parana basin in Province of Santa Fe, Argentina. Kotov et al. [2001] described a new subspecies of *I. paranaensis* in four nearby localities in the River Usumacinta basin, South Mexico. Recently we found *I. paranaensis paranaensis* in new localities of South America (in Paraguay and Venezuela), changing ideas on distribution of this subspecies in South America.

Methods

See previous communications, i.e. Kotov & Štifter [2005].

ABBREVIATIONS FOR COLLECTIONS. AAK — Personal collection of A.A. Kotov, Moscow, Russia; DAD — Collectio Dadayana, the Hungarian Natural History Museum, Budapest, Hungary.

Results

Ilyocryptus paranaensis paranaensis Paggi, 1989
Figs 1–11.

Ilyocryptus sordidus (Lievin) in Daday, 1905: 191 (in part?).

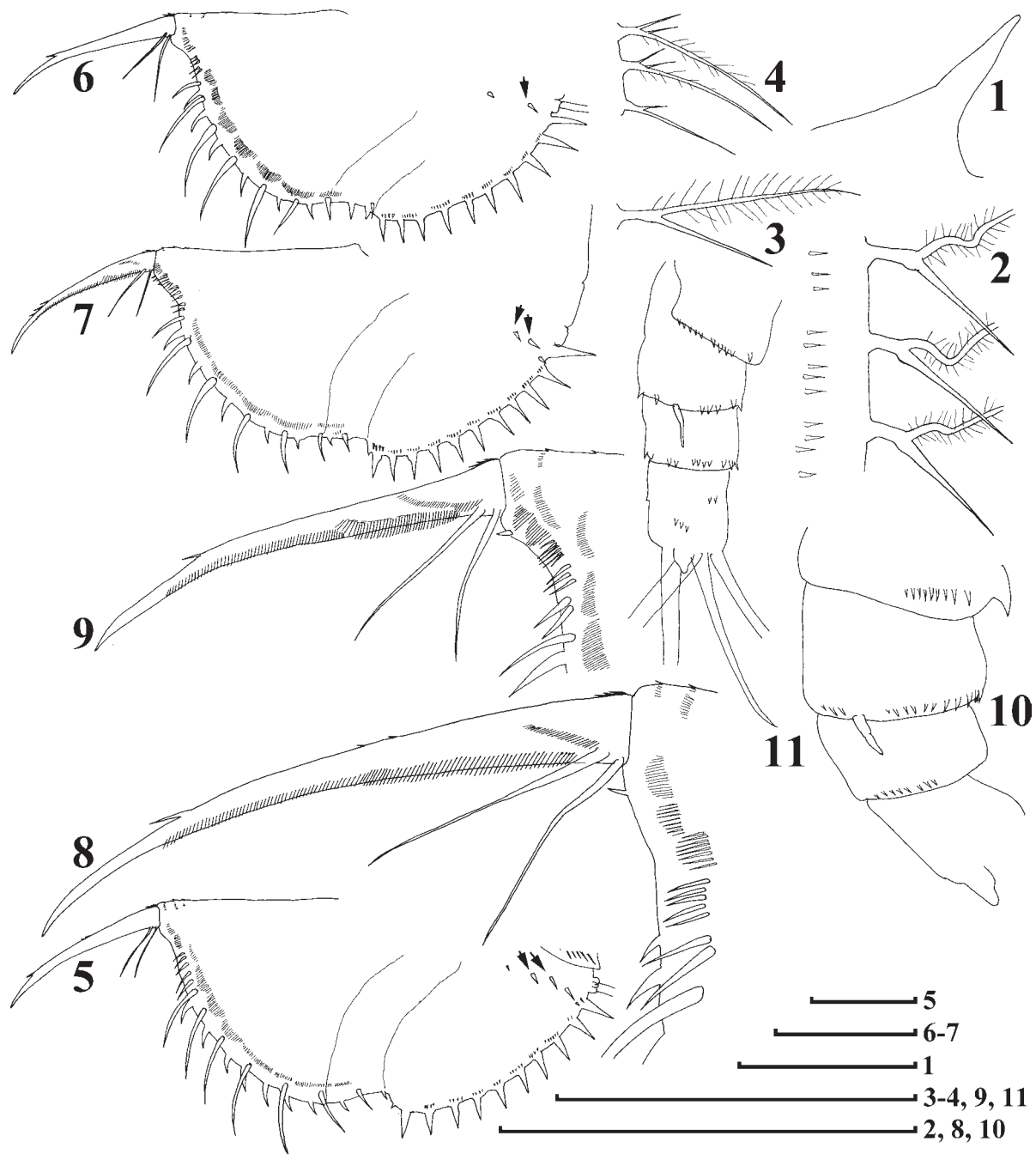
Ilyocryptus paranaensis Paggi, 1989: 240–245, Figs 1–39; Paggi, 1995: Figs 72–75.

Ilyocryptus paranaensis paranaensis Paggi in Kotov et al., 2001: 1069–1070.

MATERIAL EXAMINED. PARAGUAY (?): 4 ♀♀ from unknown locality, tube DAD D 1917-25; II-451. VENEZUELA: 1 ♀ from a flooded savannah in the Mantecal Experimental Module (7°35'N, 69°10'W), near Mantecal, Venezuela (type locality of *I. plumosus*, see Kotov & Štifter, [2005]), collected by E. Zoppi de Roa, slide AAK-SL-044.

DESCRIPTION. Depression between head and valves poorly developed or absent. Lateral horns (Fig. 1) relatively small, up to 0.14 of body length. Setae in the antero-ventral bunch only slightly longer than following setae. Earlier Kotov et al. [2001] suggested that in *I. paranaensis paranaensis* setae in antero-ventral bunch longer than following setae, but now length of these setae seems to be too variable to be used for discrimination of two subspecies. Each seta at posterior margin with a single, stout spine basally and fine setules distally (Figs 2, 3), sometimes a setule closest to this spine also relatively stout (Fig. 4). Spinules at valve margin on inner surface (Fig. 2). Denticles on base of postabdomen well-developed (Figs 5–7, arrows). Postabdominal claws with 1–3 denticles distally (Figs 5–9). Basal segment of antenna I with poorly expressed hillocks. On antenna II, spine of second segment of exopod naked, with rounded tip (Figs 10, 11). Size of female from Venezuela 690 μm ($n = 1$), females from Paraguay were not measured.

DISTRIBUTION. After the present work, the range of distribution of *I. paranaensis paranaensis* must be signifi-



Figs 1-11. *Ilyocryptus paranaensis paranaensis*, parthenogenetic ♀♀ from a flooded savannah in the Mantecal Experimental Module, Venezuela (1, 2, 5, 8, 10) and unknown locality in Paraguay, sample DAD D 1917-25; П-451 (3, 4, 6, 7, 9, 11): 1 — lateral horn on valve, ventral view; 2 — posterior margin, inner view; 3, 4 — setae at posterior margin, outer view; 5-7 — postabdomen; 8, 9 — postabdominal claw; 10, 11 — exopod of antenna II. Scale 100 μm.

Рис. 1-11. *Ilyocryptus paranaensis paranaensis*, партеногенетические ♀♀ из затопленной саванны в Мантекале, Венесуэла (1, 2, 5, 8, 10) и неизвестного водоема в Парагвае, проба DAD D 1917-25; П-451 (3, 4, 6, 7, 9, 11): 1 — боковые рога на створках, вид с брюшной стороны 2 — задний край створки, вид изнутри; 3, 4 — щетинки на заднем крае створок, вид снаружи; 5-7 — постабдомен; 8, 9 — постабдоминальный коготок; 10, 11 — экзоподит антенны II. Масштаб 100 μm.

cantly re-evaluated. Apparently, this species is widely distributed in South America, it can be found at least from 7 to 31° N. This is a relatively rare species, preferring true tropical regions. In all studied localities, *I. paranaensis paranaensis* co-occurred with *I. spinifer*, but this co-occurrence is expected because *I. spinifer* is present in the majority of tropical water bodies [Kotov & Dumont, 2000]. In Mantecal, *I. paranaensis paranaensis* co-occurred also with *I. plumosus* [see Kotov & Štifter, 2005], another relatively rare species.

Discussion

Daday [1905] reported *I. sordidus* from a few localities, i.e., "Zwischen Aregua und dem Yguariflusse, Inundationen eines Baches; Lugua, Pflanze bei der Eisenbahnstation; Sapucay, mit Limnanthemum bewachsene Pflanze". Unfortunately, both tube DAD D 1917-25; II-451 and slide DAD D III-49; II/P-388 kept in DAD are marked "Paraguay", no other information on localities is available. Observation of a specimen only in lateral position is characteristic of many cladoceran investigators. As a result, some important characters can be missed. Apparently, Daday examined his ilyocryptids only in a lateral position, missed lateral horns and thus did not recognize an undescribed species, quite different from *I. sordidus*. Now we believe that some previous records of Neotropical "*I. sordidus*" by some other authors dealt with *I. paranaensis* also.

After recent findings of *I. paranaensis paranaensis*, this species must be regarded as having a wide

range of distribution in South America, not endemic to the Parana basin.

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