

**HALMYRAPSEUDES CUBANENSIS N.G.N.SP. AND
H. BAHAMENSIS N.SP., BRACKISH-WATER SPECIES OF
TANAIDACEA (CRUSTACEA)**

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Dans le présent travail on décrit deux nouvelles espèces d'Apseuidae saumâtricoles provenant des eaux de Cuba et des Iles Bahamas, créant un nouveau genre, *Halmyrapseudes*, avec les espèces *H. cubanensis* n.g.n.sp. et *H. bahamensis* n. sp.

In 1935 Monod (4) described the Tanaidacea species *Apseudes thaumastocheles*, collected in the lake Manampesta (Madagascar). In 1956 Balasubrahmanyam (1) found and described from the Indian waters (Vellar Estuary) *A. killaiyensis*, very similar to the first, by numerous characters, of which the most obvious was the presence of three large foliaceous expansions on the carpus of the cheliped in males.

Being in the possession of a Tanaidacea material collected by Mr. P. Garrett and sent to us through the kindness of Mr. T. Bowman of the Smithsonian Institution, as well as of a Cuban material captured by A. M. Otero — to whom we warmly express our thanks — we were able to find a striking resemblance between the latter and the species mentioned above. This led us to the conclusion that morphologically and phylogenetically they build up a well outlined systematic unity, to which their ecological preferences should be added — all being brackish-water species — entitling us to group them in a separate genus, named *Halmyrapseudes*, from the “*Halmyros*” brackish water lake in Greece.

Halmyrapseudes n.g.

Type of genus: *H. cubanensis* n.sp.

Diagnose of genus: Carapace smooth, without antero-lateral or lateral spines. Visual elements present or absent. Antennule with inner flagellum short, usually consisting of two segments. Antenna with squama, with proxi-

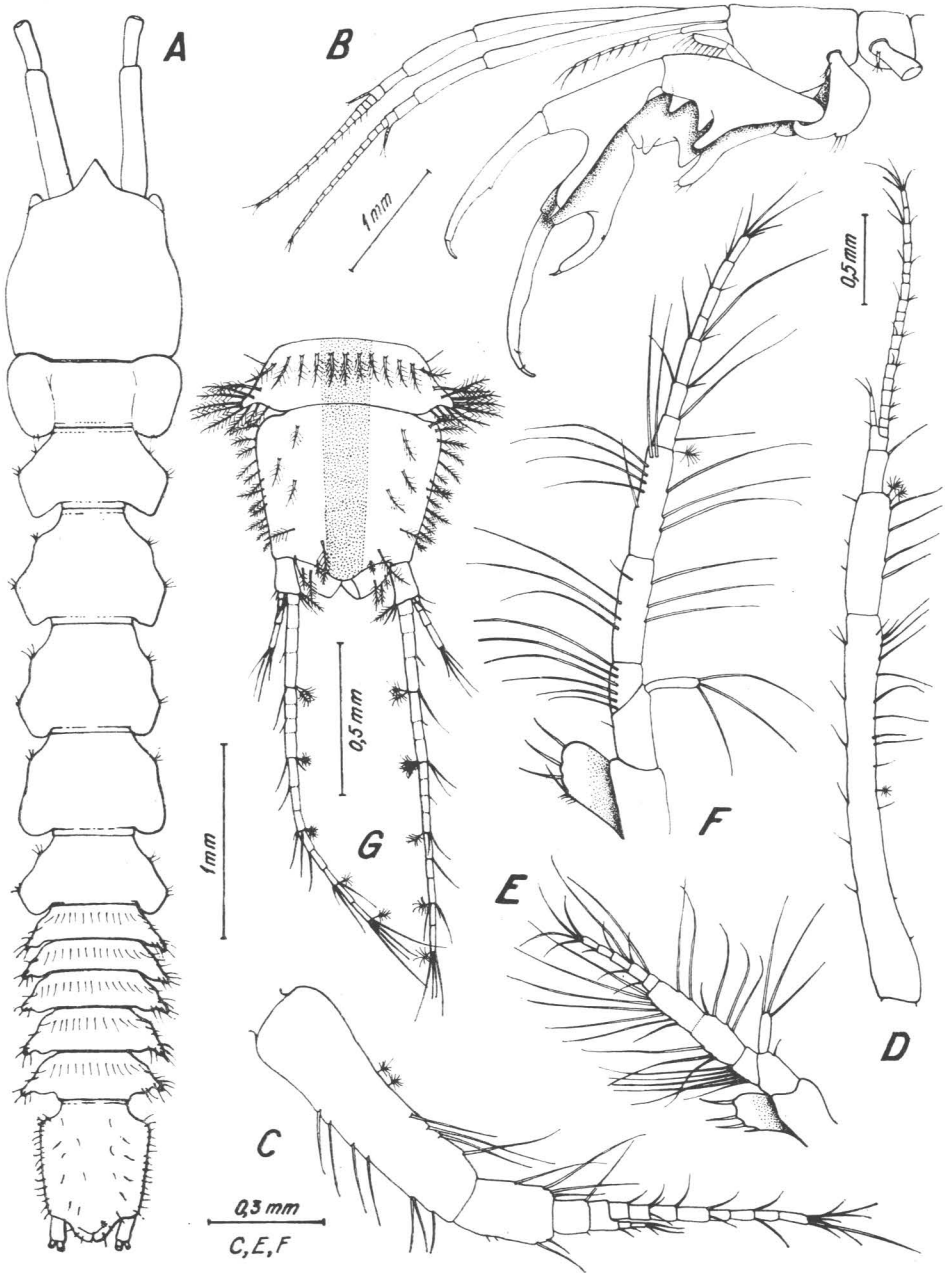


Fig. 1. — *Halmyrapseudes cubanensis* n.g.n.sp.; A = dorsal view, ♀; B = anterior portion of body in ♂ in lateral view (scheme); C = antennule ♀; D = same in ♂; E = antenna in ♀; F = same in ♂; G = caudal end and uropods in ♀.

mal segment of basis bearing a large inner foliaceous projection. Maxilliped with distal margin of basis bordered with long setae. Chelipeds and peraeopods II with exopodites. Chelipeds in females thin and normal, in males strong with carpus, propodus and dactylus modified. Peraeopods II with strongly widened segments; coxa without spiniform apophysis. The peraeopods VII with numerous long pennate setae. Pleopods with two rami present in a number of five pairs. Uropods with long endopodites and exopodites consisting of four segments.

Chelipeds, antennae and antennules with marked sexual dimorphism less pronounced at uropods.

Halmyrapseudes cubanensis n.sp.

Material: Caribbean Sea, Ana Maria Bay, lagoon Balandrito, at the mouth of the river Zaza, about 1 m depth, Febr. 8, 1973; 70 ♀♀ (29 ♀♀ with embryos or eggs and 41 ♀♀ with oostegites), 55 ♂♂ adults, 18 ♂♂ pre-adults, 539 juveniles (♀♀ and ♂♂ in different stages).

Description of female (Fig. 1—3)

Body (Fig. 1 A) stout, about 6.2 time as long as maximal width.

Carapace (Fig. 1 A), rostrum inclusively, somewhat longer than broad. Eye lobes anteriorly rounded, without visual elements. Rostrum broad at the basis, abruptly tapering. Epistome without spiniform process.

Peraeonites (Fig. 1 A). The second (first free) equal in length with the VIIth, shorter than the IIIrd. The other peraeonites (IV, V, VI) are the longest, of about equal length; unlike the former, these are narrower than long. Without acute protuberances.

Pleonites (Fig. 1 A) short and wide with a belt of fine dorsal setae and some lateral setae; measured together, they are equal in length with carapace.

Pleotelson (Fig. 1 A, G), dorso-ventrally flat, narrowing posteriorly, with numerous setae on lateral sides.

Antennule (Fig. 1 C) about 1 1/2 time as long as carapace, with outer flagellum consisting of 8 segments, whilst inner flagellum, of two segments.

Antenna (Fig. 1 E) of 10 segments. First segment of peduncle with a large inner expansion. Squama with three long distal setae.

Mandible, labium, maxillule and maxilla as in fig. 2 A-D.

Maxilliped (Fig. 2 E) with basis bearing a row of 8 long setae on the rostral margin. On the second segment, of the palp, setae distally agglomerate. Endite with variously shaped phanera. The epignath as in fig. 2 F.

Cheliped (Fig. 3 A), with exopodite. Carpus with three rows of simple setae. "Digitus" of propodus not too long; dactylus with a strong claw.

Peraeopod II (Fig. 3 D) with exopodite. Except for dactylus and propodus, all segments strongly widened. Carpus extremely wide with a tergal expansion hollowed out at the level of the joint with propodus which provides a strong bearing.

Peraeopods III—VII (Fig. 3 E-I) much thinner than the second one. Carpus of peraeopods III, IV and VII, with setae on both sides, whilst the

other ones present only sternal setae. Peraeopod VII with pennate setae up to propodus. Peraeopod V with very short dactylus (Fig. 3 G).

Pleopods (Fig. 3 J), five pairs with peduncle short, unisegmented. Exopodite unisegmented, terminally truncate, bare on its inner edge and shorter than endopodite which is also unisegmented.

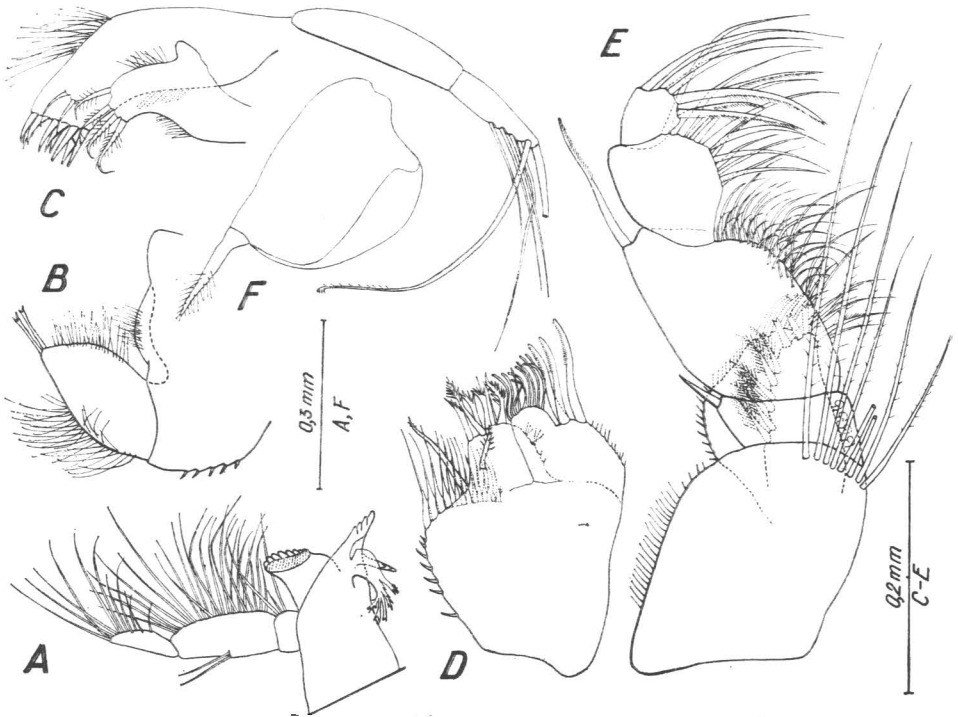


Fig. 2. — *H. cubanensis* n.g.n.sp., ♀; A = left mandible; B = labium (terminal end); C = maxillule; D = maxilla; E = maxilliped; F = epignathus.

Uropods (Fig. 1 G) with exopodite short, consisting of four segments, whilst endopodite, of 18 segments.

Size: 5.7 mm.

Males similar to females except for the dimorphic appendages (Fig. 1 B, D, F and fig. 3 B).

Cheliped (Fig. 3 B) much larger than in females, with three large expansions on carpus: one digitiform and two triangular. Propodus with a diastem at the basis of the joint with dactylus, providing a great width at the basis of the clip. Digitus of propodus ends at the level of median tubercle of the huge dactylus, achieving a typical heterochelia.

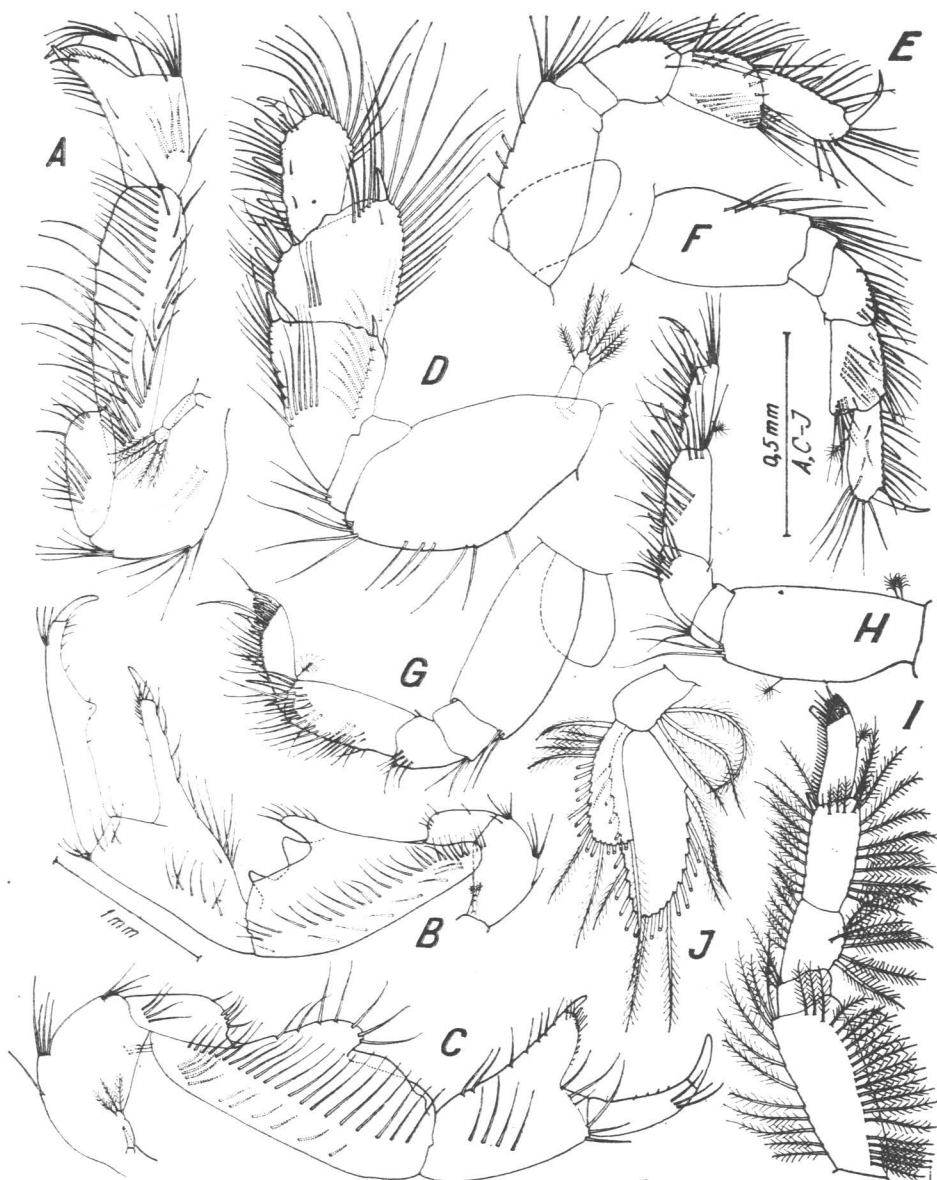


Fig. 3. — *H. cubanensis* n.g.n.sp.; A, B and C = cheliped in ♀, adult ♂ and preadult ♂; D — I = pereopods in ♀ (D = II, E = III, F = IV, G = V, H = VI and I = VII); J = pleopod V in ♀

Pleotelson (Fig. 4 A, G) with abundant lateral ciliation about as long as the combined three pleonites. In dorsal view appears approximately rectangular.

Antennule (Fig. 1 D) very long, almost four times as long as carapace; the first penducular segment alone is almost twice as long as carapace and the same time, longer than outer flagellum which consists of 18 segments; inner flagellum, as in female, consists of two segments.

Antenna (Fig. 1 F) shorter than proximal segment of the basis of antennule and is 12-segmented.

Uropods usually with endopodites somewhat longer than in females, consisting of 20 segments, whilst exopodites of four segments.

Size: 5.8 mm

Colour (preserved in formalin), yellow-reddish.

Males in juvenile stages with chelipeds as in females; upon maturation a first expansion (digitiform) occurs on the carpus, as in fig. 3 C after which the other two develop; dactylus also gets longer upon maturation.

Holotype ♀ in the collections of the Institute of Oceanology, Havana, Cuba.

Allotype ♂ in the collection of the Museum of Natural History "Gr. Antipa", Bucharest, Romania, no. 247.

Paratypes 110 specimens of which 100 specimens (20 ♂♂ adults, 5 ♂♂ pre-adults, 20 ♀♀ with embryos, eggs or oostegites, and 55 juv. in different stages) in the collection of the Museum of Natural History "Gr. Antipa", no. 248; 10 specimens (2 ♂♂ adults, 2 ♀♀ and 6 juv.) in the collection of the Institute of Oceanology, Havana.

The remaining specimens, in the collections of the authors.

Remarks: With regard to the variability of some characters, this is expressed both in females and males, by the sizes varying between 4.5 and 5.8 mm in females and 5.2 and 6.4 mm in males, or by the number of segments of certain appendages such as the outer flagellum of antennule, the antenna, the endopodite of uropods, a number which maybe higher or lower than that mentioned in the specimens described.

A special mention is due to the male juveniles in the course of development, in which the penial tubercle is present just like in adults, without the presence of the characteristic dimorphism of chelae, antennule or antenna.

Halmyrapseudes bahamensis n.sp.

Material: Bahama Islands, Andros I, muddy tidal flats on N-W side, in tubes; Jan. 1970; 6 ♀♀ (2 ♀♀ with embryos, 1 ♀ with eggs and 3 ♀♀ with oostegites), 3 ♂♂ adults, 1 ♂ pre-adult, 1 juv.

Description of female (Fig. 4—6).

Body (Fig. 4 A) stout, about 5.7 times as long as maximal width.

Carapace (Fig. 4 A). As long as wide. Eye lobes with visual elements of black colour. Without antero-lateral or lateral spines.

Peraeonites (Fig. 4 A) round-shaped. The second (first free) equal in width with the third, the other ones tapering, up to the last. All are broader than long.

Pleonites (Fig. 4 A) short with pennate setae on the sides and with a transversally-dorsal border of setae.

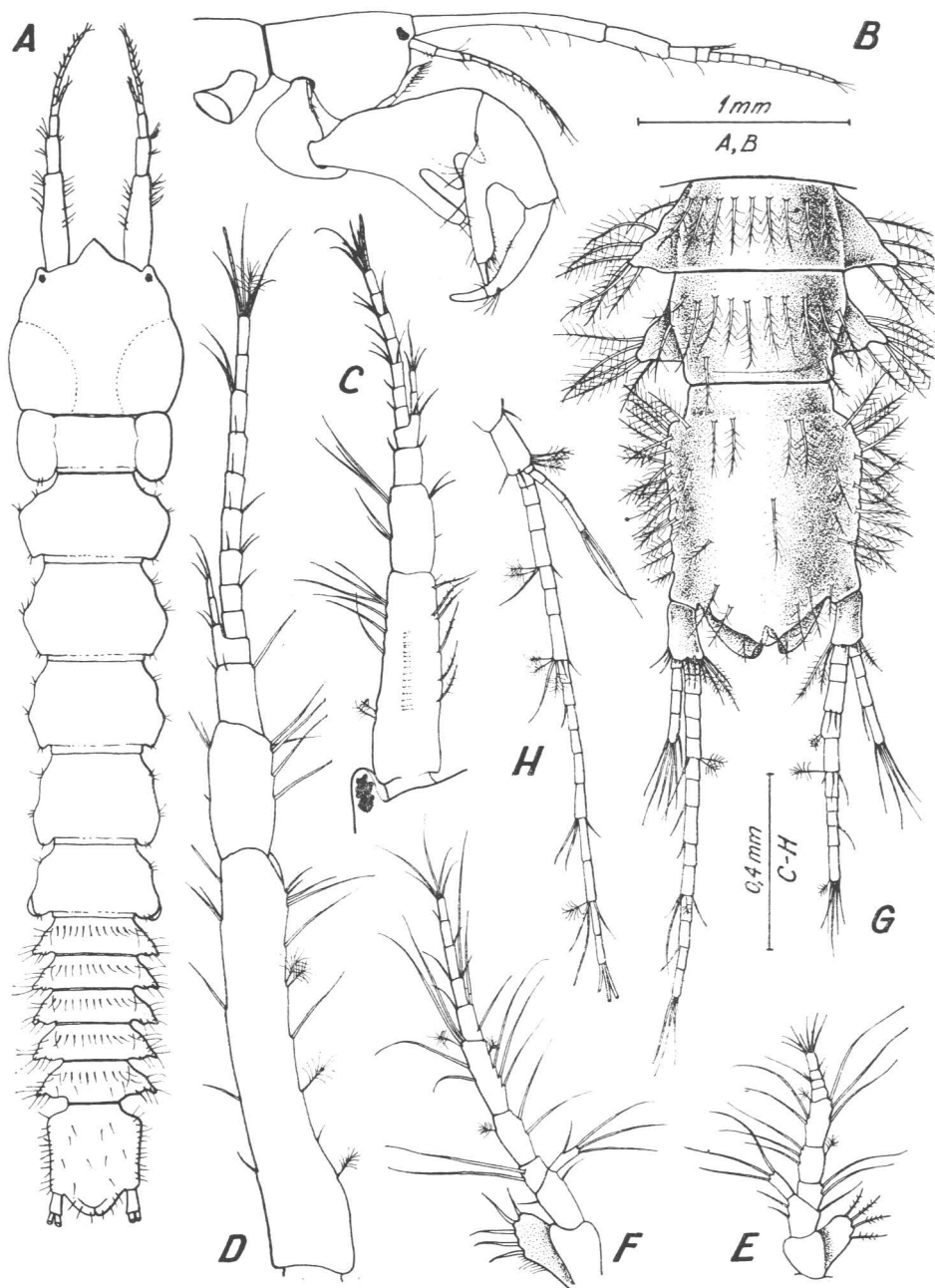


Fig. 4. — *Halmyrapseudes bahamensis* n.sp.; A = dorsal view, ♀; B = anterior portion of body in ♂ in lateral view (scheme); C = antennule in ♀; D = same in ♂; E = antenna in ♀; F = same in ♂; G = caudal end with uropods in ♀; H = uropod in ♂.

Antennule (Fig. 4 C). About 1 1/2 time as long as carapace. Outer flagellum consists of 7 segments, inner one, of two segments.

Antenna (Fig. 4 E) nine-segmented, about half as long as antennule.

Mouthparts presented in fig. 5 A-F.

Peraeopods I—VII and *pleopods* (Fig. 6 A-I) somewhat similar to those in *H. cubanensis*.

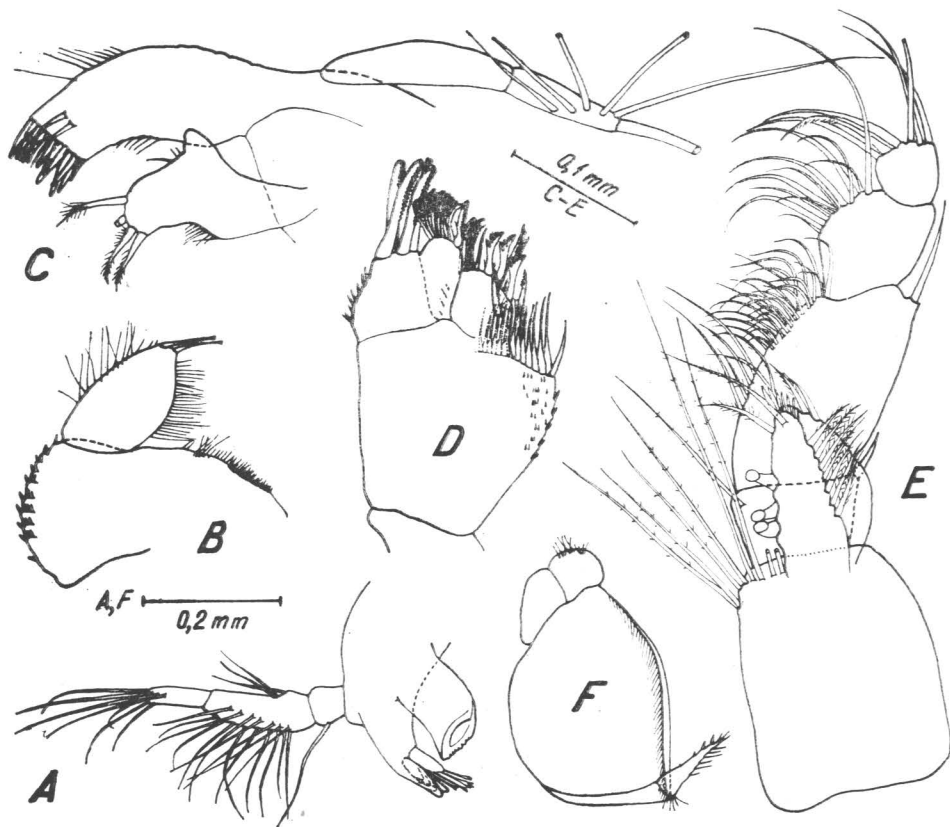


Fig. 5. — *H. bahamensis* n.sp., ♀; A = right mandible; B = labium (terminal end); C = maxillule; D = maxilla; E = maxilliped; F = epignathus.

Uropods (Fig. 4 G) with endopodite consisting of 14 segments and exopodite, of four segments.

Size: 4.6 mm

Males (Fig. 4 B, D, F, H and 6 B).

Cheliped (Fig. 6 B) with the three apophyses of carpus well developed; the digitiform almost as long as basis. Dactylus long and strong extends much beyond the distal end of propodus.

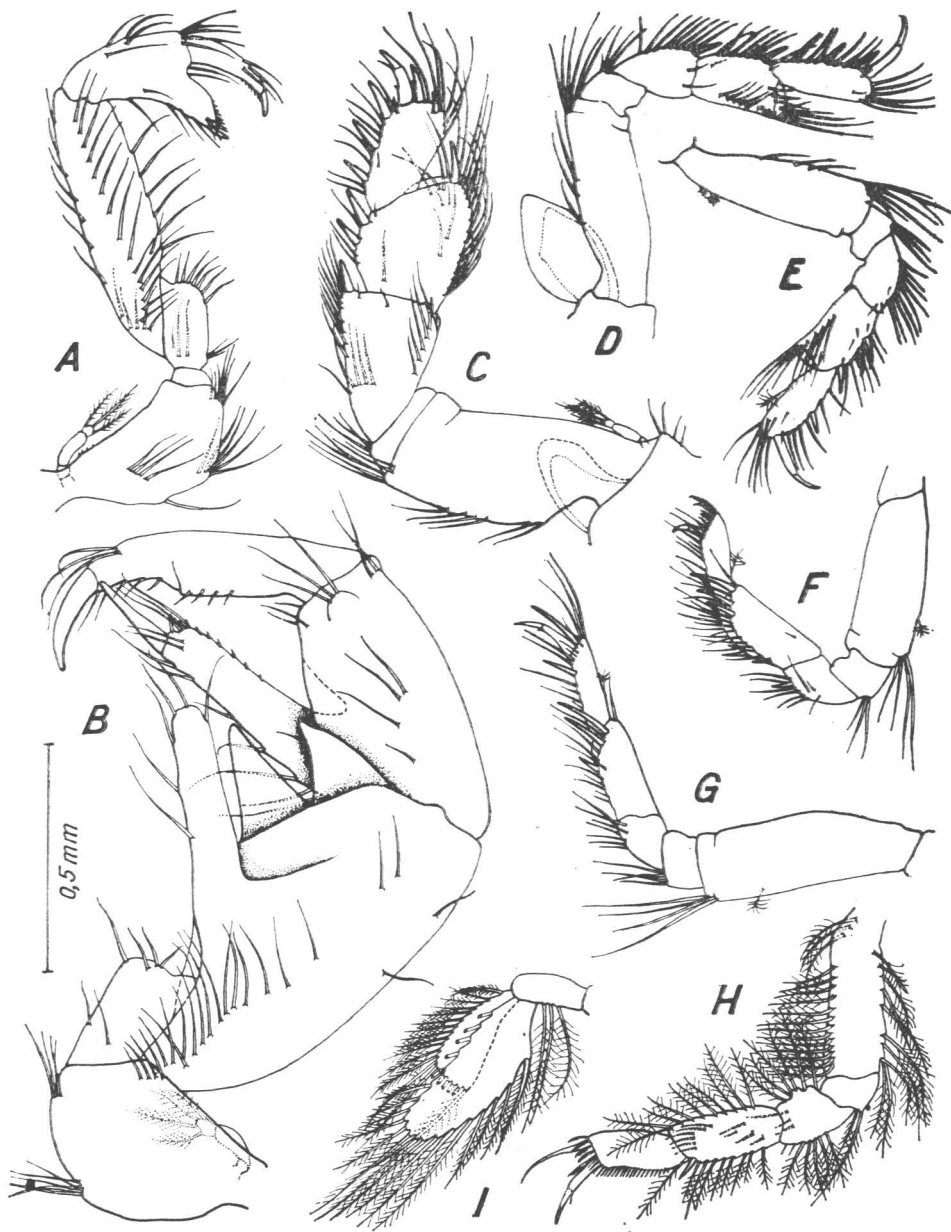


Fig. 6. — *H. bahamensis* n.sp.; A and B cheliped in ♀ and ♂ respectively; D — H = pereopods in ♀ (C = II, D = III, E = IV, F = V, G = VI, and H = VII); I = pleopod V in ♀.

Antennule (Fig. 4 D) much longer than in females with the first segment of basis about $1\frac{1}{2}$ time as long as carapace. Inner flagellum consists of two segments; outer one, of nine segments.

Antenna (Fig. 4 F) somewhat similar to those in *H. cubanensis* and consists of 10 segments.

Uropod (Fig. 4 H) with endopodite 17-segmented and exopodite, as in females, 4-segmented.

Size: 4.8 mm

Colour: chalk-white (after preservation in formalin).

Holotype ♀ in the collection of the Museum of Natural History "Gr. Antipa", Bucharest, no. 249.

Allotype ♂ in the collections of the Smithsonian Institution.

Paratypes 8 specimens, of which 5 specimens (1 ♀ with embryos, 1 ♀ with oostegite, 1 ♂ adult, 1 ♂ subadult and 1 juv.) in the collection of the Museum Natural History "Gr. Antipa", no. 250; 3 specimens (1 ♀ with eggs, 1 ♀ with oostegite and 1 ♂ adult) in the collections of the Smithsonian Institution.

One female with oostegite dissected for study purposes.

Remarks: Like in *H. cubanensis*, antennule, antenna and exopodite of uropods present a variable number of segments, as against the specimen described.

DISCUSSION: Aside from the 4 species: *H. cubanensis* n.sp., *H. bahamensis* n.sp., *H. thaumastocheles* (Monod 1935) and *H. killaiyensis* (Balasubrahmanyam 1962), also *A. digitalis* Brown 1956 (3) maybe *A. cooperi* Brown 1954 (2) might also be placed in the genus *Halmyrapseudes*. Since these species have been but compendiously described, we could not state it with certainty.

Concerning *A. mussauensis* Shiino 1965 (5), also a brackish-water species, we maintain the same reserved attitude as to its belonging to this genus; just like in *A. digitalis* and *A. cooperi*, the lack of expansions on the carpus of chelipeds in males, leaves us with certain doubts.

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HALMYRAPSEUDES CUBANENSIS N.G.N.SP. ŞI H. BAHAMENSIS N.SP., SPECII SALMASTRICOLE DE TANAIIDACEA (CRUSTACEA)

REZUMAT

Autorii ajung la concluzia că unele specii salmastricole de Tanaidacea formează o grupare sistematică aparte, ceea ce i-a determinat a le reuni într-un nou gen, *Halmyrapseudes*, pentru care se descriu şi două specii: *H. cubanensis* n.g.n.sp. şi *H. bahamensis* n.sp.

De asemenea se menţionează că dintre speciile de *Apseudes* cunoscute, în noul gen se mai încadrează, *A. thaumastocheles* Monod 1935 şi *A. killaiyensis* Balasubrahmanyam 1962, presupunându-se că şi alte specii ca: *A. digitalis* Brown 1956, *A. cooperi* Brown 1954 şi *A. mussauensis* Shiino 1965 ar putea fi incluse în noul gen.

HALMYRAPSEUDES CUBANENSIS N.G.N.SP. И H. BAHAMENSIS N. SP., ВИДЫ САЛМАСТРИКОЛОВ ИЗ TANAIIDACEA (РАКООБРАЗНЫХ)

РЕЗЮМЕ

Авторы приходят к заключению что некоторые виды салмостриколов из Tanaidacea представляет особую систематическую группировку, что заставило его объединить их в новый род *Halmyrapseudes* для чего и описываются два вида: *H. cubanensis* n.g.n. sp. и *H. bahamensis* n. sp.

Обращается также внимание на то что из видов известных *Apseudes* включаются в новый род и *A. thaumastocheles* Monod 1935 и *A. killaiyensis* Balasubrahmanyam 1962, предполагая что и другие виды вроде: *A. digitalis* Brown 1956, *A. cooperi* Brown 1954 и *A. mussauensis* Shiino 1965 могут быть включены в новый род.