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**A NEW SPECIES AND THE FIRST DESCRIPTION OF THE  
MALE BELONGING TO THE GENUS *SWIREAPSEUDES* BAMBER,  
FROM THE SUBMARINE CAVES OF THE ELEUTHERA ISLAND  
(CRUSTACEA: TANAIDACEA: APSEUDOMORPHA)**

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Abstract. *Swireapseudes birdi* n. sp. from the submarine caves of Bahamas Archipelago is described further. At the same time, it is described the first male of the genus *Swireapseudes* Bamber, 1997. By this discovering the synonymization of *Swireapseudes* with *Pakistanapseudes* Băcescu, 1978 is invalidated and the distribution of the mentioned genus is extended from the South China Sea to the American Mediterranean. Within this context, a new diagnosis of the genus is presented, at the same time pointing out the main differences between *Swireapseudes* and genera of the family Parapseudidae, with which it might be confounded.

Résumé. On décrit, de l'Archipel Bahamas, l'espèce *Swireapseudes birdi* n. sp. On décrit aussi le premier mâle du genre *Swireapseudes* Bamber, 1997. Par cette découverte on invalide la synonymisation de *Swireapseudes* avec *Pakistanapseudes* Băcescu, 1978 et on fait une extension de sa répartition depuis la Mer de Chine du Sud jusqu'aux eaux de la Méditerranée Américaine. Dans ce contexte on présente une nouvelle diagnose du genre, mettant à la fois en évidence les principales différences entre *Swireapseudes* et les genres de la famille des Parapseudidae, avec lesquels il pourrait être confondu.

Key words: *Swireapseudes birdi* n. sp., submarine caves, Eleuthera Island (Bahamas).

In 1997, from the North-West of South China Sea, Bamber described the monotypic genus *Swireapseudes*, basing on three specimens (1 female, 1 neutrium and 1 manca). Six years later, Bamber & Sheader (2003) reached the conclusion that the genus *Swireapseudes* is the synonym of *Pakistanapseudes* Băcescu, 1978, although the males of the first genus were unknown, and those of the genus described by Băcescu (1978) have three undoubtful morphological features, at least. It is about (1) the configuration of the antennule outer flagellum and (2) of the antenna (both characterized by a very obvious dimorphism, consisting in the aspect of the articles of their structure, short and very thick in males, and long and thin, in females), and (3) the cheliped configuration (long and very fine), without sexual dimorphism.

In a comment on the similarities between different genera of the family Parapseudidae, Guțu (2006: 252) disapproved Bamber & Sheader's synonymization (2003), considering the genus *Swireapseudes* valid, at least till the discovering of the males.

Studying a material recently collected from the submarine caves of the Eleuthera Island (Bahamas Archipelago) by the second author, we had the unexpected surprise to establish that we have several specimens (males and females) of a new species belonging to the disputed genus *Swireapseudes*, whose description (including that of the males, unknown till now) is presented further on. As a result of the description of the new species and of the male knowledge, a new diagnosis of the genus was made which remove the possibility of confounding it with other parapseudids.

## Family Parapseudidae Guțu, 1981

Genus *Swireapseudes* Bamber, 1997

*Type-species: Swireapseudes toloensis* Bamber, 1997.

*New diagnosis* (modified after Bamber, 1997). Body dorsoventrally flattened. Carapace short, about as long as broad; ocular lobes well defined, with pigmented visual elements. Pereon decreasing in width from the third to the last pereonite. Pleon, much longer than carapace and narrower than the last pereonite; each pleonite a little wider than long, having some lateral setae. Antennule with long and about equal flagella; males with outer flagellum thicker proximally than the same of females. Antenna very long (only a little shorter than the antennule), with well developed squama; females with long and slender articles the fifth one being very long; males with short and thick articles. Mandible palp with second article longest, having at most one seta. Cheliped with exopodite; female cheliped slender, with narrow basis, carpus and propodus; male cheliped dimorphic, with wide propodus and long and narrow fixed finger. Pereopod II fossorial, with exopodite. Pereopods III-VII basis similar, long and thin; dactylus thin, much longer than merus; dactylus of pereopods II-IV, VI and VII with a distosternal fine prolongation which, together with the claw, has the aspect of a very small chela. Pleopods well developed, with unarticulated long and ovate rami; endopodite much larger than exopodite. Uropod exopodite with at most five articles; endopodite longer than the pleon length.

*Composition* (2 species): *Swireapseudes birdi* n. sp. and *S. toloensis* Bamber, 1997.

*Remarks.* Although Bamber & Sheader (2003) synonymized the genus *Swireapseudes* with *Pakistanapseudes*, Guțu (2006: 252) considered it valid, at least till „knowing the males”, which is confirmed by the description of a new species and of the male belonging to the mentioned genus.

By its width (small) and length of the pleonites (relatively long), as well as by the aspect of the male antennules and antennae, *Swireapseudes* resembles mostly with the genera *Pakistanapseudes*, *Lepticoa*, *Biropalostoma*, and *Thaicungella*, described by Băcescu (1978), Guțu (2006) and Guțu & Angsupanich (2004), respectively. The presence of the sternodistal prolongation at the dactylus level of the pereopods II-IV, VI and VII (Figs 2 D, 3 A, B, D-F), as well the dimorphism of the male cheliped in *Swireapseudes* (compare fig. 2 C with fig. 4 C) make it different.

By the configuration of the antennules, antennae, pereopods, etc., as well as by the cheliped dimorphism (Bamber, 2000; Bamber & Sheader, 2003), the species *Pakistanapseudes hodgsoni* Bamber, 2000 resembles the two ones of the genus *Swireapseudes*. Considering the absence of prolongation of the sternodistal extremity of the pereopods II-IV, VI and VII dactylus in the species *Pakistanapseudes hodgsoni* as results from Bamber's description (2000, fig. 3 C, G, H), Guțu (2008) classified it in a separate genus.

***Swireapseudes birdi* n. sp.**

(Figs 1-4)

*Material:* 21 specimens (2 females with eggs, 2 females with oostegites, 6 adult and subadult males and 11 juveniles, from which 1 female with oostegites and 1 adult male was destroyed by dissection), Eleuthera Island (Bahamas), from submarine caves, 12 August 2007; Leg. Dr. Thomas Iliffe.

*Holotype*, female with eggs, preserved in the Collection of the „Grigore Antipa” National Museum of Natural History, Bucharest, No. 250390.

*Allotype*, adult male, in the same collection, No. 250391.

*Paratypes*, 17 specimens were preserved as following: 9 specimens (1 female with oostegites, 2 males, and 6 juveniles) in the same collection, No. 250392, and 8 specimens (1 female with eggs, 2 males and 5 juveniles) in the Collections of Smithsonian Institution, Washington.

*Description of the female with oostegites*

*Body* (Fig. 1 A) dorsoventrally flattened, decreasing caudally in width, about 5.7 times longer than maximum breadth of carapace; standard length, approximately 4.2 mm.

*Carapace* large, as long as broad; rostrum, rounded anteriorly, with a very small denticle in top. Ocular lobes well defined, with pigmented visual elements (Fig. 1 B).

*Pereon*, three times longer than carapace, decreasing caudally in width, with smooth sides. First two pereonites shortest (each of them about three times wider than long); third pereonite as long as sixth one; fourth pereonite largest, only slightly longer than fifth one.

*Pleon*, as long as carapace and first two pereonites, about two times narrower than the maximum breadth of body. Each pleonite a little shorter than wide, with some lateral long setae in last half. Pleotelson, two times longer than each pleonite, also with some lateral setae.

*Antennule* (Fig. 1 C) much longer than carapace. Peduncle, three-articulated, as long as inner flagellum; first article, about four times longer than wide, with five simple setae on each side, the inner ones being longer; second article, 2.8 times shorter than the first one, with six and three unequal setae on the inner and outer margins, respectively; third article, a little shorter and narrower than second one, ended in three setae in each distal corner. Outer flagellum with 14 long articles, some of them having one-two setae and one-two aesthetascs. Inner flagellum, a little shorter than the outer one, with ten long articles (without common article); second, fourth and seventh articles with two-three long setae on the outer margin; others some smaller setae are present on the inner margin at the level of different articles.

*Antenna* (Fig. 1 D), only a little shorter than antennule; squama, long and narrow, with ten setae around, from which two, apically, very long. First peduncular article, thick, with an inner rounded expansion. Second article thick, shorter than length of squama. Third article small, shorter than the fourth one, together having the same length with the second article. Fifth peduncular article very long, slightly longer than previous articles (measured together); some unequal setae are present on the inner and outer margins, as in drawing. Flagellum with eight long and narrow articles; second and fourth articles with some long setae and one-two aesthetascs; also one aesthetasc is present on the last peduncular and sixth flagellar articles.

*Mandibles* (Fig. 1 E-G) with well developed three-articulated palp; first palp article short, with five or six long simple setae; second article, longest (about 1.5 times longer than last one), without setae; third article with five unequal setae in top. Pars incisiva in both mandibles four-denticulated. Setiferous lobes with eight and six setae in the left and right mandible, respectively. Lacinia mobilis in left mandible three-denticulated. Pars molaris well developed, without special features.

*Labium* (Fig. 1 H) with smooth outer margin. Palp (terminal lobe) very large, with two long and two short spines in top, and an obvious inner rounded expansion, as in drawing; numerous fine setae are present on lateral margins.

*Maxillule* (Fig. 1 I) with long and narrow biarticulated palp, ended in five unequal setae. Outer endite with eleven strong spines in distal margin and two plumose setae, subterminally. Inner endite with five serrated setae.

*Maxilla* without special features.

*Maxilliped* (Fig. 2 A) basis a little longer than broad. First palp article with a very long distoinner seta. Second palp article large, about as long as basis, with numerous different setae on the inner margin; outerdistally with two unequal setae. Third palp article, relatively long, wider distally, with seven setae on the distoinner margin. Last palp article small, ended in seven unequal setae. Endite well developed, with many long and different setae on the rostral margin; inner margin with about six plumose setae and three coupling hooks.

*Epignath* (Fig. 2 B) cup-shaped with a long and robust spine.

*Cheliped* (Fig. 2 C) slender, with exopodite (ended in four long plumose setae). Basis narrow, approximately 4.5 times longer than wide, with two very small sternal setae and other two, longer, distosternally. Merus long, with three long proximosternal and five unequal distosternal setae; other two setae are present on the outer surface. Carpus, seven times longer than broad, and about 1.3 times longer than basis, with nine long but unequal setae on the sternal margin and outer surface. Propodus long and narrow, 1.5 times shorter than carpus length; fixed finger thin, with some distoinner setae; claw long. Dactylus slender, curved, as long as fixed finger; claw long and thin.

*Pereopod II* (Fig. 2 D) fossorial. Exopodite present, ended in four relatively short plumose setae. Coxa small, rounded anteriorly. Basis thin, about 4.8 times longer than wide; proximally with a stout curved spiniform denticle, and distosternally with one long and two short setae; some setulae are present on the tergal and sternal margins. Ischium short, with two long unequal sternodistal setae. Merus thin, about two times shorter than basis, with four long proximosternal setae; distosternally with three setae and one robust spine; two long and two short setae are present in distotergal corner. Carpus, 1.5 times shorter than merus, with seven long setae and two spines, sternally, and three tergal setae; distotergally with one very long and fine spine and three setae. Propodus, slightly longer and wider than carpus, with three long and fine spines, and eight setae on the sternal margin; tergally with four long setae and two long spines. Dactylus slender, ended in a fine sternal prolongation (as long as claw); distosternally with four small and acute denticles; claw small, curved (detail fig. 2 D).

*Pereopod III* (Fig. 3 A) slender. Basis thin, about seven times longer than wide, with two long unequal sternodistal setae. Ischium short, with three sternodistal setae. Merus, shorter than carpus, but two times longer than ischium, with three setae and one strong spine, sternally, and one small seta, distotergally. Carpus, about two times longer than merus and approximately 2.5 times shorter than basis; sternally and distally with about 12 setae and fine spines. Propodus, slightly shorter than carpus, with 13 sternal and distal setae and some very fine spines. Dactylus very thin, longer than propodus, ended in a sternodistal digitiform prolongation, as long as claw, giving it (together with claw) the aspect of a microscopical chela (detail fig. 3 A).

*Pereopod IV* (Fig. 3 B) similar to preceding pereopod, excepting the dactylus prolongation which is longer than the claw (detail fig. 3 B).

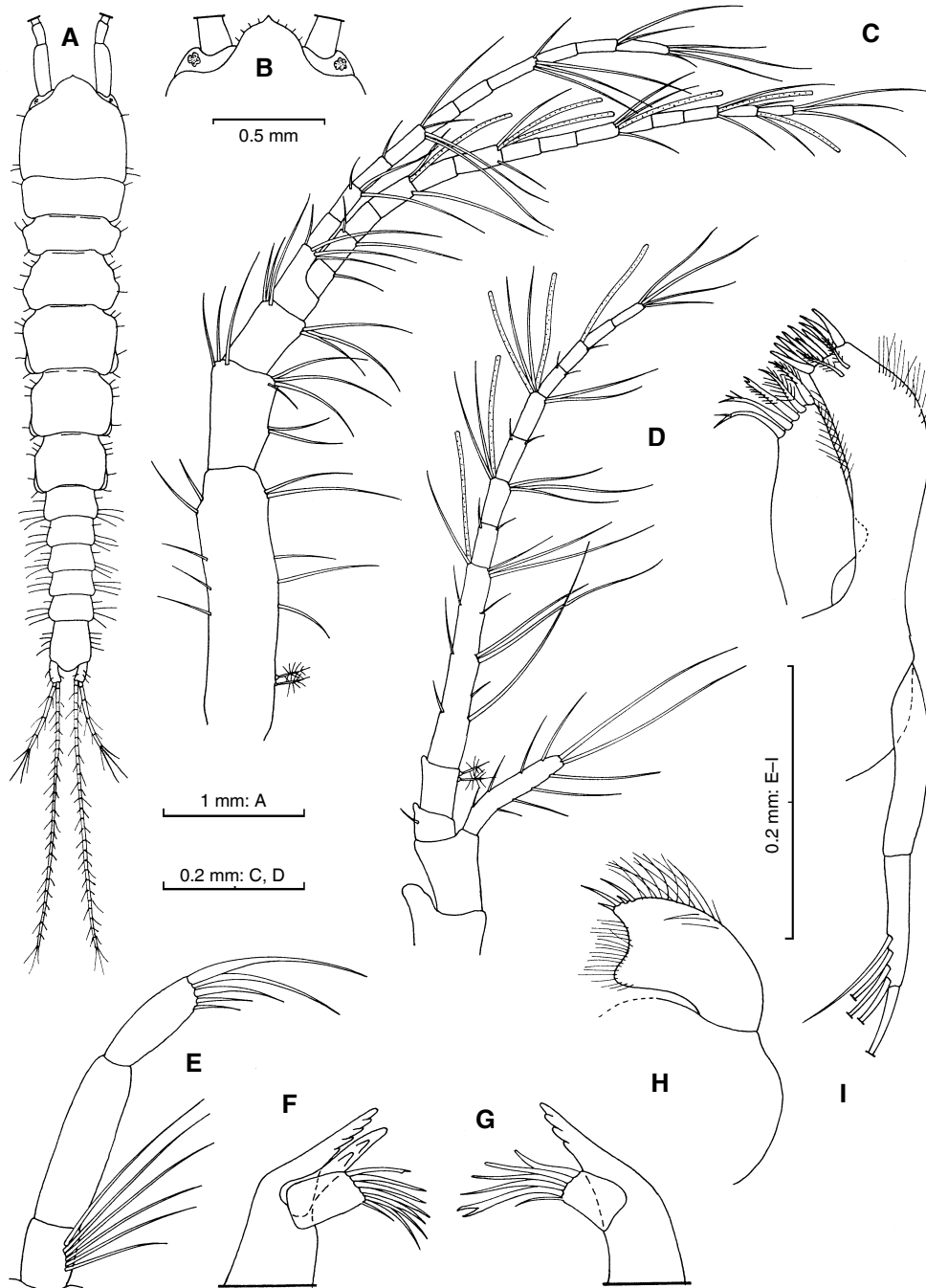


Fig. 1 – *Swireapseudes birdi* n. sp., female with oostegites, paratype: A, body, dorsally; B, rostral part of carapace; C, antennule, right; D, antenna, right; E, mandible palp; F, pars incisiva, lacinia mobilis and setiferous lobe of left mandible; G, pars incisiva and setiferous lobe of right mandible; H, labium, right half; I, maxillule, right.

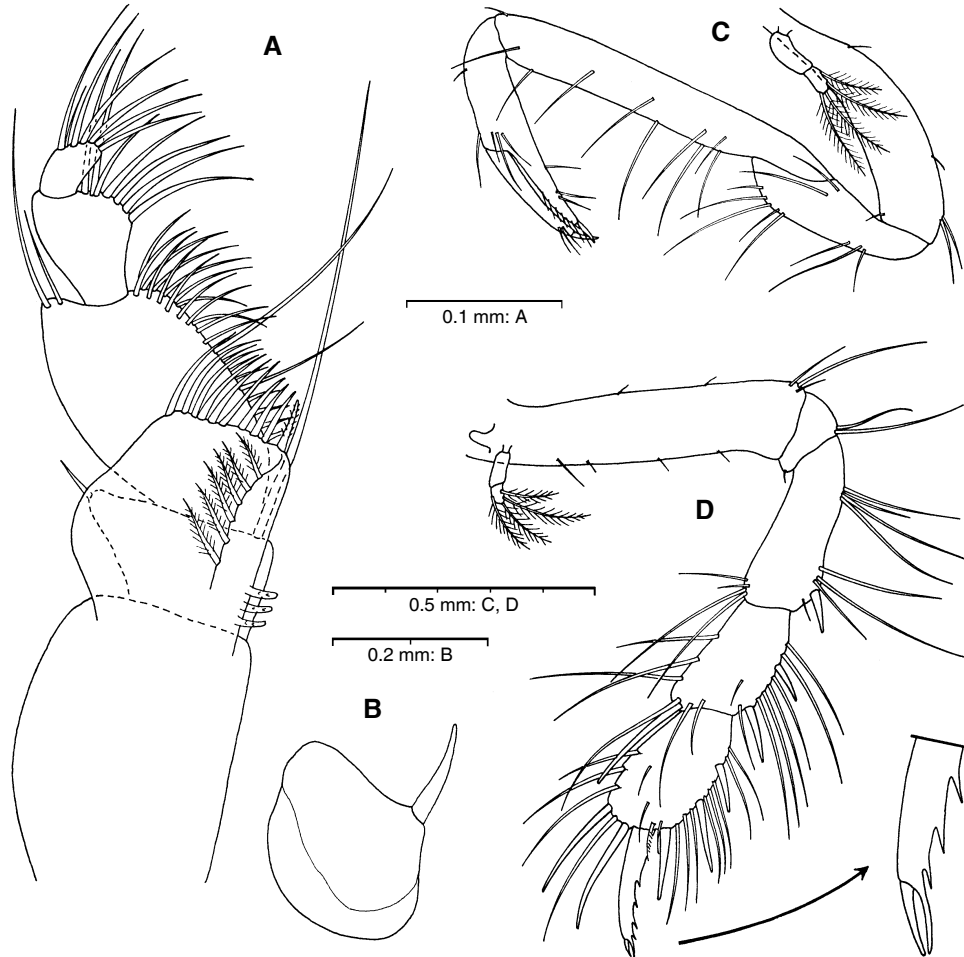


Fig. 2 – *Swireapseudes birdi* n. sp., female with oostegites, paratype: A, maxilliped, left; B, epignath; C, cheliped, left; D, pereopod II, left.

*Pereopod V* (Fig. 3 C) relatively similar to pereopods III or IV, excepting the thickness of basis (which is slightly swollen) and the length of carpus (much longer than propodus); dactylus, as long as carpus, apparently without claw but with a distotergal setiform spine (detail fig. 3 C).

*Pereopod VI* similar to previous pereopod, excepting the disposition of propodal spines and the configuration of distal end of dactylus (Fig. 3 E), which is similar to the same of pereopods II, III and VII.

*Pereopod VII* (Fig. 3 D) slender, as previous four pereopods. Carpus with about ten setae and fine spines (some of them very long) on the distal half of sternal margin. Propodus with 15 ciliate setulae on sternal margin; distotergally with three very long spines and about ten short spines and setae (Fig. 3 F).

*Pleopods* (Fig. 3 G) well developed, biramous, in five pairs. Protopodite narrow, as long as exopodite, with two-three long plumose setae on each side. Endopodite, ovate, about 4.5 times longer than broad and much larger than

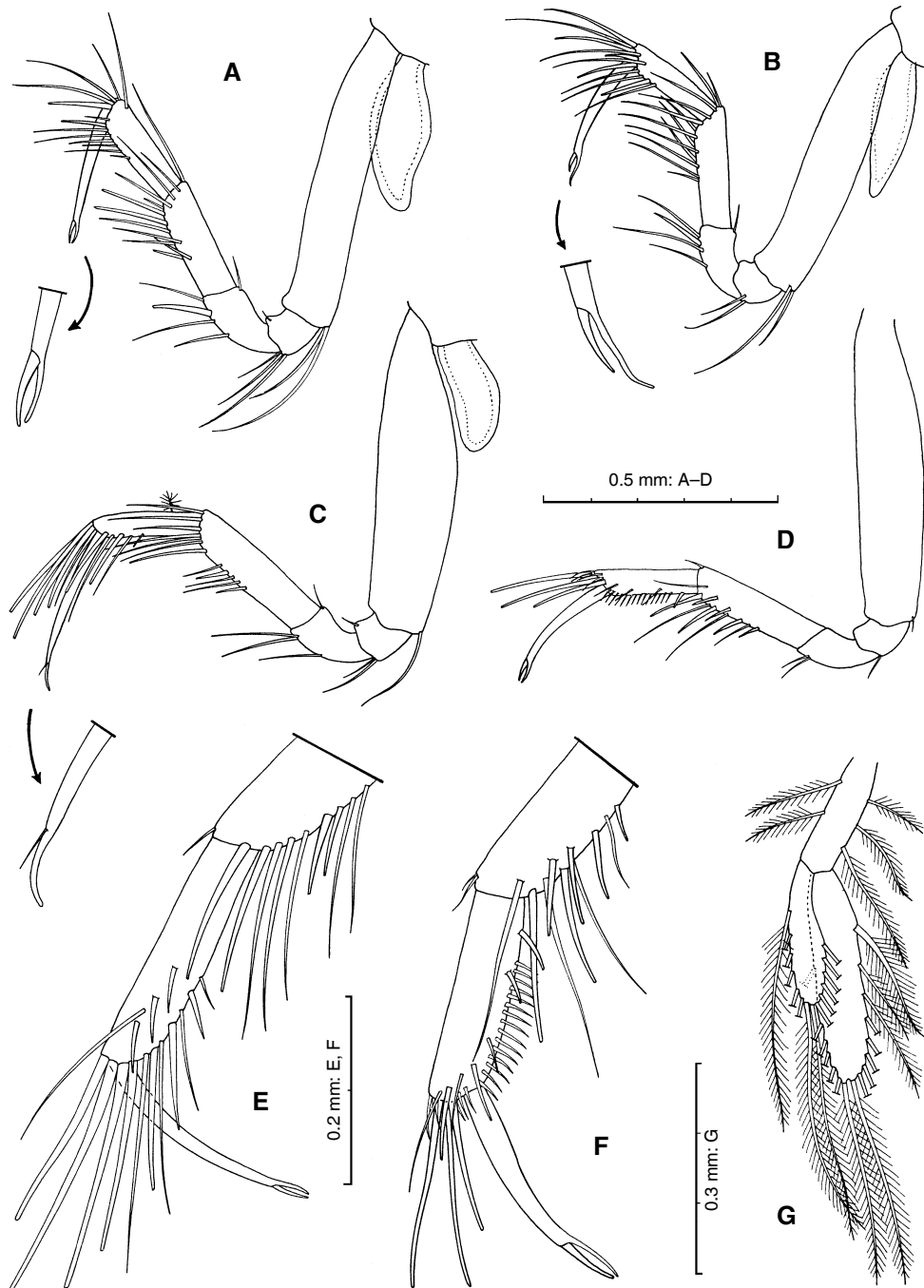


Fig. 3 – *Swireapseudes birdi* n. sp., female with oostegites, paratype: A-D, pereopods III, IV, V and VII, respectively; E, carpus (distal part), propodus and dactylus of pereopod VI; F, carpus (distal part), propodus and dactylus of pereopod VII; G, pleopod.

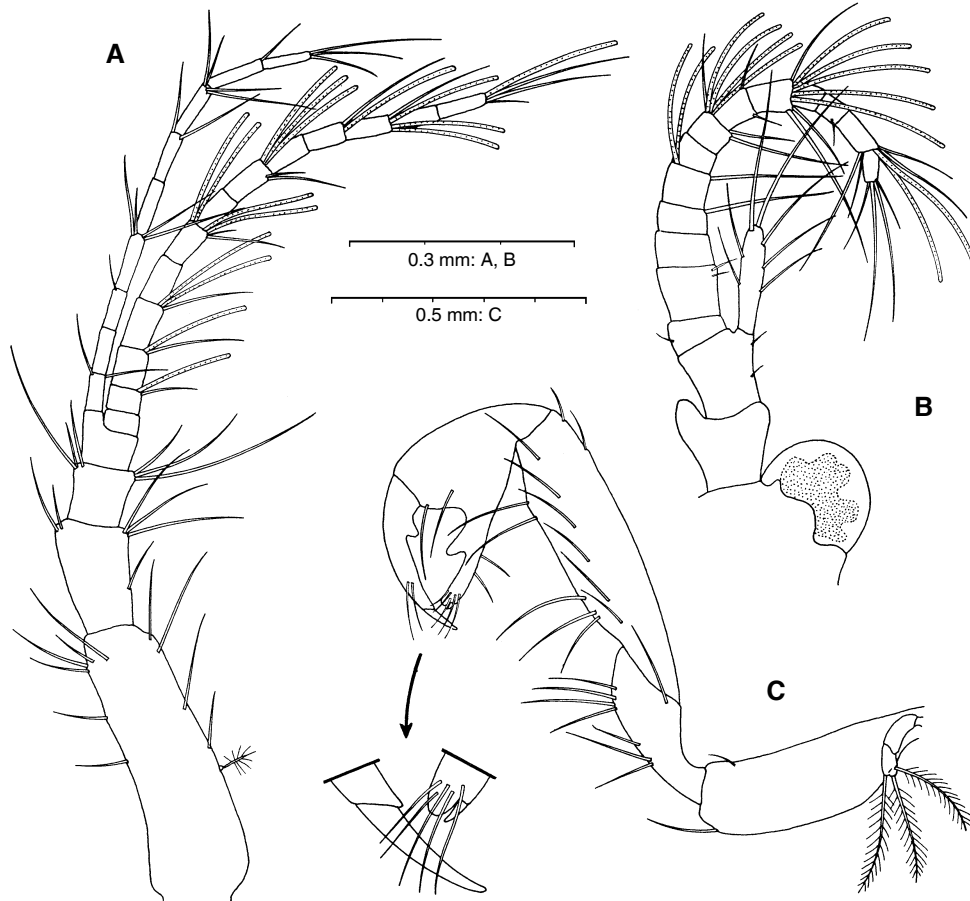


Fig. 4 – *Swireapseudes birdi* n. sp., male, paratype: A, antennule; B, antenna; C, cheliped.

exopodite, with 16 long plumose setae around. Exopodite, also narrow, with 14 long plumose setae around.

*Uropod* (Fig. 1 A) with a great peduncular article. Exopodite short, a little longer than pleotelson, with, apparently, five articles. Endopodite, a little shorter than the half of body length, with about 28 narrow articles, many of them with long setae.

*Description of the male.*

Similar to female, excepting the antennule, antenna and cheliped, characterized by an evident dimorphism. In this way, the articles of antennule outer flagellum (Fig. 4 A) are only a little thicker than the same of female (Fig. 1 C), contrary to antenna which is much thicker proximally (Fig. 4 B) than the female one (Fig. 1 D). Cheliped (Fig. 4 C) with slender basis, merus and carpus. Propodus, much wider than the same of female (Fig. 2 C), with a narrow fixed finger, provided with a great proximoinner denticle and a very small claw (detail fig. 4 C). Dactylus curved, also with a proximoinner denticle; claw long and stout (detail fig. 4 C).

*Juveniles.* As in other apseudomorph tanaidaceans, the morphological features of juveniles are very similar to the females.

*Etymology.* We dedicated the species in honor of Dr. Graham Bird, for his numerous originally contributions in the knowledge of tanaidaceans.

*Type-locality.* Submarine caves of Eleuthera Island (Bahamas).

*Remarks.* The new species distinguishes *Swireapseudes toloensis* Bamber, 1997 especially by: (1) the low number of the articles of the two antennule flagella (only 14 and 10, in comparison with 18 and, respectively, 12) and (2) of the antenna flagellum (8 in comparison with 14), (3) the pereopod II configuration (finer and longer) and (4) its spines (thinner and pointed), (5) the number of the setae and spines at the level of the carpus and the propodus of the pereopods III-VII (more numerous in the new species) and (6) the low number of the setules on the sternal margin of the pereopod VII propodus (only 15 instead of 23).

Although *S. birdi* n. sp. was collected from submarine caves we do not consider it an cave species exclusively.

O NOUĂ SPECIE ȘI PRIMA DESCRIERE A MASCULULUI APARTINÂND  
GENULUI *SWIREAPSEUDES* BAMBER, DIN GROTELE SUBMARINE ALE  
INSULEI ELEUTHERA (CRUSTACEA: TANAIDACEA: APSEUDOMORPHA)

REZUMAT

Este descrisă specia *Swireapseudes birdi* n. sp. și, pentru prima dată, un mascul din genul *Swireapseudes* Bamber, 1997. Astfel este confirmată validitatea genului *Swireapseudes*, sinonimizat de Bamber și Sheader (2003), cu *Pakistanapseudes* Băcescu, 1978. Prin descoperirea noii specii în Arhipelagul Bahamas este extinsă răspândirea genului din Marea Chinei de Sud până în Mediterana Americană. În acest context este prezentată o nouă diagnoză a genului și sunt evidențiate principalele deosebiri dintre *Swireapseudes* și genurile cunoscute de parapseudide, cu care ar putea fi confundat, precum și deosebirile dintre cele două specii ale genului, *S. toloensis* Bamber, 1997 și *S. birdi* n. sp.

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