

RESEARCH ARTICLE

## Catalogue of Sponges, Cnidarians, and Echinoderms From Brazil Based on a Historical Inventory of the Invertebrate Collection Paulo Young (CIPY)

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### Abstract

Scientific collections represent a highly relevant social legacy. They provide a source for research and production of human resources at several academic levels and play a key role for the preservation of biodiversity. The Invertebrate Collection Paulo Young (CIPY), held at the Universidade Federal da Paraíba (UFPB), contains one of the most complete collections of shallow water marine invertebrates from Northeastern Brazil. It contains about 18,000 catalogued samples, and circa 2-3 times more samples awaiting identification and registration. The samples were collected in a variety of natural and artificial marine environments (e. g., coastal reefs, mangroves, and shipwrecks). The main collection is subdivided into seven main groups (Porifera, Cnidaria, Mollusca, Annelida, Crustacea, Echinodermata, and Ascidiacea), and other smaller groups (Bryozoa, Echiura, Sipuncula, Pycnogonida, Enteropneusta, and marine Turbellaria). Using only identified and registered samples, we catalogued 285 species among the phyla Porifera (89 spp.), Cnidaria (93 spp.), and Echinodermata (103 spp.). The collection has 36 types of species (including three Porifera, one Cnidaria, and four Echinodermata). Considering its representativeness, this collection has a valuable record of Brazilian national marine diversity. Thus, the CIPY deserves to be known, recognized, and made available for study.

**Keywords:** Zoological collections, biodiversity, benthos, conservation, North-eastern Brazil

### Introduction

Scientific collections have been a vital part of scientific knowledge for centuries. They play a crucial role in fields lying at the forefront of the biological sciences. These include the study of biodiversity and its losses, biological invasions, global climate change, and reconstructions of evolutionary patterns and processes (Shaffer *et al.*, 1998; Suarez & Tsutsui, 2004; Pyke & Ehrlich, 2010; Bi *et al.*, 2013; Gomes *et al.*, 2016). In Brazil, the Imperial Museum (later the Museu Nacional do Rio de Janeiro) held the

first scientific collection in the country, founded in 1818. It appeared as an initiative of Emperor Dom João VI (Carvalho, 1988; Zaher & Young, 2003). But, only in the second half of the nineteenth century did an expansion of natural history museums occur in the country (Possamai *in Andrade*, 2018). The XXth century has been considered the century of museums in Brazil (Chagas, 2009). Presently, the zoological collections of the country are basically concentrated in museums (e. g., the Museu Nacional do Rio de Janeiro - MNRJ, Museu Paraense Emílio Goeldi - MPEG, Museu de Zoologia da

Universidade de São Paulo – MZUSP), institutes (e. g., Instituto Butantan) and, mainly, in departments of public universities. This last category includes collections without the status of museums, and are usually associated with laboratories (Marinoni *et al.*, 1988).

The Invertebrate Collection Paulo Young (CIPY) was officially created in the 90s. Originally, it was known as the Collection of Marine Invertebrates. The origin of this collection, however, dates from the year 1977. It was organized in response to the demand of biology professors and students from the Departamento de Sistemática e Ecologia (DSE), at the Universidade Federal da Paraíba (UFPB) (João Pessoa, Paraíba State). During this period attempts to investigate and catalogue the biodiversity in Northeast Brazil were just starting. The first collections organized were those of Crustacea and Mollusca, by the researchers Dr Maria da Conceição Quintino Farias and Dr Maria Priscila Muniz Djick, respectively. Between 1981 and 1982, the CIPY was significantly increased, both in number of specimens and in diversity of taxa, as the result of a National Zoology Program – “Project Fauna”, financed by the CNPq (Conselho Nacional de Desenvolvimento Científico e Tecnológico), under the supervision of Dr Martin L. Christoffersen. During this project, marine macroinvertebrates were systematically collected along the beaches from the State of Maranhão to Bahia (01°02'N 18°20'S), including Abrolhos Archipelago (Bahia). As a result, the CIPY obtained the most representative faunal samples from North-eastern Brazil.

Since this foundation, several marine invertebrates have been constantly added to the collection, as a result of research projects developed by professors and students of the Universidade Federal da Paraíba. Other material has been obtained by donations from Brazilian researchers or in exchanges with other national and international institutions. This collection also houses material of selected zoological groups (e. g., Mollusca and Echinodermata) dredged by important oceanographical expeditions such as Geomar, Akaroa, and Project Algas-PB.

Despite its relevance, the CIPY was neglected for many years. Under the initiative of Dr Carmen Alonso Samiguel, its material was recovered and revitalized. After her retirement in 2012, the responsibility for curatorship returned to Dr M. L. Christoffersen. The name of the collection is an homage to Dr Paulo Secchin Young (MN/UFRJ), who significantly contributed to the expansion of the collection during the period in which he completed his Master's degree in the Programa de Pós-Graduação em Zoologia (PPGCB) of UFPB. The CIPY

integrates the national CGEN (Conselho de Gestão do Patrimônio Genético/Proc. N°02000.002852/2002-37). The collection has more than 18,000 registered samples and several samples 2-3 times larger awaiting identification and registration. The collection has seven main sub-collections (Porifera, Cnidaria, Mollusca, Annelida, Crustacea, Echinodermata, and Ascidiacea) and other smaller collections (Bryozoa, Echiura, Sipuncula, Pycnogonida, Enteropneusta, and marine Turbellaria). The collection houses mainly marine animals, but freshwater specimens of Porifera, Mollusca, Crustacea, and Annelida, and terrestrial specimens of the three latter groups are also represented. These units vary in geographic scope. There are collections with international, national, and regional coverage. The CIPY is a unique collection in the country, being the only one to have systematically surveyed the entire north-eastern region (from the north of Maranhão to the south of Bahia). This area represents 42.5% of the entire Brazilian littoral zone (Gondim *et al.*, 2014a). Currently, part of the collection is stored in mobile compact shelves in an air-conditioned room. The entire collection is organized according to the taxonomy of each zoological group. In addition, the collection is catalogued in Microsoft Excel spreadsheets and hosted in a cloud saved service.

Considering the importance of disclosing and expanding access to the material contained in the CIPY, we provide an annotated catalogue of the Porifera, Cnidaria, and Echinodermata deposited in this collection. We further discuss the main requirements and demands of Brazilian scientific collections in general. Additionally, we also provide a summary list of the types of species housed in the CIPY.

## Material and Methods

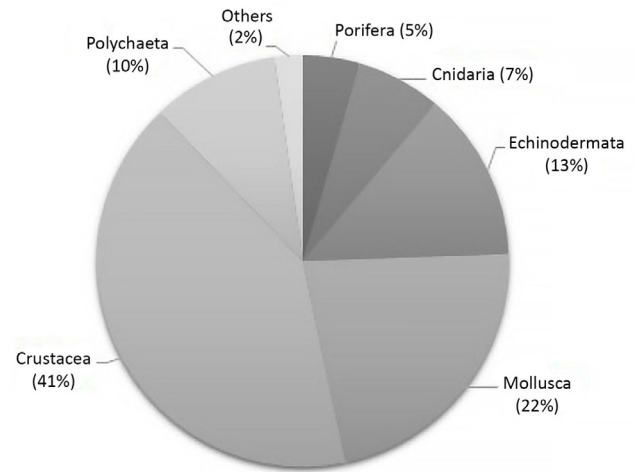
The information used herein was obtained from consulting book logs, revising samples deposited in the CIPY, and from published information on the material in this collection (Gondim *et al.*, 2008, 2010, 2011, 2012, 2013a, b, c 2014a, b, 2015a, b, 2018a, b; Prata & Christoffersen, 2016, 2017; Prata *et al.*, 2014a, 2017, 2020; Santos & Pinheiro, 2013, 2016; Barros *et al.*, 2013). For each taxon we provide the state in which they were found (MA, Maranhão; PI, Piauí; CE, Ceará; RN, Rio Grande do Norte; PB, Paraíba; PE, Pernambuco; AL, Alagoas; SE, Sergipe; BA, Bahia. A few extralimital records are also indicated: PA, Pará, in Northern Brazil; and ES, Espírito Santo, RJ, Rio de Janeiro and SP, São Paulo, in the

Southeastern Region). In addition, voucher numbers, data on habitat, depth and ecological information contained in the field label were included.

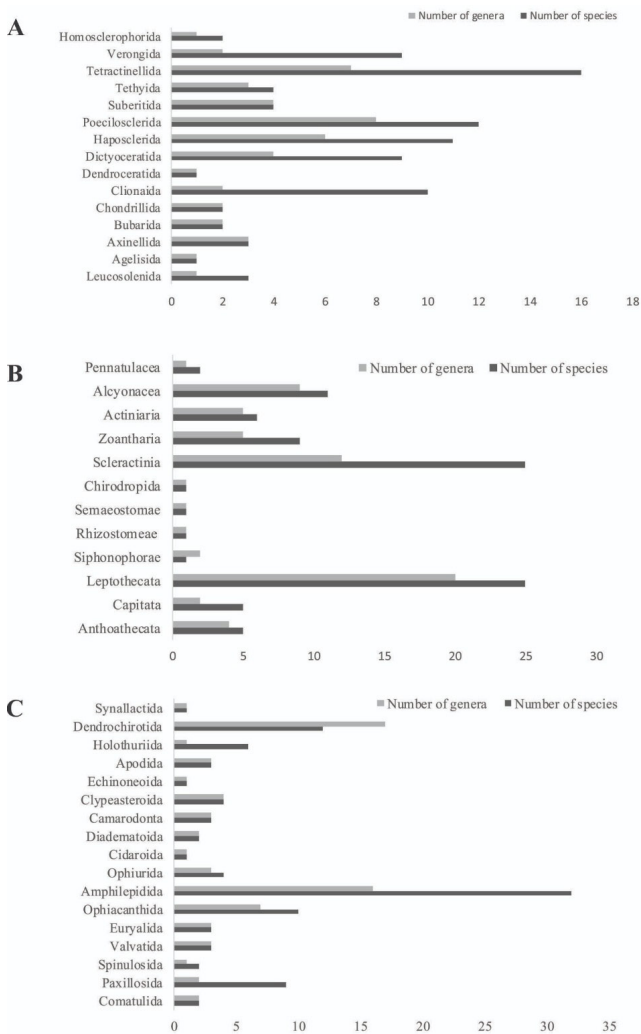
The taxonomic list is organized systematically according to specialized literature and online resources, such as the Porifera Database (Van Soest *et al.*, 2020), World List of Scleractinia (Hoeksema & Cairns, 2020), World Register of Marine Species: WoRMS (2020), Asteroidea DataBase (Mah, 2020), World Echinoidea Database (Kroh & Mooi, 2020), and Ophiuroidea Database (Stöhr *et al.*, 2020).

**Results**

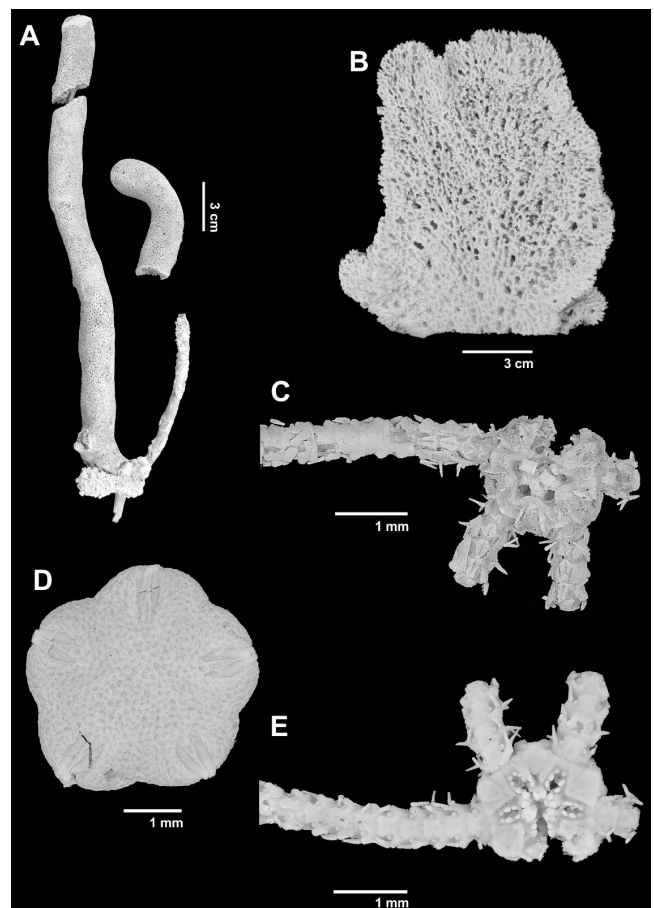
We catalogued three classes, 15 orders, 36 families, 48 genera, and 89 species of Porifera, four classes, 12



**Figure 2.** Representativeness of the specimens deposited in the collections in the Invertebrate Collection Paulo Young (CIPY) of the Universidade Federal da Paraíba (Brazil)



**Figure 1.** Number of species and genera of the different orders of the phyla Porifera, Cnidaria, and Echinodermata hosted at CIPY. (A) Porifera; (B) Cnidaria; (C) Echinodermata



**Figure 3.** Some type specimens deposited in the CIPY, Universidade Federal da Paraíba (Brazil). (A) Paratype of *Plexaurella regia* (UFPB.CNID.279); (B) Paratype of *Clathria (Clathria) nicoleae* (UFPB.POR.175); (C-E) Holotype of *Amphioplus camamuensis* (UFPB.ECH.2158); (C) Aboral view; (D) Aboral view of the disc; (E) Oral view.

orders, 43 families, 62 genera, and 93 species of Cnidaria, and five classes, 17 orders, 38 families, 65 genera, and 103 species of Echinodermata, which are listed in this paper.

Among the Porifera, the orders Tetractinellida (16 species), Poecilosclerida (12 spp.), Haplosclerida (11 spp.), Clionaida (10 spp.), Dictyoceratida (9 spp.) and Verongiida (9 spp.) are the most representative in terms of specific diversity (Fig. 1A). On the other hand, Agelasida and Dendroceratida are less represented taxa, with only one species each. However, a large part of this collection (about 70%) is still unidentified and their specimens have received no voucher numbers. Among the cnidarians, the orders with larger and smaller number of species are Scleractinia (25 spp.), Leptothecata (25 spp.), Rhizostomeae (1 spp.), Semaestomeae (1 spp.), and Chirodropida (1 spp.), respectively (Fig. 1B). The most representative orders of echinoderms are Amphilepidida (32 spp.), Dendrochirotida (17 spp.), and Ophiacanthida (10 spp.), while the least presented orders are Cidaroida, Echinoneoida, and Synallactida, with a single species each (Fig. 1C). The collections of Cnidaria and Echinodermata have 95% of their samples identified and registered with voucher numbers. While, these values for Porifera, Cnidaria, and Echinodermata correspond to 5%, 7%, and 13% of the total CIPY collection, respectively (Fig. 2).

The paratypes of the species *Clathria (Clathria) nicoleae* Barros, Santos & Pinheiro, 2013 (Porifera, Fig. 3B), *Damiria paraibana* Santos & Pinheiro 2013 (Porifera), *Plexaurella regia* Castro, 1989 (Cnidaria, Fig. 3A), and *Pentamera paraibanensis* Prata & Christoffersen, 2016 (Echinodermata), and the holotypes of the latter species and of *Amphioplus camamuensis* Manso, 2004 (Echinodermata, Fig. 3C-E), *Havelockia nietae* Prata, Manso & Christoffersen, 2020 (Echinodermata), *Thyone brasiliana* Prata, Manso & Christoffersen, 2020 (Echinodermata), and *Dercitus (Stoeba) pseudodiscorhabda* Santos & Pinheiro, 2016 (Porifera) are also housed in the CIPY.

Phylum Porifera Grant, 1836

Class Calcarea Bowerbank, 1862

Voucher numbers. — UFPB.POR.50, 458, 460, 461, 462, 464, 465, 466, 468, 469, 470, 471, 472, 473, 474, 476, 477, 491.

CIPY records. — PB and PE.

Notes. — From shallow reefs and Project Algas-PB, 10 to 33 m depth.

Order Leucosolenida Hartman, 1958

Family Amphoriscidae Dendy, 1893

Voucher number. — UFPB.POR.195.

CIPY record. — PB.

Notes. — From shallow reefs.

Family Sycettidae Dendy, 1893

***Sycon* sp.**

Voucher number. — UFPB.POR.774.

CIPY record. — PE.

Notes. — From shallow reefs.

Class Demospongiae Sollas, 1885

Order Agelasida Hartman, 1980

Family Agelasidae Verrill, 1907

***Agelas dispar*** Duchassaing & Michelotti, 1864

Voucher number. — UFPB.POR.073.

CIPY record. — PB.

Notes. — From Project Algas-PB, 24 m depth.

Order Axinellida Lévi, 1953

Family Axinellidae Carter, 1875

***Axinella* sp.**

Voucher numbers. — UFPB.POR.043, 112, 113, 115, 439, 440, 441.

CIPY record. — PB.

Notes. — From Project Algas-PB, 10 to 34 m depth.

***Dragmacidon reticulatum*** (Ridley & Dendy, 1886)

Voucher number. — UFPB.POR.184.

CIPY record. — PB.

Notes. — From shallow reefs.

Family Raspailiidae Nardo, 1833

***Echinodictyum dendroides*** Hechtel, 1983

Voucher number. — UFPB.POR.513.

CIPY record. — PB.

Notes. — From shallow reefs.

Order Bubarida Morrow & Cárdenas, 2015

Family Desmanthidae Topsent, 1893

***Petromica (Chaladesma) ciocalyptoides*** (van Soest & Zea, 1986)

Voucher numbers. — UFPB.POR.044, 178, 610.

CIPY records. — PB and BA.

Notes. — From shallow reefs and Project Algas-PB. Intertidal to 17 m of depth.

Family Dictyonellidae van Soest, Diaz & Pomponi, 1990

***Dictyonella* sp.**

Voucher numbers. — UFPB.POR.180, 753, 754.

CIPY record. — PB.

Notes. — From shallow reefs.

Order Chondrillida Redmond, Morrow, Thacker, Diaz, Boury-Esnault, Cardenas, Hajdu, Lobo-Hajdu, Picton, Pomponi, Kayal & Collins, 2013

Family Chondrillidae Gray, 1872

**Chondrilla nucula** Schmidt, 1862

Voucher numbers. — UFPB.POR.008, 032, 034, 080, 096, 171, 174, 193, 222, 293, 295, 363, 388, 393, 394, 395, 495, 504.

CIPY record. — PB.

Notes. — From shallow reefs and Project Algas-PB.

Intertidal to 34 m depth.

Order Chondrosiida Boury-Esnault & Lopes, 1985

Family Chondrosiidae Schulze, 1877

**Chondrosia collectrix** (Schmidt, 1870)

Voucher numbers. — UFPB.POR.004, 033, 058, 059, 167, 583, 745, 749.

CIPY record. — PB.

Notes. — From shallow reefs.

Order Clionaida Morrow & Cárdenas, 2015

Family Clionaidae d'Orbigny, 1851

**Cervicornia sp.**

Voucher numbers. — UFPB.POR.309, 379.

CIPY record. — PB.

Notes. — From Project Algas-PB, 20 to 21 m depth.

**Cliona celata** Grant, 1826

Voucher numbers. — UFPB.POR.016, 081.

CIPY record. — PB.

Notes. — From shallow reefs.

**Cliona cf. dioryssa** (de Laubenfels, 1950)

Voucher number. — UFPB.POR.157.

CIPY record. — PB.

Notes. — From shallow reefs.

**Cliona varians** (Duchassaing & Michelotti, 1864)

Voucher numbers. — UFPB.POR.021, 025, 078, 387, 389, 390, 407, 408, 409, 410, 412, 485.

CIPY record. — PB.

Notes. — From shallow reefs and Project Algas-PB.

Intertidal to 26 m of depth.

**Cliona sp.**

Voucher numbers. — UFPB.POR.048, 165, 766.

CIPY record. — PB.

Notes. — From shallow reefs.

**Sphaciospongia symbiotica** Hechtel, 1983

Voucher numbers. — UFPB.POR.381, 382, 383, 411, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422.

CIPY record. — PB.

Notes. — From Project Algas-PB, 10 to 33 m depth.

**Sphaciospongia sp.**

Voucher numbers. — UFPB.POR.117, 423, 424, 425.

CIPY record. — PB.

Notes. — From Project Algas-PB, 10 to 35 m depth.

Family Placospongiidae Gray, 1867

**Placospongia carinata** (Bowerbank, 1858)

Voucher numbers. — UFPB.POR.003, 752.

CIPY record. — PB.

Notes. — From shallow reefs.

**Placospongia melobesioides** Gray, 1867

Voucher numbers. — UFPB.POR.031, 152, 191, 574, 750.

CIPY record. — PB.

Notes. — From shallow reefs.

**Placospongia sp.**

Voucher number. — UFPB.POR.751.

CIPY record. — PB.

Notes. — From shallow reefs.

Order Dendroceratida Minchin, 1900

Family Darwinellidae Merejkowsky, 1879

**Chelonaplysilla erecta** (Row, 1911)

Voucher numbers. — UFPB.POR.769.

CIPY record. — PB.

Notes. — From Alice shipwreck (07°03'08"S 34°46'07"W, João Pessoa, PB, 7 to 12 m depth).

Order Dictyoceratida Minchin, 1900

Family Dysideidae Gray, 1867

**Dysidea etheria** Laubenfels, 1936

Voucher number. — UFPB.POR.567.

CIPY record. — PB.

Notes. — From 10 m depth.

***Dysidea janiae*** (Duchassaing & Michelotti, 1864)

Voucher number. — UFPB.POR.580.

CIPY record. — BA.

Notes. — From shallow reefs.

***Dysidea robusta*** Vilanova & Muricy, 2001

Voucher number. — UFPB.POR.006.

CIPY record. — PB.

Notes. — From shallow reefs.

***Dysidea* sp.**

Voucher numbers. — UFPB.POR.086, 091, 202, 372, 431.

CIPY record. — PB.

Notes. — From shallow reefs and Project Algas-PB.

Intertidal to 30 m depth.

Family Spongiidae Gray, 1867

***Spongia* sp.**

Voucher number. — UFPB.POR.737.

CIPY record. — PB.

Notes. — From shallow reefs.

Family Thorectidae Bergquist, 1978

***Hyrrios proteus*** Duchassaing & Michelotti, 1864

Voucher number. — UFPB.POR.024.

CIPY record. — PB.

Notes. — From shallow reefs.

Family Irciniidae Gray, 1867

***Ircinia felix*** (Duchassaing & Michelotti, 1864)

Voucher numbers. — UFPB.POR.088, 558, 743.

CIPY record. — PB.

Notes. — From intertidal to 10 m depth.

***Ircinia strobilina*** (Lamarck, 1816)

Voucher numbers. — UFPB.POR.009, 111, 122, 442, 738.

CIPY record. — PB.

Notes. — From shallow-reefs, Queimado shipwreck (07°05.070'S 34°44.852'W, João Pessoa, PB, 12 to 18 m), and Project Algas-PB. Intertidal to 33 m depth.

***Ircinia* sp.**

Voucher numbers. — UFPB.POR.017, 018, 023, 027, 135, 143, 194, 196, 374, 432, 433, 434, 435, 739.

CIPY record. — PB.

Notes. — From shallow reefs, Queimado shipwreck, and Project Algas-PB. Intertidal to 30 m depth.

Order Haplosclerida Topsent, 1928

Family Callyspongiidae Laubenfels, 1936

***Callyspongia (Cladochalina) aculeata*** (Linnaeus, 1759)

Voucher numbers. — UFPB.POR.607, 612.

CIPY record. — BA.

Notes. — From Bretagne shipwreck (13°00'31"S 38°32'38"W, Salvador, BA, 7 to 12 m depth) and Porto da Barra Beach.

Family Chalinidae Gray, 1867

***Cladocroce caelum*** Santos, Da Silva, Alliz & Pinheiro, 2014

Voucher number. — UFPB.POR.527.

CIPY record. — PB.

Notes. — From shallow reefs.

***Haliclona (Reniera) implexiformis*** (Hechtel, 1965)

Voucher number. — UFPB.POR.340.

CIPY record. — PB.

Notes. — From shallow reefs.

***Haliclona (Reniera) manglaris*** Alcolado, 1984

Voucher numbers. — UFPB.POR.347, 352.

CIPY record. — PB.

Notes. — From shallow reefs.

***Haliclona (Soestella) melana*** Muricy & Ribeiro, 1999

Voucher numbers. — UFPB.POR.523, 548.

CIPY record. — PB.

Notes. — From shallow reefs.

***Haliclona* sp.**

Voucher numbers. — UFPB.POR.005, 026, 060, 082, 083, 085, 153, 201, 351, 511, 755, 756.

CIPY record. — PB.

Notes. — From shallow reefs.

Family Niphathidae Van Soest, 1980

***Amphimedon compressa*** Duchassaing & Michelotti, 1864

Voucher numbers. — UFPB.POR.166, 541.

CIPY record. — PB.

Notes. — From shallow reefs.

***Amphimedon viridis*** Duchassaing & Michelotti, 1864

Voucher numbers. — UFPB.POR.089, 138, 154, 162, 556.

CIPY record. — PB.

Notes. — From shallow reefs.

***Niphates erecta*** Duchassaing & Michelotti, 1864

Voucher numbers. — UFPB.POR.079, 087, 093, 538.

CIPY record. — PB.

Notes. — From shallow reefs.

***Niphates* sp.**

Voucher numbers. — UFPB.POR.514, 520.

CIPY record. — PB.

Notes. — From shallow reefs.

Family Phloeodictyidae Carter, 1882

***Oceanapia bartschi*** (Laubenfels, 1934)

Voucher numbers. — UFPB.POR.71, 362, 367, 436.

CIPY record. — PB.

Notes. — From Project Algas-PB, 26 to 30 m depth.

Order Poecilosclerida Topsent, 1928

Family Coelosphaeridae Dendy, 1922

***Lissodendoryx* sp.**

Voucher number. — UFPB.POR.605.

CIPY record. — BA.

Notes. — From Ilha dos Frades, Baía de Todos os Santos (Salvador).

Family Crambeidae Lévi, 1963

***Monanchora arbuscula*** (Duchassaing & Michelotti, 1864)

Voucher number. — UFPB.POR.771.

CIPY record. — PB.

Notes. — From Queimado shipwreck.

Family Iotrochotidae Dendy, 1922

***Iotrochota birotulata*** (Higgin, 1877)

Voucher number. — UFPB.POR.614.

CIPY record. — BA.

Notes. — From shallow waters.

Family Microcionidae Carter, 1875

***Clathria (Clathria) nicoleae*** Vieira de Barros, Garcia Santos & Pinheiro, 2013

Voucher numbers. — UFPB.POR.175, 181.

CIPY record. — PB.

Notes. — From shallow reefs and sponge garden. Paratypes.

Family Mycalidae Lundbeck, 1905

***Mycale (Arenochalina) laxissima*** (Duchassaing & Michelotti, 1864)

Voucher number. — UFPB.POR.051.

CIPY record. — BA.

Notes. — From the intertidal at Abrolhos Archipelago.

***Mycale (Mycale) sp.***

Voucher number. — UFPB.POR.164.

CIPY record. — PB.

Notes. — From shallow reefs.

***Mycale (Zygomycale) angulosa*** (Duchassaing & Michelotti, 1864)

Voucher numbers. — UFPB.POR.011, 613.

CIPY records. — PB and BA.

Notes. — From Blackadder shipwreck (12°56'12"S 38°30'38"W, in front of Boa Viagem Beach, Salvador, BA, 8 to 15 m depth) and Project Algas-PB, 26 m depth.

Family Acarnidae Dendy, 1922

***Damiria paraibana*** Santos & Pinheiro 2013

Voucher number. — UFPB.POR.179.

CIPY record. — PB.

Notes. — From shallow reefs. Paratype.

Family Desmacididae Schmidt, 1870

***Desmapsamma anchorata*** (Carter, 1882)

Voucher numbers. — UFPB.POR.552, 606.

CIPY records. — PB and BA.

Notes. — From shallow reefs to 10 m depth.

***Desmapsamma* sp.**

Voucher number. — UFPB.POR.301.

CIPY record. — PB.

Notes. — From Project Algas-PB, 30 m depth.

Family Tedaniidae Ridley & Dendy, 1886

***Tedania (Tedania) ignis*** (Duchassaing & Michelotti, 1864)

Voucher numbers. — UFPB.POR.001, 052, 053, 055, 061, 062, 149, 158, 160, 192, 250, 530, 566, 757, 758, 759, 760, 761, 762, 764, 772.

CIPY record. — PB.

Notes. — From shallow reefs. Intertidal to 10 m depth.

***Tedania (Tedania) sp.***

Voucher numbers. — UFPB.POR.161, 763.

CIPY record. — PB.

Notes. — From shallow reefs.

Order Suberitida Chombard & Boury-Esnault, 1999

Family Halichondriidae Gray, 1867

***Halichondria (Halichondria) melanadocia*** Laubenfels, 1936

Voucher numbers. — UFPB.POR.268, 346, 349.

CIPY record. — PB.

Notes. — From shallow reefs.

***Topsentia ophiraphidites*** (Laubenfels, 1934)

Voucher numbers. — UFPB.POR.038, 049, 360, 437, 438, 615.

CIPY records. — PB and BA.

Notes. — From shallow reefs and Project Algas-PB, intertidal to 34 m depth.

Family Suberitidae Schmidt, 1870

***Aaptos* sp.**

Voucher numbers. — UFPB.POR.602, 609.

CIPY record. — BA.

Notes. — From shallow reefs.

***Protosuberites* sp.**

Voucher numbers. — UFPB.POR.002, 012, 019.

CIPY record. — PB.

Notes. — From shallow reefs.

Order Tethyida Morrow & Cárdenas, 2015

Family Tethyidae Gray, 1848

***Tethya* sp.**

Voucher number. — UFPB.POR.426.

CIPY record. — PB.

Notes. — From Project Algas-PB, 35 m depth.

***Xenospongia* sp.**

Voucher number. — UFPB.POR.773.

CIPY record. — PB.

Notes. — From Alvarenga shipwreck.

Family Timeidae Topsent, 1928

***Timea bioxyasterina*** Mothes, Santos & Campos, 2004

Voucher numbers. — UFPB.POR.098, 292.

CIPY record. — PB.

Notes. — From Project Algas-PB, 13 to 26 m depth.

***Timea* sp.**

Voucher number. — UFPB.POR.173.

CIPY record. — PB.

Notes. — From shallow reefs.

Order Tetractinellida Marshall, 1876

Family Ancorinidae Schmidt, 1870

***Dercitus (Stoeba) pseudodiscorhabda*** Santos & Pinheiro, 2016

Voucher number. — UFPB.POR.151.

CIPY record. — PB.

Notes. — From shallow reefs. Holotype.

***Jaspis* sp.**

Voucher numbers. — UFPB.POR.361, 398.

CIPY record. — PB.

Notes. — From Project Algas-PB, 26 to 32 m depth.

***Stelletta anancora*** (Sollas, 1886)

Voucher numbers. — UFPB.POR.0.46, 076, 100, 101, 358, 405.

CIPY record. — PB.

Notes. — From Project Algas-PB, 9 to 40 m depth.

***Stelletta beae*** Hajdu & Carvalho, 2003

Voucher numbers. — UFPB.POR.145, 146, 159.

CIPY record. — PB.

Notes. — From shallow reefs.

***Stelletta* sp.**

Voucher numbers. — UFPB.POR.102, 406.

CIPY record. — PB.

Notes. — From Project Algas-PB, 20 to 33 m depth.

Family Geodiidae Gray, 1867

***Erylus formosus*** Sollas, 1886

Voucher numbers. — UFPB.POR.075, 104, 402, 403, 740.

CIPY record. — PB.

Notes. — From Queimado shipwreck and Project Algas-PB, 12 to 34 m depth.

***Geodia corticostylifera*** Hajdu, Muricy, Custodio, Russo & Peixinho, 1992

Voucher numbers. — UFPB.POR.047, 064, 066, 401.

CIPY record. — PB.

Notes. — From Project Algas-PB, 11 to 28 m depth.

***Geodia gibberosa*** Lamarck, 1815

Voucher numbers. — UFPB.POR.092, 163, 550, 608, 691.

CIPY records. — PB and BA.

Notes. — From shallow reefs. Intertidal to 10 m depth.

***Geodia neptuni*** (Sollas, 1886)

Voucher numbers. — UFPB.POR.068, 105, 399, 741.

CIPY record. — PB.

Notes. — From Queimado shipwreck and Project Algas-PB, 11 to 20 m depth.

***Geodia* sp.**

Voucher numbers. — UFPB.POR.067, 251, 260, 263, 400, 451.

CIPY record. — PB.

Notes. — From shallow reefs and Project Algas-PB. Intertidal to 30 m depth.



***Penares anisoxia*** Boury-Esnault, 1973

Voucher numbers. — UFPB.POR.116, 404, 510.

CIPY record. — PB.

Notes. — From Project Algas-PB, 26 to 34 m depth.

***Penares sp.***

Voucher number. — UFPB.POR.118.

CIPY record. — PB.

Notes. — From Project Algas-PB, 30 m depth.

Family Tetillidae Sollas, 1886

***Cinachyrella alloclada*** (Uliczka, 1929)

Voucher numbers. — UFPB.POR.007, 020, 037, 054, 056, 057, 074, 090, 139, 169, 224, 256, 345, 551, 589, 593, 603.

CIPY record. — PB.

Notes. — From shallow reefs and Project Algas-PB.

Intertidal to 10 m depth.

***Cinachyrella apion*** (Uliczka, 1929)

Voucher number. — UFPB.POR.042.

CIPY record. — PB.

Notes. — From Project Algas-PB, 10 m depth.

***Cinachyrella kuekenthali*** (Uliczka, 1929)

Voucher number. — UFPB.POR.521.

CIPY record. — PB.

Notes. — From shallow reefs.

***Cinachyrella sp.***

Voucher numbers. — UFPB.POR.177, 391, 392, 396, 452, 453, 454, 455, 456, 457, 509.

CIPY record. — PB.

Notes. — From shallow reefs and Project Algas-PB.

Intertidal to 34 m depth.

Order Verongiida Bergquist, 1978

Family Aplysinidae Carter, 1875

***Aiolochoira crassa*** (Hyatt, 1875)

Voucher numbers. — UFPB.POR.099, 108, 109, 110, 132, 767, 768.

CIPY record. — PB.

Notes. — From Project Algas-PB and shipwreck of Queimado, 12 to 34 m depth.

***Aplysina alcicornis*** Pinheiro, Hajdu & Custódio, 2007

Voucher numbers. — UFPB.POR.095, 097.

CIPY record. — PB.

Notes. — From shallow reefs.

***Aplysina cauliformis*** (Carter, 1882)

Voucher number. — UFPB.POR.077.

CIPY record. — PB.

Notes. — From Canyons of João Pessoa, 40 m depth.

***Aplysina fistularis*** (Pallas, 1766)

Voucher numbers. — UFPB.POR.065, 069, 103, 106, 770.

CIPY record. — PB.

Notes. — From Canyons of João Pessoa and Project Algas-PB, 26 to 40 m depth.

***Aplysina fulva*** (Pallas, 1766)

Voucher numbers. — UFPB.POR.553, 744.

CIPY record. — PB.

Notes. — From shallow reefs and 10 m depth.

***Aplysina pergamentacea*** Hechtel, 1983

Voucher number. — UFPB.POR.189.

CIPY record. — PB.

Notes. — From shallow reefs.

***Aplysina pseudolacunosa*** Pinheiro, Hajdu & Custódio, 2007

Voucher number. — UFPB.POR.107.

CIPY record. — PB.

Notes. — From Project Algas-PB, 33 m depth.

***Aplysina solangeae*** Pinheiro, Hajdu & Custódio, 2007

Voucher numbers. — UFPB.POR.126, 579.

CIPY records. — PB and BA.

Notes. — From shallow reefs and Queimado shipwreck.

***Aplysina sp.***

Voucher numbers. — UFPB.POR.045, 063, 176, 304, 356, 364, 397, 428, 429, 430.

CIPY record. — PB.

Notes. — From shallow reefs, Canyons of João Pessoa, and Project Algas-PB. Intertidal to 38 m depth.

Class Homoscleromorpha Bergquist, 1978

Order Homosclerophorida Dendy, 1905

Family Plakinidae Schulze, 1880

***Plakinastrella sp1.***

Voucher number. — UFPB.POR.450.

CIPY record. — PB.

Notes. — From Project Algas-PB, 35 m depth.

***Plakinastrella* sp2.**

Voucher number. — UFPB.POR.449.

CIPY record. — PB.

Notes. — From Project Algas-PB, 26 m depth.

Phylum Cnidaria Hatschek, 1888

Class Hydrozoa Owen, 1843

Order Anthoathecata Cornelius, 1992

Family Bougainvilliidae Lütken, 1850

***Bimeria* sp.**

Voucher numbers. — UFPB.CNID.1057, 1067, 1075.

CIPY record. — PB.

Notes. — From shallow reefs. Some colonies associated with *Thyroscyphus ramosus* Allman, 1877 and *Eudendrium* sp.

Family Eudendriidae L. Agassiz, 1862

***Eudendrium carneum* Clarke, 1882**

Voucher numbers. — UFPB.CNID.983, 1056, 1069.

CIPY record. — PB.

Notes. — From shallow reefs.

***Eudendrium* sp.**

Voucher numbers. — UFPB.CNID.876, 972, 976, 1066.

CIPY records. — RN and PB.

Notes. — From shallow reefs and hypersaline mangroves.

Family Porpitiidae Goldfuss, 1818

***Velella* sp.**

Voucher numbers. — UFPB.CNID.685, 937.

CIPY record. — PB.

Notes. — From entrance to River Miriri and Seixas Beach (João Pessoa, PB).

Family Stylasteridae Gray, 1847

***Stylaster roseus* (Pallas, 1766)**

Voucher numbers. — UFPB.CNID.536, 797.

CIPY record. — PB.

Notes. — From shallow reefs.

Order Capitata Kühn, 1913

Family Milleporidae Fleming, 1928

***Millepora alcicornis* Linnaeus, 1758**

Voucher numbers. — UFPB.CNID.001, 017, 032, 061, 132, 146, 147, 160, 179, 197, 257, 314, 321, 333, 401, 421, 480, 865, 922, 1095.

CIPY records. — PB, PE, AL, and BA.

Notes. — From shallow reefs and Abrolhos Archipelago. Some colonies associated with the scleractinian coral *Agaricia agaricites* (Linnaeus, 1758).

***Millepora braziliensis* Verrill, 1868**

Voucher numbers. — UFPB.CNID.006, 018, 087, 088, 232, 258, 322, 334, 343, 350.

CIPY records. — PB, PE, and AL.

Notes. — From shallow reefs. Some colonies associated with *A. agaricites* and the barnacles *Megabalanus stultus* (Darwin, 1854).

***Millepora nitida* Verrill, 1868**

Voucher number. — UFPB.CNID.207.

CIPY record. — BA.

Notes. — From Abrolhos Archipelago.

***Millepora* sp.**

Voucher numbers. — UFPB.CNID.140, 180, 198, 422, 423, 929, 969.

CIPY records. — PB and BA.

Notes. — From shallow reefs and Abrolhos Archipelago.

Family Pennariidae McCrady, 1859

***Pennaria disticha* Goldfuss, 1820**

Voucher numbers. — UFPB.CNID.831, 849, 979, 1009.

CIPY record. — PB.

Notes. — From shallow reefs to 15 m depth.

Order Leptothecata Cornelius, 1992

Family Aequoreidae Eschscholtz, 1829

***Aequorea macrodactyla* (Brandt, 1835)**

Voucher numbers. — UFPB.CNID.1121.

CIPY record. — RJ.

Notes. — From 95 m depth.

Family Aglaopheniidae Marktanner-Turneretscher, 1890

***Aglaophenia latecarinata* Allman, 1887**

Voucher numbers. — UFPB.CNID.830, 834, 867, 868, 874, 909, 917, 920, 940, 943, 944, 945, 946, 947, 948, 949, 950, 951, 954, 958, 970, 1006, 1065, 1078.

CIPY records. — RN and PB.

Notes. — From shallow reefs, hypersaline mangroves, and Project Algas-PB. Intertidal to 34 m depth. Some colonies associated with *T. ramosus* and *Hyncksella* sp.

***Lytocarpia tridentata* (Versluys, 1899)**

Voucher numbers. — UFPB.CNID.903, 959.

CIPY record. — PB.

Notes. — From intertidal.

***Macrorhynchia philippina* Kirchenpauer, 1872**

Voucher number. — UFPB.CNID.1005.

CIPY record. — PB.

Notes. — From Queimado shipwreck.

Family Campanulariidae Johnston, 1836

*Clytia linearis* (Thornely, 1900)

Voucher number. — UFPB.CNID.1072.

CIPY record. — PB.

Notes. — From shallow reefs.

*Clytia* sp.

Voucher numbers. — UFPB.CNID.875, 971, 974, 989, 1076.

CIPY records. MA, RN, and PB.

Notes. — From shallow reefs and hypersaline mangroves.

Some colonies found between rocks and associated with algae.

Family Haleciidae Hincks, 1868

*Halecium dyssymetrum* Billard, 1929

Voucher number. — UFPB.CNID.977.

CIPY record. — RN.

Notes. — From hypersaline mangroves.

*Nemalecium lighti* (Hargitt, 1924)

Voucher number. — UFPB.CNID.993.

CIPY record. — SP.

Notes. — From intertidal.

Family Halopterididae Millard, 1962

*Antennella curvitheca* Fraser, 1937

Voucher number. — UFPB.CNID.902.

CIPY record. — PB.

Notes. — From shallow reefs.

*Halopteris carinata* Allaman, 1877

Voucher numbers. — UFPB.CNID.824, 961, 962.

CIPY record. — PB.

Notes. — From rhodolith beds, 10 to 20 m depth.

Family Hebellidae Fraser, 1912

*Hebella* sp.

Voucher number. — UFPB.CNID.988.

CIPY record. — MA.

Notes. — From shallow waters, associated with the hydrozoan *Sertularelloides cylindritheca* (Allman, 1888).

Family Kirchenpaueriidae Stechow, 1921

*Pycnotheca mirabilis* (Allman, 1883)

Voucher number. — UFPB.CNID.997.

CIPY record. — PB.

Notes. — From rhodolith beds, 15 m depth.

Family Plumulariidae McCrady, 1859

*Dentitheca bidentata* (Jäderholm, 1905)

Voucher numbers. — UFPB.CNID.938, 996, 1098.

CIPY record. — PB.

Notes. — From shallow reefs and Project Algas-PB. Intertidal to 20 m depth. Some colonies associated with algae and rhodoliths.

*Plumularia margaretta* (Nutting, 1900)

Voucher numbers. — UFPB.CNID.843, 978, 1060, 1063, 1097.

CIPY record. — PB.

Notes. — From shallow reefs and Project Algas-PB. Intertidal to 14 m depth. Some colonies associated with algae.

*Plumularia* sp.

Voucher number. — UFPB.CNID.973.

CIPY record. — RN.

Notes. — From hypersaline mangroves.

Family Sertulariidae Lamouroux, 1812

*Amphisbetia distans* (Lamouroux, 1816)

Voucher numbers. — UFPB.CNID.516, 816, 833, 845, 872, 880, 881, 908, 911, 928, 956, 975, 984, 990, 1055, 1074.

CIPY records. — RN, PB, and SP.

Notes. — From shallow reefs, rocky shore, hypersaline mangroves, and Project Algas-PB. Intertidal to 16 m depth. Some colonies associated with algae, Actinaria, and *T. ramosus*.

*Dynamena crisioides* Lamouroux, 1824

Voucher numbers. — UFPB.CNID.540, 544, 957, 1058, 1071.

CIPY records. — MA, PB, and AL.

Notes. — From shallow reefs.

*Dynamena disticha* (Bosc, 1802)

Voucher number. — UFPB.CNID.995.

CIPY record. — SP.

Notes. — From rocky shore, associated with the algae *Sargassum* sp.

*Dynamena quadridentata* (Ellis & Solander, 1786)

Voucher numbers. — UFPB.CNID.994, 1059.

CIPY records. — PB and SP.

Notes. — From shallow reef and rocky shore. Some colonies associated with the algae *Sargassum* sp.

***Idiellana pristis*** (Lamouroux, 1816)

Voucher numbers. — UFPB.CNID.835, 987.

CIPY records. — MA and PB.

Notes. — From shallow reefs.

***Sertularia marginata*** (Kirchenpauer, 1864)

Voucher numbers. — UFPB.CNID.826, 829, 844, 866, 869, 871, 907, 912, 914, 926, 927, 960, 982, 991, 1016, 1017, 1018, 1019, 1054, 1068, 1070, 1077.

CIPY records. — RN, PB, and SP.

Notes. — From shallow reefs, rocky shore, rhodolith beds, and hypersaline mangroves. Intertidal to 20 m depth. Some colonies found under rock and associated with algae and sponges.

***Sertularia turbinata*** (Lamouroux, 1816)

Voucher number. — UFPB.CNID.992.

CIPY record. — SP.

Notes. — Colony found under rock.

Family Syntheciidae von Marktanner-Turneretscher, 1890

***Hincksella* sp.**

Voucher numbers. — UFPB.CNID.513, 514, 517, 815, 916, 952, 1073.

CIPY record. — PB.

Notes. — From shallow reefs and the Port in Cabedelo (PB). Intertidal to 8.7 m depth.

Family Thyroscyphidae Stechow, 1920

***Thyroscyphus ramosus*** Allman, 1877

Voucher numbers. — UFPB.CNID.069, 098, 515, 518, 519, 521, 523, 524, 525, 526, 528, 529, 530, 531, 532, 533, 534, 537, 538, 539, 541, 542, 543, 545, 546, 547, 549, 551, 553, 555, 556, 557, 558, 559, 560, 561, 562, 563, 565, 566, 567, 568, 569, 570, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 590, 809, 810, 820, 822, 825, 827, 860, 870, 904, 905, 910, 913, 919, 925, 953, 963, 981, 1010, 1011, 1012, 1013, 1014, 1015, 1052, 1061, 1062.

CIPY records. — PA, MA, RN, PB, PE, and AL.

Notes. — From shallow reefs, mangroves, hypersaline mangroves, Paraíba do Norte River estuary (PB), Project Algas-PB, and Geomar. Intertidal to 34 m depth. Some colonies found under rocks, in rhodolith beds, associated with algae and seagrass.

***Sertularelloides cylindritheca*** (Allman, 1888)

Voucher numbers. — UFPB.CNID. 068, 094, 520, 522, 527, 799, 801, 832, 873, 906, 915, 939, 955, 980, 1053, 1064.

CIPY records. — RN, PB, PE, and MA.

Notes. — From shallow reefs, hypersaline mangrove, and Queimado shipwreck. Intertidal to 14 m depth. Some colonies found between rocks, associated with sponges and algae.

Order Siphonophorae Eschscholtz, 1829

Family Physaliidae Brandt, 1835

***Physalia physalis*** (Linnaeus, 1758)

Voucher numbers. — UFPB.CNID.701, 842, 846, 847, 848, 931, 1096.

CIPY records. — PB and BA.

Notes. — Colonies found stranded on the beach.

***Physalia* sp.**

Voucher numbers. — UFPB.CNID.689, 696.

CIPY record. — PB.

Notes. — Colonies found stranded on the beach.

Class Scyphozoa Goette, 1887

Order Rhizostomeae Cuvier, 1799

Family Stomolophidae Haeckel, 1880

***Stomolophus meleagris*** Agassiz, 1862

Voucher number. — UFPB.CNID.686.

CIPY record. — PB.

Notes. — From Mamanguape River estuary.

Order Semaestomeae L. Agassiz, 1862

Family Pelagiidae Gegenbaur, 1856

***Chrysaora lactea*** Eschscholtz, 1829

Voucher number. — UFPB.CNID.691

CIPY record. — PB.

Notes. — From Cabo Branco beach (João Pessoa).

Class Cubozoa Werner, 1973

Order Chirodropida Haeckel, 1880

Family Chiropsalmidae Thiel, 1936

***Chiropsalmus quadrumanus*** (F. Muller, 1859)

Voucher numbers. — UFPB.CNID.461, 706, 895, 1099.

CIPY record. — PB.

Notes. — From urban beaches in João Pessoa and Mamanguape River estuary. Some colonies captured with trawl.

Class Anthozoa Ehrenberg, 1834

Order Scleractinia Bourne, 1900

Family Agariciidae Gray, 1847

***Agaricia agaricites*** (Linnaeus, 1758)

Voucher numbers. — UFPB.CNID.004, 015, 024, 025, 027, 028, 058, 063, 089, 106, 123, 129, 142, 154, 168, 184, 194, 230, 240, 249, 263, 308, 319, 327, 331, 341, 400, 408, 410, 416, 418, 966, 968.

CIPY records. — PB, PE, AL, and BA.

Notes. — From shallow reefs and Abrolhos Archipelago. Some colonies associated with barnacles, the hydrocoral *M. allicornis*, and the corals *Favia gravida* Verrill, 1868, *Siderastrea stellata* Verrill, 1868, *Mussismilia harttii* (Verrill, 1868), *M. hispida* (Verrill, 1902), *Porites astreoides* Lamark, 1816, and *Porites* sp.

***Agaricia fragilis*** Dana, 1848

Voucher numbers. — UFPB.CNID.153, 155.

CIPY record. — BA.

Notes. — From Abrolhos Archipelago.

***Agaricia cf. lamarcki*** Milne Edwards & Haime, 1851

Voucher number. — UFPB.CNID.399.

CIPY record. — BA.

Notes. — From Abrolhos Archipelago.

***Agaricia* sp.**

Voucher numbers. — UFPB.CNID.002, 005, 071, 091, 407, 409, 411, 434, 436, 448, 473.

CIPY records. — PB, PE, AL, and BA.

Notes. — From shallow reefs and Abrolhos Archipelago. Intertidal to 9 m depth.

Family Faviidae Milne Edwards & Haime, 1857

***Favia gravida*** Verrill, 1868

Voucher numbers. — UFPB.CNID.016, 059, 065, 072, 075, 079, 099, 114, 124, 130, 143, 156, 169, 177, 185, 195, 205, 214, 216, 218, 223, 231, 241, 245, 247, 250, 261, 264, 268, 271, 306, 310, 320, 328, 332, 342, 405, 415, 439, 440, 465, 477, 492, 863, 878, 924, 999, 1022, 1042.

CIPY records. — CE, PB, PE, AL, BA, and ES.

Notes. — From shallow reefs and Abrolhos Archipelago. Some colonies associated with *Porites branneri* Rathbun, 1888, *A. agaricites*, *S. stellata*, and *M. harttii*.

***Favia* sp.**

Voucher numbers. — UFPB.CNID.060, 470.

CIPY records. — PE and BA.

Notes. — From shallow reefs and Abrolhos Archipelago.

***Mussismilia braziliensis*** (Verrill, 1868)

Voucher numbers. — UFPB.CNID.134, 162, 172, 175, 181, 188, 212.

CIPY record. — BA.

Notes. — From Abrolhos Archipelago. Some colonies associated with *P. branneri*.

***Mussismilia harttii*** (Verrill, 1868)

Voucher numbers. — UFPB.CNID.003, 008, 012, 013, 014, 020, 026, 076, 118, 125, 135, 149, 163, 199, 233, 251, 259, 265, 269, 303, 316, 324, 336, 345, 404, 412, 413, 420, 474, 589, 941, 1114.

CIPY records. — PB, PE, AL, and BA.

Notes. — From shallow reefs and Abrolhos Archipelago. Intertidal to 9 m depth. Some colonies associated with *F. gravida*, *P. astreoides*, *P. branneri*, *A. agaricites*, and *Agaricia* sp.

***Mussismilia hispida*** (Verrill, 1902)

Voucher numbers. — UFPB.CNID.009, 021, 150, 164, 176, 182, 189, 190, 200, 234, 255, 266, 304, 317, 325, 337, 346, 403, 414, 805.

CIPY records. — PB, PE, AL, BA, and RJ.

Notes. — From shallow reefs, rocky shore, Abrolhos Archipelago, and Port of Cabedelo (PB). Intertidal to 8 m depth. Some colonies associated with *A. agaricites* and *Astrangia* sp.

***Mussismilia leptophylla*** (Verrill, 1868)

Voucher numbers. — UFPB.CNID.144, 157, 178, 186, 210.

CIPY record. — BA.

Notes. — From Abrolhos Archipelago.

***Mussismilia* sp.**

Voucher numbers. — UFPB.CNID.1116, 1117.

CIPY record. — PB.

Notes. — From shallow reefs.

***Scolymia wellsii*** Laborel, 1967

Voucher numbers. — UFPB.CNID.034, 035, 036, 037, 038, 039, 040, 041, 050, 051, 052, 137, 167, 174, 203, 339, 348, 402, 438.

CIPY records. — PB, AL, and BA.

Notes. — From shallow reefs, Abrolhos Archipelago, and Project Algas-PB. Intertidal to 28 m depth.

Family Meandrinidae Gray, 1847

***Meandrina brasiliensis*** (Milne Edwards & Haime, 1848)

Voucher numbers. — UFPB.CNID.042, 043, 044, 045, 046, 047, 048, 131, 145, 159, 171, 187, 196, 206, 452, 793, 836.

CIPY records. — PB and BA.

Notes. — From shallow reefs, Port of Cabedelo (PB), Abrolhos Archipelago, and Project Algas-PB. Intertidal to 34 m depth.

***Meandrina* sp.**

Voucher number. — UFPB.CND.033

CIPY record. — PB.

Notes. — From Project Algas-PB, 34 m depth.

Family Montastraeidae Yabe & Sugiyama, 1941

***Montastraea cavernosa*** (Linnaeus, 1767)

Voucher numbers. — UFPB.CNID.007, 108, 120, 133, 148, 161, 208, 267, 315, 323, 335, 344, 351.

CIPY records. — PB, AL, and BA.

Notes. — From shallow reefs and Abrolhos Archipelago.

Family Pocilloporidae Gray, 1840

***Madracis decactis*** (Lyman, 1859)

Voucher numbers. — UFPB.CNID.158, 170, 211.

CIPY record. — BA.

Notes. — From Abrolhos Archipelago.

Family Poritidae Gray, 1840

***Porites astreoides*** Lamarck, 1816

Voucher numbers. — UFPB.CNID.022, 066, 074, 090, 100, 115, 126, 136, 165, 201, 213, 235, 242, 252, 312, 329, 347, 967, 1000, 1086.

CIPY records. — PB, PE, AL, and BA.

Notes. — From shallow reefs and Abrolhos Archipelago. Some colonies associated with *M. hartii*, *F. gravida*, and *Agaricia* sp.

***Porites branneri*** Rathbun, 1888

Voucher numbers. — UFPB.CNID.010, 080, 107, 127, 139, 151, 173, 183, 191, 202, 209, 236, 243, 253, 313, 338, 352, 406, 471.

CIPY records. — PB, PE, AL, and BA.

Notes. — From shallow reefs and Abrolhos Archipelago. Some colonies associated with *F. gravida*, *S. stellata*, and *Millepora braziliensis*.

***Porites* sp.**

Voucher number. — UFPB.CNID.062.

CIPY record. — PE.

Notes. — From shallow reefs.

Family Rhizangiidae d'Orbigny, 1851

***Astrangia solitaria*** (Le Sueur, 1818)

Voucher numbers. — UFPB.CNID.220, 309, 437, 442, 444, 445, 446, 447, 591, 806, 861, 1004, 1044, 1045, 1047, 1051.

CIPY records. — PI, PB, AL, and BA.

Notes. — From shallow reefs, Abrolhos Archipelago, and Queimado shipwreck. Intertidal to 15 m depth. Some specimens associated with rhodolith beds.

***Astrangia rathbuni*** Vaughan, 1906

Voucher number. — UFPB.CNID.472.

CIPY record. — BA.

Notes. — From Abrolhos Archipelago.

***Astrangia* sp.**

Voucher numbers. — UFPB.CNID.395, 804.

CIPY records. — AL and RJ.

Notes. — From shallow reef and rocky shore. Some specimens fixed on the basal branches of the octocoral *Leptogorgia* sp. and associated with *M. hispidia*.

Family Caryophylliidae Dana, 1846

***Phyllangia americana*** Milne Edwards & Haime, 1849

Voucher numbers. — UFPB.CNID.311, 435, 441, 443, 879, 1048.

CIPY records. — RN, PB, and AL.

Notes. — From shallow reefs.

Family Siderastreidae Vaughan & Wells, 1943

***Siderastrea stellata*** Verrill, 1868

Voucher numbers. — UFPB.CNID.011, 023, 064, 067, 078, 081, 109, 128, 138, 141, 152, 166, 192, 193, 204, 215, 217, 219, 221, 222, 224, 225, 226, 227, 228, 229, 237, 238, 239, 244, 246, 248, 254, 256, 260, 262, 270, 272, 305, 307, 318, 326, 330, 340, 349, 353, 417, 419, 432, 433, 453, 466, 467, 468, 469, 475, 476, 478, 479, 481, 493, 655, 800, 812, 819, 850, 855, 862, 877, 923, 1001, 1021, 1043, 1046, 1049, 1050, 1094, 1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1108, 1109, 1110, 1111, 1112, 1113.

CIPY records. — PI, CE, RN, PB, PE, AL, BA, and ES.

Notes. — From shallow reefs and Abrolhos Archipelago. Some colonies with the barnacles *Ceratoconcha floridana* (Pilsbry, 1931), and associated with the soft coral *Zoanthus sociatus* (Ellis, 1768) and the scleractinian corals *P. branneri* and *F. gravida*.

Family Turbinoliidae Milne Edwards & Haime, 1848

***Sphenotrochus* sp.**

Voucher number. — UFPB.CNID.1115.

CIPY record. — PA.

Notes. — Collected by the Comissão Norte/Nordeste II, Oceanographic Ship Almirante Saldanha.

Order Zoantharia Gray, 1832

Family Sphenopidae Hertwig, 1882

***Palythoa caribaeorum*** Duchassaing & Michelotti, 1860

Voucher numbers. — UFPB.CNID.053, 086, 093, 102, 104, 112, 463, 483, 490, 491, 592, 593, 594, 595, 5996, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 628, 629, 630, 631, 633, 634, 635, 662, 708, 777, 779, 781, 792, 808, 811, 837, 853, 858, 935, 1023, 1029, 1030, 1080, 1081.

CIPY records. — CE, RN, PB, PE, AL, and BA.

Notes. — From shallow reefs and Abrolhos Archipelago. Some colonies associated with rhodolith beds.

***Protopalythoa variabilis*** (Duerden, 1898)

Voucher numbers. — UFPB.CNID.054, 083, 487, 488, 495, 501, 502, 503, 504, 505, 506, 507, 510, 511, 512, 643, 644, 645, 646, 647, 648, 649, 653, 654, 657, 660, 663, 666, 669, 672, 684, 707, 711, 712, 715, 780, 787, 788, 789, 790, 794, 795, 796, 852, 857, 884, 898, 932, 1007, 1008, 1031, 1032, 1033, 1083, 1088.

CIPY records. — PI, CE, RN, PB, PE, AL, and BA.

Notes. — From shallow reefs.

Family Parazoanthidae Delage & Hérouard, 1901

***Parazoanthus* sp.**

Voucher numbers. — UFPB.CNID.918, 1092.

CIPY record. — PB.

Notes. — From shallow reefs.

Family Zoanthidae Rafinesque, 1815

***Isaurus tuberculatus*** Gray, 1828

Voucher numbers. — UFPB.CNID.489, 637, 638, 639, 640, 641, 642, 659, 665, 667, 679, 680, 717, 786, 791.

CIPY records. — RN, PB, PE, AL, and BA.

Notes. — From shallow reefs and Project Algas-PB. Intertidal to 34 m depth.

***Zoanthus pulchellus*** (Duchassaing & Michelotti, 1860)

Voucher number. — UFPB.CNID.821.

CIPY record. — RN.

Notes. — From shallow reefs.

***Zoanthus sociatus*** (Ellis, 1768)

Voucher numbers. — UFPB.CNID.084, 103, 424, 425, 426, 427, 428, 429, 430, 431, 484, 494, 496, 652, 661, 674, 678, 714, 778, 813, 817, 818, 838, 854, 859, 933, 1034, 1035, 1036, 1037, 1040, 1082, 1084, 1087.

CIPY records. — CE, RN, PB, PE, and AL.

Notes. — From shallow reefs.

***Zoanthus solanderi*** Le Sueur, 1818

Voucher numbers. — UFPB.CNID.485, 486, 892, 921, 934.

CIPY records. — PB and AL.

Notes. — From shallow reefs.

***Zoanthus* sp.**

Voucher numbers. — UFPB.CNID.497, 498, 499, 500, 509, 627, 632, 636, 650, 651, 658, 668, 670, 671, 677, 682, 709, 710, 716, 718, 783, 785, 886, 942.

CIPY records. — CE, RN, PB, PE, AL, and BA.

Notes. — From shallow reefs and Abrolhos Archipelago. Some colonies found together with *P. caribaeorum*.

Order Actiniaria Hertwig, 1882

Family Actiniidae Rafinesque, 1815

***Actinia bermudensis*** (McMurrich, 1889)

Voucher numbers. — UFPB.CNID.882, 1026, 1027, 1089.

CIPY record. — PB.

Notes. — From shallow reefs.

***Actinostella flosculifera*** (Le Sueur, 1817)

Voucher numbers. — UFPB.CNID.376, 381, 398.

CIPY record. — BA.

Notes. — From shallow reefs.

***Bunodosoma cangicum*** Belém & Preslercravo, 1973

Voucher numbers. — UFPB.CNID.082, 101, 369, 372, 378, 379, 380, 383, 386, 387, 388, 390, 656, 730, 731, 734, 735, 736, 746, 839, 883, 887, 893, 986, 1024, 1025, 1028, 1085.

CIPY records. — MA, PI, RN, PB, PE, AL, and BA.

Notes. — From shallow reefs and hypersaline mangroves.

***Bunodosoma* sp.**

Voucher number. — UFPB.CNID.803.

CIPY record. — PB.

Notes. — From shallow reefs.

Family Aliciidae Duerden, 1895

***Lebrunia neglecta*** Duchassaing & Michelotti, 1860

Voucher number. — UFPB.CNID.389.

CIPY record. — AL.

Notes. — From shallow reefs.

Family Homostichanthidae Carlgren, 1900

***Homostichanthus duerdeni*** Carlgren, 1900

Voucher numbers. — UFPB.CNID.382, 385.

CIPY record. — BA.

Notes. — From shallow reefs.

Order Alcyonacea Lamouroux, 1812

Family Ellisellidae Gray, 1859

***Ellisella* sp.**

Voucher number. — UFPB.CNID.459.

CIPY record. — BA.

Notes. — From Abrolhos Archipelago.

***Nicella guadalupensis*** (Duchassaing & Michelotti, 1860)

Voucher number. — UFPB.CNID.1119.

CIPY record. — RN.

Notes. — From continental shelf about 100 m depth.

Associated with several individuals of the brittlestar *Hemieuryale pustulata* v. Martens, 1867.

Family Plexauridae Gray, 1859

***Muriceopsis sulphurea*** (Donovan, 1825)

Voucher numbers. — UFPB.CNID.029, 111, 274, 277, 281, 284, 285, 288, 293, 296, 396, 455, 458, 460, 482, 998, 1003, 1041.

CIPY records. — PB, AL, and BA.

Notes. — From shallow reefs and Abrolhos Archipelago.

Some colonies found together with the octocoral *Olindagorgia gracilis* (Verrill, 1868).

***Plexaurella grandiflora*** Verrill, 1912

Voucher numbers. — UFPB.CNID.030, 119, 275, 278, 289, 294, 298, 397, 454, 456, 457, 462, 664, 899, 930.

CIPY records. — PB, AL, and BA.

Notes. — From shallow reefs and Abrolhos Archipelago.

***Plexaurella regia*** Castro, 1989

Voucher numbers. — UFPB.CNID.279, 290.

CIPY record. — BA.

Notes. — From Abrolhos Archipelago. Paratypes.

***Scleracis guadalupensis*** (Duchassaing & Michelotti, 1860)

Voucher number. — UFPB.CNID.1120.

CIPY record. — RN.

Notes. — From continental shelf, about 80 m depth, associated with specimens of the brittlestar *Ophiacantha* sp.

Family Gorgoniidae Lamouroux, 1812

***Olindagorgia gracilis*** (Verrill, 1868)

Voucher number. — UFPB.CNID.291.

CIPY record. — BA.

Notes. — From Abrolhos Archipelago, associated with the octocorallia *M. sulphurea*.

***Phyllogorgia dilatata*** (Esper, 1806)

Voucher numbers. — UFPB.CNID.273, 276, 280, 283, 287, 292.

CIPY record. — BA.

Notes. — From shallow reefs and Abrolhos Archipelago.

***Leptogorgia punicea*** (Milne Edwards & Haime, 1857)

Voucher number. — UFPB.CNID.394.

CIPY record. — RJ.

Notes. — From Sepetiba Bay, associated with *Astrangia* sp.

***Leptogorgia setacea*** (Pallas, 1766)

Voucher number. — UFPB.CNID.1118.

CIPY record. — RN.

Notes. — From hypersaline mangrove.

Family Clavulariidae Hickson, 1894

***Carijoa riisei*** (Duchassaing & Michelotti, 1860)

Voucher numbers. — UFPB.CNID.105, 121, 122, 295, 297, 299, 300, 301, 302, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 798, 814, 885, 894, 1020, 1038, 1039.

CIPY records. — MA, CE, RN, PB, PE, and AL.

Notes. — From shallow reefs, Paraíba do Norte River estuary, and Alvarenga shipwreck (7°2'30"S 34°44'33"W, João Pessoa, PB, 18 to 20 m). Intertidal to 18 m depth. Some colonies associated with sponges.

Order Pennatulacea Verrill, 1865

Family Renillidae Gray, 1860

***Renilla muelleri*** Kölliker, 1872

Voucher number. — UFPB.CNID.864.

CIPY record. — RN.

Notes. — From hypersaline mangroves.



***Renilla reniformis*** (Pallas, 1766)

Voucher number. — UFPB.CNID.900.

CIPY record. — PB.

Notes. — From Baía da Traição Beach.

Phylum Echinodermata Bruguère, 1791

Class Crinoidea Miller, 1821

Order Comatulida A.H. Clark, 1908

Family Comatulidae Fleming, 1828

***Comactinia echinoptera*** (Müller, 1840)

Voucher numbers. — UFPB.ECH.049, 1559.

CIPY record. — PB.

Notes. — From shallow reefs. Some specimens found on phytal of *Halimeda opuntia* (Linnaeus) J.V. Lamouroux, 1816.

Family Tropiometridae A.H. Clark, 1908

***Tropiometra carinata*** (Lamarck, 1816)

Voucher numbers. — UFPB.ECH.1014, 1080, 1478, 1534, 1565, 1567, 1568, 1979, 2010, 2289.

CIPY records. — PB, AL.

Notes. — From shallow reefs and Abrolhos Archipelago.

Intertidal to 10 m depth.

Class Asteroidea de Blainville, 1830

Order Paxillosida Perrier, 1884

Family Astropectinidae Gray, 1840

***Astropecten alligator*** Perrier, 1881

Voucher number. — UFPB.ECH.881.

CIPY record. — PB.

Notes. — From Project Algas-PB, 24 m depth.

***Astropecten brasiliensis*** Müller & Troschel, 1842

Voucher number. — UFPB.ECH.1919.

CIPY record. — RN.

Notes. — Specimen found between rocks.

***Astropecten marginatus*** Gray, 1840

Voucher numbers. — UFPB.ECH.864, 1427, 1839, 1840, 1841, 1842.

CIPY records. — RN, PB, PE, and SP.

Notes. — From sandy bottom. Some specimens from by-catch of fishes.

Family Luidiidae Sladen, 1889

***Luidia alternata alternata*** (Say, 1825)

Voucher numbers. — UFPB.ECH.876, 877, 879.

CIPY record. — PB.

Notes. — From Project Algas-PB, 14 to 24 m depth.

***Luidia clathrata*** (Say, 1825)

Voucher number. — UFPB.ECH.875.

CIPY record. — PB.

Notes. — From Project Algas-PB, 26 m depth.

***Luidia ludwigi scotti*** Bell, 1917

Voucher number. — UFPB.ECH.878.

CIPY record. — PB.

Notes. — From Project Algas-PB, 20 m depth.

***Luidia senegalensis*** (Lamarck, 1816)

Voucher numbers. — UFPB.ECH.089, 1256, 1428, 1582, 1583, 1584, 1585, 1586, 1673, 1865, 1866.

CIPY records. — RN, PB, PE, and SP.

Notes. — From beaches and Paraíba do Norte River estuary. Some specimens found with commensal crustaceans in their ambulacral groove.

Order Spinulosida Perrier, 1884

Family Echinasteridae Verrill, 1867

***Echinaster (Othilia) brasiliensis*** Müller & Troschel, 1842

Voucher numbers. — UFPB.ECH.138, 718, 872, 1183, 1426, 1465.

CIPY records. — RN, PB, and BA.

Notes. — From shallow reefs and hypersaline mangrove.

***Echinaster (Othilia) echinophorus*** (Lamarck, 1816)

Voucher numbers. — UFPB.ECH.139, 568, 570, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 870, 871, 873, 1172, 1184, 1234, 1240, 1463, 1464, 1466, 1903, 1904, 1905, 1911, 1912, 1913, 1914.

CIPY records. — RN, PB, PE, AL, and BA.

Notes. — From shallow reefs, rhodolith beds, and hypersaline mangrove. Intertidal to 10 m depth.

Order Valvatida Perrier, 1884

Family Asterinidae Gray, 1840

***Asterinides folium*** (Lütken, 1860)

Voucher number. — UFPB.ECH.572.

CIPY record. — PB.

Notes. — From 10 m depth, associated with the Rhodophyta *Lithothamnion* sp.

Family Ophidiasteridae Verrill, 1870

***Linckia guildingi*** Gray, 1840

Voucher numbers. — UFB.ECH.1159, 1160, 1161, 1235, 1236, 1241, 1242, 1243, 1244, 1245, 1246, 1247, 1248,

1249, 1250, 1479, 1502.

CIPY record. — PB.

Notes. — From shallow reefs and Project Algas-PB, intertidal to 30 m depth.

Family Oreasteridae Fisher, 1908

***Oreaster reticulatus*** (Linnaeus, 1758)

Voucher numbers. — UFPB.ECH. 1251, 1252, 1253, 1254, 1255, 1429, 1430, 1574, 1575, 1576, 1577, 1578, 1579, 1581, 1588, 1590, 1593, 1594, 1871, 1872, 1873.

CIPY records. — CE, PB, and PE.

Notes. — From Project Algas-PB, Geomar XXIV, and rhodolith beds, 6 to 35 m depth.

Class Ophiuroidea Gray, 1840

Order Euryalida Lamarck, 1816

Family Gorgonocephalidae Ljungman, 1867

***Astrophyton muricatum*** (Lamarck, 1816)

Voucher numbers. — UFPB.ECH.1975, 2036.

CIPY records. — RN and BA.

Notes. — From continental shelf of RN, between 120 to 130 m depth, and Abrolhos Archipelago.

***Astrocyclus caecilia*** (Lütken, 1856)

Voucher number. — UFPB.ECH.2161.

CIPY record. — RN.

Notes. — From continental shelf between 120 to 130 m depth.

***Asteroporpa (Asteroporpa) annulata*** Örsted & Lütken in Lütken, 1856

Voucher number. — UFPB.ECH.1823.

CIPY record. — RN.

Notes. — From continental shelf, 100 m depth.

Order Ophiacanthida O'Hara, Hugall, Thuy, Stöhr & Martynov, 2017

Family Ophiacanthidae Ljungman, 1867

***Ophiacantha cosmica*** Lyman, 1878

Voucher numbers. — UFPB.ECH.1835, 1836.

CIPY record. — SP.

Notes. — From REVIZEE-Score Sul, 380 to 808 m depth.

***Ophiopaepale goesiana*** Ljungman, 1872 (*incertae sedis*)

Voucher number. — UFPB.ECH.2160.

CIPY record. — RN.

Notes. — From Potiguar Basin, about 100 m depth.

Family Ophiomyxidae Ljungman, 1867

***Ophiomyxa flaccida*** (Say, 1825)

Voucher numbers. — UFPB.ECH.064, 065, 071, 072, 244, 291, 371, 393, 400, 442, 445, 448, 449, 450, 455, 498, 607, 608, 1130, 1131, 1142, 1782, 1869.

CIPY records. — PB, AL, and BA.

Notes. — From shallow reefs, rhodolith beds, Abrolhos Archipelago, and Project Algas-PB. Intertidal to 33 m depth. Some specimens associated with phytal of the algae *Ulva lactuca* Linnaeus, 1753 and *Hypnea musciformis* (Wulfen) J.V. Lamouroux, 1813.

Family Ophiocomidae Ljungman, 1867

***Ophiocoma echinata*** (Lamarck, 1816)

Voucher numbers. — UFPB.ECH.216, 228, 255, 256, 257, 260, 264, 265, 266, 267, 268, 290, 294, 338, 339, 348, 353, 370, 394, 406, 409, 440, 441, 443, 447, 461, 462, 463, 483, 493, 507, 509, 519, 527, 529, 542, 543, 588, 601, 602, 603, 604, 605, 606, 626, 627, 628, 629, 773, 928, 929, 1031, 1215, 1381, 1382, 1413, 1414, 1415, 1416, 1612, 1886, 2235.

CIPY records. — RN, PB, and BA.

Notes. — From shallow reefs, rhodolith beds, Abrolhos Archipelago, and Project Algas-PB. Intertidal to 35 m depth.

***Ophiomastix wendtii*** (Müller & Troschel, 1842)

Voucher numbers. — UFPB.ECH.397, 451, 467, 508, 549, 554, 630, 672, 679, 689, 690, 772, 1392.

CIPY record. — PB.

Notes. — From Project Algas-PB and Geomar XXIV, 14 to 34 m depth.

***Ophiocomella ophiactoides*** (H.L. Clark, 1900)

Voucher numbers. — UFPB.ECH.034, 035, 036, 037, 038, 040, 046, 1645, 1647, 1688, 1693, 1696, 1700, 1796, 1797, 1801, 2079, 2086, 2186, 2242, 2254, 2255.

CIPY records. — PE, PB, BA.

Notes. — From shallow reefs, Fernando de Noronha, and Abrolhos Archipelago. Intertidal to 9 m depth. Some specimens associated with phytal of *H. opuntia*.

Family Ophiodermatidae Ljungman, 1867

***Ophioderma appressum*** (Say, 1825)

Voucher numbers. — UFPB.ECH.041, 117, 120, 126, 129, 131, 172, 220, 296, 303, 306, 309, 328, 336, 341, 356, 357, 362, 365, 375, 377, 453, 457, 458, 459, 464, 472, 485, 494, 505, 511, 522, 530, 532, 579, 583, 587, 614, 665, 673, 674, 675, 676, 677, 678, 691, 692, 693,

694, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1012, 1019, 1134, 1156, 1177, 1187, 1199, 1204, 1209, 1210, 1211, 1261, 1262, 1263, 1267, 1283, 1284, 1290, 1339, 1340, 1341, 1346, 1347, 1354, 1367, 1369, 1389, 1390, 1391, 1418, 1420, 1434, 1444, 1597, 1607, 1614, 1783, 1804, 1806, 1858, 1882, 1888, 2002, 2075, 2236, 2261, 2278.

CIPY records. — PB, PE, AL, and BA.

Notes. — From shallow reefs, rhodolith beds, Abrolhos Archipelago, Project Algas-PB, and Geomar XXIV. Intertidal to 35 m depth.

***Ophioderma besnardi*** Tommasi, 1970

Voucher numbers. — UFPB.ECH.282.

CIPY records. — PB and RN.

Notes. — From continental shelf, between 120 to 130 m depth, Project Algas-PB.

***Ophioderma cinereum*** Müller & Troschel, 1842

Voucher numbers. — UFPB.ECH.114, 115, 116, 119, 121, 122, 123, 124, 128, 132, 133, 134, 135, 136, 254, 258, 333, 337, 346, 347, 361, 363, 380, 386, 391, 411, 412, 413, 414, 420, 444, 452, 454, 479, 500, 503, 525, 551, 577, 580, 585, 586, 594, 595, 596, 598, 609, 611, 612, 613, 631, 664, 670, 682, 695, 750, 751, 752, 753, 754, 755, 756, 831, 832, 833, 834, 835, 836, 996, 1010, 1011, 1133, 1140, 1144, 1258, 1259, 1264, 1386, 1387, 1388, 1411, 1419, 1433, 1443, 1462, 1467, 1507, 1598, 1805, 1807, 1859, 1860, 1868, 1885, 1889, 1932, 2237.

CIPY records. — RN, PB, PE, AL, and BA.

Notes. — From shallow reefs, Abrolhos Archipelago, Project Algas-PB, and Geomar XXIV. Intertidal to 35 m depth.

***Ophioderma januarii*** Lütken, 1856

Voucher numbers. — UFPB.ECH.272, 294, 332, 500, 502, 505, 554, 561, 593, 837, 1132, 1194, 1260, 1686, 1741, 1743, 1744, 1898.

CIPY records. — RN and PB.

Notes. — From shallow reefs, hypersaline mangrove, and Project Algas-PB. Intertidal to 26 m depth. Some specimens found associated with algae.

Order Amphilepidida O'Hara, Hugall, Thuy, Stöhr & Martynov, 2017

Family Amphiuridae Ljungman, 1867

***Amphiodia planispina*** (von Martens, 1867)

Voucher numbers. — UFPB.ECH.227, 248, 379, 685, 992, 1033, 1090, 1122, 1669, 2179, 2181.

CIPY record. — PB.

Notes. — From seagrass, rhodolith beds, and Project Algas-PB. Intertidal to 27 m depth.

***Amphiodia riisei*** (Lütken, 1859)

Voucher numbers. — UFPB.ECH.991, 1190, 1196.

CIPY records. — RN and PB.

Notes. — From hypersaline mangroves and Project Algas-PB, intertidal to 16 m depth.

***Amphiodia* sp.**

Voucher numbers. — UFPB.ECH.223, 1699.

CIPY record. — PB.

Notes. — From rhodolith beds, 10 m depth.

***Amphioplus camamuensis*** Manso, 2004

Voucher number. — UFPB.ECH.2158.

CIPY record. — BA.

Notes. — From Camamu Bay. Holotype.

***Amphioplus lucyae*** Tommasi, 1971

Voucher number. — UFPB.ECH.1833, 1834.

CIPY record. — SP.

Notes. — From São Sebastião and Ubatuba, 25 to 30 m depth.

***Amphipholis januarii*** Ljungman, 1866

Voucher numbers. — UFPB.ECH.050, 051, 053, 057, 066, 112, 170, 217, 224, 232, 234, 237, 238, 269, 280, 374, 376, 382, 432, 471, 492, 496, 545, 576, 662, 684, 698, 859, 861, 993, 1032, 1088, 1089, 1107, 1108, 1109, 1110, 1111, 1112, 1113, 1114, 1136, 1150, 1157, 1176, 1288, 1351, 1373, 1375, 1377, 1394, 1408, 1451, 1471, 1492, 1496, 1522, 1535, 1544, 1549, 1601, 1603, 1604, 1606, 1652, 1662, 1663, 1773, 1781, 1784, 1800, 1900, 1934, 1936, 1938, 2008, 2081, 2191, 2196, 2197, 2217, 2248, 2249, 2252, 2253, 2256, 2257, 2258, 2265, 2276, 2280.

CIPY records. — MA, RN, PB, and BA.

Notes. — From shallow reefs, hypersaline mangrove, rhodolith beds, Abrolhos Archipelago, Port of Cabedelo, shipwreck of Queimado, and Project Algas-PB. Intertidal to 27 m depth. Some specimens associated with the phytal of *Gracilaria cervicornis* (Turner) J. Agardh, 1852, *Halimeda* sp., *H. opuntia*, *Ulva* sp., *Lithothamnion* sp., with the coral *S. stellata* and sponges.

***Amphipholis squamata*** (Delle Chiaje, 1828)

Voucher numbers. — UFPB.ECH.043, 048, 055, 056, 059, 063, 069, 070, 077, 107, 225, 246, 251, 262, 324, 326, 343, 473, 699, 700, 701, 860, 941, 1115, 1116, 1117, 1118, 1119, 1120, 1151, 1171, 1178, 1191, 1193, 1200, 1201, 1203, 1289, 1353, 1355, 1356, 1357, 1378, 1380, 1393, 1399, 1400, 1401, 1409, 1410, 1442, 1448, 1454, 1490, 1494, 1495, 1522, 1525, 1530, 1536, 1537, 1540, 1542, 1543, 1547, 1600, 1651, 1667, 1676, 1677, 1692, 1694, 1697, 1748, 1749, 1750, 1774, 1779, 1794, 1795, 1799, 1808, 1899, 1933, 2006, 2009, 2074, 2082, 2083, 2185, 2190, 2193, 2199, 2200, 2203, 2204, 2214, 2218, 2222, 2233, 2260, 2275, 2281.

CIPY records. — RN, PB, AL, BA, and SP.

Notes. — From shallow reefs, rhodolith beds, rocky shore, hypersaline mangrove, and Project Algas-PB. Intertidal to 26 m depth. Some specimens associated with the phytal of *Halimeda* sp., *H. opuntia*, *Crassiphycus caudatus* (J. Agardh) Gurgel, J.N. Norris & Fredericq 2018, *Caulerpa racemosa* (Forsskål) J. Agardh, 1873, *G. cervicornis*, *Padina gymnospora* (Kützinger) Sonder, 1871, *Padina* sp., *Lobophora* sp., *Dictyota* sp., *Sargassum polyceratium* Montagne, 1837, *Sargassum* sp., *Lithothamnion* sp., with the scleractinian corals *S. stellata*, and *M. harttii*, the soft coral *Z. sociatus*, and sponges.

***Amphipholis* sp.**

Voucher numbers. — UFPB.ECH.171, 226.

CIPY record. — PB.

Notes. — From rhodolith beds.

***Amphiura joubini*** Koehler, 1912

Voucher numbers. — UFPB.ECH.1940, 1941.

CIPY record. — SP.

Notes. — From BIOTA FAPESP, 36 to 40 m depth.

***Amphiura kinbergi*** Ljungman, 1872

Voucher number. — UFPB.ECH.2245.

CIPY record. — BA.

Notes. — From shallow reefs.

***Amphiura stimpsonii*** Lütken, 1859

Voucher numbers. — UFPB.ECH.042, 094, 103, 366, 774, 775, 990, 1407.

CIPY records. — PB and BA.

Notes. — From shallow reefs, Abrolhos Archipelago, and Project Algas-PB. Intertidal to 18 m depth. Some specimens found associated with the phytal of *H. opuntia* and with the corals *M. harttii* and *M. hispida*.

***Amphiura* sp.**

Voucher number. — UFPB.ECH.242.

CIPY record. — PB.

Notes. — From rhodolith beds.

***Microphiopholis atra*** (Stimpson, 1852)

Voucher numbers. — UFPB.ECH.1195, 1901, 2183, 2189, 2282.

CIPY records. — RN and PB.

Notes. — From rhodolith beds, Mamanguape River estuary, and hypersaline mangrove. Intertidal to 10 m depth.

***Ophiocnida scabriuscula*** (Lütken, 1859)

Voucher numbers. — UFPB.ECH.174, 231, 298, 334, 335, 384, 389, 390, 396, 994, 1100, 1101, 1102, 1103, 1137, 1149, 1153, 1175, 1185, 1188, 1383, 1421, 1437, 1445, 1469, 1506, 1518, 1616, 1661, 1698, 1780, 1897, 2003, 2005, 2007.

CIPY records. — RN and PB.

Notes. — From shallow reefs, rhodolith beds, and Project Algas-PB. Intertidal to 18 m depth.

***Ophiophragmus pulcher*** H.L. Clark, 1918

Voucher number. — UFPB.ECH.2231.

CIPY record. — PB.

Notes. — From rhodolith beds.

***Ophiophragmus luetkeni*** (Ljungman, 1872)

Voucher number. — UFPB.ECH.2279.

CIPY record. — PB.

Notes. — From sandbanks.

***Ophiostigma isocanthum*** (Say, 1825)

Voucher numbers. — UFPB.ECH.173, 218, 221, 233, 321, 322, 410, 415, 533, 567, 995, 1086, 1087, 1163, 1164, 1343, 1352, 1605, 1664, 1668, 1687, 1753, 2182.

CIPY records. — RN and PB.

Notes. — From rhodolith beds, hypersaline mangroves, and Project Algas-PB. Intertidal to 34 m depth. Some specimens associated with algae.

## Family Ophiopsilidae Matsumoto, 1915

***Ophiopsila hartmeyerii*** Koehler, 1913

Voucher numbers. — UFPB.ECH.304, 323, 325, 369, 392, 407, 408, 417, 419, 426, 429, 456, 460, 466, 468, 482, 495, 521, 531, 561, 589, 597, 633, 652, 666, 671, 767, 768, 769, 770, 771, 802, 803, 804, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 1025, 1026, 1027,

1028, 1029, 1030, 1096, 1097, 1098, 1099, 1417.  
CIPY record. — PB.  
Notes. — From Project Algas-PB, 12 to 30 m depth.

Family Hemieuryalidae Verrill, 1899

*Hemieuryale pustulata* v. Martens, 1867

Vouches numbers. — UFPB.ECH.2159, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177.

CIPY records. — RN.

Notes. — Associated with the octocoral *N. guadalupensis*, from 10 m depth.

*Ophioplocus januarii* (Lütken, 1856)

Voucher numbers. — UFPB.ECH.1824.

CIPY record. — SP.

Notes. — From Projeto Integrado, 48 m depth.

Family Ophiactidae Matsumoto, 1915

*Ophiactis brasiliensis* Manso, 1988

Voucher number. — UFPB.ECH.2241.

CIPY record. — BA.

Notes. — From shallow reefs.

*Ophiactis lymani* Ljungman, 1872

Voucher numbers. — UFPB.ECH.058, 061, 073, 074, 075, 079, 080, 081, 084, 095, 096, 101, 102, 105, 106, 109, 113, 283, 284, 302, 372, 1128, 1129, 1186, 1280, 1404, 1438, 1452, 1493, 1539, 1775, 2085, 2180, 2188, 2215, 2219, 2221.

CIPY records. — MA, PB, and RJ.

Notes. — From shallow reefs, rocky shore, and rhodolith beds. Intertidal to 18 m depth. Some individuals associated with the phytals of *H. opuntia*, *C. recemosa*, *Sargassum vulgare* C. Agardh, 1820, *S. polyceratium*, *Padina* sp., *Lithothamnion* sp., the scleractinian corals *M. harttii*, *M. hispida*, *S. stellata*, and ascidians.

*Ophiactis quinqueradia* Ljungman, 1872

Voucher numbers. — UFPB.ECH.253, 261, 285, 286, 287, 288, 289, 349, 423, 425, 430, 476, 478, 534, 617, 618, 619, 620, 621, 622, 651, 659, 661, 683, 1021, 1022, 1023, 1024, 1091, 1092, 1093, 1094, 1095, 1281, 1370, 1374, 1436, 1531, 1803.

CIPY records. — RN, PB, PE, BA, and SP.

Notes. — From shallow reefs, Abrolhos Archipelago, and Project Algas-PB. Intertidal to 39 m depth. Some individuals found inside sponges.

*Ophiactis savignyi* (Müller & Troschel, 1842)

Voucher numbers. — UFPB.ECH.039, 044, 045, 047, 052, 054, 060, 062, 067, 068, 076, 082, 083, 085, 086, 087, 088, 090, 091, 092, 093, 097, 099, 100, 108, 110, 111, 137, 240, 281, 297, 301, 395, 418, 422, 428, 1123, 1124, 1125, 1126, 1127, 1138, 1147, 1152, 1154, 1179, 1192, 1198, 1266, 1279, 1398, 1402, 1403, 1431, 1441, 1447, 1453, 1470, 1489, 1508, 1527, 1529, 1538, 1541, 1545, 1546, 1548, 1609, 1691, 1695, 1747, 1751, 1752, 1772, 1778, 1792, 1798, 1863, 1891, 1895, 1935, 1937, 2011, 2084, 2178, 2194, 2195, 2216, 2220, 2238, 2250, 2251, 2277.

CIPY records. — MA, CE, RN, PB, AL, and SP.

Notes. — From shallow reefs, hypersaline mangrove, rhodolith beds, shipwrecks of Queimado and Alvarenga. Intertidal to 12 m depth. Some individual associated with the phytal of *Halimeda* sp., *H. opuntia*, *C. racemosa*, *S. polyceratium*, *S. vulgare*, *G. cervicornis*, *Lithothamnion* sp., the corals *M. harttii*, *M. hispida*, and *S. stellata*, and inside sponges.

*Hemipholis cordifera* (Bosc, 1802)

Voucher numbers. — UFPB.ECH.1826, 1827, 1926.

CIPY records. — RN and SP.

Notes. — From hypersaline mangrove and Projeto Integrado. Intertidal to 19 m depth.

Family Ophiotrichidae Ljungman, 1867

*Ophiotrix (Ophiotrix) angulata* (Say, 1825)

Voucher numbers. — UFPB.ECH.078, 098, 104, 215, 219, 222, 230, 235, 239, 245, 250, 259, 263, 307, 345, 360, 364, 367, 368, 373, 388, 399, 401, 402, 403, 404, 405, 416, 421, 424, 427, 446, 470, 474, 502, 506, 514, 515, 516, 535, 536, 537, 538, 539, 540, 541, 546, 548, 552, 555, 556, 558, 565, 566, 575, 578, 581, 590, 593, 600, 623, 624, 632, 667, 730, 731, 732, 733, 734, 735, 736, 737, 738, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 805, 806, 807, 808, 809, 810, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1104, 1105, 1106, 1170, 1174, 1197, 1265, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1345, 1348, 1358, 1365, 1371, 1376, 1385, 1397, 1405, 1412, 1422, 1423, 1424, 1425, 1435, 1440, 1446, 1450, 1488, 1491, 1509, 1510, 1520, 1521, 1526, 1528,

1532, 1533, 1596, 1602, 1613, 1666, 1685, 1742, 1745, 1746, 1754, 1809, 1862, 1864, 1883, 1884, 1890, 2077, 2078, 2080, 2192, 2211, 2234, 2284.

CIPY records. — MA, PI, CE, RN, PB, PE, AL, BA, and SP.

Notes. — From shallow reefs, rocky shore, rhodolith beds, hypersaline mangrove, Abrolhos Archipelago, shipwreck of Queimado, Project Algas-PB, and Geomar XXIV. Intertidal to 80 m depth. Some individuals associated with algae, sponges, the sea worms of the family Polynoidae, the corals *M. harttii*, *S. stellata* and with parasitic molluscs.

***Ophiothrix (Ophiothrix) rathbuni*** Ludwig, 1882

Voucher numbers. — UFPB.ECH.1282, 1837, 1838.

CIPY records. — BA and SP.

Notes. — From Abrolhos Archipelago, the projects Biotafapesp and REVIZEE-Score Sul, 40 to 380 m depth.

Family Ophionereididae Ljungman, 1867

***Ophionereis dolabriformis*** John & A.M. Clark, 1954

Voucher numbers. — UFPB.ECH.748, 749, 912, 913, 1044, 1045, 1046, 1082, 1083, 1338.

CIPY record. — PB.

Notes. — From Project Algas-PB, 14 to 35 m depth.

***Ophionereis reticulata*** (Say, 1825)

Voucher numbers. — UFPB.ECH.125, 130, 214, 229, 236, 243, 247, 292, 295, 299, 305, 308, 327, 329, 342, 344, 358, 359, 378, 381, 383, 385, 387, 398, 431, 465, 475, 480, 484, 512, 513, 518, 520, 523, 526, 544, 550, 557, 559, 582, 634, 638, 640, 641, 646, 647, 648, 654, 660, 669, 681, 739, 740, 741, 742, 743, 862, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 1016, 1017, 1047, 1048, 1049, 1075, 1076, 1077, 1078, 1079, 1080, 1135, 1139, 1143, 1145, 1155, 1168, 1169, 1173, 1189, 1257, 1276, 1277, 1278, 1286, 1287, 1349, 1350, 1359, 1366, 1368, 1384, 1395, 1396, 1406, 1432, 1439, 1449, 1483, 1484, 1485, 1486, 1487, 1505, 1511, 1519, 1595, 1610, 1650, 1657, 1660, 1665, 1689, 1690, 1791, 1802, 1844, 1861, 1870, 1887, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 2000, 2001, 2004, 2076, 2184, 2187, 2198, 2283.

CIPY records. — PI, CE, RN, PB, PE, AL, and BA.

Notes. — From shallow reefs, rhodolith beds, Abrolhos Archipelago, Project Algas-PB, and Geomar XXIV. Intertidal to 60 m depth. Some specimens associated with the algae *Lithothamnion* sp. and the sea worm *Hesione picta* Müller in Grube, 1858.

***Ophionereis squamulosa*** Koehler, 1914

Voucher numbers. — UFPB.ECH.175, 320, 340, 469, 481, 510, 517, 524, 528, 547, 563, 564, 584, 591, 599, 625, 635, 636, 637, 639, 642, 643, 644, 645, 649, 650, 680, 686, 687, 688, 696, 745, 746, 747, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1081, 1084, 1085, 1939, 2243.

CIPY records. — PB and BA.

Notes. — From shallow reef, rhodolith beds and Project Algas-PB. Intertidal to 30 m depth.

Family Ophiolepididae Ljungman, 1867 (restricted)

***Ophiolepis impressa*** Lütken, 1859

Voucher numbers. — UFPB.ECH.127, 486, 487, 488, 490, 491, 497, 657, 1881.

CIPY records. — PB and AL.

Notes. — From shallow reefs and Project Algas-PB. Intertidal to 33 m depth.

***Ophiolepis paucispina*** (Say, 1825)

Voucher numbers. — UFPB.ECH.489, 562, 1372, 2239.

CIPY records. — PB and BA.

Notes. — From shallow reefs and Project Algas-PB. Intertidal to 33 m depth.

Order Ophiurida Müller & Troschel, 1840 sensu O'Hara *et al.*, 2017

Family Astrophiuridae Sladen, 1879

***Ophiomisidium tommasi*** Borges, Monteiro & Amaral, 2006

Voucher numbers. — UFPB.ECH.1831, 1832.

CIPY record. — SP.

Notes. — From Projeto Integrado and REVIZEE-Score Sul, 510 to 511 m depth.

Family Ophiuridae Müller & Troschel, 1840

***Ophiura clemens*** (Koehler, 1904)

Voucher number. — UFPB.ECH.1830.

CIPY record. — SP.

Notes. — From REVIZEE-Score Sul, 530 m depth.

***Ophiura ljunmani*** (Lyman, 1878)

Voucher numbers. — UFPB.ECH.1828, 1829.

CIPY record. — SP.

Notes. — From Projeto Integrado and REVIZEE-Score Sul, 505 to 530 m depth.

Family Ophiomusaidae O'Hara, Stöhr, Hugall, Thuy & Martynov, 2018

*Ophiomusa acufera* (Lyman, 1875)

Voucher number. — UFPB.ECH.1825.

CIPY record. — SP.

Notes. — From REVIZEE-Score Sul, 150 m depth.

Class Echinoidea Leske, 1778

Order Cidaroida Claus, 1880

Family Cidaridae Gray, 1825

*Eucidaris tribuloides* (Lamarck, 1816)

Voucher numbers. — UFPB.ECH.1337, 1362, 1620, 1621, 1624, 1625, 1626, 1627, 1628, 1636, 1638, 1640, 1643, 1727, 1728, 1732, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1755, 1758, 1757, 1758, 1759, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1777, 1785, 1786, 1787, 1788, 1789, 1790, 1810, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1902, 1917, 2267.

CIPY records. — PB, PE, AL, and BA.

Notes. — From shallow reefs, Fernando de Noronha, Project Algas-PB, and Geomar XXIV. Intertidal to 38 m depth.

Order Diadematoida Duncan, 1889

Family Diadematidae Gray, 1855

*Centrostephanus longispinus rubicingulus* H.L. Clark, 1921

Voucher numbers. — UFPB.ECH.2290, 2291, 2292.

CIPY record. — RN.

Notes. — From Potiguar Basin, 40 to 108 m depth.

*Diadema ascensionis* Mortensen, 1909

Voucher numbers. — UFPB.ECH.1910, 1922.

CIPY record. — AL.

Notes. — From shallow reefs.

Order Camarodonta Jackson, 1912

Family Echinometridae Gray, 1855

*Echinometra lucunter* (Linnaeus, 1758)

Voucher numbers. — UFPB.ECH.001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 015, 016, 021, 022, 023, 025, 026, 027, 028, 029, 030, 031, 033, 351, 352, 354, 355, 573, 702, 777, 1018, 1020, 1146, 1148, 1181, 1182, 1212, 1315, 1316, 1317, 1318, 1319, 1320, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1455, 1456, 1457, 1460, 1472, 1473, 1475, 1476, 1477, 1482, 1512, 1513, 1514, 1515, 1611, 1634, 1642, 1649, 1653, 1654,

1655, 1656, 1658, 1659, 1670, 1674, 1675, 1701, 1702, 1729, 1730, 1731, 1733, 1822, 1843, 1880, 1906, 1909, 2262, 2271, 2285.

CIPY records. — RN, PB, PE, AL, and BA.

Notes. — From shallow reefs, rhodolith beds, and Abrolhos Archipelago. Intertidal to 10 m depth. Some individuals associated with phytal of *H. opuntia* and *C. racemosa*.

Family Toxopneustidae Troschel, 1872

*Lytechinus variegatus* (Lamarck, 1816)

Voucher numbers. — UFPB.ECH.007, 014, 017, 018, 019, 020, 024, 032, 574, 1158, 1321, 1363, 1364, 1461, 1552, 1629, 1631, 1639, 1644, 1703, 1704, 1705, 1706, 1707, 1708, 1709, 1710, 1711, 1712, 1713, 1714, 1715, 1716, 1717, 1718, 1719, 1720, 1721, 1760, 1776, 1811, 1812, 2269.

CIPY records. — PE, PB, AL, and BA.

Notes. — From shallow reefs, rhodolith beds, and Project Algas-PB. Intertidal to 35 m depth.

*Tripneustes ventricosus* (Lamarck, 1816)

Voucher numbers. — UFPB.ECH.1361, 1630, 1635, 1637, 1641, 1722, 1723, 1724, 1725, 1726, 1916, 2270.

CIPY records. — PB, AL, and BA.

Notes. — From shallow reefs and Project Algas-PB. Intertidal to 34 m depth.

Order Clypeasteroida A. Agassiz, 1872

Family Mellitidae Stefanini, 1912

*Encope emarginata* (Leske, 1778)

Voucher numbers. — UFPB.ECH.615, 865, 1214, 1291, 1296, 1298, 1299, 1300, 1301, 1303, 1304, 1305, 1306, 1308, 1309, 1310, 1311, 1312, 1313, 1360, 1907, 1908, 2286.

CIPY records. — RN, PB, PE, AL, and BA.

Notes. — From shallow water of sandy beaches, hypersaline mangroves, and Port of Cabedelo (PB). Some individuals associated with decapods.

*Leodia sexiesperforata* (Leske, 1778)

Voucher numbers. — UFPB.ECH.1013, 1165, 1297, 1302, 1307, 1893, 1915, 1921.

CIPY records. — RN, PB, AL, and BA.

Notes. — From shallow water of sandy beaches and Port of Cabedelo (PB). Some individuals associated with decapods.

*Mellita aff. quinquiesperforata* (Leske, 1778)

Voucher numbers. — UFPB.ECH.350, 616, 1015, 1166,

1167, 1205, 1206, 1207, 1208, 1213, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1285, 1292, 1293, 1294, 1295, 1314, 1458, 1474, 1892, 1894, 1918, 1920, 1929, 1930, 1931, 1942, 2287.

CIPY records. — CE, RN, PB, AL, SE, and SP.

Notes. — From shallow water of sandy beaches and hypersaline mangroves. Some individuals associated with decapods.

Family Fibulariidae Gray, 1855

*Echinocyamus grandiporus* Mortensen, 1907

Voucher numbers. — UFPB.ECH.1974.

CIPY record. — CE.

Notes. — From Canopus bank.

Order Echinoneoidea H.L. Clark, 1925

Family Echinoneidae L. Agassiz & Desor, 1847

*Echinoneus cyclostomus* Leske, 1778

Voucher numbers. — UFPB.ECH.1973.

CIPY record. — CE.

Notes. — From Canopus bank.

Class Holothuroidea (Blainville, 1834)

Order Apodida Brandt, 1835

Family Chiridotidae Östergren, 1898

*Chiridota rotifera* (Pourtalès, 1851)

Voucher numbers. — UFPB.ECH.176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 330, 436, 853, 1068, 1220, 1225, 1468, 1481, 1497, 1498, 1599, 1617, 1618, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1955, 2039, 2045, 2054, 2123, 2126, 2127, 2128, 2129, 2247, 2263, 2288.

CIPY records. — CE, RN, PB, PE, AL, BA, and ES.

Notes. — From shallow reefs, hypersaline mangroves, rhodolith beds, and Project Algas-PB. Intertidal to 15 m depth. Some individuals associated with phytal and under rocks.

Family Synaptidae Burmeister, 1837

*Synaptula hydriformis* (Lesueur, 1824)

Voucher numbers. — UFPB.ECH.156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 852, 1069, 1070, 1501, 1554, 1615, 1681, 1896, 1956, 1957, 1958, 2064.

CIPY records. — RN, PB, and RJ.

Notes. — From shallow reefs and hypersaline mangroves. Some individuals associated with phytal of *Sargassum* sp.

*Protankyra ramiurna* Heding, 1928

Voucher numbers. — UFPB.ECH.2125

CIPY record. — PB.

Notes. — From Port of Cabedelo, 8.4 m depth.

Order Dendrochirotida Grube, 1840

Family Cucumariidae Ludwig, 1894

*Ocnus braziliensis* (Verrill, 1868)

Voucher numbers. — UFPB.ECH.1063, 1619.

CIPY records. — RN and PB.

Notes. — From shallow reefs and hypersaline mangroves.

*Parathyone suspecta* (Ludwig, 1875)

Voucher numbers. — UFPB.ECH.438, 867, 1061, 1216, 1224, 1499, 1550, 1619, 1679, 1960, 1961, 2012, 2022.

CIPY records. — RN, PB, and BA.

Notes. — From shallow reefs, hypersaline mangroves, rhodolith beds, and Abrolhos Archipelago. Intertidal to 6 m depth. Some specimens associated with phytal of *Sargassum* sp.

*Thyonidium seguroensis* (Deichmann, 1930)

Voucher numbers. — UFPB.ECH.874, 1217, 1551, 1553, 1680, 1988, 1997, 1999, 2017, 2040, 2046, 2047, 2050, 2051, 2055, 2060, 2062, 2065, 2066, 2100, 2101, 2102, 2103, 2104, 2224, 2227.

CIPY records. — PB, PE, AL and BA.

Notes. — From shallow reefs and rhodolith beds. Intertidal to 15 m depth. Some individuals associated with phytal of *Lobophora variegata* (J.V. Lamouroux) Womersley ex E.C. Oliveira, 1977, *Sargassum* sp., *Gracilaria* sp. and *Hypnea* sp.

*Trachythyone crassipeda* Cherbonnier, 1961

Voucher numbers. — UFPB.ECH.2026, 2032, 2093.

CIPY record. — BA.

Notes. — From shallow reefs.

Family Phylloporidae Östergren, 1907

*Pentamera paraibanensis* Prata & Christoffersen, 2016

Voucher numbers. — UFPB.ECH.140, 141, 143, 145, 148, 149, 150, 153, 204, 205, 857, 858, 1683, 1684, 2030, 2031, 2033, 2037, 2038, 2048, 2049, 2052, 2053, 2057, 2058, 2059, 2061, 2068, 2072, 2087, 2088, 2089, 2229, 2230.

CIPY record. — PB.

Notes. — From shallow reefs and rhodolith beds. Intertidal 20 m depth. Some individuals associated with the phytal of *Halimeda* sp. and *Hypnea* sp. Holotype



(UFPB.ECH.2229) and paratypes (UFPB.ECH.2048, 2058, 2061, 2089, 2230).

***Pentamera pulcherrima*** Ayres, 1852

Voucher numbers. — UFPB.ECH.2147, 2148.

CIPY record. — PB.

Notes. — From rhodolith beds.

***Stolus cognatus*** (Lampert, 1885)

Voucher numbers. — UFPB.ECH.155, 854, 1060, 1065, 1066, 1073, 1074, 1219, 1503, 1944, 1945, 1946, 1954, 1991, 2014, 2035, 2056, 2091, 2092, 2273.

CIPY records. — RN, PB, and BA.

Notes. — From shallow reefs and rhodolith beds. Intertidal to 15 m depth.

***Thyone brasiliana*** Prata, Manso & Christoffersen, 2020

Voucher numbers. — UFPB.ECH.2121, 2122.

CIPY record. — PB.

Notes. — From rhodolith beds, 10 m depth. Holotype (UFPB.ECH.2121) and paratype (UFPB.ECH.2122).

***Thyone crassidisca*** Pawson & Miller, 1981

Voucher numbers. — UFPB.ECH. 213, 2021, 2115.

CIPY record. — PB.

Notes. — From rhodolith beds.

***Thyone pawsoni*** Tommasi, 1972

Voucher numbers. — UFPB.ECH.1992, 2119, 2266.

CIPY record. — PB.

Notes. — From shallow reefs and rhodolith beds. Intertidal to 10 m depth.

***Thyone pseudofusus*** Deichmann, 1930

Voucher numbers. — UFPB.ECH.2114, 2116, 2117, 2118.

CIPY record. — PB.

Notes. — From rhodolith beds, 10 to 15 m depth.

Family Psolidae Burmeister, 1837

***Lissothuria braziliensis*** (Théel, 1886)

Voucher numbers. — UFPB.ECH.1292, 2274.

CIPY record. — PB.

Notes. — From shallow reefs. Some individuals under rocks and associated with rhodoliths.

Family Sclerodactylidae Panning, 1949

***Coronatum baiensis*** Martins & Souto in Martins, Souto & Menegola, 2012

Voucher numbers. — UFPB.ECH.2151, 2152, 2153, 2154, 2155, 2156, 2157.

CIPY records. — PB and BA.

Notes. — From shallow reefs and rhodolith beds. Intertidal to 10 m depth.

***Euthyonidiella occidentalis*** (Ludwig, 1875)

Voucher numbers. — UFPB.ECH.152, 433, 434, 435, 855, 886, 1064, 1067, 1218, 1221, 1504, 1608, 1963, 1994, 1995, 1996, 2015, 2018, 2020, 2023, 2017, 2028, 2029, 2041, 2063, 2067, 2069, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2225, 2264.

CIPY records. — RN, PB, PE, and BA.

Notes. — From shallow reefs, rhodolith beds, and Abrolhos Archipelago. Intertidal to 20 m depth. Some individual collected in phytal of *Gracilaria* sp., and between and under rocks.

***Euthyonidiella trita*** (Sluiter, 1910)

Voucher number. — UFPB.ECH.2124.

CIPY record. — PB.

Notes. — From rhodolith beds.

***Havelockia nietae*** Prata, Manso & Christoffersen, 2020

Vouches number. — UFPB.ECH.2120.

CIPY record. — RN.

Notes. — From hypersaline mangroves. Holotype.

***Pseudothyone belli*** (Ludwig, 1886)

Voucher numbers. — UFPB.ECH.144, 146, 1959, 1990, 2016, 2043, 2044, 2094, 2095, 2096, 2097, 2098, 2099, 2149, 2150.

CIPY record. — PB.

Notes. — From shallow reefs and rhodolith beds. Intertidal to 15 m depth. Some individuals associated with phytal of *H. opuntia*.

Order Holothuriida Miller, Kerr, Paulay, Reich, Wilson, Carvajal & Rouse, 2017

Family Holothuridae Burmeister, 1837

***Holothuria (Cystipus) pseudofossor*** Deichmann, 1930

Voucher numbers. — UFPB.ECH.2070

CIPY record. — PB.

Notes. — From Project Algas-PB, 30 m depth.

***Holothuria (Halodeima) grisea*** Selenka, 1867

Voucher numbers. — UFPB.ECH.206, 207, 208, 209, 210, 211, 212, 213, 270, 272, 273, 274, 275, 276, 277, 278, 279, 310, 311, 312, 313, 314, 315, 316, 317, 318,

319, 439, 776, 1059, 1072, 1141, 1222, 1223, 1226, 1459, 1516, 1517, 1556, 1558, 1793, 1962, 1985, 1986, 2019, 2130, 2133, 2134, 2138, 2139, 2141, 2145, 2272.  
CIPY records. — PI, CE, RN, PB, PE, AL, BA, and RJ.  
Notes. — From shallow reefs and rocky shores.

***Holothuria (Holothuria) dakarensis*** Panning, 1939

Voucher number. — UFPB.ECH.2158.

CIPY record. — RN.

Notes. — From hypersaline mangroves.

***Holothuria (Semperothuria) surinamensis*** Ludwig, 1875

Voucher numbers. — UFPB.ECH.1884, 1984, 2071.

CIPY record. — AL.

Notes. — From shallow reefs.

***Holothuria (Theelothuria) princeps*** Selenka, 1867

Voucher numbers. — UFPB.ECH.1557.

CIPY record. — AL.

Notes. — From shallow reefs.

***Holothuria (Thymiosycia) arenicola*** Semper, 1868

Voucher numbers. — UFPB.ECH.697, 1062, 1480, 1928, 1983, 2131, 2132, 2135, 2136, 2140, 2142, 2143, 2246.

CIPY records. — RN, PB, PE, AL, and BA.

Notes. — From shallow reefs and hypersaline mangroves. Individuals collected under rocks and burrowed in sand/mud bottoms.

Order Synallactida Miller, Kerr, Paulay, Reich, Wilson, Carvajal & Rouse, 2017

Family Stichopodidae Haeckel, 1896

***Isostichopus badionotus*** (Selenka, 1867)

Voucher numbers. — UFPB.ECH.1987, 2137, 2144, 2146.

CIPY records. — AL and BA.

Notes. — From shallow reefs and Abrolhos Archipelago.

## Discussion

The CIPY is home to a representative sampling of the invertebrate's marine fauna of Brazil, in particular of the shallow coastal environments of the North-eastern Region. Several represented species in the collection can be considered as rare since their populations are reduced in their natural habitats or they have apparently disappeared from some sampled localities (e. g. the cnidarians *Plexaurella grandiflora* and *Mussismilia harttii*, and the echinoderms *Echinometra lucunter* and

*Ophioderma cinereum*, personal observations). Through time, the CIPY has been the main source for many research projects that have produced considerable results. These include communications in scientific meetings, dissertations, theses, and scientific articles. In turn, these works have enriched the collection since many species have been described and deposited in the CIPY. In total, 36 described species are housed in this collection (Table 1), of which 28 are endemic. Additionally, some new records have been cited for the Brazilian littoral based from material deposited at the CIPY (e. g. Young, 1988; Young & Christoffersen, 1984; De Assis *et al.*, 2008, 2015; Santos *et al.*, 2009; Gondim *et al.*, 2010, 2013a, 2015a, 2018a, b; Oliveira & Christoffersen, 2013; Brito *et al.*, 2013; Prata *et al.*, 2014b; Lucena *et al.*, 2017; Lucena & Christoffersen, 2019).

Many authors emphasize the social legacy that scientific collections represent for society and scientific advances in knowledge in distinct areas (Lane, 1996; Hone, 1997; Zaher & Young, 2003; Suarez & Tsutsui, 2004; Canhos *et al.*, 2006; Pyke & Ehrlich, 2010; Bi *et al.*, 2013; Oliveira & Costa, 2016; Powers *et al.*, 2019). According to Watanabe (2019), as genetics, molecular biology, and chemical methods have advanced, researchers are turning to natural history collections to gain insights into everything from the history of infectious diseases to the evolution of specific traits. Nevertheless, many collections undergo difficulties that range from painful budgetary shortfalls (Suarez & Tsutsui, 2004), to lack of infrastructure and adequate material, and even lack of trained human resources for the adequate maintenance of these collections. This situation can be considered even more critical in collections housed in university departments, in which the curatorship activities are done by professors that accumulate functions of teaching, conducting research, and participating in extension projects (Marinoni *et al.*, 1988). Also, it is important to note that the function of a curator does not officially exist in Brazilian Federal Universities (Marinoni *et al.*, 2006; De Vivo *et al.*, 2014). This function is usually "inherited", and not exerted by affinity or identification with these activities by these professionals.

Other daily difficulties encountered in established collections are related to the conditions in which the material arrives. Often this material lacks complete data on their provenance (only field initials on station numbers may be present, for example). At other times, the material arrived in pitiful conditions of preservation and fixation. Many taxonomists become negligent with the material on

which new species are based, even forgetting to deposit the type material of the described species. Such difficulties, when combined, indicate how neglected biological collections may become. Consequently, more

**Table 1.** Type series housed in Invertebrate Collection Paulo Young (CIPY) of the Universidade Federal da Paraíba (Brazil).

Taxa	Voucher		Reference
<b>Porifera/Demospongiae</b>			
<i>Clathria (Clathria) nicoleae</i> Barros, Santos & Pinheiro, 2013	UFPB.POR.175	Holotype	Barros <i>et al.</i> (2013)
<i>Damiria paraibana</i> Santos & Pinheiro, 2013	UFPB.POR.179	Paratype	Santos & Pinheiro (2013)
<i>Dercitus (Stoeba) pseudodiscorhabda</i> Santos & Pinheiro, 2016	UFPB.POR.151	Holotype	Santos & Pinheiro, (2016)
<b>Cnidaria/Anthozoa</b>			
<i>Plexaurella regia</i> Castro, 1989	UFPB.CNID.279, 290	Paratypes	Castro (1989)
<b>Annelida/Polychaeta</b>			
<i>Cossura yacy</i> Sousa, Nogueira Júnior, Cutrim & Oliveira, 2019	UFPB.POLY.1736	Holotype	Sousa <i>et al.</i> (2019)
	UFPB.POLY.1735	Paratype	
<i>Grubeulepis serrata</i> Cutrim, Praseres, Conceição, Almeida, Nogueira Júnior & Oliveira, 2018	UFPB.POLY.1737	Holotype	Cutrim <i>et al.</i> (2018)
	UFPB.POLY.1738, 1739, 1740, 1741, 1742, 1743, 1744	Paratypes	
<i>Nicolae ceciliae</i> Santos, Nogueira, Fukuda & Christoffersen, 2010	UFPB.POLY.1392, 1393, 1394, 1395	Paratypes	Santos <i>et al.</i> (2010)
<i>Nicomache brasiliensis</i> De Assis, Alonso & Christoffersen, 2007	UFPB.POLY.111	Holotype	De Assis <i>et al.</i> (2007)
	UFPB.POLY.112	Paratype	
<i>Nicomache lanai</i> De Assis, Alonso & Christoffersen, 2007	UFPB.POLY.238	Holotype	De Assis <i>et al.</i> (2007)
	UFPB.POLY.255, 256	Paratypes	
<i>Pista alonsae</i> Santos, Nogueira, Fukuda & Christoffersen, 2010	UFPB.POLY.1396, 1397, 1398, 1390	Paratypes	Santos <i>et al.</i> (2010)
<i>Sabellaria corallinea</i> Santos, Riul, Brasil & Christoffersen, 2011	UFPB.POLY.634	Holotype	Santos <i>et al.</i> (2011)
	UFPB.POLY.635, 636, 637, 638, 639	Paratypes	
<i>Sabellaria guamare</i> Santos, Brasil & Christoffersen, 2014	CIPY.POLY.1689	Holotype	Santos <i>et al.</i> (2014)
	CIPY.POLY.1690, 1691, 1692, 1693, 1694, 1695, 1696, 1697, 1698, 1699, 1700, 1701, 1702, 1703, 1704, 1705, 1706	Paratypes	

<i>Sabellaria corallinea</i> Santos, Riul, Brasil & Christoffersen, 2011	UFPB.POLY.634	Holotype	Santos <i>et al.</i> (2011)
	UFPB.POLY.635, 636, 637, 638, 639	Paratypes	
<i>Sabellaria guamare</i> Santos, Brasil & Christoffersen, 2014	CIPY.POLY.1689	Holotype	Santos <i>et al.</i> (2014)
	CIPY.POLY.1690, 1691, 1692, 1693, 1694, 1695, 1696, 1697, 1698, 1699, 1700, 1701, 1702, 1703, 1704, 1705, 1706	Paratypes	
<i>Scoloplos maranhensis</i> Oliveira, Cutrim, Vieira, Ferreira, Almeida & Nogueira Júnior, 2019	UFPB.POLY.1730	Holotype	Oliveira <i>et al.</i> (2019)
	UFPB.POLY.1731, 1732, 1733, 1734	Paratypes	
<i>Streblosoma patriciae</i> Santos, Nogueira, Fukuda & Christoffersen, 2010	UFPB.POLY.1385, 1386, 1387	Paratypes	Santos <i>et al.</i> (2010)
<i>Terebella leslieae</i> Santos, Nogueira, Fukuda & Christoffersen, 2010	UFPB.POLY.1388, 1389, 1390, 1391	Paratypes	Santos <i>et al.</i> (2010)
<b>Mollusca/Gastropoda</b>			
<i>Ancilla faustoi</i> Matthews, Matthews & Dijck, 1979	UFPB.MOLL.001	Paratype	Matthews <i>et al.</i> (1979)
<i>Caecum metamorphosicum</i> Lima, Santos & Absalão, 2013	UFPB.MOLL.3546	Paratype	Lima <i>et al.</i> (2013)
<i>Caecum tridadensis</i> Lima, Santos & Absalão, 2013	UFPB.MOLL.3549	Paratype	Lima <i>et al.</i> (2013)
<b>Crustacea/ Malacostraca</b>			
<i>Aegaeon boschii</i> Christoffersen, 1988	UFPB.CRUST.4383	Holotype	Christoffersen (1988)
	UFPB.CRUST.4306, 4307, 4308, 4309, 4318, 4319, 4320, 4321, 4324, 4384	Paratypes	
<i>Alpheus estuariensis</i> Christoffersen, 1984	UFPB.CRUST.1068, 1069, 1070, 1071	Paratypes	Christoffersen (1984)
<i>Alpheus cryptodentatus</i> Christoffersen & Ramos, 1988	UFPB.CRUST.4392	Holotype	Christoffersen & Ramos (1988)
	UFPB.CRUST.4382, 4394	Paratypes	
<i>Alpheus utriensis</i> Ramos & von Prael, 1989	UFPB.CRUST.4386	Paratype	Ramos & von Prael (1989)
<i>Alpheus wickstenae</i> Christoffersen & Ramos, 1987	UFPB.CRUST.4329	Paratype	Christoffersen & Ramos (1987)

<b>Crustacea/ Sessilia</b>			
<i>Ceratoconcha paucicostata</i> Young, 1989	UFPB.CRUST. 2740, 2783, 2789	Paratypes	Young (1989)
<i>Parapontocaris caribbaea</i> (Boone, 1927)	UFPB.CRUST.4383	Holotype	Boone (1927)
	UFPB.CRUST.4384, 4385	Paratypes	
<b>Crustacea/Pycnogonida</b>			
<i>Ammothella calva</i> Lucena, Araújo & Christoffersen, 2019	UFPB.PYC.012	Holotype	Lucena <i>et al.</i> (2019)
	UFPB.PYC.056	Paratype	
<i>Anoplodactylus ganchiformis</i> Lucena & Christoffersen, 2018	UFPB.PYC.242	Holotype	Lucena & Christoffersen (2018)
	UFPB.PYC.217, 222, 243	Paratype	
<i>Anoplodactylus mirim</i> Lucena, de Araújo & Christoffersen, 2015	UFPB.PYC.085	Holotype	Lucena <i>et al.</i> (2015)
<i>Anoplodactylus ricardo</i> Lucena & Christoffersen, 2018	UFPB.PYC.245	Holotype	Lucena & Christoffersen (2018)
	UFPB.PYC.134	Paratype	
<i>Callipallene abroliensis</i> Lucena & Christoffersen, 2016	UFPB.PYC.137	Holotype	Lucena & Christoffersen (2017)
<i>Tanystylum parahybanum</i> Lucena, Araújo & Christoffersen, 2019	UFPB.PYC.031	Holotype	Lucena <i>et al.</i> (2019)
	UFPB.PYC.014	Paratype	
<b>Echinodermata/Ophiuroidea</b>			
<i>Amphioplus camamuensis</i> Manso, 2004	UFPB.ECH.2158	Holotype	Manso (2004)
<b>Echinodermata/Holothuroidea</b>			
<i>Havelockia nietae</i> Prata, Manso & Christoffersen, 2020	UFPB.ECH.2120	Holotype	Prata <i>et al.</i> (2020)
<i>Pentamera paraibanensis</i> Prata & Christoffersen, 2016	UFPB.ECH.2229	Holotype	Prata & Christoffersen (2016)
	UFPB.ECH.2048, 2058, 2061, 2089, 2230	Paratypes	
<i>Thyone brasiliana</i> Prata, Manso & Christoffersen, 2020	UFPB.ECH.2121	Holotype	Prata <i>et al.</i> (2020)
	UFPB.ECH.2122	Paratype	
<b>Chordata/Ascidacea</b>			
<i>Eudistoma versicolor</i> Rocha & Oliveira, 2014	LIPY.UFPB.TUN.308	Paratype	Oliveira <i>et al.</i> (2014)

time, effort and dedication is required by curators and associate curators.

Despite the difficulties hinted at above, many Brazilian invertebrate collections have been well organized in the latter years. There are circa 590 biological collections in Brazil (SiBBR 2013). Of these, only six zoological collections and two zoological museums are in North-eastern Brazil. The size (in number of samples) and broadness of these collections are variable. Discussions on the necessities and goals of biological collections have been widely debated (e. g. Marinoni, 1988; Zaher & Young, 2003; Suarez & Tsutsui, 2004; Kury *et al.*, 2006), notably after the tragic fires that destroyed important collections such as Instituto Butantan, in São Paulo (in May 2010), and Museu Nacional, in Rio de Janeiro (in September 2018). Collections such as those of the CIPY have contributed to training of qualified human resources, to dissemination of information relative to preserved material, and to safeguarding Brazilian diversity, even considering in a limited range. Yet, considering the goals established by several publications on the conservation of Brazilian biodiversity (e. g. Maury, 2002; Kury *et al.*, 2006; Marques & Lamas, 2006; Systematics Agenda, 2000), there remains a long way to go. Conservation goals will only be reached with the creation and consolidation of specific national policies and directives to sustain biological collections.

Finally, it is important to stress that the CIPY represents the most embracing reference collection of shallow-water marine organisms available in the entire North-eastern Region of Brazil. This collection not only represents a valuable repository of national biodiversity, but also represents a patrimony for the university, that deserves recognition, appreciation, and must be made available to the scientific community and public in general (Oliveira & Costa, 2016).

With this work, we hope to provide information on the availability of specimens along the Brazilian littoral and to make the community aware of the necessities and the value of scientific collections.

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