

Checklist of the Decapods (Crustacea) from the outer continental shelf and seamounts from Northeast of Brazil **— REVIZEE Program (NE III)**

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Abstract

This study presents a list of 142 species collected on the outer continental shelf and seamounts from northeast Brazil at 24 oceanographic stations in May, 1998. References are provided from which all the present taxa identifications are based on.

Key words: checklist, Decapoda, Northeast of Brazil, REVIZEE Program

Introduction

The Brazilian northeastern continental shelf is characterized by low depth (lesser than 60m), small input of continental drained material, coarse calcareous bottoms and predominance of warm waters (Kempf 1970; Summerhayes *et al.* 1975; Castro & Miranda 1998).

The study of marine decapod crustaceans in the northeast continental shelf of Brazil started in the 19th century with the collections of C. F. Hart (Smith 1869) in 1867 and the expeditions of “Challenger” between 1873 and 1876, and “Branner-Agassiz” in 1899 (Miers 1886; Bate 1888; Henderson 1888; Rathbun 1900). In the 20th century, the Oceanographic Ship “Calypso” carried out a set of samples between 1961 and 1962 (Crosnier & Forest 1966; Christoffersen 1979; Forest & de Saint-Laurent 1967; Haig 1966; Rodrigues da Costa 1968). Collections by the ships “Canopus” and “Akaroa”, between 1967 and 1969, and the “Almirante Saldanha” (Marinha do Brasil – DHN), with the commissions Norte/Nordeste I (1967), Norte/Nordeste II (1968), Geomar I (1969), Geomar II (1970), Geomar III (1971), Norte/Nordeste III (1986) and PAVASAS I (1987), were the basis for studies of Coelho and Koenig (1972), Coelho and Ramos (1972), Coelho *et al.* (1980), Calado (1990), Barreto *et al.* (1991) and Barreto and Coelho (1994).

Despite the fact that seamounts are numerous, there are few studies dealing with crustaceans at these environments due to the difficulty of sampling in these areas (Roger, 1994). At the Northeast Region there are the seamounts of Fernando de Noronha Chain (3°

to 4°30'S and 32° to 37°W), where the Fernando de Noronha Island and Rocas Atoll are situated, and North of Brazil Chains (1° to 4°S and 31° to 39°W). Previous studies in these areas are those of Pocock (1890) and Fausto Filho (1974) in Fernando de Noronha, and Coelho (1965) in the Rocas Atoll.

Due to concerns about the usage, exploration, conservation and management of the living resources in the Exclusive Economic Zone, the Brazilian government created the REVIZEE Program: "Evaluation of the Sustainable Potential of Life's Resources in the Exclusive Economic Zone Program". This study presents a list of decapod crustacean species collected during the "Nordeste III" Commission from the REVIZEE Program.

Material and methods

The present material was collected at 24 stations (Table 1) by the Oceanographic Ship "Antares", between May and June, 1998, with 11 stations located at the outer continental shelf, between the mouth of Parnaíba River (Piauí) and Recife (Pernambuco), and 13 stations located at the seamounts of Fernando de Noronha and North Chains (Figure 1).

Collections were made using a modified Charcot grab (70 liters and inner mesh of 0,5mm) for a constant time and set velocity (Holme & McIntire 1984). Species followed the classification of Martin and Davis (2001), and their identification was determined by the literature presented under the item "diagnosis". The location where each species was found is presented in the item "locality". The number of specimens for each species is shown in parentheses, and were deposited in the Crustacean Collection (LABCARCI) of the Oceanographic Department of the Federal University of Pernambuco.

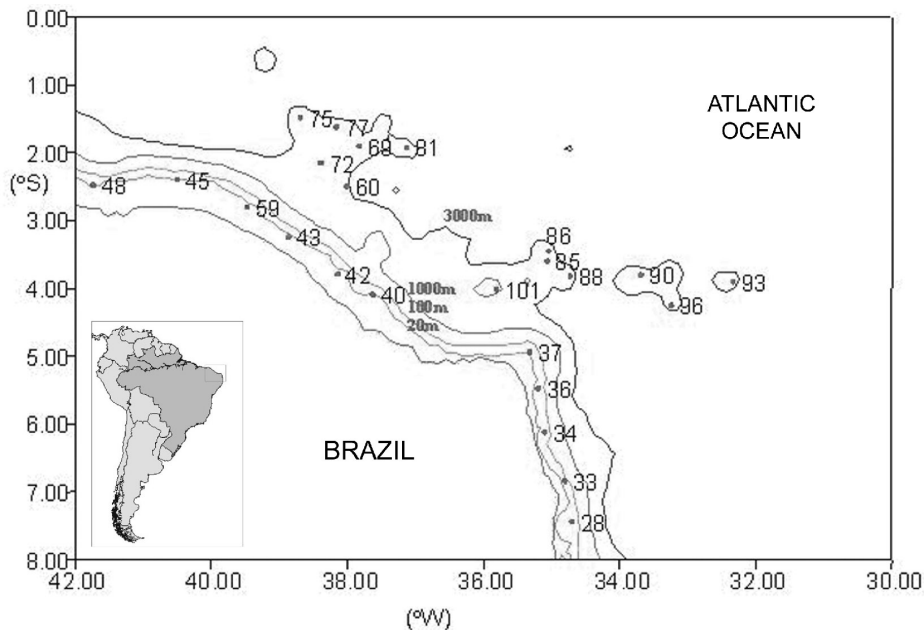


FIGURE 1. Map showing stations during REVIZEE Program between May and June, 1998.

TABLE 1 – Sample stations during REVIZEE Program's (NE III). CN= North Chain; FN= Fernando de Noronha Chain.

Station	Date	Latitude (°S)	Longitude (°W)	Depth (m)	Temperature (°C)	Bottom	Locality
28	12/5/1998	7.29	34.6	42.5	28.88	Biogenic gravel	Off Pernambuco
33	13/5/1998	6.51	34.7	35	28.86	Biogenic gravel	Off Paraíba
34	13/5/1998	6.09	34.8	50	28.92	Biogenic coarse sandy	Off Rio Grande do Norte
36	14/5/1998	5.3	35.04	24	28.64	Biogenic gravel	Rio Grande do Norte, Off São Roque Cape
37	14/5/1998	4.9	35.6	32	28.94	Biogenic coarse sandy	Off Rio Grande do Norte.
40	15/5/1998	4.6	37.23	50	28.98	Biogenic gravel	Ceará, Off Jaguaribe River
42	16/5/1998	3.8	38.08	19	28.88	Biogenic gravel	Off Ceará
43	16/5/1998	3.21	38.9	32	28.9	Coarse sandy	Off Ceará.
45	17/5/1998	2.6	40.29	22	29.1	Biogenic coarse sandy	Ceará, off Acaraú River
48	15/5/1998	2.7	41.38	25	28.91	Coarse sandy	Piauí, off Paraíba River
59	16/5/1998	2.8	39.3	22	29.12	Biogenic coarse sandy	Off Ceará
60	27/5/1998	2.18	39.31	60	27.92	Biogenic coarse sandy	NC, Aracati's seamount
69	6/6/1998	1.65	37.48	55.05	28.08	Biogenic gravel	NC
72	8/6/1998	2.2	38.16	56	27.09	Biogenic coarse sandy	NC, Continental seamount
75	7/6/1998	1.29	39.32	54	28.21	Biogenic coarse sandy	NC, Mundau's seamounts
77	7/6/1998	1.45	37.06	56.7	28.26	Biogenic gravel	NC, Meio's seamount
81	6/6/1998	1.46	37.53	54.6	27.41	Biogenic gravel	NC
85	4/6/1998	3.4	35.03	61.8	28.31	Biogenic gravel	FN, Grande seamount
86	4/6/1998	3.3	35	58	26.15	Biogenic coarse sandy	FN, Grande seamount
88	4/6/1998	3.5	34.42	54.6	28.93	Biogenic gravel	FN, Pequeno seamount
90	3/6/1998	3.6	33.39	70	27.84	Biogenic coarse sandy	FN, Rocas Atoll
93	2/6/1998	3.5	32.28	70	23.63	Biogenic gravel	FN, Fernando de Noronha's island
96	1/6/1998	4.16	33.17	49.2	28.15	Biogenic gravel	FN, Sudeste seamount
101	5/6/1998	4.03	35.48	78	22.21	Biogenic gravel	FN, Sirius seamount

Results**Order Decapoda Latreille, 1802****Suborder Dendrobranchiata Bate, 1888****Superfamily Penaeoidea Rafinesque, 1815****Family Penaeidae Rafinesque, 1815*****Metapenaeopsis goodei* (Smith, 1885)**

Diagnosis. Pérez Farfante, 1971: 9, figs. 2–8, 13a.

Locality. Ceará: Sta. 40 (3).

***Metapenaeopsis martinella* Pérez Farfante, 1971**

Diagnosis. Pérez Farfante, 1971: 16, figs. 9, 10, 13b.

Locality. Fernando de Noronha Chain: Sta. 85 (1), Sta. 93 (1); Piauí: Sta. 48 (3); Ceará: Sta. 40 (1), Sta. 42 (16); Pernambuco: Sta. 28 (5).

Family Sicyoniidae Ortmann, 1898***Sicyonia laevigata* Stimpson, 1871**

Diagnosis. Williams, 1984: 47, fig. 29.

Locality. Piauí: Sta. 48 (3); Ceará: Sta. 40 (9), Sta. 42 (6), Sta. 43 (2).

***Sicyonia parri* (Burkenroad, 1934)**

Diagnosis. Williams, 1984: 48, fig. 30.

Locality. Ceará: Sta. 59 (2).

***Sicyonia typica* (Boeck, 1864)**

Diagnosis. Williams, 1984: 49, fig. 32.

Locality. Ceará: Sta. 42 (18).

Suborder Pleocyemata Burkenroad, 1963**Infraorder Caridea Dana****Superfamily Pasiphaeoidea Dana, 1852**

Family Pasiphaeidae Dana, 1852***Leptochela (Leptochela) bermudensis* Gurney, 1939**

Diagnosis. Chace, 1976: 7, figs. 5–7.

Locality. Ceará: Sta. 59 (1)

***Leptochela (Leptochela) serratorbita* Bate, 1888**

Diagnosis. Chace, 1976: 36, figs. 29–31.

Locality. Ceará: Sta. 43 (6).

***Leptochela (Proboloura) carinata* Ortmann, 1893**

Diagnosis. Chace, 1976: 45, figs. 35–37.

Locality. Paraíba: Sta. 33 (1).

Superfamily Bresilioidea Calman, 1896**Family Bresiliidae Calman, 1898*****Discias atlanticus* Gurney, 1939**

Diagnosis. Williams, 1984: 62, fig. 41.

Locality. North Chain: Sta. 60 (4); Fernando de Noronha Chain: Sta. 93 (11).

***Discias serratirostris* Lebour, 1949**

Diagnosis. Lebour, 1949: 1107, figs. 1–2.

Locality. North Chain: Sta. 75 (2).

Superfamily Palaemonidea Rafinesque, 1815**Family Anchistioididae Borradaile, 1915*****Anchistioides antiguensis* (Schmitt, 1924)**

Diagnosis. Holthuis, 1951: 175, pl. 55, figs. a–p.

Locality. Fernando de Noronha Chain: Sta. 93 (8); Ceará: Sta. 59 (3).

Family Palaemonidae Rafinesque, 1815***Brachycarpus biunguiculatus* (Lucas, 1846)**

Diagnosis. Holthuis, 1952: 3, pl. 1, figs. a–q.

Locality. North Chain: Sta. 77 (1), Sta. 81 (5); Fernando de Noronha Chain: Sta. 85 (3), Sta. 93 (1); Ceará: Sta. 42 (8).

***Kemponia americana* (Kingsley, 1878)**

Diagnosis. Holthuis, 1951b: 60, pl. 18, figs. a–j; pl. 19, figs. a–e [as *Periclimenes* (*Harpilius*) *americanus* (Kingsley, 1878)].

Locality. North Chain: Sta. 60 (8), Sta. 69 (7), Sta. 72 (2), Sta. 75 (72), Sta. 77 (4), Sta. 81 (2); Fernando de Noronha Chain: Sta. 85 (13), Sta. 88 (1), Sta. 93 (23); Piauí: Sta. 48 (3); Ceará: Sta. 40 (5), Sta. 42 (16), Sta. 59 (8); Rio Grande do Norte: Sta. 34 (1), Sta. 36 (4); Paraíba: Sta. 33 (3).

***Leander tenuicornis* (Say, 1818)**

Diagnosis. Holthuis, 1952: 155, pls. 41,42.

Locality. Paraíba: Sta. 33 (3).

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

Diagnosis. Holthuis, 1951b: 107, pl. 32, figs. d–g; pl. 33, figs. a–i.

Locality. North Chain: Sta. 72 (4); Fernando de Noronha Chain: Sta. 85 (1), Sta. 101 (5).

***Periclimenaeus caraibicus* Holthuis, 1951**

Diagnosis. Holthuis, 1951: 110, pl. 32, figs. k–j; pl. 34, figs. a–h.

Locality. Ceará: Sta. 59 (1).

***Periclimenaeus perlatus* (Boone, 1930)**

Diagnosis. Holthuis, 1951b: 99 pl. 30, figs. a–l; pl. 32, fig. a.

Locality. North Chain: Sta. 69 (1).

***Periclimenes anthophilus* Holthuis and Eibl-Eibesfeldt, 1964**

Diagnosis. Holthuis and Eibl-Eibesfeldt, 1964: 5, figs. 1–14; Chace, 1972: 32.

Locality. North Chain: Sta. 60 (8), Sta. 72 (40), Sta. 75 (14), Sta. 77 (8), Sta. 81 (5); Fernando de Noronha Chain: Sta. 85 (27), Sta. 93 (3), Sta. 96 (16).

***Periclimenes longicaudatus* (Stimpson, 1860)**

Diagnosis. Holthuis, 1951b: 26, pl.6, figs. a–m; pl.8, fig. m.

Locality. North Chain: Sta. 77 (1); Ceará: Sta. 59 (1); Piauí: Sta. 48 (3).

***Periclimenes magnus* Holthuis, 1951**

Diagnosis. Holthuis, 1951b: 52, pl. 15, figs. a–f.

Locality. Fernando de Noronha Chain: Sta. 101 (3); Rio Grande do Norte; Sta. 36 (2).

***Typton carneus* Holthuis, 1951**

Diagnosis. Holthuis, 1951b: 162, pl. 51, figs. a–o.

Locality. North Chain: Sta. 72 (4); Fernando de Noronha Chain: Sta. 85 (1).

***Typton tortugae* Mc Clendon, 1911**

Diagnosis. Holthuis, 1951b: 153, pl. 48, figs. a–o.

Locality. North Chain: Sta. 75 (4).

Superfamily Alpheoidea Rafinesque, 1815**Family Alpheidae Rafinesque, 1815*****Alpheopsis labis* Chace, 1972**

Diagnosis. Chace, 1972: 55, fig. 15.

Locality. Fernando de Noronha Chain: Sta. 85 (3), Sta. 93 (11); Ceará: Sta. 42 (2).

***Alpheopsis trigonus* (Rathbun, 1901)**

Diagnosis. Rathbun, 1901: 111, fig. 21 (as *Jousseamea trigona* Rathbun, 1901).

Locality. Fernando de Noronha Chain: Sta. 96 (2); Ceará: Sta. 40 (45), Sta. 42 (2), Sta. 59 (1); Paraíba: Sta. 33 (3).

***Alpheus amblyonyx* Chace, 1972**

Diagnosis. Chace, 1972: 59, fig. 16.

Locality. North Chain: Sta. 75 (8); Fernando de Noronha Chain: Sta. 86 (6); Ceará: Sta. 59 (1).

***Alpheus beanii* Verrill, 1922**

Diagnosis. Verrill, 1922: 81, fig. 7; pl. 22, fig. 5; pl. 32, figs. a–h.

Locality. North Chain: Sta. 69 (5), Sta. 75 (50), Sta. 81 (3); Piauí: Sta. 48 (17).

***Alpheus candei* Guérin-Méneville, 1855**

Diagnosis. Coutière, 1910: 486, fig. 1.

Locality. North Chain. Sta. 72 (6)

***Alpheus floridanus* Kingsley, 1878**

Diagnosis. Kim and Abele, 1988: 53, fig. 22.

Locality. North Chain: Sta. 72 (8); Rocas Atoll: Sta. 90 (12); Piauí Sta. 48 (1); Paraíba: Sta. 28 (1).

***Alpheus macrocheles* (Hailstone, 1835)**

Diagnosis. Ramos-Porto, 1979, 117, prints 1–6.

Locality. North Chain: Sta. 72 (2), Sta. 75 (2).

***Alpheus paracrinitus* Miers, 1881**

Diagnosis. Crosnier and Forest, 1966: 253, fig. 15 a–f.

Locality. Fernando de Noronha Chain: Sta. 93 (23).

***Automate evermanni* Rathbun, 1901**

Diagnosis. Rathbun, 1901: 112, fig. 22.

Locality. North Chain: Sta. 75 (2); Fernando de Noronha Chain: Sta. 86 (2).

***Synalpheus agelas* Pequegnat and Heard, 1979**

Diagnosis. Pequegnat and Heard, 1979: 110, figs. 1–4.

Locality. North Chain: Sta. 72 (2), Sta. 75 (10), Sta. 77 (4).

***Synalpheus apioceros* Coutière, 1909**

Diagnosis. Coutière, 1909: 27, fig. 9.

Locality. North Chain: Sta. 77 (1); Ceará: Sta. 42 (4), Sta. 59 (15); Paraíba: Sta. 33 (1), Pernambuco: Sta. 28 (1).

***Synalpheus bousfieldi* Chace, 1972**

Diagnosis. Chace, 1972, figs. 29–30.

Locality. Ceará: Sta. 59 (186).

***Synalpheus brooksi* Coutière, 1909**

Diagnosis. Christoffersen, 1979: 335, figs. 20–22.

Locality. North Chain: Sta. 69 (5), Sta. 72 (198), Sta. 75 (16), Sta. 81 (6); Fernando de Noronha Chain: Sta. 85 (30), Sta. 88 (26), Sta. 96 (10), Sta. 101 (369); Ceará: Sta. 59 (2); Pernambuco: Sta. 28 (45).

***Synalpheus pandionis* Coutière, 1909**

Diagnosis. Chace, 1972: 102.

Locality. Ceará: Sta. 59 (5).

***Synalpheus paranepturnus* Coutière, 1909**

Diagnosis. Coutière, 1909: 86.

Locality. Fernando de Noronha Chain: Sta. 93 (69).

***Synalpheus rathbunae* Coutière, 1909**

Diagnosis. Coutière, 1909: 84, fig. 91.

Locality. North Chain: Sta. 69 (3); Fernando de Noronha Chain: Sta. 93 (27); Ceará: Sta. 42 (2), Sta. 59 (21).

***Synalpheus sanctithomae* Coutière, 1909**

Diagnosis. Christoffersen, 1979: 352, figs. 29–30.

Locality. North Chain: Sta. 75 (4), Sta. 77 (23); Fernando de Noronha Chain: Sta. 93 (1); Ceará: Sta. 40 (1), 59 (1).

***Synalpheus townsendi* Coutière, 1909**

Diagnosis. Williams, 1984: 106, fig. 73.

Locality. North Chain: Sta. 69 (5), Sta. 75 (12), Sta. 77 (7), Sta. 81 (5); Fernando de Noronha Chain: Sta. 85 (9), Sta. 86 (6), Sta. 88 (5), Sta. 90 (4), Sta. 93 (12), Sta. 96 (10); Piauí: Sta. 48 (1); Ceará: Sta. 40 (27), Sta. 42 (16), Sta. 59 (3); Rio Grande do Norte: Sta. 36 (8); Pernambuco: Sta. 28 (26).

Family Hippolytidae Dana, 1852***Hippolyte obliquimanus* Dana, 1852**

Diagnosis. d'Acoz, 1997, p. 470, figs. 1–2.

Locality. Ceará: Sta. 42 (2), Rio Grande do Norte: Sta. 36 (2).

***Latreutes fucorum* (Fabricius, 1798)**

Diagnosis. Williams, 1984, 119, fig. 84.

Locality. Piauí: Sta. 48 (1); Ceará: Sta. 40 (1), Sta. 42 (14), Sta. 59 (2); Rio Grande do Norte: Sta. 36 (22); Paraíba: Sta. 33 (1).

***Latreutes parvulus* (Stimpson, 1866)**

Diagnosis. Williams, 1984, 120, fig. 85.

Locality. Piauí: Sta. 48 (1); Ceará: Sta. 42 (4).

***Lysmata moorei* (Rathbun, 1901)**

Diagnosis. Rathbun, 1901: 115, fig. 23 (as *Hippolysmata moorei* Rathbun, 1901).

Locality. Ceará Sta. 42 (2), Sta. 59 (2).

***Thor amboinensis* (De Man, 1888)**

Diagnosis. Chace, 1972: 130, figs. 55–56.

Locality. North Chain (1); Fernando de Noronha Chain (69).

***Thor manningi* Chace, 1972**

Diagnosis. Williams, 1984: 137, fig. 96.

Locality. North Chain (84); Fernando de Noronha Chain (63); Ceará (66); Rio Grande do Norte (6).

***Trachycaris restricta* (A. Milne Edwards, 1878)**

Diagnosis. Holthuis, 1949: 233, figs. 2–3.

Locality. North Chain: Sta. 75 (2), Sta. 77 (1); Fernando de Noronha Chain: Sta. 85 (3), Sta. 86 (1), Sta. 88 (1), Sta. 93 (7).

Superfamily Processoidea Ortmann, 1890**Family Processidae Ortmann, 1890**

***Ambidexter symmetricus* Manning and Chace, 1971**

Diagnosis. Manning and Chace, 1971: 3, figs. 1–2.

Locality. North Chain: Sta. 75 (2).

***Processa bermudensis* (Rankin, 1900)**

Diagnosis. Williams, 1984: 143, fig. 100.

Locality. Piauí: Sta. 48 (4); Ceará: Sta. 42 (28), Sta. 43 (2), Sta. 45 (8), Sta. 59 (4);
Rio Grande do Norte: Sta. 34 (3).

***Processa brasiliensis* Christoffersen, 1979**

Diagnosis. Christoffersen, 1979: 364, figs. 34–35.

Locality. Fernando de Noronha Chain: Sta. 93 (35); Ceará: Sta. 40 (4).

***Processa fimbriata* Manning and Chace, 1971**

Diagnosis. Manning and Chace, 1971: 19, figs. 8–10.

Locality. Fernando de Noronha Chain: Sta. 93 (3); Ceará: Sta. 40 (1), Sta. 42 (50), Sta.
59 (6); Rio Grande do Norte: Sta. 36 (4).

***Processa guyanae* Holthuis, 1959**

Diagnosis. Holthuis, 1959: 115, figs. 18–19.

Locality. Rio Grande do Norte: Sta. 34 (3); Paraíba: Sta. 33 (1).

Infraorder Stenopodidea Claus, 1872**Family Stenopodidae Claus, 1872*****Stenopus hispidus* (Olivier, 1811)**

Diagnosis. Williams, 1984: 54, fig. 35.

Locality. Fernando de Noronha Chain: Sta. 85 (3), Sta. 101 (3).

Infraorder Astacidea Latreille, 1802**Superfamily Enoplometopoidea de Saint Laurent, 1988**

Family Enoplometopidae de Saint Laurent, 1988***Enoplometopus antillensis* (Lütken, 1865)**

Diagnosis. Holthuis, 1946: 72 (Figures of type specimen); Holthuis, 1983: 282; Poupin, 2002 (<http://biomar.free.fr/enoplometopus/www/antillen.htm>).

Locality. Fernando de Noronha Chain: Sta. 88 (1).

Infraorder Thalassinidea Latreille, 1831**Superfamily Axioidea Huxley, 1879****Family Axiidae Huxley, 1879*****Coralaxus abelei* Kensley and Gore, 1980**

Diagnosis. Melo, 1999: 316, fig. 214.

Locality. Fernando de Noronha Chain: Sta. 93 (3).

Superfamily Callianassoidea Dana, 1852**Family Callianassidae Dana, 1852*****Cheramus marginatus* (Rathbun, 1901)**

Diagnosis. Melo, 1999: 360, fig. 240.

Locality. Piauí: Sta. 48 (1).

Family Upogebiidae Borradaile, 1903***Upogebia acanthura* (Coelho, 1973)**

Diagnosis. Melo, 1999: 406, fig. 272.

Locality. North Chain: Sta. 77 (12); Fernando de Noronha Chain: Sta. 101 (17).

***Upogebia marina* Coelho, 1973**

Diagnosis. Melo, 1999: 412, fig. 278.

Locality. Ceará: Sta. 42 (4), Sta. 59 (1).

***Upogebia vasquezii* Ngoc-Ho, 1989**

Diagnosis. Melo, 1999: 422, fig. 288.

Locality. Ceará: Sta. 42 (2).

Infraorder Anomura MacLeay, 1838**Superfamily Galatheoidea Samouelle, 1819****Family Galatheidae Samouelle, 1819*****Munida angulata* (Benedict, 1902)**

Diagnosis. Melo, 1999: 176, fig. 106.

Locality. North Chain: Sta. 60 (4); Ceará: Sta. 40 (3).

***Munida spinifrons* Henderson, 1885**

Diagnosis. Melo, 1999: 202, fig. 132.

Locality. North Chain: Sta. 75 (26); Fernando de Noronha Chain: Sta. 85 (1).

Family Porcellanidae Haworth, 1825***Megalobrachium soriatum* (Say, 1818)**

Diagnosis. Melo, 1999: 222, fig. 146.

Locality. Ceará: Sta. 59 (4).

***Pachycheles ackleianus* A. Milne Edwards, 1880**

Diagnosis. Melo, 1999: 228, fig. 150.

Locality. Ceará: Sta. 59 (2); Pernambuco: Sta. 28 (3).

***Pachycheles greeleyi* (Rathbun, 1900)**

Diagnosis. Melo, 1999: 234, fig. 156.

Locality. Ceará: Sta. 42 (4), Sta. 59 (4); Rio Grande do Norte: Sta. 34 (1).

***Petrolisthes amoenus* (Guérin-Méneville, 1855)**

Diagnosis. Melo, 1999: 224, fig. 148.

Locality. Ceará: Sta. 59 (2).

Superfamily Paguroidea Latreille, 1802**Family Diogenidae Ortmann, 1892**

***Calcinus tibicen* (Herbst, 1791)**

Diagnosis. Melo, 1999: 42, fig. 2.

Locality. Paraíba: Sta. 33 (5).

***Dardanus venosus* (H. Milne Edwards, 1848)**

Diagnosis. Melo, 1999: 64, fig. 20.

Locality. North Chain: Sta. 60 (4), Sta. 81 (1); Fernando de Noronha Chain: Sta. 85 (4), Sta. 88 (5); Rocas Atoll: Sta. 90 (4); Piauí: Sta. 48 (1); Ceará: Sta. 40 (1), Sta. 42 (6); Paraíba: Sta. 33 (1).

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

Diagnosis. Melo, 1999: 86, fig. 40.

Locality. Ceará: Sta. 42 (4); Paraíba: Sta. 33 (1).

***Paguristes tortugae* Schmitt, 1933**

Diagnosis. Melo, 1999: 88, fig. 42.

Locality. Fernando de Noronha Chain: Sta. 88 (1); Rocas Atoll: Sta. 90 (4).

Family Paguridae Latreille, 1802***Iridopagurus violaceus* de Saint Laurent Dechance, 1966**

Diagnosis. Melo, 1999: 112, fig. 60.

Locality. Fernando de Noronha Chain: Sta. 86 (2); Rocas Atoll: Sta. 90 (36).

***Pagurus brevidactylus* (Stimpson, 1859)**

Diagnosis. Melo, 1999: 122, fig. 66.

Locality. North Chain: Sta. 77 (4); Fernando de Noronha Chain: Sta. 85 (3), Sta. 93 (3).

***Pagurus criniticornis* (Dana, 1852)**

Diagnosis. Melo, 1999: 124, fig. 68.

Locality. Fernando de Noronha Chain: Sta. 93 (28); Ceará: Sta. 43 (8), Sta. 45 (4), Sta. 59 (1).

***Pagurus provenzanoi* (Forest and de Saint Laurent, 1968)**

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Diagnosis. Melo, 1999: 136, fig. 80.

Locality. Fernando de Noronha Chain: Sta. 101 (1); Rio Grande do Norte: Sta. 34 (3), Sta. 36 (2); Paraíba: Sta. 33 (5); Pernambuco: Sta. 28 (3).

Infraorder Brachyura Latreille, 1802

Superfamily Dromioidea de Haan, 1833

Family Dromiidae de Haan, 1833

***Hypoconcha parasitica* (Linnaeus, 1763)**

Diagnosis. Melo, 1996: 72.

Locality. Rio Grande do Norte: Sta. 34 (1).

Superfamily Homoloidea de Hann, 1839

Family Homolidae de Haan, 1839

***Homola barbata* (Fabricius, 1793)**

Diagnosis. Melo, 1996: 75.

Locality. Fernando de Noronha Chain: Sta. 101 (1).

Superfamily Raninoidea de Haan, 1839

Family Symethidae Goeke, 1981

***Symethis variolosa* (Fabricius, 1793)**

Diagnosis. Melo, 1996: 117.

Locality. Fernando de Noronha Chain: Sta. 93 (1); Ceará: Sta. 40 (1).

Superfamily Cyclodorippoidea Ortmann, 1892

Family Cyclodoripidae Ortmann, 1892

***Clythrocerus carinatus* Coelho, 1973**

Diagnosis. Melo, 1996: 86.

Locality. Fernando de Noronha Chain: Sta. 85 (9); Ceará: Sta. 42 (2).

***Deilocerus analogus* (Coelho, 1973)**

Diagnosis. Melo, 1996: 93.

Locality. North Chain: Sta. 60 (4); Fernando de Noronha Chain: Sta. 88 (6).

***Deilocerus perpusillus* (Rathbun, 1901)**

Diagnosis. Melo, 1996: 94.

Locality. North Chain: Sta. 72 (4).

Superfamily Calappoidea Milne Edwards, 1837**Family Calappidae Milne Edwards, 1837*****Calappa galloides* Stimpson, 1859**

Diagnosis. Melo, 1996: 124 [as *Calappa gallus* (Herbst, 1803)].

Locality. Rocas Atoll: Sta. 90 (4).

***Calappa tortugae* Rathbun, 1933**

Diagnosis. Melo, 1996: 123 (as *Calappa angusta* A. Milne Edwards, 1880).

Locality. Ceará: Sta. 42 (4).

***Cryptosoma balguerii* (Desbonne, 1867)**

Diagnosis. Melo 1996: 128 (as *Cycloës bairdii* Stimpson, 1860).

Locality. North Chain: Sta. 60 (4); Fernando de Noronha Chain: Sta. 88 (1); Ceará: Sta. 42 (2); Rio Grande do Norte: Sta. 34 (3), Sta. 37 (8).

Superfamily Leucosioidea Samouelle, 1819**Family Leucosiidae Samouelle, 1819**

***Ebalia stimpsonii* A. Milne Edwards, 1880**

Diagnosis. Melo, 1996: 139.

Locality. Ceará: Sta. 42 (2).

***Lithadia conica* (Coelho, 1973)**

Diagnosis. Melo, 1996: 142.

Locality. North Chain: Sta. 60 (4), Sta. 75 (2); Fernando de Noronha Chain: Sta. 85 (1); Ceará: Sta. 40 (4); Rio Grande do Norte: Sta. 37 (4).

***Lithadia obliqua* (Coelho, 1973)**

Diagnosis. Melo, 1996: 143.

Locality. Paraíba: Sta. 33 (1).

***Speloeophorus elevatus* Rathbun, 1898**

Diagnosis. Melo, 1996: 146.

Locality. Ceará: Sta. 42 (2).

Superfamily Majoidea Samouelle, 1819**Family Inachidae MacLeay, 1838*****Podochela brasiliensis* Coelho, 1972**

Diagnosis. Melo, 1996: 186.

Locality. Rio Grande do Norte: Sta. 36 (2).

***Podochela gracilipes* Stimpson, 1871**

Diagnosis. Melo, 1996: 187.

Locality. Fernando de Noronha Chain: Sta. 85 (2); Ceará: Sta. 42 (2).

***Podochela minuscula* Coelho, 1972**

Diagnosis. Melo, 1996: 188.

Locality. North Chain: Sta. 75 (6); Fernando de Noronha Chain: Sta. 88 (1); Pernambuco: Sta. 28 (1).

***Stenorhynchus seticornis* (Herbst, 1788)**

Diagnosis. Melo, 1996: 190.

Locality. North Chain: Sta. 60 (4).

Family Inachoididae Dana, 1851***Aepinus septemspinus* (A. Milne Edwards, 1879)**

Diagnosis. Melo, 1996: 180.

Locality. North Chain: Sta. 60 (4); Fernando de Noronha Chain: Sta. 85 (4), Sta. 86 (2); Rocas Atoll: Sta. 90 (12); Ceará: Sta. 59 (1); Rio Grande do Norte: Sta. 34 (4), Sta. 36 (4).

***Arachnopsis filipes* Stimpson, 1871**

Diagnosis. Melo, 1996: 196.

Locality. Fernando de Noronha Chain: Sta. 85 (5), Sta. 88 (2).

***Inachoides forceps* A. Milne Edwards, 1879**

Diagnosis. Melo, 1996: 206.

Locality. Ceará: Sta. 42 (6), Sta. 59 (3).

Family Mithracidae Balss, 1929***Hemus cristulipes* A. Milne Edwards, 1875**

Diagnosis. Melo, 1996: 212.

Locality. North Chain: Sta. 75 (2), Sta. 77 (1); Fernando de Noronha Chain: Sta. 86 (2), Sta. 88 (2), Sta. 93 (5), Sta. 96 (2).

***Leptopisa setirostris* (Stimpson, 1871)**

Diagnosis. Melo, 1996: 213.

Locality. Rio Grande do Norte: Sta. 36 (2); Paraíba: Sta. 33 (3).

***Macrocoeloma camptocerum* (Stimpson, 1871)**

Diagnosis. Williams, 1984: 326, figs. 262, 275m.

Locality. Ceará: Sta. 42 (2).

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

Diagnosis. Melo, 1996: 217.

Locality. North Chain: Sta. 60 (4).

***Macrocoeloma laevigatum* (Stimpson, 1860)**

Diagnosis. Melo, 1996: 218.

Locality. Ceará: Sta. 42 (2).

***Macrocoeloma septemspinosum* (Stimpson, 1871)**

Diagnosis. Melo, 1996: 219.

Locality. Fernando de Noronha Chain: Sta. 85 (1); Paraíba: Sta. 33 (1).

***Macrocoeloma trispinosum trispinosum* (Latreille, 1825)**

Diagnosis. Rathbun, 1925: 466 [as *Macrocoeloma trispinosum* (Latreille, 1825)], pl. 166, fig. 1, 167.

Locality. North Chain: Sta. 69 (1), Sta. 75 (8); Ceará: Sta. 42 (2).

***Microphrys antillensis* Rathbun, 1920**

Diagnosis. Melo, 1996: 223.

Locality. Paraíba: Sta. 33 (3).

***Microphrys bicornutus* (Latreille, 1825)**

Diagnosis. Melo, 1996: 224.

Locality. Ceará: Sta. 42 (2); Paraíba; Sta. 33 (1).

***Mithraculus forceps* (A. Milne Edwards, 1875)**

Diagnosis. Melo, 1996: 229.

Locality. North Chain: Sta. 69 (1), Sta. 72 (2), Sta. 75 (4), Sta. 77 (7); Fernando de Noronha Chain: Sta. 93 (1), Sta. 96 (6); Ceará: Sta. 42 (80), Sta. 59 (68); Rio Grande do Norte: Sta. 34 (1), Sta. 36 (16), Sta. 37 (4); Pernambuco: Sta. 28 (12).

***Mithrax caribbaeus* Rathbun, 1900**

Diagnosis. Melo, 1996: 235.

Locality. Ceará: Sta. 59 (5).

***Nemausa acuticornis* (Stimpson, 1870)**

Diagnosis. Melo, 1996: 241.

Locality. Fernando de Noronha Chain: Sta. 85 (4), Sta. 101 (1); Ceará: Sta. 42 (14), Sta. 59 (4); Paraíba: Sta. 33 (8).

***Nemausa cornutus* (de Saussure, 1857)**

Diagnosis. Melo, 1996: 242.

Locality. Fernando de Noronha Chain: Sta. 85 (1), Sta. 88 (1), Sta. 93 (11); Rocas Atoll: Sta. 90 (8).

Family Pisidae Dana, 1851***Notolopas brasiliensis* Miers, 1886**

Diagnosis. Melo, 1996: 264.

Locality. Ceará: Sta. 42 (4).

***Pelia rotunda* A. Milne Edwards, 1875**

Diagnosis. Melo, 1996: 265.

Locality. Ceará: Sta. 42 (6), Sta. 59 (4).

Family Tychidae Dana, 1851***Picroceroides tubularis* Miers, 1886**

Diagnosis. Melo, 1996: 270.

Locality. Fernando de Noronha Chain: Sta. 85 (2), Sta. 93 (1); Rocas Atoll: Sta. 90 (8); Pernambuco: Sta. 28 (3).

***Pitho lherminieri* (Schramm, 1867)**

Diagnosis. Melo, 1996: 271.

Locality. Ceará: Sta. 42 (10), Sta. 45 (2), Sta. 59 (1).

Superfamily Parthenopoidea MacLeay, 1838**Family Parthenopidae MacLeay, 1838**

***Celatopesia concava* (Stimpson, 1871)**

Diagnosis. Melo, 1996: 277 (as *Cryptopodia concava* Stimpson, 1871)

Locality. Ceará: Sta. 42 (2)

Superfamily Pinnotheroidea de Haan, 1833**Family Pinnotheridae de Haan, 1833*****Pinnixa chaetoptera* Stimpson, 1860**

Diagnosis. Melo, 1996: 430.

Locality. Ceará: Sta. 42 (2), Sta. 59 (1).

Superfamily Portunoidea Rafinesque, 1815**Family Portunidae Rafinesque, 1815*****Cronius ruber* (Lamarck, 1818)**

Diagnosis. Williams, 1984: 385.

Locality. Ceará: Sta. 43 (2)

***Cronius tumidulus* (Stimpson, 1871)**

Diagnosis. Rathbun, 1930: 142.

Locality. Piauí: Sta. 48 (3); Ceará: Sta. 42 (2).

***Portunus anceps* (de Saussure, 1857)**

Diagnosis. Williams, 1984: 387.

Locality. Fernando de Noronha Chain: Sta. 88 (1).

***Portunus ordwayi* (Stimpson, 1860)**

Diagnosis. Williams, 1984: 390.

Locality. Fernando de Noronha Chain: Sta. 85 (1); Piauí: Sta. 48 (3); Ceará: Sta. 40 (3); Rio Grande do Norte: Sta. 34 (1); Pernambuco: Sta. 28 (1).

***Portunus spinimanus* Latreille, 1819**

Diagnosis. Williams, 1984: 393.

Locality. Piauí: Sta. 48 (3).

***Portunus ventralis* (A. Milne Edwards, 1879)**

Diagnosis. Rathbun, 1930: 43.

Locality. Rocas Atoll: Sta. 90 (4).

Superfamily Ocypodoidea Rafinesque, 1815**Family Palicidae Bouvier, 1898*****Palicus dentatus* (A. Milne Edwards, 1880)**

Diagnosis. Melo, 1996: 504.

Locality. Rocas Atoll: Sta. 90 (12).

Superfamily Xanthoidea MacLeay, 1838**Family Goneplacidae MacLeay, 1838*****Euryplax nitida* Stimpson, 1859**

Diagnosis. Melo, 1996: 407.

Locality. Rio Grande do Norte: Sta. 34 (1).

Family Panopeidae Ortmann, 1893***Acantholobulus schmitti* (Rathbun, 1898)**

Diagnosis. Melo, 1996: 360 (as *Hexapanopeus schmitti* Rathbun, 1898)

Locality. Ceará: Sta. 40 (1); Rio Grande do Norte: Sta. 36 (2).

***Hexapanopeus caribbaeus* (Stimpson, 1871)**

Diagnosis. Melo, 1996: 358.

Locality. Piauí: Sta. 48 (7).

***Micropanope sculptipes* Stimpson, 1871**

Diagnosis. Melo, 1996: 366.

Locality. Ceará: Sta. 42 (24), Sta. 59 (6).

Family Pilumnidae Samouelle, 1819***Acidops cessacii* (A. Milne Edwards, 1878)**

Diagnosis. Melo, 1996: 418.

Locality. Fernando de Noronha Chain: Sta. 88 (2).

***Pilumnus diomedae* Rathbun, 1930**

Diagnosis. Melo. 1996: 383.

Locality. Piauí: Sta. 48 (3); Ceará: Sta. 42 (6).

***Pilumnus quoyi* H. Milne Edwards, 1834**

Diagnosis. Melo, 1996: 385.

Locality. Piauí: Sta. 48 (1) ; Ceará: Sta. 42 (12), Sta. 59 (11).

Family Trapeziidae Miers, 1886***Domecia acanthophora* (Desbonne and Schramm, 1867)**

Diagnosis. Melo, 1996: 344 [(as *Domecia acanthophora acanthophora* (Schramm)].

Locality. North Chain: Sta. 69 (1), Sta. 81 (2); Fernando de Noronha Chain: Sta. 93 (3), Sta. 101 (12); Rocas Atoll: Sta. 90 (4); Ceará: Sta. 42 (2).

***Melybia thalamita* Stimpson, 1871**

Diagnosis. Melo, 1996: 361.

Locality. Ceará: Sta. 40 (9).

Family Xanthidae MacLeay, 1838***Actaea acantha* (H. Milne Edwards, 1834)**

Diagnosis. Melo, 1996: 339.

Locality. Pernambuco: Sta. 28 (1).

***Banareia palmeri* (Rathbun, 1894)**

Diagnosis. Melo, 1996: 341.

Locality. North Chain: Sta. 75 (2).

***Euryozius sanguineus* (Linnaeus, 1771)**

Diagnosis. Melo, 1996: 347.

Locality. North Chain: Sta. 77 (3); Fernando de Noronha Chain: Sta. 85 (1).

***Paractaea ruffopunctata nodosa* (Stimpson, 1860).**

Diagnosis. Melo, 1996: 376.

Locality. North Chain: Sta. 69 (1), Sta. 72 (2), Sta. 75 (8), Sta. 81 (2); Fernando de Noronha Chain: Sta. 85 (9), Sta. 86 (22), Sta. 88 (15), Sta. 93 (23), Sta. 96 (2); Ceará: Sta. 40 (1), Sta. 42 (2); Paraíba: Sta. 33 (1); Pernambuco: Sta. 28 (3).

Comments

In the present study, 142 species were identified in the following Infraorders: Anomura (15 species), Astacidea (1 species), Brachyura (63 species), Caridea (52 species), Penaeidea (5 species), Stenopodidea (1 species) and Thalassinidea (5 species). Except for the new records presented in this work, all of the species were both observed on the continental shelf and seamounts, being in agreement with Roger (1994) who stated that biota from the oceanic banks tend to be dominated by species from the continental shelf.

The composition and number of species observed in this study are similar to those found by Soto (1980) in the Northeast of Gulf of Mexico (64 species), however, poorer than those observed by Barreto *et al.* (1993) studying the Brachyura from the Continental Shelf in the north and northeast of Brazil (133 species), and richer than the continental shelf of Rio Grande do Sul and adjacent areas (45 species) (Bordin, 1987).

New records of caridean shrimps for Brazilian Coast (*Alpheopsis labis*, *Alpheopsis trigonus*, *Alpheus beanii*, *Alpheus candei*, *Synalpheus paranephtunus*, *Synalpheus rathbunae*, *Periclimenaeus caraibicus*, *Periclimenes anthophilus* and *Thor amboinensis*), and of decapods for Northeast Brazilian Coast (*Discias serratirostris*, *Leptochela bermudensis*, *Macrocoeloma camptocerum*, *Palicus dentatus*), are presented in this study.

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References

- d'Acoz, C.D. (1997) Redescription of *Hippolyte obliquimanus* Dana, 1852, and comparison with *Hippolyte williamsi* Schmitt, 1924 (Decapoda, Caridea). *Crustaceana*, 70, 469–479
- Barreto, A.V. & Coelho, P.A. (1994) Crustacea Decapoda Brachyura coletados durante a Comissão Oceanográfica PAVASAS I. *Revista Nordestina de Zoologia*, 1, 188–209.
- Barreto, A.V., Coelho, P.A., Ramos-Porto, M. & Torres, M.F.A. (1991) Distribuição batimétrica dos Brachyura (Crustacea, Decapoda) na plataforma continental Norte e Nordeste do Brasil. *Trabalhos Oceanográficos da Universidade Federal de Pernambuco*, 22, 291–303.
- Barreto, A.V., Coelho, P.A., Ramos-Porto, M. & Torres, M.F.A. (1993). Distribuição geográfica dos Brachyura (Crustacea, Decapoda) coletados na plataforma continental do Norte e Nordeste do Brasil. *Revista Brasileira de Zoologia*, 10, 641–656.
- Bate, C.S. (1888) Report on the Crustacea Macrura collected by H. M. S. Challenger during the years 1873–1876. *Report on the Scientific Results of the Voyage of H.M.S. Challenger During the Years 1873–1876. Zoology* 29, Johnson Reprint Corporation, New York, 1965, 942pp.
- Bordin, G. (1987) Brachyura da plataforma continental do estado do Rio Grande do Sul, Brasil e áreas adjacentes (Crustacea, Decapoda). *Iheringia. série Zoologia*, 66, 3–32.
- Calado, T.C.S. (1990) Crustacea Decapoda Anomura e Stomatopoda da Comissão “Pavasas I” na costa norte e Nordeste do Brasil. *Boletim de Estudos de Ciências do Mar*, 9, 149–174.
- Castro, B.M. & Miranda L.B. (1998) Physical oceanography of the Western Atlantic continental shelf located between 4°N and 34°S – Coastal segment 4, m. *In: Robinson, A.R. & Brink K.H. (Eds.), The sea*. Vol. 11. John Wiley & Sons, New York, pp. 209–251.
- Chace Jr., F.A. (1972) The Shrimps of the Smithsonian-Bredin Caribbean Expeditions with a Summary of the West Indian Shallow Water Species (Crustacea: Decapoda: Natantia). *Smithsonian Contributions to Zoology*, 98, 1–179.
- Chace Jr., F.A. (1976) Shrimp of the Pasiphaeid Genus *Leptochela* with Descriptions of Three New Species (Crustacea: Decapoda: Caridea). *Smithsonian Contributions to Zoology*, 222, 1–51.
- Chace Jr., F.A. (1986) The Caridean Shrimps (Crustacea: Decapoda) of the Albatross Philippine Expedition, 1907–1910, Part 4: Families Opolophoridae and Nematocarcinidae. *Smithsonian Contributions to Zoology*, 432, 1–82.
- Christoffersen, M.L. (1979) Campagne de la Calypso au large des côtes atlantiques de l'Amérique du Sud (1961–1962). 36. Decapod Crustacea: Alpheoidea. *Résultats Scientifiques des Campagnes de la Calypso*, 11, 297–377.
- Coelho, P.A. (1965) Crustáceos decápodos do atol das Rocas. *Ciência e Cultura*, 17, 309–310.
- Coelho, P.A. & Koenig, M.L. (1972) A distribuição dos crustáceos pertencentes às ordens Stomatopoda, Tanaidacea e Isopoda no norte e nordeste do Brasil. *Trabalhos Oceanográficos da Universidade Federal de Pernambuco*, 13, 245–259.
- Coelho, P.A. & Ramos, M.A. (1972) A constituição e a distribuição da fauna de decápodos do litoral leste da América do Sul entre as latitudes de 5°N e 39°S. *Trabalhos Oceanográficos da Universidade Federal de Pernambuco*, 13, 133–236.
- Coelho, P.A., Ramos-Porto, M. & Koenig, M.L. (1980) Biogeografia e bionomia dos crustáceos decápodos do litoral equatorial brasileiro. *Trabalhos Oceanográficos da Universidade Federal de Pernambuco*, 15, 7–138.
- Coutière, H. (1909) The American Species of the Snapping Shrimps of the Genus *Synalpheus*. *Proceedings of the United States National Museum*, 36, 1–93.
- Coutière, H. (1910) The Snapping Shrimps (Alpheidae) of the Dry Tortugas, Florida. *Proceedings of the United States National Museum*, 37 (1716), 485–487.
- Crosnier, A. & Forest, J. (1966) Crustacés Décapodes: Alpheidae. Rés. Sci. Camp. Calypso XXVII.- Campagne dans le Golfe de Guinée et aux îles Principe, São Tomé et Annobon (1956) et campagne aux Iles du Cap-Vert (1959) 19. *Annales de l'Institut Océanographique*, 44,

- 199–314.
- Fausto Filho, J. (1974) Stomatopod and decapod crustaceans of the Archipelago of Fernando de Noronha, Northeast Brazil. *Arquivos de Ciências do Mar*, 14, 1–35.
- Forrest, J. & de Saint Laurent, M. (1967) Campagne de la Calypso au large des côtes atlantiques de l'Amérique du Sud (1961–1962). 6. (Crustacés-Décapodes: Pagurides). *Annales de l'Institut Oceanographique*, 45, 47–169.
- Haig, J. (1966) Campagne de la Calypso au large des côtes atlantiques de l'Amérique du Sud (1961–1962). 1. Porcellanid crabs (Crustacea Anomura). *Annales de l'Institut Oceanographique*, 44, 353–358.
- Henderson, J.B. 1888. Report on the Anomuram collected by H. M. S. Challenger during the years 1873–1876. Report on the Scientific Results of the Voyage of H.M.S. Challenger, Zoology, 27, 1–209.
- Henderson, J.R. (1888) Report on the Anomura collected by H. M. S. Challenger during the years 1873–76. *Report on the Scientific Results of the Voyage of H. M. S. Challenger, Zoology*, 27, 1–221.
- Holme, N.A. & McIntyre, A.D. (1984) *Methods for the Study of Marine Benthos*. Blackwell, London, 2 ed., 387pp.
- Holthuis, L.B. (1949) The caridean Crustacea of the Canary Islands. *Zoologische Mededelingen*, 30, 227–255.
- Holthuis, L.B. (1951a) The Caridean Crustacea of Tropical West Africa. *Atlantide Report*, 2, 7–187.
- Holthuis, L.B. (1951b) *A general revision of the Palaemonidae (Crustacea Decapoda Natantia) of the Americas. I. The subfamilies Euryrhynchinae and Pontiinae*. The University of Southern California Press, Los Angeles, 332pp. (Allan Hancock Foundation Publications. Occasional Paper, 11)
- Holthuis, L.B. (1952) *A general revision of the Palaemonidae (Crustacea Decapoda Natantia) of the Americas. II. The subfamily Palaemoninae*. The University of Southern California Press, Los Angeles (Allan Hancock Foundation Occasional Paper, 12).
- Holthuis, L.B. (1959) The Crustacea Decapoda of Suriname. *Zoologische verhandelingen*, 44, 1–296.
- Holthuis, L.B. (1946) Biological results of the Snellius expedition. XIV - The Decapoda, Macrura of the Snellius expedition. 1. The Stenopodidae, Nephropsidae, Scyllaridae and Palinuridae. *Temminckia*, 7, 1–178.
- Holthuis, L.B. (1983) Notes on the genus *Enoplometopus* with descriptions of a new sub genus and two new species (Crustacea Decapoda Axiidae). *Zoologische Mededeelingen, Leiden*, 56, 281–298.
- Holthuis, L.B. & Eibl-Eibestfeldt, I. (1964) A new species of the genus *Periclimenes* from Bermuda (Crustacea, Decapoda, Palaemonidae). *Senckenbergiana Biologica*, 45, 185–192.
- Kempf, M. (1970) Notes on the benthic bionomy of N-NE Brazilian shelf. *Marine Biology*, 5, 9–26.
- Kim, W. & Abele, L.G. (1988) The Snapping Shrimp Genus *Alpheus* from the Eastern Pacific (Decapoda: Caridea: Alpheidae). *Smithsonian Contribution to Zoology*, 454, 1–119.
- Lebour, M.V. (1949) Some new decapod Crustacea from Bermuda. *Proceedings of the Zoological Society of London*, 118, 1107–1117.
- Manning, R.B. & Chace, Jr., F.A. (1971) Shrimps of the family Processidae from the Northwestern Atlantic Ocean (Crustacea: Decapoda: Caridea). *Smithsonian Contributions to Zoology*, 89, 1–41.
- Martin, J.W. & Davis, G.E. (2001). *An Updated Classification of the Recent Crustacea*. National History Museum of Los Angeles County, Science series n. 39, Los Angeles, 123pp.
- Melo, G.A.S. (1996) *Manual de identificação dos Brachyura (caranguejos e siris) do litoral brasileiro*. Plêiade/FAPESP, São Paulo, 604p.

- Melo, G.A.S. (1999) *Manual de identificação dos Crustacea Decapoda do litoral brasileiro: Anomura, Thalassinidea, Palinuridea e Astacidea*. Plêiade/FAPESP, São Paulo, 551p.
- Miers, E.J. (1886) Report on the Brachyura collected by the H. M. S. Challenger during the years 1873–1876. *Report on the Scientific Results of the Voyage of H. M. S. Challenger, Zoology*, 17, 1–175.
- Pequegnat, L.H. & Heard, R.W. (1979) *Synalpheus agelas*, new species of snapping shrimp from the Gulf of Mexico and Bahamas Islands (Decapoda: Alpheidae). *Bulletin of Marine Science*, 29, 110–116.
- Pérez Farfante, I. (1971) Western Atlantic shrimps of the genus *Metapenaeopsis* (Crustacea, Decapoda, Penaeidae), with descriptions of three new species. *Smithsonian Contributions to Zoology*, 79, 1–37.
- Pocock, R.L. (1890) Crustacea. In: Ridley, H.N. (Ed.), Notes on the zoology of Fernando Noronha. *Journal of the Linnean Society*, 20, 506–526.
- Poupin, J. (2002) Tropical reef lobsters of the genus *Enoplometopus*: Descriptions, Illustrations, Identification, and Information Retrieval, using the DELTA format Version: 30 May 2002. Available from <http://biomar.free.fr/enoplometopus/> (accessed 1 September 2003).
- Ramos-Porto, M. (1979) Ocorrência de *Alpheus macrocheles* (Hailstone) (Crustacea: Decapoda: Alpheidae) no norte e nordeste do Brasil. *Trabalhos do Instituto Oceanográfico da Universidade Federal de Pernambuco*, 14, 117–129.
- Rathbun, M.J. (1900) The decapod and stomatopod Crustacea. I. Results of the Branner-Agassiz Expedition to Brazil. *Proceedings of the Washington Academy of Sciences*, 2, 133–156.
- Rathbun, M.J. (1901) The Brachyura and Macrura of Porto Rico. *Bulletin of the United States Fisheries Commission*, 2, 1–127.
- Rathbun, M.J. (1925) The spider crabs of America. *Bulletin of the United States National Museum*, 129, 1–613.
- Rathbun, M.J. (1930) The Cancroid crabs of America of the Families Euryalidae, Portunidae, Atelecyclidae, Cancridae and Xanthidae. *Bulletin of the United States National Museum*, 152, 1–593.
- Rodrigues da Costa, H. (1968) Crustacea Brachyura récoltés par les dragages de la “Calypso” sur les côtes brésiliennes (1962). *Recueil des Travaux de la Station Marine d’Endoume*, 43, 333–342.
- Rogers, A.D. (1994) The biology of seamounts. *Advances in Marine Biology*, 30, 305–364.
- Smith, S.I. (1869) Notice of the Crustacea collected by Prof. C. F. Hartt on the coast of Brazil, in 1867. *Transactions of the Connecticut Academy of Arts and Sciences*, 2, 1–41.
- Soto, L.A. (1980) Decapod crustacea shelf-fauna of the northeastern Gulf of Mexico. *Annales del Instituto de Ciencias Del Mar y Limnologia del Universidad Natural Autónoma*, 7, 70–110.
- Summerhayes, C.P., Coutinho, P.N., Franca, A.M.C. & Ellis, J.P. (1975) Continental margin sedimentation off Brazil. Part III, Salvador to Fortaleza, Northeastern Brazil. *Contributions to Sedimentology*, 4, 44–78.
- Verrill, A.E. (1922) Decapoda Crustacea of Bermuda. Part II. Macrura. *Transactions of the Connecticut Academy of Arts and Science*, 26, 1–179.
- Williams, A.B. (1984) Shrimps, Lobsters, and Crabs of the Atlantic Coast of the Eastern United States, Maine to Florida. Smithsonian Institution Press, Washington, D.C., 550pp.