

PROCEEDINGS
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MIOSTEPHOS CUBROBEX, A NEW GENUS AND
SPECIES OF COPEPOD FROM AN ANCHIALINE
POOL IN CUBA (CALANOIDA: STEPHIDAE)

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Among the interesting and unusual crustaceans collected by L. Botosaneanu during the 1973 Cubo-Romanian Biospeological Expedition (Botosaneanu, 1973) was a tiny new copepod which is a serious contender for the distinction of being the smallest known calanoid. I am grateful to Mr. Botosaneanu for the privilege of studying this interesting copepod and for providing me with complete collection data.

STEPHIDAE

Miostephos, new genus

Female urosome of 3 segments, male of 5 segments. Female 5th leg symmetrical, 3-segmented. Male 5th leg very asymmetrical; left leg slender, elongate, 6-segmented; right leg rudimentary, 3-segmented, similar to female 5th leg.

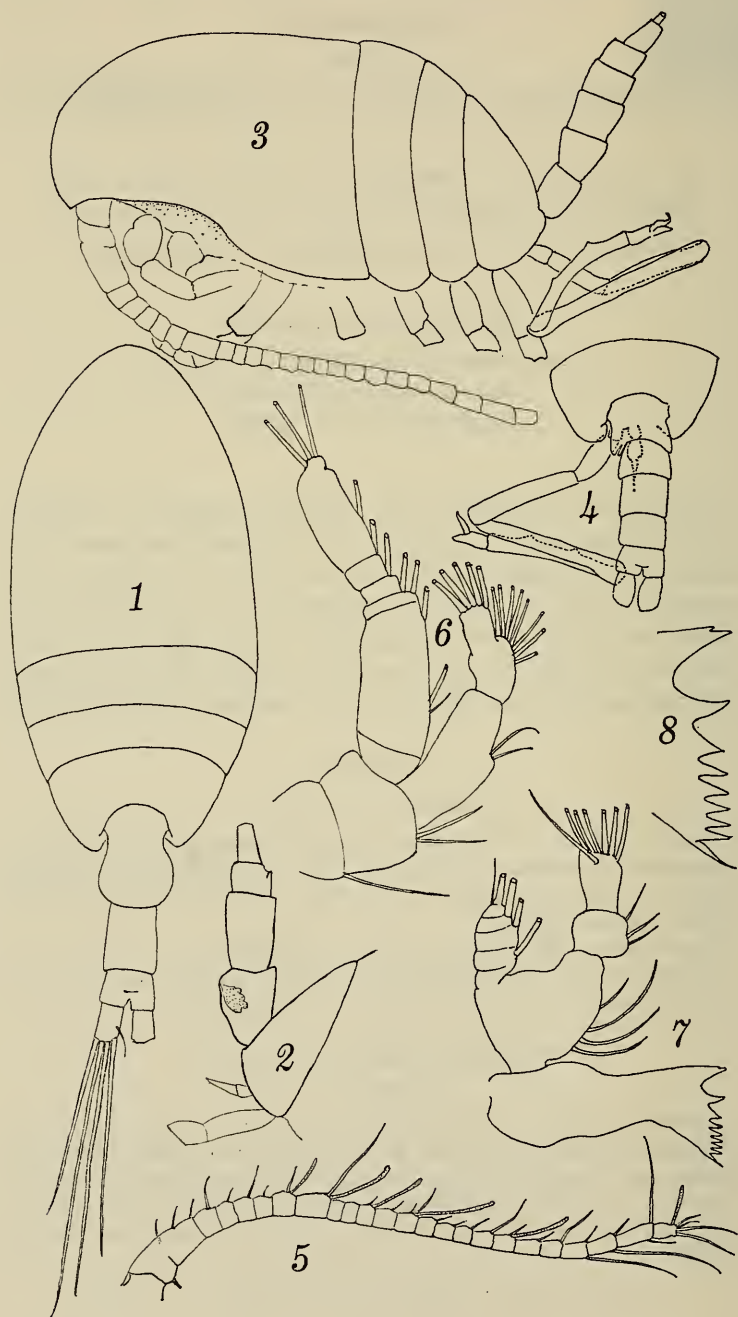
Type-species: Miostephos cubrobex, new species.

Etymology: The Greek prefix "mio-" = less, combined with *Stephos*, the type-genus of the family, referring to the small size.

Miostephos cubrobex, new species

Figures 1-15

Material: Cuba, near Playa Velázquez, Gibara area, northern coast of Oriente Province, 9-10 km W of Gibara, about halfway between Gibara and Playa Caletón, close to road connecting these 2 localities; "casimba", about 80 m inland from seashore, 10 March 1973, leg. L. Botosaneanu: male holotype, USNM 154436; 50+ paratypes, USNM 154437.



The "casimba" is a shallow anchialine pool (Holthuis, 1973), 5 m by 1.5 m, situated in an area with rich vegetation. Its bottom consists of sand, mud with an H₂S odor, and blocks of madreporarian coral. The maximum depth at the time of collecting was 25 cm, but the depth fluctuates with the tides. The temperature was 28°C and the water was distinctly brackish. The "casimba" is well exposed to the sun, but is shady in a few places.

The "casimba" has a rich population of the hippolytid shrimp, *Barbouria cubensis* (see Holthuis, 1974). The microfauna, collected with a small net, included in addition to the *Miostephos*, cyclopoid and harpacticoid copepods, ostracods, *Barbouria* zoeae, and praniza larvae of gnathiid isopods.

Etymology: The specific name, *cubrobex*, is a contraction of *Cubo-Romanian Biospeleological Expedition*.

Description: Length of male 0.36–0.38 mm, of female 0.38–0.40 mm. Prosome to urosome ratio 2.16–2.36 in male, 2.25–2.54 in female. Head vaulted anteriorly, without rostrum. Posterior corner of pediger 5¹ symmetrically rounded, ventral part produced into rudimentary rounded lobe. Urosome unarmed; in female 3-segmented, genital segment distinctly bulging laterally, only slightly protuberant ventrally, spermatheca rosette-shaped; 2nd segment subequal to genital segment, twice length of 3rd (anal) segment; caudal rami nearly twice as long as wide, symmetrical. Urosome of male 5-segmented; caudal rami slightly shorter than in female.

Antenna 1 reaching slightly beyond prosome; 24-segmented (suture between 1st and 2nd segments obscure). First segment with strong spine on posterior margin. Segments 2, 8, and 23 notably longer than other segments. Esthetes borne on segments 7, 8, 11, 13, 18 and 24.

Antenna 2, mandible, and maxilliped (Figs. 6–9) with setal armature conforming to pattern described for other species of Stephidae. Mandibular blade with sharp teeth.

Legs 1–4 (Figs. 10–12) with segmentation and spinal and setal armature characteristic for Stephidae. Surface spinules absent. No asymmetry observed in male leg 4.

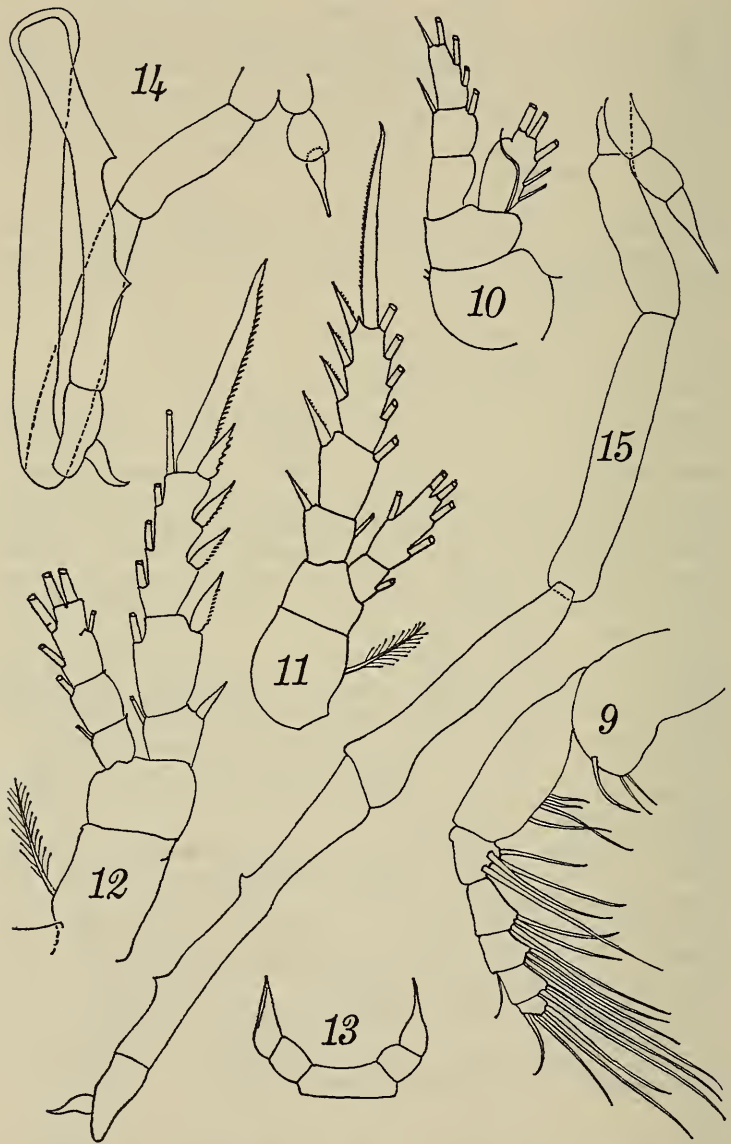
Female leg 5 minute; segments unarmed. Right and left proximal segments fused medially; middle segment short; terminal segment narrowing in distal half, apex acuminate.

Male right leg 5 minute, similar to female leg 5. Male left leg 5

¹ The term "pediger", analogous to "setiger" of polychete worms, is proposed to replace "pedigerous segment" of Gooding (1957).

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FIGS. 1–8. *Miostephos cubrobex*: 1, ♀, dorsal; 2, ♀ pediger 4 + 5 and urosome, lateral; 3, ♂, lateral; 4, ♂ pediger 4 + 5 and urosome, dorsal; 5, ♀ antenna 1; 6, Antenna 2; 7, Mandible; 8, Blade of mandible.



FIGS. 9-15. *Miostephos cubrobex*: 9, Maxilliped; 10, Leg 1; 11, Leg 2; 12, Leg 4; 13, ♀ leg 5; 14, ♂ leg 5, ventral; 15, ♂ leg 5, from right side.

composed of 6 slender segments. 1st segment short, fused medially to 1st segment of right leg. Segments 2-5 progressively longer; segment 5 with 1 margin divided into thirds by 2 teeth. Segment 6 short; sides parallel in proximal $\frac{2}{3}$, then converging to triangular apex; strong spine with curved and pointed apex inserted at level where sides begin to converge.

Relationships: The family Stephidae includes 2 genera, *Stephos* Scott (1892) with about 15 species, and *Parastephos* Sars (1902) with 2 species. The species of both genera are bottom-living, and this may be presumed to be true also for *Miostephos*. *Stephos* and *Parastephos* are distinguished from each other by the structure of the male leg 5 and the tendency in *Parastephos* for the male leg 4 to be asymmetrical. *Miostephos* appears to be more widely separated from the other genera than they are from each other. Female *Stephos* and *Parastephos* both have 4-segmented urosomes, whereas the urosome of *Miostephos* is 3-segmented. In male *Stephos* and *Parastephos* the right leg 5 is well developed and usually ends in a claw, sharply contrasting with the rudimentary right leg 5 of *Miostephos*. The left leg 5 of male *Stephos* and *Parastephos* has inflated penultimate or antepenultimate segments, but all segments are slender in *Miostephos*.

The addition of *Miostephos* to the Stephidae necessitates emending the definition of the family as follows:

Body short and stout. Head and pediger 1, pedigers 4 and 5 fused. Rostrum and rostral filaments absent. Male urosome with 5 segments, female urosome with 3 or 4. Eye absent. 1st antenna 24-segmented in male and female; last 2 segments clearly separate. Male mouthparts not reduced. Maxilla 1 without sensory appendages. First segment of leg 1 without outer spine. Female leg 5 small, uniramous, 3-segmented; last segment ending in point. Male leg 5 large, uniramous; left leg larger, usually with 1 or more segments dilated; right leg usually well developed and ending in claw, sometimes rudimentary and similar to female leg 5.

KEY TO GENERA OF STEPHIDAE

1. Female urosome 4-segmented. Both male 5th legs well developed.... 2
 Female urosome 3-segmented. Left male 5th leg rudimentary....
 *Miostephos*
2. Male right 5th leg ending in claw armed with spines on concave
 margin*Parastephos*
 Male right 5th leg ending in unarmed claw or mittenlike
 segment*Stephos*

Miostephos cubrobex is the 5th species of Stephidae known to occur in the western Atlantic. The 4 previously recorded species are *Stephos deichmannae* Fleminger, 1957, from the Gulf of Mexico; *S. lucayensis* Fosshagen, 1970, and *S. exumensis* Fosshagen, 1970, from the Bahamas; and *S. arcticus* Sars, 1909, from northern Canada. *S. sinuatus* Willey,

1923, from Hudson Bay is a synonym of *S. arcticus*, according to Fosshagen.

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