Benthic biodiversity of the Brazilian Equatorial Margin: a systematic review with recommendations for conservation priorities and research

Biodiversidade bentônica da Margem Equatorial Brasileira: uma revisão sistemática com recomendações para prioridades de conservação e pesquisa

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Abstract: The Brazilian Equatorial Continental Margin, encompassing Maranhão, Pará, and Amapá, hosts ecologically and economically significant marine ecosystems that remain poorly investigated. In recent years, the region has gained international attention due to proposed hydrocarbon exploration and the discovery of extensive reef systems near the Amazon River mouth, raising concerns about potential impacts on sensitive coastal and shelf environments. Here, we present the first systematic review of benthic biodiversity across the continental shelf and slope of this margin. Following PRISMA guidelines, literature searches in major scientific databases and complementary manual screening retrieved over 4,000 records, of which 13 met the inclusion criteria. These studies documented 15 phyla, 407 genera, and 498 benthic species, with Nematoda, Cnidaria, Arthropoda, and Mollusca comprising the most diverse groups. Research effort shows a strong taxonomic bias toward megabenthos and megafauna (11 studies), whereas meiofauna and microbenthos remain largely understudied. Nearly half of the selected publications appeared within the last four years, reflecting growing scientific and industrial interest. However, deep-sea habitats (> 2,000 m) and long-term monitoring initiatives are still scarce. Comparison with other Brazilian margins and tropical regions underscores substantial knowledge gaps and the need for coordinated research and conservation strategies in this Atlantic frontier.

Keywords: Amazon shelf. PRISMA flowchart. Macrofauna. Megafauna. Meiofauna. Marine conservation.

Resumo: A Margem Continental Equatorial do Brasil, que abrange os estados do Maranhão, Pará e Amapá, abriga ecossistemas marinhos únicos e pouco estudados, com elevada importância ecológica e econômica. Esta região tem recebido atenção internacional devido ao potencial de exploração de hidrocarbonetos e à recente descoberta de extensos sistemas recifais na foz do rio Amazonas. Neste estudo, apresentamos a primeira revisão sistemática da biodiversidade bentônica na plataforma continental e no talude desta margem. Foram analisados mais de 4.000 documentos de grandes bases científicas, identificando-se 13 estudos que atenderam a critérios rigorosos de inclusão. Esses estudos relatam, coletivamente, 15 filos, 407 gêneros e 498 espécies bentônicas, sendo Nematoda, Cnidaria, Arthropoda e Mollusca os grupos mais diversos. No entanto, a pesquisa tem se concentrado fortemente em megabentos/megafauna (11 estudos), enquanto meiofauna e microbentos permanecem gravemente sub-representados. Quase metade de todos os estudos foi conduzida nos últimos quatro anos, refletindo o crescente interesse científico e industrial na região. Apesar desses avanços, habitats de águas profundas (> 2.000 m) e monitoramento de longo prazo ainda são escassos. Discutimos as implicações desses padrões à luz da literatura internacional, destacando lacunas de conhecimento urgentes e prioridades de conservação para uma das últimas grandes fronteiras marinhas do Atlântico.

Palavras-chave: Plataforma amazônica. Fluxograma PRISMA. Macrofauna. Megafauna. Meiofauna. Conservação marinha.

Santos, T. M. T., Baia, E., Santos, A. P. dos, & Venekey, V. (2026). Benthic biodiversity of the Brazilian Equatorial Margin: a systematic review with recommendations for conservation priorities and research. *Boletim do Museu Paraense Emílio Goeldi. Ciências Naturais*, *21*(1), e2026-1097. http://doi.org/10.46357/bcnaturais.v21i1.1097
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Received on 11/08/2025
Approved on 04/13/2026
Editorial responsibility: Daiane Aviz

INTRODUCTION

The continental margin comprises both the continental shelf and the continental slope, forming a broad continuum from shallow coastal environments to deep-sea basins (Snelgrove, 1999). Together, these regions represent one of the largest marine habitats on Earth (Menot et al., 2010; Ramirez-Llodra et al., 2010). Despite appearing uniform, continental margins are shaped by strong bathymetric gradients, diverse substrate types, and complex biological interactions (Menot et al., 2010; Ramirez-Llodra et al., 2010). A large proportion of the organic matter deposited on the seafloor is remineralized within continental margin sediments, highlighting the pivotal role of these environments in regulating global biogeochemical cycles (Middelburg et al., 1993). Beyond this, they also sustain essential ecological services, including nursery support, nutrient regeneration, and long-term carbon storage (Levin & Sibuet, 2012).

Benthic communities play fundamental roles in marine ecosystems by driving nutrient cycling, organic matter remineralization, and sediment bioturbation (Snelgrove, 1999). They also provide essential ecosystem services such as food resources, fisheries support, and habitat structuring through bioengineering species (Danovaro et al., 2008; Lemieux & Cusson, 2014). Understanding benthic biodiversity and community dynamics is therefore critical for assessing ecosystem health and informing sustainable management strategies, particularly in frontier regions, defined here as areas characterized by limited baseline knowledge of benthic ecology and biodiversity and increasing anthropogenic pressures.

The occurrence and distribution of benthic organisms are strongly correlated with the predominant environmental characteristics of the ecosystem (Giere, 2009; Gray & Elliott, 2009). Hydrodynamics and sediment properties (i.e. grain size, organic matter, and carbonate content) are consistently reported as major drivers of variability in soft-bottom communities (Snelgrove & Butman, 1994; Gray & Elliott, 2009). These factors are largely influenced by bottom currents that regulate sedimentation, resuspension, and transport processes, particularly in shallow-water environments (Gray & Elliott, 2009). In addition, food availability and water column physicochemical conditions, including salinity, O_2 concentration, and temperature, directly affect the richness, diversity and abundance of benthic organisms (Gray & Elliott, 2009). Tropical continental margins are of particular relevance in this context, as they receive the majority of global riverine water and sediment inputs, profoundly shaping benthic ecosystems (Jennerjahn et al., 2010).

Brazil hosts one of the largest continental margins in the world, characterized by pronounced heterogeneity in geomorphology, oceanography, and biodiversity (Ciotti et al., 2010; Jennerjahn et al., 2010). Among the sedimentary basins that compose this vast margin are the Pará–Maranhão Basin and the Foz do Amazonas Basin, which together form the Brazilian Equatorial Margin. The Pará–Maranhão Basin occupies the northern portion of the Brazilian Continental Shelf, along the coasts of Pará and Maranhão states, whereas the Foz do Amazonas Basin lies in the western sector of the Brazilian Equatorial Margin, offshore the Amazon River mouth (Pellegrini & Ribeiro, 2018; Silveira et al., 2020). The Brazilian Equatorial Margin extends for approximately 2,200 km, accounting for about 35% of the total length of the Brazilian Continental Shelf (Pellegrini & Ribeiro, 2018; Silveira et al., 2020; ANP, 2022), and is of particular importance not only because of its geological and geomorphological features, but also as a frontier region for hydrocarbon exploration and marine biodiversity research in Brazil (R. L. Moura et al., 2016).

Benthic communities on the Brazilian Continental Shelf have been the focus of numerous regional surveys, but efforts are unevenly distributed along the coast. Most studies have concentrated on the southeastern and southern margins that are often associated with long-term oceanographic programs and hydrocarbon exploration (e.g. Netto et al., 2005; Bernardino et al., 2016; Falcão et al., 2017; Fonsêca-Genevois et al., 2017; Lavrado et al., 2010, 2017). By contrast, the northern coast of Brazil remains one of the least studied regions of the Western Atlantic.

Early investigations focused on sedimentary processes and soft-bottom fauna near the Amazon River plume (e.g. Aller & Aller, 1986; Silva et al., 2003), but systematic surveys of benthic biodiversity have only recently intensified, particularly after the discovery of the Amazon reef system (R. L. Moura et al., 2016). Even so, available studies remain sparse and taxonomically biased, with a strong emphasis on larger size fractions (macro- and megafauna), whereas smaller components such as meiofauna and microbial assemblages are almost completely absent from the literature (Pereira et al., 2022). This could be a serious issue as the increasing human footprint on the Brazilian Equatorial Margin might compromise its biodiversity but also its ecological functioning even before these are fully known, particularly because smaller organisms play a central role in ecosystem processes such as nutrient cycling, organic matter remineralization, and energy transfer (R. B. Moura et al., 2023).

Despite this growing interest, benthic biodiversity studies in this region remain scarce and spatially fragmented, with most available information derived from a limited number of local or taxon-specific investigations, in contrast to the extensive literature available for other tropical and temperate continental margins (e.g. Ramirez-Llodra et al., 2010; R. B. Moura et al., 2023). A systematic review of benthic biodiversity on the Brazilian Equatorial Margin provides not only an updated inventory of known taxa but also identifies critical knowledge gaps, aligns regional studies with global research efforts, and informs conservation and management strategies in one of the last major marine frontiers of the Atlantic but with rapidly expanding research and development interests.

Therefore, here, we present the first systematic synthesis of benthic biodiversity on the continental shelf and slope of Maranhão, Pará, and Amapá. We compiled (I) all available studies reporting benthic taxa in the region, (II) assessed temporal and thematic patterns of research effort, (III) summarized the taxonomic composition of reported assemblages, and (IV) discussed knowledge gaps and conservation implications in a global context.

MATERIAL AND METHODS

This study was developed through a systematic literature review with a scientometric approach. Scientometrics is a field of research that focuses on the measurement and analysis of scientific production, enabling the identification of knowledge gaps in specific areas (Vieira et al., 2021), as well as trends and patterns that can guide future studies (Luiza-Andrade et al., 2017).

LITERATURE SEARCH STRATEGY

A bibliographic survey of studies (peer-reviewed articles, grey literature, and technical reports) was conducted using the databases Web of Science (n.d.), Scopus (n.d.), SciELO (n.d.), EBSCOhost (n.d.) and EBSCO UFPA (UFPA, n.d.), covering publications available up to August 2024.

The search was based on a set of keywords in both English and Portuguese: "benthos" or "benthic" or "megabenthos" or "megafauna" or "macrofauna" or "macrobenthos" or "meiofauna" or "meiobenthos" or "microfauna" or "microbenthos" or "benthic organism" or "benthic invertebrate" and "Pará" or "Amapá" or "Maranhão" or "equatorial continental margin" or "Equatorial Atlantic Margin" or "Amazon coast".

For SciELO, the search strategy was adjusted to improve coverage by including both general benthic terms and major taxonomic denominations. In addition to keywords related to benthic organisms (e.g. "benthos", "benthic", "macrofauna", "macrobenthos", "meiofauna", "meiobenthos", "megafauna"), individual searches were also conducted using major marine taxonomic groups ("Nematoda", "Arthropoda", "Crustacea", "Decapoda", "Mollusca", "Gasthropoda", "Bivalve", "Annelida", "Polychaeta", "Oligochaeta") in combination with geographic and habitat-related keywords. This approach aimed to retrieve studies that did not explicitly use generic benthic terminology in their titles, abstracts, or keywords, thereby reducing potential search bias.

INCLUSION AND EXCLUSION CRITERIA

The inclusion criteria defined for the screening of studies were: (I) original scientific articles; (II) only articles available in full text; (III) time frame from 01 January 1986 to 31 August 2024; (IV) studies addressing benthic organisms on the continental shelf and slope of Maranhão, Pará, and Amapá; (V) relevant studies matching the scope but not retrieved through the databases (e.g. Aller & Aller, 1986; R. L. Moura et al., 2016); and (VI) technical reports (e.g. Silva et al., 2003; Porto et al., 2005) were also included. The exclusion criteria were: (I) grey literature; (II) literature reviews; (III) studies that did not address benthic taxa, including those focused exclusively on benthic habitats or sedimentary, geochemical, physical, or geomorphological characteristics without biological data; (IV) duplicate records retrieved from more than one database; (V) that presented duplicates in more than one database; (VI) studies restricted to intertidal zones or conducted exclusively at depths shallower than 10 m were excluded from the analysis; (VII) studies published in journals cited in predatory journal lists (Prado et al., 2017; Beall, 2020; Predatory Reports, 2023). No restriction was made based on the language of the articles.

BENTHIC SIZE CLASSIFICATION

Benthic organisms were classified according to body size categories traditionally adopted in marine benthic ecology: microfauna (< 0.044–0.062 mm), meiofauna (0.044–0.5 mm), macrofauna (0.5 mm–2 cm), and megafauna (> 2 cm). These fractions are generally defined based on sieve mesh size and organism body dimensions and represent a standard framework for structuring benthic ecological studies (Higgins & Thiel, 1988; Snelgrove, 1999).

The related terms microbenthos, meiobenthos, macrobenthos, and megabenthos are widely used in the literature to designate benthic organisms within these size ranges. Whereas 'fauna' refers strictly to animal components, 'benthos' is an ecological term encompassing organisms living in association with the seabed and may include both fauna and, in some contexts, conspicuous sessile biota. In practice, microfauna/microbenthos, meiofauna/meiobenthos, and macrofauna/macrobenthos are often used interchangeably when referring to animal assemblages retained within the respective sieve fractions (Danovaro et al., 2010).

STATISTICAL ANALYSIS

Since the dataset was non-linear, a Generalized Additive Model (GAM) with Poisson distribution was applied to test the relationship between the year of publication and the number of studies addressing benthic organisms on the Brazilian Equatorial Margin. The model was fitted with 12 basis functions (k) and smoothed using restricted maximum likelihood (REML). Model assumptions and goodness of fit were evaluated by inspecting residual diagnostics, including residuals versus fitted values, quantile–quantile plots, and checks for overdispersion, which indicated an adequate model fit.

The PRISMA flowchart was constructed to illustrate the literature screening process. The geographical distribution of studies was plotted using QGIS version 3.22 (QGIS Development Team, 2023). To visualize relationships between benthic groups and their size classification, a weighted bipartite network was built. All statistical analyses and plots (except Figures 1 and 2) were created using R software version 3.5.1 (R Core Team, 2023), with the packages bipartite (Dormann et al., 2008), mgcv (Wood, 2004), and ggplot2 (Wickham, 2016).

RESULTS

A total of 5,284 studies were identified. Among them, 1,674 were records in Web of Science, 333 in Scopus (including secondary documents), 1,677 in SciELO, 767 in EBSCOhost, and 833 in EBSCO UFPA. After the application of inclusion and exclusion criteria, only nine met the selection criteria and were selected for the construction of this study. Additionally, a manual search was conducted in the institutional repository of Federal University of Pará (UFPA), and four studies were found. To minimize potential under-representation due to search terminology, complementary searches using major benthic taxonomic groups (e.g. Nematoda, Polychaeta, Mollusca, Crustacea) combined with geographic and habitat-related keywords were also conducted; however, these searches did not yield additional eligible studies beyond those already included. Thus, in total, 13 studies were included in the review (Figure 1). For species counts, taxa identified only to genus level were considered as representing a single species.

The earliest scientific record of benthic organisms on the Brazilian Equatorial Margin was a study by Aller and Aller (1986), which examined macrofauna, meiofauna, and microbial communities from muddy sediments near the Amazon River plume. A research gap persisted throughout the 1990s, followed by renewed activity in the 2000s. Since then, publication output has increased, with nearly half of all benthic studies (seven of 13) published between 2021 and 2024 (Figure 2A). The temporal distribution of benthic records extracted from these studies revealed considerable variation in the number of records per year (Figure 2B). A marked increase was observed from 2016 onward, reflecting not only the rise in the number of publications but also the broader and more detailed taxonomic coverage of more recent studies, which together accounted for hundreds of records.

The dataset revealed a strong taxonomic bias: 11 studies focused on megabenthos/megafauna, four on macrobenthos, and only two each on meiofauna and microbenthos (Figure 3A). Overall, 15 phyla, 407 genera, and 498 species were reported across the continental shelf and slope of Maranhão, Pará, and Amapá until August 2024 (Appendix 1). The most diverse phylum

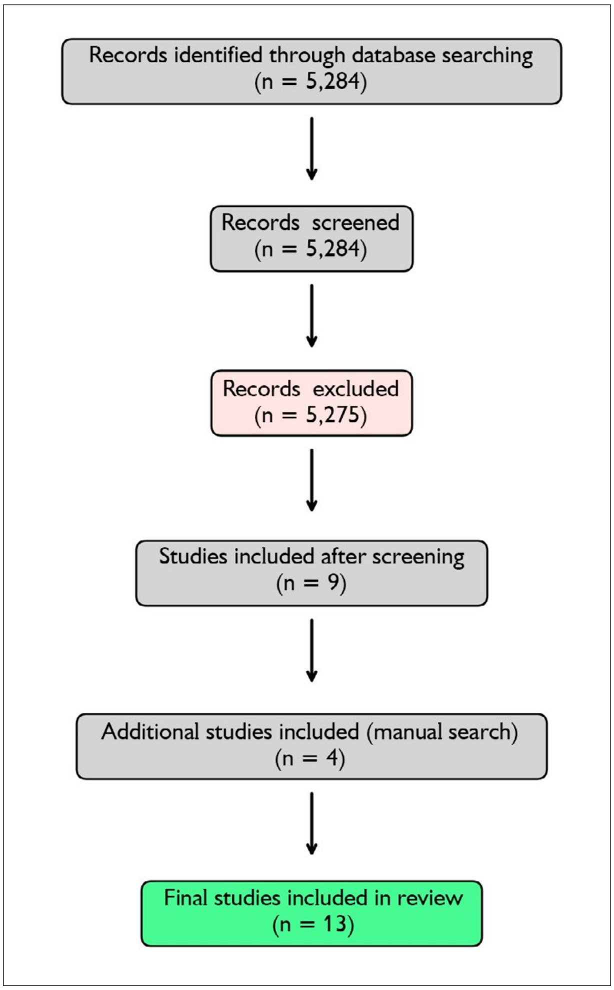

Figure 1. PRISMA flow diagram of the literature selection process for studies addressing benthic organisms on the continental shelf and slope of Maranhão, Pará, and Amapá (Brazilian Equatorial Margin).

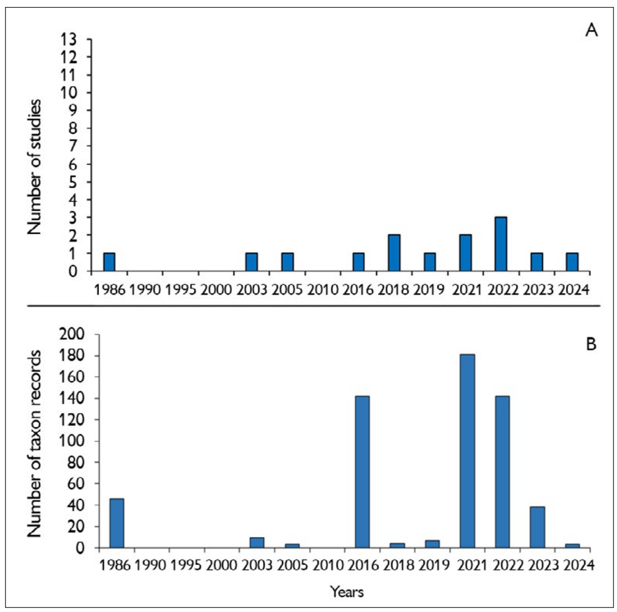

Figure 2. Number of published studies on benthic biodiversity (A) and temporal distribution of benthic organism records (B) extracted from the studies on the Brazilian Equatorial Margin between 1986 and 2024.

in terms of number of genera was Nematoda (120 genera), followed by Cnidaria (94), Arthropoda (92), Porifera (90), Rhodophyta (70) and Mollusca (67). Other recorded phyla include Annelida, Chlorophyta, Chordata, Cyanobacteria, Echinodermata, Foraminifera, Kinorhyncha, Ochrophyta, Platyhelminthes, Porifera, and Rhodophyta (Figure 3B).

The bipartite network illustrates the relationships between size classes and reported phyla along the Brazilian Equatorial Margin (Figure 4). The visualization highlights that megabenthos and macrobenthos are associated with a broad range of phyla, particularly Arthropoda, Mollusca, and Cnidaria. In contrast, meiofauna records are concentrated almost exclusively in Nematoda, while microbenthos are scarcely represented and restricted to a few phyla.

Depth coverage was also uneven. Among the ten studies reporting sampling depths, half were conducted at < 200 m, whereas only three extended into bathyal and abyssal zones (> 2,000 m). Shallow-water ecosystems therefore dominate available knowledge, whereas deep-sea habitats remain poorly represented (Table 1).

The Generalized Additive Model (GAM) applied to the temporal distribution of publications showed significant variation ($p = 0.02$; $edf = 8.34$), with 99.6% of the deviation explained ($R^2adj = 0.996$). The residuals did not show any evident pattern, indicating a satisfactory model fit. The geographic distribution of the studies encompassed all three states of the Brazilian Equatorial Margin, although with unequal representation. Amapá and Pará accounted for the majority of records, whereas Maranhão had comparatively fewer published studies (Table 1; Figure 5).

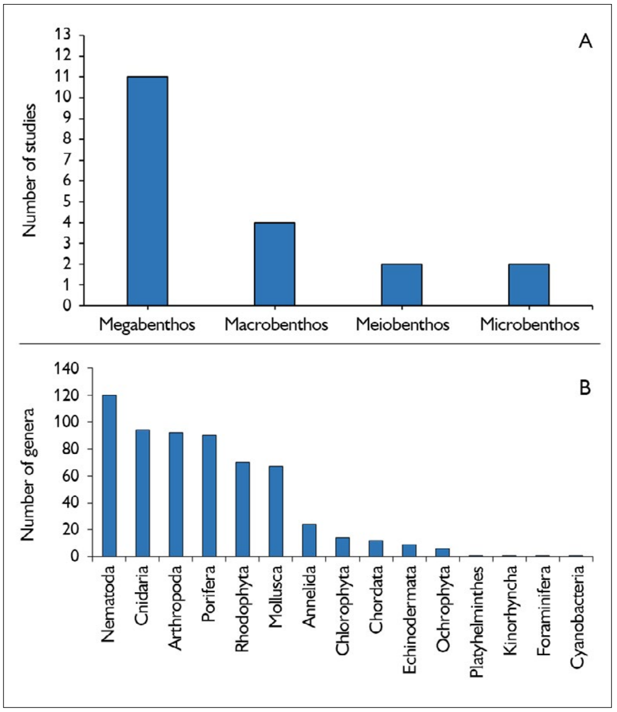

Figure 3. Number of studies conducted on the Brazilian Equatorial Margin according to the classification of benthic organisms by size (megafauna, megabenthos, macrobenthos, meiobenthos, and microbenthos) (A) and number of genera recorded for each phylum (B) extracted from the studies on the Brazilian Equatorial Margin between 1986 and 2024.

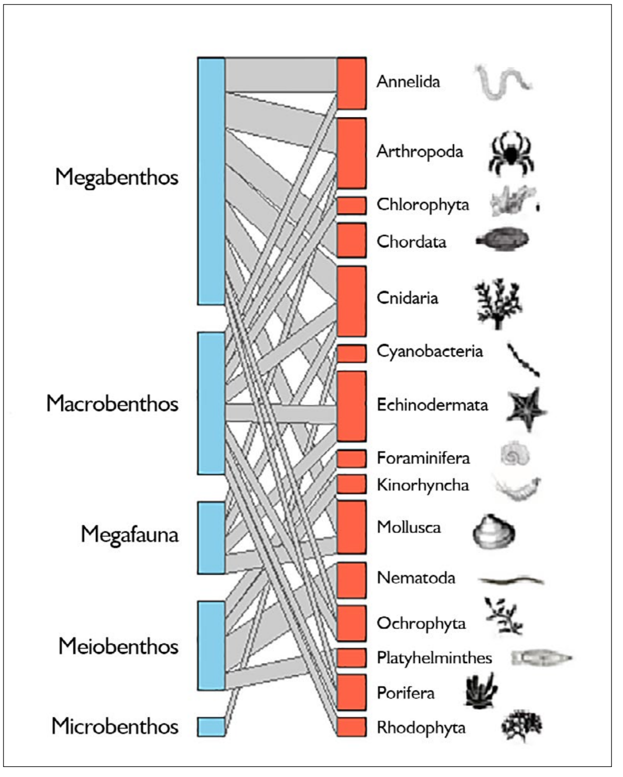

Figure 4. Bipartite network showing the relationship between benthic size classes (left) and reported phyla (right) on the Brazilian Equatorial Margin. The width of the links represent the contribution of each size class to the records of a given phylum.

Table 1. List of studies conducted on the Continental Shelf and Slope of Maranhão, Pará, and Amapá. Legends: N.I. = not informed; * = numbers between parentheses in the coordinates represent the sampling stations. (Continue)

Study	Latitude (decimal)	Longitude (decimal)	State	Size class	Phyla	Depth (m)
Aller and Aller (1986)	N.I.	N.I.	Amapá and Pará	Macrofauna, meiofauna and microbenthos	Annelida, Arthropoda, Chordata, Cnidaria, Echinodermata, Foraminifera, Kinorhyncha, Mollusca, Nematoda, Platyhelminthes	3–123
Silva et al. (2003)	(1) 1.05; (2) 1.45; (3) 1.97; (4) 1.46; (5) 2.65; (6) 2.10; (7) 2.48; (8) 2.71; (9) 2.73; (10) 3.18; (11) 3.40; (12) 3.71; (13) 3.73; (14) 4.11; (15) 4.15	(1) 46.35; (2) 46.72; (3) 47.55; (4) 46.76; (5) 47.71; (6) 48.31; (7) 47.56; (8) 47.65; (9) 47.66; (10) 48.90; (11) 49.11; (12) 48.88; (13) 48.55; (14) 49.35; (15) 49.36	Amapá and Pará	Megafauna	Arthropoda	75–626
Porto et al. (2005)	N.I.	N.I.	Amapá and Pará	Megafauna	Arthropoda	N.I.
R. L. Moura et al. (2016)	N.I.	N.I.	Amapá, Maranhão and Pará	Megabenthos	Arthropoda, Chlorophyta, Cnidaria, Echinodermata, Ochrophyta, Porifera, Rhodophyta	40–2480
Francini-Filho et al. (2018)	N.I.	N.I.	N.I.	Megafauna	Arthropoda, Cnidaria, Echinodermata	N.I.
Neto et al. (2018)	N.I.	N.I.	Pará	Megabenthos	Porifera	N.I.
Sales et al. (2019)	(1) 3.57; (2) 0.09	(1) 50.06; (2) 47.23	N.I.	Megafauna	Mollusca	80
Cordeiro et al. (2020)	N.I.	N.I.	Maranhão	Megabenthos and microbenthos	Annelida, Chlorophyta, Cnidaria, Cyanobacteria, Ochrophyta, Rhodophyta	5–27
Nóbrega et al. (2021)	Between 0.8–4.7	Between 47.85–51.17	Amapá and Pará	Megafauna and macrofauna	Annelida, Arthropoda, Echinodermata, Mollusca, Porifera	35–85
Menezes et al. (2022)	(1) 0.23; (2) 0.75; (3) 1.28; (4) 3.58	(1) 44.90; (2) 46.63; (3) 46.76; (4) 49.11	Amapá, Maranhão and Pará	Megabenthos	Porifera	23–120

Table 1. (Conclusion)

Study	Latitude (decimal)	Longitude (decimal)	State	Size class	Phyla	Depth (m)
Pereira et al. (2022)	(1) 5.18; (2) 4.86; (3) 4.79; (4) 5.30; (5) 5.11; (6) 5.05; (7) 5.09; (8) 4.94; (9) 5.31; (10) 0.71; (11) 0.58; (12) 0.30; (13) 0.33; (14) 1.95; (15) 1.95; (16) 1.80; (17) 1.80	(1) 50.43; (2) 50.20; (3) 50.08; (4) 50.44; (5) 50.31; (6) 50.20; (7) 50.06; (8) 49.81; (9) 50.30; (10) 45.16; (11) 45.16; (12) 44.56; (13) 44.52; (14) 41.70; (15) 41.55; (16) 41.70; (17) 41.55	Amapá, Maranhão and Pará	Meiofauna	Annelida, Arthropoda, Nematoda and others not specified	632–2618
R. B. Moura et al. (2023)	N.I.	N.I.	Amapá, Maranhão and Pará	Megafauna and macrofauna	Cnidaria	0–3888
Jovane et al. (2024)	(1) 4.96; (2) 4.96; (3) 5.06; (4) 5.28	(1) 50.46; (2) 50.45; (3) 50.43; (4) 50.61	Amapá	Megafauna and macrofauna	Annelida, Arthropoda, Chordata, Cnidaria, Echinodermata, Mollusca, Ochrophyta	206–309

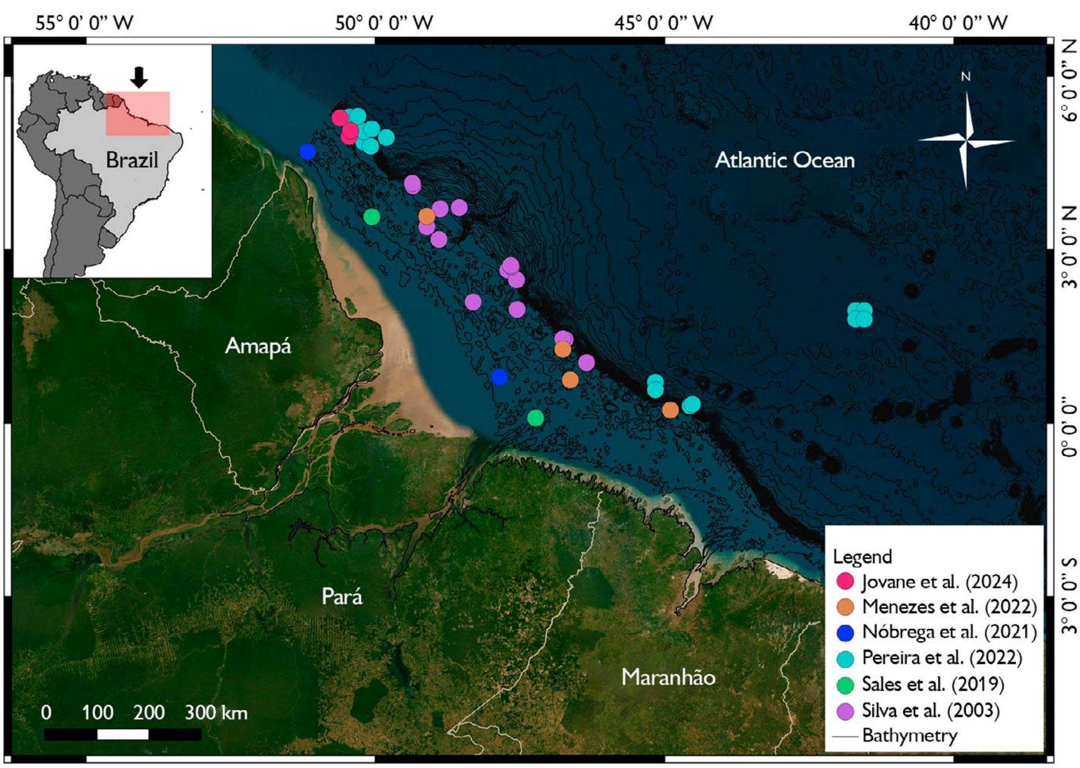

Figure 5. Location of benthic biodiversity studies on the Brazilian Equatorial Margin, covering the states of Amapá, Pará, and Maranhão. Colored dots indicate the works compiled in this review. The studies by Aller and Aller (1986), Porto et al. (2005), R. L. Moura et al. (2016), Francini-Filho et al. (2018), Neto et al. (2018), Cordeiro et al. (2020) and R. B. Moura et al. (2023), were not included in the map because coordinates were not provided in their works. Their locations are described in Table 1. Map: Thuareag Santos (2025).

DISCUSSION

Our systematic review highlights that, although benthic biodiversity on the Brazilian Equatorial Margin is considerable, scientific knowledge remains highly fragmented and concentrated in a few taxonomic groups, habitats, and temporal windows. The 13 studies included in this synthesis represent nearly four decades of research, yet their distribution reveals strong temporal, taxonomic, depth-related, and geographic biases. When compared to other sectors of the Brazilian Continental Margin, such as the Southeastern and Southern margins, where dozens of studies and comprehensive taxonomic inventories are available for multiple benthic groups, the research effort on the Brazilian Equatorial Margin is strikingly limited (e.g. Bernardino et al., 2016, 2017). This contrast indicates that the observed gaps reflect not low biodiversity, but rather a pronounced under-sampling of benthic assemblages in the Equatorial Margin.

TEMPORAL TREND

The temporal distribution of publications reveals a prolonged knowledge gap. After the study by Aller and Aller (1986), which reported macrofauna, meiofauna, and microbial communities in muddy sediments near the Amazon River plume, nearly a decade passed without new records. Research activity resumed in the 2000s, but only in recent years has scientific production intensified, with nearly half of all reviewed studies published between 2021 and 2024. In addition to the temporal distribution of studies, the analysis of benthic taxon records extracted from the literature revealed marked variation in the number of records reported per year, with a sharp increase from 2016 onward. This trend reflects not only the higher number of studies published in recent years but also the broader and more detailed taxonomic coverage adopted by these investigations, which together accounted for hundreds of records.

The sudden increase in publications between 2021 and August 2024 appears to coincide with two key drivers: the discovery of the Amazon reef system (R. L. Moura et al., 2016) and the expansion of environmental assessments, licensing processes, and exploratory activities related to hydrocarbon prospects in the Brazilian Equatorial Margin (Pellegrini & Ribeiro, 2018). These developments likely stimulated scientific attention to the region, particularly in the context of environmental baseline characterization.

The marked concentration of publications in the last four years of the reviewed period (2021 – August 2024) suggests that recent scientific output in the region may be associated with shifting industrial and conservation priorities. This temporal pattern coincides with increased national attention to the Brazilian Equatorial Margin as a strategic frontier for oil and gas exploration, reflected in intensified regulatory activity and environmental licensing processes that commonly require baseline ecological surveys and risk assessment studies (Pellegrini & Ribeiro, 2018; R. B. Moura et al., 2023). In Brazil, offshore exploratory activities are regulated by federal agencies such as Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) and the National Agency of Petroleum, Natural Gas and Biofuels (ANP), whose licensing frameworks demand multidisciplinary environmental characterization, including benthic biodiversity assessments (ANP, 2022). In parallel, industry reports have indicated projected investments on the order of several billion Brazilian *reais* per year toward 2025 for research, development, and innovation associated with new offshore exploration frontiers, including the Brazilian Equatorial Margin (IBP, 2023, 2024). Together, these regulatory and prospective investment drivers may help explain the recent increase in scientific output observed in this review.

The research trajectory in the Brazilian Equatorial Margin reflects a pattern commonly observed in frontier regions: long gaps after initial exploratory work, followed by sudden growth in publications driven by industrial or conservation agendas. A similar trend was documented in the Gulf of Mexico and the West African Margin, where hydrocarbon exploration triggered rapid increases in benthic surveys (Ramirez-Llodra et al., 2011;

Danovaro et al., 2020a, 2020b). As explained above, in the Amazon region, the sharp rise in publications after 2016 coincides with the discovery of the Amazon reef system and intensified interest in offshore oil and gas. However, compared to long-term monitoring initiatives in temperate continental margins (e.g. the European Atlantic and North Sea), the research in the Brazilian Equatorial Margin remains short-term and fragmented.

TAXONOMIC ANALYSIS

The review identified 15 phyla, 407 genera, and 498 species of benthic organisms across the states of Maranhão, Pará, and Amapá (Appendix 1). However, the dataset shows a strong emphasis on larger benthic organisms (i.e. macrofauna and megafauna), which were investigated in 11 of the 13 studies. In contrast, meiofauna and microbenthos, globally recognized as among the most diverse and functionally important benthic components (Giere, 2009), remain severely underrepresented. For comparison, other sectors of the Brazilian Continental Margin and adjacent South Atlantic regions have documented substantially higher numbers of benthic species, particularly where meiofaunal and infaunal assemblages have been systematically surveyed.

In the present dataset, although Nematoda emerged as the most diverse group with 120 genera, this pattern results from a single taxon-focused study (Pereira et al., 2022). Without this contribution, nematodes would be nearly absent from the review, illustrating how current biodiversity estimates for the Brazilian Equatorial Margin remain highly dependent on isolated taxonomic efforts rather than sustained, integrative sampling programs. This bias is not unique to Brazil, and global syntheses have shown that large, conspicuous taxa dominate benthic literature worldwide, while meiofauna and microbial communities are systematically underrepresented (Giere, 2009). For example, in the Mediterranean and Northeast Atlantic, meiofauna accounts for less than 10% of benthic publications despite being the most abundant and diverse component of benthic ecosystems (Danovaro et al., 2010).

This imbalance reveals a strong taxonomic bias, with research focused on larger organisms that are easier to identify visually or obtain through capture methods. For example, megabenthos are the subject of more studies due to their ease of visualization and identification, which can even be done through photography (Hanafi-Portier et al., 2021, 2023), coupled with the fact that they can be captured by fishing gear such as trawl nets (Clark et al., 2016). Macrofauna, on the other hand, are more studied than meiofauna because they are more easily identifiable and countable (Schratzberger et al., 2000). On the other hand, smaller organisms, despite their ecological importance, remain largely unstudied due to the complexity of sample processing (Giere, 2009) and the lack of specialized expertise in Brazil (Baldeija & Lercari, 2024), especially in the Amazon region (Venekey et al., 2010). In addition, traditional protocols for processing and identifying meiofauna samples are time-consuming and require specialized taxonomic skills that, unfortunately, are not always easy to find (Wheeler et al., 2004; Faria et al, 2018).

DEPTH TRENDS

Our synthesis shows that from the ten studies that reported sampling depths, five were conducted exclusively in shallow waters (< 200 m), two at intermediate depths (200–2,000 m), and only three extended into abyssal environments (> 2,000 m). This result shows that most current knowledge is derived from shallow-water ecosystems, which are more accessible and easier to sample. Deep-sea ecosystems, which dominate the Brazilian Equatorial Margin in terms of area and likely harbor unique biodiversity, remain almost completely unstudied. The logistical and technological challenges of deep-sea exploration in Brazil are clear, but the lack of data severely limits our understanding of ecological processes and potential vulnerabilities in these habitats.

The concentration of studies in shallow (< 200 m) and shelf environments is consistent with global trends, as logistical and financial constraints have historically restricted access to deep-sea habitats. Since the early 2000s, however, continental margins worldwide. including the Mid-Atlantic Ridge, Mediterranean canyons, and Pacific trenches, have experienced a marked expansion in deep-sea surveys driven by advances in sampling technologies, international collaborative programs, and growing interest in biodiversity conservation and resource management (Ramirez-Llodra et al., 2010; Danovaro et al., 2020a). A similar pattern is observed along other sectors of the Brazilian Continental Margin, such as the Campos, Espírito Santo, and Potiguar basins, where sustained offshore research programs and long-standing industry–academia collaborations have supported repeated deep-sea surveys, resulting in substantial advances in biodiversity assessments and the description of numerous new taxa (e.g., Carvalho et al., 2016; Almada & Bernardino, 2017; Segadilha & Serejo, 2022).

In contrast, the Brazilian Equatorial Margin remains severely undersampled below 2,000 m, with systematic deep-sea exploration and biodiversity documentation only beginning to emerge in recent years, as reflected in the temporal pattern of studies identified in this review. Given that abyssal ecosystems cover vast areas of the Brazilian Equatorial Margin, this research gap is particularly critical. Evidence from comparable deep-sea systems, such as the Congo Fan and the Gulf of Guinea, demonstrates that these environments can host highly distinctive benthic communities with key functional roles in carbon cycling and nutrient turnover (Vanreusel et al., 2010). Similar discoveries are likely awaiting documentation along the Brazilian Equatorial Margin once exploration expands.

GEOGRAPHIC DISTRIBUTION

The studies included in this review are unevenly distributed across states, with most records concentrated in Amapá and Pará, whereas Maranhão remains comparatively underrepresented. This pattern is noteworthy given that Maranhão hosts major industrial, aerospace, and port infrastructures, including the Port of Itaqui and the Alcântara Launch Center. However, industrial presence does not necessarily translate into benthic biodiversity research, which depends on targeted biological sampling, taxonomic expertise, and sustained ecological monitoring. In Maranhão, available studies have historically focused on geomorphological, sedimentological, and physicochemical aspects of coastal and port environments (Barreto et al., 2024), whereas systematic benthic biodiversity surveys remain comparatively limited, reflecting broader geographic and taxonomic biases documented for the Brazilian marine realm, particularly the underrepresentation of northern regions. This spatial disparity indicates that significant areas of the Brazilian Equatorial Margin have not yet been adequately studied, limiting the ability to generalize biodiversity patterns across the region.

In addition, this unevenness reflects patterns observed on other large continental margins, where biodiversity data are often concentrated in areas associated with industrial activities or specific economic interests, while adjacent sectors remain poorly studied. For example, in regions targeted for deep-sea mineral exploration, benthic surveys have largely focused on prospective mining areas, with comparatively limited sampling in surrounding regions (Miller et al., 2018). A similar pattern appears to occur along the Maranhão coast, where scientific attention is concentrated in specific industrial and port-related areas, whereas large portions of the coastline and offshore environments remain comparatively neglected. This suggests that logistical accessibility, funding priorities, and industrial activities strongly influence where benthic biodiversity data are generated in Brazil.

IMPLICATIONS AND RESEARCH PRIORITIES

By situating the Brazilian Equatorial Margin in a broader context, it becomes clear that this region remains one of the last major marine frontiers in the Atlantic. The patterns identified in this review reveal critical gaps in baseline knowledge, particularly for meiofauna, microbenthos, and deep-sea ecosystems. These gaps represent an urgent challenge for biodiversity science and marine conservation, as small-bodied benthic organisms and deep-sea communities play central roles in ecosystem functioning, nutrient cycling, and carbon sequestration. Without addressing these knowledge deficits, it will remain difficult to evaluate ecosystem resilience or to reliably assess the impacts of human activities such as bottom trawling, hydrocarbon extraction, and climate-driven environmental change.

In contrast to temperate continental margins, where decades of coordinated monitoring programs (e.g. those supported by the International Council for the Exploration of the Sea, ICES) have generated robust baselines and long-term ecological datasets (Rees et al., 2007), Brazilian tropical margins are only beginning to establish systematic biodiversity records (Lavrado & Ignacio, 2006; Miloslavich et al., 2011; Menegotto & Rangel, 2018). This discrepancy limits both national environmental governance and the inclusion of tropical systems in global syntheses of benthic biodiversity and ecosystem functioning (Snelgrove et al., 2014). Expanding research efforts in the Brazilian Equatorial Margin is therefore critical not only for informing environmental licensing and conservation policies, but also for advancing global understanding of tropical benthic ecosystems under accelerating climate change, industrial exploitation, and biodiversity loss (Ramirez-Llodra et al., 2011).

Bridging these gaps will require strategic investment aligned with international best practices: (I) Expanding sampling into deep-sea habitats is essential, as evidence from other continental margins demonstrates that bathyal and abyssal zones often harbor highly endemic and functionally distinct benthic communities that would otherwise remain undetected (Ramirez-Llodra et al., 2010; Levin & Sibuet, 2012); (II) Strengthening taxonomic expertise, particularly in meiofauna and microbial assemblages, is a prerequisite for producing reliable biodiversity inventories. Global assessments have highlighted that taxonomic capacity remains a major bottleneck for biodiversity research, especially in understudied and small-bodied groups (Costello et al., 2010; Danovaro et al., 2008); (III) The incorporation of molecular tools, such as DNA barcoding and metabarcoding, can greatly accelerate species detection, reveal cryptic diversity, and complement traditional taxonomy, particularly in groups where morphological identification is time-consuming or expertise is scarce (Hebert et al., 2003; Bik et al., 2012); (IV) The development of long-term monitoring frameworks, similar to those implemented in the North Sea and Mediterranean, is crucial for detecting ecological change, establishing baselines for impact assessments, and distinguishing natural variability from anthropogenic effects (Rees et al., 2007; Danovaro et al., 2020b).

Finally, (V) the systematic integration of benthic biodiversity data into environmental licensing and marine conservation policies would ensure that ecological information contributes to cumulative knowledge, adaptive management, and evidence-based decision-making (IPBES, 2019; Danovaro et al., 2020b). Together, these investments would not only reduce current knowledge gaps in the Brazilian Equatorial Margin, but also position Brazil to play a more active role in international efforts to understand and conserve tropical marine biodiversity.

CONCLUSIONS

This systematic review provides the first comprehensive synthesis of benthic biodiversity research along the Brazilian Equatorial Margin. Despite the identification of 15 phyla, 407 genera, and 498 species, our findings reveal that knowledge of this vast and ecologically significant region is still shaped by strong temporal, taxonomic, depth-related, and geographic biases. Most of what is known today derives from a small number of recent studies, with a disproportionate focus on megafauna, shallow waters (< 200 m depth), and specific states such as Amapá and Pará.

When compared with other continental margins worldwide, the Brazilian Equatorial Margin emerges as one of the least studied tropical marine regions. In addition, deep-sea habitats, meiofauna, and microbial communities are still almost entirely overlooked. These gaps highlight the urgent need for Brazil to expand research coverage, strengthen taxonomic expertise, and adopt innovative tools and long-term monitoring frameworks. Equally important is the consolidation of biodiversity governance mechanisms, including the systematic registration, curation, and public accessibility of benthic biodiversity records, as well as their effective incorporation into environmental legislation, impact assessment procedures, and marine spatial planning. Beyond its national relevance, advancing scientific knowledge in the Brazilian Equatorial Margin will contribute to global understanding of tropical benthic ecosystems and support evidence-based conservation strategies in the face of climate change, biodiversity loss, and expanding industrial activities.

The Brazilian Equatorial Margin therefore stands as one of the last great marine frontiers of the Atlantic. Building a robust and internationally integrated research agenda is not only a scientific necessity but also a strategic step to ensure that the ecological richness of this unique region is documented, understood, and protected for future generations.

ACKNOWLEDGEMENT

We thank the project "*Avaliação do potencial de aproveitamento das Correntes Marinhas Oceânicas na Costa Norte do Brasil para Geração Elétrica*" (ANP/PETROBRAS), coordinated by Dr. Marcelo Rollnic, for providing the financial and logistical support that made this study possible. Thanks also to the anonymous reviewers for their comments, which helped us to improve the manuscript.

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AUTHOR'S CONTRIBUTION

T. M. T. dos Santos contributed to formal analysis, methodology, investigation and writing (original draft); E. Baia contributed to formal analysis, methodology, investigation and writing (review and editing); A. P. dos Santos contributed to formal analysis and investigation; and V. Venekey contributed to supervision, conceptualization, data curation, validation and writing (review and editing).

Appendix 1. List of species, genera, and phyla recorded in each study conducted on the continental shelf and slope of Maranhão, Pará, and Amapá. ** = The high number of taxa identified only to genus or higher taxonomic levels reflects limitations in the original studies included in the review and does not represent taxonomic uncertainty introduced by the present work. (Continue)

Study	Phylum	Genus	Species
Cordeiro et al. (2020)	Cyanobacteria	*Lyngbya*	Species not identified 1
R. L. Moura et al. (2016)	Ochrophyta	*Dictyota*	Species not identified 1
R. L. Moura et al. (2016)	Ochrophyta	*Dictyota*	Species not identified 2
R. L. Moura et al. (2016)	Ochrophyta	*Lobophora*	*Lobophora variegata* (J.V.Lamouroux) Womersley ex E.C.Oliveira, 1977
R. L. Moura et al. (2016)	Ochrophyta	*Sargassum*	Species not identified 1
Cordeiro et al. (2020)	Ochrophyta	*Dictyota*	Species not identified 1
Jovane et al. (2024)	Ochrophyta	Genus not identified 1	Species not identified 1
R. L. Moura et al. (2016)	Chlorophyta	*Anadyomene*	Species not identified 1
R. L. Moura et al. (2016)	Chlorophyta	*Caulerpa*	*Caulerpa racemosa* (Forsskål) J.Agardh, 1873
R. L. Moura et al. (2016)	Chlorophyta	*Cladophora*	Species not identified 1
R. L. Moura et al. (2016)	Chlorophyta	*Cladophora*	Species not identified 2
R. L. Moura et al. (2016)	Chlorophyta	*Halimeda*	Species not identified 1
R. L. Moura et al. (2016)	Chlorophyta	*Ulva*	Species not identified 1
R. L. Moura et al. (2016)	Chlorophyta	*Ulvella*	*Ulvella viridis* (Reinke) R.Nielsen, C.J.O'Kelly & B.Wysor, 2013
Cordeiro et al. (2020)	Chlorophyta	*Bryopsis*	*Bryopsis hypnoides* J.V.Lamouroux, 1809
Cordeiro et al. (2020)	Chlorophyta	*Bryopsis*	*Bryopsis pennata* J.V.Lamouroux, 1809
Cordeiro et al. (2020)	Chlorophyta	*Caulerpa*	*Caulerpa racemosa*
Cordeiro et al. (2020)	Chlorophyta	*Caulerpa*	Species not identified 1
Cordeiro et al. (2020)	Chlorophyta	*Caulerpa*	*Caulerpa verticillata* J.Agardh, 1847
Cordeiro et al. (2020)	Chlorophyta	*Codium*	Species not identified 1
Cordeiro et al. (2020)	Chlorophyta	*Halimeda*	Species not identified 1
R. L. Moura et al. (2016)	Rhodophyta	*Acrochaetium*	*Acrochaetium antillarum* W.R.Taylor, 1942
R. L. Moura et al. (2016)	Rhodophyta	*Amphiroa*	*Amphiroa fragilissima* (L.)
R. L. Moura et al. (2016)	Rhodophyta	*Amphiroa*	*Amphiroa rígida* J.V.Lamouroux, 1816
R. L. Moura et al. (2016)	Rhodophyta	*Ceramium*	Species not identified 1
R. L. Moura et al. (2016)	Rhodophyta	*Chondria*	Species not identified 1
R. L. Moura et al. (2016)	Rhodophyta	*Chrysymenia*	Species not identified 1
R. L. Moura et al. (2016)	Rhodophyta	*Erythrotrichia*	*Erythrotrichia carnea* (Dillwyn) J.Agardh, 1883
R. L. Moura et al. (2016)	Rhodophyta	*Gelidiopsis*	Species not identified 1
R. L. Moura et al. (2016)	Rhodophyta	*Gelidium*	*Gelidium pusillum* (Stackhouse) Le Jolis, 1863
R. L. Moura et al. (2016)	Rhodophyta	*Gelidium*	Species not identified 1
R. L. Moura et al. (2016)	Rhodophyta	*Gracilaria*	Species not identified 1
R. L. Moura et al. (2016)	Rhodophyta	*Halymenia*	*Halymenia floresii* (Clemente) C.Agardh, 1817

Appendix 1. (Continue)

Study	Phylum	Genus	Species
R. L. Moura et al. (2016)	Rhodophyta	*Herposiphonia*	*Herposiphonia secunda* (C.Agardh) Ambronn, 1880
R. L. Moura et al. (2016)	Rhodophyta	*Hydrolithon*	*Hydrolithon rupestre* (Foslie) Penrose, 1996
R. L. Moura et al. (2016)	Rhodophyta	*Hypoglossum*	*Hypoglossum tenuifolium* (Harvey) J.Agardh, 1898
R. L. Moura et al. (2016)	Rhodophyta	*Jania*	*Jania adhaerens* J.V.Lamouroux, 1816
R. L. Moura et al. (2016)	Rhodophyta	*Kallymenia*	Species not identified 1
R. L. Moura et al. (2016)	Rhodophyta	*Lithothamnion*	*Lithothamnion crispatum* Hauck, 1878
R. L. Moura et al. (2016)	Rhodophyta	*Mesophyllum*	*Mesophyllum erubescens* (Foslie) Me.Lemoine, 1928
R. L. Moura et al. (2016)	Rhodophyta	*Nitophyllum*	Species not identified 1
R. L. Moura et al. (2016)	Rhodophyta	*Peyssonnelia*	Species not identified 1
R. L. Moura et al. (2016)	Rhodophyta	*Polysiphonia*	Species not identified 1
R. L. Moura et al. (2016)	Rhodophyta	*Rhodymenia*	Species not identified 1
R. L. Moura et al. (2016)	Rhodophyta	*Sahlingia*	*Sahlingia subintegra* (Rosenvinge) Kornmann, 1989
R. L. Moura et al. (2016)	Rhodophyta	*Sporolithon*	*Sporolithon ptychoides* Heydrich, 1897
Cordeiro et al. (2020)	Rhodophyta	*Acrochaetium*	*Acrochaetium microscopicum* (Nägeli ex Kützing) Nägeli, 1858
Cordeiro et al. (2020)	Rhodophyta	*Aglaothamnion*	*Aglaothamnion felipponei* (Howe) Aponte, Ballantine & J.N.Norris, 1994
Cordeiro et al. (2020)	Rhodophyta	*Amphiroa*	*Amphiroa anastomosans* Weber-van Bosse, 1904
Cordeiro et al. (2020)	Rhodophyta	*Antithamnionella*	*Antithamnionella graeffei* (Grunow) Athanasiadis, 1996
Cordeiro et al. (2020)	Rhodophyta	*Asparagopsis*	*Asparagopsis taxiformis* (Delile) Trevisan de Saint-Léon, 1845
Cordeiro et al. (2020)	Rhodophyta	*Asteromenia*	*Asteromenia peltata* (W.R.Taylor) Huisman & A.J.K.Millar, 1996
Cordeiro et al. (2020)	Rhodophyta	*Branchioglossum*	Species not identified 1
Cordeiro et al. (2020)	Rhodophyta	*Callithamnion*	*Callithamnion corymbosum* (Smith) Lyngbye, 1819
Cordeiro et al. (2020)	Rhodophyta	*Canistrocarpus*	*Canistrocarpus cervicornis* (Kützing) De Paula & De Clerck, 2006
Cordeiro et al. (2020)	Rhodophyta	*Ceramium*	*Ceramium comptum* Børgesen, 1924
Cordeiro et al. (2020)	Rhodophyta	*Ceramium*	*Ceramium nitens* (C.Agardh) J.Agardh, 1851
Cordeiro et al. (2020)	Rhodophyta	*Ceramium*	Species not identified 1
Cordeiro et al. (2020)	Rhodophyta	*Ceramium*	*Ceramium tenuicorne* (Kützing) Rueness & Kornfeldt, 1992
Cordeiro et al. (2020)	Rhodophyta	*Ceramium*	*Ceramium virgatum* Roth, 1797
Cordeiro et al. (2020)	Rhodophyta	*Champia*	*Champia parvula* (C.Agardh) Harvey, 1853
Cordeiro et al. (2020)	Rhodophyta	*Crouania*	*Crouania attenuata* (C.Agardh) J.Agardh, 1842
Cordeiro et al. (2020)	Rhodophyta	*Derbesia*	*Derbesia marina* (Lyngbye) Solier, 1846
Cordeiro et al. (2020)	Rhodophyta	*Dictyopteris*	*Dictyopteris delicatula* J.V.Lamouroux, 1809
Cordeiro et al. (2020)	Rhodophyta	*Dictyota*	*Dictyota ciliolata* Sonder ex Kützing, 1859
Cordeiro et al. (2020)	Rhodophyta	*Dictyota*	*Dictyota crenulata* J.Agardh, 1847
Cordeiro et al. (2020)	Rhodophyta	*Dictyota*	*Dictyota hamifera* Setchell, 1926
Cordeiro et al. (2020)	Rhodophyta	*Dictyota*	*Dictyota humifusa* Hörnig, Schnetter & Coppejans, 1992

Appendix 1. (Continue)

Study	Phylum	Genus	Species
Cordeiro et al. (2020)	Rhodophyta	*Dictyota*	*Dictyota menstrualis* (Hoyt) Schnetter, Hörning & Weber-Peukert, 1987
Cordeiro et al. (2020)	Rhodophyta	*Dictyota*	*Dictyota pinnatifida* Kützing, 1859
Cordeiro et al. (2020)	Rhodophyta	*Erythrotrichia*	*Erythrotrichia carnea* (Dillwyn) J.Agardh, 1883
Cordeiro et al. (2020)	Rhodophyta	*Gelidium*	*Gelidium pusillum* (Stackhouse) Le Jolis, 1863
Cordeiro et al. (2020)	Rhodophyta	*Griffithsia*	*Griffithsia globulifera* Harvey ex Kützing, 1862
Cordeiro et al. (2020)	Rhodophyta	*Griffithsia*	*Griffithsia schousboei* Montagne, 1840
Cordeiro et al. (2020)	Rhodophyta	*Haloplegma*	*Haloplegma duperreyi* Montagne, 1842
Cordeiro et al. (2020)	Rhodophyta	*Hydrolithon*	*Hydrolithon farinosum* (J.V.Lamouroux) Penrose & Y.M.Chamberlain, 1993
Cordeiro et al. (2020)	Rhodophyta	*Hypnea*	*Hypnea spinella* (C.Agardh) Kützing, 1847
Cordeiro et al. (2020)	Rhodophyta	*Hypnea*	Species not identified 1
Cordeiro et al. (2020)	Rhodophyta	*Hypoglossum*	*Hypoglossum hypoglossoides* (Stackhouse) Collins & Hervey, 1917
Cordeiro et al. (2020)	Rhodophyta	*Jania*	*Jania adhaerens* J.V.Lamouroux, 1816
Cordeiro et al. (2020)	Rhodophyta	*Jania*	*Jania cubensis* Montagne ex Kützing, 1849
Cordeiro et al. (2020)	Rhodophyta	*Jania*	Species not identified 1
Cordeiro et al. (2020)	Rhodophyta	*Laurencia*	*Laurencia filiformis* (C.Agardh) Montagne, 1845
Cordeiro et al. (2020)	Rhodophyta	*Laurencia*	*Laurencia oliveirana* Yoneshigue, 1985
Cordeiro et al. (2020)	Rhodophyta	*Laurencia*	Species not identified 1
Cordeiro et al. (2020)	Rhodophyta	*Lithothamnion*	*Lithothamnion crispatum* Hauck, 1878
Cordeiro et al. (2020)	Rhodophyta	*Ochtodes*	*Ochtodes secundiramea* (Montagne) M.A.Howe, 1920
Cordeiro et al. (2020)	Rhodophyta	*Peyssonnelia*	Species not identified 1
Cordeiro et al. (2020)	Rhodophyta	*Porolithon*	*Porolithon antillarum* (Foslie & M.Howe) Foslie & M.Howe, 1909
Cordeiro et al. (2020)	Rhodophyta	*Wrangelia*	*Wrangelia argus* (Montagne) Montagne, 1856
Cordeiro et al. (2020)	Rhodophyta	*Amphiroa*	Species not identified 1
Aller and Aller (1986)	Foraminifera	Genus not identified 1	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Aaptos*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Acanthella*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Acarnus*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Agelas*	*Agelas clathrodes* (Schmidt, 1870)
R. L. Moura et al. (2016)	Porifera	*Agelas*	*Agelas dispar* Duchassaing & Michelotti, 1864
R. L. Moura et al. (2016)	Porifera	*Agelas*	*Agelas sventres* Lehnert & van Soest, 1996
R. L. Moura et al. (2016)	Porifera	*Aiolochroia*	*Aiolochroia crassa* (Hyatt, 1875)
R. L. Moura et al. (2016)	Porifera	*Amphimedon*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Amphimedon*	Species not identified 2
R. L. Moura et al. (2016)	Porifera	*Aplysina*	*Aplysina cauliformis* (Carter, 1882)
R. L. Moura et al. (2016)	Porifera	*Aplysina*	*Aplysina fulva* (Pallas, 1766)

Appendix 1. (Continue)

Study	Phylum	Genus	Species
R. L. Moura et al. (2016)	Porifera	*Aplysina*	*Aplysina lacunosa* (Lamarck, 1814)
R. L. Moura et al. (2016)	Porifera	*Arenosclera*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Asteropus*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Callyspongia*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Callyspongia*	*Callyspongia vaginalis* (Lamarck, 1814)
R. L. Moura et al. (2016)	Porifera	*Chondrosia*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Cinachyrella*	*Cinachyrella kuekenthali* (Uliczka, 1929)
R. L. Moura et al. (2016)	Porifera	*Clathria*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Clathria*	*Clathria (Microciona) calla* (de Laubenfels, 1934)
R. L. Moura et al. (2016)	Porifera	*Clathria*	*Clathria echinata* (Alcolado, 1984)
R. L. Moura et al. (2016)	Porifera	*Clathria*	*Clathria (Clathria) nicoleae* Barros, Santos & Pinheiro, 2013
R. L. Moura et al. (2016)	Porifera	*Cliona*	*Cliona schmidtii* (Ridley, 1881)
R. L. Moura et al. (2016)	Porifera	*Cliona*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Didiscus*	*Didiscus verdensis* Hiemstra & van Soest, 1991
R. L. Moura et al. (2016)	Porifera	*Dragmacidon*	*Dragmacidon reticulatum* (Ridley & Dendy, 1886)
R. L. Moura et al. (2016)	Porifera	*Dysidea*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Echinodictyum*	*Echinodictyum dendroides* Hechtel, 1983
R. L. Moura et al. (2016)	Porifera	*Ecionemia*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Geodia*	*Geodia corticostylifera* Hajdu, Muricy, Custodio, Russo & Peixinho, 1992
R. L. Moura et al. (2016)	Porifera	*Geodia*	*Geodia gibberosa* Lamarck, 1815
R. L. Moura et al. (2016)	Porifera	*Geodia*	*Geodia neptuni* (Sollas, 1886)
R. L. Moura et al. (2016)	Porifera	*Geodia*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Halichondria*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Hyattella*	*Hyattella cavernosa* (Pallas, 1766)
R. L. Moura et al. (2016)	Porifera	*Ircinia*	*Ircinia strobilina* (Lamarck, 1816)
R. L. Moura et al. (2016)	Porifera	*Lissodendoryx*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Melophlus*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Monanchora*	*Monanchora arbuscula* (Duchassaing & Michelotti, 1864)
R. L. Moura et al. (2016)	Porifera	*Myrmekioderma*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Niphates*	*Niphates erecta* Duchassaing & Michelotti, 1864
R. L. Moura et al. (2016)	Porifera	*Niphates*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Oceanapia*	*Oceanapia bartschi* (de Laubenfels, 1934)
R. L. Moura et al. (2016)	Porifera	*Petromica*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Petrosia*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Plakinastrella*	*Plakinastrella globularis* Domingos, Moraes & Muricy, 2013
R. L. Moura et al. (2016)	Porifera	*Plakinastrella*	Species not identified 1

Appendix 1. (Continue)

Study	Phylum	Genus	Species
R. L. Moura et al. (2016)	Porifera	*Prosuberites*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Pseudosuberites*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	Genus not identified 1	Species not identified 1
R. L. Moura et al. (2016)	Porifera	Genus not identified 2	Species not identified 2
R. L. Moura et al. (2016)	Porifera	Genus not identified 3	Species not identified 3
R. L. Moura et al. (2016)	Porifera	Genus not identified 4	Species not identified 4
R. L. Moura et al. (2016)	Porifera	*Stelletta*	Species not identified 1
R. L. Moura et al. (2016)	Porifera	*Stelletta*	Species not identified 2
R. L. Moura et al. (2016)	Porifera	*Tedania*	*Thalysias ignis* Duchassaing & Michelotti, 1864
R. L. Moura et al. (2016)	Porifera	*Theonella*	*Theonella atlantica* van Soest & Stentoft, 1988
R. L. Moura et al. (2016)	Porifera	*Topsentia*	*Topsentia ophiraphidites* (de Laubenfels, 1934)
R. L. Moura et al. (2016)	Porifera	*Tribrachium*	*Tribrachium schmidtii* Weltner, 1882
R. L. Moura et al. (2016)	Porifera	*Xestospongia*	*Xestospongia muta* (Schmidt, 1870)
R. L. Moura et al. (2016)	Porifera	*Xestospongia*	Species not identified 1
Neto et al. (2018)	Porifera	*Oceanapia*	*Oceanapia stalagmitica* (Wiedenmayer, 1977)
Nóbrega et al. (2021)	Porifera	*Adrana*	*Adrana electa* (A. Adams, 1856)
Nóbrega et al. (2021)	Porifera	*Aplysina*	*Aplysina pseudolacunosa* Pinheiro, Hajdu & Custódio, 2007
Nóbrega et al. (2021)	Porifera	*Clathria*	*Clathria (Clathria) nicoleae* Barros, Santos & Pinheiro, 2013
Nóbrega et al. (2021)	Porifera	*Ircinia*	Species not identified 1
Nóbrega et al. (2021)	Porifera	*Voluta*	*Voluta ebraea* Linnaeus, 1758
Menezes et al. (2022)	Porifera	*Agelas*	*Agelas clathrodes* (Schmidt, 1870)
Menezes et al. (2022)	Porifera	*Agelas*	*Agelas dispar* Duchassaing & Michelotti, 1864
Menezes et al. (2022)	Porifera	*Aiolochroia*	*Aiolochroia crassa* (Hyatt, 1875)
Menezes et al. (2022)	Porifera	*Amphimedon*	*Amphimedon compressa* Duchassaing & Michelotti, 1864
Menezes et al. (2022)	Porifera	*Aplysina*	*Aplysina fistularis* (Linnaeus, 1759)
Menezes et al. (2022)	Porifera	*Arenosclera*	*Arenosclera amazonensis* Leal, Moraes, Thompson & Hajdu, 2017
Menezes et al. (2022)	Porifera	*Callyspongia*	*Callyspongia (Cladochalina) aculeata* (Linnaeus, 1759)
Menezes et al. (2022)	Porifera	*Cinachyrella*	*Cinachyrella kuekenthali* (Uliczka, 1929)
Menezes et al. (2022)	Porifera	*Clathria*	*Clathria (Clathria) nicoleae* Barros, Santos & Pinheiro, 2013
Menezes et al. (2022)	Porifera	*Coelocarteria*	*Coelocarteria amadoi* Leal, Salani, Moraes & Hajdu, 2023
Menezes et al. (2022)	Porifera	*Coelocarteria*	*Coelocarteria bartschi* (de Laubenfels, 1934)
Menezes et al. (2022)	Porifera	*Echinoclathria*	Species not identified 1
Menezes et al. (2022)	Porifera	*Euryspongia*	Species not identified 1
Menezes et al. (2022)	Porifera	*Geodia*	*Geodia corticostylifera* Hajdu, Muricy, Custodio, Russo & Peixinho, 1992
Menezes et al. (2022)	Porifera	*Geodia*	*Geodia neptuni* (Sollas, 1886)
Menezes et al. (2022)	Porifera	*Geodia*	Species not identified 1

Appendix 1. (Continue)

Study	Phylum	Genus	Species
Menezes et al. (2022)	Porifera	*Ircinia*	*Ircinia strobilina* (Lamarck, 1816)
Menezes et al. (2022)	Porifera	*Monanchora*	*Monanchora arbuscula* (Duchassaing & Michelotti, 1864)
Menezes et al. (2022)	Porifera	*Neopetrosia*	*Neopetrosia proxima* (Duchassaing & Michelotti, 1864)
Menezes et al. (2022)	Porifera	*Perissinella*	*Perissinella fosteri* Hechtel, 1983
Menezes et al. (2022)	Porifera	*Topsentia*	*Topsentia ophiraphidites* (de Laubenfels, 1934)
Menezes et al. (2022)	Porifera	*Tribrachium*	*Tribrachium schmidtii* Weltner, 1882
Aller and Aller (1986)	Cnidaria	*Astrangia*	Species not identified 1
R. L. Moura et al. (2016)	Cnidaria	*Acanthogorgia*	*Acanthogorgia aspera* Pourtalès, 1867
R. L. Moura et al. (2016)	Cnidaria	*Acanthogorgia*	*Acanthogorgia schrammi* (Duchassaing & Michelotti, 1864)
R. L. Moura et al. (2016)	Cnidaria	*Agaricia*	*Agaricia agaricites* (Linnaeus, 1758)
R. L. Moura et al. (2016)	Cnidaria	*Agaricia*	*Agaricia fragilis* Dana, 1846
R. L. Moura et al. (2016)	Cnidaria	*Antipathes*	*Antipathes furcata* Gray, 1857
R. L. Moura et al. (2016)	Cnidaria	*Astrangia*	*Astrangia rathbuni* Vaughan, 1906
R. L. Moura et al. (2016)	Cnidaria	*Astrangia*	*Astrangia solitaria* (Le Sueur, 1817)
R. L. Moura et al. (2016)	Cnidaria	*Bebryce*	*Bebryce parastellata* Deichmann, 1936
R. L. Moura et al. (2016)	Cnidaria	*Carijoa*	*Carijoa riisei* (Duchassaing & Michelotti, 1860)
R. L. Moura et al. (2016)	Cnidaria	*Cirrhipathes*	Species not identified 1
R. L. Moura et al. (2016)	Cnidaria	*Diodogorgia*	*Diodogorgia nodulifera* (Hargitt in Hargitt & Rogers, 1901)
R. L. Moura et al. (2016)	Cnidaria	*Ellisella*	*Ellisella elongata* (Pallas, 1766)
R. L. Moura et al. (2016)	Cnidaria	*Favia*	*Favia gravida* Verrill, 1868
R. L. Moura et al. (2016)	Cnidaria	*Heterogorgia*	*Heterogorgia uatumani* Castro, 1990
R. L. Moura et al. (2016)	Cnidaria	*Iciligorgia*	*Iciligorgia schrammi* Duchassaing, 1870
R. L. Moura et al. (2016)	Cnidaria	*Leptogorgia*	*Leptogorgia* euryale (Bayer, 1952)
R. L. Moura et al. (2016)	Cnidaria	*Leptogorgia*	*Leptogorgia miniata* (Milne Edwards & Haime, 1857)
R. L. Moura et al. (2016)	Cnidaria	*Leptogorgia*	*Leptogorgia punicea* (Milne Edwards & Haime, 1857)
R. L. Moura et al. (2016)	Cnidaria	*Leptogorgia*	*Leptogorgia setacea* (Pallas, 1766)
R. L. Moura et al. (2016)	Cnidaria	*Leptogorgia*	*Leptogorgia stheno* (Bayer, 1952)
R. L. Moura et al. (2016)	Cnidaria	*Madracis*	*Madracis decactis* (Lyman, 1859)
R. L. Moura et al. (2016)	Cnidaria	*Meandrina*	*Meandrina braziliensis* Milne Edwards & Haime, 1848
R. L. Moura et al. (2016)	Cnidaria	*Millepora*	*Millepora alcicornis* Linnaeus, 1758
R. L. Moura et al. (2016)	Cnidaria	*Montastraea*	*Montastraea cavernosa* (Linnaeus, 1767)
R. L. Moura et al. (2016)	Cnidaria	*Muriceopsis*	*Muriceopsis petila* Bayer, 1961
R. L. Moura et al. (2016)	Cnidaria	*Muriceopsis*	Species not identified 1
R. L. Moura et al. (2016)	Cnidaria	*Mussismilia*	*Mussismilia hispida* (Verrill, 1901)
R. L. Moura et al. (2016)	Cnidaria	*Nicella*	*Nicella guadalupensis* (Duchassaing & Michelotti, 1860)
R. L. Moura et al. (2016)	Cnidaria	*Nidalia*	*Nidalia occidentalis* Gray, 1835
R. L. Moura et al. (2016)	Cnidaria	*Nidalia*	Species not identified 1

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Study	Phylum	Genus	Species
R. L. Moura et al. (2016)	Cnidaria	*Olindagorgia*	*Olindagorgia gracilis* (Verrill, 1868)
R. L. Moura et al. (2016)	Cnidaria	*Pacifigorgia*	Species not identified 1
R. L. Moura et al. (2016)	Cnidaria	*Phyllangia*	*Phyllangia americana* Milne Edwards & Haime, 1849
R. L. Moura et al. (2016)	Cnidaria	*Primnoella*	*Primnoella delicatissima* Kükenthal, 1909
R. L. Moura et al. (2016)	Cnidaria	*Rhizosmilia*	*Rhizosmilia maculata* (Pourtalès, 1874)
R. L. Moura et al. (2016)	Cnidaria	*Scleracis*	*Scleracis* sp.
R. L. Moura et al. (2016)	Cnidaria	*Scolymia*	*Scolymia wellsii* Laborel, 1967
R. L. Moura et al. (2016)	Cnidaria	*Tanacetipathes*	*Tanacetipathes tanacetum* (Pourtalès, 1880)
R. L. Moura et al. (2016)	Cnidaria	*Thelogorgia*	*Thelogorgia studeri* Bayer, 1991
R. L. Moura et al. (2016)	Cnidaria	*Thesea*	*Thesea bicolor* Deichmann, 1936
R. L. Moura et al. (2016)	Cnidaria	*Thesea*	*Thesea gracilis* (Gray, 1868)
R. L. Moura et al. (2016)	Cnidaria	*Trichogorgia*	*Trichogorgia brasiliensis* Castro, Medeiros & Loiola, 2010
Francini-Filho et al. (2018)	Cnidaria	*Madracis*	*Madracis decactis* (Lyman, 1859)
Cordeiro et al. (2020)	Cnidaria	*Favia*	*Favia gravida* Verrill, 1868
Cordeiro et al. (2020)	Cnidaria	*Meandrina*	*Meandrina brasiliensis* (Milne Edwards & Haime, 1848)
Cordeiro et al. (2020)	Cnidaria	*Montastraea*	*Montastraea cavernosa* (Linnaeus, 1767)
Cordeiro et al. (2020)	Cnidaria	*Palythoa*	*Palythoa caribaeorum* Duchassaing & Michelotti, 1860
Cordeiro et al. (2020)	Cnidaria	*Porites*	*Porites astreoides* Lamarck, 1816
Cordeiro et al. (2020)	Cnidaria	*Siderastrea*	*Siderastrea stellata* Verrill, 1868
Nóbrega et al. (2021)	Cnidaria	*Renilla*	Species not identified 1
R. B. Moura et al. (2023)	Cnidaria	*Aglaophenia*	*Aglaophenia acacia* Allman, 1883
R. B. Moura et al. (2023)	Cnidaria	*Aglaophenia*	*Aglaophenia latecarinata* Allman, 1877
R. B. Moura et al. (2023)	Cnidaria	*Aglaophenia*	*Aglaophenia rhynchocarpa* Allman, 1877
R. B. Moura et al. (2023)	Cnidaria	*Aglaophenia*	Species not identified 1
R. B. Moura et al. (2023)	Cnidaria	*Amphisbetia*	*Amphisbetia distans* (Lamouroux, 1816)
R. B. Moura et al. (2023)	Cnidaria	*Antennella*	*Antennella incerta* Galea, 2010
R. B. Moura et al. (2023)	Cnidaria	*Antennella*	*Antennella secundaria* (Gmelin, 1791)
R. B. Moura et al. (2023)	Cnidaria	*Clytia*	*Clytia linearis* (Thorneley, 1900)
R. B. Moura et al. (2023)	Cnidaria	*Diphasia*	Diphasia digitalis (Busk, 1852)
R. B. Moura et al. (2023)	Cnidaria	*Dynamena*	*Dynamena crisioides* Lamouroux, 1824
R. B. Moura et al. (2023)	Cnidaria	*Eudendrium*	*Eudendrium* carneum Clarke, 1882
R. B. Moura et al. (2023)	Cnidaria	*Gymnangium*	*Gymnangium allmani* (Marktanner-Turneretscher, 1890)
R. B. Moura et al. (2023)	Cnidaria	*Gymnangium*	*Gymnangium sinuosum* (Fraser, 1925)
R. B. Moura et al. (2023)	Cnidaria	*Halecium*	Species not identified 1
R. B. Moura et al. (2023)	Cnidaria	*Halopteris*	*Halopteris carinata* Allman, 1877
R. B. Moura et al. (2023)	Cnidaria	*Halopteris*	Species not identified 1
R. B. Moura et al. (2023)	Cnidaria	*Hincksella*	*Hincksella formosa* (Fewkes, 1881)

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Study	Phylum	Genus	Species
R. B. Moura et al. (2023)	Cnidaria	*Hincksella*	*Hincksella cylindrica* var. *pusilla* (Ritchie, 1910)
R. B. Moura et al. (2023)	Cnidaria	*Idiellana*	*Idiellana pristis* (Lamouroux, 1816)
R. B. Moura et al. (2023)	Cnidaria	*Lytocarpia*	*Lytocarpia tridentata* (Versluys, 1899)
R. B. Moura et al. (2023)	Cnidaria	*Macrorhynchia*	*Macrorhynchia allmani* (Nutting, 1900)
R. B. Moura et al. (2023)	Cnidaria	*Monostaechas*	*Monostaechas quadridens* (McCrady, 1859)
R. B. Moura et al. (2023)	Cnidaria	*Obelia*	*Obelia oxydentata* Stechow, 1914
R. B. Moura et al. (2023)	Cnidaria	*Parawrightia*	*Parawrightia robusta* Warren, 1907
R. B. Moura et al. (2023)	Cnidaria	*Plumularia*	*Plumularia margaretta* (Nutting, 1900)
R. B. Moura et al. (2023)	Cnidaria	*Plumularia*	Species not identified 1
R. B. Moura et al. (2023)	Cnidaria	*Sertularella*	*Sertularella diaphana* (Allman, 1885)
R. B. Moura et al. (2023)	Cnidaria	*Sertularella*	Species not identified 1
R. B. Moura et al. (2023)	Cnidaria	*Sertularelloides*	*Sertularelloides cylindritheca* (Allman, 1888)
R. B. Moura et al. (2023)	Cnidaria	*Synthecium*	*Synthecium tubithecum* (Allman, 1877)
R. B. Moura et al. (2023)	Cnidaria	*Thuiaria*	*Thuiaria articulata* (Pallas, 1766)
R. B. Moura et al. (2023)	Cnidaria	*Thyroscyphus*	*Thyroscyphus marginatus* (Allman, 1877)
R. B. Moura et al. (2023)	Cnidaria	*Thyroscyphus*	*Thyroscyphus ramosus* Allman, 1877
R. B. Moura et al. (2023)	Cnidaria	*Tridentata*	*Tridentata* sp.
R. B. Moura et al. (2023)	Cnidaria	*Tridentata*	*Tridentata loculosa* (Busk, 1852)
R. B. Moura et al. (2023)	Cnidaria	*Tridentata*	*Ridentata marginata* (Kirchenpauer, 1864)
R. B. Moura et al. (2023)	Cnidaria	*Tridentata*	*Tridentata trigonostoma* (Busk, 1852)
R. B. Moura et al. (2023)	Cnidaria	*Tridentata*	*Tridentata turbinata* (Lamouroux, 1816)
Jovane et al. (2024)	Cnidaria	*Actinoscyphia*	Species not identified 1
Jovane et al. (2024)	Cnidaria	Genus not identified 1	Species not identified 1
Jovane et al. (2024)	Cnidaria	Genus not identified 2	Species not identified 2
Jovane et al. (2024)	Cnidaria	Genus not identified 3	Species not identified 3
Aller and Aller (1986)	Platyhelminthes	Genus not identified 1	Species not identified 1
Aller and Aller (1986)	Kinorhyncha	Genus not identified 1	Species not identified 1
Aller and Aller (1986)	Nematoda	Genus not identified 1	Species not identified 1
Aller and Aller (1986)	Nematoda	*Theristus*	*Theristus* sp.
Pereira et al. (2022)	Nematoda	*Acantholaimus*	*Acantholaimus* sp.
Pereira et al. (2022)	Nematoda	*Actarjania*	*Actarjania* sp.
Pereira et al. (2022)	Nematoda	*Aegialoalaimus*	*Aegialoalaimus* sp.
Pereira et al. (2022)	Nematoda	*Amphimonhystrella*	*Amphimonhystrella* sp.
Pereira et al. (2022)	Nematoda	*Anonchus*	*Anonchus* sp.
Pereira et al. (2022)	Nematoda	*Anoplostoma*	*Anoplostoma* sp.
Pereira et al. (2022)	Nematoda	*Anticoma*	*Anticoma* sp.
Pereira et al. (2022)	Nematoda	*Antomicron*	*Antomicron* sp.

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Study	Phylum	Genus	Species
Pereira et al. (2022)	Nematoda	*Aponema*	*Aponema* sp.
Pereira et al. (2022)	Nematoda	*Araeolaimus*	*Araeolaimus* sp.
Pereira et al. (2022)	Nematoda	*Axonolaimus*	*Axonolaimus* sp.
Pereira et al. (2022)	Nematoda	*Bathyeuristomina*	*Bathyeuristomina* sp.
Pereira et al. (2022)	Nematoda	*Bathylaimus*	*Bathylaimus* sp.
Pereira et al. (2022)	Nematoda	*Belbola*	*Belbola* sp.
Pereira et al. (2022)	Nematoda	*Campylaimus*	*Campylaimus* sp.
Pereira et al. (2022)	Nematoda	*Cephalanticoma*	*Cephalanticoma* sp.
Pereira et al. (2022)	Nematoda	*Cervonema*	*Cervonema* sp.
Pereira et al. (2022)	Nematoda	*Chaetonema*	*Chaetonema* sp.
Pereira et al. (2022)	Nematoda	*Cheironchus*	*Cheironchus* sp.
Pereira et al. (2022)	Nematoda	*Choanolaimus*	*Choanolaimus* sp.
Pereira et al. (2022)	Nematoda	*Chromadorella*	*Chromadorella* sp.
Pereira et al. (2022)	Nematoda	*Chromadorina*	*Chromadorina* sp.
Pereira et al. (2022)	Nematoda	*Chromadorita*	*Chromadorita* sp.
Pereira et al. (2022)	Nematoda	*Cobbia*	*Cobbia* sp.
Pereira et al. (2022)	Nematoda	*Comesa*	*Comesa* sp.
Pereira et al. (2022)	Nematoda	*Crenopharynx*	*Crenopharynx* sp.
Pereira et al. (2022)	Nematoda	*Cyartonema*	*Cyartonema* sp.
Pereira et al. (2022)	Nematoda	*Daptonema*	*Daptonema* sp.
Pereira et al. (2022)	Nematoda	*Desmodora*	*Desmodora* sp.
Pereira et al. (2022)	Nematoda	*Desmodorella*	*Desmodorella* sp.
Pereira et al. (2022)	Nematoda	*Desmoscolex*	*Desmoscolex* sp.
Pereira et al. (2022)	Nematoda	*Dichromadora*	*Dichromadora* sp.
Pereira et al. (2022)	Nematoda	*Diplolaimella*	*Diplolaimella* sp.
Pereira et al. (2022)	Nematoda	*Diplolaimelloides*	*Diplolaimelloides* sp.
Pereira et al. (2022)	Nematoda	*Diplopeltis*	*Diplopeltis* sp.
Pereira et al. (2022)	Nematoda	*Diplopeltula*	*Diplopeltula* sp.
Pereira et al. (2022)	Nematoda	*Dorylaimopsis*	*Dorylaimopsis* sp.
Pereira et al. (2022)	Nematoda	*Eleuterelaimus*	*Eleuterelaimus* sp.
Pereira et al. (2022)	Nematoda	*Elzalia*	*Elzalia* sp.
Pereira et al. (2022)	Nematoda	*Endeolophus*	*Endeolophus* sp.
Pereira et al. (2022)	Nematoda	*Enoploides*	*Enoploides* sp.
Pereira et al. (2022)	Nematoda	*Enoplolaimus*	*Enoplolaimus* sp.
Pereira et al. (2022)	Nematoda	*Eumorpholaimus*	*Eumorpholaimus* sp.
Pereira et al. (2022)	Nematoda	*Fenestrolaimus*	*Fenestrolaimus* sp.
Pereira et al. (2022)	Nematoda	*Filitonchus*	*Filitonchus* sp.

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Study	Phylum	Genus	Species
Pereira et al. (2022)	Nematoda	*Gammanema*	*Gammanema* sp.
Pereira et al. (2022)	Nematoda	*Geomonhystera*	*Geomonhystera* sp.
Pereira et al. (2022)	Nematoda	*Greeffiella*	*Greeffiella* sp.
Pereira et al. (2022)	Nematoda	*Halalaimus*	*Halalaimus* sp.
Pereira et al. (2022)	Nematoda	*Halichoanolaimus*	*Halichoanolaimus* sp.
Pereira et al. (2022)	Nematoda	*Haliplectus*	*Haliplectus* sp.
Pereira et al. (2022)	Nematoda	*Halomonhystera*	*Halomonhystera* sp.
Pereira et al. (2022)	Nematoda	*Laimella*	*Laimella* sp.
Pereira et al. (2022)	Nematoda	*Latronema*	*Latronema* sp.
Pereira et al. (2022)	Nematoda	*Leptolaimus*	*Leptolaimus* sp.
Pereira et al. (2022)	Nematoda	*Linhomoeus*	*Linhomoeus* sp.
Pereira et al. (2022)	Nematoda	*Linhystera*	*Linhystera* sp.
Pereira et al. (2022)	Nematoda	*Litinium*	*Litinium* sp.
Pereira et al. (2022)	Nematoda	*Longicyatholaimus*	*Longicyatholaimus* sp.
Pereira et al. (2022)	Nematoda	*Metachromadora*	*Metachromadora* sp.
Pereira et al. (2022)	Nematoda	*Metacomesoma*	*Metacomesoma* sp.
Pereira et al. (2022)	Nematoda	*Metalinhomoeus*	*Metalinhomoeus* sp.
Pereira et al. (2022)	Nematoda	*Metasphaerolaimus*	*Metasphaerolaimus* sp.
Pereira et al. (2022)	Nematoda	*Microlaimus*	*Microlaimus* sp.
Pereira et al. (2022)	Nematoda	*Minolaimus*	*Minolaimus* sp.
Pereira et al. (2022)	Nematoda	*Molgolaimus*	*Molgolaimus* sp.
Pereira et al. (2022)	Nematoda	*Monhystrella*	*Monhystrella* sp.
Pereira et al. (2022)	Nematoda	*Nannolaimus*	*Nannolaimus* sp.
Pereira et al. (2022)	Nematoda	*Nemanema*	*Nemanema* sp.
Pereira et al. (2022)	Nematoda	*Neochromadora*	*Neochromadora* sp.
Pereira et al. (2022)	Nematoda	*Neotonchus*	*Neotonchus* sp.
Pereira et al. (2022)	Nematoda	*Odontophora*	*Odontophora* sp.
Pereira et al. (2022)	Nematoda	*Oncholaimus*	*Oncholaimus* sp.
Pereira et al. (2022)	Nematoda	*Oxystomina*	*Oxystomina* sp.
Pereira et al. (2022)	Nematoda	*Paracanthonchus*	*Paracanthonchus* sp.
Pereira et al. (2022)	Nematoda	*Paracomesoma*	*Paracomesoma* sp.
Pereira et al. (2022)	Nematoda	*Paracyatholaimus*	*Paracyatholaimus* sp.
Pereira et al. (2022)	Nematoda	*Paralinhomoeus*	*Paralinhomoeus* sp.
Pereira et al. (2022)	Nematoda	*Paralongicyatholaimus*	*Paralongicyatholaimus* sp.
Pereira et al. (2022)	Nematoda	*Paramesacanthion*	*Paramesacanthion* sp.
Pereira et al. (2022)	Nematoda	*Paramesonchium*	*Paramesonchium* sp.
Pereira et al. (2022)	Nematoda	*Paramonhystera*	*Paramonhystera* sp.

Appendix 1. (Continue)

Study	Phylum	Genus	Species
Pereira et al. (2022)	Nematoda	*Paramphimonhystrella*	*Paramphimonhystrella* sp.
Pereira et al. (2022)	Nematoda	*Parasphaerolaimus*	*Parasphaerolaimus* sp.
Pereira et al. (2022)	Nematoda	*Parodontophora*	*Parodontophora* sp.
Pereira et al. (2022)	Nematoda	*Phanoderma*	*Phanoderma* sp.
Pereira et al. (2022)	Nematoda	*Phanodermella*	*Phanodermella* sp.
Pereira et al. (2022)	Nematoda	*Pierrickia*	*Pierrickia* sp.
Pereira et al. (2022)	Nematoda	*Polygastrophora*	*Polygastrophora* sp.
Pereira et al. (2022)	Nematoda	*Polysigma*	*Polysigma* sp.
Pereira et al. (2022)	Nematoda	*Pomponema*	*Pomponema* sp.
Pereira et al. (2022)	Nematoda	*Prochromadora*	*Prochromadora* sp.
Pereira et al. (2022)	Nematoda	*Prorhynchonema*	*Prorhynchonema* sp.
Pereira et al. (2022)	Nematoda	*Pselionema*	*Pselionema* sp.
Pereira et al. (2022)	Nematoda	*Rhabdocoma*	*Rhabdocoma* sp.
Pereira et al. (2022)	Nematoda	*Rhips*	*Rhips* sp.
Pereira et al. (2022)	Nematoda	*Sabatieria*	*Sabatieria* sp.
Pereira et al. (2022)	Nematoda	*Scaptrella*	*Scaptrella* sp.
Pereira et al. (2022)	Nematoda	*Siphonolaimus*	*Siphonolaimus* sp.
Pereira et al. (2022)	Nematoda	*Southernia*	*Southernia* sp.
Pereira et al. (2022)	Nematoda	*Southerniella*	*Southerniella* sp.
Pereira et al. (2022)	Nematoda	*Sphaerolaimus*	*Sphaerolaimus* sp.
Pereira et al. (2022)	Nematoda	*Spirinia*	*Spirinia* sp.
Pereira et al. (2022)	Nematoda	*Subsphaerolaimus*	*Subsphaerolaimus* sp.
Pereira et al. (2022)	Nematoda	*Synonchiella*	*Synonchiella* sp.
Pereira et al. (2022)	Nematoda	*Synonchus*	*Synonchus* sp.
Pereira et al. (2022)	Nematoda	*Syringolaimus*	*Syringolaimus* sp.
Pereira et al. (2022)	Nematoda	*Terschellingia*	*Terschellingia* sp.
Pereira et al. (2022)	Nematoda	*Thalassironus*	*Thalassironus* sp.
Pereira et al. (2022)	Nematoda	*Thalassoalaimus*	*Thalassoalaimus* sp.
Pereira et al. (2022)	Nematoda	*Thalassomonhystera*	*Thalassomonhystera* sp.
Pereira et al. (2022)	Nematoda	*Theristus*	*Theristus* sp.
Pereira et al. (2022)	Nematoda	*Trefusia*	*Trefusia* sp.
Pereira et al. (2022)	Nematoda	*Tricoma*	*Tricoma* sp.
Pereira et al. (2022)	Nematoda	*Tripyloides*	*Tripyloides* sp.
Pereira et al. (2022)	Nematoda	*Trissonchulus*	*Trissonchulus* sp.
Pereira et al. (2022)	Nematoda	*Trochamus*	*Trochamus* sp.
Pereira et al. (2022)	Nematoda	*Vasostoma*	*Vasostoma* sp.
Pereira et al. (2022)	Nematoda	*Viscosia*	*Viscosia* sp.

Appendix 1. (Continue)

Study	Phylum	Genus	Species
Pereira et al. (2022)	Nematoda	*Wieseria*	*Wieseria* sp.
Aller and Aller (1986)	Annelida	*Chloeia*	*Chloeia viridis* Schmarda, 1861
Aller and Aller (1986)	Annelida	*Eunice*	*Eunice* sp.
Aller and Aller (1986)	Annelida	*Hesione*	*Hesione picta* Müller in Grube, 1858
Aller and Aller (1986)	Annelida	*Lumbrineris*	*Lumbrineris* sp.
Aller and Aller (1986)	Annelida	*Nephtys*	*Nephtys squamosa* Ehlers, 1887
Aller and Aller (1986)	Annelida	*Opioglycera*	*Opioglycera* sp.
Aller and Aller (1986)	Annelida	*Owenia*	*Owenia fusiformis* Delle Chiaje, 1844
Aller and Aller (1986)	Annelida	*Scoloplos*	*Scoloplos agrestis* Nonato & Luna, 1970
Aller and Aller (1986)	Annelida	Genus not identified 1	Species not identified 1
Aller and Aller (1986)	Annelida	Genus not identified 2	Species not identified 2
Aller and Aller (1986)	Annelida	Genus not identified 3	Species not identified 3
Aller and Aller (1986)	Annelida	Genus not identified 4	Species not identified 4
Aller and Aller (1986)	Annelida	Genus not identified 5	Species not identified 5
Aller and Aller (1986)	Annelida	Genus not identified 6	Species not identified 6
Aller and Aller (1986)	Annelida	Genus not identified 7	Species not identified 7
Aller and Aller (1986)	Annelida	Genus not identified 8	Species not identified 8
Aller and Aller (1986)	Annelida	Genus not identified 9	Species not identified 9
Aller and Aller (1986)	Annelida	*Typosyllis*	*Typosyllis* sp.
Aller and Aller (1986)	Annelida	*Vermiliopsis*	*Vermiliopsis* sp.
Cordeiro et al. (2020)	Annelida	*Bispira*	*Bispira* sp.
Nóbrega et al. (2021)	Annelida	Genus not identified 1	Species not identified 1
Nóbrega et al. (2021)	Annelida	Genus not identified 2	Species not identified 2
Nóbrega et al. (2021)	Annelida	Genus not identified 3	Species not identified 3
Jovane et al. (2024)	Annelida	*Eunice*	*Eunice* sp.
Aller and Aller (1986)	Mollusca	Genus not identified 1	Species not identified 1
Aller and Aller (1986)	Mollusca	Genus not identified 2	Species not identified 2
Aller and Aller (1986)	Mollusca	Genus not identified 3	Species not identified 3
Aller and Aller (1986)	Mollusca	Genus not identified 4	Species not identified 4
Aller and Aller (1986)	Mollusca	Genus not identified 5	Species not identified 5
Sales et al. (2019)	Mollusca	*Amphioctopus*	*Amphioctopus* sp.
Sales et al. (2019)	Mollusca	*Doryteuthis*	*Doryteuthis pealeii* (Lesueur, 1821)
Sales et al. (2019)	Mollusca	*Doryteuthis*	*Doryteuthis pleii* (Blainville, 1823)
Sales et al. (2019)	Mollusca	*Lepidoctopus*	*Lepidoctopus joaquini* Haimovici & Sales, 2019
Sales et al. (2019)	Mollusca	*Macrotritopus*	*Macrotritopus* sp.
Sales et al. (2019)	Mollusca	*Octopus*	*Octopus vulgaris* Cuvier, 1797
Sales et al. (2019)	Mollusca	*Scaeurgus*	*Scaeurgus unicirrhus* (Delle Chiaje, 1841)

Appendix 1. (Continue)

Study	Phylum	Genus	Species
Nóbrega et al. (2021)	Mollusca	*Abra*	*Abra lioica* (Dall, 1881)
Nóbrega et al. (2021)	Mollusca	*Americardia*	*Americardia media* (Linnaeus, 1758)
Nóbrega et al. (2021)	Mollusca	*Americoliva*	*Americoliva circinata* (Marrat, 1871)
Nóbrega et al. (2021)	Mollusca	*Anachis*	*Anachis catenata* (G. B. Sowerby I, 1844)
Nóbrega et al. (2021)	Mollusca	*Arcinella*	*Arcinella brasiliana* (Nicol, 1953)
Nóbrega et al. (2021)	Mollusca	*Atrina*	*Atrina seminuda* (Lamarck, 1819)
Nóbrega et al. (2021)	Mollusca	*Aurantilaria*	*Aurantilaria aurantiaca* (Lamarck, 1816)
Nóbrega et al. (2021)	Mollusca	*Calliostoma*	Species not identified 1
Nóbrega et al. (2021)	Mollusca	*Calyptraea*	*Calyptraea centralis* (Conrad, 1841)
Nóbrega et al. (2021)	Mollusca	*Caryocorbula*	*Caryocorbula swiftiana* (C. B. Adams, 1852)
Nóbrega et al. (2021)	Mollusca	*Chicoreus*	*Chicoreus brevifrons* (Lamarck, 1822)
Nóbrega et al. (2021)	Mollusca	*Crepidula*	*Crepidula intratesta* Simone, 2006
Nóbrega et al. (2021)	Mollusca	*Dentalium*	Species not identified 1
Nóbrega et al. (2021)	Mollusca	*Distorsio*	*Distorsio clathrata* (Lamarck, 1816)
Nóbrega et al. (2021)	Mollusca	*Divalinga*	*Divalinga quadrisulcata* (A. d'Orbigny, 1846)
Nóbrega et al. (2021)	Mollusca	*Eurytellina*	*Eurytellina trinitatis* Tomlin, 1929
Nóbrega et al. (2021)	Mollusca	*Euvola*	*Euvola chazaliei* (Dautzenberg, 1900)
Nóbrega et al. (2021)	Mollusca	*Euvola*	*Euvola marensis* (Weisbord, 1964)
Nóbrega et al. (2021)	Mollusca	*Fusinus*	*Fusinus helenae* Bartsch, 1939
Nóbrega et al. (2021)	Mollusca	*Lirophora*	*Lirophora* paphia (Linnaeus, 1767)
Nóbrega et al. (2021)	Mollusca	*Marsupina*	*Marsupina bufo* (Bruguière, 1792)
Nóbrega et al. (2021)	Mollusca	*Modiolus*	*Modiolus americanus* Leach, 1815
Nóbrega et al. (2021)	Mollusca	*Monoplex*	*Monoplex parthenopeus* (Salis Marschlins, 1793)
Nóbrega et al. (2021)	Mollusca	*Musculus*	*Musculus lateralis* (Say, 1822)
Nóbrega et al. (2021)	Mollusca	*Natica*	*Natica marochiensis* (Gmelin, 1791)
Nóbrega et al. (2021)	Mollusca	*Octopus*	*Octopus insularis* Leite & Haimovici, 2008
Nóbrega et al. (2021)	Mollusca	*Phrontis*	*Phrontis alba* (Say, 1826)
Nóbrega et al. (2021)	Mollusca	*Phrontis*	*Phrontis vibex* (Say, 1822)
Nóbrega et al. (2021)	Mollusca	*Pinctada*	*Pinctada imbricata* Röding, 1798
Nóbrega et al. (2021)	Mollusca	*Pitar*	*Pitar albidus* (Gmelin, 1791)
Nóbrega et al. (2021)	Mollusca	*Plicatula*	*Plicatula gibbosa* Lamarck, 1801
Nóbrega et al. (2021)	Mollusca	*Prunum*	*Prunum storeria* (Couthouy, 1837)
Nóbrega et al. (2021)	Mollusca	*Pteria*	*Pteria colymbus* (Röding, 1798)
Nóbrega et al. (2021)	Mollusca	*Saccella*	*Saccella larranagai* (Klappenbach & Scarabino, 1969)
Nóbrega et al. (2021)	Mollusca	*Conus*	Species not identified 1
Nóbrega et al. (2021)	Mollusca	*Crassinella*	Species not identified 1
Nóbrega et al. (2021)	Mollusca	*Haliris*	Species not identified 1

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Study	Phylum	Genus	Species
Nóbrega et al. (2021)	Mollusca	*Olivella*	Species not identified 1
Nóbrega et al. (2021)	Mollusca	*Ostrea*	Species not identified 1
Nóbrega et al. (2021)	Mollusca	*Sicyonia*	*Sicyonia typica* (Boeck, 1864)
Nóbrega et al. (2021)	Mollusca	*Sinum*	*Sinum perspectivum* (Say, 1831)
Nóbrega et al. (2021)	Mollusca	*Solenocera*	*Solenocera atlantidis* Burkenroad, 1939
Nóbrega et al. (2021)	Mollusca	*Solenocera*	*Solenocera geijskesi* Holthuis, 1959
Nóbrega et al. (2021)	Mollusca	*Squilla*	*Squilla lijdingi* Holthuis, 1959
Nóbrega et al. (2021)	Mollusca	*Stigmaulax*	*Stigmaulax cayennensis* (Récluz, 1850)
Nóbrega et al. (2021)	Mollusca	*Stramonita*	*Stramonita brasiliensis* Claremont & D. Reid, 2011
Nóbrega et al. (2021)	Mollusca	*Strigilla*	*Strigilla carnaria* (Linnaeus, 1758)
Nóbrega et al. (2021)	Mollusca	*Terebra*	*Terebra taurina* ([Lightfoot], 1786)
Nóbrega et al. (2021)	Mollusca	*Tivela*	*Tivela fulminata* (Bory de Saint-Vincent, 1827)
Nóbrega et al. (2021)	Mollusca	*Tonna*	*Tonna galea* (Linnaeus, 1758)
Nóbrega et al. (2021)	Mollusca	*Turbinella*	*Turbinella laevigata* Anton, 1838
Jovane et al. (2024)	Mollusca	Genus not identified 1	Species not identified 1
Jovane et al. (2024)	Mollusca	Genus not identified 2	Species not identified 2
Jovane et al. (2024)	Mollusca	Genus not identified 3	Species not identified 3
Aller and Aller (1986)	Arthropoda	*Callianassa*	*Callianassa* sp.
Aller and Aller (1986)	Arthropoda	*Lepas*	*Lepas* sp.
Aller and Aller (1986)	Arthropoda	*Pagurus*	*Pagurus* sp.
Aller and Aller (1986)	Arthropoda	Genus not identified 1	Species not identified 1
Aller and Aller (1986)	Arthropoda	Genus not identified 2	Species not identified 2
Aller and Aller (1986)	Arthropoda	Genus not identified 3	Species not identified 3
Aller and Aller (1986)	Arthropoda	Genus not identified 4	Species not identified 4
Aller and Aller (1986)	Arthropoda	Genus not identified 5	Species not identified 5
Aller and Aller (1986)	Arthropoda	Genus not identified 6	Species not identified 6
Aller and Aller (1986)	Arthropoda	Genus not identified 7	Species not identified 7
Aller and Aller (1986)	Arthropoda	Genus not identified 8	Species not identified 8
Aller and Aller (1986)	Arthropoda	Genus not identified 9	Species not identified 9
Aller and Aller (1986)	Arthropoda	Genus not identified 10	Species not identified 10
Aller and Aller (1986)	Arthropoda	Genus not identified 11	Species not identified 11
Silva et al. (2003)	Arthropoda	*Acanthacaris*	*Turbinella laevigata* Anton, 1838
Silva et al. (2003)	Arthropoda	*Nephropsis*	*Nephropsis aculeata* Smith, 1881
Silva et al. (2003)	Arthropoda	*Nephropsis*	*Nephropsis rosea* Spence Bate, 1888
Silva et al. (2003)	Arthropoda	*Palinustus*	*Palinustus truncatus* A. Milne-Edwards, 1880
Silva et al. (2003)	Arthropoda	*Panulirus*	*Panulirus argus* (Latreille, 1804)
Silva et al. (2003)	Arthropoda	*Parribacus*	*Parribacus antarcticus* (Lund, 1793)

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Study	Phylum	Genus	Species
Silva et al. (2003)	Arthropoda	*Polycheles*	*Polycheles typhlops* Heller, 1862
Silva et al. (2003)	Arthropoda	*Scyllarides*	*Polycheles typhlops* Heller, 1862
Silva et al. (2003)	Arthropoda	*Stereomastis*	*Stereomastis* sp.
Porto et al. (2005)	Arthropoda	*Panulirus*	*Panulirus argus* (Latreille, 1804)
Porto et al. (2005)	Arthropoda	*Panulirus*	*Panulirus laevicauda* (Latreille, 1817)
Porto et al. (2005)	Arthropoda	*Scyllarides*	*Scyllarides delfosi* Holthuis, 1960
R. L. Moura et al. (2016)	Arthropoda	*Palinurus*	Species not identified 1
Francini-Filho et al. (2018)	Arthropoda	*Lysmata*	*Lysmata grabhami* (Gordon, 1935)
Nóbrega et al. (2021)	Arthropoda	*Acanthilia*	*Acanthilia intermedia* (Miers, 1886)
Nóbrega et al. (2021)	Arthropoda	*Achelous*	*Achelous gibbesii* (Stimpson, 1859)
Nóbrega et al. (2021)	Arthropoda	*Achelous*	*Achelous rufiremus* (Holthuis, 1959)
Nóbrega et al. (2021)	Arthropoda	*Achelous*	*Achelous spinicarpus* Stimpson, 1871
Nóbrega et al. (2021)	Arthropoda	*Agolambrus*	*Agolambrus agonus* (Stimpson, 1871)
Nóbrega et al. (2021)	Arthropoda	*Alpheus*	*Alpheus macrocheles* (Hailstone, 1835)
Nóbrega et al. (2021)	Arthropoda	*Alpheus*	Species not identified 1
Nóbrega et al. (2021)	Arthropoda	*Amboplax*	*Amboplax peresi* (Rodrigues da Costa, 1968)
Nóbrega et al. (2021)	Arthropoda	*Anasimus*	*Anasimus latus* Rathbun, 1894
Nóbrega et al. (2021)	Arthropoda	*Calappa*	*Calappa ocellata* Holthuis, 1958
Nóbrega et al. (2021)	Arthropoda	*Calappa*	*Calappa sulcata* Rathbun, 1898
Nóbrega et al. (2021)	Arthropoda	*Callinectes*	*Callinectes bocourti* A. Milne-Edwards, 1879
Nóbrega et al. (2021)	Arthropoda	*Callinectes*	*Callinectes ornatus* Ordway, 1863
Nóbrega et al. (2021)	Arthropoda	*Charybdis*	*Charybdis (Charybdis) hellerii* (A. Milne-Edwards, 1867)
Nóbrega et al. (2021)	Arthropoda	*Clibanarius*	*Clibanarius foresti* Holthuis, 1959
Nóbrega et al. (2021)	Arthropoda	*Collodes*	*Collodes inermis* A. Milne-Edwards, 1878
Nóbrega et al. (2021)	Arthropoda	*Cronius*	*Cronius ruber* (Lamarck, 1818)
Nóbrega et al. (2021)	Arthropoda	*Dardanus*	*Dardanus fucosus* Biffar & Provenzano, 1972
Nóbrega et al. (2021)	Arthropoda	*Dardanus*	*Dardanus venosus* (H. Milne Edwards, 1848)
Nóbrega et al. (2021)	Arthropoda	*Dromia*	*Dromia erythropus* (Edwards in Catesby & Edwards, 1771)
Nóbrega et al. (2021)	Arthropoda	*Ericerodes*	*Ericerodes gracilipes* (Stimpson, 1871)
Nóbrega et al. (2021)	Arthropoda	*Exhippolysmata*	*Exhippolysmata oplophoroides* (Holthuis, 1948)
Nóbrega et al. (2021)	Arthropoda	*Farfantepenaeus*	*Farfantepenaeus subtilis* (Pérez Farfante, 1967)
Nóbrega et al. (2021)	Arthropoda	*Hepatus*	*Hepatus gronovii* Holthuis, 1959
Nóbrega et al. (2021)	Arthropoda	*Hepatus*	*Hepatus pudibundus* (Herbst, 1785)
Nóbrega et al. (2021)	Arthropoda	*Hepatus*	*Hepatus scaber* Holthuis, 1959
Nóbrega et al. (2021)	Arthropoda	*Leiolambrus*	*Leiolambrus nitidus* Rathbun, 1901
Nóbrega et al. (2021)	Arthropoda	*Leptochela*	*Leptochela serratorbita* Spence Bate, 1888
Nóbrega et al. (2021)	Arthropoda	*Libinia*	*Libinia ferreirae* de Brito Capello, 1871

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Study	Phylum	Genus	Species
Nóbrega et al. (2021)	Arthropoda	*Litopenaeus*	*Litopenaeus schmitti* (Burkenroad, 1936)
Nóbrega et al. (2021)	Arthropoda	*Lysiosquilla*	*Lysiosquilla scabricauda* (Lamarck, 1818)
Nóbrega et al. (2021)	Arthropoda	*Menippe*	*Menippe nodifrons* Stimpson, 1859
Nóbrega et al. (2021)	Arthropoda	*Mithrax*	*Mithrax tortugae* Rathbun, 1920
Nóbrega et al. (2021)	Arthropoda	*Moreiradromia*	*Moreiradromia antillensis* (Stimpson, 1859)
Nóbrega et al. (2021)	Arthropoda	*Nematopalaemon*	*Nematopalaemon schmitti* (Holthuis, 1950)
Nóbrega et al. (2021)	Arthropoda	*Panopeus*	*Panopeus occidentalis* de Saussure, 1857
Nóbrega et al. (2021)	Arthropoda	*Parasquilla*	*Parasquilla meridionalis* Manning, 1961
Nóbrega et al. (2021)	Arthropoda	*Paulita*	*Paulita tuberculata* (Lemos de Castro, 1949)
Nóbrega et al. (2021)	Arthropoda	*Penaeus*	Species not identified 1
Nóbrega et al. (2021)	Arthropoda	*Persephona*	*Persephona lichtensteinii* Leach, 1817
Nóbrega et al. (2021)	Arthropoda	*Persephona*	*Persephona mediterranea* (Herbst, 1794)
Nóbrega et al. (2021)	Arthropoda	*Persephona*	*Persephona punctata* (Linnaeus, 1758)
Nóbrega et al. (2021)	Arthropoda	*Petrochirus*	*Petrochirus diogenes* (Linnaeus, 1758)
Nóbrega et al. (2021)	Arthropoda	*Pilumnus*	*Pilumnus diomedeae* Rathbun, 1894
Nóbrega et al. (2021)	Arthropoda	*Platylambrus*	*Platylambrus serratus* (H. Milne Edwards, 1834)
Nóbrega et al. (2021)	Arthropoda	*Plesionika*	*Plesionika ensis* (A. Milne-Edwards, 1881)
Nóbrega et al. (2021)	Arthropoda	*Porcellana*	*Porcellana sayana* (Leach, 1821)
Nóbrega et al. (2021)	Arthropoda	*Rimapenaeus*	*Rimapenaeus similis* (Smith, 1885)
Nóbrega et al. (2021)	Arthropoda	Genus not identified 1	Species not identified 1
Nóbrega et al. (2021)	Arthropoda	Genus not identified 2	Species not identified 2
Nóbrega et al. (2021)	Arthropoda	Genus not identified 3	Species not identified 3
Nóbrega et al. (2021)	Arthropoda	*Sicyonia*	*Sicyonia burkenroadi* Cobb, 1971
Nóbrega et al. (2021)	Arthropoda	*Sicyonia*	*Sicyonia dorsalis* Kingsley, 1878
Nóbrega et al. (2021)	Arthropoda	*Sicyonia*	*Sicyonia stimpsoni* Bouvier, 1905
Nóbrega et al. (2021)	Arthropoda	*Stenocionops*	*Stenocionops furcatus* (Olivier, 1791)
Nóbrega et al. (2021)	Arthropoda	*Stenorhynchus*	*Stenorhynchus seticornis* (Herbst, 1788)
Nóbrega et al. (2021)	Arthropoda	*Xiphopenaeus*	*Xiphopenaeus kroyeri* (Heller, 1862)
Jovane et al. (2024)	Arthropoda	Genus not identified 1	Species not identified 1
Jovane et al. (2024)	Arthropoda	Genus not identified 2	Species not identified 2
Jovane et al. (2024)	Arthropoda	Genus not identified 3	Species not identified 3
Jovane et al. (2024)	Arthropoda	Genus not identified 4	Species not identified 4
Jovane et al. (2024)	Arthropoda	Genus not identified 5	Species not identified 5
Jovane et al. (2024)	Arthropoda	Genus not identified 6	Species not identified 6
Jovane et al. (2024)	Arthropoda	Genus not identified 7	Species not identified 7
Aller and Aller (1986)	Echinodermata	Genus not identified 1	Species not identified 1
R. L. Moura et al. (2016)	Echinodermata	*Ophiothela*	*Ophiothela mirabilis* (Verrill, 1867)

Appendix 1. (Conclusion)

Study	Phylum	Genus	Species
Francini-Filho et al. (2018)	Echinodermata	Genus not identified 1	Species not identified 1
Nóbrega et al. (2021)	Echinodermata	Genus not identified 2	Species not identified 1
Jovane et al. (2024)	Echinodermata	*Coronaster*	*Coronaster* sp.
Jovane et al. (2024)	Echinodermata	*Nymphaster*	*Nymphaster* sp.
Jovane et al. (2024)	Echinodermata	Genus not identified 1	Species not identified 1
Jovane et al. (2024)	Echinodermata	Genus not identified 2	Species not identified 2
Jovane et al. (2024)	Echinodermata	Genus not identified 3	Species not identified 3
Aller and Aller (1986)	Chordata	Genus not identified 1	Species not identified 1
Jovane et al. (2024)	Chordata	*Ariosoma*	*Ariosoma* sp.
Jovane et al. (2024)	Chordata	*Chaunax*	*Chaunax* sp.
Jovane et al. (2024)	Chordata	*Saurida*	*Saurida* sp.
Jovane et al. (2024)	Chordata	*Antigonia*	*Antigonia* sp.
Jovane et al. (2024)	Chordata	*Coelorinchus*	*Coelorinchus* sp.
Jovane et al. (2024)	Chordata	*Lutjanus*	*Lutjanus* sp.
Jovane et al. (2024)	Chordata	*Symphurus*	*Symphurus* sp.
Jovane et al. (2024)	Chordata	Genus not identified 1	Species not identified 1
Jovane et al. (2024)	Chordata	Genus not identified 2	Species not identified 2
Jovane et al. (2024)	Chordata	Genus not identified 3	Species not identified 3
Jovane et al. (2024)	Chordata	Genus not identified 4	Species not identified 4