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A preliminary assessment of the deep-sea Decapoda collected during the KARUBENTHOS 2015 Expedition to Guadeloupe Island

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Abstract

A preliminary assessment of the deep-sea Decapoda is proposed for Guadeloupe Island based solely on high definition macro photographs taken during the KARUBENTHOS 2015 Expedition to the Island (R/V *Antea*, 7–29 June 2015). Overall, 190 species are recognized, several of which are depicted with their fresh color for the first time. Previous records in the Lesser Antilles are documented and the geographic distribution of the species in these Islands is given. The historical contribution of the steamer *Blake* (1878–1879) in the Lesser Antilles is emphasized. All species inventoried during KARUBENTHOS 2015 were already reported in the western Atlantic but 34 of them are new records for the Lesser Antilles and 116 are reported for the first time from Guadeloupe Island. This preliminary inventory is estimated to include about 38% of the deep-sea Decapoda potentially occurring around Guadeloupe Island.

Résumé

Une estimation préliminaire de la faune des décapodes marins de profondeur autour de la Guadeloupe est proposée à partir des macrophotographies en haute définition prises au cours de la mission KARUBENTHOS 2015 autour de cette île (N/O *Antea*, 7–29 juin 2015). Au total 190 espèces sont identifiées, plusieurs illustrées en couleur pour la première fois. Les signalements antérieurs aux Petites Antilles sont documentés et la distribution des espèces dans ces îles est donnée. La contribution historique du vapeur *Blake* (1878–1879) aux Petites Antilles est mise en évidence. Toutes les espèces de l'inventaire KARUBENTHOS 2015 sont déjà connues de l'Atlantique occidentale avec cependant 34 nouveaux signalements pour les Petites Antilles et 116 nouveaux signalements pour la Guadeloupe. Il est estimé que cet inventaire préliminaire représente environ 38% des espèces de profondeur potentiellement présentes autour de la Guadeloupe.

Key words: Lesser Antilles, Guadeloupe, Crustacea, Decapoda, deep-sea species, ecology, inventory, MPAs

Introduction

Guadeloupe Island, 16°16'N, 61°34'W, is a French 'Département' in the Leeward Islands of the Lesser Antilles, Caribbean Sea. Its deep-sea decapod fauna (i.e., the species usually collected at >100 m) was studied in the early 1990s during a commercial assessment of shrimps, lobsters and crabs. These investigations were conducted jointly by the Institut Français pour l'Exploration de la Mer (IFREMER), the Institut de Recherche pour le Développement (IRD, ex. ORSTOM) and the Institut Régional de la Pêche et de la Marine (IRPM, Guadeloupe) on board the R/V *Polka* (Paulmier 1993; Poupin 1994). Fishing operations were conducted with traps set between 100–800 m. The crustacean collection is deposited in the Muséum national d'Histoire naturelle, Paris (MNHN) with a total of 85 decapod species recognized, 37 illustrated in their living coloration. Three new crabs from these collections were also described: *Cymonomus leblondi* Tavares, 1994, *Neopilumnoplax gervaini* Tavares & Guinot, 1996, and *Paragalene danieleae* Tavares & Melo, 2010.

In July 2015, the KARUBENTHOS 2015 Expedition on board the R/V *Antea* provided a new opportunity to again sample the decapods around the island. This expedition was organized jointly by the Muséum national d'Histoire naturelle, Paris, the National Park of Guadeloupe, and the Université des Antilles et de la Guyane, with the support by GENAVIR and IRD. It was sponsored by the CNRS/INEE, the AGOA marine mammals MPA of French Antilles, the European Regional Fund (FEDER), the Conseil Régional de la Guadeloupe, and the Grand Port Maritime de la Guadeloupe (GPMG). The objective of the expedition was an inventory of the deep-sea invertebrates around the Island, including the Crustacea Decapoda.

The purpose of the present contribution is to give a preliminary report of the results obtained during KARUBENTHOS 2015, prior to more exhaustive systematic studies of the collection of Decapoda. This process is usually very long, including a sorting workshop, determinations of specimens, labeling and registration in Paris MNHN collection and publications of taxonomic revisions, usually for limited taxa within the Decapoda. Instead, this work presents together all the higher taxa of decapods collected during the expedition into a single synthetic contribution which can serve as a starting point for subsequent systematic studies. The bibliographic research associated with the determinations also gives an insight into the past deep-sea expeditions to Guadeloupe Island and more generally to the Lesser Antilles. A brief historical overview of the major deep-sea expeditions in the Lesser Antilles is therefore presented.

Methods

The R/V *Antea* (Fig. 1a), a 35 m long catamaran of the French oceanographic fleet (GENAVIR), was used for KARUBENTHOS 2015. The expedition was scheduled in two legs, leg 1 (1–20 June), led by L. Corbari, and leg 2 (21–29 June), led by P. Bouchet. In total 159 stations were sampled around Guadeloupe, Désirade, Marie-Galante and Saintes Islands, including 130 operated with a Waren dredge (Fig. 1b) and 29 with a benthic beam trawl (Fig. 1c). A 50–900 m depth range was explored, with most operations (146) being made between 100–900 m. Several shallow-water species are also listed in the inventory deriving from 13 stations made between 50–100 m (e.g., *Brachycarpus biunguiculatus*). The list of all stations, including a dynamic map of geographical positions around the islands can be accessed via the MNHN Survey List (MNHN Expeditions 2016; <http://expeditions.mnhn.fr/campaign/karubenthos2015>).

The specimens collected were fixed in alcohol and stored in two main drums of 200 liters each. A separate sample of two additional drums of 30 liters each was for vouchers of photographed specimens. The whole collection should be sorted during a workshop organized by Paris MNHN staff, probably in 2017 or in 2018.

As far as possible, depending on the time available between fishing operations, the specimens were photographed for purpose of determination by using macro photographs. All the shots were made on fresh specimens with their live coloration, before preservation. When necessary, for example for species with spines arranged both on dorsal and lateral sides of the carapace, the shots were realized under several angles including close up views of dorsal and lateral faces of carapace and abdomen, tailfan, and front (Fig. 1d–f). The white balance was usually set on ‘Flash’ with a color temperature around 6,000°K. A total of about 1400 macro photographs were taken during the expedition. Photos presented herein are selected lateral (lobsters and shrimps) and/or dorsal (Anomuran and crabs) views. Additional photos can be accessed via Legall & Poupin (2016) (http://crustiesfroverseas.free.fr/search_result.php?refregion=Karubenthos+II) and MNHN Crustacea (2016) (<https://science.mnhn.fr/institution/mnhn/collection/iu/item/search/form>).

The references listed for each species are limited to those that mention places of occurrence in the Lesser Antilles, including: a) Virgin Islands (VGI) from St Thomas, St Croix to Virgin Gorda, Anegada; b) Islands of the Caribbean arc (ICA) from Anguilla, Saba to Tobago, Trinidad; and c) Islands off Venezuela (IOV), from Testigos, Margarita to Curaçao, Aruba (Fig. 2). For easier location of places of collection, the latitude and longitude given in several taxonomic contributions have been translated to the closest island(s) to that position. For example, R/V *Oregon* station at 16°53'N, 61°53'W, indicated for *Cardus crucifer* in Galil (2000), is situated between Antigua and Montserrat and referred to as ‘Antigua, Montserrat’. For simplification, several islets of the Lesser Antilles are indicated as the nearest main island or group of islands. For example, Sombrero and Dog islets are indicated as ‘Anguilla (Sombrero and/or Dog)’ and Carriacou in the Grenadines as ‘Grenadines (Carriacou)’. When a strait is indicated, the islands bordering the passage are given, i.e., ‘St John, Norman (Flanagan Passage)’ for ‘Flanagan Passage’ in the Virgin Islands.

All specimens examined from photographs have a MNHN number and a voucher for subsequent DNA sequencing. They are listed by station numbers with indication of the gear used, CP for beam trawl (Chalut à Perche) or DW for Waren dredge (Drague Waren). Additional specimens collected in 2012 in shallow to deep-waters around Guadeloupe (0–258 m, KARUBENTHOS 2012 expedition, see discussion) are also listed for species collected again during this study.

For species that cannot be determined confidently based on the macro photographs examined, the most probable species is indicated after a ‘?’ and the closest, but different species, is indicated after ‘aff.’.

Unless otherwise cited after ‘Distribution’ the geographic distribution and depth range are from Felder *et al.* (2009), available for most of the species of this inventory. The detailed distribution within the Lesser Antilles is also given based on the literature cited and new records for Guadeloupe in this contribution.

Acronyms and abbreviations used in this work are: CP4513, ‘Chalut à Perche’ (Beam trawl) n°4513; DW4588, ‘Drague Waren’ (Waren dredge) n°4588; F, female; ICA, islands of the Caribbean arc (from Anguilla, Saba to Tobago, Trinidad); IOV, islands off Venezuela (from Testigos to Aruba); juv., juvenile; M, male; MNHN, Muséum national d’Histoire naturelle, Paris; ov., ovigerous; sp./spp., species; st., station; UF FLMNH, University of Florida, Florida Museum of Natural History, Gainesville; VGI, Virgin Islands (from St Thomas, St Croix to Virgin Gorda, Anegada).



FIGURE 1. Vessel and fishing gears used during KARUBENTHOS 2015 around Guadeloupe Island: a) The R/V *Antea*, 35 m long, docking at Pointe-à-Pitre; b) Waren dredge; c) beam trawl. Examples of macro photographs used for determination, case of a shrimp Glyphocrangonidae: d) dorsal view, e) lateral view, f) close-up view of carapace and rostrum.



FIGURE 2. Guadeloupe Island and surroundings Islands of the Lesser Antilles including Virgin Islands (VGI, magnified inside the oval) from St Thomas, St Croix to Virgin Gorda, Anegada; Islands of the Caribbean arc (ICA), from Anguilla, St Martin, Saba to Tobago, Trinidad; and Islands off Venezuela (IOV), from Testigos, Coche, Margarita to Curaçao, Aruba.

List of species

The species are listed following the classification in De Grave *et al.* (2009) updated in WoRMS (2016). The authorship for the *nomen* Brachyura is from Guinot *et al.* (2013).

ORDER DECAPODA Latreille, 1802

SUBORDER DENDROBRANCHIATA Bate, 1888

Superfamily Penaeoidea Rafinesque, 1815

Family Aristeidae Wood-Mason & Alcock, 1891

Aristaeopsis edwardsiana (Johnson, 1867)

(Fig. 3a)

Plesiopenaeus edwardsianus.—A. Milne-Edwards & Bouvier, 1909: 200 (Nevis).—Rodríguez, 1980: 50 (Aruba).—Poupin, 1994: 19 (Guadeloupe).—Pérez Farfante & Kensley, 1997: 37 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4513, 8 June 2015, 16°12.58'N, 61°53.14'W, 644–406 m, MNHN-IU-2013-18773, 18775; st. CP4522, 9 June 2015, 16°37.6'N, 61°48.3'W, 716–650 m, MNHN-IU-2013-18810; st. CP4617, 25 June 2015, 16°20.98'N, 60°44.95'W, 874–830 m, MNHN-IU-2013-19086; st. CP4619, 25 June 2015, 16°20.98'N, 60°45.96'W, 774–643 m (no MNHN, photo to illustrate variation of rostrum length).

Comment. This species can be confused with *Aristeus antillensis*. The present photographs were determined by comparison with figures in Crosnier & Forest (1973: 293, fig. 98, 98a–b) and Pérez-Farfante & Kensley (1997: 40, fig. 7). The distodorsal margin of the 3rd abdominal tergite has a spine in *A. edwardsiana* while it is without spine in *A. antillensis* (cf. Crosnier & Forest 1973: 291, tab. 8). From color photographs presented herein the live coloration is bright red in *A. edwardsiana* while it is paler in *A. antillensis*. This difference is also illustrated on photographs available in Takeda (1983: 42–43). On the photographs of *A. edwardsiana* examined, the length of the rostrum is rather variable.

Distribution. Eastern and western Atlantic, Indo-West Pacific (Poupin 1994); Lesser Antilles ICA (Nevis, Guadeloupe), IOV (Aruba); 275–1850 m, mostly 400–900 m.

***Aristeus antillensis* A. Milne-Edwards & Bouvier, 1909**

(Fig. 3b)

Aristeus antillensis A. Milne-Edwards & Bouvier, 1909: 201 (Nevis).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4512, 8 June 2015, 16°12.57'N, 61°53.54'W, 532–409 m, MNHN-IU-2013-18778; st. CP4524, 10 June 2015, 16°30.17'N, 61°42.4'W, 550–500 m, MNHN-IU-2013-18791 (rostrum with only 2 dorsal proximal spines), 18793; st. CP4619, 25 June 2015, 16°20.98'N, 60°45.96'W, 774–643 m, MNHN-IU-2013-19089. *Aristeus* ?*antillensis* (rostrum shorter), st. CP4617, 25 June 2015, 16°20.98'N, 60°44.95'W, 874–830 m, MNHN-IU-2013-19082; st. CP4643, 28 June 2015, 15°44.98'N, 61°11.07'W, 609–611 m, MNHN-IU-2013-19159, 19160.

Comment. *Aristeus antillensis* was already reported from Lesser Antilles but this is the first record for Guadeloupe. According to Roberts & Pequegnat (1970: 47) it is closely related to *A. antennatus* (Risso, 1816) from the eastern Atlantic, Mediterranean and also Indian Ocean. A good figure of *A. antennatus* is in Pérez-Farfante & Kensley (1997: 40, fig. 9) showing similar morphology to photographs examined (rostrum, abdomen). The photos examined herein were determined by comparison with the photo of *A. antillensis* in Takeda (1983: 43). Roberts & Pequegnat (1970) have indicated that previous characters used for separating the species of the genus *Aristeus* vary intraspecifically and that there is no reliable key for the species. However, identification of *A. antillensis* is not a problem in this case, being the single species in the region (Gulf of Mexico and also Antilles, French Guiana). Morphological variations have been observed in photographs examined, including rostrum length (as also observed for *Aristaeopsis edwardsiana*) and armature. Because of these variations, three photographs showing specimens with a very short rostrum (MNHN 19082, 19159, 19160) are attributed with hesitation to *A. ?antillensis*. Photograph MNHN 18791 shows abnormal armature on the dorsal margin of the rostrum, with only 2 proximal spines instead of 3 in *A. antillensis* but the overall general morphology of the specimen is that of *A. antillensis*. Another specimen of *A. antillensis* (with the 3 typical spines on the rostrum) was sampled at the same station (MNHN 18793, st. CP4524). Therefore, this variation (2 or 3 proximo-dorsal spines on the rostrum) is probably in the range of intraspecific variations indicated for *A. antillensis* by Roberts & Pequegnat (1970).

Distribution. Delaware to French Guiana, Gulf of Mexico, Caribbean Sea; Lesser Antilles, ICA (Nevis, Guadeloupe); 324–746 m.

Family Benthescymidae Wood-Mason in Wood-Mason & Alcock, 1891

***Benthescymus bartletti* Smith, 1882**

(Fig. 3c)

Benthescymus pleocanthus Bate, 1888: 334, Anguilla (off Sombbrero).

Benthescymus bartletti.—A. Milne-Edwards & Bouvier, 1909: 189 (St Croix, Dominica, St Lucia).—Faxon, 1896: 163 (Guadeloupe, Dominica, St Vincent, Grenada, Barbados).—Paulmier, 1993: 11 (Guadeloupe, Martinique).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).—Gervain *et al.*, 2002: 12 (Guadeloupe).



FIGURE 3. Shrimps Dendrobranchiata. a) *Aristaeopsis edwardsiana*, st. CP4513, 406–644 m, MNHN-IU-2013-18775; b) *Aristeus antillensis*, st. CP4524, 500–550 m, MNHN-IU-2013-18793; c) *Benthescymus bartletti*, st. CP4644, 835–898 m, MNHN-IU-2013-19174; d) *Penaeus ?brasiliensis*, st. CP4529, 176–183 m, MNHN-IU-2013-18879; e) *Parapenaeus politus*, st. CP4648, 368–388 m, MNHN-IU-2013-19192; f) *Penaeopsis serrata*, st. CP4588, 251–416 m, MNHN-IU-2013-18987; g) *Sicyonia burkenroadi*, st. DW4597, 208–210 m, MNHN-IU-2013-19027; h) *Hymenopenaeus debilis*, st. CP4643, 609–611 m, MNHN-IU-2013-19165; i) *Solenocera* aff. *acuminata*, st. CP4623, 182–217 m, MNHN-IU-2013-19102; j) *Solenocera necopina*, st. CP4648, 368–388 m, MNHN-IU-2013-19195.

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4617, 25 June 2015, 16°20.98'N, 60°44.95'W, 874–830 m, MNHN-IU-2013-19084; st. CP4618, 25 June 2015, 16°22.74'N, 60°45.86'W, 780–828 m, MNHN-IU-2013-19093; st. CP4644, 28 June 2015, 15°46.96'N, 61°5.11'W, 898–835 m, MNHN-IU-2013-19174.

Comment. This species can be easily identified by the shape of its rostrum and the presence of a spine on the 5th abdominal tergite (see Roberts & Pequegnat 1970: 41).

Distribution. Indo-Pacific, Eastern and western Atlantic; Lesser Antilles, VGI (St Croix), ICA (Anguilla, Guadeloupe, Dominica, Martinique, St Lucia, St Vincent, Grenada, Barbados); 609–5777 m.

Family Penaeidae Rafinesque, 1815

Penaeus ?brasiliensis (Latreille, 1817)

(Fig. 3d)

Penaeus brasiliensis.—Sharp, 1893: 109 (St Martin).—Schmitt, 1924a: 61 (Curaçao); 1935: 128 (St Thomas); 1936: 364 (Curaçao).—Holthuis, 1959: 76 (St Martin).—Chace & Hobbs, 1969: 53 (St Thomas, St Croix).

Penaeus (Melicertus) brasiliensis.—Pérez-Farfante, 1969: 526 (St Thomas, St Croix, Tobago, Trinidad, Margarita, Curaçao, Aruba).—Chace, 1972: 9 (Barbuda, Antigua, Guadeloupe, Tobago).—Rodríguez, 1980: 56 (Margarita).

Penaeus (Farfantepenaeus) brasiliensis.—Carré, 2005: 23 (Martinique).

Farfantepenaeus brasiliensis.—Hernández *et al*, 1999: tab. 1 (Margarita).—Hernández-Ávila *et al.*, 2007: tab. 1 (Cubagua).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4529, 11 June 2015, 16°24.4'N, 61°33.68'W, 176–183 m, MNHN-IU-2013-18879; st. CP4623, 26 June 2015, 15°55.72'N, 61°31.02'W, 217–182 m, MNHN-IU-2013-19101.

Comment. The photograph determination is based on presence of faint red patches at juncture of 3rd and 4th abdominal tergites as illustrated for *P. brasiliensis* in Takeda (1983: 43). However, based on the key characters in Pérez Farfante (1969) *Penaeus notialis* (Pérez Farfante, 1967) is another potential candidate and the specimens photographed must be checked for a positive identification. This species is classified herein under *Penaeus* s.l. (instead of *Farfantepenaeus* Burukovsky, 1997) following the morphological and the molecular data presented by Ma *et al.* (2011).

Distribution. Bermuda, North Carolina to Florida Strait, Gulf of Mexico, Caribbean Sea to Brazil; Lesser Antilles, VGI (St Thomas, St Croix), ICA (Barbuda, Antigua, Guadeloupe, Martinique, Tobago), IOV (Margarita, Cubagua, Curaçao, Aruba); 1–275 m.

Parapenaeus politus (Smith, 1881)

(Fig. 3e)

Neopenaeopsis paradoxus Bouvier, 1905a: 747 (Antilles, R/V *Blake*, 84–91 fathoms).

Parapenaeus politus.—Paulmier, 1993: 10 (Martinique).—Poupin, 1994: 18 (Guadeloupe).—Carré, 2005: 23 (Martinique).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4543, 13 June 2015, 16°39.83'N, 61°33.03'W, 385–399 m, MNHN-IU-2013-18908; st. DW4588 or CP4588, 21 June 2015, 16°1.85'N, 61°24'W, 416–251 m, MNHN-IU-2013-18990; st. CP4624, 26 June 2015, 15°56.23'N, 61°30.67'W, 242–243 m, MNHN-IU-2013-19108; st. CP4648, 29 June 2015, 16°2.31'N, 61°27.3'W, 388–368 m, MNHN-IU-2013-19192.

Comment. In the photographs the aspect of carapace and rostrum is as in Williams (1984: 38, fig. 19); there are 7 dorsal teeth on rostrum which keys out to *P. longirostris* (= *P. politus* in the Western Atlantic) in Roberts & Pequegnat (1970: 48). The analogous species in the eastern Atlantic and Mediterranean is *Parapenaeus longirostris* (Lucas, 1846), illustrated in Pérez Farfante & Kensley (1997: 122, fig. 72).

Distribution. Massachusetts to Gulf of Mexico, Antilles, Caribbean Sea to French Guiana; Lesser Antilles, ICA (Guadeloupe, Martinique); 21–330 m.

***Penaeopsis serrata* Spence Bate, 1881**

(Fig. 3f)

Penaeopsis serratus.—A. Milne-Edwards & Bouvier, 1909: 221 (St Kitts, Barbados).

Penaeopsis serratus var. *antillensis* A. Milne-Edwards & Bouvier, 1909: 226 (St Kitts, Barbados).

Parapenaeus megalops.—Faxon, 1896: 163 (St Kitts, Grenada, Barbados).

Penaeopsis serrata.—Pérez Farfante, 1980a: 748 (Virgin Islands, Anguilla, Saba, St Kitts (St Christopher), Guadeloupe, Dominica, St Lucia, Barbados, Trinidad, Tobago, Los Testigos, Bonaire, Curaçao).—Paulmier, 1993: 9 (Guadeloupe).—Poupin, 1994: 18 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4588 or CP4588, 21 June 2015, 16°1.85'N, 61°24'W, 416–251 m, MNHN-IU-2013-18987; st. CP4643, 28 June 2015, 15°44.98'N, 61°11.07'W, 609–611 m, MNHN-IU-2013-19162; st. CP4648, 29 June 2015, 16°2.31'N, 61°27.3'W, 388–368 m, MNHN-IU-2013-19191.

Comment. This species is common in the Lesser Antilles, already sampled off Guadeloupe (Poupin 1994). The photographs examined match very well figures given for this species in Pérez Farfante (1980a).

Distribution. Massachusetts to Brazil, eastern Atlantic; Lesser Antilles, VGI, ICA (Anguilla, Saba, St Kitts, Guadeloupe, Dominica, St Lucia, Barbados, Grenada, Tobago, Trinidad), IOV (Testigos, Bonaire, Curaçao); 120–750 m, mostly 300–450 m (Poupin 1994).

Family Sicyoniidae Ortmann, 1898

***Sicyonia burkenroadi* Cobb, 1971**

(Fig. 3g)

Sicyonia burkenroadi.—Pérez Farfante & Kensley, 1997: 155 ('West Indies, Caribbean coast of Central America').

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4555, 15 June 2015, 16°23.53'N, 60°49.67'W, 258–100 m, MNHN-IU-2013-18937; st. DW4597, 22 June 2015, 15°55.47'N, 61°23.48'W, 210–208 m, MNHN-IU-2013-19027; st. DW4613, 25 June 2015, 16°24.16'N, 60°50.1'W, 210–240 m, MNHN-IU-2013-19066; st. CP4623, 26 June 2015, 15°55.72'N, 61°31.02'W, 217–182 m, MNHN-IU-2013-19104.

Comment. This is the first record of this species in Lesser Antilles. A key to the western Atlantic species of *Sicyonia* is available in Pérez-Farfante (1980b) and a figure of *Sicyonia burkenroadi* is in Williams (1984: 46, fig. 27). KARUBENTHOS specimens have the characteristic red/white color patch on lateral side of carapace, illustrated in Takeda (1983: 48). This color mark is reduced in specimen MNHN 19104 but its general morphology is that of *S. burkenroadi*.

Distribution. North Carolina to Gulf of Mexico, Antilles, Caribbean Sea to Brazil; Lesser Antilles, ICA (Guadeloupe); 29–585 m.

Family Solenoceridae Wood-Mason in Wood-Mason & Alcock, 1891

***Hymenopenaeus debilis* Smith, 1882**

(Fig. 3h)

Hymenopenaeus debilis.—Pérez-Farfante, 1977: 268 (Anguilla (Sombrero, Dog Islands), Saba, Antigua, Guadeloupe, Dominica, St Lucia, St Vincent).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4522, 9 June 2015, 16°37.6'N, 61°48.3'W, 716–650 m, MNHN-IU-2013-18813; st. CP4617, 25 June 2015, 16°20.98'N, 60°44.95'W, 874–830 m, MNHN-IU-2013-19085; st. CP4618, 25 June 2015, 16°22.74'N, 60°45.86'W, 780–828 m, MNHN-IU-2013-19092; st. CP4643, 28 June 2015, 15°44.98'N, 61°11.07'W, 609–611 m, MNHN-IU-2013-19165; st. CP4644, 28 June 2015, 15°46.96'N, 61°5.11'W, 898–835 m, MNHN-IU-2013-19176.

Comment. The determination is based on the presence of two postrostral teeth, separated from the rostral

teeth, and eye diameter of about 22% carapace length (Roberts & Pequegnat 1970: 29). This species has a long flagelliform pereopod 5, illustrated in Pérez Farfante & Kensley (1997: 171, fig. 118). This appendage is fragile and missing on the specimens photographed. *Hymenopenaeus debilis* resembles *Hymenopenaeus aphoticus* Burkenroad, 1936, also occurring in the region, but is distinguished by 1 or 2 distal spines on distoventral margin of rostrum while this part is smooth in *H. aphoticus* (cf. Pérez-Farfante 1977: fig. 3, 10).

Distribution. New Jersey to Guyana, Azores, eastern Atlantic; Lesser Antilles, ICA (Anguilla, Saba, Antigua, Guadeloupe, Dominica, St Lucia, St Vincent), IOV (off Venezuela); 300–2163 m.

***Solenocera* aff. *acuminata* Pérez Farfante & Bullis, 1973**

(Fig. 3i)

Solenocera acuminata Pérez Farfante & Bullis, 1973: 8 (Virgin Gorda, Saba, St Kitts (St Christopher), Trinidad, Aruba).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4623, 26 June 2015, 15°55.72'N, 61°31.02'W, 217–182 m, MNHN-IU-2013-19102.

Comment. The photographs are tentatively attributed to *Solenocera* aff. *acuminata* based on the armature of the dorsal margin of the rostrum (1 epigastric spine + 7 rostral spines) and lateral aspect of the carapace and abdomen. Following Pérez-Farfante & Bullis (1973: 3, key) the two best candidates are *Solenocera vioscai* Burkenroad, 1934 and *S. acuminata* Pérez Farfante & Bullis, 1973. The former is still unreported from the Lesser Antilles whereas the latter is common there (Pérez-Farfante & Bullis 1973: fig. 18). Pérez-Farfante & Bullis (1973: fig. 4) gave a whole figure of *S. acuminata* and a color photo of this species is in Takeda (1983: 46). Overall, the KARUBENTHOS specimen is similar but with a different aspect to the dorsal carina of the 6th abdominal somite, limited to the posterior 2/3 of the segment with an elongated posterior spine, instead of the carina being entire with short posterior spine in *S. acuminata*. The color pattern indicated for both *S. vioscai* and *S. acuminata* in Pérez-Farfante & Bullis (1973: 14) is also different from the fresh color illustrated herein (Fig. 3i). *Solenocera acuminata*, as illustrated in color by Takeda (1983: 46) has the same white marks at the base of pleopods than for the KARUBENTHOS specimen, but its color pattern on the carapace and abdomen is different. The specimen must be examined to check other key characters in Pérez-Farfante & Bullis (1973). Because of its coloration and the special shape of dorsal carina of 6th abdominal somite, this is perhaps a new species.

Distribution. (for *S. acuminata*) Bahamas, Caribbean Sea to French Guiana (Pérez Farfante & Kensley 1997); VGI (Virgin Gorda), Lesser Antilles, ICA (Saba, St Kitts, Trinidad), IOV (Aruba); 31–180 m, occasionally to 622 m (Pérez Farfante & Bullis 1973).

***Solenocera necopina* Burkenroad, 1939**

(Fig. 3j)

Solenocera necopina.—Pérez-Farfante & Bullis, 1973: 14 (Virgin Gorda, Guadeloupe, Barbados, Los Testigos).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4517, 9 June 2015, 16°24.4'N, 61°34'W, 178–185 m, MNHN-IU-2013-18814; st. CP4532, 11 June 2015, 16°30.06'N, 61°37.54'W, 367–362 m, MNHN-IU-2013-18832; st. CP4569, 17 June 2015, 16°17.25'N, 60°59.78'W, 359–250 m, MNHN-IU-2013-18948; st. CP4648, 29 June 2015, 16°2.31'N, 61°27.3'W, 388–368 m, MNHN-IU-2013-19195.

Comment. The determination is based on the shape of the rostrum, with 6 teeth on dorsal margin, and aspect of carapace and abdomen as described in Pérez-Farfante & Bullis (1973: 14, fig. 7). The specimen MNHN 19195 is bright red, whereas other specimens are pale yellow, but the distribution pattern of the white patches at tip of antennae and on tailfan is similar.

Distribution. North Carolina to Florida, Bahamas, Caribbean Sea to Uruguay; Lesser Antilles, VGI (Virgin Gorda), ICA (Guadeloupe, Barbados), IOV (Los Testigos); 90–550 m.

Superfamily Sergestoidea Dana, 1852

Family Sergestidae Dana, 1852

***Sergia ?hansjacobi* Vereshchaka, 1994**

Sergia hansjacobi.—Vereshchaka, 1994: 11, fig. 2 (between St Croix, Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4644, 28 June 2015, 15°46.96'N, 61°5.11'W, 898–835 m, MNHN-IU-2013-19172.

Comment. The KARUBENTHOS photograph is attributed with reservation to *Sergia hansjacobi* based on the shape of its rostrum, aspect of the carapace, with one dorsodistal spine on the 6th abdominal tergite, and previous regional records. Vereshchaka (1994: 75) gives a key that can be used later to check this preliminary identification with the specimen.

Distribution. Western Atlantic; Lesser Antilles, VGI (St Croix), ICA (Guadeloupe); 500–1000 m.

***Sergia ?robusta* (Smith, 1882)**

Sergestes robustus.—Faxon, 1896: 163 (Martinique, Grenada).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4524, 10 June 2015, 16°30.17'N, 61°42.4'W, 550–500 m, MNHN-IU-2013-18802.

Comment. KARUBENTHOS specimen is attributed with hesitation to *S. robusta*, to be checked with key in Vereshchaka (1994: 75). The shape of its rostrum matches to this species as illustrated in Pérez Farfante & Kensley (1997: 198, fig. 140) but *Sergia grandis* (Sund, 1920) can also be considered.

Distribution. Eastern and western Atlantic, Mediterranean; Lesser Antilles, ICA (?Guadeloupe, Martinique, Grenada); 100–900 m.

INFRAORDER STENOPODIDEA Bate, 1888

Family Stenopodidae Claus, 1872

***Richardina spinicineta* A. Milne-Edwards, 1881**

(Fig. 5a)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4644, 28 June 2015, 15°46.96'N, 61°5.11'W, 898–835 m, MNHN-IU-2013-19177.

Comment. Overall KARUBENTHOS specimen is similar to *R. spinicineta*, a species described from eastern Atlantic (Bay of Biscay) and also found later southwest of the Dry Tortugas, Florida, at a depth of 455–655 m (Goy 1982: 344). However, the distoventral margin of its rostrum is smooth whereas this part is distally dentate in *R. spinicineta* and also in *Richardina fredericii* Lo Bianco, 1903, a related species in the Mediterranean Sea (see Macpherson 1978). According to J. Goy that has examined the KARUBENTHOS specimen while this study was in press (pers. com. October 15, 2016), variation observed for sp. MNHN 19177 is in the range of variations observed for *Richardina spinicineta*. The genus *Richardina* includes currently three other species in the Pacific (Saito & Komatsu, 2009; Goy, 2015)..

Distribution. Florida Keys and eastern Atlantic; Lesser Antilles, ICA (Guadeloupe); 400–1230 m.

INFRAORDER CARIDEA Dana, 1852

Superfamily Pasiphaeoidea Dana, 1852

Family Pasiphaeidae Dana, 1852

***Pasiphaea merriami* Schmitt, 1931**

(Fig. 4a)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4608, 24 June 2013, 16°15.02'N, 60°50.8'W, 618–632 m, MNHN-IU-2013-19047.

Comment. This is the first record of a *Pasiphaea* in the Lesser Antilles. The shape of the rostrum, lateral aspect of the carapace, and dorsal aspect of the abdomen of the specimen photographed corresponds to *Pasiphaea merriami* Schmitt, 1931 as figured in Iwasaki (1990: fig. 1a, as *Pasiphaea nishiei* sp. nov., a junior synonym in Hayashi 2004), Hayashi (2004: fig. 12a–d), and Tavares & Cardoso (2006: fig. 1a). *Pasiphaea poeyi* Chace, 1939 is also present in the Greater Antilles, off Cuba, 400–1110 m (Chace 1939; Iwasaki 1990). These two *Pasiphaea* are included in the *Pasiphaea cristata* Bate, 1888 species group studied by Hayashi (2004). His key must therefore be consulted with the specimen to confirm the present identification. However, according to remarks and figures in Hayashi (2004) *Pasiphaea merriami* can be recognized herein on the photographs by the carinated aspect visible on dorsal somites 5–6, while these are ‘smooth ... with no trace of carina’ in *P. poeyi*.

Distribution. Eastern Florida to Gulf of Mexico, Caribbean Sea to Suriname; also Brazil (Tavares & Cardoso 2006); Lesser Antilles, ICA (Guadeloupe); 280–3206 m

Superfamily Oplophoroidea Dana, 1852

Family Acanthephyridae Spence Bate, 1888

Acanthephyra armata A. Milne-Edwards, 1881

(Fig. 4c)

Acanthephyra armata A. Milne-Edwards, 1881: 12 (St Lucia).—A. Milne-Edwards, 1883, pl. 33 (St Lucia; cf. Forest & Holthuis 1997: 59).—Faxon, 1896: 162 (St Croix, Nevis).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4512, 8 June 2015, 16°12.57'N, 61°53.54'W, 532–409 m, MNHN-IU-2013-18783; st. CP4522, 9 June 2015, 16°37.6'N, 61°48.3'W, 716–650 m, MNHN-IU-2013-18811; st. CP4617, 25 June 2015, 16°20.98'N, 60°44.95'W, 874–830 m, MNHN-IU-2013-19083; st. CP4644, 28 June 2015, 15°46.96'N, 61°5.11'W, 898–835 m, MNHN-IU-2013-19173.

Comment. The photographs are attributed confidently to *Acanthephyra armata*, a species described from the Lesser Antilles (St Lucia). The determination is made by comparison with figure in A. Milne-Edwards (1883: pl. 33, fig. 1) and color photograph in Takeda (1983: 55).

Distribution. Gulf of Mexico, Caribbean Sea, Indo-West Pacific; Lesser Antilles, VGI (St Croix), ICA (Nevis, Guadeloupe, St Lucia); 365–2880 m.

Acanthephyra purpurea A. Milne-Edwards, 1881

(Fig. 4d)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4644, 28 June 2015, 15°46.96'N, 61°5.11'W, 898–835 m, MNHN-IU-2013-19175.

Comment. This is a first record for Lesser Antilles but this is a common bathypelagic shrimp of the western Atlantic. Determination is made by comparison with figure in A. Milne-Edwards (1883: pl. 33, fig. 3) and color photograph in Takeda (1983: 57).

Distribution. North Atlantic, Gulf of Mexico, Caribbean Sea, Suriname, French Guiana; Lesser Antilles, ICA (Guadeloupe); 302–3292 m.

Family Oplophoridae Dana, 1852

Oplophorus gracilirostris A. Milne-Edwards, 1881

(Fig. 4e)

Oplophorus gracilirostris A. Milne-Edwards, 1881: 6 (Dominica).—A. Milne-Edwards, 1883, pl. 30 (Dominica; cf. Forest & Holthuis 1997: 55).—Paulmier, 1993: 12 (Martinique).—Poupin, 1994: 20 (Guadeloupe).

Hoplophorus gracilirostris.—Faxon, 1896: 161 (Dominica, St Vincent, Grenada, Grenadines (Bequia)).
Oplophorus gracilipes (sic).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).



FIGURE 4. Shrimps Caridea. a) *Pasiphaea merriami*, st. CP4608, 618–632 m, MNHN-IU-2013-19047; b) *Eugonatonotus crassus*, st. DW4630, 428–379 m, MNHN-IU-2013-19125; c) *Acantheephyra armata*, st. CP4522, 650–716 m, MNHN-IU-2013-18811; d) *Acantheephyra purpurea*, st. CP4644, 835–898 m, MNHN-IU-2013-19175; e) *Oplophorus-gracilirostris*, st. CP4513, 406–644 m, MNHN-IU-2013-18771; f) *Systellaspis pellucida*, st. CP4524, 500–550 m, MNHN-IU-2013-18800; g) *Systellaspis debilis*, st. CP4643, 609–611 m, MNHN-IU-2013-19157; h) *Styloactylus serratus*, st. CP4617, 830–874 m, MNHN-IU-2013-19087; i) *Nematocarcinus cursor*, st. CP4522, 650–716 m, MNHN-IU-2013-18809; j) *Psalidopus barbouri*, st. CP4522, 650–716 m, MNHN-IU-2013-18806.

Present record. Guadeloupe, KARUBENTHOS 2015, st. CP4513, 8 June 2015, 16°12.58'N, 61°53.14'W, 644–406 m, MNHN-IU-2013-18771.

Comment. This species was already collected with traps around Guadeloupe at 220–575 m (Poupin 1994). The photographs match very well figures in A. Milne-Edwards (1883: pl. 30, upper figure), Paulmier (1993: pl. 3, fig. 4), Takeda (1983: 54), Campos *et al.* (2005: 56, fig. 27–28).

Distribution. Gulf of Mexico, Bahamas to Brazil, western Africa, Indo-Pacific; Lesser Antilles, ICA (Guadeloupe, Dominica, Martinique, St Vincent, Grenada, Grenadines); 100–2400 m.

***Systellaspis debilis* (A. Milne-Edwards, 1881)**

(Fig. 4g)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4643, 28 June 2015, 15°44.98'N, 61°11.07'W, 609–611 m, MNHN-IU-2013-19157.

Comment. This is the first record for the Lesser Antilles but this is a common pelagic shrimp worldwide. The photographs were determined by comparison with drawings of *Systellaspis debilis* in Crosnier & Forest (1973: 87, fig. 26b, 27b), and Crosnier (1987: 715, fig. 9a–h), shape of the rostrum, carapace and abdomen being in accordance. The bright red color of *Systellaspis debilis*, already illustrated for a specimen captured in the Tuamotu (Legall & Poupin 2016: http://crustiesfroverseas.free.fr/search_result.php?gename=Systellaspis), is useful to separate it from *Systellaspis pellucida* (also collected during KARUBENTHOS, see below).

Distribution. Greenland, eastern and western Atlantic, South Africa, Indo-Pacific; Lesser Antilles, ICA (Guadeloupe); 150–4594 m.

***Systellaspis pellucida* (Filhol, 1885)**

(Fig. 4f)

Acantheephyra affinis Faxon, 1896: 162 (Grenada).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4524, 10 June 2015, 16°30.17'N, 61°42.4'W, 550–500 m, MNHN-IU-2013-18800.

Comment. A common pelagic shrimp in the world's oceans, already reported from the Lesser Antilles. The photographs were determined by comparison with drawings in Crosnier & Forest (1973: 92, fig. 26c, 27c), Crosnier (1987: 720, fig. 14a–b), and black and white photos in Campos *et al.* (2005: 59, fig. 29–30). The fresh color of this species is much paler than in *S. debilis*.

Distribution. Gulf of Mexico, Bahamas to Brazil, western Africa, Indo-Pacific; Lesser Antilles, ICA (Guadeloupe, Grenada); 101–3700 m (Legall & Poupin 2016).

Superfamily Nematocarcinoidea Smith, 1884

Family Eugonatonotidae Chace, 1937

***Eugonatonotus crassus* (A. Milne-Edwards, 1881)**

(Fig. 4b)

Gonatonotus crassus A. Milne-Edwards, 1881: 10 (Grenada).—A. Milne-Edwards, 1883, pl. 34 (Grenada).

Eugonatonotus crassus.—Chan & Yu, 1991: 149 (Guadeloupe, Grenada).—Paulmier, 1993: 12 (Guadeloupe, Martinique).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).—Poupin, 1994: 26 (Guadeloupe).—Gervain *et al.*, 2002: 16 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4536 or CP4536, 12 June 2015, 16°40.57'N, 61°27.55'W, 347–323 m, MNHN-IU-2013-18884; st. DW4538, 12 June 2015, 16°38.58'N, 61°31.64'W, 338–320 m, MNHN-IU-2013-18911; st. DW4630, 27 June 2015, 15°48.07'N, 61°28.81'W, 428–379 m, MNHN-IU-2013-19125; st. CP4648, 29 June 2015, 16°2.66'N, 61°28.32'W, 367–389 m, MNHN-IU-2013-19196.

Comment. This species was described from the Lesser Antilles with a drawing in A. Milne-Edwards (1883: pl. 34). Photographs were easily recognized based on general morphology (rostrum, carapace, abdomen). This shrimp was previously captured and photographed off Guadeloupe (e.g., Paulmier 1993: 12, pl. 4, fig. 1–3). This is the sole species of the genus in the tropical western Atlantic but Chan & Yu (1991) have described a second species in the western Pacific and eastern Indian Ocean, *E. chacei* Chan & Yu, 1991, with color illustrations of both species.

Distribution. Georgia to Gulf of Mexico, Caribbean Sea to French Guiana; Lesser Antilles, ICA (Guadeloupe, Martinique, Grenada); 162–914 m.

Family Nematocarcinidae Smith, 1884

Nematocarcinus cursor A. Milne-Edwards, 1881

(Fig. 4i)

Nematocarcinus cursor A. Milne-Edwards, 1881: 14 (Lesser Antilles).—A. Milne-Edwards, 1883, pl. 37 (Antilles).—Faxon, 1896: 160 (Nevis, Guadeloupe, Martinique, St Vincent, Barbados).—Crosnier & Forest, 1973: 105 (Nevis).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4522, 9 June 2015, 16°37.6'N, 61°48.3'W, 716–650 m, MNHN-IU-2013-18809; st. CP4617, 25 June 2015, 16°20.98'N, 60°44.95'W, 874–830 m, MNHN-IU-2013-19081.

Comment. Photographs were determined with the key in Pequegnat (1970: 69), and the key, figures, and remarks in Crosnier & Forest (1973: 98, fig. 29b, 30j–m, 31c–d, table V). The closest species is *Nematocarcinus rotundus* Crosnier & Forest, 1973 a species also known from the Lesser Antilles (off Nevis and Montserrat, R/V Albatross, st 2751, 16°54'N, 63°12'W, 1250 m). From the photographs, the two species can be separated by the shape and armature of the rostrum and by the aspect of 5th abdominal pleuron, pointed in *N. cursor*, versus rounded, in *N. rotundus*.

Distribution. North Carolina to Gulf of Mexico, Antilles, northern South America, western Africa; Lesser Antilles, ICA (Nevis, Guadeloupe, Martinique, St Vincent, Barbados); 542–1943 m.

Superfamily Psalidopodoidea Wood-Mason *in* Wood-Mason & Alcock, 1892

Family Psalidopodidae Wood-Mason *in* Wood-Mason & Alcock, 1892

Psalidopus barbouri Chace, 1939

(Fig. 4j)

Psalidopus barbouri.—Chace & Holthuis, 1978: 3 (Anegada, St Barthélemy, Saba, St Eustatius, St Kitts (St Christopher), Antigua, Dominica, ?St Lucia, off Venezuela, between Testigos to Curaçao, Aruba).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4522, 9 June 2015, 16°37.6'N, 61°48.3'W, 716–650 m, MNHN-IU-2013-18806.

Comment. The photographs were identified following the figures and photos in Chace & Holthuis (1978) and Campos *et al.* (2005). This ‘bizarre’ shrimp is currently the single species of the genus *Psalidopus* in the western Atlantic (Chace & Holthuis 1978). Two additional *Psalidopus* species are reported in the Indo-West Pacific (WoRMS 2016).

Distribution. Eastern Florida to Gulf of Mexico, Bahamas, Caribbean Sea; Lesser Antilles, VGI (Anegada), ICA (St Barthélemy, Saba, St Eustatius, St Kitts, Antigua, Guadeloupe, Dominica), IOV (Testigos, Curaçao, Aruba); 412–750 m.

Superfamily Stylodactyloidea Bate, 1888

Family Stylodactylidae Bate, 1888

Stylodactylus rectirostris A. Milne-Edwards, 1883

Stylodactylus rectirostris A. Milne-Edwards, 1883, pl. 35 (St Lucia).—Cleva, 1990: 168 (St Lucia).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4538 or CP4538, 12 June 2015, 16°38.58'N, 61°31.64'W, 338–320 m, MNHN-IU-2013-18913; st. CP4543, 13 June 2015, 16°39.83'N, 61°33.03'W, 385–399 m, MNHN-IU-2013-18907; st. DW4554, 15 June 2015, 16°20.98'N, 60°55.57'W, 370–300 m, MNHN-IU-2013-18920; st. DW4611, 24 June 2013, 16°19.27'N, 60°51.68'W, 263–242 m, MNHN-IU-2013-19057; st. CP4614, 25 June 2015, 16°23.15'N, 60°49.63'W, 270–260 m, MNHN-IU-2013-19058; st. CP4617, 25 June 2015, 16°20.98'N, 60°44.95'W, 874–830 m, MNHN-IU-2013-19087.

Comment. The photographs were identified by using the description and figures in Cleva (1990a). In this species the lower margin of the rostrum is denticulated only on its distal half instead of almost all the margin as in *Stylodactylus serratus*, a related species also collected during KARUBENTHOS.

Distribution. Florida Strait to Yucatan Channel, Bahamas, Antilles; Lesser Antilles, ICA (St Lucia, Guadeloupe); 155–530 m.

Stylodactylus serratus A. Milne-Edwards, 1881

(Fig. 4h)

Stylodactylus serratus A. Milne-Edwards, 1881: 11 (Dominica).—A. Milne-Edwards, 1883, pl. 36 (35II) (Nevis, Dominica, Martinique, St Vincent).—Faxon, 1896: 159 (Nevis, Martinique).—Cleva, 1990: 166 (Dominica).—Cleva & Van Wormhoudt, 2006: 352 (Montserrat, Dominica, Martinique, St Vincent).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4507, 7 June 2015, 16°12.57'N, 61°52.64'W, 750–700 m, MNHN-IU-2013-18853; st. CP4617, 25 June 2015, 16°20.98'N, 60°44.95'W, 874–830 m, MNHN-IU-2013-19087.

Comment. This species is affiliated with *S. rectirostris* but occurs in deeper water. Determinations of the photographs were based on the aspect of the lower margin of the rostrum, denticulated almost entirely (only distal half in *S. rectirostris*). Another species occurring in the western Atlantic is *Stylodactylus profundus* Cleva, 1990b, which can be separated from *S. serratus* by the denticulation of its rostrum (compare Cleva 1990b: 86, fig. 2a, for *S. profundus*, with Cleva & Van Wormhoudt 2006: 352, fig. 3, for *S. serratus*) and by a spine at the posteroventral angle of the 5th abdominal pleuron (Cleva 1990b: 83, key; fig. 2b), rounded in *S. serratus* (Cleva 1990b: 83, key).

Distribution. West Indies, eastern Atlantic (Cleva & Van Wormhoudt 2006); Lesser Antilles, ICA (Nevis, Montserrat, Guadeloupe, Dominica, Martinique, St Vincent); 576–1800 m.

Superfamily Palaemonoidea Rafinesque, 1815

Family Palaemonidae Rafinesque, 1815

Brachycarpus biunguiculatus (Lucas, 1846)

Macrobrachium savignyi.—Schmitt, 1924a: 72 (Curaçao).—Schmitt, 1924b: 83 (Barbados).

Brachycarpus biunguiculatus.—Schmitt, 1935: 157 (Curaçao).—Holthuis, 1952: 6 (Tortuga, Barbados, Curaçao).—Chace, 1972: 18 (Tortola, Barbuda, Saba Bank, Nevis, Antigua).—Rodríguez, 1980: 113 (Los Roques).—Rodríguez, 1986, tab. 2 (Los Roques).—Carré, 2005: 23 (Martinique).

Present records. Guadeloupe, Karubenthos 2015, st. DW4545, 14 June 2015, 16°30.17'N, 61°31.41'W, 82–60 m, MNHN-IU-2013-18942.

Comment. The unique photograph was identified based on shape and armature of the rostrum, and proportions of first and second pereopods (compared with Holthuis 1952, pl. 1, fig. a–c). *Brachycarpus holthuisi* Fausto Filho, 1996 is another species of the genus in the western Atlantic (Brazil). The two can be differentiated (cf. Chace 1972: 18, key) by the length of the carpus of the first pereopod, slightly longer than chela, in *B. biunguiculatus* (verified on the photo), instead of only half as long as chela, in *B. holthuisi*. Giraldez *et al.* (2015) illustrated two different

color patterns for these two species; the fresh color of the KARUBENTHOS specimen matches *Brachycarpus biunguiculatus*. This is a shallow-water species rarely collected beyond 100 m. It is widespread in all tropical areas. It is also reported herein from St Martin for the first time from A. Anker/G. Paulay collections (pers. com. and photos, St Martin, 17–19/04/2012, specimen UF32244, 32254, 32250, 32286).

Distribution. Pantropical; Lesser Antilles, VGI (Tortola), ICA (St Martin, Barbuda, Saba, Nevis, Antigua, Guadeloupe, Martinique, Barbados), IOV (Tortuga, Los Roques, Curaçao); 1–105 m.

***Periclimenaeus bermudensis* (Armstrong, 1940)**

(Fig. 5b)

Periclimenaeus bermudensis.—Rodríguez, 1980: 93 (Los Roques).—Carvacho, 1982: 17 (Martinique).—Rodríguez, 1986, tab. 2 (Los Roques).—Hernández-Ávila *et al.*, 2007: appendix (Cubagua).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4535, 12 June 2015, 16°39.34'N, 61°31.85'W, 75–88 m, MNHN-IU-2013-18863; st. DW4545, 14 June 2015, 16°30.17'N, 61°31.41'W, 82–60 m, MNHN-IU-2013-18947.

Comment. Shape and armature of the rostrum, aspect of larger and smaller chela of 2nd pereopods, and armature of the telson visible on the single photograph examined match well with *P. bermudensis* as figured in the original description (Armstrong 1940: 4, fig. 2a, d, e, i). The smaller chela of 2nd pereopod has the fingers longer than the palm, as indicated in Chace (1972: 25, key of *Periclimenaeus*). This is the first record for Guadeloupe. This is a shallow-water species with the depth range extended herein from 20 m to 75–88 m.

Distribution. Bermuda, Florida Keys, Veracruz, Bahamas; Lesser Antilles, ICA (Guadeloupe, Martinique), IOV (Cubagua, Los Roques); 0–88 m.

***Periclimenes ?pandionis* Holthuis, 1951**

(Fig. 5c)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4558, 15 June 2015, 16°21.98'N, 60°48.72'W, 385–312 m, MNHN-IU-2013-18941; st. CP4624, 26 June 2015, 15°56.23'N, 61°30.67'W, 242–243 m, MNHN-IU-2013-19109; st. CP4595 (indicated 4535 on photos but probably 4595 instead based on MNHN number and date of photo), 22 June 2015, 15°58.65'N, 61°21.95'W, 211–208 m, MNHN-IU-2013-19015; st. DW4626, 26 June 2015, 15°56.84'N, 61°37.11'W, 210–233 m, MNHN-IU-2013-19120.

Comment. X. Li has tentatively suggested *P. ?pandionis* for these photographs but with differences in finger's length of 2nd pereopod. Specimen MNHN 19120 has a distinct color pattern with transverse red bands on the abdomen and belongs perhaps to a second species. *Periclimenes pandionis* is still not formally reported from the Lesser Antilles.

Distribution. (For *P. pandionis*) Eastern Florida to Gulf of Mexico; ?Lesser Antilles, ICA (Guadeloupe, 208–385 m); 176 m.

Superfamily Alpheoidea Rafinesque, 1815

Family Hippolytidae Bate, 1888

***Tozeuma serratum* A. Milne-Edwards, 1881**

(Fig. 5d)

Tozeuma serratum A. Milne-Edwards, 1881: 16 (Barbados).—A. Milne-Edwards, 1883, pl. 29 (Barbados).—Schmitt, 1924b: 83 (Barbados).—Chace, 1972: 141 (Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4511, 8 June 2015, 16°13.9'N, 61°51.5'W, 660–630 m, MNHN-IU-2013-18891 (with hesitation); st. DW4555, 15 June 2015, 16°23.53'N, 60°49.67'W, 258–100 m,



FIGURE 5. Shrimps Caridea. a) *Richardina spinicineta*, st. CP4644, 835–898 m, MNHN-IU-2013-19177; b) *Periclimenaeus bermudensis*, st. DW4535, 75–88 m, MNHN-IU-20137-18863; c) *Periclimenes ?pandionis*, st. CP4595, 208–211 m, MNHN-IU-2013-19015; d) *Tozeuma serratum*, st. DW4555, 100–258 m, MNHN-IU-2013-18936; e) *Parapontocaris caribbaea*, st. CP4532, 362–367 m, MNHN-IU-2013-18831; f) *Parapontocaris ?vicina*, st. CP4513, 406–644 m, MNHN-IU-2013-18765; g) *Philocheras ?gorei*, st. DW4578, 119–250 m, MNHN-IU-2013-18978; h) *Glyphocrangon aculeata*, st. CP4644, 835–890 m, MNHN-IU-2013-19168; i) *Glyphocrangon haematonotus*, st. CP4608, 618–632 m, MNHN-IU-2013-19049; j) *Glyphocrangon longleyi*, st. CP4513, 406–644 m, MNHN-IU-2013-18764; k) *Glyphocrangon neglecta*, st. CP4512, 409–532 m, MNHN-IU-2013-18785; l) *Glyphocrangon spinicauda*, st. CP4648, 368–388 m, MNHN-IU-2013-19194.

Comment. This is the first record for Guadeloupe but the species was already reported from the Lesser Antilles. The determination is based on figures given in A. Milne-Edwards (1883, pl. 29) and Williams (1984: 140, fig. 98). The rostrum is characteristic and there is a dorsal carina on the 3rd abdominal somite. This is a shallow to deep-water species with its maximum depth range extended herein from 102 m to at least 164–258 m. Specimen MNHN 18891 must be examined carefully because its collection depth at 630–660 m is well beyond 164–258 m.

Distribution. Massachusetts to Florida, Gulf of Mexico, Colombia, Barbados. Also Brazil (Christoffersen 1982); Lesser Antilles, ICA (Guadeloupe, Barbados); 4 to 164–258 m (possibly to 630–660 m).

Superfamily Pandaloidea Haworth, 1825

Family Pandalidae Haworth, 1825

***Heterocarpus ensifer* A. Milne-Edwards, 1881**

(Fig. 6a)

Heterocarpus ensifer A. Milne-Edwards, 1881: 8 (Barbados).—A. Milne-Edwards, 1883, pl. 27 (St Kitts).—Faxon, 1896: 161 (St Kitts, Montserrat, Grenada).—Crosnier, 1988: 98 (Guadeloupe, Barbados).—Paulmier, 1993: 14 (Guadeloupe, Martinique).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).—Poupin, 1994: 21 (Guadeloupe).—Gervain *et al.*, 2002: 13 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4524, 10 June 2015, 16°30.17'N, 61°42.4'W, 550–500 m, MNHN-IU-2013-18798; st. DW4588, 21 June 2015, 16°1.85'N, 61°24'W, 416–251 m, MNHN-IU-2013-18985.

Comment. The photographs were easily determined by using figures in A. Milne-Edwards (1883: pl. 27) and previous color photographs for specimens from Guadeloupe (Paulmier 1993: 14, pl. 7, fig. 1–3). The abdomen has two remarkable dorsodistal spines on somites 3–4. Crosnier (1988) was also consulted for related species and a key of the genus *Heterocarpus*.

Distribution. Western and eastern Atlantic, western Indian Ocean, western and Central Pacific; Lesser Antilles, ICA (St Kitts, Montserrat, Guadeloupe, Martinique, Barbados, Grenada) (Crosnier 1988); 140–950 m.

***Heterocarpus laevigatus* Bate, 1888**

(Fig. 6b)

Heterocarpus laevigatus.—Paulmier, 1993: 15 (Guadeloupe, Martinique).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).—Poupin, 1994: 22 (Guadeloupe).—Gervain *et al.*, 2002: 14 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4619, 25 June 2015, 16°20.98'N, 60°45.96'W, 774–643 m, MNHN-IU-2013-19090.

Comment. The photographs were determined by comparison with previous color photographs from Guadeloupe (Paulmier 1993: 15, pl. 9, fig. 1–3; Poupin 1994: 22, pl. 1b). Key characters have also been checked in Crosnier (1988).

Distribution. Western and eastern Atlantic, Indo-West Pacific; Lesser Antilles, ICA (Guadeloupe, Martinique) (Crosnier 1988; Poupin 1994); 302–1156 m, mostly 500–800 m.

***Heterocarpus oryx* A. Milne-Edwards, 1881b**

(Fig. 6c)

Heterocarpus oryx.—Paulmier, 1993: 15 (Guadeloupe, Martinique).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).—Poupin, 1994: 22 (Guadeloupe).—Gervain *et al.*, 2002: 15 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4617, 25 June 2015, 16°20.98'N, 60°44.95'W, 874–830 m, MNHN-IU-2013-19080.

Comment. This species resembles *Heterocarpus laevigatus* but it has spines on the dorsal margin of rostrum and on abdominal tergites 3–5 while these parts are unarmed in *H. laevigatus*. The photographs were also determined by comparison with previous color photographs for Guadeloupe in Paulmier (1993: 15, pl. 11 fig. 3, pl. 12 fig. 1–3).

Distribution. Gulf of Mexico to northern Brazil; Lesser Antilles, ICA (Guadeloupe, Martinique); 649–1774 m.

***Plesionika acanthonotus* (Smith, 1882)**

(Fig. 6f)

Plesionika acanthonotus.—Paulmier, 1993: 17 (Martinique).—Poupin, 1994: 22, (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4618, 25 June 2015, 16°22.74'N, 60°45.86'W, 780–828 m, MNHN-IU-2013-19094; st. CP4643, 28 June 2015, 15°44.98'N, 61°11.07'W, 609–611 m, MNHN-IU-2013-19163.

Comment. The rostrum of KARUBENTHOS specimens match well with *Pandalus geniculatus* A. Milne-Edwards, 1883 (pl. 25), a species known from Portugal, 1350 m (Udekem d'Acoz 1999: 129), currently considered as a synonym of *Plesionika acanthonotus* (Smith, 1882). However, Crosnier (in Poupin 1994: 23) has indicated that specimens from Guadeloupe differ from *P. acanthonotus* in several aspects and are more closely related to *P. geniculatus*. Additional specimens collected during KARUBENTHOS 2015 should be useful to re-instate *P. geniculatus* or to confirm the current synonymy.

Distribution. South Carolina to Gulf of Mexico, Caribbean Sea to Brazil, eastern Atlantic, Mediterranean Sea; Lesser Antilles, ICA (Guadeloupe, Martinique); 190–1353 m.

***Plesionika edwardsii* (Brandt, 1851)**

(Fig. 6d)

Plesionika edwardsii.—Kensley & Tobias, 1985: 241 (St Croix).—Paulmier, 1993: 17 (Guadeloupe, Martinique).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).—Poupin, 1994: 23 (Guadeloupe).—Gervain *et al.*, 2002: 29 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4536 or CP4536, 12 June 2015, 16°40.57'N, 61°27.55'W, 347–323 m, MNHN-IU-2013-18883.

Comment. The photographs were determined by comparison with previous color photos for Guadeloupe (Paulmier 1993: 17, pl. 13, fig. 3–4, pl. 14, fig. 1). The armature of the rostrum is in accordance with the key in Pequegnat (1970: 90). Chan & Crosnier (1997: fig. 23, specimen from the Tuamotus) also illustrated this species in color showing the same characteristic longitudinal stripes on the lateral faces of the abdomen.

Distribution. Massachusetts to the Gulf of Mexico, eastern Atlantic, Mediterranean Sea, Indo-Pacific; Lesser Antilles, VGI (St Croix), ICA (Guadeloupe, Martinique); 50–850 m (mostly 200–400 m).

***Plesionika ensis* (A. Milne-Edwards, 1881)**

(Fig. 6e)

Acanthephyra ensis A. Milne-Edwards, 1881: 14 (Barbados).

Pandalus ensis.—A. Milne-Edwards, 1883, pl. 18 (Barbados; cf. Forest & Holthuis 1997: tab. 1).—Faxon, 1896: 161 (Martinique, Grenada).

Plesionika ensis.—Paulmier, 1993: 18 (Guadeloupe, Martinique).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).—Poupin, 1994: 24 (Guadeloupe).—Gervain *et al.*, 2002: 30 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4609, 24 June 2013, 16°15.29'N, 60°48.42'W, 535–673 m, MNHN-IU-2013-19054.

Comment. The distodorsal spine on the 3rd abdominal tergite that is characteristic of *P. ensis* is not clear on the photo examined and must be checked with the specimen(s). Other characters, such as armature of the rostrum, pereopods not reaching the tip of the rostrum and 6th abdominal somite long (more than twice as long as the 5th somite) are those of *P. ensis* (see also *Plesionika martia*). The fresh color pattern also matches previous color photographs of this species from off Guadeloupe (Paulmier 1993: pl. 15, fig. 1, 4; Legall & Poupin 2016, photo from R/V *Polka*, not included in Poupin 1994).

Distribution. Eastern Florida to eastern Gulf of Mexico and Brazil, eastern Atlantic, Indo-Pacific; Lesser Antilles, ICA (Guadeloupe, Martinique, Barbados, Grenada); 260–850 m.

***Plesionika holthuisi* Crosnier & Forest, 1968**

(Fig. 6g)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4513, 8 June 2015, 16°12.58'N, 61°53.14'W, 644–406 m, MNHN-IU-2013-18769; st. CP4522, 9 June 2015, 16°37.6'N, 61°48.3'W, 716–650 m, MNHN-IU-2013-18812; st. CP4524, 10 June 2015, 16°30.17'N, 61°42.4'W, 550–500 m, MNHN-IU-2013-18801; st. CP4526, 10 June 2015, 16°28.39'N, 61°44.47'W, 511–484 m, MNHN-IU-2013-18839 (check MNHN number, not clear on photo); st. CP4608, 24 June 2013, 16°15.02'N, 60°50.8'W, 618–632 m, MNHN-IU-2013-19052; st. DW4641, 28 June 2015, 15°45.04'N, 61°10.41'W, 626–621 m, MNHN-IU-2013-19152.

Comment. This is the first record for the Lesser Antilles. The determination is based on the length and armature of the rostrum as described in Pequegnat (1970: 90). This species was often present in trawls during KARUBENTHOS 2015, but was not captured with traps and/or dredges during previous fishing campaigns around Guadeloupe and/or Martinique with the R/V *Polka* (Paulmier 1993; Paulmier & Gervain 1994; Poupin 1994).

Distribution. Gulf of Mexico, eastern Atlantic; Lesser Antilles, ICA (Guadeloupe); 479–864 m.

***Plesionika laevis* (A. Milne-Edwards, 1883)**

(Fig. 6h)

Heterocarpus laevis A. Milne-Edwards, 1883, pl. 28 (Martinique).—Bullis & Thomson, 1965: 8 (Saba).—Kensley & Tobias, 1985: 237 (St Croix).

Plesionika laevis.—Paulmier, 1993: 18 (Guadeloupe, Martinique).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).—Poupin, 1994: 24 (Guadeloupe).—Gervain *et al.*, 2002: 31 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4512, 8 June 2015, 16°12.57'N, 61°53.54'W, 532–409 m, MNHN-IU-2013-18782; st. CP4524, 10 June 2015, 16°30.17'N, 61°42.4'W, 550–500 m, MNHN-IU-2013-18790; st. CP4643, 28 June 2015, 15°44.98'N, 61°11.07'W, 609–611 m, MNHN-IU-2013-19156.

Comment. The photographs were identified by comparison with figures in A. Milne-Edwards (1883: pl. 28), Crosnier (1986: 364, fig. 1c–d), and previous color photographs from Guadeloupe (Paulmier 1993: pl. 17, fig. 1–3; Poupin 1994: pl. 1d). The analogous species in the central Pacific, with very similar morphology and color pattern, is *Plesionika fenneri* Crosnier, 1986.

Distribution. Cuba and Lesser Antilles, VGI (St Croix), ICA (Saba, Guadeloupe, Martinique) (Poupin 1994); 270–600 m, mostly around 500 m.

***Plesionika longicauda* (Rathbun, 1901)**

(Fig. 6i)

Plesionika longicauda.—Paulmier, 1993: 20 (Guadeloupe).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).—Poupin, 1994: 25 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4595, 22 June 2015, 15°58.65'N, 61°21.95'W, 211–208 m, MNHN-IU-2013-19016.



FIGURE 6. Shrimps Pandalidae. a) *Heterocarpus ensifer*, st. CP4524, 500–550 m, MNHN-IU-2013-18798; b) *Heterocarpus laevigatus*, st. CP4619, 643–774 m, MNHN-IU-2013-19090; c) *Heterocarpus oryx*, st. CP4617, 830–874 m, MNHN-IU-2013-19080; d) *Plesionika edwardsii*, st. DW4536, 323–347 m, MNHN-IU-2013-18883; e) *Plesionika ensis*, st. DW4609, 535–673 m, MNHN-IU-2013-19054; f) *Plesionika acanthonotus*, st. CP4618, 780–828 m, MNHN-IU-2013-19094; g) *Plesionika holthuisi*, st. CP4608, 618–632 m, MNHN-IU-2013-19052; h) *Plesionika laevis*, st. CP4524, 500–550 m, MNHN-IU-2013-18790; i) *Plesionika longicauda*, st. CP4595, 208–211 m, MNHN-IU-2013-19016; j) *Plesionika longipes*, st. CP4524, 500–550 m, MNHN-IU-2013-18794; k) *Plesionika martia*, st. CP4643, 609–611 m, MNHN-IU-2013-19161.

Comment. Determination is based on the aspect of rostrum, color pattern and previous collections from off Guadeloupe. The rostrum is figured by Chan & Crosnier (1991: fig. 4a) and color photographs given in Chan & Crosnier (1991: fig. 38; one specimen from the Gulf of Mexico with pattern of the stripes on the abdomen and carapace similar to KARUBENTHOS photograph) and Paulmier (1993: pl. 21, fig. 1–3). However, it must be verified from the specimen(s) whether the 5th abdominal pleuron is rounded (*P. narval* subgroup, including *P. longicauda*) or with a posteroventral denticle (*P. spinipes* subgroup).

Distribution. Gulf of Mexico, Caribbean Sea and eastern Atlantic; Lesser Antilles, ICA (Guadeloupe, Martinique); 53–500 m.

***Plesionika longipes* (A. Milne-Edwards, 1881)**

(Fig. 6j)

Pandalus longipes A. Milne-Edwards, 1881: 15 (Barbados).—A. Milne-Edwards, 1883, pl. 20 (Barbados).—Faxon, 1896: 161 (Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4524, 10 June 2015, 16°30.17'N, 61°42.4'W, 550–500 m, MNHN-IU-2013-18794; st. DW4588 or CP4588, 21 June 2015, 16°1.85'N, 61°24'W, 416–251 m, MNHN-IU-2013-18988; st. CP4648, 29 June 2015, 16°2.31'N, 61°27.3'W, 388–368 m, MNHN-IU-2013-19193.

Comment. This is the first record for Guadeloupe although the species was already known from the Lesser Antilles. The determination is based on the aspect of the rostrum as illustrated in A. Milne-Edwards (1883: pl. 20). The longitudinal pattern of stripes on the carapace and abdomen is also illustrated for a Colombian specimen in Campos *et al.* (2005: fig. 45).

Distribution. Massachusetts to Gulf of Mexico and Brazil; Lesser Antilles, ICA (Guadeloupe, Barbados); 329–457 m.

***Plesionika martia* (A. Milne-Edwards, 1883)**

(Fig. 6k)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4643, 28 June 2015, 15°44.98'N, 61°11.07'W, 609–611 m, MNHN-IU-2013-19161, 19164 (tip of rostrum broken).

Comment. This is the first record for the Lesser Antilles although this species has a wide pantropical distribution. The determination is based on the aspect of rostrum (cf. Crosnier & Forest 1973: fig. 63c–d). This species is affiliated to *Plesionika ensis* but can be separated by: the armature of the 3rd abdominal tergite, unarmed in *P. martia*, with a distodorsal spine in *P. ensis*; the 6th abdominal somite being about twice as long as the 5th in *P. martia*, instead of more than twice this length in *P. ensis*; the pereopods (missing on specimens photographed) longer in *P. martia*, overreaching tip of rostrum, instead of shorter in *P. ensis*, not reaching tip of rostrum.

Distribution. Massachusetts to Gulf of Mexico and Brazil, Central and eastern Atlantic, Indo-Pacific; Lesser Antilles, ICA (Guadeloupe); 165–2100 m.

Superfamily Crangonoidea Haworth, 1825

Family Crangonidae Haworth, 1825

***Parapontocaris caribbaea* (Boone, 1927)**

(Fig. 5e)

Parapontocaris caribbaea.—Chan, 1996: 319 (Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4532, 11 June 2015, 16°30.06'N, 61°37.54'W, 367–362 m, MNHN-IU-2013-18831; st. DW4587, 21 June 2015, 16°1.67'N, 61°24.01'W, 406–281 m, MNHN-IU-2013-19000; st. CP4648, 29 June 2015, 16°2.31'N, 61°27.3'W, 388–368 m, MNHN-IU-2013-19200.

Comment. This is the first record for Guadeloupe. The determination is based on key characters in Chan (1996: 319).

Distribution. Florida Strait to Gulf of Mexico, Bahamas, Caribbean Sea to Suriname; Lesser Antilles, ICA (Guadeloupe); 311–885 m.

***Parapontocaris ?vicina* (Dardeau & Heard, 1983)**

(Fig. 5f)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4513, 8 June 2015, 16°12.58'N, 61°53.14'W, 644–406 m, MNHN-IU-2013-18765.

Comment. This is probably the first record of this species in the Lesser Antilles. However, the specimen is determined with some reservation by using the key in Dardeau & Heard (1983). Although five spines seem to be present on midline of carapace, the anterior spine is apparently broken and is not clearly visible in the photographs. This point must be verified with the specimen(s). The color pattern differs from specimens attributed herein to *P. caribbaea* and this is perhaps a good means of quickly recognizing *P. vicina* if the determination is confirmed.

Distribution. Florida Strait to Gulf of Mexico, Caribbean Sea to Nicaragua; Lesser Antilles, ICA (?Guadeloupe); 362–612 m.

***Philocheras ?gorei* (Dardeau, 1980)**

(Fig. 5g)

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4578, 17 June 2015, 16°20.62'N, 60°54.12'W, 250–119 m, MNHN-IU-2013-18978.

Comment. This tentative determination is proposed following Dardeau & Heard (1983). It must be confirmed with the specimen(s) and would represent the first record in the Lesser Antilles.

Distribution. Georgia to eastern Florida, southwestern Florida Strait to Texas; ?Lesser Antilles, ICA (Guadeloupe); 9–182 m.

Family Glyphocrangonidae Smith, 1884

***Glyphocrangon aculeata* A. Milne-Edwards, 1881**

(Fig. 5h)

Glyphocrangon aculeatum A. Milne-Edwards, 1881: 5 (St Vincent).—A. Milne-Edwards, 1883, pl. 39 (Martinique).

Glyphocrangon aculeata.—Faxon, 1896: 158 (Guadeloupe, Dominica, Grenada).—Holthuis, 1971: 323 (St Croix, St Kitts, Guadeloupe, Isla de Aves, St Vincent, Grenada, Tobago).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4644, 28 June 2015, 15°46.96'N, 61°5.11'W, 898–835 m, MNHN-IU-2013-19168.

Comment. The photographs were determined by comparison with figures in A. Milne-Edwards (1883: pl. 39) and figures, key characters, and depth range in Holthuis (1971: fig. 10).

Distribution. North Carolina to Gulf of Mexico, Caribbean Sea to Brazil; Lesser Antilles, VGI (St Croix), ICA (St Kitts, Guadeloupe, Isla de Aves, Dominica, Martinique, St Vincent, Grenada, Tobago); 707–1760 m.

***Glyphocrangon haematonotus* Holthuis, 1971**

(Fig. 5i)

Glyphocrangon haematonotus Holthuis, 1971: 315 (Anguilla, St Vincent).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4608, 24 June 2013, 16°15.02'N, 60°50.8'W, 618–632 m, MNHN-IU-2013-19049.

Comment. This is the first record for Guadeloupe Island. *Glyphocrangon haematonotus*, *G. longleyi* and *G. spinicauda* are three very similar species that can be differentiated by key characters in Holthuis (1971: fig. 6–7) that are visible on the macro photographs examined.

Distribution. South Carolina and the Bahamas Islands to the Caribbean coast of Colombia; Lesser Antilles, ICA (Anguilla, Guadeloupe, St Vincent); 247–966 m.

***Glyphocrangon longleyi* Schmitt, 1931b**

(Fig. 5j)

Glyphocrangon longleyi.—Holthuis, 1971: 309 (Anguilla, Guadeloupe, St Lucia).—Poupin, 1994: 27 (Guadeloupe, ?Martinique).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4513, 8 June 2015, 16°12.58'N, 61°53.14'W, 644–406 m, MNHN-IU-2013-18764.

Comment. A single photograph illustrates only the lateral view of one specimen, which is sufficient for a positive identification and distinction with the related *G. spinicauda* and *G. haematonotus* based on the aspect of sixth abdominal somite as figured in Holthuis (1971: fig. 7b). The lateral aspect of the carapace and abdomen matches well with photographs in Campos *et al.* (2005: fig. 58–59, Colombia). The fresh color is also similar to that already published for this species (Poupin 1994: pl. 2h, Guadeloupe).

Distribution. East coast of Florida, Bahamas, Gulf of Mexico, Caribbean Sea; Lesser Antilles, ICA (Anguilla, Guadeloupe, ?Martinique, St Lucia); 300–837 m.

***Glyphocrangon neglecta* Faxon, 1896**

(Fig. 5k)

Glyphocrangon neglecta Faxon, 1896: 159 (Montserrat, Grenada).—Holthuis, 1971: 319 (Montserrat, Grenada, Trinidad, Los Testigos).

Glyphocrangon cf. *neglecta*.—Paulmier, 1993: 20 (Guadeloupe, Martinique).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4512, 8 June 2015, 16°12.57'N, 61°53.54'W, 532–409 m, MNHN-IU-2013-18785.

Comment. There is only one photograph in lateral view but it is determined confidently by careful comparison with lateral views given in Holthuis (1971: fig. 9) and Campos *et al.* (2005: fig. 60).

Distribution. Southern Caribbean (south of 17°30'N) and along the north coast of South America, from Panama to Suriname (Holthuis 1971); Lesser Antilles, ICA (Montserrat, Guadeloupe, Martinique, Grenada, Trinidad), IOV (Los Testigos); 365–1050 m.

***Glyphocrangon spinicauda* A. Milne-Edwards, 1881**

(Fig. 5l)

Glyphocrangon spinicauda A. Milne-Edwards, 1881: 3 (St Kitts).—A. Milne-Edwards, 1883, pl. 40 (St Kitts).—Faxon, 1896: 158 (St Kitts, Barbados).—Holthuis, 1971: 295 (St Kitts (St Christopher), Guadeloupe, Dominica, St Lucia, Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4524, 10 June 2015, 16°30.17'N, 61°42.4'W, 550–500 m, MNHN-IU-2013-18789; st. DW4588, 21 June 2015, 16°1.85'N, 61°24'W, 416–251 m, MNHN-IU-2013-18892; st. CP4648, 29 June 2015, 16°2.31'N, 61°27.3'W, 388–368 m, MNHN-IU-2013-19194.

Comment. The photographs show dorsal and lateral views. The determination is made confidently by comparison with previous figures in A. Milne-Edwards (1883: pl. 40) and Holthuis (1971: fig. 6a, 7a).

Distribution. Eastern and southern Florida, Caribbean Sea to Brazil; Lesser Antilles, ICA (St Kitts, Guadeloupe, Dominica, St Lucia, Barbados); 256–692 m.

INFRAORDER ASTACIDEA Latreille, 1802

Family Nephropidae Dana, 1852

***Acanthacaris caeca* (A. Milne-Edwards, 1881)**

(Fig. 7a)

Phoberus caecus A. Milne-Edwards, 1881: 1 (Grenada).—A. Milne-Edwards, 1883, pl. 16 (Grenada).—Bouvier, 1925: 413 (Nevis, Grenada).

Acanthacaris caeca.—Holthuis, 1974: 743 (Anguilla, Saba, Nevis, Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4512, 8 June 2015, 16°12.57'N, 61°53.54'W, 532–409 m, MNHN-IU-2013-18777.

Comment. A single photograph of this species shows only the lateral aspect, which is sufficient for a positive identification based on previous figures of this species in Bouvier (1925: pl. 2, fig. 1) and Holthuis (1974: fig. 4–5). The latter gives also an amazing photograph of this lobster in aggressive posture outside its burrow (fig. 7, off Cuba, 762 m) figured also on the front cover of FAO volume ‘Marine lobsters of the world’ (Holthuis 1991). There is also a color photograph of this lobster in Takeda (1983: 85).

Distribution. Florida Strait, Gulf of Mexico, Caribbean Sea; Lesser Antilles, ICA (Anguilla, Nevis, Guadeloupe, Grenada); 293–878 m.

***Eunephrops cadenasi* Chace, 1939**

(Fig. 7b)

Eunephrops cadenasi.—Holthuis, 1974: 849 (Dominica).—Paulmier, 1993: 21 (Guadeloupe, Martinique).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).—Poupin, 1994: 27 (Guadeloupe).—Gervain *et al.*, 2002: 17 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4520, 9 June 2015, 16°34.91'N, 61°42.18'W, 532–550 m, MNHN-IU-2013-18849.

Comment. Depth range and color pattern of this specimen are those of *E. cadenasi*, common around Guadeloupe and already photographed in color there (Paulmier 1993: pl. 24, fig. 1–3; Poupin 1994: pl. 2a–b). However, the presence of a median longitudinal carina on abdominal somites is not obvious on the photographs and that must be checked with the specimen.

Distribution. Bahamas, Cuba, Jamaica, Colombia; Lesser Antilles, ICA (Guadeloupe, Dominica, Martinique) (Poupin 1994; Gervain *et al.* 2002); 388–607 m.

***Nephropsis aculeata* Smith, 1881**

(Fig. 7c)

Nephropsis aculeata.—Bouvier, 1925: 409 (Grenada).—Holthuis, 1974: 778 (Virgin Islands, Guadeloupe, Grenada, Trinidad, Curaçao).—Poupin, 1994: 28 (Guadeloupe).—Gervain *et al.*, 2002: 20 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4532, 11 June 2015, 16°30.06'N, 61°37.54'W, 367–362 m, MNHN-IU-2013-18829; st. DW4588 or CP4588, 21 June 2015, 16°1.85'N, 61°24'W, 416–251 m, MNHN-IU-2013-18984; st. CP4643, 28 June 2015, 15°44.98'N, 61°11.07'W, 609–611 m, MNHN-IU-2013-19158.

Comment. The photographs are identified by comparison with key characters and figures in Bouvier (1925: pl. 1, fig. 1) and Holthuis (1974: fig. 15). The fresh coloration also matches color photographs already available from around Guadeloupe (Poupin 1994: pl. 2g).

Distribution. Bermuda, Massachusetts to Gulf of Mexico, northern South America. Also Brazil (Tavares 2002); Lesser Antilles, VGI, ICA (Guadeloupe, Grenada, Trinidad), IOV (Curaçao); 137–824 m.

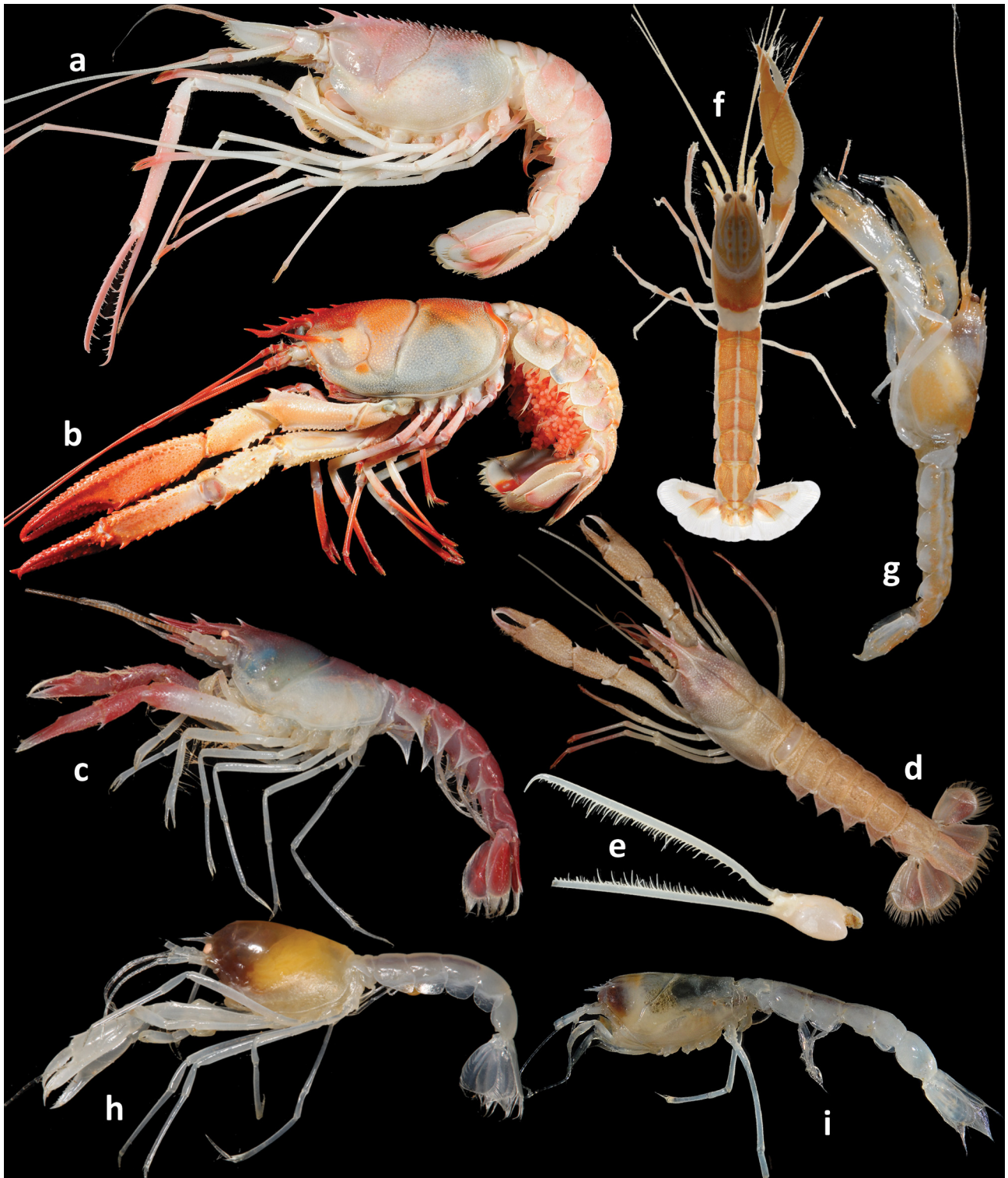


FIGURE 7. Lobsters Astacidea and Axiidea. a) *Acanthacaris caeca*, st. CP4512, 409–532 m, MNHN-IU-2013-18777; b) *Eunephrops cadenasi*, st. CP4520, 532–550 m, MNHN-IU-2013-18849; c) *Nephropsis aculeata*, st. CP4643, 609–611 m, MNHN-IU-2013-19158; d) *Nephropsis rosea*, st. CP4643, 609–611 m, MNHN-IU-2013-19153; e) *Thaumastocheles zaleucus* (chela), st DW4507, 700–750 m, MNHN-IU-2013-18854; ?*Bouvieraxius* sp. f, dorsal view, st. DW4612, 250–290 m (no MNHN on photo); g) lateral view, st. CP4558, 312–385 m, MNHN-IU-2013-18968; h) *Calastacus colpos*, st. CP4643, 609–611 m, MNHN-IU-2013-19166; i) *Calocaris caribbaeus*, st. DW4507, 700–750 m, MNHN-IU-2013-18855

***Nephropsis rosea* Bate, 1888**

(Fig. 7d)

Nephropsis rosea.—Holthuis, 1974: 787 (Anguilla, Saba, St Kitts, Guadeloupe, Dominica, St Lucia, St Vincent, Grenada, Tobago, Trinidad).

Nephropsis aculeata.—Faxon, 1896: 156 (Dominica, St Lucia, St Vincent) [Not *N. aculeata* Smith = *N. rosea* cf. Holthuis (1974)].

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4513, 8 June 2015, 16°12.58'N, 61°53.14'W, 644–406 m, MNHN-IU-2013-18772; st. CP4619, 25 June 2015, 16°20.98'N, 60°45.96'W, 774–643 m, MNHN-IU-2013-19091; st. CP4643, 28 June 2015, 15°44.98'N, 61°11.07'W, 609–611 m, MNHN-IU-2013-19153.

Comment. The determination is based on the distance between the anterior supraorbital spine and the gastric tubercle being 2/3 the distance between the gastric tubercle and the cervical groove. This is the ‘*most constant and reliable character*’ to distinguish this species from *N. aculeata* (cf. Holthuis 1974: 788).

Distribution. Bermuda, Bahamas, Gulf of Mexico to northern South America. Also Brazil (Tavares 2002); Lesser Antilles, ICA (Anguilla, Saba, St Kitts, Guadeloupe, Dominica, St Lucia, St Vincent, Grenada, Tobago, Trinidad); 420–1260 m.

***Thaumastocheles zaleucus* (Thomson, 1873)**

(Fig. 7e)

Thaumastocheles zaleuca.—Bate, 1888: 47 (Anguilla (Sombrero)).—Holthuis, 1974: 731 (Anguilla (Sombrero), Grenada).

Thaumastocheles zalencus (sic).—Bouvier, 1925: 420 (Grenada).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4507, 7 June 2015, 16°12.57'N, 61°52.64'W, 750–700 m, MNHN-IU-2013-18854.

Comment. Dredge n°4507 brought onboard only a chela of this amazing species. This is enough to make a positive identification of this lobster, probably common in Lesser Antilles although rarely captured. A figure of the whole animal, showing this characteristic chela is in Bouvier (1925: pl. 3).

Distribution. Florida Strait to eastern and western Caribbean Sea; Lesser Antilles, ICA (Anguilla, Guadeloupe, Grenada); 640–1054 m.

INFRAORDER AXIIDEA de Saint Laurent, 1979

Family Axiidae Huxley, 1879

?*Bouvieraxius* sp.

(Fig. 7f–g)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4558, 15 June 2015, 16°21.98'N, 60°48.72'W, 385–312 m, MNHN-IU-2013-18968; st. DW4612, 24 June 2013, 16°19.3'N, 60°50.94'W, 290–250 m (no MNHN, photo T. Magniez, dorsal view); st. DW4647, 29 June 2015, 15°50.29'N, 61°26.24'W, 263–264 m, MNHN-IU-2013-19179.

Comment. This species cannot be identified from the photographs and even the genus must be checked. The specimens have some resemblances with *Bouvieraxius longipes* (Bouvier, 1905) described from Barbados, 232 m (Bouvier 1905b: 804; 1925:467). However, there are a few spines on upper margin of larger chelae (fig. 7g), not illustrated or indicated by Bouvier (1925), and the submedian carinae have four spines (fig. 7f) instead of three indicated by Bouvier (1925b). This is perhaps in the range of variation for this species as Poore & Collins (2009) indicate the number of spines on the submedian carinae varies from three to four in *Bouvieraxius keiensis* Sakai, 1992. *Bouvieraxius longipes* was reported by error from Puerto Rico (300 m) by Sakai & de Saint Laurent (1989) as ‘type locality’, instead of Barbados. The KARUBENTHOS specimen must be examined for accurate identification.

Distribution. Guadeloupe. 263–264 to 312–385 m.

***Calastacus colpos* Kensley, 1996**

(Fig. 7h)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4643, 28 June 2015, 15°44.98'N, 61°11.07'W, 609–611 m, MNHN-IU-2013-19166.

Comment. The determination is made confidently based on the aspect of carapace, abdomen and chelae, as illustrated in Kensley (1996a: 159, fig. 1–2). This is the first record of this species since its description and a geographic range extension from the Gulf of Mexico to the Lesser Antilles. Another species of this genus is reported from the western Atlantic, *Calastacus mexicanus* Kensley, 1996, distinguished by the aspect of its first pereopod (cf. Kensley 1996a: 162, tab. 2).

Distribution. Gulf of Mexico; Lesser Antilles, ICA (Guadeloupe); 339–1171 m.

***Calocaris caribbaeus* Kensley, 1996**

(Fig. 7i)

Calocaris caribbaeus Kensley, 1996a: 164 (Antigua, Trinidad).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4507, 7 June 2015, 16°12.57'N, 61°52.64'W, 750–700 m, MNHN-IU-2013-18855.

Comment. The Guadeloupe specimen is incomplete, missing almost all pereopods. However, the aspect of rostrum, carapace, and abdominal pleura clearly identify it as *Calocaris caribbaeus* as illustrated in Kensley (1996a: 164, fig. 5). This is the first record of the species since its description with type specimens being also from Lesser Antilles (Antigua).

Distribution. Northwestern Gulf of Mexico, South Caribbean Sea, Suriname; Lesser Antilles, ICA (Antigua, Guadeloupe, Trinidad); 589–1272 m.

***Eiconaxius ?antillensis* (Bouvier, 1905)**

(Fig. 8a)

Eiconaxius crist-galli antillensis Bouvier, 1905b: 803 (Antilles).

Axius (*Eiconaxius*) *crista-galli antillensis*.—Bouvier, 1925: 456 (Montserrat, Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4518, 9 June 2015, 16°34.04'N, 61°37.48'W, 441–426 m, MNHN-IU-2013-18871; st. DW4550, 14 June 2015, 16°36.91'N, 61°30.72'W, 482–432 m, MNHN-IU-2013-18924; st. DW4630, 27 June 2015, 15°48.07'N, 61°28.81'W, 428–379 m, MNHN-IU-2013-19129.

Comment. This photograph determination is based on Bouvier (1925: 456, pl. 8, fig. 3). Other potential candidates in the region, such as *Eiconaxius rotundifrons* (Bouvier, 1905b) or *Eiconaxius caribbaeus* (Faxon, 1896), cannot be totally excluded. The specimen must be examined for a positive identification.

Distribution. Gulf of Mexico, off Yucatan, Caribbean Sea; Lesser Antilles, ICA (?Guadeloupe, Montserrat, Barbados); 161–1065 m.

Family Callianassidae Dana, 1852

Callianassidae sp.

(Fig. 8b)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4529, 11 June 2015, 16°24.4'N, 61°33.68'W, 176–183 m, MNHN-IU-2013-18880.

Comment. This specimen cannot be determined confidently from the photograph only. The genus is also uncertain (perhaps *Gouretia*, D. Felder pers. com.). The specimen must be examined for identification.



FIGURE 8. Lobsters Axiidea, Achelata, Polychelida. a) *Eiconaxius ?antillensis*, st. DW4630, 428–379 m, MNHN-IU-2013-19129; b) *Callianassidae* sp., st. CP4529, 176–183 m, MNHN-IU-2013-18880; c) *Meticonaxius microps*, st. DW4566, 165–260 m, MNHN-IU-2013-18955; d) *Bathyarctus faxoni*, st. DW4611, 242–263 m, (Photo T. Magniez, no MNHN number); e) *Scyllarus chacei*, st. CP4529, 176–183 m, MNHN-IU-2013-18903; f) *Cardus crucifer*, st. CP4644, 835–898 m, MNHN-IU-2013-19167; g) *Polycheles typhlops*, st. CP4512, 409–532 m, MNHN-IU-2013-18779; h-i, *Stereomastis sculpta*, st. CP4644, 835–898 m, MNHN-IU-2013-19169.

Family Micheleidae K. Sakai, 1992

Meticonaxius microps (Bouvier, 1905)

(Fig. 8c)

Metaxius microps Bouvier, 1905b: 806; 1925: 470 (St Croix).—Schmitt, 1935: 192 (St Croix).—Kensley & Heard, 1991: 516 (St Croix).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4566, 16 June 2015, 16°21.14'N, 60°50.54'W, 260–165 m, MNHN-IU-2013-18955 (Check MNHN number with specimen because it is partly hidden on photo).

Comment. The determination is based on Bouvier (1925: 471, fig. 28), Kensley & Heard (1991: 516, fig. 14), and the place of collection. This is the first record of this species since its description from an incomplete specimen by Bouvier (1905b; St Croix, 210 m). The species is still unknown outside of the Lesser Antilles.

Distribution. Lesser Antilles, VGI (St Croix), ICA (Guadeloupe); 165–260 m.

INFRAORDER ACHELATA Scholtz & Richter, 1995

Family Scyllaridae Latreille, 1825

Bathyarctus faxoni (Bouvier, 1917)

(Fig. 8d)

Scyllarus faxoni.—Bouvier, 1925: 447 (Guadeloupe).—Lyons, 1970: 35, fig. 14 (Anguilla, Barbuda, Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4569, 17 June 2015, 16°17.25'N, 60°59.78'W, 359–250 m, MNHN-IU-2013-18949.

Comment. Photographs were determined using the dorsal view of the type specimen from Guadeloupe in Bouvier (1925: pl. 7, fig. 2, R/V *Blake*, 175 brasses = 320 m). Lyons (1970: 35, fig. 14) was also consulted for key characters, figure, remarks and geographic range.

Distribution. Southeastern Florida, Florida Strait, Bahamas, Cuba, Caribbean Sea; Lesser Antilles, ICA (Anguilla, Barbuda, Guadeloupe); 229–457 m.

Scyllarus chacei Holthuis, 1960

(Fig. 8e)

Scyllarus americanus.—Bouvier, 1925: 448, pl. 7, fig. 3 (St John, Norman; in part, not *S. americanus* (Smith) = *S. chacei*, cf. Holthuis 1960).

Scyllarus chacei.—Lyons, 1970: 27, fig. 10 (St Thomas).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. E. Macpherson, workshop Besse 2013), st. GD01, 4 May 2012, 16°22.57'N, 61°34.12'W, 80 m, MNHN-IU-2013-4905 (JL141), 4264 (JL141-photo); st. GD02, 4 May Y2012, 16°22.57'N, 61°34.12'W, 80 m, MNHN-IU-2013-4266 (JL227); st. GD25, 14 May 2012, 16°25'N, 61°33'W, 160 m, MNHN-IU-2013-4263 (JL772-photo); st. GD27, 15 May 2012, 16°25'N, 61°33'W, 120 m, MNHN-IU-2013-4261 (JL857-photo); st. GD55, 24 May 2012, 16°22.48'N, 61°35.46'W, 85 m, MNHN-IU-2013-4268 (JL1357-photo), 4904 (JL1366), 4262 (JL1366-photo); st. GD66, 27 May 2012, 16°08.17'N, 61°17.32'W, 33 m, MNHN-IU-2013-4267 (JL1456-photo); st. GM06, 5–6 May 2012, 16°09'N, 61°33.67'W, 1 m, MNHN-IU-2013-4265 (JL281); st. GD34, 17 May 2012, 16°25.72'N, 61°33.79'W, 80 m, MNHN-IU-2013-4438 (JL994).

Guadeloupe, KARUBENTHOS 2015, st. CP4529, 11 June 2015, 16°24.4'N, 61°33.68'W, 176–183 m, MNHN-IU-2013-18903.

Comment. This species was already recognized around Guadeloupe during KARUBENTHOS 2012, with several specimens collected and macro photographs posted in Legall & Poupin (2016). Lyons (1970: 27) can also be consulted for key characters, photo and geographic range. This species has a wide depth range, from subtidal (1 m, new minimum depth from KARUBENTHOS 2012 st. GM06 herein) to 329 m.

Distribution. North Carolina, Gulf of Mexico, Bahamas, Caribbean Sea, Brazil; Lesser Antilles, VGI (St Thomas, St John), ICA (Guadeloupe); 1–329 m.

INFRAORDER POLYCHELIDA Scholtz & Richter, 1995

Family Polychelidae Wood-Mason, 1875

Cardus crucifer (Thomson, 1873)

(Fig. 8f)

Polycheles crucifera.—Bate, 1888: 127 (Anguilla (Sombrero)).

Polycheles crucifer.—Faxon, 1896: 155 (St Croix, Dominica).—Bouvier, 1925: 428 (St Croix, Guadeloupe, Dominica).—Schmitt, 1935: 171 (St Croix).

Cardus crucifer.—Galil, 2000: 294 (Anguilla (Sombrero), St Martin, St Barthélemy, Saba, St Kitts, Antigua, Montserrat, Dominica, Isla de Aves (Aves ridge), Martinique).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4617, 25 June 2015, 16°20.98'N, 60°44.95'W, 874–830 m, MNHN-IU-2013-19078; st. CP4644, 28 June 2015, 15°46.96'N, 61°5.11'W, 898–835 m, MNHN-IU-2013-19167.

Comment. Photographs were identified using Galil (2000); already reported from several places in the Lesser Antilles.

Distribution. Florida, Gulf of Mexico, Bahamas, Antilles, Caribbean Sea, eastern Atlantic; Lesser Antilles, VGI (St Croix), ICA (Anguilla, St Martin, St Barthélemy, Saba, St Kitts, Antigua, Montserrat, Guadeloupe, Dominica, Isla de Aves, Martinique); 549–2195 m.

Polycheles typhlops Heller, 1862

(Fig. 8g)

Pentacheles agassizii A. Milne-Edwards, 1880: 65 (Nevis, St Lucia, Grenadines, Barbados, Grenada).

Polycheles typhlops.—Bouvier, 1925: 433 (Nevis, St Lucia, Grenadines, Grenada, Barbados).—Galil, 2000: 356 (Dominica, Barbados, Grenada, Testigos, Curaçao).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4512, 8 June 2015, 16°12.57'N, 61°53.54'W, 532–409 m, MNHN-IU-2013-18779; st. CP4513, 8 June 2015, 16°12.58'N, 61°53.14'W, 644–406 m, MNHN-IU-2013-18774; st. CP4524, 10 June 2015, 16°30.17'N, 61°42.4'W, 550–500 m, MNHN-IU-2013-18792.

Comment. Photographs were identified using Galil (2000); already reported from several places in the Lesser Antilles.

Distribution. Eastern and western Atlantic, including Brazil (Dall'Occo & Tavares 2004), the Mediterranean Sea, Indo-West Pacific; Lesser Antilles, ICA (Nevis, Guadeloupe, Dominica, St Lucia, Grenadines, Barbados, Grenada), IOV (Testigos, Curaçao); 77–2195 m.

Stereomastis sculpta (Smith, 1880)

(Fig. 8h–i)

Polycheles sculptus.—Faxon, 1896: 155 (Martinique, St Vincent, Grenada).—Bouvier, 1925: 438 (Guadeloupe, Dominica).—Galil, 2000: 342 (Grenadines, Grenada, Tobago, Testigos, Bonaire, Curaçao).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4644, 28 June 2015, 15°46.96'N, 61°5.11'W, 898–835 m, MNHN-IU-2013-19169.

Comment. Photographs were identified using Galil (2000); already reported from several localities in the Lesser Antilles.

Distribution. Eastern and western Atlantic, including Brazil (Dall'Occo & Tavares 2004), Mediterranean,

Indo-West Pacific (Galil 2000); Lesser Antilles, ICA (Guadeloupe, Dominica, Martinique, St Vincent, Grenadines, Grenada, Tobago), IOV (Testigos, Bonaire, Curaçao); 200–4000 m.

INFRAORDER ANOMURA MacLeay, 1838
Superfamily Galatheaidea Samouelle, 1819
Family Chirostylidae Ortmann, 1892

***Gastroptychus spinifer* (A. Milne-Edwards, 1880)**
(Fig. 9a)

Ptychogaster spinifer A. Milne-Edwards, 1880: 64 (St Croix (Frederickstadt), Guadeloupe, St Lucia, Grenadines (Cariacou), Barbados).—A. Milne-Edwards & Bouvier, 1897: 118 (Antilles).—Schmitt, 1935: 181 (St Croix, Guadeloupe, Barbados). *Gastroptychus* sp.—Paulmier, 1993: 23 (Martinique).—Gervain *et al.*, 2002: 34 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4524, 10 June 2015, 16°30.17'N, 61°42.4'W, 550–500 m, MNHN-IU-2013-18795; st. DW4538 or CP4538, 12 June 2015, 16°38.58'N, 61°31.64'W, 338–320 m, MNHN-IU-2013-18910 (Check ambulatory legs, not clear on photo); st. CP4608, 24 June 2013, 16°15.02'N, 60°50.8'W, 618–632 m, MNHN-IU-2013-19050; st. CP4648, 29 June 2015, 16°2.31'N, 61°27.3'W, 388–368 m, MNHN-IU-2013-19188.

Comment. Photograph determination based on figure of this species in A. Milne-Edwards & Bouvier (1897: pl. 10, fig. 5); confirmed by K. Baba (pers. com.). The photographs of *Gastroptychus* sp. in Paulmier (1993: pl. 26, fig. 1–2) and Gervain *et al.* (2002: 35) from Guadeloupe and Martinique are also *G. spinifer*.

Distribution. Bahamas, Cuba, West Indies; Lesser Antilles, VGI (St Croix), ICA (Guadeloupe, Martinique, St Lucia, Grenadines, Barbados); 225–2412 m (Baba *et al.* 2008).

***Uroptychus nitidus* (A. Milne-Edwards, 1880) variety A**
(Fig. 9b)

Uroptychus nitidus variety A, Chace, 1942: 14 (Barbados, Grenada).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4592, 22 June 2015, 15°58.74'N, 61°21.82'W, 214–201 m, MNHN-IU-2013-19018.

Comment. In *Uroptychus nitidus*, the rostrum is distinctly longer than the eyes. Chace (1942: 11) indicates that '*the species is either extremely variable or that it is made up of a complex of about four species or subspecies*'. During KARUBENTHOS 2015 two varieties described by Chace were identified by K. Baba from photographs: variety A with cornea yellow, smaller than diameter of ocular peduncle; and variety B, with cornea brown-red, larger than diameter of ocular peduncle. Coloration of variety A, with one red line on rostrum and two red lines on anterior carapace behind the ocular peduncles, is also distinct from variety B that has no such lines. With this new record from Guadeloupe, the minimum depth of variety A is set at 201–214 m instead of 433 m cited by Chace (1942; 237 fathoms). It is most probable that typical *U. nitidus* was also collected during KARUBENTHOS 2015, although not recognized in photos examined herein, because it is largely distributed in the Lesser Antilles, including Guadeloupe Island (cf. Chace 1942). A revision of the *Uroptychus nitidus* complex is currently in progress by Baba & Wicksten (in press), with varieties A, B, C of Chace (1942) each given a new name.

Distribution. Florida, Cuba, West Indies; Lesser Antilles, ICA (Guadeloupe, Barbados, Grenada) (Chace 1942); 201–915 m.

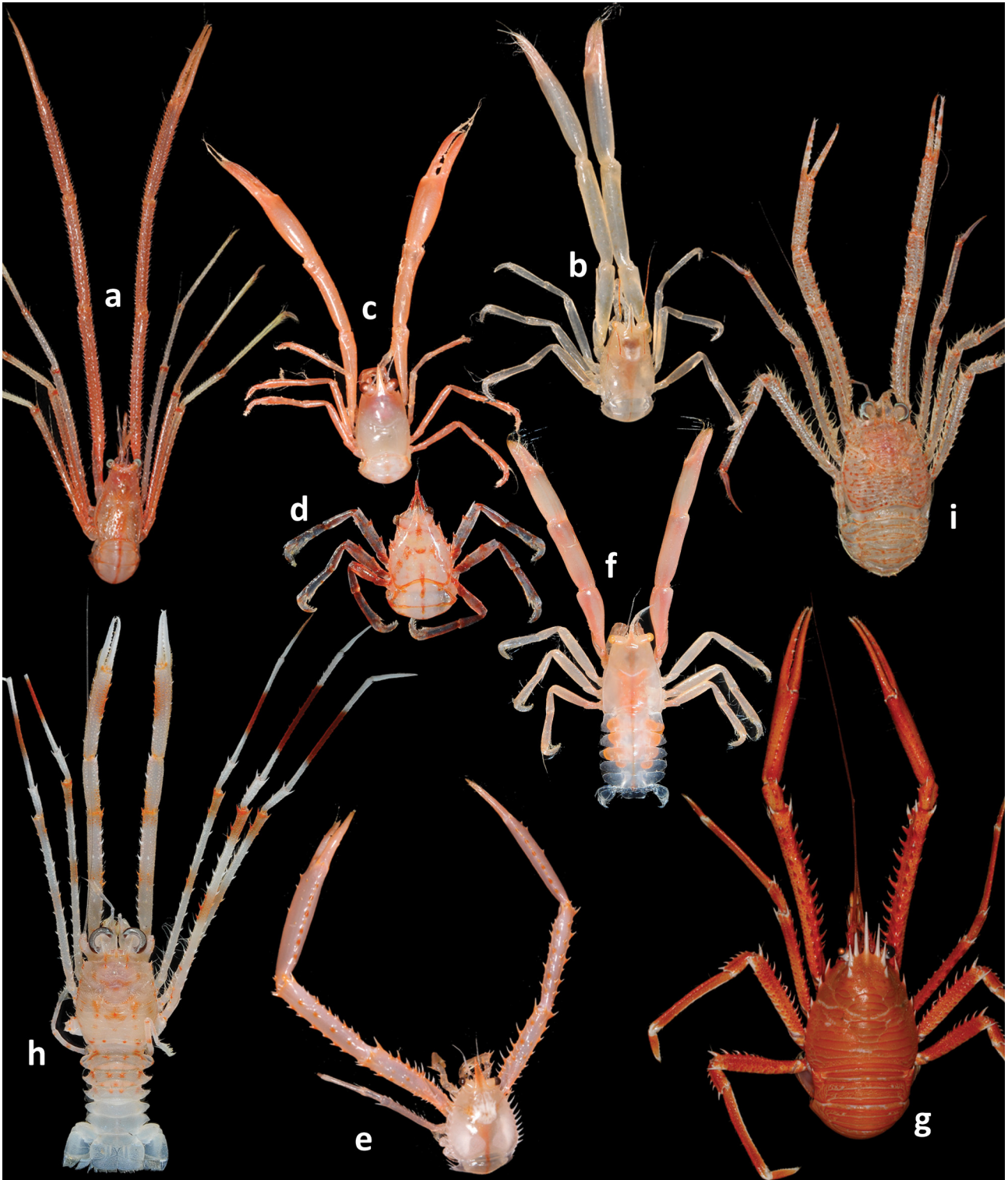


FIGURE 9. Anomura. Chirostyliidae. a) *Gastroptychus spinifer*, st. CP4648, 388–368 m, MNHN-IU-2013-19188; b) *Uroptychus nitidus* variety A, st. DW4592, 214–201 m, MNHN-IU-2013-19018; c) *Uroptychus nitidus* variety B, st. CP4618, 780–828 m, MNHN-IU-2013-19095; d) *Uroptychus ?spiniger*, st. CP4539, 338–339 m, MNHN-IU-2013-18897; e) *Uroptychus spinosus*, st. DW4628, 320–260 m, MNHN-IU-2013-19121; f) *Uroptychus uncifer*, st. DW4538 or CP4538, 338–320 m, MNHN-IU-2013-18912; g) *Eumunida picta*, st. DW4609, 535–673 m, MNHN-IU-2013-19053. Munididae. h) *Agononida longipes*, st. CP4524, 550–500 m, MNHN-IU-2013-18796; i) *Agononida ?schroederi*, st. CP4648, 388–368 m, MNHN-IU-2013-19130.

***Uroptychus nitidus* (A. Milne-Edwards, 1880) variety B**

(Fig. 9c)

Present records. Guadeloupe KARUBENTHOS 2015, st. DW4510, 7 June 2015, 16°15.1'N, 61°51.3'W, 660–690 m, MNHN-IU-2013-18859; st. CP4618, 25 June 2015, 16°22.74'N, 60°45.86'W, 780–828 m, MNHN-IU-2013-19095.

Comment. See under *U. nitidus* variety A. *Uroptychus nitidus* variety B (determination by K. Baba) has a large brown cornea and no red lines on the rostrum and carapace. The maximum depth for this variety is extended herein from 732 m (400 fathoms, in Chace 1942) to 780–828 m.

Distribution. Cuba (Chace 1942), Brazil (Melo 1999); Lesser Antilles, ICA (Guadeloupe); 457 to 780–828 m.

***Uroptychus ?spiniger* Benedict, 1902**

(Fig. 9d)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4539, 12 June 2015, 16°39.35'N, 61°31.86'W, 338–339 m, MNHN-IU-2013-18897.

Comment. This photograph determination was proposed by K. Baba. The chelipeds are absent but the armature of the lateral margins of the carapace and ambulatory legs accord with the type specimen of *U. spiniger* (cf. drawings of the holotype sent by K. Baba to the authors). The specimen must be examined for positive identification.

Distribution. Off Havana, Cuba, 708 m (Baba *et al.* 2008); Lesser Antilles, ICA (? Guadeloupe); ?338–708 m.

***Uroptychus spinosus* (A. Milne-Edwards & Bouvier, 1894)**

(Fig. 9e)

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4628, 26 June 2015, 15°54.51'N, 61°39.84'W, 320–260 m, MNHN-IU-2013-19121.

Comment. Photographs were determined according to figures in A. Milne-Edwards & Bouvier (1897: pl. 11, fig. 15) and key characters and remarks in Chace (1942). The lateral spines of the carapace are very long and directed outward and there are three or four denticles behind the eyes on the dorsal carapace surface as indicated by Chace (1942: 29 ‘*Milne Edwards and Bouvier failed to point out, either in their description or figure, that there are from two to five distinct denticles behind each eye on the dorsal surface of the carapace; in Benedict's key however, the species is correctly placed among those having gastric spines*’). This is the first record for the Lesser Antilles and second record since original description ‘probably off Cuba’ and retrieved ‘presumably’ from off the north coast of Cuba (Chace 1942: 29).

Distribution. Off Cuba; Lesser Antilles, ICA (Guadeloupe); 176–444 m (Chace 1942).

***Uroptychus uncifer* (A. Milne-Edwards, 1880)**

(Fig. 9f)

Diptychus uncifer A. Milne-Edwards, 1880: 63 (St Vincent, Barbados).—A. Milne-Edwards & Bouvier, 1897: 140 (St Vincent, Barbados).

Diptychus nitidus.—A. Milne-Edwards, 1880: 62 (St Kitts, St Vincent, Barbados, Grenadines, Grenada. In part, not *U. nitidus* (A. Milne-Edwards, 1880) but *U. uncifer*, cf. Baba *et al.* 2008: 45).

Uroptychus uncifer.—Schmitt, 1935: 182 (St Vincent, Barbados).—Chace, 1942: 18 (St Kitts, St Vincent, Barbados, Grenadines, Grenada).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4526, 10 June 2015, 16°28.39'N, 61°44.47'W, 511–484 m, MNHN-IU-2013-18840; st. DW4538 or CP4538, 12 June 2015, 16°38.58'N, 61°31.64'W, 338–320 m, MNHN-IU-2013-18909, 18912; st. DW4554, 15 June 2015, 16°20.98'N, 60°55.57'W, 370–300 m, MNHN-IU-2013-18918; st. DW4635, 27 June 2015, 15°49.73'N, 61°26.3'W, 265–268 m, MNHN-IU-2013-19146.

Comment. This species was easily determined (confirmed by K. Baba) using the key available in Chace (1942). This is the first record for Guadeloupe although it is common in the Lesser Antilles.

Distribution. Bahamas, Gulf of Mexico, Caribbean Sea to Brazil; Lesser Antilles, ICA (St Kitts, Guadeloupe, St Vincent, Barbados, Grenadines); 154–485 m.

Family Eumunididae A. Milne-Edwards & Bouvier, 1900

Eumunida picta Smith, 1883

(Fig. 9g)

Eumunida picta.—Paulmier, 1993: 22 (Martinique).—Paulmier & Gervain, 1994: 10 (Martinique).—Poupin, 1994: 34 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4609, 24 June 2013, 16°15.29'N, 60°48.42'W, 535–673 m, MNHN-IU-2013-19053.

Comment. Photographs were determined by comparison with a previous color photo from Guadeloupe (Poupin 1994: pl. 3g). This is the sole species of *Eumunida* in the western Atlantic and is therefore easily recognized based on the single rostral spine flanked by two pairs of supra-ocular spines.

Distribution. Massachusetts to Florida, Gulf of Mexico, Caribbean Sea to northern South America; Lesser Antilles, ICA (Guadeloupe, Martinique); 200–600 m.

Family Munididae Ahyong, Baba, Macpherson, Poore, 2010

Agononida longipes (A. Milne-Edwards, 1880)

(Fig. 9h)

Munida longipes A. Milne-Edwards, 1880: 50 (St Kitts, St Lucia, Barbados).—A. Milne-Edwards & Bouvier, 1897: 44 (St Kitts, St Lucia, Barbados).—Schmitt, 1935: 178 (Curaçao).—Chace, 1942: 47 (Guadeloupe, Martinique, Barbados, Grenadines, Grenada).—Poupin, 1994: 36 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4520, 9 June 2015, 16°34.91'N, 61°42.18'W, 532–550 m, MNHN-IU-2013-18851; st. CP4524, 10 June 2015, 16°30.17'N, 61°42.4'W, 550–500 m, MNHN-IU-2013-18796; st. CP4648, 29 June 2015, 16°2.31'N, 61°27.3'W, 388–368 m, MNHN-IU-2013-19189.

Comment. *Agononida longipes* is remarkable by the length of its ambulatory legs, extending forward as far as the chelipeds, and by its rostral spine, which is usually shorter than the supraorbital spines (Pequegnat & Pequegnat 1970: 133). A color photo in Takeda (1983: 90) shows the same color pattern as KARUBENTHOS specimens.

Distribution. Virginia to Florida, Gulf of Mexico, Caribbean Sea, northern South America, South Brazil; Lesser Antilles, ICA (St Kitts, Guadeloupe, Martinique, St Lucia, Barbados, Grenadines, Grenada), IOV (Curaçao); 40–730 m.

Agononida ?schroederi (Chace, 1939)

(Fig. 9i)

Munida schroederi.—Chace, 1942: 50 (Guadeloupe).—Poupin, 1994: 37 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4648, 29 June 2015, 16°2.31'N, 61°27.3'W, 388–368 m, MNHN-IU-2013-19130.

Comment. *Agononida schroederi* has already been reported from Guadeloupe. It is distinctive by its broad and very spinulose carapace and by the armature of its abdominal somites 2–4 (Chace 1942: fig. 20), which is verified on the photographs examined. However, the color photo already available for Guadeloupe in Poupin (1994: pl. 4b)

does not match very well with KARUBENTHOS color photos. Following key in Chace (1942: 33), it must be also verified on the specimen that the basal segment of antennular peduncle is armed at the outer distal angle with two spines, one placed above the other.

Distribution. Bermuda, Florida, Gulf of Mexico, Caribbean Sea; Lesser Antilles, ICA (Guadeloupe); 274–531 m.

***Munida affinis* A. Milne-Edwards, 1880**

(Fig. 10a)

Munida affinis A. Milne-Edwards, 1880: 48 (St Kitts).—A. Milne-Edwards & Bouvier, 1897: 53 (St Kitts).—Chace, 1942: 55 (St Kitts).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4532, 11 June 2015, 16°30.06'N, 61°37.54'W, 367–362 m, MNHN-IU-2013-18827; st. DW4588 or CP4588, 21 June 2015, 16°1.85'N, 61°24'W, 416–251 m, MNHN-IU-2013-18992; st. CP4648, 29 June 2015, 16°2.31'N, 61°27.3'W, 388–368 m, MNHN-IU-2013-19186.

Comment. This is the first record for Guadeloupe. This species is easily recognized on the photographs based on its coloration with a large lamellate subterminal spine on the merus of the cheliped characteristically tinged with red (see Chace 1942: 56).

Distribution. Eastern Gulf of Mexico, Caribbean Sea; Lesser Antilles, ICA (St Kitts, Guadeloupe); 42–914 m.

***Munida forceps* A. Milne-Edwards, 1880**

(Fig. 10b)

Munida forceps.—Poupin, 1994: 35 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4588 or CP4588, 21 June 2015, 16°01.85'N, 61°24'W, 416–251 m, MNHN-IU-2013-18986.

Comment. This species is easily recognized based on its color pattern already illustrated from Guadeloupe in Poupin (1994: pl. 3h).

Distribution. Virginia to Florida, Gulf of Mexico, Caribbean Sea to Uruguay; Lesser Antilles, ICA (Guadeloupe); 73–950 m.

***Munida ?microphthalma* A. Milne-Edwards, 1880**

(Fig. 10c)

Munida microphthalma A. Milne-Edwards, 1880: 51 (Martinique, St Vincent).—Henderson, 1888: 127 (North of Culebra, St Thomas).—A. Milne-Edwards & Bouvier, 1897: 32 (St Vincent, Martinique).—Chace, 1942: 40 (St Vincent, Martinique).—Melo-Filho & Melo, 1992a: 515 (St Vincent; lectotype).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4511, 8 June 2015, 16°13.9'N, 61°51.5'W, 660–630 m, MNHN-IU-2013-18893.

Comment. The chelipeds of the KARUBENTHOS specimen have some resemblances with *M. microphthalma* (cf. Pequegnat & Pequegnat 1970: fig. 5-4), a species largely distributed in the Atlantic and already reported from the Lesser Antilles at similar depths. However, its cornea is much wider than the ocular peduncle while Pequegnat & Pequegnat (1970: 135) indicate that in *M. microphthalma* the eye is small and not wider than eye stalk. The specimen must therefore be verified to check its taxonomic status.

Distribution. Greenland, Virginia, Gulf of Mexico, Caribbean Sea to Brazil, eastern Atlantic; Lesser Antilles ICA (?Guadeloupe, Martinique, St Vincent); 195–2165 m.



FIGURE 10. Anomura. Munididae. a) *Munida affinis*, st. CP4648, 388–368 m, MNHN-IU-2013-19186; b) *Munida forceps*, st. DW4588 or CP4588, 416–251 m, MNHN-IU-2013-18986; c) *Munida ?microphthalma*, st. DW4511, 660–630 m, MNHN-IU-2013-18893; d) *Munida miles*, st. DW4588, 416–251 m, MNHN-IU-2013-18983; e) *Munida ?pusilla*, st. CP4624, 242–243 m, MNHN-IU-2013-19114; f) *Munida sanctipauli*, Guadeloupe, KARUBENTHOS 2015, st. DW4630, 428–379 m, MNHN-IU-2013-19126; g) *Munida striata*, st. CP4648, 388–368 m, MNHN-IU-2013-19187. Munidopsidae. h) *Galacantha spinosa*, st. CP4522, 716–650 m, MNHN-IU-2013-18808; i) *Leiogalathea agassizii*, st. DW4510, 660–690 m, MNHN-IU-2013-18858; j) *Munidopsis abbreviata*, st. CP4644, 898–835 m, MNHN-IU-2013-19170.

***Munida miles* A. Milne-Edwards, 1880**

(Fig. 10d)

Munida miles A. Milne-Edwards, 1880: 51 (Martinique, Barbados).—A. Milne-Edwards & Bouvier, 1897: 35 (Barbados, St Lucia).—Chace, 1942: 36 (St Croix, St Kitts, Montserrat, Martinique, St Vincent, Barbados, Grenadines, Grenada; not St Lucia from R/V *Blake*, st. 215 = *M. sanctipauli* fide Melo-Filho & Melo 1992a).—Poupin, 1994: 36 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4512, 8 June 2015, 16°12.57'N, 61°53.54'W, 532–409 m, MNHN-IU-2013-18780; st. CP4524, 10 June 2015, 16°30.17'N, 61°42.4'W, 550–500 m, MNHN-IU-2013-18797; st. DW4588, 21 June 2015, 16°1.85'N, 61°24'W, 416–251 m, MNHN-IU-2013-18983; st. DW4607, 24 June 2013, 16°13.99'N, 60°50.21'W, 600–608 m, MNHN-IU-2013-19042.

Comment. Photographs were determined using key characters in Chace (1942). The color pattern also matches that already available for a specimen from Guadeloupe collected at similar depth (Poupin 1994: pl. 4a)

Distribution. Florida Strait, Gulf of Mexico, Bahamas, Cuba, Caribbean Sea; Lesser Antilles, VGI (St Croix), ICA (St Kitts, Guadeloupe, Martinique, Montserrat, St Lucia, St Vincent, Barbados, Grenadines, Grenada); 185–885 m.

***Munida ?pusilla* Benedict, 1902**

(Fig. 10e)

Munida pusilla.—Williams, 1984: 236 (Trinidad).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. E. Macpherson, workshop Besse 2013), st. GB12, 14 May 2012, 16°25.61'N, 61°32.57'W, 14 m, MNHN-IU-2013-4215 (JL756); st. GD01, 04 May 2012, 16°22.57'N, 61°34.12'W, 80 m, MNHN-IU-2013-4192, 4227; st. GD02, 04 May 2012, 16°22.57'N, 61°34.12'W, 80 m, MNHN-IU-2013-4190 (JL219); st. GD31, 16 May 2012, 16°24.97'N, 61°32.8'W, 85 m, MNHN-IU-2013-4220 (JL900); st. GD34, 17 May 2012, 16°25.72'N, 61°33.79'W, 80 m, MNHN-IU-2013-4124 (JL968), 4176 (JL944-photo), 4200 (JL993-photo); st. GD35, 17 May 2012, 16°22.77'N, 61°34.19'W, 66 m, MNHN-IU-2013-4184 (JL972), 4201 (JL980); st. GD37, 18 May 2012, 16°22.8'N, 61°33.44'W, 60 m, MNHN-IU-2013-4133 (JL1081), 5209; st. GD55, 24 May 2012, 16°22.48'N, 61°35.46'W, 85 m, MNHN-IU-2013-4132 (JL1331); st. GD58, 25 May 2012, 16°22.68'N, 61°34.95'W, 95 m, MNHN-IU-2013-4177 (JL1386), 4206 (JL1431); st. GD59, 25 May 2012, 16°22.55'N, 61°35.38'W, 88 m, MNHN-IU-2013-4194 (JL1381); st. GD61, 26 May 2012, 16°11.97'N, 61°03.96'W, 80 m, MNHN-IU-2013-4990 (JL1433); st. GD69, 28 May 2012, 16°15.97'N, 61°10.18'W, 60 m, MNHN-IU-2013-5065; st. GD70, 28 May 2012, 16°16.42'N, 61°10.22'W, 100 m, MNHN-IU-2013-4988; st. GN03, 03 May 2012, 16°23'N, 61°36'W, 117 m, MNHN-IU-2013-4138 (JL60-photo); st. GN11, 06 May 2012, 16°23'N, 61°36'W, 140 m, MNHN-IU-2013-4134 (JL312-photo); st. GN12, 06 May 2012, 16°23'N, 61°37'W, 146 m, MNHN-IU-2013-4214 (JL320); st. GN26, 18 May 2012, 16°24'N, 61°33'W, 130 m, MNHN-IU-2013-4221 (det. C. Carmona-Suárez).

Guadeloupe, KARUBENTHOS 2015, st. CP4624, 26 June 2015, 15°56.23'N, 61°30.67'W, 242–243 m, MNHN-IU-2013-19114.

Comment. The specimen photographed during KARUBENTHOS 2015 is affiliated to *Munida pusilla* Benedict, 1902 and *Munida spinifrons* Henderson, 1885, two very close species (see Baba & Camp 1988; Melo-Filho & Melo 1992b). It cannot be identified with photographs only. *Munida pusilla* was already recognized around Guadeloupe, collected between 14–146 m during KARUBENTHOS 2012 (see above material, unpublished det. by E. Macpherson). If the KARUBENTHOS 2015 record is confirmed, the maximum depth range of this species will be increased from 159 to 243 m.

Distribution. North Carolina, Florida Strait, Bahamas, Gulf of Mexico, Caribbean Sea. Also Brazil (Melo 1999); Lesser Antilles, ICA (Guadeloupe, Trinidad); 18–159 m.

***Munida sanctipauli* Henderson, 1885**

(Fig. 10f)

Munida sanctipauli.—Chace, 1942: 38 (St Croix).—Poupin, 1994: 37 (Guadeloupe).

Munida miles.—Chace, 1942: 37 (St Lucia; not *M. miles* but *M. sanctipauli* instead, cf. Melo-Filho & Melo 1992b: 763).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4630, 27 June 2015, 15°48.07'N, 61°28.81'W, 428–379 m, MNHN-IU-2013-19126, 19127, 19132. *Munida ?sanctipauli*: st. DW4536 or CP4536, 12 June 2015, 16°40.57'N, 61°27.55'W, 347–323 m, MNHN-IU-2013-18895; st. DW4631, 27 June 2015, 15°49.16'N, 61°29.02'W, 90–95 m, MNHN-IU-2013-19134, 19135.

Comment. The determination is based on the coloration, similar to a specimen already collected around Guadeloupe by R/V *Polka* (J. Poupin, unpublished photo), and the armature of carapace and abdominal segments as illustrated in Melo-Filho & Melo (1992b: 762, fig. 1–7). Because of the different color pattern and shape of the chela, specimen MNHN 18895 is perhaps another species and specimens at station DW4631 (90–95 m) must also be carefully checked because they are out of the usual depth range for *M. sanctipauli*.

Distribution. Eastern Florida to north of Cuba, Antilles to Brazil, eastern Atlantic; Lesser Antilles, VGI (St Croix), Lesser Antilles (Guadeloupe, St Lucia); 400–900 m.

***Munida striata* Chace, 1942**

(Fig. 10g)

Munida striata Chace, 1942: 61 (St Croix, Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4532, 11 June 2015, 16°30.06'N, 61°37.54'W, 367–362 m, MNHN-IU-2013-18828; st. DW4588 or CP4588, 21 June 2015, 16°1.85'N, 61°24'W, 416–251 m, MNHN-IU-2013-18993; st. CP4648, 29 June 2015, 16°2.31'N, 61°27.3'W, 388–368 m, MNHN-IU-2013-19187.

Comment. The determination is based on figure and description in Chace (1942). The species was already reported from Guadeloupe.

Distribution. North of Cuba and Caribbean Sea; Lesser Antilles, VGI (St Croix), ICA (Guadeloupe); 274–476 m.

Family Munidopsidae Ortmann, 1898

***Galacantha spinosa* A. Milne-Edwards, 1880**

(Fig. 10h)

Galacantha spinosa A. Milne-Edwards, 1880: 53 (Dominica).—A. Milne-Edwards & Bouvier, 1897: 56 (Dominica).

Munidopsis spinosa.—Chace, 1942: 76 (Dominica).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4522, 9 June 2015, 16°37.6'N, 61°48.3'W, 716–650 m, MNHN-IU-2013-18808; st. CP4644, 28 June 2015, 15°46.96'N, 61°5.11'W, 898–835 m, MNHN-IU-2013-19171.

Comment. Photographs were determined using Mayo (1974: 345, fig. 53–54) and compared with its closest western Atlantic relative, *Galacantha rostrata* A. Milne-Edwards, 1880, also reported from the Lesser Antilles (Chace 1942: 75, Grenadines). In *Galacantha spinosa* there are white markings on legs and abdomen while *G. rostrata* is 'solidly red or red-orange'.

Distribution. Florida Strait, Gulf of Mexico, Caribbean Sea to Colombia; Lesser Antilles, ICA (Guadeloupe, Dominica); 402–1050 m.

***Leiogalatea agassizii* (A. Milne-Edwards, 1880)**

(Fig. 10i)

Galathea agassizii A. Milne-Edwards, 1880: 47 (St Lucia, Barbados).—A. Milne-Edwards & Bouvier, 1897: 17 (St Vincent, St Lucia, Barbados).—Chace, 1942: 31 (St Vincent, St Lucia, Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4510, 7 June 2015, 16°15.1'N, 61°51.3'W, 660–690 m, MNHN-IU-2013-18858; st. DW4511, 8 June 2015, 16°13.9'N, 61°51.5'W, 660–630 m, MNHN-IU-2013-18894.

Comment. Photographs were determined using key characters and figures in A. Milne-Edwards & Bouvier (1897: 17, pl. 1, fig. 6–15). This is the single species of this genus in the Atlantic with type locality in the Lesser Antilles (St Lucia and Barbados). This is the first record for Guadeloupe.

Distribution. Western and eastern Atlantic (Baba *et al.* 2008); Lesser Antilles, ICA (Guadeloupe, St Lucia, St Vincent, Barbados); 300–1642 m.

***Munidopsis abbreviata* (A. Milne-Edwards, 1880)**

(Fig. 10j)

Galathodes abbreviatus A. Milne-Edwards, 1880: 55 (Guadeloupe, Martinique).

Munidopsis abbreviata.—A. Milne-Edwards & Bouvier, 1897: 91 (Guadeloupe, Martinique).—Chace, 1942, 77 (Guadeloupe, Martinique).—Mayo, 1974: 42 (Guadeloupe, Tobago, Orchila).—Poupin, 1994: 38 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4644, 28 June 2015, 15°46.96'N, 61°5.11'W, 898–835 m, MNHN-IU-2013-19170.

Comment. Photographs were determined by using figures and key characters in A. Milne-Edwards & Bouvier (1897: 91, pl. 5, fig. 1) and Mayo (1974: 42, fig. 1–2). The type locality of this species is Martinique (917 m), near Guadeloupe.

Distribution. Florida Strait, Gulf of Mexico, Bahamas, Caribbean Sea to Suriname; Lesser Antilles, ICA (Guadeloupe, Martinique, Tobago), IOV (Orchila); 919–1342 m.

***Munidopsis abdominalis* (A. Milne-Edwards, 1880)**

(Fig. 11a)

Elasmonotus abdominalis A. Milne-Edwards, 1880: 61 (Barbados).—A. Milne-Edwards & Bouvier, 1897: 101 (Barbados).

Munidopsis abdominalis.—Chace, 1942: 98 (St Kitts, Barbados).—Rice & Miller, 1991: 305 (St Vincent, Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4643, 28 June 2015, 15°44.98'N, 61°11.07'W, 609–611 m, MNHN-IU-2013-19154, 19155 (rostrum more acute).

Comment. This is the first record for Guadeloupe. The determination is based on A. Milne-Edwards & Bouvier (1897: 101, pl. 8, fig. 7) with two basal spines that are noteworthy at the inner base of the merus of cheliped. Mayo (1974: fig. 3) has illustrated setae on the inner margin of the chelipeds, not seen on photos probably because the specimens have dried.

Distribution. Bahamas, Cuba to Suriname, French Guiana; Lesser Antilles, ICA (St Kitts, Guadeloupe, St Vincent, Barbados); 366–720 m (Baba *et al.* 2008).

***Munidopsis alaminos* Pequegnat & Pequegnat, 1970**

(Fig. 11b)

Munidopsis alaminos.—Pequegnat & Pequegnat, 1971: 18 (Dominica).—Mayo, 1974: 62 (Anguilla, Guadeloupe, Dominica).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4513, 8 June 2015, 16°12.58'N, 61°53.14'W, 644–406 m, MNHN-IU-2013-18846; st. CP4524, 10 June 2015, 16°30.17'N, 61°42.4'W, 550–500 m, MNHN-IU-2013-18799.



FIGURE 11. Anomura. Munidopsidae. a) *Munidopsis abdominalis*, st. CP4643, 609–611 m, MNHN-IU-2013-19154; b) *Munidopsis alaminos*, st. CP4513, 644–406 m, MNHN-IU-2013-18846; c) *Munidopsis* aff. *barbarae*, st. DW4573, 17 June 2015, 16°19.9'N, 60°54.6'W, 413–389 m, MNHN-IU-2013-18962; d) *Munidopsis bradleyi*, st. DW4603, 388–266 m, MNHN-IU-2013-19035; e) *Munidopsis brevimanus*, st. CP4526, 511–484 m, MNHN-IU-2013-18843; f) *Munidopsis erinacea*, st. CP4513, 644–406 m, MNHN-IU-2013-18844; g) *Munidopsis longimanus*, st. CP4522, 716–650 m, MNHN-IU-2013-18823; h) *Munidopsis platirostris*, st. CP4543, 385–399 m, MNHN-IU-2013-18906; i) same, st. CP4569, 359–250 m, MNHN-IU-2013-18952; j) *Munidopsis polita*, st. CP4513, 644–406 m, MNHN-IU-2013-18845; k) *Munidopsis ramahtaylorae*, st. CP4522, 716–650 m, MNHN-IU-2013-18822; l) *Munidopsis riveroi*, st. CP4512, 532–409 m, MNHN-IU-2013-18784; m–n) *Munidopsis robusta*, st. DW4630, 428–379 m, MNHN-IU-2013-19128.

Comment. Photographs were determined using key characters and figures in Mayo (1974: 62, fig. 4–5). It seems that there are variations in the length of the chelipeds as specimen MNHN 18799 has very long chelipeds, almost twice as long as specimen MNHN 18846 (fig. 11b) and the specimen figured by Mayo (1974: fig. 4). This is probably in the range of intraspecific variations for the species as specimen MNHN 18799 is otherwise similar for in the form of the rostrum, ocular peduncles and abdominal somites.

Distribution. Gulf of Mexico, Caribbean Sea to French Guiana; Lesser Antilles, ICA (Anguilla, Guadeloupe, Dominica); 457–842 m.

***Munidopsis aff. barbarae* (Boone, 1927)**

(Fig. 11c)

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4573, 17 June 2015, 16°19.9'N, 60°54.6'W, 413–389 m, MNHN-IU-2013-18962, 18964; st. DW4604, 23 June 2015, 16°0.96'N, 61°13.27'W, 542–411 m (photo T. Magniez no MHNH number).

Comment. Photographs examined resemble *Munidopsis barbarae* as figured by Boone (1927: fig. 13) with spines on the carapace and corneous spine on dorsal cornea, reported for this species as ‘squamous protuberance’ (Melo 1999) or ‘spine’ (Chace 1942). *Munidopsis barbarae* has been rarely reported since its description, occurring in Bahamas, Gulf of Mexico, Brazil. In Guadeloupe, photographs from st. DW4573 (sides of rostrum serrated, chelipeds with dense setae, ambulatory legs not banded) and st. DW4604 (side of rostrum almost smooth, cheliped with few setae, ambulatory legs banded in white and orange) probably represent two different species, the latter being most probably the true *M. barbarae*. The specimens must be examined for positive identification(s).

Distribution (for *M. barbarae*). Gulf of Mexico, Bahamas to Brazil; ?Lesser Antilles, ICA (Guadeloupe); 185–200 m (to ?411–542 m).

***Munidopsis bradleyi* Pequegnat & Pequegnat, 1971**

(Fig. 11d)

Munidopsis bradleyi.—Pequegnat & Pequegnat, 1971: 7 (St Barthélemy, St Kitts, Nevis, Dominica).—Mayo, 1974: 92 (Guadeloupe, St Barthélemy, Dominica).—Poupin, 1994: 38 (Guadeloupe).—Gervain *et al.*, 2002: 22 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4602, 23 June 2015, 16°2.67'N, 61°16.01'W, 670–507 m, MNHN-IU-2013-19036; st. DW4603, 23 June 2015, 16°1.62'N, 61°13.03'W, 388–266 m, MNHN-IU-2013-19035.

Comment. Photographs were determined using key characters and figures in Mayo (1974: 92, fig. 10–11) and a previous color photograph in Poupin (1994: pl. 4c). This is a common species in the Lesser Antilles that ‘*can be distinguished easily from all species described from the western Atlantic*’ (cf. Mayo 1974: 100). It was already reported around Guadeloupe from collections made by the R/V *Pillsbury* (Mayo 1974) and R/V *Polka* (Poupin 1994). The minimum depth range is set herein to 276 m instead of 476 m previously.

Distribution. Bahamas, Haiti, Caribbean Sea; Lesser Antilles, ICA (St Barthélemy, St Kitts, Nevis, Guadeloupe, Dominica); 276–914 m (Mayo 1974; Poupin 1994).

***Munidopsis brevimanus* (A. Milne-Edwards, 1880)**

(Fig. 11e)

Elasmonotus brevimanus A. Milne-Edwards, 1880: 60 (Barbados).

Munidopsis brevimana.—Chace, 1942: 96 (Barbados).

Munidopsis brevimanus.—Mayo, 1974: 103 (Barbados).—Poupin, 1994: 38 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4526, 10 June 2015, 16°28.39'N, 61°44.47'W, 511–484 m, MNHN-IU-2013-18843; st. DW4571, 17 June 2015, 16°17.25'N, 60°57.67'W, 432–389 m, MNHN-IU-2013-18956.

Comment. This species can be easily confused with *Munidopsis longimanus*, also collected during KARUBENTHOS 2015. Mayo (1974: 111) must be consulted to distinguish the two species, notably using: a) aspect of rostrum (larger at base and more acute at tip in *M. brevimanus*); b) length of cheliped (shorter in *M. brevimanus*), and c) abdominal tergites more (in *M. longimanus*) or less (in *M. brevimanus*) strongly projecting dorsally.

Distribution. Eastern Gulf of Mexico, north of Cuba, Caribbean Sea; Lesser Antilles, ICA (Guadeloupe, Barbados); 366–906 m.

***Munidopsis erinacea* (A. Milne-Edwards, 1880)**

(Fig. 11f)

Galathodes erinaceus A. Milne-Edwards, 1880: 53 (St Croix (Frederickstadt), Nevis, St Lucia, St Vincent).

Munidopsis erinacea.—A. Milne-Edwards & Bouvier, 1897: 67 (St Croix (Frederickstadt), Nevis, St Lucia, St Vincent).—Schmitt, 1935: 179 (St Croix, Barbados).—Chace, 1942: 90 (St Croix, Nevis, St Lucia, St Vincent).—Mayo, 1974: 133 (Anguilla, Guadeloupe, St Lucia, Grenadines).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4513, 8 June 2015, 16°12.58'N, 61°53.14'W, 644–406 m, MNHN-IU-2013-18844 (check MNHN number, not visible on photo), st. CP4526, 10 June 2015, 16°28.39'N, 61°44.47'W, 511–484 m, MNHN-IU-2013-18842.

Comment. Photographs were determined using figure in A. Milne-Edwards & Bouvier (1897: pl. 7, fig. 9) and key characters and figures in Mayo (1974: 133, fig. 18–19). A color photograph in Takeda (1983: 93) was also consulted. This species is superficially similar to *Munidopsis spinifer*, also collected during KARUBENTHOS, but the two have a different color pattern (compare fig. 11f, 12b).

Distribution. Gulf of Mexico, Antilles, Caribbean Sea to Brazil; Lesser Antilles, VGI (St Croix), ICA (Anguilla, Nevis, Guadeloupe, St Lucia, St Vincent, Barbados, Grenadines), IOV (Tortuga); 276–700 m.

***Munidopsis longimanus* (A. Milne-Edwards, 1880)**

(Fig. 11g)

Elasmonotus longimanus A. Milne-Edwards, 1880: 60 (St Croix (Frederickstadt), Dominica, Martinique, St Lucia).—A.

Milne-Edwards & Bouvier, 1897: 106 (St Croix (Frederickstadt), Martinique, St Lucia).

Munidopsis longimana.—Chace, 1942: 95 (St Croix, Dominica, Martinique, St Lucia).

Munidopsis longimanus.—Mayo, 1974: 196 (St Lucia, Tobago, Orchila).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4522, 9 June 2015, 16°37.6'N, 61°48.3'W, 716–650 m, MNHN-IU-2013-18823; st. DW4601, 23 June 2015, 16°2.94'N, 61°16.53'W, 632–346 m, MNHN-IU-2013-19043 (check station and MNHN numbers, uncertain on photos).

Comment. This species can be easily confused with *Munidopsis brevimanus*, also collected during KARUBENTHOS (compare fig. 11e, 11g). The characters used to separate these two species are indicated under *M. brevimanus*. Relationships between the two species are discussed in Mayo (1974: 111, 206). This is the first record for Guadeloupe.

Distribution. Florida Strait to Gulf of Mexico, Caribbean Sea; Lesser Antilles, VGI (St Croix), ICA (Guadeloupe, Dominica, Martinique, St Lucia, Tobago), IOV (Orchila); 440–1281 m.

***Munidopsis platirostris* (A. Milne-Edwards & Bouvier, 1894)**

(Fig. 11h–i)

Orophrynchus platirostris.—A. Milne-Edwards & Bouvier, 1897: 114 (Barbados).

Munidopsis platirostris.—Schmitt, 1935: 180 (Barbados, Curaçao; record from Curaçao doubtful, according to Mayo 1974: 223).—Mayo, 1974: 216 (Dominica, St Vincent).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4543, 13 June 2015, 16°39.83'N, 61°33.03'W, 385–399 m, MNHN-IU-2013-18906; st. CP4569, 17 June 2015, 16°17.25'N, 60°59.78'W, 359–250 m, MNHN-IU-2013-18952; st. DW4586, 21 June 2015, 15°59.62'N, 61°22.51'W, 251–204 m, MNHN-IU-2013-18998; st. CP4624, 26 June 2015, 15°56.23'N, 61°30.67'W, 242–243 m, MNHN-IU-2013-19117; st. CP4636, 27 June 2015, 15°50.2'N, 61°26.31'W, 262–262 m, MNHN-IU-2013-19145.

Comment. The photographs were determined by using Mayo (1974: 216, fig. 31). In the photographs examined there is a dorsomedian band on the carapace and abdomen (Fig. 11i) that is sometimes poorly defined or even almost totally absent (Fig. 11h). This is the first record for Guadeloupe.

Distribution. Florida Strait, Yucatan Strait, northwestern Caribbean Sea, Antilles; Lesser Antilles, ICA (Guadeloupe, Dominica, St Vincent, Barbados), IOV (?Curaçao); 101–842 m.

***Munidopsis polita* (Smith, 1883)**

(Fig. 11j)

Munidopsis polita.—Mayo, 1974: 225 (Guadeloupe).—Poupin, 1994: 39 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4513, 8 June 2015, 16°12.58'N, 61°53.14'W, 644–406 m, MNHN-IU-2013-18845.

Comment. Photographs were determined using key, figures and remarks in Mayo (1974: 225, fig. 32–33). The species was already reported from Guadeloupe.

Distribution. Massachusetts to Florida Strait, Gulf of Mexico, Caribbean Sea to northern South America; Lesser Antilles, ICA (Guadeloupe); 129–860 m.

***Munidopsis ramahtaylorae* Pequegnat & Pequegnat, 1971**

(Fig. 11k)

Munidopsis ramahtaylorae.—Pequegnat & Pequegnat, 1971: 11 (between Saba, St Barthélemy).—Mayo, 1974: 237 (St Barthélemy).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4512, 8 June 2015, 16°12.57'N, 61°53.54'W, 532–409 m, MNHN-IU-2013-18788; st. CP4522, 9 June 2015, 16°37.6'N, 61°48.3'W, 716–650 m, MNHN-IU-2013-18822; st. DW4602, 23 June 2015, 16°2.67'N, 61°16.01'W, 670–507 m, MNHN-IU-2013-19037.

Comment. Photographs were determined using Mayo (1974: 237, fig. 34) key characters and figures. The holotype of this species is from R/V *Oregon* collections between Saba and St Barthélemy. This is apparently the first new record in the Lesser Antilles since that time.

Distribution. Eastern Gulf of Mexico, south of Cuba; Lesser Antilles, ICA (St Barthélemy, Saba, Guadeloupe); 200–649 m.

***Munidopsis riveroi* Chace, 1939**

(Fig. 11l)

Munidopsis riveroi.—Pequegnat & Pequegnat, 1971: 22 (St Barthélemy, Dominica).—Mayo, 1974: 245 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4512, 8 June 2015, 16°12.57'N, 61°53.54'W, 532–409 m, MNHN-IU-2013-18784; st. CP4513, 8 June 2015, 16°12.58'N, 61°53.14'W, 644–406 m, MNHN-IU-2013-18766.

Comment. Photographs were determined using key characters and figures in Mayo (1974: 245, fig. 35–36). A male from Guadeloupe (476–686 m) was already reported off Guadeloupe by this author.

Distribution. Cuba, Honduras, Colombia, Venezuela, Brazil; Lesser Antilles, ICA (St Barthélemy, Guadeloupe, Dominica); 338–732 m (Baba *et al.* 2008).

***Munidopsis robusta* (A. Milne-Edwards, 1880)**

(Fig. 11m–n)

Galathodes robusta A. Milne-Edwards, 1880: 54 (Grenada).

Munidopsis robusta.—A. Milne-Edwards & Bouvier, 1897: 69 (Grenada).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4630, 27 June 2015, 15°48.07'N, 61°28.81'W, 428–379 m, MNHN-IU-2013-19128.

Comment. On the single specimen photographed, the cardiac and intestinal spines of the carapace are much more pronounced than in Mayo (1974: 258, fig. 38) but overall, this specimen agrees with *M. robusta*, already reported from the Lesser Antilles at similar depths.

Distribution. Northern Carolina to Florida Strait, Gulf of Mexico, Caribbean Sea to northern South America; Lesser Antilles, ICA (Guadeloupe, Grenada); 110–4708 m.

***Munidopsis ?serricornis* (Lovén, 1852)**

(Fig. 12a)

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4510, 7 June 2015, 16°15.1'N, 61°51.3'W, 660–690 m, MNHN-IU-2013-18857.

Comment. *Munidopsis serricornis* is considered as a species complex (Ahyong 2014; Macpherson *et al.* 2016). The photograph determination must therefore be checked. Another potential candidate is *Munidopsis acuminata* Benedict, 1902 with epipods on chelipeds. *Munidopsis tridens* (A. Milne-Edwards, 1880) and *Munidopsis transtridens* Pequegnat & Pequegnat, 1971 are also related but they have tubercles on the gastric region of carapace, not seen on photographs examined.

Distribution. Georgia to Gulf of Mexico, western and eastern Atlantic, Mediterranean Sea, Indo-Pacific; Lesser Antilles, ICA (?Guadeloupe); 92–2165 m (Macpherson *et al.* 2016).

***Munidopsis spinifer* (A. Milne-Edwards, 1880)**

(Fig. 12b)

Galathodes spinifer A. Milne-Edwards, 1880: 54 (St Kitts, Barbados).

Munidopsis spinifer.—A. Milne-Edwards & Bouvier, 1897: 64 (St Kitts, Barbados).—Chace, 1942: 91 (St Kitts, Martinique, St Lucia, Barbados).—Mayo, 1974: 324 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4526, 10 June 2015, 16°28.39'N, 61°44.47'W, 511–484 m, MNHN-IU-2013-18841; st. DW4601, 23 June 2015, 16°2.94'N, 61°16.53'W, 632–346 m, MNHN-IU-2013-19044.

Comment. This species resembles *Munidopsis erinacea* but can be tell apart by its color pattern with longitudinal white/orange bands on carapace and abdomen (compare fig. 11f and fig. 12b). Key characters and figures are in Mayo (1974: 324, fig. 50–51) with a male specimen already reported off Guadeloupe (360–421 m).

Distribution. Florida Strait, Gulf of Mexico, Bahamas, Caribbean Sea; Lesser Antilles, ICA (St Kitts, Guadeloupe, Martinique, St Lucia, Barbados); 203–880 m.

***Munidopsis spinocolata* (A. Milne-Edwards, 1880)**

(Fig. 12c)

Orophorhynchus spinocolatus A. Milne-Edwards, 1880: 59 (Dominica).

Munidopsis spinocolata.—A. Milne-Edwards & Bouvier, 1897: 75 (Dominica).—Chace, 1942: 86 (Dominica).—Mayo, 1974: 335 (Dominica).



FIGURE 12. Anomura. Munidopsidae. a) *Munidopsis ?serricornis*, st. DW4510, 660–690 m, MNHN-IU-2013-18857; b) *Munidopsis spinifer*, st. DW4601, 632–346 m, MNHN-IU-2013-19044; c) *Munidopsis spinoculata*, st. CP4513, 644–406 m, MNHN-IU-2013-18847; d) *Munidopsis squamosa*, st. CP4543, 385–399 m, MNHN-IU-2013-18901. Diogenidae. e) *Allodardanus bredini*, st. CP4623, 217–182 m, MNHN-IU-2013-19119; f) *Bathynarius anomalus*, st. DW4613, 210–240 m, MNHN-IU-2013-19064; g) *Cancellus ornatus*, st. DW4611, 263–242 m, MNHN-IU-2013-19055; h) same, frontal view, in a sponge, st. DW4613, 210–240 m, MNHN-IU-2013-19065; i) *Dardanus insignis*, st. CP4598, 207–211 m, MNHN-IU-2013-19034; j) *Paguristes inconstans*, st. DW4593, 152–133 m, MNHN-IU-2013-19011; k) *Paguristes spinipes*, st. DW4615, 270–226 m, MNHN-IU-2013-19071. Paguridae. l) *Agaricochirus ?alexandri*, st. DW4593, 152–133 m, MNHN-IU-2013-19012; m) *Agaricochirus erosus*, st. DW4615, 270–226 m, MNHN-IU-2013-19070; n) *Agaricochirus ?gibbosimanus* st. DW4554, 370–300 m, MNHN-IU-2013-18922.

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4513, 8 June 2015, 16°12.58'N, 61°53.14'W, 644–406 m, MNHN-IU-2013-18847, 18768.

Comment. Photographs were determined by comparison with the figure in A. Milne-Edwards & Bouvier (1897: pl. 6, fig. 8) and key characters and figures in Mayo (1974: 335, fig. 52).

Distribution. Florida Strait, Gulf of Mexico, Caribbean Sea; Lesser Antilles, ICA (Guadeloupe, Dominica); 597–1738 m.

***Munidopsis squamosa* (A. Milne-Edwards, 1880)**

(Fig. 12d)

Orophorhynchus squamosus A. Milne-Edwards, 1880: 58 (Martinique).

Elasmonotus squamosus.—A. Milne-Edwards & Bouvier, 1897: 99 (Martinique, St Lucia).

Munidopsis squamosa.—Poupin, 1994: 39 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4543, 13 June 2015, 16°39.83'N, 61°33.03'W, 385–399 m, MNHN-IU-2013-18901.

Comment. A single photograph was determined using figure in A. Milne-Edwards & Bouvier (1897: pl. 8, fig. 4) and key characters and figures in Mayo (1974: 356, fig. 55–56). The specimen has some resemblance with those attributed herein to *Munidopsis* aff. *barbarae* but its carapace has tubercles instead of spines in *M. aff. barbarae* (compare fig. 11c, 12d). *Munidopsis squamosa* was reported from Guadeloupe by Poupin (1994) at 500 m.

Distribution. Dominican Republic, Yucatan Channel (Mayo 1974); Lesser Antilles, ICA (Guadeloupe, Martinique, St Lucia); 212–500 m.

Family Porcellanidae Haworth, 1825

***Porcellana sayana* (Leach, 1820)**

Porcellana ocellata.—Stimpson, 1859: 77 (St Thomas).

Porcellana robertsoni Henderson, 1888: 111 (North of Culebra, St Thomas).

Porcellana sayana.—Henderson, 1888: 109 (St Thomas).—Schmitt, 1924b: 90 (Antigua (English Harbor), Barbados).—Schmitt, 1935: 189 (St Thomas).—Gore, 1974: 715 (Martinique, Margarita, Borracha, Los Roques).—Haig, 1962: 186 (St Thomas, St John, St Croix, Jost Van Dyke, Tobago).—Rodríguez, 1980: 219 (Coche, Cubagua).—Scelzo & Varela, 1988: 37 (Blanquilla).—Lira, 1997, tab. 4 (Margarita).—Lira, 2004: tab. 1 (Tortuga).—Hernández *et al.*, 1999: tab. 1 (Margarita).—Hernández-Ávila *et al.*, 2007: tab. 1 (Cubagua).—Lira *et al.*, 2012, tab. 1 (Tortuga).—Poupin & Lemaitre, 2014: 22, tab. 2 (Virgin Islands, Antigua, Guadeloupe, Martinique, Barbados, Coche, Margarita, Cubagua, La Blanquilla, La Tortuga, Los Roques).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4529, 11 June 2015, 16°24.4'N, 61°33.68'W, 176–183 m, MNHN-IU-2013-18877.

Comment. This is a shallow to deep-water species. Its maximum depth range is extended herein from 110 m to 176–183 m. The species was already collected by dredge at 130 m during KARUBENTHOS 2012 (see Poupin & Lemaitre 2014).

Distribution. North Carolina to Florida, Gulf of Mexico, Caribbean Sea to Brazil; Lesser Antilles, VGI (St Thomas, St John, St Croix, Jost Van Dyke), ICA (Antigua, Guadeloupe, Martinique, Barbados), IOV (Coche, Margarita, Tortuga, Cubagua, Blanquilla, La Tortuga, Los Roques); 1 to 176–183 m.

Superfamily Paguroidea Latreille, 1802

Family Diogenidae Ortmann, 1892

***Allodardanus bredini* Haig & Provenzano, 1965**

(Fig. 12e)

Allodardanus bredini Haig & Provenzano, 1965: 203 (Nevis).—Poupin, 1994: 30 (Guadeloupe).—Lemaitre & Tavares, 2015: 466 (Nevis, Curaçao).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4596, 22 June 2015, 15°56.55'N, 61°21.76'W, 164–185 m, MNHN-IU-2013-19024; st. CP4623, 26 June 2015, 15°55.72'N, 61°31.02'W, 217–182 m, MNHN-IU-2013-19119.

Comment. Photographs were determined by comparison with color photographs already published from Guadeloupe, 240 m, by Poupin (1994: pl. 1f). This hermit crab has a very distinctive pink color pattern, as illustrated herein (fig. 12e). A specimen from Curaçao is also illustrated in color by Lemaitre & Tavares (2015: fig. 1b).

Distribution. Bermuda, Florida Strait, Bahamas to Curaçao; Lesser Antilles, ICA (Nevis, Guadeloupe), IOV (Curaçao); 100–450 m (Lemaitre & Tavares 2015).

***Bathynarius anomalus* (A. Milne-Edwards & Bouvier, 1893)**

(Fig. 12f)

Clibanarius anomalus A. Milne-Edwards & Bouvier, 1893: 157 (St Vincent, Barbados, Grenadines).

Bathynarius anomalus.—Poupin, 1994: 30 (Guadeloupe).—Lemaitre & Tavares, 2015: 467 (Curaçao).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4579, 17 June 2015, 16°19.2'N, 60°54.12'W, 264–228 m, MNHN-IU-2013-18974; st. DW4613, 25 June 2015, 16°24.16'N, 60°50.1'W, 210–240 m, MNHN-IU-2013-19064; st. DW4615, 25 June 2015, 16°23.16'N, 60°49.66'W, 270–226 m, MNHN-IU-2013-19072.

Comment. This species was recognized from the photographs by R. Lemaitre (pers. com.). Its live color was already reported from Guadeloupe (Poupin 1994: pl. 1g) and Curaçao (Lemaitre & Tavares 2015: fig. 1c).

Distribution. Florida Strait, Bahamas, Caribbean Sea; Lesser Antilles, ICA (Guadeloupe, St Vincent, Grenadines, Barbados), IOV (Curaçao); 150–472 m (Lemaitre & Tavares 2015).

***Cancellus ornatus* Benedict, 1901**

(Fig. 12g–h)

Cancellus ornatus.—Mayo, 1973: 9, tab. 1 (Antigua (Sombrero), Grenada, Trinidad, Tortuga).—Carré, 2005: 23 (Martinique).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4611, 24 June 2013, 16°19.27'N, 60°51.68'W, 263–242 m, MNHN-IU-2013-19055; st. DW4613, 25 June 2015, 16°24.16'N, 60°50.1'W, 210–240 m, MNHN-IU-2013-19065.

Comment. *Cancellus ornatus* is a symmetrical hermit crab that lives in tube in siliceous sponges (fig. 12h) or calcareous rocks. Photographs were determined using key characters and figures in Mayo (1973: 18, fig. 5–8). KARUBENTHOS specimens have the same shaded areas on chelipeds and 2nd pereopods as those figured in Mayo (1973: fig. 6a). This is the first record for Guadeloupe but Carré (2005) had already reported the species from Martinique.

Distribution. North Carolina, Gulf of Mexico, Antilles to Brazil; Lesser Antilles, ICA (Antigua, Guadeloupe, Martinique, Grenada, Trinidad), IOV (Tortuga); 37–366 m.

***Dardanus insignis* (de Saussure, 1858)**

(Fig. 12i).

Pagurus insignis Saussure, 1857: 503 (Guadeloupe).—Saussure, 1858: 37, 453 (Guadeloupe).

Aniculus petersii A. Milne-Edwards, 1880: 40 (Barbados).

Pagurus striatus Latr. var. *Petersii*.—A. Milne-Edwards & Bouvier, 1893: 162 (Barbados).

Dardanus insignis.—Poupin, 1994: 31 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4598, 22 June 2015, 15°56.28'N, 61°23.25'W, 207–211 m, MNHN-IU-2013-19034.

Comment. This species, described from Guadeloupe, can be easily recognized based on its color pattern, already illustrated for Guadeloupe, 200 m (Poupin 1994: pl. 1h).

Distribution. North Carolina to Gulf of Mexico, Antilles; Lesser Antilles, ICA (Guadeloupe, Barbados); 22–318 m.

***Paguristes cadenati* Forest, 1954**

Paguristes cadenati Forest, 1954: 353 (Martinique).—Hazlett, 1966: 56 (Curaçao).—Scelzo & Varela, 1988: 37 (Blanquilla).—Carré, 2005: 23 (Martinique).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. R. Lemaitre, workshop Besse 2013), st. GB08, 10 May 2012, 16°02.38'N, 61°45.71'W, 17 m, MNHN-IU-2013-4870; st. GB09, 10 May 2012, 16°08.07'N, 61°46.71'W, 6 m, MNHN-IU-2013-4493 (JL562); st. GB12, 14 May 2012, 16°25.61'N, 61°32.57'W, 14 m, MNHN-IU-2013-4152 (JL756); st. GB13, 14 May 2012, 16°23.26'N, 61°31.79'W, 10 m, MNHN-IU-2013-5477, 5478, 6714 (JL747); st. GB19, 17 May 2012, 16°23.26'N, 61°31.79'W, 11 m, MNHN-IU-2013-5121 (JL986); st. GB21, 18 May 2012, 16°22.88'N, 61°31.43'W, 8 m, MNHN-IU-2013-6721; st. GB30, 25 May 2012, 16°10.97'N, 61°32.41'W, 16 m, MNHN-IU-2013-5320 (JL1387); st. GD50, 23 May 2012, 16°11.31'N, 61°29.59'W, 22 m, MNHN-IU-2013-4689 (JL1277); st. GM07, 07-08 May 2012, 16°10.45'N, 61°46.78'W, 1 m, MNHN-IU-2013-5033 (JL350); st. GR04, 04 May 2012, 16°21.97'N, 61°38.09'W, 23 m, MNHN-IU-2013-4583, 6720 (JL232); st. GR05, 04 May 2012, 16°20.66'N, 61°37.88'W, 5 m, MNHN-IU-2013-6759 (JL168-photo); st. GR08, 05 May 2012, 16°09.58'N, 61°32.72'W, 22 m, MNHN-IU-2013-6771 (JL309); st. GR09, 06 May 2012, 16°21.75'N, 61°36.07'W, 15 m, MNHN-IU-2013-6741 (JL32-photo), 6772 (JL479), 6864 (JL322); st. GR10, 07 May 2012, 16°08.43'N, 61°46.92'W, 29 m, MNHN-IU-2013-5019, 6766 (JL369); st. GR11, 07 May 2012, 16°11.2'N, 61°47'W, 13 m, MNHN-IU-2013-4505 (JL373), 5092 (JL383-photo); st. GR15, 09 May 2012, 16°06.07'N, 61°46.37'W, 11 m, MNHN-IU-2013-6779 (JL453); st. GR17, 10 May 2012, 16°08.07'N, 61°46.71'W, 13 m, MNHN-IU-2013-4231 (JL585); st. GR23, 14 May 2012, 16°25.61'N, 61°32.57'W, 20 m, MNHN-IU-2013-5038 (JL727); st. GR24, 14 May 2012, 16°23.26'N, 61°31.79'W, 16 m, MNHN-IU-2013-4383 (JL736), 4569 (JL736), 5040 (JL738); st. GR27, 15 May 2012, 16°22.57'N, 61°31.74'W, 8 m, MNHN-IU-2013-5433 (JL821); st. GR35, 18 May 2012, 16°26.78'N, 61°32.41'W, 15 m, MNHN-IU-2013-4709 (JL1083); st. GR37, 19 May 2012, 16°30.04'N, 61°28.79'W, 16 m, MNHN-IU-2013-5435 (JL1139); st. GR40, 21 May 2012, 15°54'N, 61°39.3'W, 53 m, MNHN-IU-2013-6719 (JL1260); st. GR49, 26 May 2012, 16°09.71'N, 61°07.73'W, 15 m, MNHN-IU-2013-5008 (JL1395); st. GS04, 04 May 2012, 16°21.97'N, 61°37.98'W, 11 m, MNHN-IU-2013-5107 (JL196-photo), 6863 (JL172); st. GS05, 05 May 2012, 16°21.72'N, 61°36.35'W, 22 m, MNHN-IU-2013-5458 (JL257), 6775 (JL336); st. GS06, 06 May 2012, 16°21.75'N, 61°36.07'W, 23 m, MNHN-IU-2013-6773 (JL372); st. GS07, 07 May 2012, 16°08.43'N, 61°46.92'W, 12 m, MNHN-IU-2013-5102 (JL371), 5601; st. GS09, 08 May 2012, 16°07.61'N, 61°46.53'W, 11 m, MNHN-IU-2013-5637, 6780 (JL494); st. GS11, 10 May 2012, 16°02.38'N, 61°45.71'W, 17 m, MNHN-IU-2013-4844, 4850 (JL587); st. GS12, 10 May 2012, 16°08.07'N, 61°46.71'W, 6 m, MNHN-IU-2013-6764 (JL582); st. GS15, 12 May 2012, 16°17.51'N, 61°48.96'W, 27 m, MNHN-IU-2013-4685 (JL710); st. GS16, 14 May 2012, 16°25.61'N, 61°32.57'W, 25 m, MNHN-IU-2013-5005 (JL744); st. GS18, 15 May 2012, 16°23.74'N, 61°32.07'W, 49 m, MNHN-IU-2013-5128; st. GS19, 15 May 2012, 16°22.57'N, 61°31.74'W, 8 m, MNHN-IU-2013-5255; st. GS20, 16 May 2012, 16°27.34'N, 61°32.07'W, 19 m, MNHN-IU-2013-4395 (JL889), MNHN-IU-2013-5454 (JL875); st. GS21, 16 May 2012, 16°23.26'N, 61°31.79'W, 14 m, MNHN-IU-2013-4405 (JL886), 4557, 4577 (JL920), 6646; st. GS23, 17 May 2012, 16°23.26'N, 61°31.79'W, 7 m, MNHN-IU-2013-4846 (JL975); st. GS24, 18-19 May 2012, 16°26.78'-30.57'N, 61°32.41'-28.45'W, 16 m, MNHN-IU-2013-4394 (JL1024), 5445 (JL1076), 5633; st. GS26, 19 May 2012, 16°30.04'N, 61°28.79'W, 16 m, MNHN-IU-2013-5439 (JL1132); st. GS29, 23 May 2012, 16°22.28'N, 61°38.14'W, 29 m, MNHN-IU-2013-4840 (JL1291); st. GS34, 26 May 2012, 16°09.71'N, 61°07.73'W, 15 m, MNHN-IU-2013-5641 (JL1404); st. GS39, 28 May 2012, 16°09.45'N, 61°10.5'W, 16 m, MNHN-IU-2013-4503 (JL1497).

Guadeloupe, KARUBENTHOS 2015, st. DW4535, 12 June 2015, 16°39.34'N, 61°31.85'W, 75–88 m, MNHN-IU-2013-18865.

Comment. This is a common species in shallow-waters around Guadeloupe with more than 140 specimens already collected during KARUBENTHOS 2012, between 1–52 m (see above, det. R. Lemaitre). *Paguristes starcki* Provenzano, 1965, described from Florida is very similar and sympatric with *P. cadenati*. According to Provenzano (1965: 730) *P. cadenati* can be distinguished by the mottled coloration of its cephalothorax which was verified on the single photograph examined herein. In the Lesser Antilles *Paguristes cadenati* was also reported from St Martin after fieldwork by the Réserve Naturelle in 2012 (specimens deposited in FLMNH, UF31876, UF32305 with photos). Its previous maximum depth range (52 m) is extended herein to 75–88 m.

Distribution. South Florida, western Gulf of Mexico, Caribbean Sea; Lesser Antilles, ICA (St Martin, Guadeloupe, Martinique), IOV (Blanquilla, Curaçao); 1 to 75–88 m.

***Paguristes inconstans* McLaughlin & Provenzano, 1975**

(Fig. 12j)

Paguristes inconstans.—McLaughlin & Provenzano, 1974: 919 (Anguilla (off Sombrero), St Vincent, Grenadines).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. R. Lemaitre, workshop Besse 2013), st. GN20, 15 May 2012, 16°25'N, 61°34'W, 258 m, MNHN-IU-2013-4146 (JL810); st. GN22, 16 May 2012, 16°25'N, 61°33'W, 120 m, MNHN-IU-2013-6640 (JL877-photo).

Guadeloupe, KARUBENTHOS 2015, st. DW4593, 22 June 2015, 15°55.82'N, 61°26.35'W, 152–133 m, MNHN-IU-2013-19011; st. DW4596, 22 June 2015, 15°56.55'N, 61°21.76'W, 164–185 m, MNHN-IU-2013-19025.

Comment. This is the first formal record of this species for Guadeloupe but it was recognized previously there by McLaughlin (unpublished, workshop 2005, Paris MNHN, coll. D. Lamy, traps at 100–150 m) and by R. Lemaitre from KARUBENTHOS 2012 collection (see above). Live coloration with blue corneas and distomesial and distolateral red spots on meri of chelipeds is helpful to recognize it.

Distribution. Eastern Florida, Florida Strait, Caribbean Sea to Venezuela; Lesser Antilles, ICA (Anguilla, Guadeloupe, St Vincent, Grenadines); 36–338 m.

***Paguristes spinipes* A. Milne-Edwards, 1880**

(Fig. 12k)

Paguristes spinipes A. Milne-Edwards, 1880: 44 (Grenada).—A. Milne-Edwards & Bouvier, 1893: 33 (Martinique, St Vincent, Barbados, Grenada).—Lemaitre & Tavares, 2015: 472 (St Lucia, Curaçao).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4517, 9 June 2015, 16°24.4'N, 61°34'W, 178–185 m, MNHN-IU-2013-18817; st. DW4555, 15 June 2015, 16°23.53'N, 60°49.67'W, 258–100 m, MNHN-IU-2013-18930; st. DW4586, 21 June 2015, 15°59.62'N, 61°22.51'W, 251–204 m, MNHN-IU-2013-19006; st. DW4592, 22 June 2015, 15°58.74'N, 61°21.82'W, 214–201 m, MNHN-IU-2013-19014; st. DW4615, 25 June 2015, 16°23.16'N, 60°49.66'W, 270–226 m, MNHN-IU-2013-19071; st. CP4624, 26 June 2015, 15°56.23'N, 61°30.67'W, 242–243 m, MNHN-IU-2013-19115; st. DW4647, 29 June 2015, 15°50.29'N, 61°26.24'W, 263–264 m, MNHN-IU-2013-19185.

Comment. This is the first record for Guadeloupe but this species is common in the Lesser Antilles. *Paguristes spinipes* can be distinguished easily by its color pattern, recently illustrated from Curaçao by Lemaitre & Tavares (2015: fig. 1d).

Distribution. North Carolina to Florida, Gulf of Mexico, Antilles, Caribbean Sea to Brazil; Lesser Antilles, ICA (Guadeloupe, Martinique, St Lucia, St Vincent, Barbados, Grenada), IOV (Curaçao); 70–640 m.

Family Paguridae Latreille, 1802

Agaricochirus ?alexandri (A. Milne-Edwards & Bouvier, 1893)

(Fig. 12l)

Pylopagurus Alexandri A. Milne-Edwards & Bouvier, 1893: 87 (St Croix).

Agaricochirus alexandri.—McLaughlin, 1982: 830, tab. 1 (St Croix, Montserrat, St Lucia, Barbados, between Testigos-Grenada, Tortuga, Los Roques).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4553, 15 June 2015, 16°20.82'N, 60°53.3'W, 162–111 m, MNHN-IU-2013-18917; st. DW4593, 22 June 2015, 15°55.82'N, 61°26.35'W, 152–133 m, MNHN-IU-2013-19012.

Comment. Based on McLaughlin (1982) key and figures, KARUBENTHOS 2015 specimens most probably belong to *A. alexandri*. However, the specimens must be checked for the presence of dorsolateral spines on the carpus of the right cheliped. This character separates *A. alexandri* from affiliated *A. boletifer* (A. Milne-Edwards & Bouvier, 1893) with spines absent or reduced to low protuberances in the later.

Distribution. Florida Strait, Caribbean Sea to northern coast of South America; Lesser Antilles, VGI (St Croix), ICA (?Guadeloupe, Montserrat, St Lucia, Barbados, Grenada), IOV (Testigos, Los Roques, Tortuga); 36–241 m (McLaughlin 1982).

Agaricochirus erosus (A. Milne-Edwards, 1880)

(Fig. 12m)

Eupagurus erosus A. Milne-Edwards, 1880: 42 (Martinique, Barbados).

Pylopagurus erosus.—A. Milne-Edwards & Bouvier, 1893: 89 (Martinique, Barbados).

Agaricochirus erosus.—McLaughlin, 1982: 830, tab. 1 (Martinique, St Lucia).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4615, 25 June 2015, 16°23.16'N, 60°49.66'W, 270–226 m, MNHN-IU-2013-19070; st. CP4595 or DW4595, 22 June 2015, 15°58.65'N, 61°21.95'W, 211–208 m, MNHN-IU-2013-19021.

Comment. The determination is based on the aspect of the right chela with typical mushroom-shaped tubercles on its dorsal surface as illustrated by McLaughlin (1982: 827, fig. 2c).

Distribution. Yucatan Channel, Windward Islands; Lesser Antilles, ICA (Guadeloupe, Martinique, St Lucia, Barbados); 84–347 m (McLaughlin 1982).

Agaricochirus ?gibbosimanus (A. Milne-Edwards, 1880)

(Fig. 12n)

Eupagurus gibbosimanus A. Milne-Edwards, 1880: 42 (Martinique, St Vincent).

Pylopagurus gibbosimanus.—A. Milne-Edwards & Bouvier, 1893: 99 (Martinique, St Vincent).

Agaricochirus gibbosimanus.—McLaughlin, 1982: 831, tab. 1 (Martinique, St Vincent).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4554, 15 June 2015, 16°20.98'N, 60°55.57'W, 370–300 m, MNHN-IU-2013-18922.

Comment. Aspect of chelae of this specimen resembles that illustrated in McLaughlin (1982: fig. 2–3e) for *A. gibbosimanus* but the specimen must be checked for a positive identification.

Distribution. Dominican Republic, Yucatan Channel, northern Caribbean; Lesser Antilles, ICA (?Guadeloupe, Martinique, St Vincent); 200–800 m (McLaughlin 1982).

***Iridopagurus ?iris* (A. Milne-Edwards, 1880)**

Spiropagurus iris A. Milne-Edwards, 1880: 44 (Barbados).—A. Milne-Edwards & Bouvier, 1893: 112 (in part cf. García-Gómez, 1983, not pl. 8, fig. 14–25) (Barbados, Grenada).

Iridopagurus iris.—Saint Laurent-Dechancé, 1966: 159 (Barbados).—García-Gómez, 1983: 16, tab. 1 (St Vincent, Barbados, Grenada, Tobago, Trinidad).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4647, 29 June 2015, 15°50.29'N, 61°26.24'W, 263–264 m, MNHN-IU-2013-19183.

Comment. The specimen from Guadeloupe resembles *Iridopagurus iris*, a species already reported from the Lesser Antilles at similar depths. Among characters that fit this species are: a) blue cornea of large diameter; b) shape of left chela (cf. Saint Laurent-Dechancé 1966: 162, 173); and c) a distodorsal spine on merus of left cheliped (cf. García-Gómez 1983). However, this last character is not clear on the photograph examined and must be checked with the specimen.

Distribution. Western Atlantic, Bahamas, Puerto Rico, Yucatan Peninsula, Colombia, Venezuela, French Guiana (García-Gómez 1983); Lesser Antilles, ICA (?Guadeloupe, St Vincent, Barbados, Grenada, Trinidad, Tobago); 64–713 m.

***Munidopagurus macrocheles* A. Milne-Edwards, 1880**

(Fig. 13a)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4636, 27 June 2015, 15°50.2'N, 61°26.31'W, 262 m, MNHN-IU-2013-19144.

Comment. Overall Guadeloupe specimen is similar to *Munidopagurus macrocheles* as illustrated in A. Milne-Edwards & Bouvier (1893: pl. 8 fig. 21). It seems that this is the first formal report since original description from Cuba (coll. R/V *Blake*, off Havana, 175 brasses = 320 m). However, it was already recognized off Guadeloupe by P.A. McLaughlin (unpublished determination, sorting workshop in Paris MNHN, 2005, coll. D. Lamy 2002–2003, traps and nets at 100–300 m).

Distribution. Cuba; Lesser Antilles, ICA (Guadeloupe); 262–320 m (A. Milne-Edwards 1880).

***Protoniopagurus bioperculatus* Lemaitre & McLaughlin, 1996**

(Fig. 13b–c)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4539, 12 June 2015, 16°39.35'N, 61°31.86'W, 338–339 m, MNHN-IU-2013-18885; st. DW4634, 27 June 2015, 15°47.81'N, 61°25.83'W, 310–304 m, MNHN-IU-2013-19141, 19143.

Comment. This is the first record for Guadeloupe. The photographs were determined based on the shape of the chelae, as illustrated in Lemaitre & McLaughlin (1996: fig. 19). There were also compared with several in situ photographs on the Internet (<http://www.coralreefphotos.com/deep-sea-hermit-crab-found-living-in-a-sponge/>) from submersible dive off Curaçao (246 m, det. and pers. com. R. Lemaitre). *Protoniopagurus bioperculatus* has been rarely reported although it is perhaps common.

Distribution. Caribbean Sea, Puerto Rico; Lesser Antilles, ICA (Guadeloupe), IOV (Curaçao); 91–585 m (Lemaitre & McLaughlin 1996).

***Pylopagurus discoidalis* (A. Milne-Edwards, 1880)**

(Fig. 13d)

Eupagurus discoidalis A. Milne-Edwards, 1880: 41 (St Croix, Montserrat, Guadeloupe, St Lucia, St Vincent, Barbados).

Pylopagurus discoidalis.—A. Milne-Edwards & Bouvier, 1893: 76 (St Croix, Montserrat, Guadeloupe, St Lucia, St Vincent, Barbados).—McLaughlin & Lemaitre, 2001: 451 (Guadeloupe, Montserrat, St Lucia, St Vincent, Barbados).—Lemaitre & Tavares, 2015: 496 (Curaçao).



FIGURE 13. Anomura. Paguridae. a) *Munidopagurus macrocheles*, st. CP4636, 262 m, MNHN-IU-2013-19144; *Protoniopagurus bioperculatus*, b) st. CP4539, 338–339 m, MNHN-IU-2013-18885, c) st. DW4634, 310–304 m, MNHN-IU-2013-19141; d) *Pylopagurus discoidalis*, st. DW4560, 250–185 m, MNHN-IU-2013-18971 (? or 18973); *Tomopagurus rubropunctatus*, e) st. DW4589, 221–150 m, MNHN-IU-2013-18999, f) st. DW4613, 210–240 m, MNHN-IU-2013-19067; g) *Tomopagurus wassi*, st. DW4577, 402–358 m, MNHN-IU-2013-18971; h) *Xylopagurus rectus*, st. CP4648, 367–389 m, MNHN-IU-2013-19199; i) *Paragiopagurus pilimanus*, st. DW4611, 263–242 m, MNHN-IU-2013-19056; j) *Parapagurus ?alaminos*, st. CP4513, 644–406 m, MNHN-IU-2013-18767; k) *Parapagurus pilosimanus*, st. CP4617, 874–830 m, MNHN-IU-2013-19079. Pylochelidae. l) *Cheiroplatea scutata*, st. DW4639, 28 June 2015, 15°47.57'N, 61°19.21'W, 485–496 m, MNHN-IU-2013-19149; m) *Pylocheles agassizi*, st. DW4573, 413–389 m, MNHN-IU-2013-18965.

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4532, 11 June 2015, 16°30.06'N, 61°37.54'W, 367–362 m, MNHN-IU-2013-18826; st. DW4555, 15 June 2015, 16°23.53'N, 60°49.67'W, 258–100 m, MNHN-IU-2013-18929; st. DW4560, 16 June 2015, 16°25.15'N, 60°51'W, 250–185 m, MNHN-IU-2013-18971 or 18973 (Check MNHN number, truncated on photo); st. DW4588 or CP4588, 21 June 2015, 16°1.85'N, 61°24'W, 416–251 m, MNHN-IU-2013-18991; st. DW4597, 22 June 2015, 15°55.47'N, 61°23.48'W, 210–208 m, MNHN-IU-2013-19026.

Comment. This species is common and was already reported from Guadeloupe. It lives in scaphopod shells and is easily recognized by its live coloration. A color photograph is also available from Curaçao in Lemaitre & Tavares (2015: fig. 1e).

Distribution. Southeastern coast of United States, from North Carolina to Florida, Gulf of Mexico, Caribbean Sea, to Santa Catarina, Brazil; Lesser Antilles, VGI (St Croix), ICA (Montserrat, Guadeloupe, St Lucia, St Vincent, Barbados), IOV (Curaçao); 11–1020 m (Lemaitre & Tavares 2015).

***Tomopagurus rubropunctatus* A. Milne-Edwards & Bouvier, 1893**

(Fig. 13e–f)

Tomopagurus rubropunctatus A. Milne-Edwards & Bouvier, 1893: 71 (Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4555, 15 June 2015, 16°23.53'N, 60°49.67'W, 258–100 m, MNHN-IU-2013-18932; st. DW4589, 21 June 2015, 15°59.84'N, 61°27.84'W, 221–150 m, MNHN-IU-2013-18999; st. DW4613, 25 June 2015, 16°24.16'N, 60°50.1'W, 210–240 m, MNHN-IU-2013-19067.

Comment. This is the first record for Guadeloupe and the first illustration in color for this colorful deep-water species. The photograph determination is by J. Poupin and R. Lemaitre, based on McLaughlin (1981: 10) and coloration indicated by A. Milne-Edwards & Bouvier (1893: 74 '*une bande rouge transversale, de couleur plus vive, se voit également un peu en arrière du bord antérieur des méropodites, aussi bien en dehors qu'en dedans*').

Distribution. Caribbean Sea; Lesser Antilles, ICA (Guadeloupe, Barbados); 73–238 m (McLaughlin 1981).

***Tomopagurus wassi* McLaughlin, 1981**

(Fig. 13g)

Tomopagurus wassi McLaughlin, 1981: 23, tab. 4 (St Lucia).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4577, 17 June 2015, 16°18.98'N, 60°53.52'W, 402–358 m, MNHN-IU-2013-18971.

Comment. The determination is based on figures and key characters in McLaughlin (1981: 10). The live coloration matches that indicated by this author with meri of ambulatory legs each with a prominent vertical stripe of orange medially and tinged with orange distally and proximally. This is the first formal record from Guadeloupe but the species was already reported there by P.A. McLaughlin (unpublished determination, sorting workshop in Paris MNHN, 2005, coll. D. Lamy 2002–2003, traps and nets at 100–300 m).

Distribution. North Carolina, Florida Strait, Gulf of Mexico, Yucatán Strait, Brazil; Lesser Antilles, ICA (Guadeloupe, St Lucia); 75 to 360–402 m.

***Xylopagurus rectus* A. Milne-Edwards, 1880**

(Fig. 13h)

Xylopagurus rectus A. Milne-Edwards, 1880: 37 (Dominica; in part, cf. Lemaitre 1995).—A. Milne-Edwards & Bouvier, 1893: 108 (Dominica; in part, cf. Lemaitre 1995).—Poupin, 1994: 33 (Guadeloupe).—Lemaitre, 1995: 5 (Guadeloupe; Dominica, type specimens, in part).—Gervain *et al.*, 2002: 21 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4648, 29 June 2015, 16°2.66'N, 61°28.32'W, 367–389 m, MNHN-IU-2013-19199.

Comment. This species lives in tubular cavities in sunken wood. Its maximum depth range is extended herein from 311 m to 367–389 m. It can be confused with *Xylopagurus tenuis* Lemaitre (1995). The aspect of the posterior region of the 6th abdominal tergite is a key character not clearly visible on the photos. The present identification is based on the aspect of the carpus of right cheliped, evenly convex instead of angular in *X. tenuis*. *Xylopagurus rectus* was already reported from Guadeloupe (Poupin 1994, pl. 3d; P.A. McLaughlin, unpublished determination, sorting workshop in Paris MNHN, 2005, coll. D. Lamy 2002–2003, traps and nets at 100–300 m).

Distribution. Off Belize, Jamaica; Lesser Antilles, ICA (Guadeloupe, Dominica); 170–389 m (Lemaitre 1995).

Family Parapaguridae Smith, 1882

Paragiopagurus pilimanus (A. Milne-Edwards, 1880)

(Fig. 13i)

Eupagurus pilimanus A. Milne-Edwards, 1880: 43 (St Kitts, Guadeloupe, Barbados; in part, specimen from Barbados probably *Sympagurus pictus* Smith, cf. Lemaitre 2013).

Sympagurus pilimanus.—A. Milne-Edwards & Bouvier, 1893: 63 (St Kitts, Guadeloupe; in part, some specimens *Sympagurus pictus* Smith, cf. Lemaitre 2004).—Poupin, 1994: 34 (Guadeloupe).—Lemaitre, 1989: 94 (north of Virgin Island).

Paragiopagurus pilimanus.—Lemaitre, 2013: 408 (Guadeloupe, Curaçao).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4532, 11 June 2015, 16°30.06'N, 61°37.54'W, 367–362 m, MNHN-IU-2013-18825; st. DW4536 or CP4536, 12 June 2015, 16°40.57'N, 61°27.55'W, 347–323 m, MNHN-IU-2013-18887; st. DW4611, 24 June 2013, 16°19.27'N, 60°51.68'W, 263–242 m, MNHN-IU-2013-19056.

Comment. This species can be recognized based on the bright red coloration on distal half of ocular peduncles. It was already photographed in color from Guadeloupe (Poupin 1994: pl. 3e).

Distribution. Bermuda, Bahamas, Florida, Caribbean Sea; Lesser Antilles, VGI (north of Virgin Islands), ICA (St Kitts, Guadeloupe, ?Barbados), IOV (Curaçao); 36–2034 m (Lemaitre 2013).

Parapagurus ?alaminos Lemaitre, 1986

(Fig. 13j)

Parapagurus alaminos Lemaitre, 1986: 527 (Tobago, Los Roques; from 'Caribbean Sea, RSMAS', which must include these specimens from R/V *Pillsbury*: st. 844, Tobago, USNM 310805; st. 747, Los Roques, USNM 310817. USNM entries consulted online at USNM Crustacea 2016).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4513, 8 June 2015, 16°12.58'N, 61°53.14'W, 644–406 m, MNHN-IU-2013-18767.

Comment. This tentative photo determination is based on color as illustrated in Lemaitre & Tavares (2015, fig. 23b). Shield and ocular peduncles are dirty white and ambulatory legs are much paler than in *Parapagurus pilosimanus* (see under *P. pilosimanus*). The specimen must however be checked with other key characters in Lemaitre (1986).

Distribution. Western Atlantic, from off North Carolina, the Gulf of Mexico and Caribbean, to off Rio Grande do Norte, Brazil; eastern Atlantic, from the Azores and Canary Islands to the Gulf of Guinea; Lesser Antilles, ICA (?Guadeloupe, Tobago), IOV (Los Roques); 850–3360 m (Lemaitre & Tavares 2015).

Parapagurus pilosimanus Smith, 1879

(Fig. 13k)

Eupagurus jacobii A. Milne-Edwards, 1880: 42 (Guadeloupe, Martinique, St Lucia).

Parapagurus pilosimanus.—A. Milne-Edwards & Bouvier, 1893: 28 (Guadeloupe, Martinique, St Lucia).—Poupin, 1994: 33 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4617, 25 June 2015, 16°20.98'N, 60°44.95'W, 874–830 m, MNHN-IU-2013-19079.

Comment. *Parapagurus pilosimanus* is a species complex with four western Atlantic species: *P. pilosimanus*, *P. nudus*, *P. scaber*, and *P. alaminos* (cf. Lemaitre 1986). *Parapagurus pilosimanus* and *P. alaminos* occur in the Lesser Antilles, both of them illustrated in color by Lemaitre & Tavares (2015). The present determination is based on live color with red ocular peduncles and bright orange ambulatory legs (cf. Lemaitre & Tavares 2015: fig. 23a). This species was already collected around Guadeloupe by R/V *Blake* and *Polka*.

Distribution. North, Central and South Atlantic, including Brazil; Lesser Antilles, ICA (Guadeloupe, Martinique, St Lucia); 102–3864 m (Lemaitre & Tavares 2015).

Family Pylochelidae Bate, 1888

Cheiroplatea scutata Ortmann, 1892

(Fig. 13l)

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4639, 28 June 2015, 15°47.57'N, 61°19.21'W, 485–496 m, MNHN-IU-2013-19149.

Comment. The photographs of this species, currently the sole species in *Cheiroplatea*, were determined by R. Lemaitre. Carapace and chelae are similar to figures in Forest (1987: fig. 27a, c–e). This seems to be the first record since the original description. This hermit crab lives in a tubular cavity in wood or stone, unnoticed during KARUBENTHOS 2015 but probably a stone (extracted by A. Waren). Its depth range was previously unknown and is set herein to 485–496 m.

Distribution. Gulf of Mexico, unknown place and depth; Lesser Antilles, ICA (Guadeloupe); 485–496 m (Forest 1987).

Pylocheles agassizi A. Milne-Edwards, 1880

(Fig. 13m)

Pylocheles Agassizii A. Milne-Edwards, 1880: 38 (Barbados).—A. Milne-Edwards, 1883, pl. 10 (Barbados).—A. Milne-Edwards & Bouvier, 1893: 20 (St Croix, Barbados, St Lucia).—Faxon, 1896: 155 (St Croix, Montserrat, Grenadines, Grenada).—Forest, 1987: 48 (St Lucia, Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4573, 17 June 2015, 16°19.9'N, 60°54.6'W, 413–389 m, MNHN-IU-2013-18965.

Comment. Photographs were determined by comparison with figures in A. Milne-Edwards (1883: pl. 10) and key characters and figures in Forest (1987: 48, fig. 11a–d). *Pylocheles agassizi* lives in a tubular cavity in stones or in siliceous sponges. The substrate of the specimen photographed was not reported on the label but it is probably a stone (extracted by A. Waren). This is the first record for Guadeloupe Island but the species was otherwise well documented from other islands in the Lesser Antilles.

Distribution. Yucatan Strait, southeastern Caribbean Sea; Lesser Antilles, VGI (St Croix), ICA (Guadeloupe, Montserrat, St Lucia, Barbados, Grenadines, Grenada); 250–963 m.

INFRAORDER BRACHYURA Latreille, 1802

Superfamily Dromioidea De Haan, 1833

Family Dromiidae De Haan, 1833

Moreiradromia ?antillensis (Stimpson, 1858)

(Fig. 14a–b)

Dromidia antillensis Stimpson, 1859: 71 (St Thomas).—A. Milne-Edwards, 1880: 31 (St John, Norman (Flanagan Passage), Grenada).—A. Milne-Edwards & Bouvier, 1902: 22 (Grenada).—Rathbun, 1933: 108 (St Thomas, St Croix).—Rathbun, 1937: 33 (St Thomas, St Croix, St Martin, Grenada).—Rodríguez, 1980: 250 (Margarita).—Paulmier, 1993: 23 (Martinique).—Debelius, 2001: 80 (Dominica).

Dromia vulgaris.—Doflein, 1899: 182 (Martinique) (*Dromia vulgaris* H. Milne Edwards, 1837 is a synonym of *Dromia personata* (Linnaeus, 1758), a species in the eastern Atlantic only. Doflein's record from Martinique is most probably *M. antillensis* instead).

Cryptodromia antillensis.—Hernández *et al.*, 1999: tab. 1 (Margarita).

Moreiradromia antillensis.—Hernández-Ávila *et al.*, 2007, 44 (Cubagua).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4545, 14 June 2015, 16°30.17'N, 61°31.41'W, 82–60 m, MNHN-IU-2013-18946; st. DW4553, 15 June 2015, 16°20.82'N, 60°53.3'W, 162–111 m, MNHN-IU-2013-18916.

Comment. KARUBENTHOS specimens are most probably *Moreiradromia antillensis*, a species common in the Lesser Antilles. However, the details of the carapace are hidden under setae on the photographs and the determination must be confirmed by examination of the specimens. Specimen MNHN 18946 was collected with a sponge carried by the 5th pereopods, used as a camouflage.

Distribution. Bermudas, North Carolina to Gulf of Mexico, Brazil, St Helena; Lesser Antilles, VGI (St Thomas, St Croix, St John, Norman), ICA (St Martin, Guadeloupe, Dominica, Martinique, Grenada), IOV (Margarita, Cubagua); 1–330 m.

Family Dynomenidae Ortmann, 1892

Acanthodromia erinacea A. Milne-Edwards, 1880

(Fig. 14c)

Acanthodromia erinacea A. Milne-Edwards, 1880: 31 (Guadeloupe, St Vincent).—A. Milne-Edwards & Bouvier, 1902: 23 (Guadeloupe, St Vincent).—Rathbun, 1937: 55 (Guadeloupe, St Vincent).—McLay, 1999: 535 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4634, 27 June 2015, 15°47.81'N, 61°25.83'W, 310–304 m, MNHN-IU-2013-19139.

Comment. Photographs were determined by comparison of previous figure for this species in A. Milne-Edwards & Bouvier (1902: pl. 3, fig. 5) and key characters and figures in McLay (1999: 535, fig. 30). This species has been described from Guadeloupe and St Vincent and rarely reported since that time. Its maximum depth range is extended herein from 274 m to 304–310 m.

Distribution. Mexico (Yucatan), between Dominican Republic and Puerto Rico; Lesser Antilles, ICA (Guadeloupe, St Vincent); 160–310 m (Rathbun 1937).

Superfamily Homolodromioidea Alcock, 1899

Family Homolodromiidae Alcock, 1899

Homolodromia monstrosa Martin, Christiansen & Trautwein, 2001

(Fig. 14d)

Homolodromia monstrosa Martin, Christiansen & Trautwein, 2001: 314 (Saba; 'identity questionable').—Tavares & Lemaitre, 2014: 512 ('tentatively assigned to *H. monstrosa*', St Croix, Saba, St Eustatius, St Kitts, Nevis, Antigua, Barbuda, Dominica).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4512, 8 June 2015, 16°12.57'N, 61°53.54'W, 532–409 m, MNHN-IU-2013-18781.

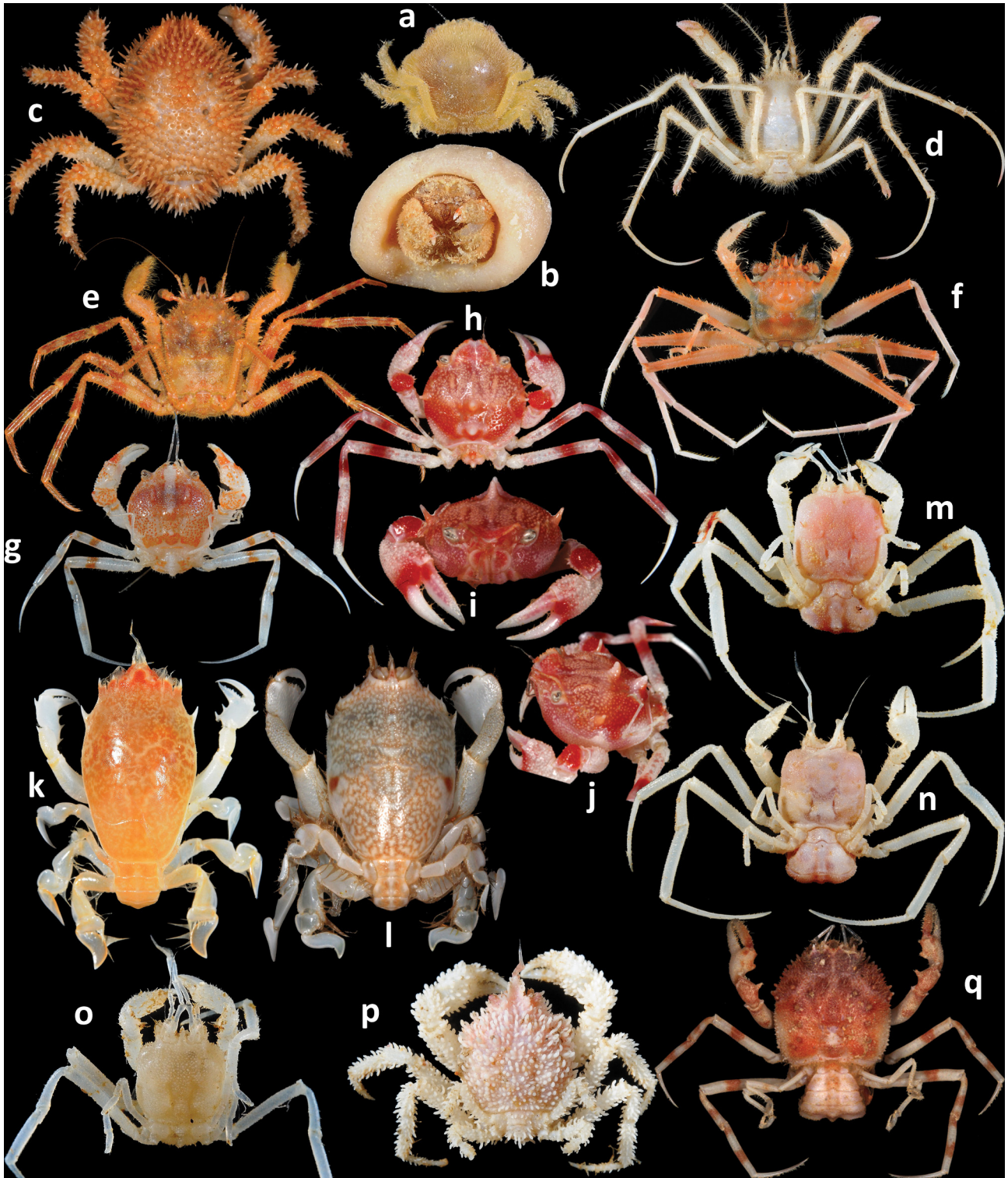


FIGURE 14. Brachyura. *Moreiradromia ?antillensis*, a) st. DW4553, 162–111 m, MNHN-IU-2013-18916, b) st. DW4545, 82–60 m, MNHN-IU-2013-18946; c) *Acanthodromia erinacea* - st. DW4634, 310–304 m, MNHN-IU-2013-19139; d) *Homolodromia monstrosa*, st. CP4512, 532–409 m, MNHN-IU-2013-18781; e) *Homola minima*, st. CP4623, 217–182 m, MNHN-IU-2013-19103; f) *Homola vigil*, st. CP4520, 532–550 m, MNHN-IU-2013-18850; g) *Cyclodorippe antennaria*, st. CP4543, 385–399 m, MNHN-IU-2013-18900; h–j) *Cyclodorippe bowieri*, st. DW4630, 428–379 m, MNHN-IU-2013-19130; k) *Raninoides lamarcki*, st. CP4517, 178–185 m, MNHN-IU-2013-18815; l) *Ranilia constricta*, st. CP4624, 242–243 m, MNHN-IU-2013-19110; m) *Cyonomoides cubensis*, st. DW4518, 441–426 m, MNHN-IU-2013-18869; n) *Cyonomoides guinotae*, st. CP4513, 644–406 m, MNHN-IU-2013-18770; o) *Cyonomus leblondi*, st. DW4510, 660–690 m, MNHN-IU-2013-18856; p) *Curupironomus agassizi*, st. DW4556, 428–367 m, MNHN-IU-2013-18939; q) *Simodorippe tylota*, st. DW4634, 310–304 m, MNHN-IU-2013-19140.

Comment. This species much resembles *Homolodromia paradoxa* A. Milne-Edwards, 1880 and there is still some confusion to separate both species confidently (see Tavares & Lemaitre 2014). Based on setation, KARUBENTHOS 2015 photographs seem to show a male. No supraorbital spine can be seen on the anterolateral margin of the carapace which indicate *H. monstrosa* (cf. Martin *et al.* 2001; Tavares & Lemaitre 2014). The KARUBENTHOS photographs are also comparable to a color photograph of *H. monstrosa* in Takeda (1983: 112 as *H. paradoxa*, corrected by Martin *et al.* 2001: 324). Sex and the absence of the minute supraorbital spine (perhaps hidden by setae on the photographs) must be verified on the specimen.

Distribution. Florida, Gulf of Mexico, Caribbean Sea, Honduras, Nicaragua, Panama, Colombia, Suriname, French Guiana, Brazil; Lesser Antilles VGI (St Croix), ICA (Saba, St Eustatius, St Kitts, Nevis, Antigua, Barbuda, Guadeloupe, Dominica); 375–918 m (Tavares & Lemaitre 2014).

Superfamily Homoloidea De Haan, 1839

Family Homolidae De Haan, 1839

Homola minima Guinot & Richer de Forges, 1995

(Fig. 14e)

Homola spinifrons.—A. Milne-Edwards, 1880: 33 (Barbados, not *Homola spinifrons* Leach, 1816, fide Guinot & Richer de Forges 1995: 326).

Homola minima.—Tavares & Lemaitre, 2014: 514 (Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4599, 22 June 2015, 15°53.14'N, 61°25.15'W, 262–266 m, MNHN-IU-2013-19038; st. CP4623, 26 June 2015, 15°55.72'N, 61°31.02'W, 217–182 m, MNHN-IU-2013-19103.

Comment. This species is affiliated to *Homola vigil*, also collected during KARUBENTHOS 2015. It can be separated by the aspect of its rostral spine, bifid with tips well separated instead of bifid with tips contiguous in *H. vigil*. Photographs were determined by using key characters and figures in Guinot & Richer de Forges (1995: 326, fig. 8c–d, f, 9h). The color photograph of *H. barbata* (Fabricius, 1793) in Takeda (1983: 113) is in fact *H. minima* (cf. Guinot & Richer de Forges 1995).

Distribution. Massachusetts to Gulf of Mexico, southern Caribbean Sea. Also Brazil (Tavares & Lemaitre, 2014); Lesser Antilles, ICA (Guadeloupe, Barbados); 55–683 m.

Homola vigil A. Milne-Edwards, 1880

(Fig. 14f)

Homola vigil A. Milne-Edwards, 1880: 33 (Guadeloupe, Martinique).—A. Milne-Edwards & Bouvier, 1902: 28 (Guadeloupe, Martinique).—Poupin, 1994: 40 (Guadeloupe).—Guinot & Richer de Forges, 1995: 330 (Guadeloupe, Martinique).—Tavares & Lemaitre, 2014: 518 (Anguilla, St Kitts, Nevis, Martinique).

Thelxiope vigil.—Rathbun, 1937: 66 (Guadeloupe, Martinique).

Homola barbata.—Paulmier, 1993: 23 (Guadeloupe, Martinique).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique. Not *Homola barbata* (Fabricius, 1793), see comments).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4512, 8 June 2015, 16°12.57'N, 61°53.54'W, 532–409 m, MNHN-IU-2013-18786; st. CP4520, 9 June 2015, 16°34.91'N, 61°42.18'W, 532–550 m, MNHN-IU-2013-18850; st. DW4550, 14 June 2015, 16°36.91'N, 61°30.72'W, 482–432 m, MNHN-IU-2013-18925.

Comment. *Homola barbata* is considered by Guinot & Richer de Forges (1995: 325) as an eastern Atlantic species. Records of that species in Guadeloupe and Martinique by Paulmier (1993) and Paulmier & Gervain (1994) (coll. R/V *Polka*) are of *Homola vigil* instead as Guinot & Richer de Forges (1995) have attributed all R/V *Polka* specimens included in their revision to that species (without formerly mentioning these studies in their synonymy). Photographs were determined by using key and figures in Guinot & Richer de Forges (1995: 330, fig. 9i, 13b, 14c–d).

Distribution. Georgia to Gulf of Mexico, Bahamas, Cuba, Antilles; Lesser Antilles, ICA (Anguilla, St Kitts, Nevis, Guadeloupe, Martinique); 125–990 m.

Superfamily Raninoidea De Haan, 1839

Family Raninidae De Haan, 1839

Ranilia constricta (A. Milne-Edwards, 1880)

(Fig. 14l)

Ranilia constricta.—Soto, 1986: 7/83(internet version, dated 1984) (Margarita, Los Testigos).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4624, 26 June 2015, 15°56.23'N, 61°30.67'W, 242–243 m, MNHN-IU-2013-19110.

Comment. This is a new record for Guadeloupe identified with the key and figures in Rathbun (1937: 20, pl. 4 fig. 5, pl. 5 fig. 1–2). A figure of this crab is also in Williams (1984: fig. 196).

Distribution. North Carolina, Gulf of Mexico, Brazil, Ascension Island, eastern Atlantic; Lesser Antilles, ICA (Guadeloupe), IOV (Los Testigos, Margarita); 20–365 m.

Raninoides lamarcki A. Milne-Edwards & Bouvier, 1923

(Fig. 14k)

Present records. Guadeloupe, KARUBENTHOS 2012 (det. E. Macpherson, Besse 2013), st. GD25, 14 May 2012, 16°25'N, 61°33'W, 160 m, MNHN-IU-2013-4540; st. GN06, 04 May 2012, 16°23'N, 61°36'W, 173 m, MNHN-IU-2013-4539.

Guadeloupe, KARUBENTHOS 2015, st. CP4517, 9 June 2015, 16°24.4'N, 61°34'W, 178–185 m, MNHN-IU-2013-18815.

Comment. This is the first record for the Lesser Antilles. The species was also collected during KARUBENTHOS 2012 with traps and dredges at 160–173 m. The photographs were determined by using Rathbun (1937: 13, fig. 8, pl. 1, fig. 3–4) key and figures and by comparison with previous color photos from KARUBENTHOS 2012.

Distribution. Southern Gulf of Mexico, Cuba to Panama; Lesser Antilles, ICA (Guadeloupe); 46–366 m.

Superfamily Cyclodorippoidea Ortmann, 1892

Family Cyclodorippidae Ortmann, 1892

Cyclodorippe antennaria A. Milne-Edwards, 1880

(Fig. 14g)

Cyclodorippe antennaria A. Milne-Edwards, 1880: 25 (Dominica, Martinique, St Vincent, Barbados).—Faxon, 1896: 144 (Grenadines, Grenada, Barbados).—A. Milne-Edwards & Bouvier, 1902: 99 (Dominica, Martinique, St Vincent, Barbados).—Rathbun, 1937: 104 (Dominica, St Vincent, Barbados, Grenadines, Grenada).—Tavares, 1996a: 266 (Dominica, Martinique, St Lucia, Barbados, St Vincent, Grenadines, Grenada).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. E. Macpherson, Besse 2013), st. GD23, 14 May 2012, 16°24.97'N, 61°32.75'W, 80 m, MNHN-IU-2013-4544; st. GD25, 14 May 2012, 16°25'N, 61°33'W, 160 m, MNHN-IU-2013-4543 (JL759-Photo); st. GD31, 16 May 2012, 16°24.97'N, 61°32.8'W, 85 m, MNHN-IU-2013-4542 (JL892).

Guadeloupe, KARUBENTHOS 2015, st. DW4518, 9 June 2015, 16°34.04'N, 61°37.48'W, 441–426 m, MNHN-IU-2013-18870; st. DW4542, 13 June 2015, 16°39.78'N, 61°33.28'W, 394–400 m, MNHN-IU-2013-18904; st. CP4543, 13 June 2015, 16°39.83'N, 61°33.03'W, 385–399 m, MNHN-IU-2013-18900; st. DW4586, 21 June 2015, 15°59.62'N, 61°22.51'W, 251–204 m, MNHN-IU-2013-19007; st. DW4647, 29 June 2015, 15°50.29'N, 61°26.24'W, 263–264 m, MNHN-IU-2013-19181.

Comment. This is the first formal record for Guadeloupe but the species was already collected during KARUBENTHOS 2012 (dredges between 80–160 m). The photograph determination is based on the key available

in Tavares (1996a: 262) but size and aspect of tubercles on carapace are not very clear on photographs examined and that point must be checked on the specimens.

Distribution. Florida, Gulf of Mexico, Cuba, Caribbean Sea to Barbados; Lesser Antilles, ICA (Guadeloupe, Dominica, Martinique, St Lucia, Barbados, St Vincent, Grenadines, Grenada); 90–686 m.

Cyclodorippe bouvieri Rathbun, 1934

(Fig. 14h–j)

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4542, 13 June 2015, 16°39.78'N, 61°33.28'W, 394–400 m, MNHN-IU-2013-18905; st. DW4630, 27 June 2015, 15°48.07'N, 61°28.81'W, 428–379 m, MNHN-IU-2013-19130, 19131.

Comment. This is the first report of this species in the Lesser Antilles. The photograph determination is based on the shape of the front as figured by Rathbun (1937: pl. 81) plus a few additional characters in Tavares (1996a: 270) that are useful to separate this species from the affiliated *Cyclodorippe agassizii* A. Milne-Edwards, 1880 (also in Lesser Antilles: Grenadines): front with coarse granules, metagastric and cardiac tubercles of similar size, area behind dorso-orbital margin smooth, and dorsal aspect of orbital margin curved. *Cyclodorippe ornata* Chace, 1940, described from Cuba (432 m) is also very close (cf. Tavares 1996a: 262, key) but is distinguished by the wide indentation in the middle of the front (cf. Chace 1940: fig. 7).

Distribution. Florida, Cuba, Puerto Rico, Caribbean Sea; Lesser Antilles, ICA (Guadeloupe); 279–549 m.

Simodorippe tylota Chace, 1940

(Fig. 14q)

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4555, 15 June 2015, 16°23.53'N, 60°49.67'W, 258–100 m, MNHN-IU-2013-18930, 18934; st. DW4616, 25 June 2015, 16°21.1'N, 60°49.51'W, 372–325 m, MNHN-IU-2013-19075; st. DW4634, 27 June 2015, 15°47.81'N, 61°25.83'W, 310–304 m, MNHN-IU-2013-19140.

Comment. Photograph determination is based on Chace (1940: 22, fig. 9–10) and Tavares (1996a). The KARUBENTHOS specimen is similar to *Simodorippe tylota* but its frontal region is somewhat different with a median teeth pearl-like tip and exorbital teeth more acute. This is perhaps in the range of intraspecific variations for this crab. This is the first record for the Lesser Antilles.

Distribution. Cuba, Honduras; Lesser Antilles, ICA (Guadeloupe); 105–396 m.

Family Cymonomidae Bouvier, 1898

Curupironomus agassizi (A. Milne-Edwards & Bouvier, 1899)

(Fig. 14p)

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4556, 15 June 2015, 16°25.62'N, 60°47.94'W, 428–367 m, MNHN-IU-2013-18939.

Comment. This is the first record of this rare species in the Lesser Antilles. The determination is based on Rathbun (1937: pl. 30, fig. 2). The 'obtuse' spines that are characteristic of this species are longer on the posterior part of carapace and ambulatory legs, perhaps in the range of intraspecific variations for this species.

Distribution. Florida Strait, Puerto Rico; Lesser Antilles, ICA (Guadeloupe); 128–549 m.

Cymonomoides cubensis (Chace, 1940)

(Fig. 14 m)

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4518, 9 June 2015, 16°34.04'N, 61°37.48'W, 441–426 m, MNHN-IU-2013-18869.

Comment. This is the first record for the Lesser Antilles. The photograph determination is based on Chace (1940: fig. 5) and confirmed by M. Tavares (pers. com.). *Cyonomoides fitoi* Lemaitre & Bermudez, 2000 is close but distinct by its multifid hepatic spine. The ventral surface is not visible in the photographs, so the character of the genus *Cyonomoides*, with 7 abdominal segments instead of 6 in genus *Cyonomus*, must be verified on the specimen.

Distribution. Gulf of Mexico, northern coast of Cuba; Lesser Antilles, ICA (Guadeloupe); 475–1006 m.

***Cyonomoides guinotae* (Tavares, 1991)**

(Fig. 14n)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4513, 8 June 2015, 16°12.58'N, 61°53.14'W, 644–406 m, MNHN-IU-2013-18770 (Rostrum absent), 18848 (Rostrum vestigial).

Comment. Photograph determination is based on description in Tavares (1991: 640) confirmed by M. Tavares (pers. com.). The rostrum is absent (or vestigial) in the specimens examined. Characters of *Cyonomoides* genus (7 abdominal segments, cornea missing) must be verified on the specimen. This species was previously known only from Brazil. Records from Cuba and Venezuela (Lemaitre & Bermudez 2000) are based on a specimen of *C. cubensis* with a broken rostrum (M. Tavares pers. com.). The minimum depth range of the species is extended herein to 406–644 m instead of 990 m previously.

Distribution. Brazil; Lesser Antilles, ICA (Guadeloupe); 406–1005 m (Tavares 1991; this work).

***Cyonomus leblondi* Tavares, 1994**

(Fig. 14o)

Cyonomus sp. nov.—Poupin, 1994: 39 (Guadeloupe).

Cyonomus leblondi Tavares, 1994: 204 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4510, 7 June 2015, 16°15.1'N, 61°51.3'W, 660–690 m, MNHN-IU-2013-18856.

Comment. This is the first record of this species since its description from Guadeloupe. The photographic determination is based on figures and key in Tavares (1994) confirmed by M. Tavares (pers. com.). The maximum depth range is extended herein to 660–690 m (instead of 600).

Distribution. Lesser Antilles only, ICA (Guadeloupe); 600–690 m (Tavares 1994).

Superfamily Aethroidea Dana, 1851

Family Aethridae Dana, 1851

***Osachila antillensis* Rathbun, 1916**

(Fig. 15a)

Osachila antillensis.—Rathbun, 1933: 104 (St Croix).—Rathbun, 1937: 251 (St Croix, Montserrat, Dominica, Barbados, Grenada).—Poupin, 1994: 41 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. J. Poupin October 2013) 1 F 18.1 × 20.1 mm, st. GN22, 16 May 2012, 16°25'N, 61°33'W, 120 m (MNHN-IU-2013-14513); st. GN16, 11 May 2012, 16°05.18'N, 61°46.71'W, 75 m, MNHN IU-2013-4545 (re-det. from *O. tuberosa*).

Guadeloupe, KARUBENTHOS 2015, st. DW4579, 17 June 2015, 16°19.2'N, 60°54.12'W, 264–228 m, MNHN-IU-2013-18975.

Comment. This species was already collected by traps during KARUBENTHOS 2012, between 75–120 m. Photograph determination is based on comparison with previous macro photographs from Guadeloupe (unpublished photo of specimen examined in Poupin 1994; KARUBENTHOS 2012). *Osachila antillensis* is very

similar to *Osachila tuberosa* Stimpson, 1871 also present in Guadeloupe. The distinction between the two species is made according to the aspect of the carapace either 'wholly eroded' (*O. antillensis*) or 'partly eroded' (*O. tuberosa*; cf. Rathbun 1937: 248, pl. 77, fig. 2–3). The minimum depth range is set herein to 75 m (instead of 80 m).

Distribution. Bermuda, Gulf of Mexico, Antilles, Brazil; Lesser Antilles, VGI (St Croix), ICA (Montserrat, Guadeloupe, Dominica, Martinique, St Vincent, Barbados, Grenada); 80–300 m.

Superfamily Calappoidea De Haan, 1833

Family Calappidae De Haan, 1833

Acanthocarpus alexandri Stimpson, 1871

(Fig. 15d)

Acanthocarpus alexandri.—A. Milne-Edwards, 1880: 19 (Saba, St Lucia, Grenadines).—Faxon, 1896: 144, St Kitts).—A. Milne-Edwards & Bouvier, 1902: 126 (Saba, St Lucia, Grenadines).—Rathbun, 1937: 224 (Saba, St Kitts).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4532, 11 June 2015, 16°30.06'N, 61°37.54'W, 367–362 m, MNHN-IU-2013-18836.

Comment. This is the first record for Guadeloupe. This species has long lateral spines on the carpi of the chelipeds. The photographs were determined by comparison with figure in A. Milne-Edwards (1880: pl. 1, fig. 2) and key characters and plate in Rathbun (1937: 221, pl. 69, fig. 1–2). A color photo of this species is also given by Takeda (1983: 124).

Distribution. Massachusetts, Gulf of Mexico, Puerto Rico, Brazil; Lesser Antilles, ICA (Saba, St Kitts, Guadeloupe, St Lucia, Grenadines); 57–1034 m.

Cyclozodion angustum (A. Milne-Edwards, 1880)

(Fig. 15c)

Calappa angusta A. Milne-Edwards 1880:18a (St Croix, Anguilla (Sombrero), Barbados, Grenada; part, see Williams & Child 1989).—A. Milne-Edwards & Bouvier, 1902: 123 (St Croix, Anguilla (Sombrero), Barbados, Grenada).—Rathbun, 1933: 103 (Barbados, Grenada).—Rathbun, 1937: 210 (St Thomas, St Croix, Barbados, Grenada).

Cyclozodion angustum.—Williams & Child, 1989: 110 (Virgin Gorda, Anguilla, Barbados).

Present records. Guadeloupe, KARUBENTHOS 2012 (April 2014, re-determination J. Poupin from *C. sulcata*, with hesitation, see Comment); 1 juv. 4.3 × 4.5 mm, st. GS21, 16 May 2012, 16°23.26'N, 61°31.79'W, 14 m, MNHN-IU-2013-4524; st. GD25, 14 May 2012, 16°25'N, 61°33'W, 160 m, MNHN-IU-2013-4456 (1 F 10.2 × 10.8 mm, carapace broken, faint tubercles present on carapace), MNHN-IU-2013-4516; st. GD31, 16 May 2012, 16°24.97'N, 61°32.8'W, 85 m, MNHN-IU-2013-4509, 4511; st. GD33, 16 May 2012, 16°24'N, 61°33'W, 130 m, MNHN-IU-2013-4518; st. GD37, 18 May 2012, 16°22.8'N, 61°33.44'W, 60 m, MNHN-IU-2013-4515; st. GD59, 25 May 2012, 16°22.55'N, 61°35.38'W, 88 m, MNHN-IU-2013-4510.

Guadeloupe, KARUBENTHOS 2015, st. DW4586, 21 June 2015, 15°59.62'N, 61°22.51'W, 251–204 m, MNHN-IU-2013-19003; st. DW4597, 22 June 2015, 15°55.47'N, 61°23.48'W, 210–208 m, MNHN-IU-2013-19033.

Comment. This is the first record for Guadeloupe. The shape of the carapace is that of *C. angustum* as illustrated in Williams (1984: fig. 203). *Cyclozodion angustum* can be confused with *C. tuberculatum* Williams & Child, 1989, also collected during KARUBENTHOS 2015. The species was already collected during KARUBENTHOS 2012 with a few specimens as *C. ?angustum*; they are very small and/or broken and could perhaps be juveniles of *C. tuberculatum* with tubercles not fully developed on the carapace.

Distribution. Eastern Florida to eastern Gulf of Mexico, Bahamas, Caribbean Sea, Suriname, French Guiana; Lesser Antilles, VGI (St Thomas, St Croix, Virgin Gorda), ICA (Anguilla, Guadeloupe, Barbados, Grenada); 94–421 m.

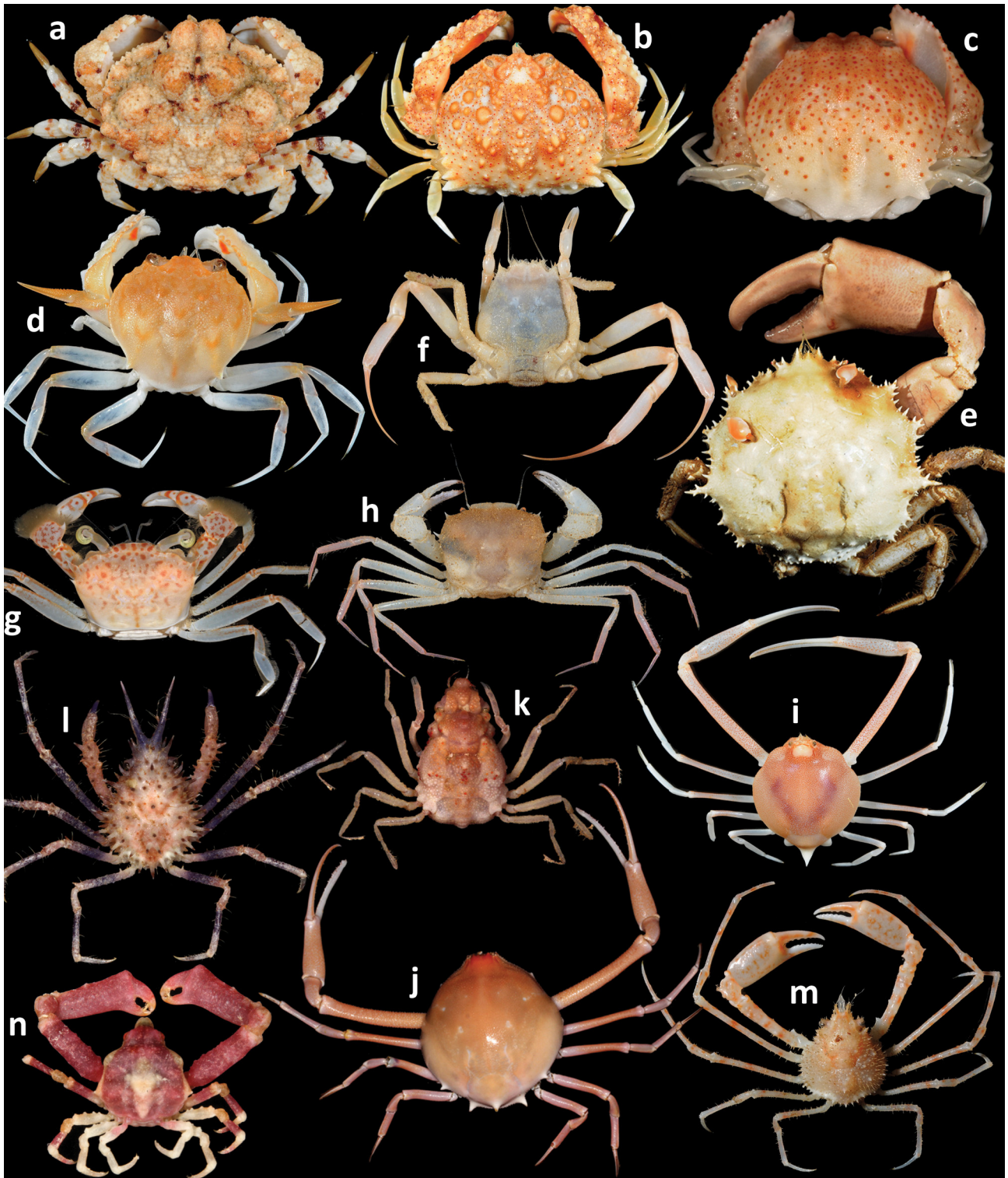


FIGURE 15. Brachyura. a) *Osachila antillensis*, 264–228 m, MNHN-IU-2013-18975; b) *Cyclozodion tuberculatum*, st. DW4553, 162–111 m, MNHN-IU-2013-18914; c) *Cyclozodion angustum*, st. DW4597, 210–208 m, MNHN-IU-2013-19033; d) *Acanthocarpus alexandri*, st. CP4532, 367–362 m, MNHN-IU-2013-18836; e) *Trichopeltarion nobile*, st. CP4512, 532–409 m, MNHN-IU-2013-18776; f) *Ethusa ?microphthalmia*, st. CP4532, 367–362 m, MNHN-IU-2013-18833; g) *Frevillea barbata*, st. CP4624, 242–243 m, MNHN-IU-2013-19111; h) *Bathyplox typhla*, st. CP4512, 532–409 m, MNHN-IU-2013-18787; i) *Iliacantha subglobosa*, st. DW4555, 258–100 m, MNHN-IU-2013-18928; j) *Myropsis quinquispinosa*, st. CP4624, 26 June 2015, 242–243 m, MNHN-IU-2013-19113; k) *Esopus crassus*, st. DW4638, 312–305 m, MNHN-IU-2013-19150; l) *Hoploplites armatus*, st. DW4634, 310–304 m, MNHN-IU-2013-19138; m), *Nibilia ?antilocarpa*, st. CP4558, 385–312 m, MNHN-IU-2013-18967; n) *Mocosoa crebripunctata*, st. DW4631, 90–95 m MNHN-IU-2013-19133.

***Cyclozodion tuberculatum* Williams & Child, 1989**

(Fig. 15b)

Calappa angusta A. Milne-Edwards 1880:18 (Lesser Antilles; part in Williams & Child 1989, not *Cyclozodion angustum* A. Milne-Edwards; locality of 'selected juveniles' not indicated in Williams & Child, perhaps Lesser Antilles).
Cyclozodion tuberculatum Williams & Child, 1989: 110 (description and synonymy but no places in Lesser Antilles).

Present records. Guadeloupe, KARUBENTHOS 2012, st. GD27, 15 May 2012, 16°25'N, 61°33'W, 120 m, MNHN-IU-2013-4449 (1 sp. badly preserved, 10.6 × 11.5 mm, re-determination Felder/Poupin April 2014, from *Calappa ?ocellata* Holthuis, 1958); st. GD28, 15 May 2012, 16°25'N, 61°33'W, 110 m, MNHN-IU-2013-4519 (1 F 11.1 × 11.8 mm, re-determination Felder/Poupin April 2014, from *Calappa galloides* Stimpson, 1859).

Guadeloupe, KARUBENTHOS 2015, st. DW4553, 15 June 2015, 16°20.82'N, 60°53.3'W, 162–111 m, MNHN-IU-2013-18914.

Comment. Photograph determination is based on key in Williams & Child (1989). The species was already collected during KARUBENTHOS 2012 at similar depths (dredge at 110–120 m). The tubercles on the carapace are less developed on the juveniles and they can be confused with *Cyclozodion angustum* (see under that species). *Calappa tortugae* Rathbun, 1933 is another affiliated species also present in the Lesser Antilles.

Distribution. North Carolina to eastern Gulf of Mexico, Bahamas, Suriname; Lesser Antilles, ICA (Guadeloupe); 31–640 m.

Superfamily Trichopeltarioidea Tavares & Cleva, 2010

Family Trichopeltariidae Tavares & Cleva, 2010

***Trichopeltarion nobile* A. Milne-Edwards, 1880**

(Fig. 15e)

Trichopeltarion nobile A. Milne-Edwards, 1880: 20 (St Lucia).—Rathbun, 1930: 168 (St Lucia).—Poupin, 1994: 46 (Guadeloupe).—Gervain *et al.*, 2002: 26 (Guadeloupe).—Tavares & Cleva, 2010: 145 (Guadeloupe, St Lucia).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4512, 8 June 2015, 16°12.57'N, 61°53.54'W, 532–409 m, MNHN-IU-2013-18776.

Comment. Photographs were determined using characters and figure in Rathbun (1930: 168, pl. 73), a photo of a specimen from Guadeloupe, 500 m, in Poupin (1994: pl. 5b), and a photo of the type specimen in Tavares & Cleva (2010: fig. 2e).

Distribution. Gulf of Mexico, Antilles, Colombia; Lesser Antilles, ICA (St Lucia, Guadeloupe); 274–786 m.

Superfamily Dorippoidea MacLeay, 1838

Family Ethusidae Guinot, 1977

***Ethusa ?microphthalma* Smith, 1881**

(Fig. 15f)

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4511, 8 June 2015, 16°13.9'N, 61°51.5'W, 660–630 m, MNHN-IU-2013-18889; st. CP4532, 11 June 2015, 16°30.06'N, 61°37.54'W, 367–362 m, MNHN-IU-2013-18833.

Comment. This is the first record for the Lesser Antilles. The determination is based on Rathbun (1937: pl. 22, fig. 3, key). A few characters must, however, be checked on the specimen such as the aspect of basal segment of antennules, the length of ocular peduncle, and the aspect of pereopod 2–3 dactyls, in order to separate clearly this specimen from affiliated species such as *Ethusa lata*, *E. tenuipes* or even a few *Ethusina* species.

Distribution. Massachusetts to Gulf of Mexico, Cuba. Also Brazil (Melo 1996); Lesser Antilles, ICA (?Guadeloupe); 20–752 m.

Superfamily Goneplacoidea MacLeay, 1838

Family Euryplacidae Stimpson, 1871

Frevillea barbata A. Milne-Edwards, 1880

(Fig. 15g)

Goneplax barbata.—Rathbun, 1918: 26 (Grenada).

Frevillea barbata.—Poupin, 1994: 48 (Guadeloupe; attributed to *F. hirsuta* by Castro & Ng 2010, but see Comment).—Castro & Ng, 2010: 53 (synonymy, distribution).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. J. Poupin October 2013) st. GN20, 15 May 2012, 16°25'N, 61°34'W, 258 m, MNHN-IU-2013-14499 (1 F ov. 15.4 × 21.1 mm, registered as *F. hirsuta*).

Guadeloupe, KARUBENTHOS 2015, st. CP4517, 9 June 2015, 16°24.4'N, 61°34'W, 178–185 m, MNHN-IU-2013-18821; st. CP4624, 26 June 2015, 15°56.23'N, 61°30.67'W, 242–243 m, MNHN-IU-2013-19111; st. DW4630, 27 June 2015, 15°48.07'N, 61°28.81'W, 428–379 m, MNHN-IU-2013-19097 (this specimen out of usual depth range and with reduced coloration on fingers of chelae; perhaps a juvenile).

Comment. Photographs were determined by comparison with specimens examined during KARUBENTHOS 2012, with similar morphology and coloration. Castro & Ng (2010) corrected the previous record of *Frevillea barbata* from Guadeloupe in Poupin (1994) to *Frevillea hirsuta*, without explanation. They also discussed the similarities between *Frevillea barbata*, *Frevillea hirsuta* (Borradaile, 1916) and *Frevillea rosaea* A. Milne-Edwards, 1880 and indicate that the 'supposed' diagnostic characters for these species are ambiguous and that additional material is needed to clarify their taxonomic status. Given that these three *Frevillea* species being currently without confident diagnoses, all the specimens from Guadeloupe are attributed herein to *F. barbata*, the species that will have priority if they are ultimately considered as synonyms. A color photo of *Frevillea hirsuta* is in Takeda (1983: 162) showing similar pattern to *F. barbata* illustrated herein for Guadeloupe.

Distribution. Florida and Gulf of Mexico; Lesser Antilles, ICA (Guadeloupe, Grenada); ?subtidal/55–300 m, extended herein to 379–428 m (Castro & Ng 2010).

Family Goneplacidae MacLeay, 1838

Bathyplax typhla A. Milne-Edwards, 1880

(Fig. 15h)

Bathyplax typhlus A. Milne-Edwards, 1880: 16 (St Croix, St Lucia).—A. Milne-Edwards & Bouvier, 1923: 333 (St Croix, St Lucia).—Tavares, 1996b: 416 (Guadeloupe).

Bathyplax typhla.—Rathbun, 1918: 20 (St Croix, St Lucia).—Rathbun, 1933: 77 (St Croix).—Chace, 1940: 43 (St Croix, St Lucia).—Poupin, 1994: 47 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4512, 8 June 2015, 16°12.57'N, 61°53.54'W, 532–409 m, MNHN-IU-2013-18787.

Comment. Photographs were determined by comparison with characters and figures in A. Milne-Edwards & Bouvier (1923: 333, pl. 5, fig. 7) and the color photograph of this species already published for Guadeloupe, 520 m, (Poupin 1994: pl. 5c). A color photo is also in Takeda (1983: 163).

Distribution. North Carolina, Florida, Mississippi, Texas, Mexico, Cuba, Brazil; Lesser Antilles, VGI (St Croix), ICA (Guadeloupe, St Lucia); 220–1106 m.

Superfamily Leucosioidea Samouelle, 1819

Family Leucosiidae Samouelle, 1819

Iliacantha subglobosa Stimpson, 1871

(Fig. 15i)

Iliacantha subglobosa A. Milne-Edwards, 1880: 21 (Montserrat, Dominica, Barbados).—A. Milne-Edwards & Bouvier, 1902: 113 (Montserrat, Barbados).—Rathbun, 1937: 185 (Montserrat, Dominica, Barbados).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. E. Macpherson, Besse 2013), st. GD06, 06 May 2012, 16°23'N, 61°33'W, 130 m, MNHN-IU-2013-4570.

Guadeloupe, KARUBENTHOS 2015, st. CP4517, 9 June 2015, 16°24.4'N, 61°34'W, 178–185 m, MNHN-IU-2013-18818; st. DW4555, 15 June 2015, 16°23.53'N, 60°49.67'W, 258–100 m, MNHN-IU-2013-18928; st. DW4586, 21 June 2015, 15°59.62'N, 61°22.51'W, 251–204 m, MNHN-IU-2013-19004; st. DW4593, 22 June 2015, 15°55.82'N, 61°26.35'W, 152–133 m, MNHN-IU-2013-19010.

Comment. Photographs were determined using key characters and figures in Rathbun (1937: 185, pl. 53, fig. 1–2) and previous photographs from KARUBENTHOS 2012 (dredge at 130 m). This is the first record for Guadeloupe.

Distribution. North Carolina to Gulf of Mexico, Antilles, Caribbean Sea to Brazil; Lesser Antilles, ICA (Montserrat, Guadeloupe, Dominica, Barbados); 16–915 m.

***Myropsis quinquespinosa* Stimpson, 1871**

(Fig. 15j)

Myropsis constricta A. Milne-Edwards, 1880: 21 (Barbados).—A. Milne-Edwards & Bouvier, 1902: 110 (Barbados).

Myropsis goliath A. Milne-Edwards, 1880: 21 (Grenadines (Carriacou)).

Myropsis quinquespinosa.—A. Milne-Edwards, 1880: 21 (Martinique, Grenada).—A. Milne-Edwards & Bouvier, 1902: 110 (Martinique, Grenada).—Rathbun, 1937: 164 (Martinique, Barbados, Grenadines (Carriacou), Grenada).—Paulmier, 1993: 24 (Guadeloupe, Martinique).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).—Poupin, 1994: 41 (Guadeloupe).—Gervain *et al.*, 2002: 23 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4599, 22 June 2015, 15°53.14'N, 61°25.15'W, 262–266 m, MNHN-IU-2013-19046; st. CP4624, 26 June 2015, 15°56.23'N, 61°30.67'W, 242–243 m, MNHN-IU-2013-19113; st. CP4648, 29 June 2015, 16°2.31'N, 61°27.3'W, 388–368 m, MNHN-IU-2013-19197.

Comment. Photographs were determined using key characters and figures in Rathbun (1937: 164, pl. 46, fig. 1–3) and previous color photographs from Guadeloupe in Paulmier (1993: 24, pl. 28 fig. 1). There is also a figure of this species in Williams (1984: 287, fig. 222).

Distribution. Massachusetts to Gulf of Mexico, Caribbean Sea to Suriname, Brazil; Lesser Antilles, ICA (Guadeloupe, Martinique, Barbados, Grenadines, Grenada); 84–1048 m.

Superfamily Majoidea Samouelle, 1819

The Majoidea collected around Guadeloupe during KARUBENTHOS 2012 are documented in more detail in Carmona-Suárez & Poupin (2016). This work can be consulted for additional photographs of a few species presented herein that were collected both during KARUBENTHOS 2012 and 2015.

Family Epialtidae MacLeay, 1838

***Esopus crassus* A. Milne-Edwards, 1875**

(Fig. 15k)

Esopus crassus A. Milne-Edwards, 1875 (1873–1880): 90 (Barbados).—A. Milne-Edwards, 1880: 2 (Barbados).—A. Milne-Edwards & Bouvier, 1923: 389 (Barbados).—Rathbun, 1925: 192 (Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4569, 17 June 2015, 16°17.25'N, 60°59.78'W, 359–250 m, MNHN-IU-2013-18951; st. DW4586, 21 June 2015, 15°59.62'N, 61°22.51'W, 251–204 m, MNHN-IU-2013-19002; st. DW4638, 28 June 2015, 15°50.29'N, 61°19.47'W, 312–305 m, MNHN-IU-2013-19150.

Comment. This seems to be the second record of this species since its description from Barbados (100

fathoms/183 m) and reported later north of Cuba (Chace 1940; 180–220 fathoms/329–403 m). The determination is based on the figures in A. Milne-Edwards (1875: pl. 17, fig. 1).

Distribution. North coast of Cuba; Lesser Antilles, ICA (Guadeloupe, Barbados); 183–403 m (Chace 1940).

***Hoploplites armatus* (A. Milne-Edwards, 1880)**

(Fig. 151)

Nibilia armata A. Milne-Edwards, 1880: 4 (St Vincent, Grenadines, Barbados).—A. Milne-Edwards, 1880 (1873–1880): 348 ('assez grande profondeur dans la mer des Antilles').—A. Milne-Edwards & Bouvier, 1923: 386 (St Vincent, Grenadines (Carriacou)).

Hoploplites armata.—Rathbun, 1925: 307 (St Vincent, Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4543, 13 June 2015, 16°39.83'N, 61°33.03'W, 385–399 m, MNHN-IU-2013-18898; st. DW4555, 15 June 2015, 16°23.53'N, 60°49.67'W, 258–100 m, MNHN-IU-2013-18933; st. DW4537, 12 June 2015, 16°38.55'N, 61°31.84'W, 570–495 m, MNHN-IU-2013-18873; st. DW4547, 14 June 2015, 16°31.76'N, 61°33.03'W, 380–358 m, MNHN-IU-2013-18959; st. DW4634, 27 June 2015, 15°47.81'N, 61°25.83'W, 310–304 m, MNHN-IU-2013-19138.

Comment. Photographs were determined with key characters and figures in Rathbun (1925: 307, pl. 108 fig. 1–2). This is the first record for Guadeloupe. The purple color on the horns, dactyls of the chelae, and ambulatory legs was present on all specimens examined and useful to quickly recognize the species.

Distribution. Northwestern Cuba, Antilles, Brazil; Lesser Antilles, ICA (Guadeloupe, St Vincent, Barbados, Grenadines); 161–708 m.

***Macrocoeloma ?eutheca* (Stimpson, 1871)**

(Fig. 17a)

Pericera eutheca.—A. Milne-Edwards, 1880: 1 (St Croix).

Macrocoeloma eutheca.—A. Milne-Edwards & Bouvier, 1923: 395 (St Croix).—Rathbun, 1925: 484 (St Croix, Barbados).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. Carmona-Suárez, 2014), st. GD69, 28 May 2012, 16°15.97'N, 61°10.18'W, 60 m, MNHN-IU-2013-13091 (2 M).

Guadeloupe, KARUBENTHOS 2015, st. DW4545, 14 June 2015, 16°30.17'N, 61°31.41'W, 82–60 m, MNHN-IU-2013-18945.

Comment. *Macrocoeloma eutheca* was collected during KARUBENTHOS 2012 (dredge, 60 m). It is also reported from St Croix and Barbados between 69–214 m. The specimen photographed during KARUBENTHOS 2015 is probably of this species but this must be confirmed by careful examination of the specimen because the aspect of the front is hidden under algae and/or sponges on the photos. The genus *Macrocoeloma* was removed from the Mithracidae s.s. by Windsor & Felder (2014). Its family placement is currently uncertain and it is placed herein in the Epialtidae, following WoRMS (2016).

Distribution. North Carolina to Florida, Bahamas, Gulf of Mexico, Caribbean Sea to Brazil; Lesser Antilles, VGI (St Croix), ICA (Guadeloupe, Barbados); 30–215 m.

***Macrocoeloma intermedium* Rathbun, 1901**

(Fig. 17b)

Macrocoeloma intermedium.—Rathbun, 1925: 486 (Dominica).—Lira *et al.*, 2013: tab. 1 (Los Roques).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. Carmona-Suárez 2014), st. GS39, 28 May 2012, 16°09.45'N, 61°10.5'W, 16 m, MNHN-IU-2013-4767 (1 juv. F).

Guadeloupe, KARUBENTHOS 2015, st. DW4551, 14 June 2015, 16°31.57'N, 61°24.3'W, 74–59 m, MNHN-IU-2013-18957.

Comment. The photographic determination is based on Rathbun (1925: pl. 170, fig. 2). The species was already reported from Dominica (73 m) and collected around Guadeloupe during KARUBENTHOS 2012 (16 m).

Distribution. Florida Strait, Cuba, Panama; Lesser Antilles, ICA (Guadeloupe, Dominica), IOV (Los Roques); 62–298 m.

***Mocosoa crebripunctata* Stimpson, 1871**

(Fig. 15n)

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4631, 27 June 2015, 15°49.16'N, 61°29.02'W, 90–95 m MNHN-IU-2013-19133.

Comment. Photograph determination is based on photographs in Rathbun (1925, pl. 49, fig. 3–4). This species is rarely reported. This is the first record for the Lesser Antilles.

Distribution. Southern Florida, Gulf of Mexico, Brazil; Lesser Antilles, ICA (Guadeloupe); 20–131 m.

***Nibilia ?antilocarpa* (Stimpson, 1871)**

(Fig. 15m)

Herbstia sp.—Desbonne, in Desbonne & Schramm, 1867: 17 (Guadeloupe; ‘les pêcheurs en trouvent assez souvent dans les nasses avec le *Pericera cornuta*’).

Nibilia erinacea A. Milne-Edwards, 1873–1880: 133, pl. 25 (Guadeloupe).

Nibilia antilocarpa.—Rathbun, 1925: 290 (St Vincent, Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4554, 15 June 2015, 16°20.98'N, 60°55.57'W, 370–300 m, MNHN-IU-2013-18921; st. CP4558, 15 June 2015, 16°21.98'N, 60°48.72'W, 385–312 m, MNHN-IU-2013-18967; st. DW4573, 17 June 2015, 16°19.9'N, 60°54.6'W, 413–389 m, MNHN-IU-2013-18963 (MNHN number not visible on photo, check with specimen).

Comment. KARUBENTHOS specimens are small with a carapace length of about 2 cm, at most. They resemble *Nibilia antilocarpa*, with a large specimen from Guadeloupe illustrated in Desbonne (1867: pl. 7, fig. 23). The frontal spines are more widely separated at their base and the chelipeds are shorter. These are perhaps morphological variations for juveniles as often observed within the Majoidea.

Distribution. North Carolina to Gulf of Mexico, Antilles, Brazil; Lesser Antilles, ICA (Guadeloupe, St Vincent, Barbados); 71–342 m.

***Rochinia hystrix* (Stimpson, 1871)**

(Fig. 16a)

Amathia hystrix.—A. Milne-Edwards, 1880: 2 (St Kitts, Martinique, St Lucia, St Vincent, Barbados).

Anamathia hystrix.—Faxon, 1896: 153 (Barbados).

Scyramathia hystrix.—A. Milne-Edwards & Bouvier, 1923: 380 (St Kitts, St Lucia, St Vincent, Barbados).

Rochinia hystrix.—Rathbun, 1925: 214 (Martinique, St Lucia, St Vincent, Barbados).—Poupin, 1994: 42 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4532, 11 June 2015, 16°30.06'N, 61°37.54'W, 367–362 m, MNHN-IU-2013-18830; st. DW4573, 17 June 2015, 16°19.9'N, 60°54.6'W, 413–389 m, MNHN-IU-2013-18966; st. CP4648, 29 June 2015, 16°2.31'N, 61°27.3'W, 388–368 m, MNHN-IU-2013-19198.

Comment. Photographs were determined using key characters and figures in Rathbun (1925: 214, pl. 70–71) and a color photograph for Guadeloupe, 400 m, in Poupin (1994: 42, pl. 4e).

Distribution. Eastern Gulf of Mexico, Cuba, Antilles; also Brazil (Pettan & Tavares 2014); Lesser Antilles, ICA (St Kitts, Guadeloupe, Martinique, St Lucia, St Vincent, Barbados); 150–708 m.

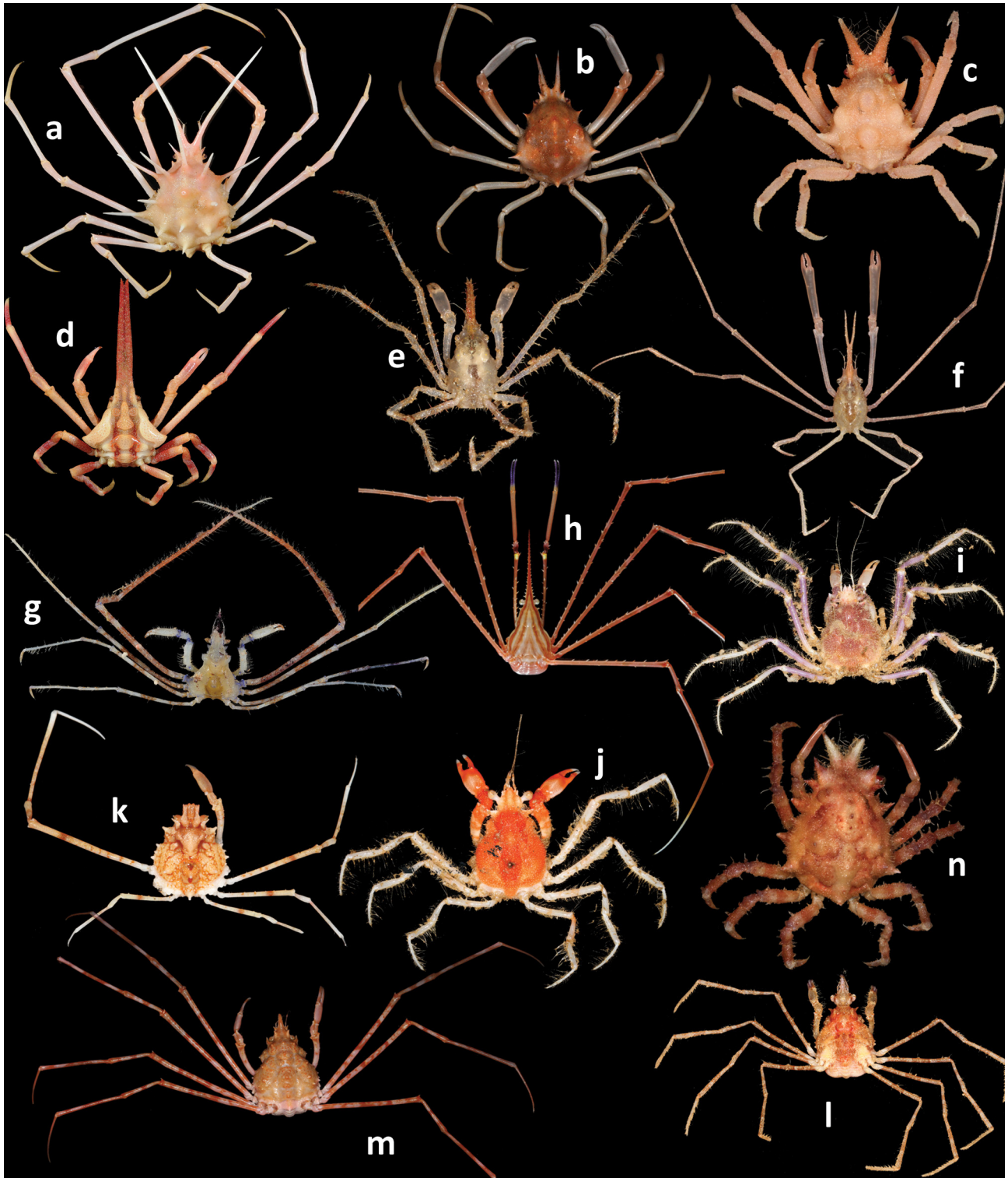


FIGURE 16. Brachyura. a) *Rochinia hystrix*, st. CP4532, 367–362 m, MNHN-IU-2013-18830; b) *Rochinia tanneri*, st. CP4608, 618–632 m, MNHN-IU-2013-19051; c) *Rochinia umbonata*, st. DW4604, 542–411 m, MNHN-IU-2013-19041; d) *Sphenocarcinus corrosus*, st. DW4555, 258–100 m, MNHN-IU-2013-18927; e) *Anomalothir frontalis*, st. DW4613, 210–240 m, MNHN-IU-2013-19063; f) *Anomalothir furcillatus*, st. DW4634, 310–304 m, MNHN-IU-2013-19137; g) *Podochela curvirostris*, st. DW4560, 250–185 m, MNHN-IU-2013-18972; h) *Stenorhynchus yangi*, st. DW4586, 251–204 m, MNHN-IU-2013-18879; i) *Collodes ?robustus*, st. DW4601, 632–346 m, MNHN-IU-2013-19040; j) *Collodes ?obesus*, st. DW4596, 164–185 m, MNHN-IU-2013-19022; k) *Euprognatha gracilipes*, st. DW4613, 210–240 m, MNHN-IU-2013-19060; l) *Pyromaia ?acanthina*, st. DW4596, 164–185 m, MNHN-IU-2013-19031; m) *Pyromaia cuspidata*, st. CP4624, 242–243 m, MNHN-IU-2013-19112; n) *Stenocionops coelatus*, st. DW4599, 262–266 m, MNHN-IU-2013-19043.

***Rochinia tanneri* (Smith, 1883)**

(Fig. 16b)

Rochinia tanneri.—Poupin, 1994: 43 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4608, 24 June 2013, 16°15.02'N, 60°50.8'W, 618–632 m, MNHN-IU-2013-19051; st. DW4562, 16 June 2015, 16°24.83'N, 60°46.41'W, 677–549 m, MNHN-IU-2013-18969.

Comment. Photographs were determined using key characters and figure in Rathbun (1925: 216, pl. 227 fig. 1) and a previous color photograph for Guadeloupe, 550 m (Poupin 1994: 43, pl. 4f).

Distribution. Massachusetts to Florida Strait; Lesser Antilles, ICA (Guadeloupe); 128–351 m.

***Rochinia umbonata* (Stimpson, 1871)**

(Fig. 16c)

Scyra umbonata.—A. Milne-Edwards, 1880: 2 (St Vincent).

Scyramathia umbonata.—A. Milne-Edwards & Bouvier, 1923: 381 (St Vincent).

Rochinia umbonata.—Rathbun, 1925: 222 (St Vincent).—Paulmier, 1993: 26 (Guadeloupe, Martinique; entry in text for *R. umbonata*; however, specimen in pl. 30 fig. 1 is *R. tanneri*).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).—Poupin, 1994: 43 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4604, 23 June 2015, 16°0.96'N, 61°13.27'W, 542–411 m, MNHN-IU-2013-19041.

Comment. Photographs were determined using key characters and figures in Rathbun (1925: 222, fig. 85, pl. 72, fig. 1–2, pl. 73, fig. 1) and previous color photograph for Guadeloupe, 485 m (Poupin 1994: 43, pl. 4g).

Distribution. North Carolina to Gulf of Mexico, Antilles, Caribbean Sea; Lesser Antilles, ICA (Guadeloupe, Martinique, St Vincent); 161–915 m.

***Sphenocarcinus corrosus* A. Milne-Edwards, 1878**

(Fig. 16d)

Sphenocarcinus corrosus A. Milne-Edwards, 1878 (1873–1880): 136 (Barbados).—A. Milne-Edwards, 1880: 4 (Barbados).—A. Milne-Edwards & Bouvier, 1923: 378 (Montserrat, Barbados, Grenada).—Rathbun, 1925: 187 (Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4592, 22 June 2015, 15°58.74'N, 61°21.82'W, 214–201 m, MNHN-IU-2013-19017; st. CP4623, 26 June 2015, 15°55.72'N, 61°31.02'W, 217–182 m, MNHN-IU-2013-19106; st. DW4555, 15 June 2015, 16°23.53'N, 60°49.67'W, 258–100 m, MNHN-IU-2013-18927.

Comment. Photographs were determined using key characters and figures in Rathbun (1925: 187, pl. 62, fig. 1–2, pl. 223, fig. 3–4). Williams (1984: 315, fig. 250) gives also a figure of this remarkable species.

Distribution. North Carolina, northern Gulf of Mexico, Colombia; Lesser Antilles, ICA (Guadeloupe, Montserrat, Barbados, Grenada); 165–365 m.

***Stenocionops coelatus* (A. Milne-Edwards, 1878)**

(Fig. 16n)

Pericera cornuta.—Desbonne, in Desbonne & Schramm, 1867: 3, 12 (Guadeloupe ('on le trouve assez souvent dans les nasses que les pêcheurs tendent à de grandes profondeurs')).—A. Milne-Edwards, 1873–1880: 51 ('Mer des Antilles') (see comment).

Pericera coelata.—A. Milne-Edwards, 1880: 1 (Barbados).

Stenocionops coelata.—A. Milne-Edwards & Bouvier, 1923: 393 (Barbados; 'Rathbun la tient pour une simple variété de *S. furcata* dont elle est très proche').

Stenocionops furcata coelata.—Rathbun, 1925: 450 (St Lucia, Barbados).—Rodríguez, 1980: 290 (St Lucia, Barbados).—Hernández-Ávila *et al.*, 2007: 44 (Cubagua).—Lira, 2004: tab. 1 (Tortuga).
Stenocionops coelatus.—Lira *et al.*, 2013: tab. 1 (Margarita, Tortuga).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. Carmona-Suárez, Besse 2013), st. GN20, 15 May 2012, 16°25'N, 61°34'W, 258 m, MNHN-IU-2013-6729.

Guadeloupe, KARUBENTHOS 2015, st. DW4599, 22 June 2015, 15°53.14'N, 61°25.15'W, 262–266 m, MNHN-IU-2013-19043; st. CP4623, 26 June 2015, 15°55.72'N, 61°31.02'W, 217–182 m, MNHN-IU-2013-19118 (specimen dirty on photo).

Comment. Photographs were determined by comparison with previous color photographs of this species made during KARUBENTHOS 2012, and figures in Rathbun (1925: pl. 164, fig. 1–2). In H. Milne Edwards (1834–1840: 335), *Pericera cornuta* is conspecific with *Maia taurus* Lamarck, 1818, a species currently considered as a junior synonym of *Stenocionops furcata*. *Stenocionops coelata* is sometimes considered as a synonym or subspecies of *Stenocionops furcatus* (Olivier, 1791) (e.g., Melo 1999; Felder *et al.* 2009), but Rathbun (1925), Williams (1984) and Santana *et al.* (2004) indicate that *S. furcatus coelatus* has a restricted distribution within the range of *S. furcatus*, being limited to an area from off Beaufort, North Carolina, to Barbados. The genus *Stenocionops* has been removed from the Mithracidae s.s. by Windsor & Felder (2014). Its family placement is currently uncertain and it is placed herein in the Epialtidae, following WoRMS (2016).

Distribution. North Carolina to Lesser Antilles, ICA (Guadeloupe, St Lucia, Barbados), IOV (Margarita, Cubagua, Tortuga); 25–508 m (A. Milne-Edwards & Bouvier 1923; Rathbun 1925; Santana *et al.* 2004).

***Stenocionops spinosissimus* (Saussure, 1857)**

(Fig. 17c)

Pericera spinosissima Saussure, 1857: 501 (Antilles).—Desbonne, in Desbonne & Schramm, 1867: 12 (Guadeloupe).—A. Milne-Edwards, 1873–1880: 51 (Guadeloupe).

Stenocionops spinosissima.—Rathbun, 1925: 455 (Guadeloupe, Dominica).—Gervain *et al.*, 2002: 25 (Guadeloupe).

Stenocionops spinosissimus.—Paulmier, 1993: 24 (Guadeloupe, Martinique).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).—Poupin, 1994: 44 (Guadeloupe).—Hernández-Ávila *et al.*, 2009: 1477 (Margarita).—Lira *et al.*, 2013: tab. 1 (Margarita).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4540, 13 June 2015, 16°41.47'N, 61°35.8'W, 618–627 m, MNHN-IU-2013-18882; st. DW4562, 16 June 2015, 16°24.83'N, 60°46.41'W, 677–549 m, MNHN-IU-2013-18970.

Comment. Photographs were determined by comparison with previous color photographs already available for Guadeloupe, 200 m, in Poupin (1994: pl. 4h). Paulmier (1993) indicates that this species is common around Guadeloupe between 215–325 m. Its maximum depth range is extended herein from 480 m to 627–677 m.

Distribution. North Carolina to Gulf of Mexico, Antilles, northern South America, Brazil; Lesser Antilles, ICA (Guadeloupe, Dominica, Martinique), IOV (Margarita); 25 to 627–677 m.

Family Inachidae MacLeay, 1838

***Anomalothir frontalis* (A. Milne-Edwards, 1879)**

(Fig. 16e)

Anomalopus frontalis A. Milne-Edwards, 1879 (1873–1880): 189 (Barbados).—A. Milne-Edwards, 1880: 8 (Montserrat, Guadeloupe, Dominica, Barbados).—A. Milne-Edwards & Bouvier, 1923: 368 (Montserrat, Guadeloupe, Dominica, Barbados).—Rathbun, 1925: 25 (Montserrat, Guadeloupe, Dominica, Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4529, 11 June 2015, 16°24.4'N, 61°33.68'W, 176–183 m, MNHN-IU-2013-18876; st. DW4613, 25 June 2015, 16°24.16'N, 60°50.1'W, 210–240 m, MNHN-IU-2013-19063.

Comment. Photographs are determined based on the chela being no more than three times its greatest width, as indicated in Rathbun (1925). There is only one related species in the western Atlantic, *Anomalothir furcillatus* (Stimpson, 1871), also collected during KARUBENTHOS 2015 and clearly distinct by shape of chela and rostrum (Fig. 16f).

Distribution. Eastern Gulf of Mexico, Cuba, Antilles, Colombia; Lesser Antilles, ICA (Montserrat, Guadeloupe, Dominica, Barbados); 131–421 m.

Anomalothir furcillatus (Stimpson, 1871)

(Fig. 16f)

Anomalopus furcillatus.—A. Milne-Edwards, 1880: 8 (St Croix, Dominica, St Vincent, Grenada).

Anomalothir furcillatus.—A. Milne-Edwards & Bouvier, 1923: 368 (St Croix, Dominica, St Vincent, Grenada).—Rathbun, 1925: 24 (St Croix (Frederickstadt), Guadeloupe, Grenada).—Rathbun, 1933: 6 (St Croix).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4554, 15 June 2015, 16°20.98'N, 60°55.57'W, 370–300 m, MNHN-IU-2013-18919; st. DW4615, 25 June 2015, 16°23.16'N, 60°49.66'W, 270–226 m, MNHN-IU-2013-19068; st. DW4634, 27 June 2015, 15°47.81'N, 61°25.83'W, 310–304 m, MNHN-IU-2013-19137.

Comment. See *Anomalothir frontalis*. The terminal spines of the rostrum are more or less separated on specimens examined. Williams (1984: 295, fig. 229) figured a specimen with the rostrum almost like that illustrated herein (Fig. 16f).

Distribution. North Carolina, eastern Gulf of Mexico, Antilles, Colombia, Brazil; Lesser Antilles, VGI (St Croix), ICA (Guadeloupe, Dominica, St Vincent, Grenada); 50–690 m.

Podochela curvirostris (A. Milne-Edwards, 1879)

(Fig. 16g)

Anisonotus curvirostris A. Milne-Edwards, 1879 (1873–1880): 196 (Barbados).—A. Milne-Edwards, 1880: 10 (Montserrat, St Vincent, Grenadines, Barbados).—A. Milne-Edwards & Bouvier, 1923: 364 (Montserrat, St Vincent, Grenadines, Barbados).

Podochela curvirostris.—Rathbun, 1925: 50 (Grenadines (Carriacou), Barbados).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. Carmona-Suárez Besse 2013), st. GN20, 15 May 2012, 16°25'N, 61°34'W, 258 m, MNHN-IU-2013-4117.

Guadeloupe, KARUBENTHOS 2015, st. DW4560, 16 June 2015, 16°25.15'N, 60°51'W, 250–185 m, MNHN-IU-2013-18972; st. CP4623, 26 June 2015, 15°55.72'N, 61°31.02'W, 217–182 m, MNHN-IU-2013-19105.

Comment. This species was collected during KARUBENTHOS 2012 (trap, 258 m) and 2015. This is the first record for Guadeloupe but the species is common in the Lesser Antilles. The photographs were determined by comparison with previous photograph made during KARUBENTHOS 2012 and with key characters and figures in Rathbun (1925: 50, pl. 19 fig. 1–2, pl. 210 fig. 1–4).

Distribution. Florida Strait, Cuba, Antilles; Lesser Antilles, ICA (Montserrat, Guadeloupe, St Vincent, Grenadines, Barbados); 134–448 m.

Stenorhynchus yangi Goeke, 1989

(Fig. 16h)

Stenorhynchus yangi.—Poupin, 1994: 45 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. Carmona-Suárez, Poupin), st. GD58, 25 May 2012, 16°22.68'N, 61°34.95'W, 95 m, MNHN-IU-2014-12829; st. GN07, 05 May 2012, 16°23'N, 61°35'W, 150 m, MNHN-IU-2013-4065; st. GN09, 05 May 2012, 16°23'N, 61°34'W, 140 m, MNHN-IU-2013-6629; st. GN11, 06 May 2012, 16°23'N, 61°36'W, 140 m, MNHN-IU-2014-12828.

Guadeloupe, KARUBENTHOS 2015, st. DW4586, 21 June 2015, 15°59.62'N, 61°22.51'W, 251–204 m, MNHN-IU-2013-18879.

Comment. This species was already caught around Guadeloupe by the R/V *Polka* (1993; traps at 170–450 m) and during KARUBENTHOS 2012 (dredges and traps, 95–150 m). It can be confused with *Stenorhynchus seticornis* (Herbst, 1788) which seems to be more common in shallower waters (1–50 m). The two species can be told apart by the aspect of the rostrum with (*S. seticornis*) or without (*S. yangi*) setae at tip. Fresh coloration was already illustrated for a Guadeloupe specimen, 450 m (Poupin 1994: pl. 5a).

Distribution. Massachusetts to Gulf of Mexico, Caribbean Sea to Suriname; Lesser Antilles, ICA (Guadeloupe); 31–450 m (Felder *et al.* 2009; Poupin 1994).

Family Inachoididae Dana, 1851

Collodes ?robustus Smith, 1881

(Fig. 16i)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4543, 13 June 2015, 16°39.83'N, 61°33.03'W, 385–399 m, MNHN-IU-2013-18899; st. DW4601, 23 June 2015, 16°2.94'N, 61°16.53'W, 632–346 m, MNHN-IU-2013-19040.

Comment. This tentative photograph identification is based on the aspect of the rostrum, with two broad and short spines as illustrated in Rathbun (1925: 114, text fig. 36–37). On photographs the specimens are dirty with details of carapace not visible but the median gastric and cardiac spine are of reduced size as indicated for this species by Williams (1984: 297, '*reduced to tubercles hardly larger than surrounding granules*'). The identification must be checked with the specimen.

Distribution. Massachusetts to Florida Strait, Gulf of Mexico, southeastern Caribbean Sea; Lesser Antilles, ICA (?Guadeloupe); 27–683 m.

Collodes ?obesus A. Milne-Edwards, 1878

(Fig. 16j)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4595 or DW4595, 22 June 2015, 15°58.65'N, 61°21.95'W, 211–208 m, MNHN-IU-2013-19009; st. DW4596, 22 June 2015, 15°56.55'N, 61°21.76'W, 164–185 m, MNHN-IU-2013-19022.

Comment. Photographs were first identified as *Collodes trispinosus* but *Collodes obesus* was suggested by D. Felder (pers. com.) based on color pattern being totally different in *C. trispinosus*. On photographs examined the rostrum show similarities with *C. obesus* as illustrated in Rathbun (1925: text fig. 33). The basal antennal article is armed on its inner crest, as in *C. obesus*. Shape and armature of the carapace are also overall comparable to figures of *C. obesus* in Rathbun (1925: pl. 36, fig. 3–4, pl. 217, fig. 2–5) but there are only two slender, erect, capitate median spines (gastric and cardiac) and no intestinal spine, which is present in *C. obesus*. This is perhaps in the range of intraspecific variations for this species.

Distribution. Florida Strait (91–99 m); perhaps also Lesser Antilles, ICA (Guadeloupe) (164–211 m).

Euprognatha gracilipes A. Milne-Edwards, 1878

(Fig. 16k)

Euprognatha gracilipes.—A. Milne-Edwards, 1880: 7 (St Croix, Dominica, Barbados).—A. Milne-Edwards & Bouvier, 1923: 375 (St Croix, Dominica, Barbados).—Rathbun, 1925: 101 (Saint Croix, Barbados).—Santana & Tavares, 2008: 318 (St Croix, Dominica, Barbados).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. Carmona-Suárez 2014), st. GD69, 28 May 2012, 16°15.97'N, 61°10.18'W, 60 m, MNHN-IU-2013-13092 (1 M, 2 ov. F).

Guadeloupe, KARUBENTHOS 2015, st. DW4578, 17 June 2015, 16°20.62'N, 60°54.12'W, 250–119 m, MNHN-IU-2013-18977; st. DW4613, 25 June 2015, 16°24.16'N, 60°50.1'W, 210–240 m, MNHN-IU-2013-19060.

Comment. This is the first record for Guadeloupe. The species was also found during KARUBENTHOS 2012 (dredge, 60 m). The determination is based on figures in Rathbun (1925: 668, pl. 34, fig. 3–4).

Distribution. Southern Florida, Gulf of Mexico, Antilles, Brazil; Lesser Antilles, VGI (St Croix), ICA (Guadeloupe, Dominica, Barbados); 51–368 m.

***Pyromaia ?acanthina* Lemaitre, N. H. Campos & Bermúdez, 2001**

(Fig. 16l)

Present records. Guadeloupe. KARUBENTHOS 2012 (det. J. Poupin, MNHN, 2015), st. GN04, 4 May 2012, 16°23'N, 61°36'W, 150 m, MNHN-IU-2013-5931.

Guadeloupe, KARUBENTHOS 2015, st. DW4511, 8 June 2015, 16°13.9'N, 61°51.5'W, 660–630 m, MNHN-IU-2013-18892 (see comments); st. DW4553, 15 June 2015, 16°20.82'N, 60°53.3'W, 162–111 m, MNHN-IU-2013-18915; st. DW4596, 22 June 2015, 15°56.55'N, 61°21.76'W, 164–185 m, MNHN-IU-2013-19031; st. DW4615, 25 June 2015, 16°23.16'N, 60°49.66'W, 270–226 m, MNHN-IU-2013-19073.

Comment. This pre-determination is based on key and figures in Lemaitre *et al.* (2001) and comparison with photographs of *Pyromaia acanthina* from Guadeloupe, 150 m, during KARUBENTHOS 2012. The specimens from KARUBENTHOS 2015 are affiliated to *Pyromaia acanthina* based on long spines on gastric, cardiac, and intestinal areas of the carapace. They have also some resemblances with *P. tuberculata*, a species from shallow-waters in the eastern Pacific, invasive in southwestern Atlantic. Specimen MNHN 18892 is much deeper than the others and perhaps belongs to a distinct species. The specimens must be examined to check this preliminary identification.

Distribution. Caribbean coast of Colombia, 196–321 m (Lemaitre *et al.* 2001); Lesser Antilles, ICA (Guadeloupe, 111–?660 m).

***Pyromaia cuspidata* Stimpson, 1871**

(Fig. 16m)

Pyromaia cuspidata.—Hernández-Ávila *et al.*, 2007: 44 (Cubagua).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4624, 26 June 2015, 15°56.23'N, 61°30.67'W, 242–243 m, MNHN-IU-2013-19112.

Comment. This is the first record for Guadeloupe. The determination is based on key and figure in Rathbun (1925: 129, pl. 41 fig. 1–3).

Distribution. North Carolina to eastern Gulf of Mexico, Cuba, Caribbean Sea to Colombia; Lesser Antilles, ICA (Guadeloupe), IOV (Cubagua); 27–549 m.

Family Majidae Samouelle, 1819

***Temnonotus granulosus* A. Milne-Edwards, 1875**

(Fig. 17d)

Temnonotus granulosus A. Milne-Edwards, 1875 (1873–1880): 83 (Barbados).—A. Milne-Edwards, 1880: 2 (Barbados).—A. Milne-Edwards & Bouvier, 1923: 392 (Barbados).—Rathbun, 1925: 341 (Barbados).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. Carmona-Suárez, Besse 2013), coll. Lamy, traps about 200 m, no other station data, MNHN-IU-2013-4422.

Guadeloupe, KARUBENTHOS 2015, st. DW4555, 15 June 2015, 16°23.53'N, 60°49.67'W, 258–100 m, MNHN-IU-2013-18935; st. DW4613, 25 June 2015, 16°24.16'N, 60°50.1'W, 210–240 m, MNHN-IU-2013-19077.

Comment. This specimen is broken but easily identifiable by the horseshoe sculpture present on the dorsal surface of its carapace. The species was already collected during KARUBENTHOS 2012. This is the first record for Guadeloupe.

Distribution. Florida Strait, Cuba. Also Suriname (Santana & Tavares 2010); Lesser Antilles, ICA (Guadeloupe, Barbados); 183–478 m.

Family Mithracidae MacLeay, 1838

Species listed herein in the Mithracidae include only the Mithracidae s.s. as discussed by Windsor & Felder (2014). Other genera that were formerly placed in the Mithracinae (cf. De Grave *et al.* 2009), such as *Macrocoeloma*, and *Stenocionops* are listed in the Epialtidae, following WoRMS (2016).

Nemausa cornuta (Saussure, 1857)

(Fig. 17e)

Mithrax cornutus Saussure, 1857: 501 (Antilles).—A. Milne-Edwards, 1873–1880: 97 (Martinique).—Wagner, 1990: 6 (St Martin (Maarten), Montserrat, Dominica, Martinique, Barbados, Grenadines, Tobago).—Paulmier, 1993: 24 (Martinique).—Poupin, 1994: 41 (Guadeloupe).—Gervain *et al.*, 2002: 24 (Guadeloupe).

Nemausa rostrata A. Milne-Edwards, 1875 (1873–1880): 81 (Martinique).—A. Milne-Edwards, 1880: 2 (St Croix, St John, Norman (Flanagan Passage), Montserrat, Grenadines).

Mithrax (Mithrax) cornutus.—Rathbun, 1925: 386 (Dominica, Martinique).

Nemausa cornutus.—Carré, 2005: 23 (Martinique).—Lira *et al.*, 2013: tab. 1 (Margarita).

Present records. Guadeloupe, KARUBENTHOS 2012 (re-det. J. Poupin, MNHN 2015), st. GR33, 18 May 2012, 16°22.88'N, 61°31.43'W, 9 m, MNHN-IU-2013-4433; st. GB30, 25 May 2012, 16°10.97'N, 61°32.41'W, 16 m, MNHN-IU-2013-4959; st. GM01, 2 May 2012, 16°13.41'N, 61°31.83'W, 1 m, MNHN-IU-2013-14667; st. GD64, 26 May 2012, 16°09.03'N, 61°10.06'W, 60 m, MNHN-IU-2013-6787.

Guadeloupe, KARUBENTHOS 2015, st. DW4590, 21 June 2015, 15°57.32'N, 61°28'W, 135–83 m, MNHN-IU-2013-18997; st. DW4545, 14 June 2015, 16°30.17'N, 61°31.41'W, 82–60 m, MNHN-IU-2013-18944 (check MNHN number, not visible on photo).

Comment. Photographs were determined by comparison with figure in Rathbun (1925: pl. 255) and previous photographs of this species during KARUBENTHOS 2012. *Nemausa cornuta* exhibits great morphological variations, especially for length of the rostrum (Wagner 1990). Its depth range around Guadeloupe is between 1 m (this work, st. GM01, KARUBENTHOS 2012) and 450 m (Poupin 1994).

Distribution. Bermudas, southern Florida, Cuba, Brazil; Lesser Antilles, VGI (St Croix, St John, Norman), ICA (St Martin, Montserrat, Guadeloupe, Dominica, Martinique, Grenadines, Barbados, Tobago), IOV (Margarita); <1–1077 m.

Superfamily Palicoidea Bouvier, 1898

Family Palicidae Bouvier, 1898

Palicus faxoni Rathbun, 1897

(Fig. 17f)

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4589, 21 June 2015, 15°59.84'N, 61°27.84'W, 221–150 m, MNHN-IU-2013-18996; st. DW4592, 22 June 2015, 15°58.74'N, 61°21.82'W, 214–201 m, MNHN-IU-2013-19020.

Comment. This is the first record for the Lesser Antilles but this species has a large western Atlantic distribution. The specimen from Guadeloupe is overall very similar to its sibling species in the eastern Pacific (*Palicus lucasii* Rathbun, 1898) illustrated in Rathbun (1918:193, fig. 119) and Williams (1984: 483, fig. 379). The maximum depth range of the species is slightly extended herein from 190 m to at least 201–214 m.

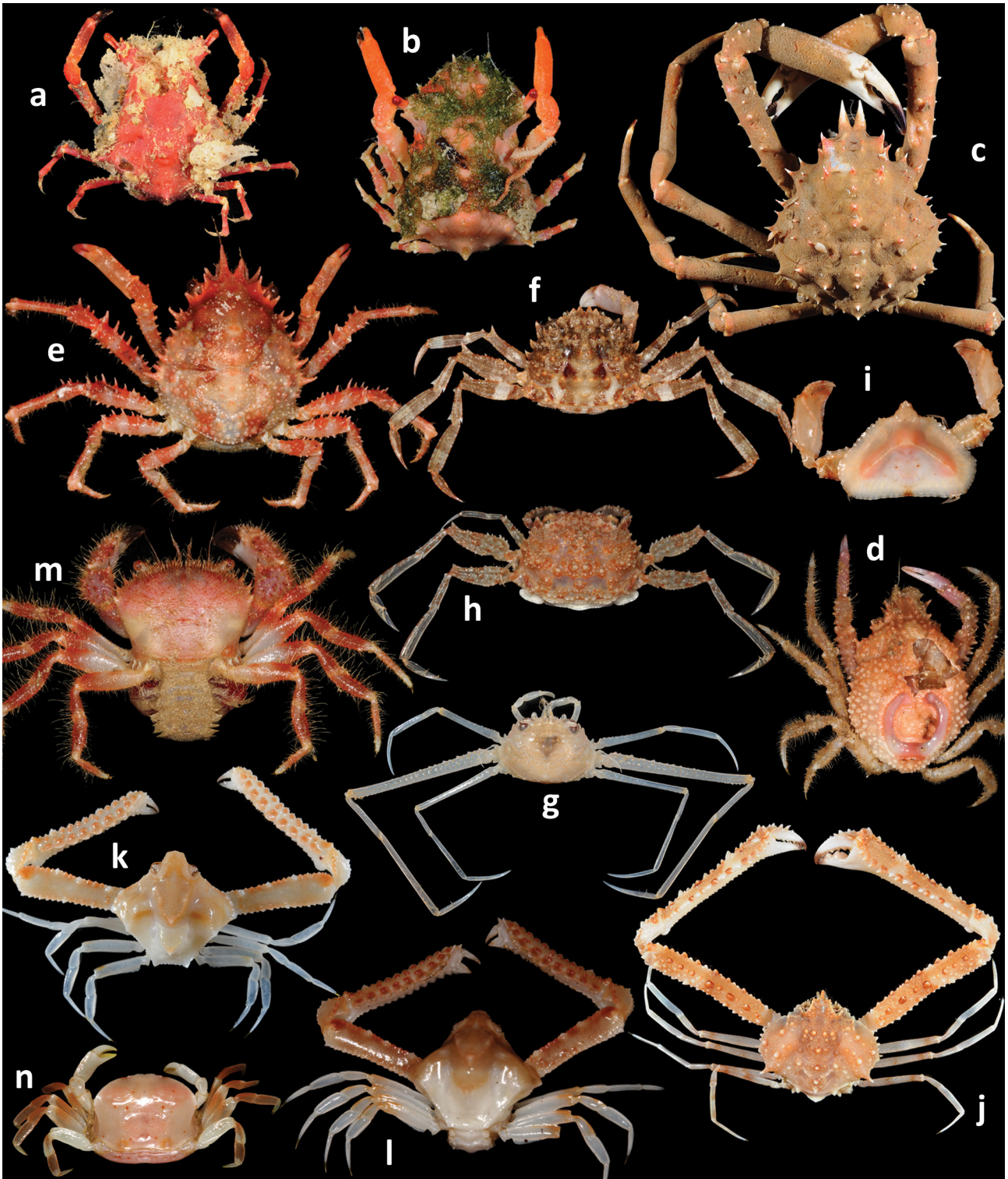


FIGURE 17. Brachyura. a) *Macrocoeloma ?eutheca*, st. DW4545, 82–60 m, MNHN-IU-2013-18945; b) *Macrocoeloma intermedium*, st. DW4551, 74–59 m, MNHN-IU-2013-18957; c) *Stenocionops spinosissimus*, st. DW4540, 618–627 m, MNHN-IU-2013-18882; d) *Temnonotus granulatus*, st. DW4613, 210–240 m, MNHN-IU-2013-19077; e) *Nemausa cornuta*, st. DW4590, 135–83 m, MNHN-IU-2013-18997; f) *Palicus faxoni*, st. DW4592, 214–201 m, MNHN-IU-2013-19020; g) *Palicus gracilis*, st. CP4524, 550–500 m, MNHN-IU-2013-18804; h) *Palicus sicus*, st. DW4638, 312–305 m, MNHN-IU-2013-19151; i) *Celatopesia concava*, st. DW4597, 210–208 m, MNHN-IU-2013-19028; j) *Parthenope agona*, st. CP4517, 178–185 m, MNHN-IU-2013-18819; k) *Solenolambrus decemspinus*, st. CP4532, 367–362 m, MNHN-IU-2013-18838; l) *Solenolambrus typicus*, st. DW4613, 210–240 m, MNHN-IU-2013-19076; m) *Pilumnus ?gracilipes*, st. DW4596, 164–185 m, MNHN-IU-2013-19023; n) *Clypeasterophilus juvenilis*, st. CP4623, 217–182 m, MNHN-IU-2013-19107.

Distribution. North Carolina, eastern Gulf of Mexico, Yucatan to Brazil; Lesser Antilles, ICA (Guadeloupe); 59–221 m.

***Palicus gracilis* (Smith, 1883)**

(Fig. 17g)

Cymopolia gracilis.—Rathbun, 1918: 218 (Curaçao).

Palicus gracilis.—Felder *et al.*, 2009: 1088 (Curaçao).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4524, 10 June 2015, 16°30.17'N, 61°42.4'W, 550–500 m, MNHN-IU-2013-18804.

Comment. This is the first record for Guadeloupe. The determination is based on outline of front and orbits and on the remarkably long and thin pereopod 3, as illustrated in Rathbun (1918: fig. 132, pl. 50).

Distribution. Massachusetts, Gulf of Mexico, Nicaragua, Colombia; Lesser Antilles, ICA (Guadeloupe), IOV (Curaçao); 183–686 m.

***Palicus sicus* (A. Milne-Edwards, 1880)**

(Fig. 17h)

Cymopolia sica A. Milne-Edwards, 1880: 29 (St Croix, Dominica, Barbados, Grenada).—Rathbun, 1918: 208 (St Croix, St Kitts (St Christopher), Barbados, Grenada).—Rathbun, 1933: 85 (St Croix, Barbados).

Palicus sica.—Rathbun, 1897: 97 (St Kitts, Barbados, Grenada).

Palicus sicus.—A. Milne-Edwards & Bouvier, 1902: 56 (Barbados, Grenada).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4517, 9 June 2015, 16°24.4'N, 61°34'W, 178–185 m, MNHN-IU-2013-18816; st. DW4586, 21 June 2015, 15°59.62'N, 61°22.51'W, 251–204 m, MNHN-IU-2013-19005; st. DW4638, 28 June 2015, 15°50.29'N, 61°19.47'W, 312–305 m, MNHN-IU-2013-19151.

Comment. Photographs were determined by comparison with figures in Rathbun (1918: 209, fig. 127, pl. 40, fig. 3–4). This is the first record for Guadeloupe but the species was previously reported around several islands in the Lesser Antilles at similar depths.

Distribution. South Carolina to Gulf of Mexico, Bahamas, Antilles, Colombia, Brazil; Lesser Antilles, VGI (St Croix), ICA (St Kitts, Guadeloupe, Dominica, Barbados, Grenada); 27–622 m.

Superfamily Parthenopoidea MacLeay, 1838

Family Parthenopidae MacLeay, 1838

***Celatopesia concava* (Stimpson, 1871)**

(Fig. 17i)

Cryptopodia concavata.—Rathbun, 1925: 553 (off St Thomas).—Gore & Scotto, 1979: 15 (St Vincent).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. Macpherson, Besse 2013), st. GB12, 14 May 2012, 16°25.61'N, 61°32.57'W, 14 m, MNHN-IU-2013-4935 (JL756); st. GD25, 14 May 2012, 16°25'N, 61°33'W, 160 m, MNHN-IU-2013-4885 (JL760-Photo); st. GS21, 16 May 2012, 16°23.26'N, 61°31.79'W, 14 m, MNHN-IU-2013-4886 (JL922-Photo); st. GS04, 04 May 2012, 16°21.97'N, 61°37.98'W, 11 m, MNHN-IU-2013-4896; st. GS24, 18 May 2012, 16°26.78'N, 61°32.41'W, 16 m, MNHN-IU-2013-4883 (JL1095-Photo); st. GS34, 26 May 2012, 16°09.71'N, 61°07.73'W, 15 m, MNHN-IU-2013-4894.

Guadeloupe, KARUBENTHOS 2015, st. DW4597, 22 June 2015, 15°55.47'N, 61°23.48'W, 210–208 m, MNHN-IU-2013-19028.

Comment. Photographs were determined by comparison with figures in Rathbun (1925: pl. 202, fig. 3–4, pl. 282, fig. 6, 9) and Gore & Scotto (1979: fig. 4). This is the first record for Guadeloupe. The species was already sampled during KARUBENTHOS 2012, between 11–160 m. The maximum depth range is extended herein from 73 m to 208–210 m.

Distribution. North Carolina to Gulf of Mexico, Antilles, Colombia, Brazil; Lesser Antilles, VGI (St Thomas), ICA (Guadeloupe, St Vincent); 7 to 208–210 m.

***Parthenope agona* (Stimpson, 1871)**

(Fig. 17j)

Lambrus agonus.—A. Milne-Edwards, 1880: 4 (St Croix, Barbados).—A. Milne-Edwards & Bouvier, 1923: 354 (St Croix, Barbados).

Parthenope (Parthenope) agonus.—Rathbun, 1925: 513 (off Trinidad).—Gore & Scotto, 1979: 39 (Barbados, Trinidad, Margarita).—Hernández-Ávila *et al.*, 2007: 44 (Cubagua).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. Macpherson, Besse 2013), st. GD01, 04 May 2012, 16°22.57'N, 61°34.12'W, 80 m, MNHN-IU-2013-4824; st. GD23, 14 May 2012, 16°24.97'N, 61°32.75'W, 80 m, MNHN-IU-2013-4944 (JL752); st. GD25, 14 May 2012, 16°25'N, 61°33'W, 160 m, MNHN-IU-2013-4891 (JL751), 4939, 6757 (JL775-Photo); st. GD31, 16 May 2012, 16°24.97'N, 61°32.8'W, 85 m, MNHN-IU-2013-4936; st. GN14, 06 May 2012, 16°23'N, 61°37'W, 150 m, MNHN-IU-2013-4804 (JL334-Photo); det. J. Poupin, st. GD28, 15 May 2012, 16°25'N, 61°33'W, 110 m, MNHN-IU-2013-4447.

Guadeloupe, KARUBENTHOS 2015, st. CP4517, 9 June 2015, 16°24.4'N, 61°34'W, 178–185 m, MNHN-IU-2013-18819; st. DW4593, 22 June 2015, 15°55.82'N, 61°26.35'W, 152–133 m, MNHN-IU-2013-19008; st. DW4597, 22 June 2015, 15°55.47'N, 61°23.48'W, 210–208 m, MNHN-IU-2013-19029; st. DW4622, 26 June 2015, 15°55.56'N, 61°30.76'W, 203–182 m, MNHN-IU-2013-19099.

Comment. Photographs were determined by comparison with figures in Rathbun (1925: pl. 178–179, pl. 275, fig. 1–3) and Gore & Scotto (1979: fig. 16, 18). This is the first record for Guadeloupe. The species was also collected by dredges and traps during KARUBENTHOS 2012, between 80–160 m. There is some variation in the length of spines of the carapace and legs in the specimens examined but this is in the range of variation illustrated by Gore & Scotto (1979: fig. 18).

Distribution. North Carolina to Gulf of Mexico, Antilles, northern South America, Brazil; Lesser Antilles, VGI (St Croix), ICA (Guadeloupe, Barbados, Trinidad), IOV (Margarita, Cubagua); 46–391 m.

***Solenolambrus decemspinus* Rathbun, 1894**

(Fig. 17k)

Present records. Guadeloupe, KARUBENTHOS 2012 (det. Macpherson, Besse 2013), st. GB12, 14 May 2012, 16°25.61'N, 61°32.57'W, 14 m, MNHN-IU-2013-4940 (JL756); st. GD50, 23 May 2012, 16°11.31'N, 61°29.59'W, 22 m, MNHN-IU-2013-4872.

Guadeloupe, KARUBENTHOS 2015, st. CP4532, 11 June 2015, 16°30.06'N, 61°37.54'W, 367–362 m, MNHN-IU-2013-18838; st. DW4536 or CP4536, 12 June 2015, 16°40.57'N, 61°27.55'W, 347–323 m, MNHN-IU-2013-18886 (identification doubtful for this specimen as posterior tubercles are very low, see Comment).

Comment. Photographs were determined by comparison with figures in Rathbun (1925: pl. 194 fig. 1–2). This is the first record for the Lesser Antilles. The species was collected during KARUBENTHOS 2012 and 2015. The depth range is extended herein from 82–110 m to 14–367 m. *Solenolambrus decemspinus* is sometimes considered as a juvenile form of *S. typicus* Stimpson, 1871 (Gore & Scotto 1979; Felder *et al.* 2009, note 331) a species also examined in this work. The two specimens herein determined from photographs are separated from *S. typicus* based on presence of six low denticles on the posterior margin of carapace (between spine-tipped posterolateral angles) while this margin is smooth in *S. typicus*.

Distribution. Eastern Gulf of Mexico, Puerto Rico; Lesser Antilles, ICA (Guadeloupe); 14–367 m.

***Solenolambrus typicus* Stimpson, 1871**

(Fig. 17l)

Solenolambrus typicus.—A. Milne-Edwards, 1880: 5 (St Croix, Guadeloupe, St Lucia, St Vincent).—A. Milne-Edwards & Bouvier, 1923: 356 (St Croix, Guadeloupe, St Lucia, St Vincent).—Gore & Scotto, 1979: 27 (Guadeloupe, St Lucia, St Vincent, Grenadines, Tobago).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. Macpherson, Besse 2013), st. GD02, 04 May 2012, 16°22.57'N, 61°34.12'W, 80 m, MNHN-IU-2013-5274; st. GD12, 09 May 2012, 16°05.52'N, 61°46.59'W, 45 m, MNHN-IU-2013-4943; st. GD15, 10 May 2012, 16°05.39'N, 61°46.48'W, 50 m, MNHN-IU-2013-4942 (JL584); st. GD33, 16 May 2012, 16°24'N, 61°33'W, 130 m, MNHN-IU-2013-4828 (JL924-Photo); st. GD34, 17 May 2012, 16°25.72'N, 61°33.79'W, 80 m, MNHN-IU-2013-5302 (JL965); st. GD55, 24 May 2012, 16°22.48'N, 61°35.46'W, 85 m, MNHN-IU-2013-4880 (JL1330); st. GS10, 09 May 2012, 16°03.25'N, 61°46.17'W, 23 m, MNHN-IU-2013-4938 (JL527-Photo).

Guadeloupe, KARUBENTHOS 2015, st. DW4511, 8 June 2015, 16°13.9'N, 61°51.5'W, 660–630 m, MNHN-IU-2013-18888; st. DW4613, 25 June 2015, 16°24.16'N, 60°50.1'W, 210–240 m, MNHN-IU-2013-19076.

Comment. This species has been collected during KARUBENTHOS 2012 and 2015 with minimum depth range set herein at 23 m (instead of 91 m). Gore & Scotto (1979: 28) indicate spinose variations in this species and consider that *Solenolambrus portoricensis* Rathbun, 1924 (from Puerto Rico), *S. decemspinus* (also collected during KARUBENTHOS, see comment under that species), and *S. typicus* are potentially conspecific.

Distribution. North Carolina, Bahamas, Gulf of Mexico, Antilles, Brazil; Lesser Antilles, VGI (St Croix), ICA (Guadeloupe, St Lucia, St Vincent, Grenadines, Tobago); 23–618 m.

Superfamily Pilumnoidea Samouelle, 1819

Family Pilumnidae Samouelle, 1819

***Pilumnus ?gracilipes* A. Milne-Edwards, 1880**

(Fig. 17m)

Pilumnus gracilipes A. Milne-Edwards, 1880 (1873–1880): 288 (Barbados).—A. Milne-Edwards, 1880: 13 (Barbados).—A. Milne-Edwards & Bouvier, 1923: 321 (Barbados).—Rathbun, 1930: 499 (Barbados).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4592, 22 June 2015, 15°58.74'N, 61°21.82'W, 214–201 m, MNHN-IU-2013-19019; st. DW4596, 22 June 2015, 15°56.55'N, 61°21.76'W, 164–185 m, MNHN-IU-2013-19023; st. DW4647, 29 June 2015, 15°50.29'N, 61°26.24'W, 263–264 m, MNHN-IU-2013-19182.

Comment. This is the first record for Guadeloupe. The specimens are attributed with hesitation to *Pilumnus ?gracilipes* and there is perhaps more than one species represented in the photographs examined. *Pilumnus gracilipes* remains known with certainty only from Barbados (183 m; a female without its chelipeds). The present determination is based on the figures of A. Milne-Edwards (1880: pl. 50 fig. 3, 3a) and report that the dactyl of the ambulatory leg is 'remarkably long' as stated by Rathbun (1930: 499).

Distribution. Barbados, 183 m; ?Guadeloupe, 164–264 m (Rathbun 1930).

Superfamily Portunoidea Rafinesque, 1815

Family Geryonidae Colosi, 1923

***Chaceon eldorado* Manning & Holthuis, 1989**

(Fig. 18d)

Chaceon quinquedens.—Paulmier, 1993: 29 (Martinique).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique) (Not *C. quinquedens* (Smith) cf. Poupin 1994: 46).

Chaceon eldorado.—Poupin, 1994: 46 (Guadeloupe).—Gervain *et al.*, 2002: 27 (Guadeloupe).

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4513, 8 June 2015, 16°12.58'N, 61°53.14'W, 644–406 m, MNHN-IU-2013-18881.

Comment. *Chaceon* species are very similar and can be easily confused. The present determination is based on the red color and dactyl of pereopod 5 being dorsoventrally depressed (Manning & Holthuis 1989). The species was already collected at similar depths in the 1990's during the R/V *Polka* campaigns (Paulmier 1993; Poupin 1994).

Distribution. Colombia to French Guiana; Lesser Antilles, ICA (Guadeloupe, Martinique). 310–915 m (Poupin 1994).

Family Portunidae Rafinesque, 1815

Achelous binoculus (Holthuis, 1969)

(Fig. 18a)

Present records. Guadeloupe, KARUBENTHOS 2012 (det. E. Macpherson & Carmona-Suárez, Besse 2013), st. GB12, 14 May 2012, 16°25.61'N, 61°32.57'W, 14 m, MNHN-IU-2013-5367 (JL756); st. GD01, 4 May 2012, 16°22.57'N, 61°34.12'W, 80 m, MNHN-IU-2013-5220 (JL162), MNHN-IU-2013-5221 (JL146); st. GD02, 4 May 2012, 16°22.57'N, 61°34.12'W, 80 m, MNHN-IU-2013-5276 (JL217); st. GD16, 11 May 2012, 16°12.37'N, 61°47.2'W, 10 m, MNHN-IU-2013-5191; st. GD25, 14 May 2012, 16°25'N, 61°33'W, 160 m, MNHN-IU-2013-5286 (JL751); st. GD33, 16 May 2012, 16°24'N, 61°33'W, 130 m, MNHN-IU-2013-5289 (JL933); st. GD37, 18 May 2012, 16°22.8'N, 61°33.44'W, 60 m, MNHN-IU-2013-5366; st. GN01, 3 May 2012, 16°22.41'N, 61°35.57'W, 80 m, MNHN-IU-2013-5277 (JL69, photo), 5267 (JL70); st. GN04, 4 May 2012, 16°23'N, 61°36'W, 150 m, MNHN-IU-2013-4918 (JL169), MNHN-IU-2013-6860 (JL169, Photo); st. GN05, 4 May 2012, 16°23'N, 61°36'W, 160 m, MNHN-IU-2013-4922 (JL140), MNHN-IU-2013-5203 (JL140, Photo); st. GN06, 4 May 2012, 16°23'N, 61°36'W, 173 m, MNHN-IU-2013-5197 (JL155, Photo), MNHN-IU-2013-6849 (JL157); st. GN07, 5 May 2012, 16°23'N, 61°35'W, 150 m, MNHN-IU-2013-5201 (JL311, Photo), MNHN-IU-2013-6885 (JL305-1); st. GN08, 05MAY2012, 16°23'N, 61°34'W, 155 m, MNHN-IU-2013-5228 (JL306); st. GN10, 5 May 2012, 16°23'N, 61°33'W, 125 m, MNHN-IU-2013-5281 (JL304); st. GN11, 6 May 2012, 16°23'N, 61°36'W, 140 m, MNHN-IU-2013-5361 (JL307); st. GN12, 6 May 2012, 16°23'N, 61°37'W, 146 m, MNHN-IU-2013-5268, MNHN-IU-2013-5282 (JL320); st. GN21, 15 May 2012, 16°25'N, 61°33'W, 150 m, MNHN-IU-2013-5222 (JL816); st. GN23, 17 May 2012, 16°25'N, 61°33'W, 130 m, MNHN-IU-2013-4926 (JL951).

Guadeloupe, KARUBENTHOS 2015, st. CP4517, 9 June 2015, 16°24.4'N, 61°34'W, 178–185 m, MNHN-IU-2013-18820; st. CP4623, 26 June 2015, 15°55.72'N, 61°31.02'W, 217–182 m, MNHN-IU-2013-19123.

Comment. Photographs were determined using key characters, figure, and color pattern indicated in Holthuis (1969: fig. 1, bottom). This is the first record for the Lesser Antilles. The species seems to be common around Guadeloupe, collected frequently there during KARUBENTHOS 2012 (between 10–160 m). A new minimum depth range is extended herein to 10 m instead of 63 m previously. *Achelous binoculus* can be easily confused with *A. spinicarpus*, also collected during KARUBENTHOS 2012 and 2015. The two species have a very long spine on the carpus of chelipeds but are separated by the presence (*A. binoculus*) or absence (*A. spinicarpus*) of two red spots on the dorsal surface of carapace.

Distribution. Florida Strait, Cuba, Yucatan, Panama, Colombia; Lesser Antilles, ICA (Guadeloupe); 10–475 m.

Achelous spinicarpus (Stimpson, 1871)

(Fig. 18b)

Neptunus (Hellenus) spinicarpus.—A. Milne-Edwards, 1880: 11 (St Croix, Saba, St Kitts, Grenada, Barbados).—A. Milne-Edwards & Bouvier, 1923: 312 (St Croix, Saba, St Kitts, Grenada, Barbados).—Faxon, 1896: 154 (St Kitts).

Portunus (Achelous) spinicarpus.—Rathbun, 1930: 92 (near Trinidad).

Portunus spinicarpus.—Holthuis, 1969: 415 (Trinidad, Los Testigos, Margarita, Tortuga, Los Roques, Aruba).—Rodríguez, 1980: 304 (Aruba).—Paulmier, 1993: 27 (Guadeloupe, Martinique).—Paulmier & Gervain, 1994: 10, tab. 2 (Martinique).—?Poupin, 1994: 46 (Guadeloupe; see Comment).—Lira, 2004: tab. 1 (Tortuga).—Hernández-Ávila *et al.*, 2007: 45 (Cubagua).



FIGURE 18. Brachyura. a) *Achelous binoculus*, st. CP4623, 217–182 m, MNHN-IU-2013-19123; b) *Achelous spinicarpus*, st. DW4588 or CP4588, 416–251 m, MNHN-IU-2013-18989; c) *Laleonectes vocans*, st. DW4547, 380–358 m, MNHN-IU-2013-18958; d) *Chaceon eldorado*, st. CP4513, 644–406 m, MNHN-IU-2013-18881; e) *Robertsella meridionalis*, st. CP4524, 550–500 m, MNHN-IU-2013-18803; f) *Tetraxanthus bidentatus*, st. DW4635, 265–268 m, MNHN-IU-2013-19147; g) *Tetraxanthus bidentatus*, st. DW4635, 265–268 m, MNHN-IU-2013-19147; h) *Nanoplax xanthiformis*, st. DW4599, 262–266 m, MNHN-IU-2013-19309; i) *Perunorhombila nitida*, st. DW4588 or CP4588, 416–251 m, MNHN-IU-2013-18994; j) *Allactaea lithostrota*, st. DW4596, 164–185 m, MNHN-IU-2013-19030; k) *Melybia thalamita*, st. DW4536 or CP4536, 347–323 m, MNHN-IU-2013-18896; l) *Micropanope* aff. *lobifrons*, st. DW4511, 660–630 m, MNHN-IU-2013-18890; m) *Paractaea nodosa*, st. DW4535, 75–88 m, MNHN-IU-2013-18864.

Present records. Guadeloupe, KARUBENTHOS 2012 (det. E. Macpherson & Carmona-Suárez, Besse 2013) st. GN14, 6 May 2012, 16°23'N, 61°37'W, 150 m, MNHN-IU-2013-5377; st. GN13 (JL366), 6 May 2012, 16°23'N, 61°37'W, 138 m, MNHN-IU-2013-5354.

Guadeloupe, KARUBENTHOS 2015, st. DW4588 or CP4588, 21 June 2015, 16°1.85'N, 61°24'W, 416–251 m, MNHN-IU-2013-18989.

Comment. Photographs determined using Holthuis (1969: fig. 1 top). This species is related to *Achelous binoculus* (see under that species) and was collected during KARUBENTHOS 2012 and 2015. These two species of *Achelous* can be confused and it seems that the specimen attributed by Poupin (1994: 44) to *A. spinicarpus* is probably *A. binoculus* instead, having two red spots on its carapace (from unpublished photo, J. Poupin).

Distribution. North Carolina, Gulf of Mexico, northern South America, Brazil; Lesser Antilles, VGI (St Croix), ICA (Saba, St Kitts, Guadeloupe, Martinique, Barbados, Grenada, Trinidad), IOV (Cubagua, Tortuga, Aruba); 9–600 m.

***Laeonectes vocans* (A. Milne-Edwards, 1878)**

(Fig. 18c)

Present records. Guadeloupe, KARUBENTHOS 2012 (det. E. Macpherson & Carmona-Suárez, Besse 2013, as *Portunus vocans*), st. GR40, 21 May 2012, 15°54'N, 61°39.3'W, 53 m, MNHN-IU-2013-5184 (JL1237).

Guadeloupe, KARUBENTHOS 2015, st. DW4547, 14 June 2015, 16°31.76'N, 61°33.03'W, 380–358 m, MNHN-IU-2013-18958.

Comment. This is the first record for the Lesser Antilles. The species was collected during KARUBENTHOS 2012 and 2015. The photographs determination for KARUBENTHOS 2015 is based on the dorsal aspect of the carapace and chelipeds, compared to figure in Rathbun (1930: fig. 8) and previous photos from KARUBENTHOS 2012. However, the presence of a stridulating ridge on the pterygostomian area was not verified and that must be checked on the specimen.

Distribution. Gulf of Mexico, Antilles, Brazil, Ascension Island, eastern Atlantic; Lesser Antilles, ICA (Guadeloupe); 6–309 m, extended herein to 358–380 m.

Superfamily Xanthoidea MacLeay, 1838

Family Panopeidae Ortmann, 1893

***Robertsella meridionalis* Tavares & Gouvêa, 2013**

(Fig. 18e)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4524, 10 June 2015, 16°30.17'N, 61°42.4'W, 550–500 m, MNHN-IU-2013-18803.

Comment. Photographs were determined, with the help of D. Felder and M. Tavares (pers. com.). The determination is based on characters presented in Tavares & Gouvêa (2013). *Robertsella meridionalis* Tavares & Gouvêa, 2013 and *R. mystica* Guinot, 1969 are two very similar species that can be easily confused. Although the specimen photographed matches very well with black and white photograph of *R. mystica* in Guinot (1969: pl. V fig. 1) it is attributed herein to *R. meridionalis* based on: a) aspect of left pereopod 2, being more pilose on the carpus, propodus and dactylus than in *R. mystica* (compare fig. 2D–H and 4B–D in Tavares & Gouvêa 2013); b) aspect of pereopod 5 being ventrally tuberculate on its ventral margin (instead of almost smooth in *R. mystica*). Other characters useful to separate the two species in Tavares & Gouvêa (2013) cannot be verified on the photographs and must be checked with the specimen. This is the first record from Guadeloupe and a geographic extension range of *R. meridionalis* from Brazil (Santa Catarina, 27°S) to the Lesser Antilles.

Distribution. Brazil (Santa Catarina, 27°S), 400 m. Lesser Antilles, ICA (Guadeloupe), 500–550 m.

***Tetraxanthus bidentatus* (A. Milne-Edwards, 1880)**

(Fig. 18f)

Xanthodes bidentatus A. Milne-Edwards, 1880: 12 (Grenada).—A. Milne-Edwards, 1873–1880: 353 (Grenada).—Rathbun, 1930: 458 (Grenada).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4635, 27 June 2015, 15°49.73'N, 61°26.3'W, 265–268 m, MNHN-IU-2013-19147.

Comment. This species, rarely reported, was described from the Lesser Antilles (Grenada, 168 m). The present determination is based on figures in A. Milne-Edwards (1880: pl. 53, fig. 5) and on photographs of *Tetraxanthus rugosus* Rathbun, 1930 (pl. 185, fig. 1–3) a species that must be considered as a synonym of *T. bidentatus* according to Chace (1939: 52; 1940: 36–37).

Distribution. Florida, Yucatan, Cuba; Lesser Antilles, ICA (Guadeloupe, Grenada); 165–536 m.

***Tetraxanthus rathbunae* Chace, 1939**

(Fig. 18g)

Present records. Guadeloupe, KARUBENTHOS 2015, st. CP4532, 11 June 2015, 16°30.06'N, 61°37.54'W, 367–362 m, MNHN-IU-2013-18837; st. CP4624, 26 June 2015, 15°56.23'N, 61°30.67'W, 242–243 m, MNHN-IU-2013-19116.

Comment. This is the first record for the Lesser Antilles. The determination is based on aspect of the carapace illustrated in Rathbun (1930: pl. 184, fig. 1–3, as *T. bidentatus*, reidentified as *T. rathbunae* by Chace 1939, 1940).

Distribution. North Carolina to Gulf of Mexico, Antilles, Brazil; Lesser Antilles, ICA (Guadeloupe); 20–622 m.

Family Pseudorhombilidae Alcock, 1900

***Nanoplax xanthiformis* (A. Milne-Edwards, 1880)**

(Fig. 18h)

Panopeus xanthiformis A. Milne-Edwards, 1880: 13 (Dominica, Barbados, Grenada).—A. Milne-Edwards, 1873–1880: 353 (Grenada).

Micropanope xanthiformis.—A. Milne-Edwards & Bouvier, 1923: 324 (Dominica, Barbados, Grenada).—Rathbun, 1930: 442, 444, pl. 180, fig. 7–8 (Dominica, Barbados, Grenada, Curaçao).—Rathbun, 1933: 67 (Grenada).

Micropanope xanthiformis.—Rodríguez, 1980: 363 (Curaçao).

Micropanope cf. *xanthiformis*.—Scelzo & Varela, 1988: 37 (Blanquilla).

Present records. Guadeloupe, KARUBENTHOS 2012 (det. J. Poupin, October 2013), st. GN06, 04 May 2012, 16°23'N, 61°36'W, 173 m, MNHN-IU-2013-14500 (lot JL153), 1 M 14.6 × 20.6 mm. Guadeloupe, KARUBENTHOS 2015, st. DW4599, 22 June 2015, 15°53.14'N, 61°25.15'W, 262–266 m, MNHN-IU-2013-19309; st. DW4647, 29 June 2015, 15°50.29'N, 61°26.24'W, 263–264 m, MNHN-IU-2013-19184; st. DW4647, 29 June 2015, 15°50.29'N, 61°26.24'W, 263–264 m, MNHN-IU-2013-19180 (with doubt, a juvenile, in a sponge *Topsentia*).

Comment. This is the first record from Guadeloupe but the species is common in the Lesser Antilles. Collections were made during KARUBENTHOS 2012 (trap at 173 m) and 2015 (dredges at 262–264 m). Photographs from KARUBENTHOS 2015 were determined by comparison with photographs obtained during KARUBENTHOS 2012. The specimens of the later expedition were examined carefully, including for shape of the male pleopod (photographs posted at Legall & Poupin 2016: <http://crustiesfroverseas.free.fr/illustration.php?n=21&irenavID=6453>).

Distribution. North Carolina to Gulf of Mexico, Antilles, northern South America, Brazil; Lesser Antilles, ICA (Guadeloupe, Dominica, Barbados, Grenada), IOV (?Blanquilla, Curaçao); 9–333 m.

***Perunorhombila nitida* (Chace, 1940)**

(Fig. 18i)

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4547, 14 June 2015, 16°31.76'N, 61°33.03'W, 380–358 m, MNHN-IU-2013-18961; st. DW4588 or CP4588, 21 June 2015, 16°1.85'N, 61°24'W, 416–251 m, MNHN-IU-2013-18994; st. DW4621, 26 June 2015, 15°56.76'N, 61°32.19'W, 241–212 m, MNHN-IU-2013-19098.

Comment. This determination is made confidently according to the figure in Chace (1940: 45, fig. 17). This is the first record for the Lesser Antilles. Minimum depth range is set herein to 212–241 m instead of 348 m previously.

Distribution. Florida Strait, North of Cuba; Lesser Antilles, ICA (Guadeloupe); 212–241 to 476 m.

Family Xanthidae MacLeay, 1838

***Allactaea lithostrota* Williams, 1974**

(Fig. 18j)

Allactaea lithostrota.—Soto, 1986: 39/83 (internet version, dated 1984) (Tortuga).

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4596, 22 June 2015, 15°56.55'N, 61°21.76'W, 164–185 m, MNHN-IU-2013-19030.

Comment. This is the first record for Guadeloupe. This crab is very distinctive by the sculpturing of its carapace. A photograph is also in Williams (1984: 398, fig. 311)

Distribution. Bermuda, North Carolina to Florida Strait, Gulf of Mexico, Antilles to Brazil; Lesser Antilles, ICA (Guadeloupe), IOV (Tortuga); 50–640 m.

***Melybia thalamita* Stimpson, 1871**

(Fig. 18k)

Melybia thalamita.—Rathbun, 1930: 562 (Barbados).—Carré, 2005: 23 (Martinique).

Present records. Guadeloupe, KARUBENTHOS 2012, 8–80 m (det. J. Poupin October 2013), st. GB12, 14 May 2012, 16°25.61'N, 61°32.57'W, 14 m, MNHN-IU-2013-16220 (JL, 1 juv.); st. GB17, 16 May 2012, 16°23.26'N, 61°31.79'W, 13 m, MNHN-IU-2013-16224 (lot JL898, 2 spp.); st. GB15, 15 May 2012, 16°22.57'N, 61°31.74'W, 8 m, MNHN-IU-2013-16222 (JL280c, 1 M); st. GB21, 18 May 2012, 16°22.88'N, 61°31.43'W, 8 m, MNHN-IU-2013-16223 (lot JL1074, 1 F 3.9x5.0 mm, photo; 2 spp.); st. GB26, 23 May 2012, 16°22.28'N, 61°38.14'W, 29 m, MNHN-IU-2013-16211 (JL1269a, 3 spp.); st. GB33, 27 May 2012, 16°07.87'N, 61°12.52'W, 50 m, MNHN-IU-2013-16212 (lot JL1480a), 2 juv.; 1 M, 1 ov. F; st. GD34, 17 May 2012, 16°25.72'N, 61°33.79'W, 80 m, MNHN-IU-2013-16225 (lot JL994a, 1 F juv.); st. GD35, 17 May 2012, 16°22.77'N, 61°34.19'W, 66 m, MNHN-IU-2013-16217 (JL979b, 3 spp.); st. GD61, 26 May 2012, 16°11.97'N, 61°03.96'W, 80 m, MNHN-IU-2013-16216 (JL1433a, 2 spp.); st. GD69, 28 May 2012, 16°15.97'N, 61°10.18'W, 60 m, MNHN-IU-2013-16215 (JL, 1 F); st. GR10, 07 May 2012, 16°08.43'N, 61°46.92'W, 29 m, MNHN-IU-2013-16214, (JL, 1 M); st. GR40, 21 May 2012, 15°54'N, 61°39.3'W, 53 m (no MNHN, JL1237, 1 M); st. GS02, 03 May 2012, 16°20.94'N, 61°34.39'W, 15 m, MNHN-IU-2013-16213 (JL, 1 juv.); st. GS14, 11 May 2012, 16°05.95'N, 61°47.5'W, 8 m, MNHN-IU-2013-16206, lot JL628, 1 M 4.5x6.2 mm, photo field); st. GS15, 12 May 2012, 16°17.51'N, 61°48.96'W, 27 m, MNHN-IU-2013-16207 (JL, 2 spp.); st. GS19, 15 May 2012, 16°22.57'N, 61°31.74'W, 8 m, MNHN-IU-2013-16209 (JL, 2 spp.); st. GS31, 24 May 2012, 16°21.6'N, 61°34.73'W, 29 m, MNHN-IU-2013-16208, (JL1327b, 1 sp.)

Guadeloupe, KARUBENTHOS 2015, st. DW4536 or CP4536, 12 June 2015, 16°40.57'N, 61°27.55'W, 347–323 m, MNHN-IU-2013-18896.

Comment. This is a small species common in shallow-waters and frequently collected during KARUBENTHOS 2012 between 8–80 m. It is collected much deeper (323–347 m) during KARUBENTHOS 2015 but this is still in the depth range reported for that species. The single photograph available for KARUBENTHOS

2015 was identified by comparison with the photograph in Rathbun (1930: pl. 230 fig. 2) and previous photographs made during KARUBENTHOS 2012.

Distribution. North Carolina to Gulf of Mexico, Antilles, Caribbean Sea to Brazil; Lesser Antilles, ICA (Guadeloupe, Martinique, Barbados), IOV (Curaçao); 2–367 m.

***Micropanope aff. lobifrons* A. Milne-Edwards, 1881**

(Fig. 18l)

Micropanope lobifrons A. Milne-Edwards, 1880 (1873–1880): 327 (Montserrat).—A. Milne-Edwards, 1880: 14 (Grenada, Barbados).—A. Milne-Edwards & Bouvier, 1923: 325 (Montserrat, Barbados, Grenada).—Rathbun, 1930: 429 (St Thomas, St Croix, Montserrat, Grenada, Barbados).—Rathbun, 1933: 66 (St Thomas, St Croix).

Present records. Guadeloupe, KARUBENTHOS 2012, 4–95 m (det. J. Poupin October 2013), 1 F 4.6 × 6.4 mm, st. GB32, 26 May 2012, 16°10.54'N, 61°06.51'W, 4 m (MNHN-IU-2013-16154, lot JL908, photo); 2 FF (one with Sacculina), st. GD05, 05 May 2012, 16°22.61'N, 61°36.33'W, 80 m (MNHN-IU-2013-16152); 1 M, 1 F ov., 1 F, st. GD05, 05 May 2012, 16°22.61'N, 61°36.33'W, 80 m (MNHN-IU-2013-16143/JL); 1 M, st. GD31, 16 May 2012, 16°24.97'N, 61°32.8'W, 85 m (MNHN-IU-2013-16144/JL892a); 1 sp, st. GD36, 18 May 2012, 16°22.87'N, 61°33.05'W, 65 m (MNHN-IU-2013-16150, JL1034); 15 spp. (pleopods checked), st. GD55, 24 May 2012, 16°22.48'N, 61°35.46'W, 85 m (no MNHN, JL1330a); 3 M (pleopods checked), 3 F, st. GD58, 25 May 2012, 16°22.68'N, 61°34.95'W, 95 m (MNHN-IU-2013-16141, 16142/JL1385); 2 MM, 9 FF, st. GD58, 25 May 2012, 16°22.68'N, 61°34.95'W, 95 m (no MNHN, lot JL1431b); 5 M (photo 1 M 4.4 × 5.9 mm), 1 F ov. 3.0 × 3.8 mm, 28 FF, st. GD59, 25 May 2012, 16°22.55'N, 61°35.38'W, 88 m (MNHN-IU-2013-14404, lot JL1377a); 2 MM, 1 F (with Sacculina), st. GD69, 28 May 2012, 16°15.97'N, 61°10.18'W, 60 m (MNHN-IU-2013-16145); 1 M, st. GR10, 07 May 2012, 16°08.43'N, 61°46.92'W, 29 m (MNHN-IU-2013-16153); 1 F with Sacculina (with ?), st. GS07, 07 May 2012, 16°08.43'N, 61°46.92'W, 12 m (MNHN-IU-2013-16151); 2 juv. (with ?), st. GS10, 09 May 2012, 16°03.25'N, 61°46.17'W, 23 m (MNHN-IU-2013-16149); 1 F, st. GS18, 15 May 2012, 16°23.74'N, 61°32.07'W, 49 m (MNHN-IU-2013-16148).

Guadeloupe, KARUBENTHOS 2015, st. DW4511, 8 June 2015, 16°13.9'N, 61°51.5'W, 660–630 m, MNHN-IU-2013-18890.

Comment. The specimen from KARUBENTHOS 2015 cannot be confidently determined from photographs, requiring examination of male pleopod. It is affiliated to *Micropanope lata* (Faxon 1893) from the eastern Pacific, and *Micropanope lobifrons* A. Milne-Edwards, 1881, a species collected in several stations around Guadeloupe during KARUBENTHOS 2012, between 4–95 m (see specimens examined above). It is, however, distinct from the latter by the front being straighter and the anterolateral spines less acute, without a reduced indentation behind the third spine. The depth of collection (630–660 m) is also far deeper than for *M. lobifrons* (4–331 m). An affiliated species in the genus *Nanocassiope* is also possible.

Distribution. (For *Micropanope lobifrons*) Eastern Florida to Gulf of Mexico, Antilles, Caribbean Sea to Panama; Lesser Antilles, VGI (St Thomas, St Croix), ICA (Montserrat, Guadeloupe, Barbados, Grenada); 4–331 m (?to 660 m).

***Paractaea nodosa* (Stimpson, 1860)**

(Fig. 18m)

Actaea nodosa.—Desbonne, in Desbonne & Schramm, 1867: 25 (Guadeloupe).—A. Milne-Edwards, 1880: 11 (St Croix, St John, Norman (Flanagan Passage), Barbados).—A. Milne-Edwards, 1873–1880: 245 (Antilles).

Actaea rufopunctata nodosa.—A. Milne-Edwards & Bouvier, 1923: 316 (St Croix, St John, Norman (Flanagan Passage), Barbados).—Rathbun, 1924: 15 (Curaçao).

Actaea rufopunctata.—Odhner, 1925: 60 (Tortola, St Barthélemy, Guadeloupe).

Paractaea rufopunctata nodosa.—Rathbun, 1930: 257 (St Thomas, St Croix, Barbados, Curaçao).—Rathbun, 1933: 56 (St Thomas, St Croix).—Scelzo & Varela, 1988: 37 (Blanquilla).—Lira, 2004: tab. 1 (Tortuga).

Present records. Guadeloupe, KARUBENTHOS 2012, 12–95 m (det. J. Poupin October 2013), 1 juv. 3.4 × 4.8 mm, st. GB03, 05 May 2012, 16°21.72'N, 61°36.35'W, 22 m (MNHN-IU-2013-16160, lot JL332); 1 M 11.0 × 15.8

mm, st. GB20, 18 May 2012, 16°26.78'N, 61°32.41'W, 16 m (MNHN-IU-2013-16161, lot JL1079); 1 M, st. GB22, 19 May 2012, 16°30.57'N, 61°28.45'W, 12 m (MNHN-IU-2013-16162, lot JL1115d); 1 juv., st. GD55, 24 May 2012, 16°22.48'N, 61°35.46'W, 85 m (MNHN-IU-2013-16163, lot JL1330b); 1 F 13.1 × 18.3 mm, 1 M, st. GD58, 25 May 2012, 16°22.68'N, 61°34.95'W, 95 m (MNHN-IU-2013-14405, lot JL1393, lot JL1431a); 1 juv., st. GD59, 25 May 2012, 16°22.55'N, 61°35.38'W, 88 m (MNHN-IU-2013-16167, lot JL1377c); 2 MM, 1 F 3.9 × 5.6 mm, st. GD69, 28 May 2012, 16°15.97'N, 61°10.18'W, 60 m (MNHN-IU-2013-16159, lot JL1522); 1 juv. 3.3 × 4.7 mm, st. GM07, 07-08 May 2012, 16°10.45'N, 61°46.78'W, 1 m (MNHN-IU-2013-16164, lot JL358); 1 ov. F 5.8 × 8.4 mm, 1 ov. F 5.8 × 8.4 mm, st. GR11, 07 May 2012, 16°11.2'N, 61°47'W, 13 m (MNHN-IU-2013-16158, lot JL381, lot JL381); 1 F ov. 5.4 × 7.6 mm, st. GR14, 09 May 2012, 16°03.25'N, 61°46.17'W, 27 m (MNHN-IU-2013-16157, lot JL516); 1 juv., st. GS13, 11 May 2012, 16°02.4'N, 61°45.6'W, 50 m (MNHN-IU-2013-16168).

Guadeloupe, KARUBENTHOS 2015, st. DW4535, 12 June 2015, 16°39.34'N, 61°31.85'W, 75–88 m, MNHN-IU-2013-18864; st. DW4545, 14 June 2015, 16°30.17'N, 61°31.41'W, 82–60 m, MNHN-IU-2013-18943.

Comment. Photographs were determined using figures in Rathbun (1930: pl. 105, fig. 2), Williams (1984: fig. 310), and previous photographs made during KARUBENTHOS 2012. This is a common shallow-water species often collected during KARUBENTHOS 2012, between 12–95 m. It is sometimes (e.g., Felder *et al.* 2009) considered as a subspecies of the Indo-West Pacific *Paractaea rufopunctata* (H. Milne Edwards, 1834). It is treated herein as a species, following Coehlo *et al.* (2008).

Distribution. North Carolina to Gulf of Mexico, Antilles to Brazil, Uruguay; Lesser Antilles, VGI (St Thomas, St Croix, St John, Norman, Tortola), ICA (St Barthélemy, *St Martin, Guadeloupe, Barbados), IOV (Blanquilla, Tortuga, Curaçao); 1–220 m (*St Martin from unpublished fieldwork organized in 2012 by the Réserve Nationale Naturelle with specimens deposited in FLMNH, UF 32228, 32555, 32401, pers. com. G. Paulay).

Superfamily Pinnotheroidea De Haan, 1833

Family Pinnotheridae De Haan, 1833

Clypeasterophilus juvenilis (Bouvier, 1917)

(Fig. 17n)

Present records. Guadeloupe, KARUBENTHOS 2015, st. DW4615, 25 June 2015, 16°23.16'N, 60°49.66'W, 270–226 m, MNHN-IU-2013-19074; st. CP4623, 26 June 2015, 15°55.72'N, 61°31.02'W, 217–182 m, MNHN-IU-2013-19107.

Comment. This is the first record for the Lesser Antilles. The determination is based on description by Bouvier (1917) and figures in Griffith (1987: fig. 10c). This species lives in association with *Clypeaster* sea urchins. Its host is identified herein being most probably *Clypeaster ravenelii* (A. Agassiz, 1869) (pers. com. Chantal De Ridder, October 2015). Griffith (1987) has a key that will be useful to confirm this determination from photographs.

Distribution. Florida Keys, Bahamas, northern and southern Gulf of Mexico; Lesser Antilles, ICA (Guadeloupe); 64–281 m.

Discussion

The use of macro photographs for identification

In total 190 species were recognized herein on the macro photographs examined of which 159 determined confidently to species level. These determinations are often supported by previous records around Guadeloupe or in the Lesser Antilles, at similar depths. The taxa that are most easily recognized on the photographs are the larger species, i.e., those with a maximum length of 2–3 cm or more. In these cases even sister species can be often separated confidently on the basis of high quality photographs. For example, in the Glyphocrangonidae, *Glyphocrangon haematonotus*, *G. longleyi*, and *G. spinicauda*, three species that can be easily confounded, were successfully recognized with macro photographs taken from different angles and showing the key characters specified by Holthuis (1971). Other taxa that are most easily identified on the photos are: the lobsters, usually of large size; the shrimps of the family Pandalidae and anomurans, Munidopsidae, well documented in the region

(Mayo 1974; Paulmier 1993; Poupin 1994) and with characters such as aspect of the rostrum, carapace or abdomen that are easily seen on the photographs; Paguridae with a distinctive features of the chelae (e.g., *Protoniopagurus bioperculatus*, *Cheiroplatea scutata*); and crabs that have unusual features of the carapace, such as *Acanthodromia erinacea*, *Acanthocarpus alexandri*, and *Temnonotus granulatus*.

For several species the color pattern appears crucial for determination. Among the most colorful species, several of them illustrated in color for the first time herein, there are: *Sicyonia burkenroadi* (Fig. 3g) *Uroptychus nitidus* var. A. (Fig. 9b), *Munida affinis* (Fig. 10a), *Munida forceps* (Fig. 10b), *Munida miles* (Fig. 10d), *Munidopsis spinifer* (Fig. 12b), *Allodardanus bredini* (Fig. 12e), *Dardanus insignis* (Fig. 12i), *Paguristes inconstans* (Fig. 12j), *Paguristes spinipes* (Fig. 12k), *Pylopagurus discoidalis* (Fig. 13d), *Tomopagurus rubropunctatus* (Fig. 13e–f), *Tomopagurus wassi* (13g), *Paragiopagurus pilosimanus* (Fig. 13i), *Cyclodorippe bouvieri* (Fig. 14h–j), *Frevillea barbata* (Fig. 15g), and *Achelous binoculus* (Fig. 18a). Two species, however, were not identified successfully despite noticeable colorful marks: *Periclimenes ?pandionis* (Fig. 5c), *Parapontocaris ?vicina* (Fig. 5f).

For 31 species the determination was uncertain, the most probable species being proposed for 26 species (after a ‘?’) and the name of the closest (but different) species proposed for three species using ‘aff.’: *Solenocera* aff. *acuminata*, *Munidopsis* aff. *barbarae*, *Micropanope* aff. *lobifrons*. For ‘?*Bouvieraxius* sp.’, no specific name could be suggested, and for ‘*Callianassidae* sp.’ even the genus could not be proposed confidently. In these cases good quality color photographs are not yet available to match them to and/or the photographs do not show sufficient details needed for full determination. Among sometimes critically important characters that are usually not shown in photographs are such features as: the genital parts (thelycum, petasma, male pleopod); photophores (Sergestidae); thoracic branchiae (Crangonidae); 3rd maxillipeds (Callianassidae, *Munida* spp.); basal segment of antennular peduncle (*Munida* spp.); pterygostomian area (*Laleonectes vocans*); epipodite(s) on thoracic limbs (Munidopsidae); and uropod rami (Solenoceridae, Paguroidea).

Species of small size, i.e., with a total length of less than 1–2 cm, were usually not photographed during the expedition because of lack of time. Therefore, several taxa, such as the shrimps of the families Alpheidae and Palaemonidae are not (or under) represented in this preliminary assessment.

Statistics by families

The number of species of this inventory is calculated by family in Table 1 with proportion of higher taxa illustrated in Fig. 19. The Brachyura (36%) and Anomura (31%) are best represented, the most important taxa being the Galatheoidea, Majoidea, and Paguroidea. By family the best represented taxa are the Munidopsidae (19 spp.), Pandalidae (11 spp.), Paguridae (10 spp.), Munididae (9 spp.), and Epialtidae (8 spp.)

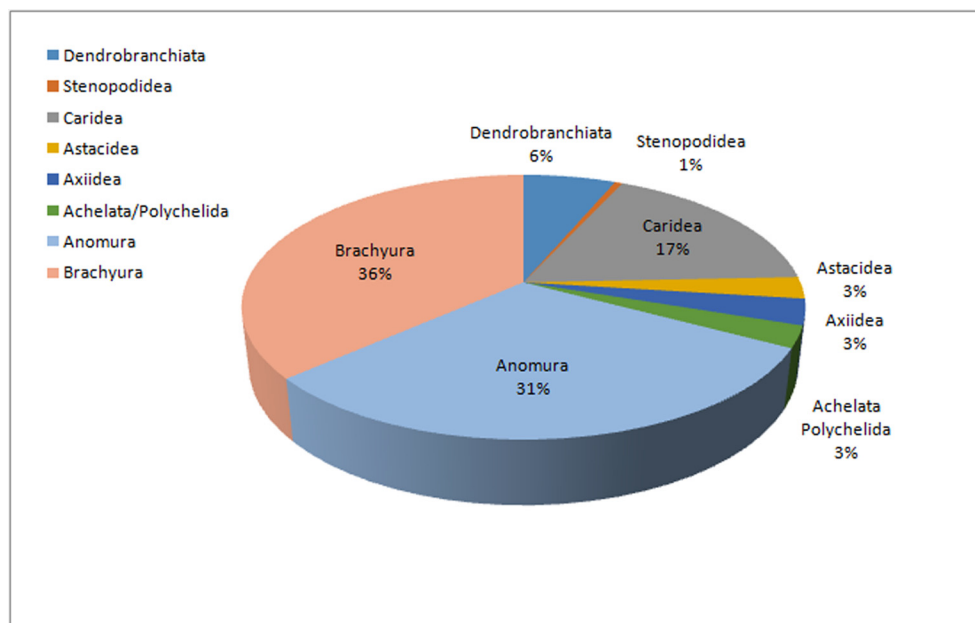


FIGURE 19. Proportion of higher taxa of Decapoda recognized on macro photographs during KARUBENTHOS 2015.

For comparison, the number of species by family is also indicated in Table 1 for species occurring at 100+ m in the Lesser Antilles (cf. database Legall & Poupin 2016; computed October 2015). In the first estimate, based only on macro photographs examined herein, it appears that several families represented by just one or two species in the Lesser Antilles were fully inventoried by the R/V *Antea* (Eugonatonotidae, Pseudosquillaeidae, Styrodactylidae, Michelidae, Eumunidae, Dynomenidae, Geryonidae, and Pinnotheridae). A few families were sampled satisfactorily counting more than 60% of the species potentially present in the region. These are the shrimps Oplophoridae (71%), Pandalidae (65%); the hermit crabs Pylochelidae (67%); and the crabs Cymonomidae (67%), and Epialtidae (89%). On the contrary, other families are perhaps underrepresented in KARUBENTHOS 2015 sampling with less than 30% of the potential species in the region. These are the shrimps Benthescymidae (13%), Penaeidae (23%), Sicyoniidae (17%), Sergestidae (22%), Stenopodidae (25%), Hippolytidae (25%), Callinassidae (25%); the hermit crabs Porcellanidae (20%); and the crabs Homolodromiidae (25%), Euryplacidae (25%), Leucosiidae (25%), Palicidae (25%), and Xanthidae (27%). Several families occurring in the Lesser Antilles are not included in this preliminary inventory: shrimps Spongicolidae, Acanthephyridae, Anchistoididae, Alpheidae, Processidae, Upogebiidae; lobsters Enoplometopidae, Palinuridae; anomuran Albuneidae, Lithodidae; and crabs Aethridae, Chasmocarcinidae, Mathildellidae, Pilumnoididae, and Plagusidae.

TABLE 1. Number of Decapoda by family after KARUBENTHOS 2015 (bold figures indicate a sum for several families). The number of deep species (maximum depth > 100 m) calculated for Lesser Antilles is also indicated (from Legall & Poupin 2016).

Higher taxa	Family	KARUBENTHOS	Lesser Antilles
Penaeoidea		10	42
	Aristeidae	2	6
	Benthescymidae	1	8
	Penaeidae	3	13
	Sicyoniidae	1	6
	Solenoceridae	3	9
Sergestoidea	Sergestidae	2	9
Stenopodidea	Stenopodidae	1	4
Pasiphaeidea	Pasiphaeidae	1	3
Oplophoroidea		5	9
	Acanthephyridae	2	5
	Oplophoridae	3	4
Nematocarcinoidea		2	5
	Eugonatonotidae	1	1
	Nematocarcinidae	1	4
Psalidopodoidea	Psalidopodidae	1	1
Stylodactyloidea	Stylodactylidae	2	2
Palaemonoidea	Palaemonidae	3	8
Alpheoidea	Hippolytidae	1	4
Pandaloidea	Pandalidae	11	17
Crangonoidea		8	18
	Crangonidae	3	7
	Glyphocrangonidae	5	11
Astacidea	Nephropidae	5	10

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TABLE 1. (Continued).

Higher taxa	Family	KARUBENTHOS	Lesser Antilles
Axiidae		6	16
	Axiidae	4	11
	Callianassidae	1	4
	Micheleidae	1	1
Achelata		5	11
	Scyllaridae	2	4
	Polychelidae	3	7
Galattheoidea		36	75
	Chirostylidae	6	13
	Eumunididae	1	1
	Munididae	9	23
	Munidopsidae	19	34
	Porcellanidae	1	5
Paguroidea		22	57
	Diogenidae	7	19
	Paguridae	10	30
	Parapaguridae	3	5
	Pylochelidae	2	3
Homolodromioidea	Homolodromiidae	1	4
Homoloidea	Homolidae	2	4
Raninoidea	Raninidae	2	5
Dromioidea		2	3
	Dromiidae	1	2
	Dynomeniidae	1	1
Cyclodorippoidea		7	13
	Cyclodorippidae	3	7
	Cymonomidae	4	6
Aethroidea	Aethridae	1	3
Calappoidea	Calappidae	3	8
Trichopeltarioidea	Trichopeltariidae	1	2
Dorippoidea	Ethusidae	1	3
Goneplacoidea		2	6
	Euryplacidae	1	4
	Goneplacidae	1	2
Leucosioidea	Leucosiidae	2	8
Majoidea		23	41
	Epialtidae	8	9
	Inachidae	4	9
	Inachoididae	5	10

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TABLE 1. (Continued).

Higher taxa	Family	KARUBENTHOS	Lesser Antilles
	Majidae	1	2
	Mithracidae	5	11
Palicoidea	Palicidae	3	12
Parthenopoidea	Parthenopidae	4	12
Pilumnoidea	Pilumnidae	1	2
Portunoidea		4	10
	Geryonidae	1	1
	Portunidae	3	9
Xanthoidea		9	24
	Panopeidae	3	5
	Pseudorhombilidae	2	4
	Xanthidae	4	15
Pinnotheroidea	Pinnotheridae	1	1

Thirty four new records for the Lesser Antilles with perhaps 8 or 9 new species

Based on this preliminary inventory, 116 new records are added to Guadeloupe fauna, including 34 new records for Lesser Antilles: shrimps *Acanthephyra purpurea*, *Parapontocaris vicina*, *Pasiphaea merriami*, *Calastacus colpos*, *Philocheras gorei*, *Plesionika holthuisi*, *Plesionika martia*, *Richardina spinicineta*, *Sicyonia burkenroadi*, *Systellaspis debilis*; anomura, *Cheiroplatea scutata*, *Munidopagurus macrocheles*, *Munidopsis serricornis*, *Uroptychus nitidus* variety B, *Uroptychus spinosus*; and crabs, *Achelous binoculus*, *Clypeasterophilus juvenilis*, *Collodes ?obesus*, *Curupironomus agassizi*, *Cyclodorippe bouvieri*, *Cyclozodion tuberculatum*, *Cyonomoides cubensis*, *Cyonomoides guinotae*, *Ethusa microphthalma*, *Laleonectes vocans*, *Mocosoia crebripunctata*, *Palicus faxoni*, *Perunorhombila nitida*, *Pyromaia ?acanthina*, *Raninoides lamarcki*, *Robertsella meridionalis*, *Simodorippe tylota*, *Solenolambrus decemspinus*, *Tetraxanthus rathbunae*.

Six species are reported for the first time since their original description: *Calastacus colpos*, *Calocaris caribbaeus*, *Cheiroplatea scutata*, *Cyonomus leblondi*, *Meticonaxius microps* and *Munidopagurus macrocheles*. Two species are recorded for the second time: *Uroptychus spinosus* described from the Greater Antilles reported later only off Cuba (Chace 1942), and *Esopus crassus* described from the Barbados also reported later near Cuba (Chace 1940).

There are at least 8 or 9 possible new species in the KARUBENTHOS 2015 collection, and probably many more when the collection is fully studied: *?Bouvieraxius* sp., *Callianassidae* sp., *Munidopsis* aff. *barbarae*, *Micropanope* aff. *lobifrons*, *Periclimenes ?pandionis* (with perhaps two distinct new species based on the macro photographs examined); *Solenocera* aff. *acuminata*, and *Uroptychus nitidus* varieties A & B.

A typical western Atlantic fauna without endemic species

Most of the species of this inventory (158) are from the western Atlantic only, 17 species are from western and eastern Atlantic (including two species also in Mediterranean, *Plesionika acanthonotus*, *Sergia robusta*), and 14 have a worldwide distribution, i.e., found in the Atlantic and in the Indo-Pacific. Only two species, *Meticonaxius microps* and *Cyonomus leblondi* are still unreported outside the Lesser Antilles but this is probably because of difficulty to sample such deep-sea species instead of real endemism for these Islands.

The number of the species in the three regions identified in this work (VGI, ICA, IOV) is as follow, based on this preliminary inventory and literature consulted for the Lesser Antilles: 19 species occur simultaneously in VGI+ICA+IOV, 21 species only in ICA+VGI, 26 species only in ICA+IOV and 124 species in ICA only. These figures are probably biased by a non-homogeneous sampling effort within the Lesser Antilles. The ICA Islands,

more numerous and spread over a larger geographical area, were obviously much better sampled, including the massive sampling realized herein during KARUBENTHOS 2015. There might exist subtle differences in the qualitative and/or quantitative composition of the deep-sea decapod fauna within the three Lesser Antilles regions. The deep-sea Anegada trench that separates VGI and ICA acts perhaps as a faunal barrier for some deep-sea benthic Decapoda. Moreover, the IOV region has islands situated very close to the Venezuelan coast (e.g., Margarita, Coche, Cubagua) and its deep-sea decapod fauna has perhaps a ‘continental’ nature slightly distinct from that of the ICA. For example, Holthuis (1969), after having examined an abundant collection of *Achelous* crabs from different places in the Lesser Antilles, indicates that *Achelous binoculus* was never taken off Venezuela (IOV) while *A. spinicarpus* was abundant there. However, these regional differences cannot be demonstrated with our results. More studies, including quantitative data, must be undertaken to know the geographical distribution pattern of the deep-sea decapod communities within the Lesser Antilles. Miloslavich *et al.* (2010) have already pointed out that the deep environment of the Caribbean region has been less studied than the shallow and nearshore waters. They indicate that while the coastal species richness tends to concentrate along the Antillean, arc (Cuba to the southernmost Antilles) and the northern coast of South America (Colombia, Venezuela) no pattern can be observed in the deep sea with the data currently available.

Depth ranges of the species (Table 2)

TABLE 2. Number of Decapoda by deep-range after KARUBENTHOS 2015. Shallow-waters species, from intertidal to ≤ 100 m. Shallow to deep-waters species, never in the intertidal but $\sim 1/10$ m to >100 m. Deep species always >100 m. Pelagic or bathypelagic species are shrimps in open water at various depths (e.g., Aristeidae, Benthescymidae, Nematocarcinidae, Oplophoridae, Pasiphaeidae, Sergestidae).

Deep range	Number of species
Deep (more than 100 m)	112
Shallow to deep-waters (e.g., 10–190 m)	62
Pelagic or bathypelagic	10
Shallow-waters (0–100 m)	6
Total	190

Dredges and trawls during KARUBENTHOS 2015 were mostly operated at >150 m with an average fishing depth of 390 m. However, 13 stations were realized in the 50–150 m depth range which accounts for the presence in this preliminary inventory of 6 shallow-water (≤ 100 m) and 62 shallow to deep-water species ($\sim 1–10$ m to >100 m). For several species the deep range is slightly extended from observations made during KARUBENTHOS 2015. These are recapitulated in Table 3. The most notable changes are for *Celatopesia concava*, (maximum depth at 208–210 m, instead of 73 m), *Cyonomoides guinotae* (minimum depth at 406–644 m, instead of 990 m), *Frevillea barbata* (maximum depth at 379–428 m, instead of 300 m), *Munidopsis bradleyi* (minimum depth at 276 m, instead of 476 m), *Solenolambrus decemspinus* (depth range of 14–367 m, instead of 82–110 m), and *Uroptychus nitidus* variety A (minimum depth at 201 m instead of 433 m). The maximum depth of the shallow-water shrimp *Periclimenaeus bermudensis* is extended from 20 m to 75–88 m. The depth range of *Cheiroplatea scutata* was previously unknown and is set herein to 485–496 m.

TABLE 3. New depth ranges from KARUBENTHOS 2015 observations (*nb*, *Achelous binoculus* at 10 m, *Solenolambrus typicus* at 23 m, and *Scyllarus chacei* at 1 m are from KARUBENTHOS 2012, see text).

Species	Previous Deep Range	New Deep Range
<i>Acanthodromia erinacea</i>	160–274 m	160–304/310 m
<i>Achelous binoculus</i>	63–475 m	10–475 m
<i>Celatopesia concava</i>	7–73 m	7–208/210 m
<i>Cheiroplatea scutata</i>	Unknown	485–496 m

.....continued on the next page

TABLE 3. (Continued)

Species	Previous Deep Range	New Deep Range
<i>Cyonomoides guinotae</i>	990–1005 m	406/644 m–1005 m
<i>Cyonomus leblondi</i>	600 m	600–660/690 m
<i>Frevillea barbata</i>	55–300 m	55–379/428 m
<i>Laeonectes vocans</i>	6–309 m	6–358/380 m
<i>Munidopsis bradleyi</i>	476–914 m	276–914 m
<i>Paguristes cadenati</i>	1–52 m	1–75/88 m
<i>Palicus faxoni</i>	59–190 m	59–201/214 m
<i>Periclimenaeus bermudensis</i>	0–20 m	0–75/88 m
<i>Perunorhombila nitida</i>	348–476 m	212/241–476 m
<i>Porcellana sayana</i>	1–110 m	1–183 m
<i>Robertsella meridionalis</i>	400 m	400–500/550 m
<i>Scyllarus chacei</i>	11–329 m	1–329 m
<i>Solenolambrus decemspinus</i>	82–110 m	14–367 m
<i>Solenolambrus typicus</i>	91–618 m	23–618 m
<i>Tozeuma serratum</i>	4–102 m	4–164 m
<i>Uroptychus nitidus</i> variety A	433–915 m	201–915 m
<i>Uroptychus nitidus</i> variety B	457–732 m	457–828 m
<i>Xylopagurus rectus</i>	170–311 m	170–369/389 m

The KARUBENTHOS 2012 Expedition to Guadeloupe is presented in Poupin & Lemaitre (2014). It was mostly dedicated to littoral and shallow-water marine organisms but a few trap and dredge operations were realized between 100–258 m. Because of overlapping fishing depths 33 species are in common between the two expeditions. Most of them (29) are shallow to deep-waters species (*Achelous binoculus*, *Achelous spinicarpus*, *Celatopesia concava*, *Cyclodorippe antennaria*, *Cyclozodion angustum*, *Cyclozodion tuberatum*, *Dardanus insignis*, *Euprognatha gracilipes*, *Frevillea barbata*, *Iliacantha subglobosa*, *Laeonectes vocans*, *Macrocoeloma eutheca*, *Macrocoeloma intermedium*, *Melybia thalamita*, *Micropanope lobifrons*, *Nemausa cornuta*, *Munida angulata*, *Munida pusilla*, *Nanoplax xanthiformis*, *Osachila antillensis*, *Paguristes inconstans*, *Paractaea nodosa*, *Parthenope agona*, *Porcellana sayana*, *Raninoides lamarcki*, *Scyllarus chacei*, *Solenolambrus decemspinus*, *Solenolambrus typicus*, and *Stenorhynchus yangi*). One is a shallow-water species (*Paguristes cadenati*), and three are deep species always collected beyond 100 m (*Podochela curvirostris*, *Pyromaia ?acanthina*, and *Temnonotus granulatus*).

TABLE 4. Number of Decapoda species of KARUBENTHOS 2015 that were already collected by earlier deep-sea expeditions to Guadeloupe.

Expedition	Number of species
R/V <i>Blake</i>	100
R/V <i>Polka</i>	53
R/V <i>Pillsbury</i>	36
R/V <i>Oregon</i>	27

Past deep-sea expeditions off Guadeloupe: the major contribution of the steamer *Blake*

The bibliographic research undertaken for this study provides an interesting insight into the previous deep-sea expeditions already made off Guadeloupe Island. The number of species of this preliminary inventory that were

already collected off Guadeloupe during a few past oceanographic expeditions is recapitulated in the Table 4. Within the species recognized herein 100 were already inventoried by the steamer *Blake*, 53 by the R/V *Polka*, 36 by the R/V *Pillsbury* and 27 by the R/V *Oregon*. These earlier deep-sea campaigns around Guadeloupe Island are briefly presented herein with their main scientific contributions for the Decapoda.

The steamer *Blake*

The steamer *Blake* sampled at 15 stations (st. 159–174) off Guadeloupe, 18–22 January 1879, between 62–878 fathoms (113–1606 m) and more than 200 stations in the Lesser Antilles (Agassiz 1888; Pierce & Patterson 1879). The Crustacea of the *Blake* were studied in a preliminary contribution by A. Milne-Edwards (1880) who was afterwards assisted by Bouvier for the Paguroidea (A. Milne-Edwards & Bouvier 1893), Galatheididae (A. Milne-Edwards & Bouvier 1897), Dromiacea and Oxystomata (A. Milne-Edwards & Bouvier, 1902), Penaeoidea and Stenopodidea (A. Milne-Edwards & Bouvier 1909) and Porcellanidae and Brachyura (A. Milne-Edwards & Bouvier 1923). Faxon (1896) has also contributed with supplementary notes and Bouvier (1905a–b, 1917, 1925) has published a few additional contributions alone. In total, about 240 Decapoda are reported from the Lesser Antilles from the steamer *Blake* collection, including 152 species that occur off Guadeloupe Island and 100 species in the present inventory.

The R/V *Oregon* of the US Bureau of Commercial Fisheries

The R/V *Oregon* of the US Bureau of Commercial Fisheries has been in service between 1950–1968 with at least four campaigns in the Lesser Antilles (1964–1966). Bayer (1969) indicates that the collections of this vessel are among the most important realized in the Gulf of Mexico. However, in the compilation of the stations for 1950–1965 realized by Berry & Drummond (1967) it appears that only 300 stations or so were made in the Lesser Antilles out of a total of 5816 stations. Species reported around Guadeloupe Island from the R/V *Oregon* collections are, for example, the Nephropoidea in Holthuis (1974), the Scyllaridae in Lyons (1970), the Polychelidae in Galil (2000), the Munidopsidae in Pequegnat & Pequegnat (1971) and Mayo (1974), the Paguroidea in Mayo (1973), McLaughlin & Provenzano (1974), McLaughlin (1981, 1982), García-Gómez (1983), Lemaitre & McLaughlin (1996), and Lemaitre & Tavares (2015), the Calappidae in Williams & Child (1989), and the Homolodromiidae in Martin (1990). In total, 44 Decapoda are currently reported from the Lesser Antilles from the R/V *Oregon* collections including 30 species off Guadeloupe Island and 27 retrieved during KARUBENTHOS 2015.

The R/V *Pillsbury* of the Institute of Marine Science Miami

The R/V *Pillsbury* of the Institute of Marine Science Miami (now Rosenstiel School of Marine Science, Miami, RSMAS) undertook two campaigns in Lesser Antilles: a) cruise P-6806 to southern Caribbean, 6–8 July 1968, off Trinidad and islands off Venezuela from the intertidal to 135 m (Staiger 1968); and b) cruise P-6907 to the Antillean Arc, 27 June to 21 July 1969, between Trinidad to Anguilla, from the intertidal to 300 m (Staiger 1969). It is amazing that two renowned carcinologists, Dr. A.J. Provenzano of the School of Marine and Atmospheric Science, University of Miami (SMAS) and Dr. L.B. Holthuis of Rijksmuseum, Leiden, participated in the second expedition. In total, 101 Decapoda are currently reported in the Lesser Antilles from the R/V *Pillsbury* collection including 61 off Guadeloupe of which 36 are in the present inventory. They are for example in revisions of Glyphocrangonidae (Holthuis 1971), Nephropidae (Holthuis 1974), Munidopsidae (Mayo 1974), Paguroidea (McLaughlin & Provenzano 1974; McLaughlin 1982; Lemaitre & McLaughlin 1996, McLaughlin & Lemaitre 2001), and Parthenopidae (Gore & Scotto 1979).

The fishing prospection of R/V *Polka* around Guadeloupe and Martinique

From 1989 to 1993, the *Institut Français pour l'Exploration de la Mer* (IFREMER), *Institut Régional de la Pêche et de la Marine*, Guadeloupe (IRPM), and *Institut de Recherche pour le Développement* (IRD, ex ORSTOM) have conducted a deep fishing prospection around Guadeloupe (Poupin 1993; Gervain *et al.* 2002) and Martinique (Paulmier 1993; Paulmier & Gervain 1994) using traps set between 80–100 to 600–800 m. The aim of these campaigns was to evaluate the stock of deep-sea Decapoda for fishing development around these Islands. Species targeted were mostly deep-sea Pandalidae and Nephropidae. In total 88 species of Decapoda are reported from the R/V *Polka* campaigns including 85 around Guadeloupe of which 53 retrieved during KARUBENTHOS 2015.

The capture composition of the R/V *Polka* is somewhat different from that of the R/V *Antea* because of

different catch selectivity of fishing gears used. For example the shrimps, *Plesionika holthuisi* and *Plesionika longipes*, were not caught by traps but were abundant in the beam trawls operated during KARUBENTHOS 2015. Conversely, large Nephropidae such as *Eunephrops manningi* and *E. cadenasi* were abundant in the traps set by the R/V *Polka* while they were poorly sampled during KARUBENTHOS 2015 (only one species of *E. cadenasi*). It is probable that these large species can move fast enough to avoid the trawl and/or can quickly find refuge in their burrows when the trawl passes over their grounds. When the KARUBENTHOS 2015 collection is fully studied it will also probably appear that this expedition has collected many more small species (total length less than 10 mm), which were sampled with the Waren dredge, while they escape through the 10 mm mesh of the traps used onboard the R/V *Polka*.

How many deep-sea Decapoda are there around Guadeloupe Island? (~ 500)

The 190 species listed in this preliminary inventory represent only a fraction of the total number of species collected during KARUBENTHOS 2015. It is still difficult to estimate the total number of Decapoda that were collected during that expedition. Many samples, filling two drums of 200 liters each, were packed unsorted in a rush while fishing operations were going on the rear deck of the R/V *Antea*. These unsorted samples probably contain duplicates of many species that were photographed and studied herein but they certainly include many small species that were unnoticed and/or sister species of the species photographed. As a first estimate, it can be speculated that the 190 species in the present inventory represent half to two-thirds of the total number of species collected during KARUBENTHOS 2015. The total number of decapod species collected during the expedition would be therefore between 285 and 380 species when the collection is fully studied.

This estimation can be compared with the figure from Legall & Poupin (2016) (database, computed December 2015) counting a total of 488 species of deep-sea Decapoda occurring at 100+ m in the Lesser Antilles, including 245 deep-water species (>100 m), 216 shallow to deep-water species (1-100+ m), and 27 pelagic/bathypelagic species (various depths in open water). If the deep-sea Decapoda are distributed homogeneously in the Lesser Antilles, this figure also represents the total number of deep-sea Decapoda potentially present around Guadeloupe Island. Therefore, in a first approximation the number of deep-sea Decapoda around Guadeloupe can be estimated at ~ 500 species. This means that our preliminary assessment includes 38% of the local species and that the sampling efficiency during KARUBENTHOS 2015 was 57–76%, using the figures for the estimated number of species collected during the expedition (285–380 species).

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