Addition of three species of the genus *Plesionika* (Crustacea: Caridea: Pandalidae) to the known Atlantic marine fauna of Colombia

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Key words: Caridea; Pandalidae; *Plesionika*; range extensions; West Atlantic; Colombia; key.
In recent sampling along the Colombian Caribbean coast, three species of the genus *Plesionika* (*P. gigliolii*, *P. longicauda*, and *P. willesi*) have been added to the seven reported upon by Campos et al. (in press). *P. gigliolii* is now recorded for the first time from the West Atlantic. The taxonomic status of *P. acanthonotus* is discussed. A key to the Atlantic species of *Plesionika* is provided.

Introduction

The Marine and Coastal Research Institute – INVEMAR has been carrying out a series of expeditions through the Colombian Caribbean Sea with the aim to expand the knowledge of the marine Colombian Caribbean biota. The results show that Decapoda along the superior slope are a very important group in terms of richness and abundance (Campos et al., in press). The Pandalidae is one of the richest families in terms of species particularly due to the genus *Plesionika*. Species of the genus *Plesionika* Bate, 1888, are mainly found in deep waters. Species of this genus have not been collected in Colombian Caribbean waters before, probably because sampling was restricted to shallow waters. In samplings along the Colombian Caribbean, ten species were obtained. Data on seven species will be reported by Campos et al. (in press): *P. acanthonotus* (Smith, 1882), *P. edwardsii* (Brandt, 1851), *P. ensis* (A. Milne Edwards, 1888), *P. laevis* (A. Milne Edwards, 1883) *P. longipes* A. Milne Edwards, 1881, *P. miles* (A. Milne Edwards, 1883), and *P. tenuipes* (Smith, 1881)). Additional taxonomic remarks are here presented for *P. acanthonotus*. In recent samplings three more species (*P. gigliolii* (Senna, 1903), *P. longicauda* (Rathbun, 1901), and *P. willesi* (Pequegnat, 1970)) were recorded on which we report herein.

Material and Methods

The specimens were collected by INVEMAR-MACROFAUNA I and II expeditions, in depths between 20 and 500 m, from November 1998 to March 2001. The specimens were collected using a trawl with an opening of 9 by 1 m and a 16 m long net, during trawls of 10 minutes. The geographic position and depth of the sampling sites are listed in table 1.

Table 1. List of stations of the INVEMAR-MACROFAUNA I & II expeditions at which specimens reported upon were collected.

Date	Station	Locality	Depht (m)	LATITUD (N) INICIAL	LONGITUD (S) INICIAL	LATITUD (N) FINAL	LONGITUD (S) FINAL
3.x.98	E8	Aguja	200	11°23′6.6′′	74°12′3.6′′	11°23′16′′	74°12′36′′
15.iv.99	E76	Islas del Rosario	296	10°9′0.6′′	76°0′33′′	10°9′19′′	76°0′29′′
3.ix.00	E84	Tayrona	276	11°24′41′′	74°12′16′′	11°24′37′′	74°28′22′′
14.iii.01	E87	Punta Gallinas	72	12°29′45′′	71°43′40′′	12°29′36′′	71°43′29′′
14.iii.01	E88	Punta Gallinas	73	12°29′18′′	71°43′52′′	12°29′16′′	74°12′36′′
15.iii.01	E95	Manaure	154	12°6′95′′	72°38′49′′	12°6′71′′	72°38′92′′
15.iii.01	E96	Manaure	70	12°3′24′′	72°38′17′′	12°3′10′′	72°38′0′′
15.iii.01	E97	Manaure	70,1	12°3′17′′	72°37′78′′	12°6′29′′	72°38′48′′
17.iii.01	E100	Dibulla	150	11°25′34′′	73°27′40′′	11°25′50′′	73°26′96′′
17.iii.01	E102	Dibulla	70	11°23′83′′	73°27′78′′	11°24′15′′	73°27′50′′
18.iii.01	E112	Buritaca	300	11°22′52′′	73°43′95′′	11°22′64′′	73°43′64′′
18.iii.01	E113	Buritaca	300	11°22′57′′	73°44′8′′	11°22′48′′	73°44′63′′
19.iii.01	E118	Nenguanje	76	11°21′29′′	74°6′17′′	11°20′94′′	74°6′40′′
19.iii.01	E123	Bahía Concha	154	11°22′90′′	74°10′17′′	11°22′81′′	74°10′49′′
22.iii.01	E139	Morro Hermoso	145	11°22′52′′	73°43′95′′	11°22′64′′	73°43′64′′
23.iii.01	E140	Cartagena	309	11°1′89′′	75°11′28′′	11°2′5′′	75°11′15′′
29.iii.01	E162	Arboletes	151	8°59′9′′	76°41′99′′	8°59′16′′	76°41′61′′
29.iii.01	E163	Arboletes	150	8°59′25′′	76°41′44′′	8°59′16′′	76°41′67′′
29.iii.01	E164	Arboletes	81.6	9°0′63′′	76°33′74′′	9°0′56′′	76°34′2′′

Once on board the net content was poured through a 0.2 mm sieve and the shrimps were separated from the sample, cleaned with seawater, photographed and preserved in 70% ethanol. The samples were reviewed and after a gender separation, the length of the carapace of the biggest and smallest specimen from each lot was obtained, measuring from the back of the orbit to the back of the carapace along the lateral medium line (pocl). When no gender separation was possible, the specimen was marked as NS.

The material has been deposited at the INVEMAR´s Museo de Historia Natural Marina de Colombia (referred to as INVEMAR-CRU) in Santa Marta and at the Museo de Historia Natural del Instituto de Ciencias Naturales (referred to as MHN-ICN) in Bogotá. Material for comparison was obtained from the Nationaal Natuurhistorisch Museum, Leiden (Formely Rijksmuseum van Natuurlijke Historie) (referred to as RMNH). Synonymy includes references of the species from the Atlantic.

Systematic account

Plesionika acanthonotus (Smith, 1882)

Pandalus acanthonotus S.I. Smith, 1882: 61, figs 10, 11 (type locality: off South Carolina, 223 fms).
? Plesionika holthuisi Crosnier & Forest, 1968: 1141-1143, fig. 7b-c; Pequegnat, 1970: 94-96, figs 4-12.
Plesionika acanthonotus; Coelho & Ramos, 1972: 156; Wenner & Boesch, 1979: 110, 131; Takeda, 1983: 61, photo in colour; Rodriguez & Hendrickx, 1993: 120, textfig.; Paulmier, 1993: 17, pl. 13 figs 1, 2; Poupin, 1994: 22, pl. 1, fig. C; Ramos-Porto & Coelho, 1998: 341; Guéguen, 2000: 692; Campos et al. (in press).

Material.— See Campos et al. (in press).
Samples of West Atlantic *P. acanthonotus* for comparison.— RMNH D 22547, ca. 50 specimens: S of

Key West, Florida Straits, 24°10′N, 81°42′W - 24°13′N, 81°36′W, 3.iv.1964, "Gerda" stn 288.— RMNH D 22453, 5 specimens: E coast of Florida, 28°25′N, 79°50′W, 25.vii.1964, "Pillsbury" stn 89.— RMNH D 22888, 4 specimens: Florida Straits, 24°15′N, 80°05′W - 24°16′N, 79°59′W, Ottertrawl, 540-549 m, 22.vi.1963, "Gerda" stn 142.— RMNH D 22889, 3 specimens: 25°04′N, 80°03′W, 25°08′N, 79°59′W, Ottertrawl, 320 m, "Gerda" stn 228.— RMNH D 22890, 1 specimen: Florida Straits, 25°36′N, 79°23′W - 25°42′N, 79°23′W, 10′ Ottertrawl, 715 m, 5.iv.1964, "Gerda" stn 196.— RMNH D 22891, 4 specimens: south of Key West, Florida Straits, 24°14′N, 82°56′W, 24°15′N, 82°52′W, 10′ Ottertrawl, 576 m, 25.i.1965, "Gerda" stn 474.— RMNH D 22892, 6 specimens: south of Florida Keys, Florida Straits, 24°30′N, 80°28′W - 24°32′N, 80°24′W, 10′ Ottertrawl, 443 m, "Gerda" stn 483.— RMNH D 22893, 3 specimens: S of Florida Keys, Florida Straits, 24°10′N, 81°42′W - 24°44′N, 81°37′W, 10′ Ottertrawl, 631 m, 15.ix.1964, "Gerda" stn 362.— RMNH D 22894, 1 specimen: Florida Straits, 25°36′N, 79°21′W - 25°38′N, 79°22′W, 458-531 m, Ottertrawl, "Gerda" stn 242, 30.i.1964.— RMNH D 22895, 1 specimen: SW of Key West, Florida Straits, 24°14′N, 82°24′W - 24°15′N, 82°17′W, 10′ Ottertrawl, 549-512 m, 26.i.1965, "Gerda" stn 476.— RMNH D 23787, 1 specimen: south of Grand Bahama Island, 26°31′M, 78°51′W - 26°28′N, 78°45′W, 4.ii.1965, "Gerda" stn 503.— RMNH D 37848, 1 specimen: Florida Straits, SE of Florida, 25°03′N 70°45′W - 25°08′N 79°44′W, "Gerda" stn 93, 19.iv.1963.

Samples of East Atlantic *P. acanthonotus* for comparison.— RMNH D 25211, ca. 20 specimens: off Angola, 17°23′S 11°20′E, 24.iii.1968; dredge, 359 m, "Undaunted" 6801, stn 107.— RMNH D 5964, 5 specimens: Spain, Catalan coast, -.v.1935, leg. R. Zariquiey Cenarro.— RMNH D 37940, 501 specimens: Sta. MAU.038, off Mauritania, 18°46′N 16°45′W, depth 260 m, muddy bottom, shrimp, galateids, crabs, flatfish (cynoglossids), scorpaenids (*Helicolenus*), 2.4 m Agassiz trawl, 10.vi.1988.— RMNH D 38730, 1 specimen: Sta. MAU.040, off Mauritania, 18°51′N 16°53′W, depth 500 m, fossil coral debris (Pleistocene *Lophelia*-reef?), pelagic shrimp, macrourids, 3.5 m Agassiz trawl (touched bottom briefly on top of ridge), 10.vi.1988.— RMNH D 38731, 129 specimens: Sta. MAU.039, off Mauritania, 18°48′N 16°43′W, depth 260-280 m, muddy bottom, tubeworms, shrimps, fishes (scorpaenids & macrourids dominating), 3.5 m Agassiz trawl, 10.vi.1988.— RMNH D 38732, 17 specimens: Sta. MAU.061, off Mauritania, 19°09′N 16°52′W, depth 400-750 m, rather steep canyon slope, fishes (mainly macrourids, *Lophius*), pennatulids, large crabs (incl. *Geryon*), small gastropods, small starfish, 2.4 m Agassiz trawl, 12.vi.1988.— RMNH D 38733, 64 specimens: Sta. MAU.133, Mauritania, off Cap Blanc, 20°39′N 17°48′W, depth 400-450 m, mainly fish (*Lophius*, small sharks, congris, soleids, many small macrourids), gastropods (*Xenophora*), crabs (*Paramola*), shrimp (*Pontocaris*), sea anemones on gastropods, 3.5 m Agassiz trawl, 20.vi.1988.— RMNH D 38734, 51 specimens: Sta. MAU.06, off Mauritania, 19°06′N 16°46′W, depth 280-350 m, rather steep continental slope, many irregular sea-urchins, various fish (scorpaenids dominating), crabs, shrimp, *Palinurus*, 2.4 m Agassiz trawl, 12.vi.1988.— RMNH D 38735, 26 specimens: Sta. MAU.132 Mauritania, off Cap Blanc, 20°34′N 17°45′W, depth 305-325 m, mainly ophiuriods (*Ophiothrix*, cf. *Ophioderma*), macrourids, tubeworms, gastropods (*Xenophora*), spidercrabs, holothurians, 3.5 m Agassiz trawl, 20.vi.1988.— RMNH D 41422, 3 specimens: France, dept. Pyrénées orientales, off Banyuls, depth 500-750 m, 23.iv.1964, R.V. "Professeur Lacaze-Duthiers", collected by H. Nouvel.

Sample of *P. holthuisi* for comparison.— RMNH D 6495, 1 specimen (pereiopods 3-5 missing): Spanish Guinea, 2°09′N 9°27′E, "Atlantide" stn 120, 530-850 m, don. Zoological Museum Kobenhavn.

Remarks.— *Plesionika acanthonotus* was described on the basis of one single female specimen with a postorbital carapace length of only 7.9 mm. This specimen was collected at a depth of 223 fms off the coast of South Carolina. In this specimen, the rostrum does not exceed the antennal scale. We compared the description of this specimen with samples of *Plesionika acanthonotus* from Florida Strait (RMNH D 22547, 22453, 22888-895). From these samples it becomes evident that the rostrum increases with the carapace length. This means that in small specimens the rostrum is slightly shorter than the antennal scale, while the rostrum can be almost 1.5 times as long as the antennal scale in larger specimens. These larger specimens agree well with the description of *P. holthuisi* Crosnier & Forest, 1968, which was first described from the

west coast of Africa. Crosnier & Forest (1968) compared specimens of *P. holthuisi* with specimens of *P. acanthonotus* from Pointe Noir in the East Atlantic. The differences are given by Crosnier & Forest (1968: 1141-1143):

1. The rostrum of *P. holthuisi* always distinctly longer than the scaphocerite, while shorter in *P. acanthonotus*.
2. Diameter of the cornea much larger in *P. holthuisi* [ca. third of pocl] than in *P. acanthonotus* [ca. fourth of pocl].
3. Appendages much shorter in *P. holthuisi* than in *P. acanthonotus:*
   a. Third maxilliped reaching with distal half of ultimate segment beyond scaphocerite, while with complete ultimate segment and part of penultimate segment in *P. acanthonotus*.
   b. Third to fifth pereiopod reaching with dactylus and proximal 4/5 to $^1/_2$ of propodus beyond the scaphocerite in *P. holthuisi* while in *P. acanthonotus* it reaches beyond the scaphocerite with the dactylus, propodus and 4/5 to $^1/_2$ of the carpus.

Several samples identified as *P. acanthonotus* from along the East Atlantic coast and western Mediterranean have been checked for these characters and are all in agreement with the differences given by Crosnier & Forest (1968). These characters have also been checked for the Colombian specimens of *P. acanthonotus* and several samples in the RMNH collections taken from the coast of Florida. It seems that in these populations the characters are more variable. Even within one sample these variations were observed:

1. Except for the smallest specimens all specimens have the rostrum longer than the scaphocerite.
2. The diameter of the cornea is about 0.25-0.33 of the pocl.
3. Appendages:
   a. Third maxiliped usually reaching with half the ultimate segment beyond the scaphocerite, in the largest specimens it reaches with the complete ultimate segment and distal part of penultimate segment beyond the scaphocerite.
   b. Third to fifth pereiopods usually reaching with dactylus and most of propodus beyond scaphocerite, in largest specimens reaching beyond scaphocerite with dactylus, propodus and most of carpus.

From this comparison it becomes clear that *P. holthuisi* might be conspecific with *P. acanthonotus*, thus becoming a junior synonym of the latter species. The East Atlantic *P. acanthonotus* populations seem more stable in their characters. As differences in the length of the rostrum and appendages in relation to the scaphocerite seem rather constant, the East Atlantic *P. acanthonotus* could belong to another species. The available names for the East Atlantic specimens are *Pandalus parfaitii* A. Milne Edwards, 1883 (Plate 21) (type locality: *Travailleur* station 48, 41°32'N 13°61'W, depth 1350 m) and *Pandalus geniculatus* A. Milne Edwards, 1883 (Plate 25) (type locality: *Travailleur* station 48, 41°32'N 13°61'W, depth 1350 m). The types of *Pandalus parfaitii* seem to be lost, as Forest & Holthuis (1997: table 1) do not list them. From the figure of *P. parfaittii* it is not possible to decide on its conspecificity with *P. acanthonotus* Smith or the East Atlantic species. The two syntypes of *Pandalus geniculatus* A. Milne Edwards, 1883, of which one has been figured (Forest & Holthuis, 1997: Plate 25), are still extant (MNHN Paris NA 2056).

Pequegnat (1970) recorded *P. holthuisi* from the Gulf of Mexico. These records possibly refer to *P. acanthonotus*. As morphological features do not provide reliable characters to clear the relations between the various Atlantic populations of the nominal species involved, no taxonomic decisions are made here. Phylogenetic study using molecular data could clarify the taxonomic status of these populations.

Plesionika gigliolii (Senna, 1903)
(fig. 1A-C)

Pandalus Gigliolii Senna, 1903: 315, plate 16 figures 5-16 [type locality: off Sardinia, Italy, Mediterranean Sea].

Pandalus subtilirostris Riggio, 1905: 282, 283 [type locality: off Sicily, Italy, Mediterranean Sea].

Pandalus (Nothocaris) ocellus subtilirostris; Riggio, 1906: 169, figs 1-17.

Plesionika gigliolii; de Man, 1920: 106, 111; Zariquiey Cenarro, 1935: 94; Dieuzeide, 1950: 39; Dieuzeide, 1952: 38; Dieuzeide, 1955: 20, 29; Sollaud, 1957: 116; Longhurst, 1958: 91; Maurin, 1961: 5; Maurin, 1962: 190, 197; Maurin, 1965: 175, 177; Zariquiey Alvarez, 1968: 106-108, fig. 44c; Carpine, 1970: 135; Garcia Raso, 1981: 88, fig. 5; Por, 1986: 75; Holthuis, 1987: 225, fig.; García Socias & Massuti Jaume, 1987: 72; Burukovsky, 1988: 40; Martins & Hargreaves, 1991: 53; Fransen, 1991: 173; Biscoito, 1993: 324; Pipitone & Tumbiolo, 1993: 360; Ribeiro-Cascalho, 1993: 129; García Raso, 1996: 735; Koukouras, Kallianotis & Vafidis, 1998: 714; d'Udekem d'Acoz, 1999: 129; Pipitone & Arculeo, 2003: 75.

Plesionika giglioli; Zariquiey, 1946: 64, fig. 69; Dieuzeide & Roland, 1958: 27, 60; Maurin, 1959: 148; Dieuzeide, 1960: 76; Pérès & Picard, 1964: 103;Vivès, 1966: 103; Massuti, 1970: 126.

Material.— 1 ovigerous female pocl. 7.5 mm, INVEMAR CRU4494 E8.

Additional material.— 1 specimen, "Luymes" Saba Bank Exp. Stn 140, Caribbean Sea, 17°12'N 63°43'W, SW slope Saba Bank; 14.vi.1972; Agassiz-trawl; depth 350-600 m; soft bottom.

Description.— Rostrum far overreaching antennal scale in adult specimens, sabre-like, immovably connected to carapace; proximal part straight with slightly elevated dorsal crest with 13 rather large teeth of which 4 on carapace posterior to level of orbital margin, including 3 rather small movable teeth, none with barbed tips, distal upturned part of rostrum with 4 rather shallow teeth decreasing in size distally, widely separated except for distalmost two; rostrum armed ventrally with 7 small shallow teeth in upturned part, decreasing in size towards tip, proximal ventral lamina not expanded.

Orbital margin rather regularly concave with short setae, infraorbital margin rounded. Antennal spine well developed, acute, almost reaching distal margin of basicerite. Anterolateral margin straight. Pterygostomian tooth distinct, smaller than antennal spine.

Abdomen without posteromesial tooth or median dorsal carina on third somite. Pleura of anterior four somites rounded, without marginal denticle, fifth with acute posteroventral tooth and slightly convex ventral margin. Sixth abdominal somite slightly more than twice as long as fifth, about twice as long as maximum height. Telson as long as sixth somite, ending in distinct acute distal protruding tip; with 3 pairs of dorsolateral spinules; posterior margin with 3 pairs of spines, lateral pair submarginal, as long as dorsolateral spines, intermediate pair longest, median pair slightly more than half length of intermediate pair. Uropods as long as telson, slender, exopod with movable distolateral spine.

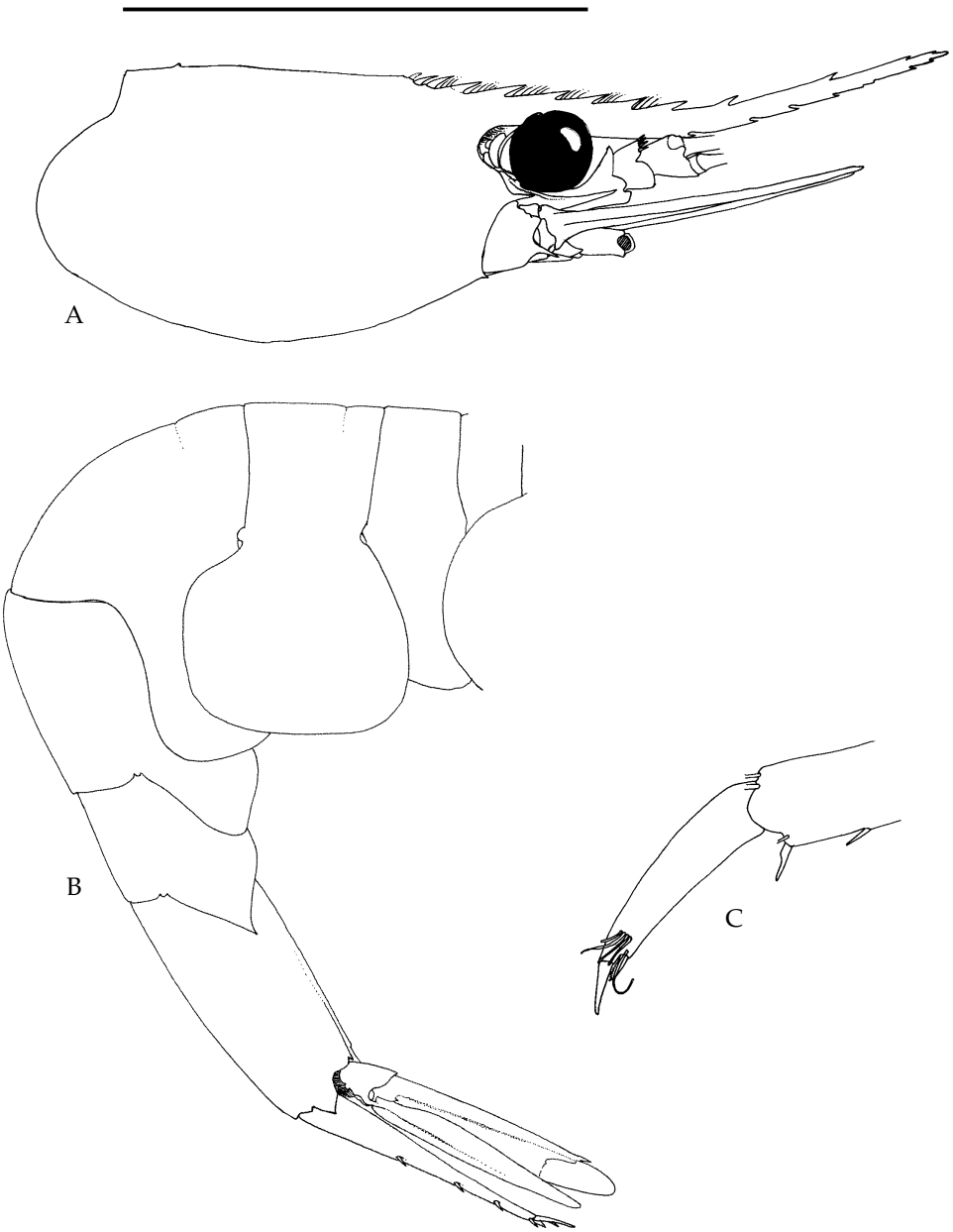

Fig. 1. *Plesionika gigliolii* (Senna, 1903), ovigerous female, pocl. 7.5 mm, INVEMAR CRU4494 E8. A, carapace and anterior appendages, lateral aspect; B, abdomen, lateral aspect; C, dactylus of third pereiopod. Scale: A, B = 10 mm; C = 1.5 mm.

Eye broadly subpyriform, maximum diameter about 1/4th of carapace length, with distinct large ocellus constricted at juncture with cornea.

Basal segment of antennular peduncle with small, ventromesial tooth; stylocerite rather slender, distally acute, reaching distal margin of basal segment in dorsal view; lateral margin straight. Penultimate and ultimate segments about as long as wide. Flagella very long, slender and uniramous.

Basicerite of antennal peduncle short, with strong, acute, distoventral tooth. Ischiocerite and merocerite short, without special features. Carpocerite short, as long as merocerite. Scaphocerite long and slender, 5.2 times longer than maximal width; distolateral tooth distinct, slightly overreaching distal margin of lamina.

Epistome with distinct median carina. Labrum oval.

Paragnath with alae formed by transverse oval distal lobes, anterior margin with few long simple setae; smaller rectangular ventromesial lobes; corpus rather narrow, with two prominent, proximal, submesial, non-setose carinae separated by shallow groove.

Mandible with incisor process with 6 teeth left and 5 right, ventralmost tooth largest. Palp three-segmented, basal segment slender, penultimate segment as long as distal width, widening distally; ultimate segment about as long as basal and penultimate segment together, about twice as long as wide, distally truncate, with many long slender setae.

Maxillula with lower and upper endites well developed; upper endite broad rectangular, with two rows of ca. 25 strong spines; lower endite slender, pointed, with many long simple setae. Palp bilobed, both lobes with few simple setae.

Maxilla with upper endite well developed, bilobed; distal lobe slightly broader than proximal lobe. Lower endite reduced. Palp well developed, proximally broad, tapering distally, with row of setae along proximal part of medial and lateral margins. Scaphognathite with long anterior lobe and rather broad, rounded posterior lobe.

First maxilliped with basal en coxal endites not fused, both medially fringed with long slender setae. Palp slender, with many simple setae.

Second maxilliped with small rectangular dactylar segment, bearing many bristle-like setae and robust spines along median margin; propodal segment oblong with median row of robust spines; carpal segment unarmed; meral segment medially excavate; basal and ischial segments partly fused, medially excavate; coxal segment without special features. Exopod long and slender, about twice length of endopod, with long plumose setae distally. Epipod well developed, with podobranch.

Third maxilliped long and slender, reaching beyond scaphocerite with ultimate segment. Ultimate segment of endopod 0.7 times length of penultimate segment, with many groups of setae along median margin, tip with strong terminal and 4 less robust subterminal spines; penultimate segment 0.6 of basal segment, with many groups of simple setae along median margin; ischiomeral segment reaching halfway scaphocerite, proximally curved, with many groups of simple setae, with distolateral subdistal spine; basal segment short, exopod one third of ischiomeral length; coxal segment with large lamellar epipod, with strap-like epipod. Two arthrobranchs present.

First pereiopod reaching with chela and half of carpus beyond scaphocerite. Chela 0.65 times as long as carpus; fingers small but distinct; dactylus as long as fixed finger,

with small unguis; unguis with two small distal spines; palm with groups of slender long setae in distal half, with many rows of short, stout, serrate setae in proximal part of flexor margin. Carpus unarmed, slender, 0.85 times as long as merus, without serrulate setae in distal part, with few scattered very long simple setae. Merus straight, slender, unarmed, with few setae in proximal part. Ischium short, about 0.16 of merus length, with row of short setae along distal half of mesial margin. Basis and coxa without special features.

Right second pereiopods present, reaching with distal margin of merus halfway scaphocerite. Chela small, simple. Carpus 6.8 times chela length, with 18 segments, distalmost segment distinctly larger than proximal segments. Merus 0.55 of carpus length, unarmed. Ischium as long as merus, proximal half of ventromesial margin with row of curved, flattened simple spines to receive chela when pereiopod folded. Basis and ischium without special features.

Third, fourth and fifth pereiopods similar, very long and slender. Third pereiopod almost reaching tip of rostrum with distal margin of merus. Dactylus and propodus missing. Carpus about 0.63 times as long as merus, very slender, unarmed. Merus with 12 strong spines along ventral margin in two rows. Ischium short, about 0.1 of merus length, armed with one strong ventral spine. Basis and coxa without special features. Merus of fourth pereiopod almost reaching distal tip of scaphocerite, with 8 strong spines along ventrolateral margin; carpus 0.61 times as long as merus, slender, unarmed; propodus 1.1 times longer than carpus, with small ventral spines in distal half; dactylus 0.075 of propodus length, without spines on flexor margin of corpus, with small distal accessory tooth reaching halfway unguis; unguis 0.25 of corpus length. Merus of fifth pereiopod reaching distal margin of antennular peduncle with 7 strong spines along ventrolateral margin.

Distribution.— The species has been recorded from the western Mediterranean Sea and from the northeastern Atlantic. The Columbian specimen and the specimen from the West Indies are the first records of the species from the West Atlantic.

Remarks.— This species is very similar to or might be synonymous with *P. sindoi* which was first described by Rathbun as *Pandalus sindoi* from Hawaii (Rathbun, 1906: 915, pl. 21 fig. 4, type locality: "Albatross" stn 3998, Ukula (= Puolo) Point, Kauai Island, Hawaii, 71°S, 9.7'E, 430-417 m). This species has been recorded from various localities in the Indo-Pacific (see Chace, 1985 (as *P. ocellus*) and Chan & Crosnier, 1997). *P. gigliolii* is also closely related to *Plesionika ocellus* (Bate, 1888) and *P. fimbriata* Chace, 1985.

Plesionika longicauda (Rathbun, 1901)

Pandalus longicauda Rathbun, 1901: 117, fig. 24 (type-locality: "Albatross" stn 2403, Gulf of Mexico, 28°42'30"N, 85°29'W, 161 m).

Parapandalus longicauda; de Man, 1920: 140 (in key); Schmitt, 1935: 138, fig. 12; Pequegnat, 1970: 86; Coelho & Ramos, 1972: 156; Takeda, 1983: 64, photo in colour.

Parapandalus narval; Holthuis, 1951: 68; Holthuis, 1980: 142, pro parte; Crosnier & Forest, 1973: 221, fig. 69a [not *Astacus Narval* Fabricius, 1787].

Plesionika escatilis; Lemaitre & Gore, 1988: 383, figs 1, 2, 3A-J, 4 [Not *P. escatilis* Stimpson, 1860].

Plesionika longicauda; Chan & Crosnier, 1991: 425, figs 4a, 5a-b, d, f, 38, 39; Rodrigues & Hendrickx, 1993: 122, fig.; Poupin, 1994: 25; Ramos-Porto & Coelho, 1998: 341.

Material.— 2 females pocl. 6.2-6.6 INVEMAR CRU4477 E76. 2 females pocl. 5.7, 5.8 mm. INVEMAR CRU4475 E84. 5 females pocl. 5.5-6.3 mm, 1 male pocl. 6.6 INVEMAR CRU4479 E87. 5 females pocl. 6.4-10.4 mm, 2 males pocl. 6.02-6.35 INVEMAR CRU4483 E88. 1 female pocl. 7 mm, 1 male pocl. 5.8 INVEMAR CRU4481 E89. 1 female pocl. 10.72 mm INVEMAR CRU4482 E95. 4 ovigerous females, 17 females pocl. 5.6-11.9, 2 males pocl. 6.4 mm, 2 damaged specimens INVEMAR CRU4476 E96. 1 ovigerous female pocl. 11.2 mm, 21 females pocl. 5.6-11.7 mm, 2 males pocl. 6.6 mm, 4 damaged specimens INVEMAR CRU4478 E97. 3 females pocl. 9.4-10.4 mm, 2 males pocl. 10.1, 10.4 mm INVEMAR CRU4471 E100. 44 females pocl. 5.75-11.05, 17 males pocl. 7.5-13.2 mm INVEMAR CRU4466 E100. 1 female pocl. 7.4 mm INVEMAR CRU4464 E102. 1 male pocl. 7.4 mm INVEMAR CRU4474 E102. 2 females pocl. 6.2-7.2 mm INVEMAR CRU4487 E102. 3 females pocl. 5.9-6.1 mm INVEMAR CRU4472 E112. 2 females pocl. 5.6, 5.7 mm. INVEMAR CRU4485 E112. 1 female pocl. 10.69 mm INVEMAR CRU4468 E113. 1 male pocl. 10.69 mm INVEMAR CRU4469 E118. 2 females pocl. 5.3-6.3 INVEMAR CRU4480 E123. 1 female pocl. 5.3 mm INVEMAR CRU4473 E139. 1 female pocl. 6 mm INVEMAR CRU4486 E 140. 2 ovigerous females pocl. 12.2-12.3 INVEMAR CRU4465 E162. 1 ovigerous female pocl. 12.74 INVEMAR CRU4467 E162. 1 ovigerous female pocl. 12.45 mm, 1 male pocl. 11.6 mm INVEMAR CRU4470 E163. 3 females pocl. 5.9-6.7, 2 males pocl. 7.2-7.9 INVEMAR CRU4484 E164.

Diagnosis.— Rostrum long and slender, upward-curved, 1.7-2.1 times as long as carapace, basal part horizontal, armed dorsally throughout length with 36-60 teeth, including 3-5 on carapace posterior to level of orbital margin, none movable, with basal suture or with barbed tips, armed ventrally with 25-40 teeth; orbital margin straight oblique dorsally with row of slender moderately long setae, convex in ventral part; abdomen without posteromedian tooth or median dorsal carina on third somite, fourth somite with pleuron rounded, without marginal denticle, fifth somite with pleuron tapering to strong posteroventral tooth, sixth somite slightly more than twice as long as fifth, 2.7 times longer than maximum height; telson slightly shorter than sixth somite, with 3-4 pairs of dorsolateral spines, including pair adjacent to lateral pair of posterior spines; eye broudly subpyriform, maximum diameter about 0.25 of carapace length, ocellus subcircular or transversely oval, in broad contact with cornea; stylocerite broadly acute, hardly reaching level of dorsal arc of distal margin of basal antennular segment; scaphocerite 5-6 times longer than wide, distolateral tooth slightly overreaching distal lamina; third maxilliped without epipod, penultimate segment 1.3-1.5 times longer than terminal segment; pereiopods without epipods, second pair subequal with 18-26 carpal articles; third pereiopod overreaching scaphocerite by lengths of dactylus, propodus and carpus, dactylus about 0.07-0.10 times propodus length, accessory spine distinct and situated posterior to unguis, 3 distal segments, combined, 2.5-3.0 times as long as carapace, none of pereiopods extremely slender or thread-like; third pleopod with exopod about half as long as carapace;

Distribution.— Western Atlantic: Gulf of Mexico, Caribbean Sea, coast of the Guyana's south to the Espirito Santo Bank, Brazil. East Atlantic: from south of Senegal to Angola. In depths between 55 and 500 m on soft muddy bottoms.

Plesionika willesi (Pequegnat, 1970)

Parapandalus willesi Pequegnat, 1970: 87-90, figs 9, 10 (type locality: northeastern Gulf of Mexico, 384 m, "Alaminos" station 68-A-7-9A); Wenner & Boesch, 1979: 110, 124, 131, figs 2c-d, 4a, 6c; Wenner & Read, 1982: 186;Williams, 1984: 484.

Plesionika willesi; Nizinski, 2003: 111.

Material.— 1 male pocl. 8.5 mm, 2 females pocl. 8.5 and 9 mm INVEMAR CRU4488 E112. 11 females pocl. 7.6-10.8 mm, 6 males pocl. 7.7-9.2 mm INVEMAR CRU4491 E112. 1 female pocl 9.5 mm INVEMAR CRU4489 E113. 2 males pocl 8.1-9.5 mm INVEMAR CRU4490 E113.

Diagnosis.— Rostrum far overreaching antennal scale, more than twice as long as postorbital carapace length, armed dorsally throughout length with 12-15 teeth, including 1 on carapace posterior to level of orbital margin, posteriormost tooth small, with incomplete basal suture, separated by wide space from distal teeth on rostrum proper, none with barbed tips, armed ventrally with 18-22 teeth; dorsal carina extending to midpoint of carapace; posterior dorsal tubercle present; orbital margin strongly convex and distinctly protruding in ventral part, nearly vertical in dorsal half with row of many short setae; abdominal segments without posteromesial tooth nor carina on third somite, fourth with pleuron rounded, fifth somite with strong posteroventral tooth on pleuron, sixth somite 2.5-2.8 times as long as maximum height; telson about 0.7 of length of sixth abdominal somite, with 4 pairs of dorsolateral spines, including pair adjacent to lateral pair of posterior spines; eye very broadly subpyriform, maximum diameter nearly third of carapace length, ocellus absent; stylocerite acute, barely overreaching level of dorsal arc of distal margin of basal antennular segment; scaphocerite 4-5 times as long as wide, distolateral tooth distinctly overreaching distal margin of lamina; third maxilliped with epipod, penultimate segment slightly shorter or longer than terminal segment; pereiopods without epipods, second pair subequal, with 17-19 carpal articles, third to fifth pair overreaching antennal scale by lengths of dactylus and propodus, carpus and distal part of merus, carpus short, about 0.15 of merus length.

Distribution.— West Atlantic: Virginia, Gulf of Mexico, off French Guyana and along South American coast at 7°36'N 54°42'W. In depths between 274 and 472 m depth.

Remarks.— This species has been described in the genus *Parapandalus* Borradaile, 1899. In 1985, Chace synonymized the genus *Parapandalus* with *Plesionika* Bate, 1888.

Key to the Atlantic species of *Plesionika* (EA = East Atlantic; WA = West Atlantic)

1. Without strap-like epipods on coxae of any pereiopods 2
- Strap-like epipods on at least 2 anterior pairs of pereiopods 6
2. Dorsal lamina of rostrum with more than 30 closely set teeth at regular distances ... 3
- Dorsal lamina with less than 30 teeth at variable distances, divided in two groups, the basal group separated from teeth on the rostrum proper by a distinct gap 4
3. Epipod well developed at third maxilliped . ***Plesionika narval*** (Fabricius, 1787); EA
- Epipod absent or rudimentary at third maxilliped ..... ***Plesionika longicauda*** (Rathbun, 1901); E+WA
4. Distance between proximalmost dorsal rostral tooth and second tooth about the same as between second and third tooth 5
- Distance between proximalmost dorsal rostral tooth and second tooth more than twice distance between second and third tooth ..... ***Plesionika willisi*** (Pequegnat, 1970): WA
5. Merus of third pereiopod reaching or overreaching pterygostomian tooth; rostrum

strongly sinuous ..... ***Plesionika miles*** (A. Milne Edwards, 1883); WA
- Merus of third pereipod not reaching pterygostomian tooth; rostrum slightly sinuous, almost straight ..... ***Plesionika brevipes*** Crosnier & Forest, 1968; EA
6. Second pereiopods very unequal, left much longer than right pereiopod 7
- Second pereiopods equal 9
7. Proximal rostral teeth articulating; 9 or more dorsal teeth on rostrum proper 8
- Proximal rostral teeth not articulating; less than 7 teeth on rostrum proper ..... ***Plesionika laevis*** (A. Milne Edwards, 1883); WA
8. Merus, carpus and chela of left second pereiopod and carpus and dactylus of right second pereiopod overreaching scaphocerite; dactylus of third to fifth pereiopods long ..... ***Plesionika heterocarpus*** (Costa, 1871); EA
- Distal margin of merus of left second pereiopod and fingers of right second pereiopod just reaching distal margin of scaphocerite; dactylus of third to fifth pereiopods short ..... ***Plesionika antigai*** Zariquiey Alvarez, 1955; EA
9. Dorsal lamina of rostrum with teeth over entire length 10
- Dorsal lamina or rostrum with few teeth at base only 15
10. Rostrum more than twice carapace length 11
- Rostrum less than twice carapace length 12
11. Rostrum with dorsal teeth more widely spaced proximally than distally; with 40-55 ventral teeth ..... ***Plesionika edwardsii*** (Brandt, 1851); E+WA
- Rostrum with evenly spaced dorsal teeth; with about 70 ventral teeth ..... ***Plesionika longipes*** (A. Milne Edwards, 1881); WA
12. Eye without ocellus; ventral lamina of rostrum developed, broad 13
- Eye with distinct ocellus; ventral lamina of rostrum not developed ..... ***Plesionika gigliolii*** (Senna, 1903); E+WA
13. Rostrum with 8-10 dorsal teeth, group of 2-4 posteriormost mobile teeth distinctly separated from fixed teeth on rostrum proper; ventral margin of rostrum with 6-10 small teeth ..... ***P. tenuipes*** (Smith, 1881); WA
- Rostrum with 13-17 dorsal teeth; posterior mobile teeth not separated from fixed teeth; ventral margin of rostrum with 3-8 small teeth 14
14. Rostrum shorter than scaphocerite ..... ***Plesionika 'acanthonotus'***; EA
- Rostrum longer than scaphocerite ..... ***Plesionika acanthonotus*** (Smith, 1882); WA, and ***Plesionika holthuisi*** Crosnier & Forest, 1968; EA
15. Posterior margin of third abdominal segment produced or with median tooth 16
- Posterior margin of third abdominal segment straight 18
16. 8 to 11 ventral rostral veeth; sixth abdominal segment twice as long as fifth 17
- 28 to 45 ventral rostral teeth; sixth abdominal segment about 2.5 times as long as fifth ..... ***Plesionika ensis*** (A. Milne Edwards, 1881); E+WA
17. Posterior margin of third abdominal segment with median small tooth or angular ..... ***Plesionika williamsi*** Forest, 1964; E+WA
- Posterior margin of third abdominal segment produced but rounded ..... ***Plesionika macropoda*** Chace, 1939; WA
18. Basis of fourth pereiopod without epipod; carapace strongly carinate postero-laterally 19
- Basis of fourth pereiopod with epipod; carapace without lateral carinae ..... ***Plesionika martia*** (A. Milne Edwards, 1881): E+WA

19. Distal part of ventral margin of rostrum devoid of teeth; 6 or 7 dorsal rostral teeth ..... ***Plesionika carinata*** Holthuis, 1951; EA
- Distal part of ventral margin of rostrum with teeth; 5 (seldom 4 or 6) dorsal rostral teeth 20
20. Dorsal rostral teeth minute, very shallow ..... ***Plesionika rossignoli*** Crosnier & Forest, 1968; EA
- Dorsal rostral teeth well developed ..... ***Plesionika polyacanthomerus*** L.H. Pequegnat, 1970; WA

From the Atlantic coast of Colombia 10 species of *Plesionika* are known. Four species that have been recorded in the West Atlantic are not represented in the present collection: *Plesionika macropoda* Chace, 1939; *Plesionika martia* (A. Milne Edwards, 1883); *Plesionika polyacanthomerus* Pequegnat, 1970; and *Plesionika williamsi* Forest, 1964. A total of 21 species have been recognized in the tropical to temperate Atlantic waters.

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