

MARINE AND ESTUARINE SHRIMPS (DENDROBRANCHIATA, STENOPODIDEA, AND CARIDEA), OF PERNAMBUCO STATE (BRAZIL) AND NORTHEASTERN BRAZILIAN OCEANIC ISLANDS.

JOSÉ AFONSO FEIJÓ SOUZA^{1,2}; RALF SCHWAMBORN³, ALINE do VALE BARRETO⁴; INGRID DOMINGOS FARIAS²; LÍGIA MARIA GONÇALVES FERNANDES² & PETRÔNIO ALVES COELHO⁴,

¹ Universidade Federal do Rio Grande, Instituto de Oceanografia, C.P. 474, CEP: 96201-900, Rio Grande, RS, Brasil (docfeijo@furg.br).

² Universidade Federal de Pernambuco, Programa de Pós-Graduação em Oceanografia, CEP: 50670-901, Recife, PE, Brasil.

³ Universidade Federal de Pernambuco, Departamento de Zoologia, CEP: 50670-901, Recife, PE, Brasil (rs@ufpe.br)

⁴ Universidade Federal de Pernambuco, Departamento de Oceanografia, CEP: 50670-901, Recife, PE, Brasil.

RESUMO

Camarões marinhos e estuarinos (Dendrobranchiata, Stenopodidea e Caridea) no Estado de Pernambuco (Brasil) e ilhas oceânicas do nordeste brasileiro.

Este estudo atualiza e comenta a fauna de camarões de Pernambuco e ilhas oceânicas do Nordeste brasileiro. Resulta da compilação de literatura científica com citações novas de espécies marinhas e estuarinas de Dendrobranchiata, Stenopodidea e Caridea, ou novas localidades de ocorrência. São acrescentadas 42 espécies a uma lista prévia, totalizando 124 espécies. São mencionadas cinco famílias novas (Benthescymidae, Disciadidae, Anchistoididae, Barbouriidae e Pandalidae). O aumento no número de espécies (51%) é devido ao aumento no esforço de amostragem e literatura resultante. Dez espécies foram omitidas nesta atualização, apesar de serem mencionadas nesta área em estudos prévios. Caridea apresentou a maior riqueza de espécies (93), Dendrobranchiata (28) e Stenopodidea (3). Dentre as 22 famílias, as que mostraram maior riqueza de espécies foram: Alpheidae (34), Palaemonidae (22), Hippolytidae (14), Penaeidae (11), e Sergestidae (8). Das 82 espécies da lista inicial, 64 foram registradas em locais novos, sendo 13 com um aumento em suas áreas de ocorrência. Nossos resultados indicam que as áreas continental e das ilhas oceânicas apresentam diferença considerável em composição e diversidade.

PALAVRAS CHAVE: Crustacea, Decapoda, Pleocyemata, ocorrência, riqueza de espécies

ABSTRACT

This study consists of a commented update of the shrimp fauna of Pernambuco State and Northeastern Brazilian oceanic islands. It results from a compilation of scientific literature that includes new citations for marine and estuarine species of Dendrobranchiata, Stenopodidea, and Caridea, or new areas or localities of occurrence. Forty-two species were added to a previously existing list, amounting to 124 shrimp species. Five new families are mentioned for this area (Benthescymidae, Disciadidae, Anchistoididae, Barbouriidae and Pandalidae). The increase in species number (51%) is due to an increase in sampling effort and new literature. Ten species were omitted in this update, in spite of having been mentioned for the area in previous studies. Caridea displayed the largest species richness (93), followed by Dendrobranchiata (28) and Stenopodidea (3). Among the 22 families, those that showed highest species richness were: Alpheidae (34), Palaemonidae (22), Hippolytidae (14), Penaeidae (11), and Sergestidae (8). From the 82 species in the initial list, 64 were registered at new locations, being 13 with an increase in their area of occurrence. Our results indicate that oceanic islands and continental areas exhibit considerable differences in composition and diversity.

KEYWORDS: Crustacea, Decapoda, Pleocyemata, occurrence, species richness.

INTRODUCTION

Decapod shrimps are essentially found in the suborders Dendrobranchiata (superfamilies Penaeoidea and Sergestoidea) and Pleocyemata (infraorders Caridea and Stenopodidea). Stenopodidea are exclusively marine, Dendrobranchiata presents marine and estuarine species, while Caridea presents several marine, estuarine, and freshwater species in the study area (Coelho *et al.* 2006).

Within the tropical coasts of Northeastern Brazil, the Pernambuco State rates among the most intensively studied and best known marine areas, specially regarding its shrimp fauna (Coelho *et al.* 2006). The largest and most intensively studied among oceanic islands is Fernando de Noronha Island (03°51'S–32°25'W), which builds the core of the Fernando de Noronha Archipelago. Further oceanic habitats are given by the hard bottom surrounding the oceanic rocks of the São Pedro and São Paulo Archipelago (00°56'N–

29°22'W), and by the diverse habitats in and around the Rocas Atoll (03°52'S–33°49'W), the only coral reef atoll in the Atlantic Ocean (Kikuchi 2002; Campos *et al.* 2005; Almeida 2006).

In extensive studies, Coelho & Ramos (1972) mentioned 122 shrimp species for North-eastern Brazil (28 Dendrobranchiata, three Stenopodidea, and 91 Caridea); being 60 for Pernambuco, including Fernando de Noronha Archipelago and Rocas Atoll (17 Dendrobranchiata, three Stenopodidea and 40 Caridea). Young (1998) increased the number of shrimp species to 124 for the Brazilian Northeast (29 Dendrobranchiata, 3 Stenopodidea and 92 Caridea); and 77 for Pernambuco, including Fernando de Noronha Archipelago and Rocas Atoll (17 Dendrobranchiata, three Stenopodidea, and 57 Caridea).

Coelho *et al.* (2002), considering these two works and many others, updated the knowledge on crustacean fauna for Pernambuco State, including the Fernando de Noronha Archipelago, Rocas Atoll, São Pedro and São

Paulo Archipelago and the São Francisco River basin (at the border between Pernambuco and Bahia States). They presented 740 crustacean species, including 83 marine and estuarine shrimp species (19 Dendrobranchiata, 3 Stenopodidea and 61 Caridea) in 17 families. One year before, Ramos-Porto (2001) published her extensive doctoral thesis about the marine shrimps of Pernambuco State), whose data were not included in Coelho *et al.* (2002).

Since Coelho *et al.* (2002), no specific work on the shrimp fauna of Pernambuco has been published, but three important studies related to the Brazilian northeast and northeastern oceanic islands also included shrimps from waters off Pernambuco State (Coelho *et al.* 2006; Coelho-Filho 2006; Alves *et al.* 2008).

Within the groups considered in this study, Penaeidae is the family that contains most species with a direct socio-economic importance. Penaeid shrimps contribute considerably to artisanal fisheries in Pernambuco (IBAMA 2003), mainly *Litopenaeus schmitti* (Burkenroad, 1936) and *Farfantepenaeus subtilis* (Pérez-Farfante, 1967) (Tischer & Santos 2003). The exotic species *Litopenaeus vannamei* (Boone, 1931) is the single main product of large-scale aquaculture that now is being developed in all major estuaries in Pernambuco (Santos 2005). Furthermore, the large-sized carideans *Macrobrachium carcinus* (Linnaeus, 1758) and *M. acanthurus* (Wiegmann, 1836) are of socio-economic importance as high-value resources. The stenopodid *Stenopus hispidus* (Olivier, 1811) is widely used in the aquarium trade.

The present work consist in a compilation of literature that increased the Pernambuco State and adjacent oceanic islands citations of marine and estuarine shrimp fauna species and/or new areas or

localities of occurrence for the previously listed species. Its objective is to update the knowledge of the marine and estuarine shrimp fauna of Pernambuco State and adjacent oceanic islands, presenting the occurrence of shrimps, with some comments, thus contributing to the knowledge of Crustacea Decapoda species richness and distribution in the tropical Atlantic. Such work is important tool for biogeographers, taxonomers, and ecologists. Among other aspects, this may provide the basis for quick comparisons of species richness between geographic areas, supply first estimates faunistic assemblages and maximum species richness to be expected in a given area, and will provide the baseline for the detection of new exotic species in the future.

MATERIAL & METHODS

The starting point of this work is the marine and estuarine shrimp fauna included in the diagnosis of the crustaceans biodiversity of the Pernambuco State (Coelho *et al.* 2002), subsequently referred to as "Initial List". The Initial List is constituted of 82 species (18 Dendrobranchiata, three Stenopodidea and 61 Caridea) of marine and estuarine shrimps (17 families) as a consequence of the removal of *Farfantepenaeus notialis* (Pérez-Farfante, 1967) from the 83 initial number of species (see Discussion).

The study area (Figure 1) extends from north to south along the 187 km long shoreline of Pernambuco State (07°33'S–08°54'S) and around the following northeastern Brazilian oceanic islands: Rocas Atoll (RA, 03°52'S–033°49'W), Fernando de Noronha Archipelago (FN, 03°51'S–032°25'W), and São Pedro and São Paulo Archipelago (SPSP, 00°56'N–029°22'W). These islands are 260, 350, and 1010 km far away from the continent, respectively.

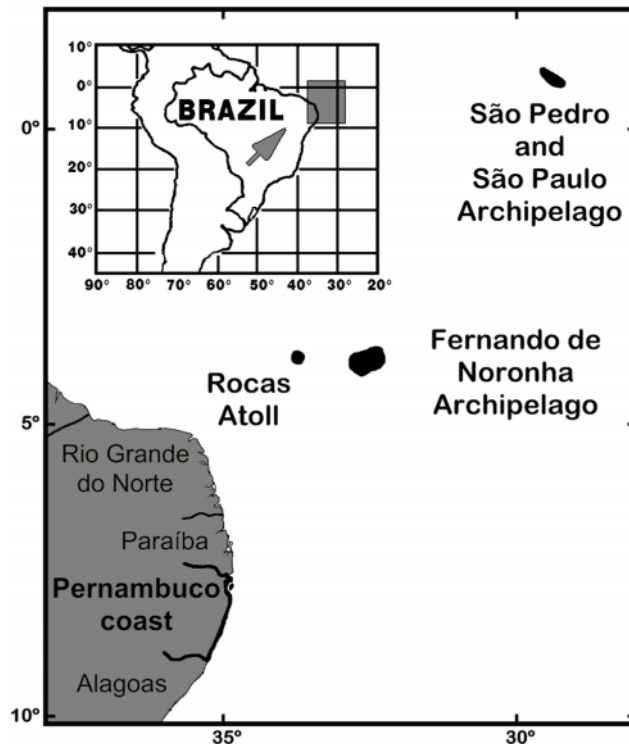


FIGURE 1 – Study area.

In this work, the collections located in the area among 03°00'S–04°30'S and 037°00'W–032°00'W are designated as from Fernando de Noronha Archipelago, those among 03°36'S–03°56'S and 033°56'W–033°23'W as from Rocas Atoll, and those among 01°00'N–00°18'S and 029°42'W–029°00'W as from São Pedro and São Paulo Archipelago. The establishment of the areas here

mentioned has the purpose of maintaining the citations of the present work comparable to those of Coelho *et al.* (2006) and Coelho-Filho (2006).

The codes of occurrence places are composed. The alphabetic part of the code represents zones of occurrence, to be understood as longitudinal range (Table 1).

TABLE 1 – Alphabetical codes related to zones of occurrence.

Code	Zone	Definition
Is	Island	Corresponding to the next limits: FN = 03°00'S–04°30'S and 037°00'W–032°00'W; RA = 03°36'S–03°56'S and 033°56'W–033°23'W and SPSP = 01°00'N–00°18'S and 029°42'W–029°00'W.
Cp	Cultivation Pond	Close to the coast and estuaries of the locality, with shrimp cultivation purposes.
Ec	Estuary	Santa Cruz Channel's waters, close to the mentioned locality.
Ei	Estuary	Inner to the mentioned locality.
C	Coast	Between zero and 20 m depth in Pernambuco coast, in front of the mentioned locality.
Sh	Shelf	Between 20 m and the continental shelf break of Pernambuco (50 - 60 m), in front of the mentioned locality.
Sob	Slope and Oceanic Basin	Between continental shelf break and middle Atlantic Ocean (Pernambuco coast), in front of the mentioned locality, and between the east limit of Island zone and middle Atlantic Ocean.

The numeric part of the code represents the locality, as a latitudinal reference (Table 2).

TABLE 2 – Numeric codes related to the sites of occurrence, respective localities and possible zones to each locality (* = see Tab. 1; X = possible).

Numeric Code	Locality		Possible Zones *							
	Name	Reference Point	Is	Cp	Ec	Ei	C	Sh	Sob	
01	São Pedro and São Paulo Archipelago	00°56'N-029°22'W	X						X	
02	Fernando de Noronha Archipelago	03°51'S-032°25'W	X						X	
03	Rocas Atoll	03°52'S-033°49'W	X						X	
04	Goiana River	07°33'S-034°49'W		X		X	X	X	X	
05	Reef of the River Goiana	07°34'S-034°49'W					X	X	X	
06	Carne de Vaca Beach	07°35'S-034°49'W		X			X	X	X	
07	Tabatinga Beach	07°36'S-034°48'W		X			X	X	X	
08	Ponta de Pedras Beach	07°38'S-034°48'W		X			X	X	X	
09	Catuama Beach	07°39'S-034°49'W		X			X	X	X	
10	Ponta do Funil Beach	07°41'S-034°49'W		X			X	X	X	
11	Catuama River	07°41'S-034°50'W		X	X	X				
12	Carrapicho River	07°41'S-034°51'W		X		X				
13	Atapus Beach	07°41'S-034°51'W		X	X					
14	Ponta do Fortim Beach	07°42'S-034°49'W		X			X	X	X	
15	Botafogo River	07°42'S-034°52'W		X	X	X				
16	Arataca (=Adiantado) River	07°42'S-034°53'W		X		X				
17	Jaguaribe River	07°43'S-034°49'W		X		X	X	X	X	
18	Congo River	07°44'S-034°52'W		X	X	X				
19	Pilar Beach	07°45'S-034°49'W		X			X	X	X	
20	Forno de Cal Beach	07°46'S-034°50'W		X			X	X	X	
21	Agricultural Prison of Itamaracá Pond	07°46'S-034°52'W		X						
22	Itapissuma City	07°46'S-034°53'W		X	X					
23	Bom Jesus Beach	07°47'S-034°50'W		X			X	X	X	
24	Forte Orange Beach	07°48'S-034°50'W		X	X					
25	Vila Velha Village	07°48'S-034°51'W		X	X					
26	Paripe River	07°48'S-034°51'W		X	X	X				
27	Marcos' Farm	07°48'S-034°53'W		X	X					
28	Ramalho Sandbank	07°49'S-034°49'W					X	X	X	
29	Avião Sandbank	07°49'S-034°50'W			X		X			
30	Gamboia	07°49'S-034°51'W		X	X					
31	Igarassu River	07°49'S-034°51'W		X	X	X				
32	Monjope River	07°49'S-034°55'W		X		X				
33	Maria Farinha (=Timbó) River	07°50'S-034°50'W		X		X	X	X	X	
34	Maria Farinha Beach	07°51'S-034°50'W		X			X	X	X	
35	Janga Beach	07°56'S-034°49'W		X			X	X	X	
36	Doce (=Paratibe) River	07°58'S-034°50'W		X		X	X	X	X	
37	Casa Caiada Beach	08°00'S-034°50'W					X	X	X	
38	Olinda Beach	08°01'S-034°50'W					X	X	X	
39	Recife Harbour	08°02'S-034°51'W				X	X	X	X	
40	Capibaribe Estuary	08°04'S-034°53'W		X		X				
41	Pina Beach	08°05'S-034°52'W					X	X	X	
42	Boa Viagem Beach	08°08'S-034°54'W					X	X	X	
43	Base Aérea Beach (=Air Force Hospital)	08°09'S-034°54'W					X	X	X	
44	Piedade Beach	08°10'S-034°55'W					X	X	X	
45	Venda Grande Beach	08°11'S-034°55'W					X	X	X	
46	Candeias Beach	08°12'S-034°54'W					X	X	X	
47	Olho d'Água Lagoon	08°12'S-034°56'W				X				
48	Barra de Jangadas Beach	08°13'S-034°55'W		X			X	X	X	
49	Jaboatão River	08°14'S-034°55'W		X		X	X	X	X	
50	Paiva Beach	08°16'S-034°56'W		X			X	X	X	
51	Itapoama Beach	08°17'S-034°57'W		X			X	X	X	
52	Pedras Negras Point	08°18'S-034°56'W		X			X	X	X	
53	Gaibu Beach	08°19'S-034°57'W					X	X	X	
54	Santo Agostinho Cape	08°20'S-034°56'W					X	X	X	
55	Calhetas Beach	08°20'S-034°56'W					X			
56	Suape Beach (=Barra Itapoama)	08°21'S-034°57'W					X	X	X	
57	Massangana River (=Suape Estuary)	08°22'S-034°57'W		X		X	X	X	X	
58	Ipojuca River	08°24'S-034°58'W		X		X	X	X	X	
59	Muro Alto (=Gamboa) Beach	08°25'S-034°58'W		X			X	X	X	
60	Porto de Galinhas Beach	08°30'S-035°00'W		X			X	X	X	
61	Santo Aleixo Island	08°36'S-035°01'W					X			
62	Sirinhaem River	08°36'S-035°03'W		X		X	X	X	X	
63	Sirinhaem Beach	08°37'S-035°04'W		X			X	X	X	
64	Guadalupe Beach	08°40'S-035°05'W		X			X	X	X	
65	Formoso River	08°41'S-035°05'W		X		X	X	X	X	
66	Carneiros Beach	08°42'S-035°04'W		X			X	X	X	
67	Tamandaré Beach	08°44'S-035°05'W		X			X	X	X	
68	Ilhetas Point	08°47'S-035°05'W		X		X	X	X	X	
69	Mamucaba Estuary	08°47'S-035°06'W		X		X				
70	Una River	08°50'S-035°08'W		X		X	X	X	X	
71	São José da Coroa Grande Beach	08°54'S-035°08'W		X			X	X	X	

The areas of occurrence here mentioned are coded in Table 3.

TABLE 3 – List of Areas of Occurrence.

Code	Area of Occurrence
I	Insular Area, which comprises oceanic island habitats (i.e. marine waters around Fernando de Noronha Archipelago and/or Rocas Atoll and/or São Pedro and São Paulo Archipelago).
C	Continental Area, which comprises estuarine and/or marine waters off continental Pernambuco State.
CI	Grouped Area, wich comprises both areas (I and C).
IB	Oceanic Islands and Banks (Coelho <i>et al.</i> 2006).
PE	Pernambuco (Coelho <i>et al.</i> 2006).

The List of Taxa has several items. Codes (Table 4) in brackets, just after the taxa name, inform the present status related to the status on the Initial List.

TABLE 4 – List of possible status of taxa, related to the status in the Initial List.

Code	Status
Abs	absent in Initial List
PrS	present in Initial List with same designation
PrD	present in Initial List with different designation
IN	increased places number
SN	same places number
DN	decreased places number
C→CI	increase on occurrence area from C to CI
I→CI	increase on occurrence area from I to CI
CI→I	decrease of occurrence area from CI to I
CI→C	decrease of occurrence area from CI to C
C	added or maintained in C
I	added or maintained in I
CI	added or maintained in CI

The bibliography that mentions the species in the study area is listed in Records. The first of the list corresponds to the first author found which mentions the species for studied area. Only in some cases, for best understanding, is mentioned the designation of the species given by the respective author. In Occurrence are listed the codes of occurrence places where the species were mentioned in the studied area. Eventual remarks, when presents, are mentioned in Comments.

Lot FURG refers to specimens deposited in the Collection of Crustaceans of the Institute of Oceanography of the Federal University of Rio Grande (Rio Grande, RS, Brazil). Lot INIDEP refers to specimens deposited in the Collection of Crustaceans of the National Institute of Investigation and Fishing Development (Mar del Plata, Argentina). Some lots INIDEP don't have numbering. These cases are referred as INIDEP*. The available label data of shrimps lots from Walther Herwig Expedition were revised and compared with Boschi (1968), D'Incao (1992) and Kraus (2009).

The zoological classification adopted followed the taxonomy proposed by Martin & Davis (2001). To allow a direct comparison, the species of the Initial List were distributed in the same zoological classification as adopted here.

The Jaccard's similarity index (Jaccard 1901) was calculated using the software PRIMER 6 (Clarke & Gorley 2006) based on the presence/absence matrix of the species, and was used to calculate the similarity in shrimp fauna composition between the areas "I" (oceanic islands) and "C" (continental Pernambuco coast).

RESULTS

Systematic Account

List of Taxa

Order **Decapoda** Latreille, 1802

Suborder **Dendrobranchiata** Bate, 1888

Superfamily **Penaeoidea** Rafinesque, 1815

Family **Aristeidae** Wood-Mason, 1891

001 - *Aristaeomorpha foliacea* (Risso, 1827) [Abs; I]

Records: Koettker (2008).

Occurrence: 01Is.

Family **Benthescymidae** Wood-Mason, 1891

Comments: *Gennadas bouvieri* Kemp, 1909 is not mentioned here, in spite of having mentioned by D'Incao (1995a), Ramos-Porto (2001), and Coelho *et al.* (2006) (see Discussion).

002 - *Bentheogennema intermedia* (Bate, 1888) [PrD; SN; C]

Records: Bate (1888) as *Gennadas parvus* (partly); Moreira (1901); Kemp (1909); Crosnier & Forest (1973); Ramos-Porto *et al.* (1987/89); D'Incao (1995a); Pérez-Farfante & Kensley (1997); Ramos-Porto (2001); Coelho *et al.* (2002, 2006).

Occurrence: 63Sob.

Comments: In the Initial List as *Gennadas parvus*. The Challenger Expedition (Bate 1888), made the only collection of this species for Brazil (subsequent authors just mention this collection).

003 - *Gennadas brevirostris* Bouvier, 1905 [Abs; I]

Records: D'Incao (1995a).

Occurrence: 01Sob.

Comments: D'Incao (1995a) mentions *G. brevirostris* for first time for the western south Atlantic Ocean.

Family **Penaeidae** Rafinesque, 1815

Comments: *Artemesia longinaris* Bate, 1888 is not mentioned here, in spite of having mentioned by Coelho *et al.* (2006). *Farfantepenaeus notialis* (Pérez-Farfante, 1967) is not mentioned here, in spite of having mentioned by Santos & Coelho (2001) and Coelho *et al.* (2002). *Funchalia villosa* (Bouvier, 1905) is not mentioned here, in spite of having mentioned by D'Incao (1995a, 1999) (see Discussion).

004 - *Farfantepenaeus brasiliensis* (Latreille, 1817) [PrS; IN; C]

Records: Moreira (1901) as *Penaeus brasiliensis*; Coelho & Ramos (1968); Coelho *et al.* (1970); Fausto-Filho (1979); Ramos-Porto (1980); D'Incao (1995a, 1998); Santos & Coelho (1998); Ramos-Porto (2001); Viana (2005); Coelho *et al.* (2006).

Occurrence: 17C, 17Ei, 20C, 21Cp, 22Ec, 25Ec, 26Ei, 27Ec, 28C, 44C, 48C, 49Ei, 56C, 57Ei, 67C.

005 - *Farfantepenaeus subtilis* (Pérez-Farfante, 1967) [PrS; IN; C]

Records: Pérez-Farfante (1967) as *Penaeus aztecus subtilis*; Coelho & Ramos (1968) as *P. duorarum*

notialis and *P. aztecus subtilis*; Coelho & Ramos (1972) as *P. duorarum notialis* and *P. aztecus subtilis* (partly); Fausto-Filho (1979) as *P. aztecus subtilis*; Ramos-Porto (1980) as *P. duorarum notialis* and *P. aztecus subtilis*; Ramos-Porto & Oliveira (1984) as *P. subtilis*; Ramos-Porto *et al.* (1987/89) as *P. duorarum notialis* and *P. subtilis* (partly); Souza (1988) as *P. subtilis* (partly) and *P. duorarum notialis*; Coelho & Santos (1990) as *P. subtilis* + *P. notialis*; Coelho & Ramos-Porto (1995) as *P. subtilis*; Coelho-Santos & Coelho (1995) as *P. subtilis*; D'Incao (1995a) as *P. subtilis*; Santos & Coelho (1998, 2001) as *P. subtilis*; Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Tischer & Santos (2002); Giraldez (2007).

Occurrence: 08C, 17C, 20C, 21Cp, 22Ec, 24Ec, 25Ec, 26Ec, 26Ei, 27Ec, 29Ec, 31Ec, 33Ei, 44C, 45C, 46C, 56C, 60C, 62C, 62Sh, 67C, 67Sh, 71C, 71Sh.

006 - *Funchalia danae* Burkenroad, 1940 [Abs; I]

Records: D'Incao (1995a, 1999).

Occurrence: 02Sob.

Comments: D'Incao (1995a) mentioned *F. danae* for first time to Brazilian coast (see Discussion).

007 - *Litopenaeus schmitti* (Burkenroad, 1936) [PrS; IN; C]

Records: Moreira (1901) as *Penaeus setiferus*; Coelho & Ramos (1968) as *P. schmitti*; Coelho *et al.* (1970); Fausto-Filho (1979); Ramos-Porto (1980); Ramos-Porto & Oliveira (1984); Ramos-Porto *et al.* (1987/89); Souza (1988); Coelho & Santos (1993); Coelho & Ramos-Porto (1995); Coelho-Santos & Coelho (1995); D'Incao (1995a); Santos & Coelho (1998, 2001); Ramos-Porto (2001); Coelho *et al.* (2002); Santos (2002); Tischer & Santos (2002); Viana (2005); Coelho *et al.* (2006).

Occurrence: 09C, 13Ec, 15Ei, 20C, 21Cp, 22Ec, 24Ec, 25Ec, 26Ei, 27Ec, 35C, 44C, 46C, 48C, 49Ei, 62C, 62Sh, 67C, 67Sh, 71C, 71Sh.

008 - *Litopenaeus vannamei* (Boone, 1931) [PrS; SN; C]

Records: Coelho *et al.* (2002); Santos & Coelho (2002); Freitas-Augusto (2004); Murolo (2005); Coelho *et al.* (2006).

Occurrence: 04Cp, 08Cp, 15Cp, 22Cp, 65Cp.

Comments: Exotic species. Santos & Coelho (2002) described its expansion, with complete life cycle, from shrimp farms to the natural environment in the State of

Rio Grande do Norte. In the year 2004 there were 98 shrimp farms (1108 ha of cultivation area) in Pernambuco (ABCCAM 2004). The presence of *L. vannamei* is registered in localities close to the coast and mangrove estuaries of several counties of Pernambuco as Goiana, Ipojuca, Rio Formoso, Sirinhaem and Tamandare (INSTITUTO HORUS 2005).

009 - *Metapenaeopsis goodei* (Smith, 1885) [PrS; IN; C]

Records: Coelho & Ramos (1972); Fausto-Filho (1980); Ramos-Porto (1980); Ramos-Porto *et al.* (1987/89); Souza (1988); D'Incao (1995a); Ramos-Porto *et al.* (1996); Ramos-Porto (2001); Coelho *et al.* (2002, 2006).

Occurrence: 06C, 37Sh, 67C.

010 - *Metapenaeopsis hobbsi* Pérez-Farfante, 1971 [PrS; SN; C]

Records: Pérez-Farfante (1971); Coelho & Ramos (1972); Fausto-Filho (1980); Ramos-Porto *et al.* (1987/89); Souza (1988); D'Incao (1995a); Ramos-Porto (2001); Coelho *et al.* (2002, 2006).

Occurrence: 53Sh.

Comments: Calypso Expedition (Pérez-Farfante 1971), made the only collection of the species for Pernambuco (subsequent authors just mention this collection).

011 - *Metapenaeopsis martinella* Pérez-Farfante, 1971 [PrS; IN; C→CI]

Records: Pérez-Farfante (1971); Coelho & Ramos (1972); Fausto-Filho (1980); Ramos-Porto (1980); Ramos-Porto *et al.* (1987/89); Souza (1988); Coelho & Ramos-Porto (1995); D'Incao (1995a); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Coelho-Filho (2006); Alves *et al.* (2008).

Occurrence: 02Is, 25Ec, 59Sh, 67C.

Comments: Coelho-Filho (2006), based on the station 28 (Program REVIZEE-NE III, 07.29°S-034.6°W, 42.5 m depth), accidentally mentioned *M. martinella* as collected "Off Pernambuco", when the location is "Off Paraíba".

012 - *Penaeus monodon* Fabricius, 1798 [Abs; C]

Records: Coelho *et al.* (2001); Santos & Coelho (2002); Coelho *et al.* (2006).

Occurrence: 44C, 62C, 71C, 71Sh.

Comments: Exotic species. Santos & Coelho (2002) concluded that the species escaped from shrimp farms to the natural environment in the Brazilian

northeast, becoming capable to complete its life cycle in Alagoas State.

013 - *Rimapenaeus constrictus* (Stimpson, 1874) [PrS; IN; C]

Records: Ramos-Porto *et al.* (1987/89) as *Trachypenaeus constrictus*; Souza (1988); D'Incao (1995a); Ramos-Porto (2001); Coelho *et al.* (2002); Viana (2005); Coelho *et al.* (2006).

Occurrence: 20C, 29Ec.

014 - *Xiphopenaeus kroyeri* (Heller, 1862) [PrS; IN; C]

Records: Coelho & Ramos (1972); Fausto-Filho (1979); Ramos-Porto (1980); Ramos-Porto & Oliveira (1984); Souza (1988); Coelho & Santos (1993); Coelho & Ramos-Porto (1995); Coelho-Santos & Coelho (1995); D'Incao (1995a); Santos & Coelho (1998); Ramos-Porto (2001); Coelho *et al.* (2002); Tischer & Santos (2002); Coelho *et al.* (2006).

Occurrence: 17C, 25Ec, 39C, 44C, 45C, 46C, 62C, 62Sh, 67C, 67Sh, 71C, 71Sh.

Family **Sicyoniidae** Ortmann, 1898

015 - *Sicyonia dorsalis* Kingsley, 1878 [PrS; IN; C]

Records: Ramos-Porto *et al.* (1987/89); Souza (1988); D'Incao (1995a, b); Ramos-Porto (2001); Coelho *et al.* (2002); Viana (2005); Coelho *et al.* (2006).

Occurrence: 20C, 22Ec, 24Ec, 34C, 44Sh.

016 - *Sicyonia laevigata* Stimpson, 1871 [PrS; IN; C]

Records: Coelho *et al.* (1970); Fausto-Filho (1979, 1980); Ramos-Porto *et al.* (1987/89); Souza (1988); Coelho-Santos & Coelho (1995); D'Incao (1995a, b); Santos & Coelho (1998, 2001); Ramos-Porto (2001); Coelho *et al.* (2002); Viana (2005); Coelho *et al.* (2006).

Occurrence: 07C, 08C, 11Ec, 11Ei, 15Ec, 19C, 20C, 22Ec, 24Ec, 25Ec, 26Ec, 26Ei, 42Sh, 46C, 48Sh, 50Sh, 56C, 57Ei.

017 - *Sicyonia parri* (Burkenroad, 1934) [PrS; IN; C]

Records: Coelho *et al.* (1970); Coelho & Ramos (1972); Fausto-Filho (1979, 1980); Coelho & Ramos-Porto (1995); D'Incao (1995a, b); Ramos-Porto *et al.* (1987/89); Ramos-Porto (2001); Coelho *et al.* (2002); Viana (2005); Coelho *et al.* (2006); Giraldes (2007).

Occurrence: 19C, 20C, 22Ec, 37Sh, 38C, 38Sh, 39Sh, 44Sh, 50Sh, 56C, 57Ei, 60C, 67C.

018 - *Sicyonia typica* (Boeck, 1864) [PrS; IN; C]

Records: Fausto-Filho (1979, 1980); Ramos-Porto *et al.* (1987/89); Coelho & Ramos-Porto (1995); D'Incao (1995a, b); Ramos-Porto (2001); Santos & Coelho (2001); Coelho *et al.* (2002); Viana (2005); Coelho *et al.* (2006).

Occurrence: 20C, 22Ec, 25Ec, 26Ec, 26Ei, 44C, 46C, 50Sh, 67C.

Superfamily **Sergestoidea** Dana, 1852

Family **Luciferidae** De Haan, 1849

019 - *Lucifer faxoni* Borradaile, 1915 [PrS; IN; C]

Records: Bate (1888) as *L. typus*; Holthuis (1959); Holthuis *et al.* (1980); Neumann-Leitão *et al.* (1991/93); D'Incao (1995a, 1997, 1998); Gusmão *et al.* (1997); Neumann-Leitão *et al.* (1998); Ramos-Porto (2001); Coelho *et al.* (2002); Viana (2005); Coelho *et al.* (2006); Silva (2006); Galdino *et al.* (2007); Alves *et al.* (2008); Schwamborn *et al.* (2008); Santos *et al.* (2009).

Occurrence: 01Is, 02Is, 11Ec, 12Ei, 13Ec, 14C, 14Sh, 15Ec, 15Ei, 20C.

020 - *Lucifer typus* H. Milne Edwards, 1837 [PrS; IN; I→CI]

Records: Bate (1888) as *L. reynaudii*; Holthuis *et al.* (1980); Mafalda-Júnior & Araújo (1992 apud Pinto *et al.* 1997); D'Incao (1995a, 1997, 1998); Gusmão *et al.* (1997); Neumann-Leitão *et al.* (1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Silva (2006); Alves *et al.* (2008).

Occurrence: 01Is, 02Is, 03Is, 04Sob, 23Sob.

Family **Sergestidae** Dana, 1852

Comments: Judkins & Kensley (2008) restricted the definition of the genus *Sergestes* H. Milne Edwards, 1830, erected five new genera (*Allosergestes*, *Deosergestes*, *Eusergestes*, *Neosergestes*, and *Parasergestes*), designated the type species and listed the species belonging to each one. *Deosergestes curvatus* (Crosnier & Forest, 1973) is not mentioned here, in spite of having mentioned by D'Incao (1995a), Ramos-Porto (2001) and Alves *et al.* (2008) as *Sergestes curvatus* Crosnier & Forest, 1973. *Deosergestes henseni* (Ortmann, 1893) is not mentioned here, in spite of having mentioned by D'Incao (1995a) and Coelho *et al.* (2006) as *Sergestes henseni* (Ortmann, 1893). *Sergia extenuata* (Burkenroad, 1940)

and *Sergia robusta* (Smith, 1882) are not mentioned here, in spite of having mentioned by both, D'Incao (1995a) and Coelho et al. (2006) (see Discussion).

021 - *Acetes americanus americanus* Ortmann, 1893 [PrD; IN; C]

Records: Silva et al. (1990); Paranaguá et al. (1999); Ramos-Porto (2001); Coelho et al. (2002); Viana (2005); Coelho et al. (2006); Schwamborn et al. (2008).

Occurrence: 11Ec, 17Ei, 20C.

Comments: In the Initial List as *Acetes americanus*.

022 - *Eusergestes arcticus* (Kroyer, 1859) [Abs; I]

Records: D'Incao (1995a); Coelho et al. (2006) both as *Sergestes arcticus*.

Occurrence: 02Sob.

Comments: D'Incao (1995a) mentioned *S. arcticus* for first time for the Brazilian coast (see Discussion).

023 - *Neosergestes edwardsii* (Krøyer, 1855) [PrD; IN; I]

Records: Bate (1888) as *Sergestes oculatus*; Judkins (1978) as *Sergestes edwardsii*; Holthuis et al. (1980);

D'Incao (1995a); Ramos-Porto (2001); Coelho et al. (2002, 2006); Silva (2006); Alves et al. (2008).

Occurrence: 01Is, 01Sob, 02Sob.

Comments: There are two only sources of collection of *N. edwardsii* for the area. They are Bate (1888) and Judkins (1978), the other authors just made citations. Bate (1888) lists *S. oculatus* for SPSP. He also lists *S. edwardsii*, but not for Brazil (including islands). Judkins (1978) describes *S. edwardsii* as broadly distributed throughout the tropical Atlantic, Caribbean, and Gulf of Mexico, illustrated the distribution through figure 6, and listed the additional material (42 stations without geographical coordinates) informing its deposit in the National Museum of Natural History (Smithsonian Institution, Washington - D.C.). NMNH (2009) showed 224 records of *S. edwardsii* in the Atlantic Ocean. All those mentioned by Judkins (1978) are included in this collection. Three records are located in the present area (Table 5).

TABLE 5 – *Neosergestes edwardsii* (as *Sergestes edwardsii*) records, in the present area, deposited in National Museum of Natural History (Washington, D.C.) (NMNH 2009; Ward 2009).

NMNH Data							
NMNH Catalog Number	Vessel Name (R/V)	Cruise	Station (RHB)	Latitude (DMS)	Longitude (DMS)	Local	Judkins (1978) mentioned
160084	Chain	35	972	0°03' N	25°00' W	01Sob	No
160101	Chain	35	976	0°03' N	27°31' W	01Sob	No
160151	Chain	35	980	3°55' S	30°38' W	02Sob	Yes

024 - *Parasergestes armatus* (Krøyer, 1855) [Abs; I]

Records: D'Incao (1995a); Coelho et al. (2006) both as *Sergestes armatus*.

Occurrence: 01Sob.

Comments: D'Incao (1995a) mentioned *S. armatus* for first time to Brazilian coast (see Discussion).

025 - *Sergia grandis* (Sund, 1920) [Abs; I]

Records: D'Incao (1995a); Coelho et al. (2006).

Occurrence: 02Sob.

Comments: D'Incao (1995a) mentioned *S. grandis* for first time to Brazilian coast (see Discussion).

026 - *Sergia potens* (Burkenroad, 1940) [Abs; I]

Records: D'Incao (1995a); Coelho et al. (2006).

Occurrence: 02Sob.

Comments: D'Incao (1995a) mentioned *S. potens* for first time to Brazilian coast (see Discussion).

027 - *Sergia regalis* (Gordon, 1939) [Abs; I]

Records: D'Incao (1995a) as *S. creber*; Coelho *et al.* (2006) as *S. creber*.

Occurrence: 01Sob, 02Sob.

Comments: Vereshchaka (1994) placed *S. creber* as synonymy of *S. regalis*. D'Incao (1995a) mentioned *S. creber* for first time to Brazilian coast (see Discussion).

028 - *Sergia splendens* (Sund, 1920) [Abs; I]

Records: D'Incao (1995a); Coelho *et al.* (2006).

Occurrence: 01Sob.

Comments: D'Incao (1995a) mentioned *S. splendens* for first time to Brazilian coast (see Discussion).

Suborder **Pleocyemata** Burkenroad, 1963

Infraorder **Stenopodidea** Claus, 1872

Family **Spongicolidae** Schram, 1986

029 - *Microprosthema semilaeve* (von Martens, 1872) [PrS; IN; I→CI]

Records: Pocock (1890) as *Stenopusculus spinosus*; Coelho (1967/69a); Chace (1972); Coelho & Ramos (1972); Fausto-Filho (1980); Abele & Kim (1986); Ramos-Porto *et al.* (1992); Alves (1993); Alves & Ramos-Porto (1994); Coelho & Ramos-Porto (1998); Ramos-Porto & Coelho (1998a); Ramos-Porto (2001); Coelho *et al.* (2002); Coelho *et al.* (2006); Giraldez (2007); Alves *et al.* (2008).

Occurrence: 02Is, 60C.

Family **Stenopodidae** Claus, 1872

030 - *Stenopus hispidus* (Olivier, 1811) [PrS; SN; CI]

Records: Coelho (1966) as *S. scutellatus*; Coelho (1967/69a); Coelho & Ramos (1972); Fausto-Filho (1980); Ramos-Porto (1980); Alves (1993); Coelho-Santos & Coelho (1995); Coelho & Ramos-Porto (1998); Ramos-Porto & Coelho (1998a); Coelho *et al.* (2002); Coelho *et al.* (2006); Coelho-Filho (2006); Giraldez (2007); Alves *et al.* (2008).

Occurrence: 02Is, 08C, 44C, 56C, 60C.

031 - *Stenopus scutellatus* Rankin, 1898 [PrS; SN; I]

Records: Coelho (1967/69a); Chace (1972); Coelho & Ramos (1972); Fausto-Filho (1980); Coelho & Ramos-Porto (1998); Ramos-Porto & Coelho (1998a); Coelho *et al.* (2002); Coelho *et al.* (2006); Alves *et al.* (2008).

Occurrence: 02Is.

Infraorder **Caridea** Dana, 1852

Superfamily **Pasiphaeoidea**, Dana 1852

Family **Pasiphaeidae** Dana, 1852

032 - *Leptochela carinata* Ortmann, 1893 [PrS; IN; C]

Records: Coelho & Ramos (1972); Fausto-Filho (1980); Ramos-Porto (1980); Ramos-Porto & Coelho (1994/95, 1998b); Ramos-Porto (2001); Coelho *et al.* (2002, 2006).

Occurrence: 06Sh, 10Sh, 19Sh, 37Sh, 42C, 43C, 43Sh, 45C, 48Sh, 50Sh, 52Sh, 54Sh, 67C.

033 - *Leptochela serratorbita* Bate, 1888 [PrS; IN; C]

Records: Coelho & Ramos (1972); Ramos-Porto (1980); Ramos-Porto & Coelho (1994/95); Coelho & Ramos-Porto (1995); Ramos-Porto & Coelho (1998b); Ramos-Porto (2001); Coelho *et al.* (2002, 2006).

Occurrence: 09C, 15Ec, 27Ec, 31Ec, 50Sh, 67C.

Superfamily **Oplophoroidea**, Dana 1852

Family **Oplophoridae** Dana, 1852

034 - *Meningodora mollis* Smith, 1882 [PrS; SN; C]

Records: Bate (1888) as *Hymenodora mollis*; Moreira (1901); Coelho & Ramos (1972); Crosnier & Forest (1973); Ramos-Porto (2001); Coelho *et al.* (2002, 2006).

Occurrence: 63Sob.

Comments: Challenger Expedition (Bate 1888), made the only collection of the species for Brazil (subsequent authors just mention this collection).

035 - *Notostomus gibbosus* A. Milne-Edwards, 1881

[PrS; SN; C]

Records: Bate (1888) as *N. brevirostris*; Moreira (1901); De Man (1920); Coelho & Ramos (1972); Crosnier & Forest (1973); Ramos-Porto (2001); Coelho *et al.* (2002, 2006).

Occurrence: 63Sob.

Comments: Challenger Expedition (Bate 1888), made the only collection of the species for Brazil (subsequent authors just mention this collection).

Superfamily **Atyoidea** de Haan, 1849

Family **Atyidae** de Haan, 1849

Comments: *Atya gabonensis* Giebel, 1875 and *Atya scabra* (Leach, 1815), included in the Initial List, are not listed here because they were not mentioned for marine nor estuarine waters.

036 - *Potimirim potimirim* (Mueller, 1881) [PrS; SN; C]
Records: Villalobos (1959); Coelho (1965/66a); Coelho *et al.* (1970); Ramos-Porto (1980); Coelho & Santos (1990); Ramos-Porto (2001); Santos & Coelho (2001); Coelho *et al.* (2002).
Occurrence: 16Ei, 17Ei, 26Ei, 49Ei, 69Ei.

Superfamily **Bresilioidea** Calman, 1896 [Abs; I]
 Family **Disciadidae** Rathbun, 1902

037 - *Discias atlanticus* Gurney, 1939 [Abs; I]
Records: Coelho *et al.* (2006); Coelho-Filho (2006); Alves *et al.* (2008).
Occurrence: 02Is.

Comments: Coelho *et al.* (2006) mentioned *Discias atlanticus* in IB and PE without specifying the source of the citation for PE. As we did not find any other citations for Pernambuco, we decided to restrict the presence of the species for found citations.

038 - *Discias serratirostris* Lebour, 1949 [Abs; I]
Records: Cardoso & Young (2004, 2007); Paiva *et al.* (2007); Coelho *et al.* (2006).
Occurrence: 03Is.

Superfamily **Nematocarcinoidea** Smith, 1884
 Family **Rhynchocinetidae** Ortmann, 1890

039 - *Cinetorhynchus rigens* (Gordon, 1936) [PrD; IN; C→CI]
Records: Gomes-Corrêa (1971) as *Rhynchocinetes rigens*; Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Cardoso & Young (2004, 2007); Giraldez (2007); Melo (2007); Paiva *et al.* (2007); Alves *et al.* (2008).
Occurrence: 02Is, 03Is, 60C, 67C.

Comments: Okuno (1997) transferred *Rhynchocinetes rigens* to *Cinetorhynchus rigens*.

Superfamily **Palaemonoidea** Rafinesque, 1815
 Family **Anchistioididae** Borradaile, 1915

040 - *Anchistioides antiguensis* (Schmitt, 1924) [PrS; IN; C→CI]
Records: Coelho & Ramos (1972); Fausto-Filho (1980); Ramos-Porto (2001); Coelho *et al.* (2002); Coelho *et al.* (2006); Coelho-Filho (2006); Alves *et al.* (2008).
Occurrence: 02Is 48C.
Comments: Included in the family Palaemonidae in the Initial List.

Family **Palaemonidae** Rafinesque, 1815

Comments: *Macrobrachium amazonicum* (Heller, 1862), *Macrobrachium brasiliense* (Heller, 1862), *Macrobrachium heterochirus* (Wiegmann, 1836), *Macrobrachium jelskii* (Miers, 1877) and *Macrobrachium rosenbergii* (De Man, 1879), included in the Initial List, are not listed here because were not mentioned for marine nor estuarine waters. Subfamily Anchistioidinae Gurney, 1938 was elevated to family rank within the superfamily Palaemonoidea (Chace, 1992) and, as consequence, *Anchistioides antiguensis* was transferred to the family Anchistioididae. *Lipkebe holthuisi* Chace, 1969 is not mentioned here, in spite of having mentioned by Ferreira (2009) (see Discussion).

Subfamily **Palaemoninae** Rafinesque, 1815

041 - *Brachycarpus biunguiculatus* (Lucas, 1846) [PrS; IN; CI]

Records: Ramos-Porto & Coelho (1990, 1998b); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Coelho-Filho (2006); Cardoso & Young (2007); Giraldez (2007); Paiva *et al.* (2007); Alves *et al.* (2008); Ferreira (2009).
Occurrence: 02Is, 03Is, 53C, 56C, 60C.

042 - *Leander paulensis* Ortmann, 1897 [PrS; IN; C]
Records: Ramos-Porto (1985/86, 2001); Ramos-Porto & Coelho (1990); Souza (1993); Coelho & Ramos-Porto (1995); Coelho-Santos & Coelho (1995); Carvalho *et al.* (1998); Santos & Coelho (1998); Coelho *et al.* (2002, 2006); Viana (2005); Ferreira (2009).

Occurrence: 06C, 08C, 09C, 11Ec, 11Ei, 15Ei, 17C, 20C, 24Ec, 25Ec, 26Ei, 35C, 39C, 44C, 46C, 48C, 56C, 67C.

043 - *Leander tenuicornis* (Say, 1818) [PrS; IN; CI]
Records: Fausto-Filho (1980); Ramos-Porto (1980, 1985/86, 2001); Coelho & Ramos-Porto (1995); Ramos-Porto *et al.* (1996); Ramos-Porto & Coelho (1998b); Santos & Coelho (2001); Coelho *et al.* (2002, 2006); Cardoso & Young (2004, 2007); Viana (2005); Paiva *et al.* (2007); Almeida *et al.* (2008); Alves *et al.* (2008); Ferreira (2009).

Occurrence: 02Is, 03Is, 17C, 19C, 20C, 24Ec, 26Ec, 26Ei, 28C, 36C, 37Sh, 41Sh, 45Sh, 50Sh, 57Sh, 61C, 67C.

044 - *Macrobrachium acanthurus* (Wiegmann, 1836) [PrS; IN; C]

Records: White (1847) as *Palaemon forceps* and *P. Swainsonii*; Moreira (1901); Coelho (1963, 1963/64a, 1965/66a,b); Coelho *et al.* (1970, 2002); Ramos-Porto (1980, 2001); Ramos-Porto & Coelho (1990, 1998b); Santos & Coelho (2001); Ferreira (2009).

Occurrence: 04Ei, 17Ei, 21Cp, 26Ec, 26Ei, 31Ei, 36Ei, 40Ei, 47Ei, 49Ei, 67C, 69Ei.

045 - *Macrobrachium carcinus* (Linnaeus, 1758) [PrS; IN; C]

Records: White (1847) as *Palaemon jamaicensis*; Coelho (1963); Ramos-Porto (2001); Coelho & Lima (2003); Santos *et al.* (2007); Ferreira (2009).

Occurrence: 58Ei, 60Cp, 67Cp, 69Ei, 70Ei.

046 - *Macrobrachium olfersii* (Wiegmann, 1863) [PrS; SN; C]

Records: Coelho (1963); Coelho *et al.* (1970, 2002); Ramos-Porto (2001); Ferreira (2009).

Occurrence: 04Ei, 49Ei, 58Ei, 69Ei.

Comments: Ferreira (2009) mentioned *M. olfersii* in Recife (Pernambuco State) based on the lots 2562, 2563 and 2580 of the National Museum (Federal University of Rio de Janeiro) without clearing the collection site.

047 - *Nematopalaemon schmitti* (Holthuis, 1950) [PrS; IN; C]

Records: Fausto-Filho (1978); Ramos-Porto & Oliveira (1984); Coelho *et al.* (2006); Almeida *et al.* (2008); Ferreira (2009).

Occurrence: 61C, 67C.

048 - *Palaemon northropi* (Rankin, 1898) [PrS; IN; C]

Records: Coelho (1963/64a); Coelho *et al.* (1970, 2002, 2006); Coelho & Ramos (1972); Ramos-Porto (1980, 2001); Coelho-Santos & Coelho (1995); Santos & Coelho (1998, 2001); Viana (2005); Giraldez (2007); Ferreira (2009).

Occurrence: 08C, 13Ec, 17C, 20C, 22Ec, 24Ec, 25Ec, 26Ec, 26Ei, 35C, 44C, 46C, 49Ei, 53C, 56C, 57Ei, 60C, 65Ei, 66C.

Comments: Alves *et al.* (2008) repeated the citation of the presence of *Palaemon northropi* in Fernando de Noronha, based on Ramos-Porto (1980), whose citation doesn't find support nor in its mentioned material nor in its mentioned bibliography. As we did

not find any other citation that confirms Ramos-Porto (1980), this place is not mentioned here.

049 - *Palaemon pandaliformis* (Stimpson, 1871) [PrS; IN; C]

Records: Coelho (1963/64a, b, 1965/66a, b); Coelho *et al.* (1970, 2002, 2006); Coelho & Ramos (1972); Coelho & Ramos-Porto (1995, 1998); Ramos-Porto (2001); Santos & Coelho (2001); Ferreira (2009).

Occurrence: 17C, 17Ei, 24Ec, 26Ec, 26Ei, 32Ei, 36Ei, 47Ei, 48C, 49Ei, 56C, 69Ei.

Subfamily **Pontoniinae** Kingsley, 1878

050 - *Cuapetes americanus* (Kingsley, 1878) [PrD; IN; C→CI]

Records: Ramos-Porto (1980, 2001) as *Periclimenes americanus*; Coelho-Santos & Coelho (1995); Santos & Coelho (1998, 2001); Coelho *et al.* (2002, 2006); Viana (2005); Coelho-Filho (2006); Giraldez (2007); Almeida *et al.* (2008); Alves *et al.* (2008); Ferreira (2009).

Occurrence: 02Is, 03Is, 06C, 07C, 08C, 09C, 10C, 11Ec, 13Ec, 15Ec, 17C, 19C, 20C, 24Ec, 26Ec, 26Ei, 28C, 35C, 44C, 46C, 51C, 53C, 56C, 60C, 61C, 66C, 67C.

Comments: *Periclimenes americanus* (Kingsley, 1878) was transferred to the genus *Kemponia* Bruce, 2004 and at present to the genus *Cuapetes* Clark, 1919 (Bruce 2004; Okuno 2009).

051 - *Periclimenaeus ascidiarum* Holthuis, 1951 [PrS; IN; C]

Records: Coelho & Ramos (1972); Fausto-Filho (1980); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Ferreira (2009)

Occurrence: 07C, 28C.

052 - *Periclimenaeus bermudensis* (Armstrong, 1940) [Abs; CI]

Records: Coelho & Ramos (1972); Fausto-Filho (1980); Viana & Ramos-Porto (1996); (Ramos-Porto 2001); Coelho *et al.* (2006); Coelho-Filho (2006); Alves *et al.* (2008); Ferreira (2009).

Occurrence: 02Is, 49Sh.

Comments: Viana & Ramos-Porto (1996) indicated the presence of *P. bermudensis* in the Pernambuco's continental shelf between the latitudes of 07°35'S and 08°52'S and the longitudes of 034°27'W and

034°48'W, and depths between 20 and 80 m, without specifying collection place. The central reference of this area (49Sh) is used as representation.

053 - *Periclimenaeus brucei* Cardoso & Young, 2007 [Abs; I]

Records: Cardoso & Young (2007); Ferreira (2009).

Occurrence: 03Is.

054 - *Periclimenaeus caraibicus* Holthuis, 1971 [Abs; I]

Records: Cardoso & Young (2004, 2007); Paiva *et al.* (2007); Ferreira (2009).

Occurrence: 03Is.

055 - *Periclimenaeus crosnieri* Cardoso & Young, 2007 [Abs; I]

Records: Cardoso & Young (2007); Ferreira (2009).

Occurrence: 03Is.

056 - *Periclimenaeus perlatus* (Boone, 1930) [Abs; C]

Records: Viana & Ramos-Porto (1996); Ramos-Porto & Coelho (1998b); Ramos-Porto (2001); Coelho *et al.* (2006); Ferreira (2009).

Occurrence: 49Sh.

Comments: Viana & Ramos-Porto (1996) indicated the presence of *P. perlatus* in the Pernambuco's continental shelf between the latitudes of 07°35'S and 08°52'S and the longitudes of 034°27'W and 034°48'W, and depths between 20 and 80 m, without specifying collection place. The central reference of this area (49Sh) is used as representation.

057 - *Periclimenes pedersoni* Chace, 1958 [Abs; I]

Records: Coelho-Filho (2006); Alves *et al.* (2008); Ferreira (2009).

Occurrence: 02Is.

Comments: *Periclimenes anthophilus* Holthuis & Eibl-Eibesfeldt, 1964 was placed in synonymy junior of *P. pedersoni* Chace, 1958 (Wicksten 1995).

058 - *Periclimenes longicaudatus* (Stimpson, 1860) [PrS; IN; C]

Records: Ramos-Porto (1980, 2001); Santos & Coelho (2001); Coelho *et al.* (2002, 2006); Viana (2005); Vasconcelos-Filho *et al.* (2007); Ferreira (2009).

Occurrence: 06C, 06Sh, 07C, 08C, 09C, 11Ei, 17C, 19C, 20C, 22Ec, 24Ec, 25Ec, 26Ei, 28C, 33C, 34C, 35C, 41C, 42C, 42Sh, 43C, 44C, 48C, 56C, 67C.

Comments: Coelho *et al.* (2006) mentioned *P. longicaudatus* in IB and PE without specifying the source of the citation for the IB area. As we did not find any other citations for the IB area, we decided to restrict the presence of the species to confirmed citations.

059 - *Periclimenes magnus* Holthuis, 1951 [Abs; I]

Records: Coelho-Filho (2006); Alves *et al.* (2008); Ferreira (2009).

Occurrence: 02Is.

060 - *Typton carneus* Holthuis, 1951 [Abs; I]

Records: Coelho-Filho (2006); Alves *et al.* (2008); Ferreira (2009).

Occurrence: 02Is.

061 - *Typton distinctus* Chace, 1972 [PrS; SN; C]

Records: Coelho & Ramos (1972) as *Typton sp.*; Gomes (1990); Souza (1993); Ramos-Porto & Coelho (1998b); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Ferreira (2009).

Occurrence: 17C, 24Ec.

062 - *Typton tortugae* McClendon, 1911 [Abs; C]

Records: Ramos-Porto & Coelho (1998b); Ramos-Porto (2001); Coelho *et al.* (2006).

Occurrence: 22Ec.

Comments: Ramos-Porto (2001) confirmed the identification of 5 specimens in Pernambuco (under doubt in Ramos-Porto & Coelho 1998b) and informed the habitat (Santa Cruz Channel, estuaries and rivers, commensal in sponges) however didn't specify any collection place. The reference point 22 is here used as representation of Santa Cruz's Channel by its almost central position and for not presenting own estuary close to the Channel.

Superfamily **Alpheoidea** Rafinesque, 1815

Family **Alpheidae** Rafinesque, 1815

Comments: *Thunor rathbunae* (Schmitt, 1924) presently is assigned as *Alpheus simus* Guérin Méneville, 1856 (Bezerra & Almeida 2008). *Alpheus simus* is not mentioned here, in spite of having mentioned by Coelho *et al.* (2006) as *Thunor rathbunae* (see Discussion). The genus *Zuzalpheus* Ríos and Duffy, 2007 was placed in synonymy junior of *Synalpheus* Bate, 1888 (Anker & De Grave 2008).

063 - *Alpheopsis labis* Chace, 1972 [Abs; I]

Records: Coelho-Filho (2006); Alves *et al.* (2008).

Occurrence: 02Is.

064 - *Alpheopsis trigonus* (Rathbun, 1901) [Abs; I]

Records: Coelho-Filho (2006); Alves *et al.* (2008).

Occurrence: 02Is.

065 - *Alpheus amblyonyx* Chace, 1972 [PrS; IN; I]

Records: Christoffersen (1979, 1998); Coelho *et al.* (2002, 2006); Coelho-Filho (2006); Paiva *et al.* (2007); Alves *et al.* (2008).

Occurrence: 02Is, 03Is.

066 - *Alpheus armillatus* H. Milne Edwards, 1837 [PrS; IN; C→CI]

Records: Coelho & Ramos (1972); Ramos-Porto (1980, 2001); Coelho-Santos & Coelho (1995); Christoffersen (1998); Santos & Coelho (1998); Coelho *et al.* (2002, 2006); Giraldes (2007); Almeida *et al.* (2008); Alves *et al.* (2008).

Occurrence: 02Is, 11Ei, 13Ec, 17C, 18Ec, 20C, 26Ec, 26Ei, 33Ei, 34C, 35C, 44C, 45C, 46C, 46C, 48C, 53C, 56C, 60C, 61C.

067 - *Alpheus belli* Coutière, 1898 [Abs; I]

Records: Coutière (1898); Chace (1972); Christoffersen (1998); Ramos-Porto (2001); Coelho *et al.* (2006); Alves *et al.* (2008).

Occurrence: 02Is.

068 - *Alpheus bouvieri* A. Milne-Edwards, 1878 [PrS; IN; CI]

Records: Pocock (1890) as *A. edwardsii*; Rathbun (1900) as *A. heterochaelis*; Chace (1972); Christoffersen (1979, 1998); Fausto-Filho (1980); Coelho-Santos & Coelho (1995); Santos & Coelho (1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Nascimento & Torres (2007); Paiva *et al.* (2007); Almeida *et al.* (2008); Alves *et al.* (2008).

Occurrence: 02Is, 03Is, 15Ec, 17C, 25Ec, 26Ei, 41C, 42C, 44C, 53C, 56C, 61C.

069 - *Alpheus chacei* Carvacho, 1979 [Abs; C]

Records: Christoffersen (1979) as *A. maxilliplanus*; Botter (1994); Botter-Carvalho *et al.* (1996); Ramos-Porto (2001); Coelho *et al.* (2006).

Occurrence: 18Ei, 26Ei.

070 - *Alpheus cristulifrons* Rathbun, 1900 [PrS; IN; I→CI]

Records: Pocock (1890) as *A. obeso-manus*; Coelho & Ramos (1972); Fausto-Filho (1974, 1980); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Paiva *et al.* (2007); Alves *et al.* (2008).

Occurrence: 02Is, 03Is, 09C.

071 - *Alpheus estuariensis* Christoffersen, 1984 [PrS; IN; C]

Records: Rathbun (1900) as *A. heterochaelis*; Coelho (1965/66a) as *A. heterochaelis*; Ramos-Porto (1980, 2001); Christoffersen (1984, 1998); Coelho-Santos (2001); Santos & Coelho (2001); Coelho *et al.* (2002, 2006); Vasconcelos-Filho *et al.* (2007);

Occurrence: 04Ei, 05C, 13Ec, 17C, 18Ec, 22Ec, 25Ec, 26Ec, 26Ei, 30Ec, 33Ei, 44C, 48C, 49Ei, 57Ei.

072 - *Alpheus floridanus* Kingsley, 1878 [PrS; IN; CI]

Records: Crosnier & Forest (1965, 1966) as *A. floridanus africanus* and *A. f. floridanus*; Coelho & Ramos (1972) as *A. floridanus africanus* and *A. f. floridanus*; Christoffersen (1979, 1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Coelho-Filho (2006); Paiva *et al.* (2007); Alves *et al.* (2008).

Occurrence: 02Is, 03Is, 15Ec, 26Ei, 37Sh, 44C.

073 - *Alpheus formosus* Gibbes, 1850 [PrS; IN; CI]

Records: Pocock (1890) as *A. panamensis*; Rathbun (1900); Coelho & Ramos (1972); Christoffersen (1979, 1998); Fausto-Filho (1980); Coelho-Santos & Coelho (1995); Santos & Coelho (1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Giraldes (2007); Almeida *et al.* (2008); Alves *et al.* (2008).

Occurrence: 02Is, 20C, 35C, 38Sh, 41C, 44C, 46C, 50C, 53C, 56C, 56Sh, 60C, 61C, 64C.

074 - *Alpheus heterochaelis* Say, 1818 [PrS; IN; C]

Records: Ramos-Porto (1980) (partly); Viana *et al.* (1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006).

Occurrence: 15Ec, 26Ei, 28C.

075 - *Alpheus intrinsecus* Bate, 1888 [PrS; IN; C]

Records: Coelho & Ramos (1972); Christoffersen (1979, 1998); Fausto-Filho (1980); Botter (1994); Coelho-Santos & Coelho (1995); Botter-Carvalho *et al.* (1996); Santos & Coelho (1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Viana (2005).

Occurrence: 06C, 17C, 20C, 34C, 44C, 48C, 60C.

076 - *Alpheus macrocheles* (Hailstone, 1835) [PrS; IN; C→CI]

Records: Coelho & Ramos (1972); Ramos-Porto (1979); Fausto-Filho (1980); Christoffersen (1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Alves *et al.* (2008).

Occurrence: 02Is, 07Sob, 07Sh, 67Sh.

Comments: The occurrences 07Sh, 07Sob and 67Sh were established based on Ramos-Porto (1979) who compared 42 specimens of this species with the description and illustrations of *A. amblyonyx* and concluded that they were *A. macrocheles*. Christoffersen (1998) restricted *A. macrocheles* to the central and eastern Atlantic and mentioned that Christoffersen (1979) followed Chace (1972) in placing all examined western Atlantic material in *A. amblyonyx*. Christoffersen (1998) also mentioned that this decision has not been followed by other Brazilian researchers (specially Ramos-Porto 1979), ending up with the suggestion of a single western Atlantic species. Ramos-Porto (2001) maintains her opinion of 1979.

077 - *Alpheus nuttingi* (Schmitt, 1924) [PrS; IN; C]

Records: Coelho (1965/66a) as *A. heterochaelis* (partly); Rodrigues (1990); Coelho-Santos & Coelho (1995); Santos & Coelho (1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Giraldez (2007).

Occurrence: 33Ei, 44C, 46C, 50C, 53C, 56C, 57Ei, 60C.

078 - *Alpheus cf. packardii* Kingsley, 1880 [PrD; IN; CI]

Records: Christoffersen (1979, 1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Viana (2005); Paiva *et al.* (2007); Alves *et al.* (2008) [all previous authors as *A. normanni*]; Almeida *et al.* (2008).

Occurrence: 02Is, 03Is, 06C, 17C, 18Ec, 20C, 25Ec, 26Ei, 28C, 37Sh, 38C, 38Sh, 41C, 50Sh, 60C, 61C, 67C.

Comments: *A. normanni* Kingsley, 1878 was restricted to the eastern Pacific (Kim & Abele 1988). Their western Atlantic specimens should be named again as *A. packardii* Kingsley, 1880 (Christoffersen 1998). The eastern Pacific material (Gulf of California to Panama, Galapagos) includes at least two species, one is *A. normanni*. *A. packardii* is a species complex which includes at least three species in the western Atlantic and two species in the eastern Pacific (Almeida *et al.* 2008).

079 - *Alpheus paracrinatus* Miers, 1881 [Abs; CI]

Records: Coelho-Filho (2006); Coelho *et al.* (2006); Alves *et al.* (2008).

Occurrence: 02Is, 55C.

080 - *Alpheus vanderbilti* Boone, 1930 [Abs; C]

Records: Ramos-Porto (2001) as *Alpheus cylindricus*; Coelho *et al.* (2006).

Occurrence: 35Sh.

Comments: *Alpheus cylindricus* Kingsley, 1878 was restricted to the tropical eastern Pacific. *Alpheus vanderbilti* Boone, 1930 was resurrected from the synonymy of *A. cylindricus*, occurring in the tropical western Atlantic, from Bermuda to Brazil, and in the tropical eastern Atlantic, around the islands of the Gulf of Guinea (Anker *et al.* 2008).

081 - *Alpheus websteri* Kingsley, 1880 [Abs; I]

Records: Pocock (1890) as *A. ridleyi*; Coelho & Ramos (1972); Fausto-Filho (1980); Ramos-Porto (2001); Coelho *et al.* (2006); Alves *et al.* (2008).

Occurrence: 02Is.

082 - *Automate evermanni* Rathbun, 1901 [PrS; IN; C→CI]

Records: Coelho & Ramos (1972) as *Automate* sp. A; Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Coelho-Filho (2006); Alves *et al.* (2008).

Occurrence: 02Is, 09Sh, 24Ec, 42C, 46Sh, 67C.

083 - *Leptalpheus axianassae* Dworschak & Coelho, 1999 [PrD; IN; C]

Records: Ramos-Porto & Souza (1994); Ramos-Porto (2001); Santos & Coelho (2001); Coelho *et al.* (2002, 2006) [all previous authors as *L. petronii*]; Anker *et al.* (2006).

Occurrence: 15Ec, 26Ec, 26Ei.

Comments: Anker *et al.* (2006) placed *Leptalpheus petronii* Ramos-Porto & Souza, 1994 in the synonymy of *Leptalpheus axianassae* due to invalid description.

084 - *Metapheus rostratipes* (Pocock, 1890) [PrS; SN; I]

Records: Pocock (1890) as *Alpheus rostratipes*; Coelho & Ramos (1972); Fausto-Filho (1980); Christoffersen (1998); Coelho *et al.* (2002, 2006); Alves *et al.* (2008).

Occurrence: 02Is.

085 - *Salmoneus arubae* Schmitt, 1936 [Abs; I]

Records: Alves (1993); Alves & Ramos-Porto (1994); Ramos-Porto (2001); Alves *et al.* (2008).

Occurrence: 02Is.

086 - *Salmoneus ortmanni* (Rankin, 1898) [PrS; IN; C]

Records: Coelho & Ramos (1972); Ramos-Porto (1980, 2001); Santos & Coelho (2001); Coelho *et al.* (2002, 2006); Vasconcelos-Filho *et al.* (2007).

Occurrence: 13Ec, 18Ec, 22Ec, 25Ec, 26Ec, 26Ei, 56C.

087 - *Synalpheus apioceros* Coutière, 1909 [PrS; IN; C]

Records: Gomes (1990); Viana & Ramos-Porto (1996); Carvalho *et al.* (1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006).

Occurrence: 17C, 35C, 49Sh.

Comments: Viana & Ramos-Porto (1996) indicated the presence of *S. apioceros* in the Pernambuco's continental shelf between the latitudes of 07°35'S and 08°52'S and the longitudes of 034°27'W and 034°48'W, and depths between 20 and 80 m, without specifying sampling location. The central reference of this area (49Sh) is used as representation. Coelho *et al.* (2002) mentioned *S. apioceros* in the Santa Cruz Channel without specifying the source of citation. As we did not find any other citations for the Santa Cruz Channel, we decided to restrict the presence of the species to confirmed citations. Coelho-Filho (2006), based on station 28 (Programa REVIZEE-NE III, 07.29°S-034.6°W, 42.5 m depth), accidentally mentioned *S. apioceros* as collected "Off Pernambuco", when the location is "Off Paraíba".

088 - *Synalpheus brevicarpus* (Herrick, 1891) [PrS; DN; C]

Records: Christoffersen (1979, 1998); Carvalho *et al.* (1998); Coelho *et al.* (2002, 2006).

Occurrence: 35C, 57Sh.

Comments: Coelho *et al.* (2002) mentioned *S. brevicarpus* in Santa Cruz Channel without specifying the source of the citation. As we did not find any confirmation for its presence in the Santa Cruz Channel, we decided to restrict the presence of the species to confirmed citations.

089 - *Synalpheus brooksi* Coutière, 1909 [PrS; IN; C→CI]

Records: Christoffersen (1979, 1998); Viana & Ramos-Porto (1996); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Coelho-Filho (2006); Alves *et al.* (2008).

Occurrence: 02Is, 49Sh, 50Sh, 57Sh, 59Sh.

Comments: Viana & Ramos-Porto (1996) indicated the presence of *S. brooksi* in the Pernambuco's continental shelf between the latitudes of 07°35'S and 08°52'S and the longitudes of 034°27'W and 034°48'W, and depths between 20 and 80 m, without specifying collection place. The central reference of this area (49Sh) is used as representation. Coelho-Filho (2006), based on the station 28 (Program REVIZEE-NE III, 07.29°S-034.6°W, 42.5 m depth), accidentally mentioned *S. brooksi* as collected "Off Pernambuco", when the location is "Off Paraíba".

090 - *Synalpheus fritzmuelleri* Coutière, 1909 [PrS; IN; CI]

Records: Bate (1888) as *Alpheus minus*; Christoffersen (1979); Holthuis *et al.* (1980); Gomes (1990); Coelho-Santos & Coelho (1995); Carvalho *et al.* (1998); Santos & Coelho (1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Viana *et al.* (2004); Silva (2006); Giraldes (2007); Almeida *et al.* (2008).

Occurrence: 01Is, 02Is, 17C, 20C, 35C, 42C, 44C, 46C, 50C, 53C, 60C, 61C, 65Ei, 67C.

Comments: Coelho *et al.* (2002) mentioned *S. fritzmuelleri* in Santa Cruz Channel without specifying the source of the citation. As we did not find any confirmation for its presence in the Santa Cruz Channel, we decided to restrict the presence of the species to confirmed citations.

091 - *Synalpheus longicarpus* (Herrick, 1891) [PrS; IN; C]

Records: Christoffersen (1979, 1998); Carvalho *et al.* (1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Giraldes (2007).

Occurrence: 35C, 50Sh, 57Sh, 60C.

092 - *Synalpheus minus* (Say, 1818) [PrS; DN; CI→C]

Records: Coelho & Ramos (1972); Gomes (1990); Viana & Ramos-Porto (1996); Carvalho *et al.* (1998); Christoffersen (1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Nascimento & Torres (2007).

Occurrence: 17C, 35C, 42C, 49Sh.

Comments: Viana & Ramos-Porto (1996) indicated the presence of *S. minus* in the Pernambuco's continental shelf between the latitudes of 07°35'S and 08°52'S and the longitudes of 034°27'W and 034°48'W, and depths between 20 and 80 m, without specifying collection place. The central reference of this area (49Sh) is used as representation. Coelho *et al.* (2002) mentioned *S. minus* in Santa Cruz Channel without specifying the source of the citation. As we did not find any confirmation for its presence in the Santa Cruz Channel, we decided to restrict the presence of the species to confirmed citations. The mentions of *S. minus* to São Pedro and São Paulo and to Fernando de Noronha, based on Bate (1888), refers to *S. fritzmuelleri* and the Pocock's (1890) mention of *Alpheus minor* Say, 1818 almost certainly belongs to *S. townsendi* Coutière, 1909 (Holthuis *et al.* 1980).

093 - *Synalpheus paraneptunus* Coutière, 1909 [Abs; I]

Records: Coelho-Filho (2006); Alves *et al.* (2008).

Occurrence: 02Is.

Comments: *S. paraneptunus* species complex was revised based on the type material and specimens from Dominica, Puerto Rico, Belize, Panama and other Caribbean localities. *S. paraneptunus* was restricted to the holotype from Morrosquillo (Colombia), five new species were described, and it was pointed that all previous records of *S. paraneptunus* must be considered questionable (Anker & Tøth 2008).

094 - *Synalpheus rathbunae* Coutière, 1909 [Abs; I]

Records: Coelho-Filho (2006); Alves *et al.* (2008).

Occurrence: 02Is.

095 - *Synalpheus sanctithomae* Coutière, 1909 [PrS; IN; CI]

Records: Christoffersen (1979, 1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Coelho-Filho (2006); Paiva *et al.* (2007); Alves *et al.* (2008).

Occurrence: 02Is, 03Is, 57Sh.

096 - *Synalpheus townsendi* Coutière, 1909 [PrS; IN; CI]

Records: Christoffersen (1979, 1998); Viana & Ramos-Porto (1996); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Coelho-Filho (2006); Paiva *et al.* (2007); Alves *et al.* (2008).

Occurrence: 02Is, 03Is, 35C, 49Sh, 57Sh.

Comments: Pocock's (1890) mention of *Alpheus minor* Say, 1818 almost certainly belongs to *S. townsendi* Coutière, 1909 (Holthuis *et al.* 1980). Viana & Ramos-Porto (1996) indicated the presence of *S. townsendi* in the Pernambuco's continental shelf between the latitudes of 07°35'S and 08°52'S and the longitudes of 034°27'W and 034°48'W, and depths between 20 and 80 m, without specifying collection place. The central reference of this area (49Sh) is used as representation. Coelho-Filho (2006), based on the station 28 (Program REVIZEE-NE III, 07.29°S-034.6°W, 42.5 m depth), accidentally mentioned *S. townsendi* as collected "Off Pernambuco", when the location is "Off Paraíba".

Family **Barbouriidae** Christoffersen, 1987

Comments: Christoffersen (1987) erected the family Barbouriidae to contain the genera *Barbouria* Rathbun, 1912, *Janicea* Manning & Hart, 1984 and *Parhippolyte* Borradaile, 1899 placing this family in the superfamily Crangonoidea Haworth, 1825. Martin & Davis (2001) treated this family as a member of the Alpheoidea because of the similarities to the alpheoid family Hippolytidae Dana, 1852.

097 - *Janicea antiguensis* (Chace, 1972) [PrS; SN; I]

Records: Ramos-Porto & Coelho (1991/93); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Alves *et al.* (2008).

Occurrence: 02Is.

Comments: Included in the family Hyppolytidae in the Initial List.

Family **Hippolytidae** Dana, 1852

Comments: *Hyppolyte* sp. and *Thor* sp., included in the Initial List, are not listed here because they were not counted as species in the Initial List. *Janicea antiguensis*, included as hippolytid in the Initial List, was transferred to family Barbouriidae.

098 - *Exhippolyasmata oplophoroides* (Holthuis, 1948) [PrS; IN; C]

Records: Coelho & Ramos (1968, 1973); Christoffersen (1979, 1998); Ramos-Porto & Oliveira (1984); Ramos-Porto (2001); Coelho *et al.* (2006).

Occurrence: 48C, 67C.

099 - *Hippolyte obliquimanus* Dana, 1852 [PrD; IN; C]
Records: Coelho & Ramos (1972) as *Hyppolyte* sp.; Coelho-Santos & Coelho (1995); Santos & Coelho (1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Viana (2005); Giraldes (2007); Nascimento & Torres (2007); Almeida *et al.* (2008).
Occurrence: 17C, 20C, 24Ec, 28C, 35C, 42C, 44C, 53C, 60C, 61C.
Comments: Listed as *H. curacaoensis* in the Initial List. Udekem d'Acoz (1997) placed *H. exilirostratus* Dana, 1852 and *H. curacaoensis* Schmitt, 1924 in synonymy junior of *H. obliquimanus*.

100 - *Latreutes fucorum* (Fabricius, 1798) [PrS; IN; C]
Records: Coelho & Ramos (1972); Fausto-Filho (1980); Ramos-Porto (1980, 2001); Christoffersen (1998); Coelho *et al.* (2002, 2006).
Occurrence: 06Sh, 08Sh, 09Sh, 10Sh, 17C, 24Ec.

101 - *Latreutes parvulus* (Stimpson, 1866) [PrS; IN; C→CI]
Records: Coelho & Ramos (1972); Fausto-Filho (1980); Ramos-Porto (1980, 2001); Christoffersen (1998); Coelho *et al.* (2002, 2006); Viana (2005); Giraldes (2007); Nascimento & Torres (2007); Vasconcelos-Filho *et al.* (2007); Alves *et al.* (2008).
Occurrence: 02Is, 05C, 06Sh, 07C, 09C, 10C, 11Ei, 15Ec, 17C, 20C, 22Ec, 24Ec, 25Ec, 26Ei, 28C, 33C, 34C, 35C, 42C, 44C, 60C, 67C.

102 - *Lysmata amboinensis* De Man, 1888 [PrS; SN; I]
Records: Holthuis *et al.* (1980); Coelho *et al.* (2002, 2006); Silva (2006).
Occurrence: 01Is.

103 - *Lysmata bahia* Rhyne & Lin, 2006 [PrD; IN; C]
Records: Gomes (1990); Ramos-Porto & Coelho (1991/93); Ramos-Porto (2001); Coelho *et al.* (2002, 2006).
Occurrence: 17C, 42C, 56C.
Comments: The distribution of *Lysmata wurdemanni* (Gibbes, 1850) was restricted, excluding Brazil. The species *L. bahia* was described from the Brazilian material mentioned as *Hippolysmata* or *Lysmata wurdemanni* by Chace (1972), Coelho & Ramos (1972), Williams (1984) and Christoffersen (1998) (Rhyne & Lin 2006).

104 - *Lysmata intermedia* (Kingsley, 1878) [PrS; IN; C]
Records: Ramos-Porto *et al.* (1994/95); Carvalho *et al.* (1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006).
Occurrence: 35C, 60C.

105 - *Lysmata rathbunae* Chace, 1970 [PrS; SN; C]
Records: Austregésilo-Filho (1992); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Giraldes (2007).
Occurrence: 60C.
Comments: The species *Lysmata pedersenii* Rhyne & Lin, 2006 was described from the material of shallow water sponge dwelling "variety" mentioned as *L. rathbunae* by Chace (1970). Are probably erroneous all the records of *L. rathbunae* different from those of Chace (1970, 1972, excluded "variety") and Williams (1984). *L. rathbunae* is found in relatively deep waters (usually below 30 m). The specimens identified as *L. rathbunae* collected in shallow waters (<15 m) are probably misidentified and should be reexamined (Rhyne & Lin 2006). Ramos-Porto (2001) registered the manual collection of *L. rathbunae* (16 specimens) in shallow water. These remarks indicate the need to reexamine the material from Pernambuco.

106 - *Merguia rhizophorae* (Rathbun, 1900) [PrS; IN; C]
Records: Coelho (1965/66a); Coelho *et al.* (1970, 2002, 2006); Coelho & Ramos (1972); Ramos-Porto (1980, 2001); Ramos-Porto & Coelho (1991/93); Christoffersen (1998); Santos & Coelho (2001).
Occurrence: 13Ec, 25Ec, 26Ei, 33Ei, 34C.

107 - *Thor amboinensis* (De Man, 1888) [Abs; I]
Records: Coelho-Filho (2006).
Occurrence: 02Is.

108 - *Thor dobkini* Chace, 1972 [Abs; C]
Records: Coelho *et al.* (2006).
Occurrence: 08C.

109 - *Thor manningi* Chace, 1972 [Abs; CI]
Records: Ramos-Porto & Coelho (1991/93) as *Thor* sp.; Ramos-Porto (2001); Coelho-Filho (2006); Almeida *et al.* (2008); Alves *et al.* (2008).
Occurrence: 02Is, 06C, 08C, 41C, 60C, 61C.

110 - *Tozeuma carolinense* Kingsley, 1878 [PrS; IN; C]
Records: Coelho (1967/69b); Coelho & Ramos (1972); Fausto-Filho (1980); Silva (1988); Silva *et al.* (1990); Ramos-Porto & Coelho (1991/93);

Christoffersen (1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Viana (2005).

Occurrence: 17C, 20C, 53C, 54C.

111 - *Trachycaris restricta* (A. Milne-Edwards, 1878) [PrS; IN; C→CI]

Records: Coelho & Ramos (1972); Fausto-Filho (1980); Ramos-Porto (1980); Ramos-Porto & Coelho (1991/93); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Coelho-Filho (2006); Alves *et al.* (2008).

Occurrence: 02Is, 09Sob.

Family **Ogyrididae** Holthuis, 1955

112 - *Ogyrides alphaerostris* (Kingsley, 1880) [Abs; C]

Records: Ramos-Porto (2001); Viana (2005); Coelho *et al.* (2006); Vasconcelos-Filho *et al.* (2007).

Occurrence: 20C, 22Ec, 26Ei.

113 - *Ogyrides hayi* Williams, 1981 [PrS; SN; C]

Records: Ramos-Porto (1980) as *O. alphaerostris*; Christoffersen (1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006).

Occurrence: 24Ec.

Comments: Christoffersen (1998) point out that all Brazilian references of *O. hayi* were given as *O. alphaerostris*.

Superfamily **Processoidea** Ortmann, 1890

Family **Processidae** Ortmann, 1890

114 - *Ambidexter symmetricus* Manning & Chace, 1971 [PrS; IN; C]

Records: Coelho & Ramos (1972) as *Ambidexter* sp.; Ramos-Porto (1977, 1980, 2001); Coelho-Santos & Coelho (1995); Santos & Coelho (1998); Coelho *et al.* (2002, 2006); Viana (2005); Nascimento & Torres (2007).
Occurrence: 17C, 19Sh, 20C, 25Ec, 26Ei, 28C, 42C, 44C, 56C.

115 - *Processa bermudensis* (Rankin, 1900) [Abs; CI]

Records: Coelho & Ramos (1972) as *Processa* sp. C; Alves (1993); Alves & Ramos-Porto (1994); Ramos-Porto & Santos (1996); Ramos-Porto (2001); Coelho *et al.* (2006); Alves *et al.* (2008).

Occurrence: 02Is, 34C.

116 - *Processa brasiliensis* Christoffersen, 1979 [PrS; IN; CI]

Records: Christoffersen (1979, 1998); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Cardoso & Young (2004, 2007); Coelho-Filho (2006); Paiva *et al.* (2007); Alves *et al.* (2008).

Occurrence: 02Is, 03Is, 50Sh.

117 - *Processa fimbriata* Manning & Chace, 1971 [PrS; IN; CI]

Records: Christoffersen (1979, 1998); Ramos-Porto & Santos (1996); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Cardoso & Young (2004, 2007); Coelho-Filho (2006); Giraldez (2007); Paiva *et al.* (2007); Alves *et al.* (2008).

Occurrence: 02Is, 03Is, 08C, 60C.

118 - *Processa vicina* Manning & Chace, 1971 [Abs; CI]

Records: Ramos-Porto & Santos (1996); Ramos-Porto (2001); Coelho *et al.* (2006); Alves *et al.* (2008).
Occurrence: 02Is, Pernambuco (collection place not specified).

Comments: Ramos-Porto (2001) and Coelho *et al.* (2006) just cited Ramos-Porto & Santos (1996) who mentioned *P. vicina* for Pernambuco without a specific location.

Superfamily **Pandaloidea** Haworth, 1825

Family **Pandalidae** Haworth, 1825

119 - *Heterocarpus ensifer* A. Milne-Edwards, 1881 [Abs; C]

Records: Oliveira (2005).

Occurrence: 37Sob.

120 - *Heterocarpus laevigatus* Bate, 1888 [Abs; C]

Records: Viana *et al.* (2007).

Occurrence: 67Sob.

121 - *Heterocarpus oryx* A. Milne-Edwards, 1881 [Abs; C]

Records: Cabral *et al.* (2000); Ramos-Porto (2001); Coelho *et al.* (2006); Viana *et al.* (2007).

Occurrence: 37Sob.

Comments: Cabral *et al.* (2000) and Ramos-Porto (2001) cited Program REVIZEE Score Northeast, cruise 5, stations 117 (490 m depth) and 118 (114 m depth). According to Hazin (2009) these stations were

made in profile on the latitude 08°S, following the bathymetric range of the continental slope.

122 - *Plesionika edwardsii* (Brandt, 1851) [Abs; C]

Records: Cabral *et al.* (2000); Ramos-Porto (2001); Coelho *et al.* (2006); Viana *et al.* (2007).

Occurrence: 37Sob.

Comments: Cabral *et al.* (2000) and Ramos-Porto (2001) cited Program REVIZEE Score Northeast, cruise 1, stations 17 (95 m depth) and 20 (200 m depth) and cruise 4, stations 86 (238 m depth), 89 (332 m depth) and 94 (270 m depth). According to Hazin (2009) these stations were made along a profile along the latitude of 08°S, following the bathymetric range of the continental slope.

123 - *Plesionika escatilis* (Stimpson, 1860) [Abs; C]

Records: Viana *et al.* (2007).

Occurrence: 68Sob.

Superfamily **Crangonoidea** Haworth, 1825

Family **Glyphocrangonidae** Smith, 1884

124 - *Glyphocrangon aculeata* A. Milne-Edwards, 1881 [PrS; SN; C]

Records: Bate (1888); Moreira (1901); Coelho & Ramos (1972); Ramos-Porto (2001); Coelho *et al.* (2002, 2006); Komai (2004); Serejo *et al.* (2007).

Occurrence: 63Sob.

Numerical distribution of species richness

The present study has considerably increased the number of shrimp species for the study area, from

82 (Initial List) to 124, totalling an increase of 51% in relation to the initial number of species.

Caridea presented the largest species richness (93), followed by Dendrobranchiata (28) and Stenopodidae (3). Among the 22 families, the ones that presented highest species richness were: Alpheidae (34); Palaemonidae (22); Hippolytidae (14); Penaeidae (11) and Sergestidae (8).

This updated list increases 42 species to the Initial List. Among the 82 initial species, sixteen maintained its number of mentioned places, two decreased (*Synalpheus brevicarpus* and *S. minus*) and 64 increased their distribution within the study area. Of these 64 species, thirteen had also expanded their areas of occurrence. Three species initially mentioned in "I" are now in "CI" (*Lucifer typus*, *Microprosthema semilaeve*, *Alpheus cristulifrons*) and ten initially in "C" are now in "CI" (*Metapenaeopsis martinella*, *Cinetorhynchus rigens*, *Anchistioides antiguensis*, *Cuapetes americanus*, *Alpheus armillatus*, *A. macrocheles*, *Automate evermanni*, *Synalpheus brooksi*, *Latreutes parvulus*, *Trachycaris restricta*).

Comparing the current status of major groups with the Initial List (Coelho *et al.* 2002), the same sequence of species richness among the groups (Caridea–Dendrobranchiata–Stenopodidae) can still be observed. Comparing Coelho *et al.* (2002, 2006) with the current number of species, Stenopodidea remained without changes, Dendrobranchiata increased by 56% and 12% respectively, while Caridea species increased 52% and 27% respectively (Figure 2).

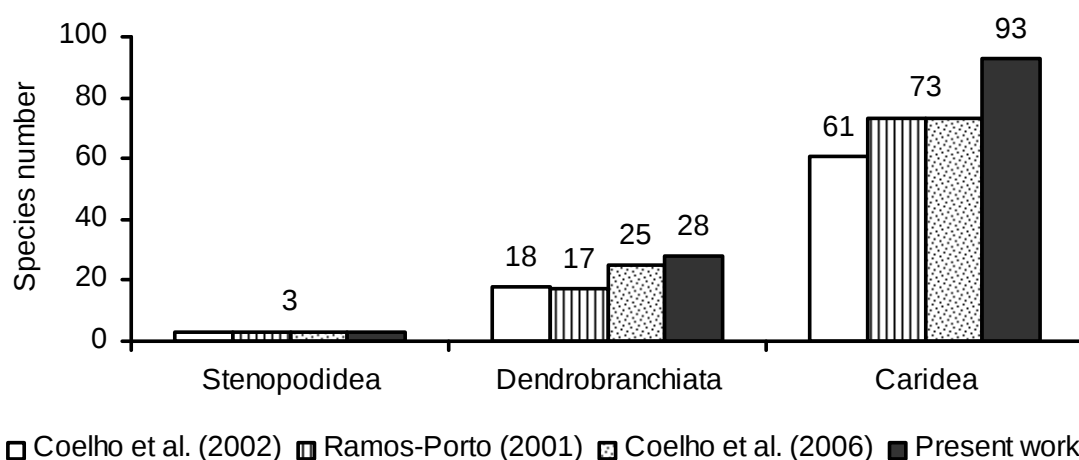


FIGURE 2 – Numeric variation of shrimps species by group and author at Pernambuco State and Northeastern Brazilian oceanic islands.

Luciferidae and Sicyoniidae remained without changes. Sergestidae presented the more expressive species increase. The current contribution of the

families Sergestidae and Penaeidae in the suborder Dendrobranchiata reaches 68%, 29% and 39% each, respectively (Figure 3).

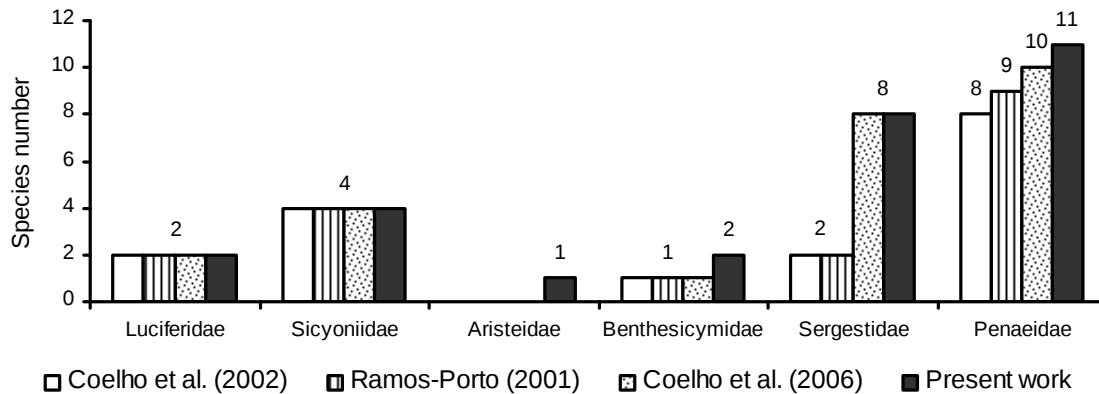


FIGURE 3 – Numeric variation of Dendrobranchiata species by family and author at Pernambuco State and Northeastern Brazilian oceanic islands.

Among the 14 mentioned families of the infraorder Caridea, seven (Disciadidae, Pandalidae, Ogyrididae, Processidae, Hippolytidae, Palaemonidae and Alpheidae) increased its number of mentioned species. Comparing Coelho *et al* (2002, 2006) with the current number of species, Hippolytidae increased by 27% and 17%, respectively, Palaemonidae

increased by 69% (both) and Alpheidae increased by 42% and 17%, respectively. The current contribution of the families Hippolytidae, Palaemonidae and Alpheidae in the infraorder Caridea reaches a total of 75%, contributing 15%, 23.5% and 36.5% of the caridean species, respectively (Figure 4).

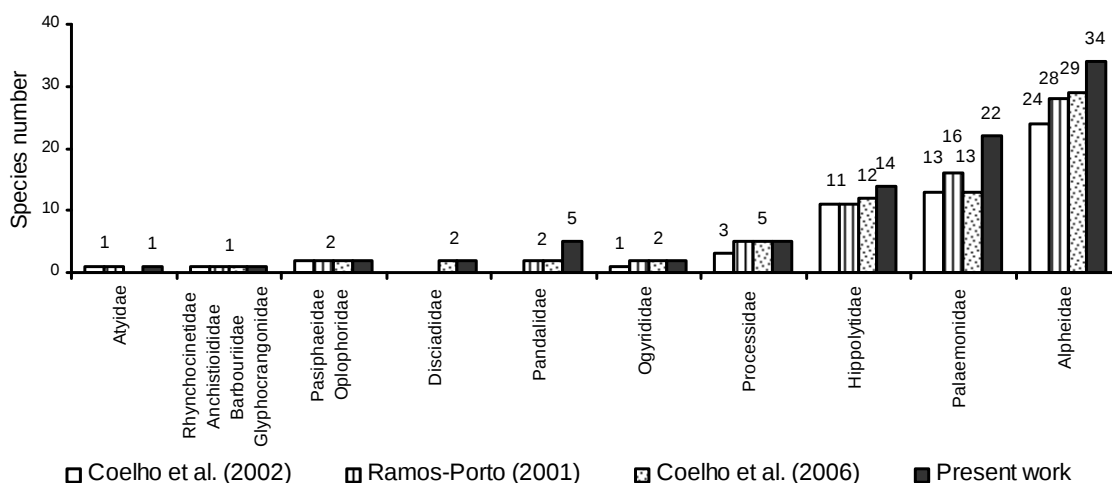


FIGURE 4 - Numeric variation of Caridea species by family and author at Pernambuco State and Northeastern Brazilian oceanic islands.

DISCUSSION

The increase in species number in the present study is mostly due to an increase in sampling effort, which resulted in new literature, including theses and other locally available publications. However, of the 42 species added here, there are seven in which their inclusion in our study is due to a correction of the location of the respective lots and, consequently in their occurrences, as described as below.

D'Incao (1995a, 1999) mentioned *Funchalia danae* as present off Rio Grande do Norte (03°00'S-026°16'W; 06°06'S-027°00'W) based on lots FURG-1574, FURG-1575 and INIDEP-700, whose coordinates are correct. Revising the geographical positioning we observed that 03°00'S-026°16'W, in agreement with proposed in this work, corresponds to a position off Fernando de Noronha, reason by which it is now mentioned at this location.

Regarding *Eusergestes arcticus*, D'Incao (1995a) mentioned *Sergestes arcticus* as present off São Pedro and São Paulo Islands, Pernambuco, Sergipe and Alagoas states based on lots INIDEP-1321, INIDEP-1324 and INIDEP*. Revising Boschi (1968), D'Incao (1992) and Kraus (2009), is observed that: Lot INIDEP-1321 doesn't refer to the station 12/II of the Walther Herwig Expedition, but to the station 19/III (09°54'S-027°11'W), corresponding to a position off Alagoas State; Lot INIDEP-1324 (03°09'S-026°19'W) has the correct coordinates but, in agreement with proposed by this work, its place is off Fernando de Noronha, reason by which it goes mentioned this way; Lot INIDEP* is at a correct station (13/II), however its coordinates are not 08°21'S-024°10'W but 08°21'N-024°10'W, corresponding to off Sierra Leone (Africa).

Parasergestes armatus was mentioned (as *Sergestes armatus*) by D'Incao (1995a) as present on São Pedro and São Paulo based on lots INIDEP-566, INIDEP-1015, FURG-1738, FURG-1743 and present on Africa based on lots FURG-1064, FURG-1761, FURG-1753. Revising on Boschi (1968), D'Incao (1992) and Kraus (2009), it is observed that: Lots INIDEP-566, INIDEP-1015 and FURG-1743 are referred to the correct stations (13/I, 14/II and 18/II), however its coordinates are not 08°29'S-024°07'W, 04°11'S-024°39'W and 06°04'S-026°32'W but 08°29'N-024°07'W, 04°11'N-024°39'W and 06°04'S-

026°56'W, corresponding to off Sierra Leone, off Liberia (Africa) and off Rio Grande do Norte State respectively; Lots FURG-1738 (06°06'S-027°00'W) and FURG-1753 (00°20'N-025°20'W) have the correct coordinates but its positions are off Rio Grande do Norte State and off São Pedro and São Paulo respectively.

Sergia grandis was mentioned by D'Incao (1995a) as present off São Pedro and São Paulo Islands, based on lots INIDEP-1317 (03°00'S-026°16'W), INIDEP* (03°00'S-026°16'W) and FURG-1737 (06°06'S-027°00'W). Coelho *et al.* (2006) also mentioned it based on D'Incao (1995a). Revising the geographical position, we observed that 03°00'S-026°16'W corresponds to off Fernando de Noronha and 06°06'S-027°00'W corresponds to off Rio Grande do Norte State.

Sergia potens was mentioned by D'Incao (1995a) as present off São Pedro and São Paulo Islands based on lot FURG-1736 (03°09'S-026°19'W). Coelho *et al.* (2006) also mentioned it based on D'Incao (1995a). Revising the geographical position, we found that 03°09'S-026°19'W corresponds to off Fernando de Noronha.

Sergia regalis (as *S. creber*) was mentioned by D'Incao (1995a) as present off São Pedro and São Paulo Islands, based on lots INIDEP-562 (03°00'S-026°16'W), FURG-1741 (06°04'S-026°56'W), INIDEP-988 (06°04'S-026°56'W), FURG-1740 (06°06'S-027°00'W), INIDEP-989 (06°06'S-027°00'W) and INIDEP* (10°00'S-027°12'W). This author also mentioned it off West Africa, based on lots FURG-1752 and INIDEP-990 (00°20'N-025°20'W, both). Revising the geographical position, we observed that 03°00'S-026°16'W corresponds to off Fernando de Noronha, 06°04'S-026°56'W and 06°06'S-027°00'W corresponds to off Rio Grande do Norte State, 10°00'S-027°12'W corresponds to off Alagoas State and 00°20'N-025°20'W corresponds to off São Pedro and São Paulo.

Sergia splendens was mentioned by D'Incao (1995a) as present off São Pedro and São Paulo Islands, based on lots FURG-1706 (00°20'N-025°20'W), INIDEP* (00°20'N-025°20'W), FURG-1742 (06°04'S-026°52'W) and INIDEP* (10°00'S-027°12'W). Coelho *et al.* (2006) also mentioned it based on D'Incao (1995a). Revising the geographical

position, we observed that 00°20'N-025°20'W corresponds to off São Pedro and São Paulo, 06°04'S-026°52'W corresponds to off Rio Grande do Norte State and 10°00'S-027°12'W corresponds to off Alagoas State.

On the other hand, we omitted the ten species below, in spite of having been mentioned for the study area.

In contrast to previous studies (D'Incao, 1995a, Ramos-Porto, 2001, and Coelho *et al.*, 2006), we consider that *Gennadas bouvieri* Kemp, 1909 does not occur in the study area. We conclude that the inclusion of this species is due to a mistaken synonymy in D'Incao (1995a), that has been replicated by Ramos-Porto (2001) and Coelho *et al.* (2006). This can be demonstrated as follows: Bate (1881) created the genus *Gennadas* and the species *Gennadas parvus* based on Challenger Expedition collections. Bate (1888), also based on Challenger Expedition collections, created the species *Gennadas intermedius* (without specimens from Brazilian waters) and, among the specimens of *G. parvus*, listed only one specimen from oceanic waters off Brazil (station 120: 08°37'S-034°28'W; "Off Pernambuco"; 675 fathoms = 1234 m). Moreira (1901) mentioned *G. parvus* referring to the collection in Bate (1888). Kemp (1909), revising the *Gennadas* collected in the Challenger Expedition, corrected the identification of the exemplar of station 120 to the species *G. intermedius* and created the species *Gennadas bouvieri* from the *G. parvus* specimens collected in Manila and New Guinea. Burkenroad (1936) accepted *G. bouvieri* and *G. parvus* (as restricted by Kemp 1909) and created the genus *Bentheogennema*. The new genus excluded *G. parvus* and included *G. intermedius*, placing the second in synonymy of *Bentheogennema intermedia* (Bate, 1888). Crosnier & Forest (1973) mentioned *B. intermedia* referring to the specimen from station 120. Ramos-Porto *et al.* (1987/89) mentioned *B. intermedia* based on Crosnier & Forest (1973). D'Incao (1995a), based on bibliography, mentioned *B. intermedia* referring, clearly, to station 120 and also mentioned *G. bouvieri* as obtained by the Challenger Expedition off Brazil. Pérez-Farfante & Kensley (1997) accepted *Gennadas bouvieri* Kemp, 1909 and *Gennadas parvus* Bate, 1881 (both without specimens from Brazilian waters)

and also *B. intermedia* (as proposed by Burkenroad 1936) mentioning it for the Brazilian coast. Ramos-Porto (2001) also mentioned *B. intermedia* and *G. bouvieri* based on D'Incao (1995a). Coelho *et al.* (2002) mentioned *G. parvus* based on Bates (1888). Coelho *et al.* (2006) also mentioned *B. intermedia* and *G. bouvieri* based on D'Incao (1995a). Our bibliographical revision, as just described, clarifies that the citation of *G. bouvieri* for Brazilian waters, based on Challenger Expedition collections, doesn't find support in any author previous to D'Incao (1995a). Probably, the confusion happened with the accidental inclusion of *G. parvus*, mentioned by Moreira (1901), as synonymy of *G. bouvieri*.

Regarding *Artemesia longinaris*, Coelho *et al.* (2006) mentioned it in the area "IB" based on Bate (1888), who mentioned the species off Fernando de Noronha, based on a single fragment of shrimp pleon, considered as doubtful by the author. Considering the identification based on a single pleon fragment, the time elapsed without any confirmation of the record, and the easiness of collecting this species, we consider the identification as erroneous.

Coelho *et al.* (2002) included *Farfantepenaeus notialis* in area "C". However, D'Incao (1995a) identified all specimens of *F. notialis* available in the Collection of the Department of Oceanography of the Federal University of Pernambuco, including those of Coelho & Ramos (1968, 1972), Coelho *et al.* (1980), Ramos-Porto (1980), Ramos-Porto *et al.* (1987/89), Souza (1988), Coelho & Santos (1990) and Coelho *et al.* (1990), as *Farfantepenaeus subtilis* (Pérez-Farfante, 1967). D'Incao (1995a) agreed with Pérez-Farfante (1967) and Fausto-Filho (1968) in maintaining the limit of the distribution of *F. notialis* at northern coast of Brazil, reaching the State of Maranhão. Ramos-Porto (2001) and Coelho *et al.* (2006) didn't mention *F. notialis* for Pernambuco. Therefore, we also opted to not mention *F. notialis* for Pernambuco State.

Regarding *Funchalia villosa*, D'Incao (1995a, 1999) mentioned it as present off Fernando de Noronha (04°56'S-033°00'W) based on lot FURG-1687 ("Walter Herwig", sta. 3/I, 160m). Ramos-Porto (2001), Coelho *et al.* (2006), Serejo *et al.* (2007) mentioned *F. villosa* based on D'Incao (1995a, 1999). Alves *et al.* (2008) also mentioned it based on Serejo

et al. (2007). Revising the label lot FURG-1687, Boschi (1968), D'Incao (1992) and Kraus (2009), verified that the station 3/I (160 m) from 16/01/1968, is actually located at the coordinates 41°03'N-011°09'W (Off Porto, Portugal), for this reason we decided to not mention *F. villosa* in this work.

Regarding *Deosergestes curvatus*, D'Incao (1995a) mentioned *Sergestes curvatus* as present off Fernando de Noronha based on lot FURG-1709 ("Walther Herwig Expedition", sta. 145, 19°05'S-038°55'W) and off São Pedro and São Paulo based on lots FURG-1739 and FURG-1803 ("Walther Herwig Expedition", sta. 18/III both lots, 06°06'S-027°00'W). Ramos-Porto (2001) and Alves *et al.* (2008) also mentioned it based on D'Incao (1995a). Revising the labels of the lots, Boschi (1968), D'Incao (1992) and Kraus (2009), we verified that: station 145 (05/04/1968), is actually located at the coordinates 22°01'S-040°36'W (Off Rio de Janeiro State, Brazil); station 18/III (04/02/1968) is with correct coordinates but we found that its location is off Rio Grande do Norte State, for this reason we decided to not mention *D. curvatus* in this work.

Regarding *Deosergestes henseni*, D'Incao (1995a) mentioned *Sergestes henseni* as present in São Pedro and São Paulo based on lot FURG-1744 ("Walther Herwig" Expedition, sta. 18/II, 06°04'S-026°52'W), whose coordinates are, in fact, 06°04'S-026°56'W. Coelho *et al.* (2006) also mentioned it based on D'Incao (1995a). Revising the geographical position, we observed that it corresponds to off Rio Grande do Norte State, reason by which we decided to not mention *D. henseni* in this work.

Sergia extenuata was mentioned by D'Incao (1995a), for the first time for Brazilian waters, off São Pedro and São Paulo based on lot INIDEP* (09°43'S-027°07'W). Coelho *et al.* (2006) also mentioned it based on D'Incao (1995a). Revising the geographical position, we observed that 09°43'S-027°07'W corresponds to off Alagoas State, reason by which we decided to not mention *S. extenuata* in this work.

Sergia robusta was mentioned by D'Incao (1995a), for the first time in Brazilian waters. Coelho *et al.* (2006), based on D'Incao (1995a), also mentioned it. D'Incao (1995a) mentioned it in São Pedro and São Paulo in the item "Distribution", but the respective lot is not mentioned in the item "Records

and examined material" nor the FURG Collection presents the corresponding lot. Reason by which *S. robusta* won't be mentioned in this work.

Lipkebe holthuisi was mentioned by Ferreira (2009) as present on Pernambuco based on Ramos-Porto & Coelho (1990) who proposed its Brazilian distribution (until Rio de Janeiro) based on material from Pará and Espírito Santo states and on Fausto-Filho (1980 **apud** Ramos-Porto 1986). Fausto-Filho (1980) mentioned *L. holthuisi* in Pernambuco without specifying any source or location. Ramos-Porto (2001) and Coelho *et al.* (2002, 2006) didn't mention *L. holthuisi* on Pernambuco. As were not found any other citations to Pernambuco, we decided to not mention *L. holthuisi* in this work.

Regarding *Alpheus simus*, Coelho *et al.* (2006) mentioned as *Thunor rathbunae* in "IB" without specifying the source of the citation. As citations were not found for IB, we decided not to mention *A. simus* in this work.

In spite of the general increment of 5 families, there was the real increment of only two families (Disciadidae and Pandalidae) and respective superfamilies (Bresilioidea and Pandalioidea) due to the citation of species added to the Initial List. The family Benthescymidae is mentioned now due to transference of *Bentheogennema intermedia* (Initial List = *Gennadas parvus*, Aristaeidae) and the citation of *Gennadas brevirostris* (Initial List = absent). In spite of losing its only species in the Initial List, Family Aristaeidae is maintained due to the citation of *Aristaeomorpha foliacea* (Initial List = absent). The families Anchistodidae and Barbouriidae are mentioned now due to the transference of *Anchistoides antiguensis* from Palaemonidae and *Janicea antiguensis* from Hyppolytidae, respectively.

The contribution of the infraorder Stenopodidea is effectively the smallest among the major groups (Figure 2). Such a situation indicates that the habitats currently sampled by dredge or trawl surveys (which usually are wide and of open access), have a small number of stenopodid species. On the other hand, it indicates the need of new sampling strategies (e.g sampling by scuba diving in remote locations) for a better representation of this group in the area, especially in small and cryptic habitats.

Dendrobranchiata (Figures 2 and 3) and

Caridea (Figures 2 and 4), differently from Stenopodidae, show an effective increase in new citations, but many of their families remain relatively stable. New samplings at the external continental shelf, on the continental slope and oceanic areas (bottom and water column) may reveal new species for the area.

Among the 124 mentioned species, 62 (50%) were mentioned only in the area "C", 31 (25%) just in the area "I" and 31 (25%) in both areas, totaling 93 in "C" and 62 in "I". The value 25 of the Jaccard's similarity index (Jaccard 1901) relating these two areas based on the presence/absence of the species indicates that the respective groups of species are much more dissimilar than similar, confirming the difference of composition and diversity characteristics between these two areas. In view of the complicated logistics involved in surveys in remote oceanic islands, the smallest species richness in the area "I" was probably also due to sub-sampling in relation to area "C".

Coelho *et al.* (2006) mentioned that the Brazilian shrimp fauna of the Northern (tropical humid) and Northeastern (semi-arid) coasts is still poorly known, e.g. when compared to the Caribbean coast of Colombia (Campos *et al.* 2003). They also consider that the shrimp fauna off Pernambuco is the best known among the northeast Brazilian States.

Campos *et al.* (2003) reported 150 shrimp species for the Caribbean coast of Colombia; which is 1642 km long (INVEMAR 2005) and more diversified in habitats than Pernambuco, with an extension of only 187 km (CONDEPE 2007). In spite of the difference in spatial extension, the general increasing tendency in marine species richness from the south Atlantic towards the Caribbean, and the fact that the Caribbean is one of the most diverse regions of our planet, the species richness found here (124 species) is, even though slightly smaller, in the same order of magnitude as in Campos *et al.* (2003). Thus, the shrimp fauna in the study area may be considered as highly species-rich, a further argument for the conservation of estuarine and coastal habitats in the region.

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