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Checklists of Crustacea Decapoda from the Canary and Cape Verde Islands, with an assessment of Macaronesian and Cape Verde biogeographic marine ecoregions

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Abstract

The complete list of Canarian marine decapods (last update by González & Quiles 2003, popular book) currently comprises 374 species/subspecies, grouped in 198 genera and 82 families; whereas the Cape Verdean marine decapods (now fully listed for the first time) are represented by 343 species/subspecies with 201 genera and 80 families. Due to changing environmental conditions, in the last decades many subtropical/tropical taxa have reached the coasts of the Canary Islands. Comparing the carcinofaunal composition and their biogeographic components between the Canary and Cape Verde archipelagos would aid in: validating the appropriateness in separating both archipelagos into different ecoregions (Spalding *et al.* 2007), and understanding faunal movements between areas of benthic habitat. The consistency of both ecoregions is here compared and validated by assembling their decapod crustacean checklists, analysing their taxa composition, gathering their bathymetric data, and comparing their biogeographic patterns. Four main evidences (i.e. different taxa; divergent taxa composition; different composition of biogeographic patterns; different endemicity rates) support that separation, especially in coastal benthic decapods; and these parametres combined would be used as a valuable tool at comparing biotas from oceanic archipelagos. To understand/predict south-north faunal movements in a scenario of regional tropicalization, special attention is paid to species having at the Canaries their southernmost occurrence, and also to tropical African warm-affinity species.

Key words: Benthic environment, biogeographic patterns, catalogues, decapod crustaceans, Eastern Atlantic, marine ecoregions

Introduction

The “Marine Ecoregions of the World” is a nested hierarchical system of realms, provinces and ecoregions. The ecoregions aim to capture generic patterns of biodiversity across habitats and taxa, with regions extending from the intertidal zone to the 200 m depth contour. Within the Lusitanian biogeographic province of the Temperate Northern Atlantic realm, the Canary Islands is the southernmost archipelago biogeographically belonging to the Macaronesia, i.e. the Azores-Madeira-Canaries ecoregion; whereas the Cape Verde Islands biogeographically form its own ecoregion within the West African Transition province of the Tropical Atlantic realm (Spalding *et al.* 2007). From the point of view of an ecosystem-based assessment and management of coastal ocean waters, a multidisciplinary panel of experts has currently established 66 LMEs of the World (e.g. Sherman 2006). The Canary Current is a major upwelling region off the coasts of Northwest Africa, encompassing from the Straits of Gibraltar to Guinea-Bissau (e.g. Belkin *et al.* 2009), bordered by Morocco, Western Sahara, Mauritania, Senegal, Gambia, Guinea-Bissau, and by the Canary and Cape Verde Islands.

Many authors have recently postulated on a tropicalization process of fish assemblages in temperate biogeographic transition zones including Macaronesia (Brito *et al.* 2005; Wirtz *et al.* 2008; Afonso *et al.* 2013) and some parts of the Mediterranean (Horta Costa *et al.* 2014), associated with global warming in many cases (e.g. Brito *et al.* 2005; Perry *et al.* 2005). Recent reviews have emphasized that climate-driven changes in biotic interactions can profoundly alter ecological communities and reconfigure ecosystems, and are expected to have

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important socioeconomic implications (Vergés *et al*. 2014; Wernberg *et al*. 2016). In this regard, during the last thirty years marine zoologists have reported on the occurrence (and sometimes establishment) of non-native marine species around the Canary Islands, generally arriving from subtropical/tropical nearby areas (Brito *et al.* 2002, 2005; Triay-Portella *et al.* 2015; González 2016). In response to warmer conditions, marine species tend to shift their distributions to higher latitudes (e.g. Perry *et al.* 2005). Human-mediated introduction and spread of non-indigenous species are considered one of the main threats to marine biodiversity and, in recent years, the degree of interest in introduced species has increased worldwide (e.g. Molnar *et al.* 2008).

The Canary Islands are located in the northwestern coast of Africa, fairly close to this continent (104 km from Morocco) but separated from it by depths generally less than 1500 m (Fig. 1). The age of the islands varies from east to west between 19 and 0.7 my. Their volcanic characteristics are shown by the absence of wide insular shelves, with a bottom depth of 180-200 m near the coast. This archipelago has nearly 1300 km of coastline and is washed by the oligotrophic ocean (Braun & Molina 1984). The Canaries are under the influence of the subtropical gyre of the eastern-central Atlantic, which facilitates the transport of plankton and rafting organisms to the archipelago. The average seawater temperature around the islands is 18.5°C in February, rising abruptly to 24°C in August–September (e.g. Barton *et al.* 1998). A mesoscale distribution of larval communities was described in filaments of the upwelling system from the African coast reaching the archipelago (Landeira *et al.* 2010). This area is characterized by the presence of three water masses in the first 1000 m depth, the Eastern North Atlantic Central Water, the Antarctic Intermediate Water and the Mediterranean Water, located at different depths and with characteristic thermohaline properties (e.g. Hernández-Guerra *et al.* 2002). These water masses generate changes in salinity and mainly in temperature resulting in the presence of density and thermal barriers that affect the distribution of decapods (Pajuelo *et al.* 2015).

The Cape Verde archipelago is placed in the north-eastern Atlantic. It has about 965 km of coastline, the islands lying within the 4000 m marine contour. The islands are well-separated from the coasts of Western Africa by great depths (> 3000 m), being located 570 km from Senegal. Most of the islands arise from great depths, but the windward island chain, and Boa Vista and Maio are linked by relative shallows (< 200 m). These volcanic characteristics are manifest by the absence of wide insular shelves, with a bottom depth of 300 m near the coast except around Boa Vista and Maio (Fig. 1). These islands show an increase of age from west (< 3 my) to east (8-15.8 my) (Ramalho 2011). Their waters are under the influence of the North Equatorial Counter-Current and the Canary Current, with sea-surface temperature normally higher than 20°C along the year (González *et al.* 2009a). The seasonal circulation pattern of the North Equatorial Counter-Current show their influence in the south-eastern part of the archipelago from April to June, expanding gradually westwards and northwards covering the whole area by the end of July (Lázaro *et al.* 2005).

In the current scenario of loss of taxa, regional tropicalization and bioinvasion, increasing the knowledge about the composition of marine species that occur in different regions by using their checklists, understanding/predicting some faunal movements between areas, and monitoring is a need to control and preserve biodiversity (e.g. Araújo & Wirtz 2015). For these purposes, the adequacy of decapod crustaceans is evident because decapods is one of the most diverse taxa in marine and coastal ecosystems, as well as one of the most representative groups of the benthic environment.

Here, we aim to compare the carcinofaunal composition of the Canary and Cape Verde Islands, as well as their biogeographic components in order to validate the appropriateness in separating both archipelagos in two ecoregions, and to understand some south-north carcinofaunal movements between areas of benthic habitat. Additionally, we carry out a bibliographic revision and overview about the decapod species previously recorded in both areas including some new records, and we gather the species' vertical distributional information as a useful tool to support further monitoring to identify the absence or appearance of non-native species.

Methods and materials

Data collection. This combined list covers all marine decapod crustacean present in the Canary (CNI) and Cape Verde Islands (CVI) from intertidal to deep waters. The study area is bounded by the 30°N and 27°N parallels, and the 19°W and 13°W meridians (Canaries), and by the 14°50'N and 17°20'N parallels, and the 22°40'W and 25°30'W meridians (Cape Verdes) (Fig. 1).

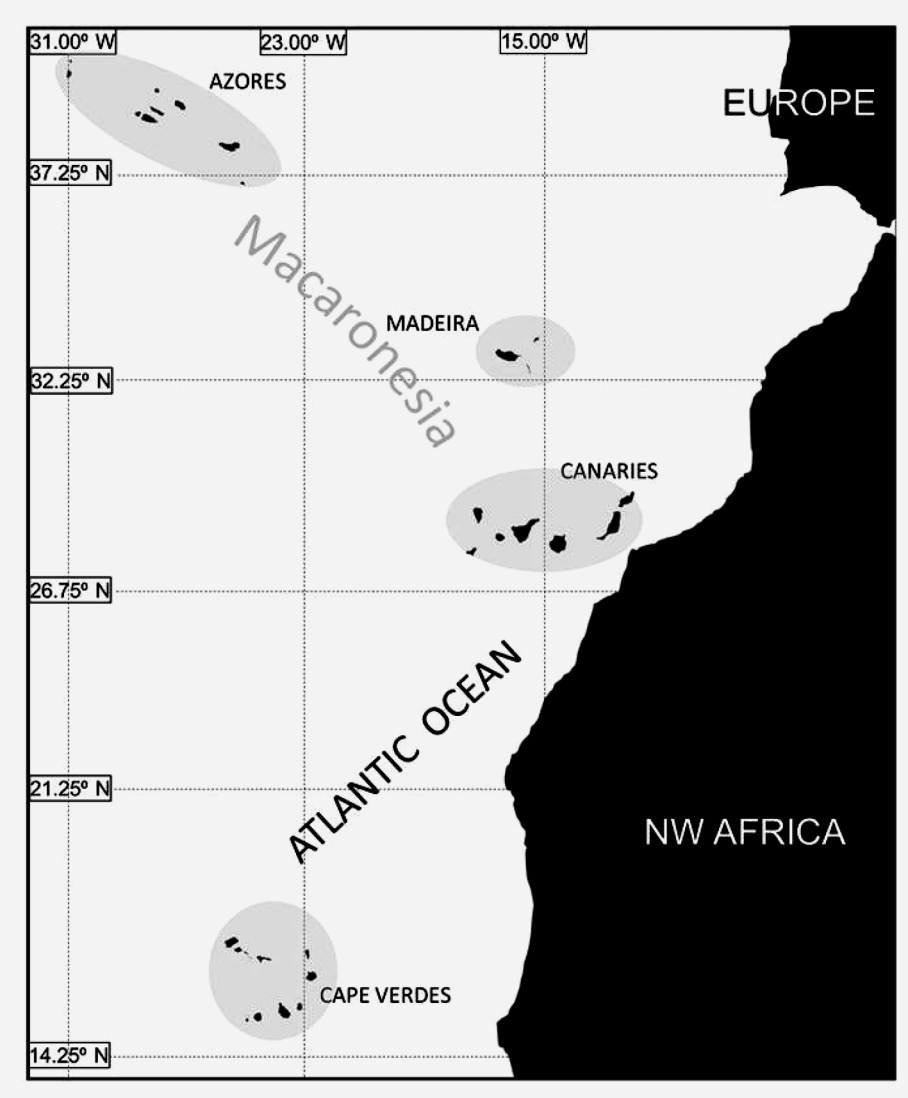

FIGURE 1. The Macaronesia and Cape Verde Islands.

The present systematic classification and taxa arrangement follow De Grave *et al.* (2009), Vereshchaka *et al.* (2014) for the Sergestidae, Shih *et al.* (2016) for the Ocypodidae, and most recent revisions (e.g. Mithracidae; Polybiidae instead of Macropipidae) by WoRMS Editorial Board (2017). Superfamilies are arranged in systematic order as currently accepted and, within each supra-familiar taxa, alphabetically. Families and species are also listed alphabetically within their respective superfamilies. Sections, subsections and subfamilies have been omitted.

For each decapod species the publication that (to our knowledge) gives the first record (with its original name) from the study area is listed. Species' occurrence at each archipelago was checked using the following main references: González (1995, 2016), Bordes (2009), González *et al.* (2009b), González & Quiles (2003), Landeira & Fransen (2012), González & Santana (2014), Moro *et al.* (2014) and González *et al.* (2016, 2017a) for the Canaries; and Monod (1956), Crosnier & Forest (1973), Manning & Holthuis (1981), Türkay (1982), González *et al.* (2009a, 2017b, c), Krakstad *et al.* (2011), Anker *et al.* (2016), Neves *et al.* (2016) and Neves (2016) for the Cape Verdes. Main references shared by both archipelagos were: Fransen (1991), García-Gómez (1994), Pérez Farfante & Kensley (1997), d'Udekem d'Acoz (1999), Baba *et al.* (2008), McLaughlin *et al.* (2010) and Lemaitre (2014). For each species previously reported or unpublished data (from recent surveys around both archipelagos) on regional depth range is also given, and each species is classified as pelagic, benthic or benthopelagic, followed by its depth range (if different) elsewhere.

Each species is also classified into the following 14 biogeographic pattern categories (13 in González 2016; González *et al.* 2017c; and 1 more: ECNI): worldwide or cosmopolitan (COSM); circumtropical or pantropical

(PANT); amphi-Atlantic of wide distribution (AAWD); amphi-Atlantic of warm affinity (AAWA); eastern Atlantic of wide distribution (EAWD); eastern Atlantic cold-temperate (EACT); eastern Atlantic warm-temperate (EAWT); Atlanto-Mediterranean (ATLM); Guinean (restricted to tropical/subtropical eastern Atlantic, TSEA); Macaronesian (MAC, from the Azores, Madeira, Salvage, and/or Canary Islands); eastern-central Atlantic islands (ECAI, from the Azores to the Cape Verdes, and southwards even to St. Helena); insular West African (IWAF, around the Cape Verdes and islands of the Gulf of Guinea); endemic to the Canary Islands (ECNI); and endemic to the Cape Verde Islands (ECVI).

Data analysis. To compare the taxa composition between archipelagos, the number of accepted families and number of valid species (as well as the percentage of species from the total) were estimated for higher decapod groups. First, data on decapods taxa composition were sorted by suborder, i.e. the Dendrobanchiata versus the Pleocyemata. Within the Pleocyemata, data were sorted by the nine infraorders occurring in the study area: Stenopodidea, Caridea, Astacidea, Axiidea, Gebiidea, Achelata, Polychelida, Anomura and Brachyura. Secondly, families and genera present in the Canary Islands but not in the Cape Verde Islands, and vice versa, were listed and quantified. The percentage of dissimilarity of familiar, generic and specific composition (based on taxa occurring at the Canaries but not at the Cape Verdes, plus vice versa taxa) was calculated separately, and then used to compare the taxa composition between archipelagos. In this regard, an alternate interpretation of the Jaccard similarity coefficient, i.e. the Jaccard distance, was used to measure dissimilarity between sample sets (where 0% is full similarity, and 100% full dissimilarity) (Jaccard 1912).

To compare the species' biogeographic patterns between archipelagos, a first description of different components of their decapod fauna was performed according to the categories established above. A second similar approach was done where both pelagic and deep-water benthic species were excluded, to specifically compare the littoral and upper bathyal benthic species (0–300 m) from the Cape Verde (Menezes *et al.* 2015) and Canary Islands (González 2016).

To understand south-north carcinofaunal movements and give support for long-term monitoring, special attention is paid to following benthic species: a) eastern Atlantic cold-temperate species (generaly with the Canaries as their southern limit of occurrence); b) Cape Verdean species of warm affinity (including Guinean, amphi-Atlantic, and pantropical biogeographic components); c) Cape Verdean species recorded for the Canary Islands in the last 30 years; and d) warm-affinity species recorded for the Canaries in recent years, but not (yet) found in the Cape Verde Islands.

Results

Systematic checklist

It includes a combined checklist of decapods occurring at the Canary and Cape Verde Islands supported by bibliographic references, as well as updated information on species' bathymetric range (regional and elsewhere), spatial distribution and biogeographic pattern. Assembling reliable state-of-the-art checklists is a time-consuming task. However, the archipelagos studied here are relatively well explored, and the compilation of both published and grey data allowed biogeographic patterns to emerge.

DENDROBRANCHIATA Spence Bate, 1888

PENAEOIDEA Rafinesque, 1815

Aristeidae Wood-Mason, 1891

***Aristaeomorpha foliacea* (Risso, 1827)**—CNI Santaella (1973, as *Aristeomorpha foliacea*); 120–680 m—Benthic, 120–2200 m. PANT.

***Aristaeopsis edwardsiana* (Johnson, 1867)**—CNI García Cabrera (1971, as *Plesiopenaeus edwardsianus*); 219–?m—CVI González *et al.* (2004); 301–1000 m—Benthic, 219–1850 m. PANT.

***Aristeus antennatus* (Risso, 1816)**—CVI Bouvier (1908); 250 m—Benthic, 80–1140 m. PANT.

***Aristeus varidens* Holthuis, 1952**—CVI González *et al.* (2017b); 192–426 m (Santiago and Boa Vista)—Benthic, 300–1134 m. TSEA.

***Crataspis monstruosus* Gray, 1828**—CNI Sund (1920, as *Aristeopsis tridens*); 1980–2300 m—CVI Bouvier (1905, as *Plesiopenaeus armatus*); 3000–3840 m—Benthic, 752–5413 m. PANT.

***Hepomadus tener* Smith, 1884**—CNI likely (occurs off Azores, Madeira and Cape Verde Islands, d'Udekem d'Acoz 1999)—CVI Fransen (1991, as *Hepomades tener*); 3650–3850 m—Benthic, 765–5400 m. PANT.

Benthesicymidae Wood-Mason, 1891

***Bentheogennema intermedia* (Spence Bate, 1888)**—CNI Bouvier (1906, as *Gennadas alicei*); depth unknown—Benthopelagic, 800–4360 m. PANT.

***Benthesicymus bartletti* Smith, 1882**—CNI Bouvier (1908); 778–2500 m—CVI Bouvier (1908); 701–1000 m—Benthic, 609–5777 m. PANT.

***Benthesicymus brasiliensis* Spence Bate, 1881**—CNI Sund (1920); 2603 m—CVI Bouvier (1908, as *B. moratus*); depth unknown—Benthic, 3745–4500 m. AAWA.

***Benthesicymus iridescens* Spence Bate, 1881**—CNI Sund (1920, as *B. longipes*); 5000 m—CVI Bouvier (1908, as *B. longipes*); depth unknown—Benthic, 576–4987 m. PANT.

***Benthesicymus laciniatus* Rathbun, 1906**—CNI Rathbun (1906), type-locality; 2603 m—Benthic, 1500–3000 m. PANT.

***Benthonectes filipes* Smith, 1885**—CNI likely (occurs off Azores, Morocco, d'Udekem d'Acoz 1999, and Cape Verde Islands)—CVI Neves *et al.* (2016), Neves (2016); 878 m—Benthic, 930–1908 m. PANT.

***Gennadas brevirostris* Bouvier, 1905**—CNI Casanova (1972); 70–700 m—Pelagic. PANT.

***Gennadas capensis* Calman, 1925**—CNI Casanova (1972); 798–1000 m—Pelagic, 250–1000 m. PANT.

***Gennadas elegans* (Smith, 1882)**—CNI Bouvier (1908, as *Amalopenaeus elegans* and *G. elegans*); 550–900 m—CVI Ortmann (1893); same depth—Pelagic, 700–2000 m. AAWD.

***Gennadas talismani* Bouvier, 1906**—CVI Lenz & Strunck (1914); depth unknown—Pelagic, 600–4000 m. AAWA.

***Gennadas tinayrei* Bouvier, 1906**—CNI Sund (1920, as *Amalopenaeus tinayrei*); depth unknown—CVI likely (occurs off Azores, Canary Islands, St. Helena and South Africa, Pérez Farfante & Kensley 1997)—Pelagic, 191–1650 m. PANT.

***Gennadas valens* (Smith, 1884)**—CNI Bouvier (1908, as *Amalopenaeus valens*); 200–700 m—CVI Lenz & Strunck (1914); depth unknown—Pelagic, 300–2500 m. AAWA.

Penaeidae Rafinesque, 1815

***Funchalia danae* Burkenroad, 1940**—CNI Burkenroad (1940), type-locality; depth unknown—CVI likely (occurs off Azores, Canary Islands, St. Helena and Congo, Pérez Farfante & Kensley 1997)—Pelagic, 0–3200 m. PANT.

***Funchalia villosa* (Bouvier, 1905)**—CNI Lenz & Strunck (1914, as *F. vanhöffeni*); 50–950 m—CVI likely (occurs off Canary Islands, Tristan da Cunha, Pérez Farfante & Kensley 1997, and Valdivia Bank)—Pelagic, 50–2608 m. PANT.

***Funchalia woodwardi* Johnson, 1867**—CNI Sund (1920); depth unknown—CVI likely (occurs off Azores, Madeira and Canary Islands and South Africa, Pérez Farfante & Kensley 1997)—Pelagic, 27–1544 m. PANT.

***Metapenaeopsis miersi* (Holthuis, 1952)**—CVI Türkay (1982, as *Penaeopsis miersi*); 7–15 m—Benthic, 18–32 m. TSEA.

***Metapenaeus affinis* (H. Milne Edwards, 1837)**—CVI Crosnier & Forest (1973, as *Hymenopenaeus affinis*); 410–460 m—Benthic, 5–360 m. PANT.

***Pelagopenaeus balboae* (Faxon, 1893)**—CNI Landeira & González (2018); 0–150 m—CVI Pérez Farfante & Kensley (1997)—Pelagic, 0–1609 m. PANT.

***Penaeopsis serrata* Spence Bate, 1881**—CNI González (1995); 284–600 m—Benthic, also benthopelagic, 120–750 m. AAWA.

***Penaeus kerathurus* (Forskål, 1775)**—CNI González & Santana (2014); 6–15 m—Benthic, 0.5–90 m. EAWT.
***Penaeus monodon* Fabricius, 1798**—CVI González (in prep.); shallow waters (Boa Vista)—Benthic, 0–110 m. PANT.

Sicyoniidae Ortmann, 1898

***Sicyonia carinata* (Brünnich, 1768)**—CVI Holthuis (1952); shallow waters—Benthic, 0.5–120 m. AAWA.

Solenoceridae Wood-Mason, 1891

***Hymenopenaeus chacei* Crosnier & Forest, 1969**—CNI González (1995); ?–1500 m—CVI Krakstad *et al.* (2011); 878 m—Benthic, 300–2100 m. TSEA.
***Hymenopenaeus debilis* Smith, 1882**—CNI Bouvier (1908, as *Haliporus debilis*); depth unknown—CVI Crosnier & Forest (1973); 550–760 m—Benthic, 302–2163 m. AAWA.
***Hymenopenaeus laevis* (Spence Bate, 1881)**—CVI Crosnier & Forest (1973); 3655–4130 m—Benthic, 1000–4790 m. PANT.
***Solenocera membranacea* (Risso, 1816)**—CNI Quiles *et al.* (2001); 62 m—Benthic, 35–742 m. EAWT.

SERGESTOIDEA Dana, 1852

Luciferidae de Haan, 1849

***Lucifer typus* H. Milne Edwards, 1837**—CNI García Cabrera (1971, as *L. tipus [sic]*); surface—Pelagic. AAWA.
Sergestidae Dana, 1852
***Allosergestes nudus* (Illig, 1914)**—CNI Bordes (2009, as *S. nudus*); 255–813 m—Pelagic, 130–1400 m. PANT.
***Allosergestes pectinatus* (Sund, 1920)**—CNI Sund (1920, as *Sergestes pectinatus*); 113–1000 m—Pelagic. PANT.
***Allosergestes sargassi* (Ortmann, 1893)**—CNI Sund (1920, as *Sergestes henseni*); 170–700 m—Pelagic, 30–830 m. PANT.
***Challengerosergia talismani* (Barnard, 1946)**—CVI Hansen (1922, as *Sergestes talismani*); depth unknown—Benthopelagic, 70–760 m. TSEA.
***Cornutosergestes cornutus* (Krøyer, 1855)**—CNI Sund (1920, as *Sergestes cornutus*); surface—Pelagic. PANT.
***Deosergestes corniculum* (Krøyer, 1855)**—CNI Hansen (1922, as *Sergestes corniculum*); 0–1000 m—Pelagic, 0–2300 m. AAWA.
***Deosergestes henseni* (Ortmann, 1893)**—CNI Sund (1920, as *Sergestes corniculum*); 0–1500 m—Pelagic, 100–1330 m. AAWA.
***Deosergestes paraseminudus* (Crosnier & Forest, 1973)**—CNI Bordes (2009, as *Sergestes paraseminudus*); 215–924 m—Pelagic, 0–1300 m. AAWA.
***Deosergestes pediformis* (Crosnier & Forest, 1973)**—CNI doubtful (Bordes 2009, as *Sergestes pediformis*); 310–525 m—Pelagic, 0–2300 m. TSEA.
***Eusergestes arcticus* (Krøyer, 1855)**—CNI Sund (1920, as *Sergestes arcticus*); 500–?m—Pelagic. PANT.
***Gardinerosergia splendens* (Sund, 1920)**—CNI Sund (1920, as *Sergia splendens*); 110–925 m—CVI Pérez Farfante & Kensley (1997, as *S. splendens*); depth unknown—Pelagic, 110–925 m. AAWA.
***Neosergestes edwardsii* (Krøyer, 1855)**—CNI Bordes (2009, as *Sergestes edwardsi*); 553–716 m—CVI Spence Bate (1888, *Sergestes edwardsii*); depth unknown—Pelagic, 0–?m. AAWA.
***Parasergestes armatus* (Krøyer, 1855)**—CNI Chun (1889, as *Sergestes armatus*); 50–925 m—Pelagic. PANT.
***Parasergestes diapontius* (Spence Bate, 1881)**—CNI Bordes (2009, as *Sergestes diapontius*); 20–2000 m—CVI Vereshchaka (2009); depth unknown—Pelagic. PANT.
***Parasergestes vigilax* (Stimpson, 1860)**—CNI Sund (1920, as *Sergestes vigilax*); 0–900/1000 m—Pelagic. PANT.
***Petalidium obesum* (Krøyer, 1855)**—CNI Hansen (1922); 900–1000 m—CVI Pérez Farfante & Kensley (1997); depth unknown—Pelagic, 900–5000 m. AAWD.

***Phorcosergia burukovskii* (Vereshchaka, 2000)**—CNI Bordes (2009, as *Sergia grandis*); 300–1000 m—Pelagic. PANT.

***Phorcosergia grandis* (Sund, 1920)**—CNI Sund (1920, as *Sergia grandis*); depth unknown—CVI Holthuis (1952, as *S. grandis*); depth unknown—Benthopelagic, 200–2478 m. AAWD.

***Phorcosergia wolffi* (Vereshchaka, 1994)**—CNI Landeira & González (2018, as *Sergia wolffi*); 565–833 m—Pelagic, 200–1500 m. AAWA.

***Robustosergia extenuata* (Burkenroad, 1940)**—CNI Bordes (2009, as *Sergia extenuata*); 200–2000 m—Pelagic. TSEA.

***Robustosergia robusta* (Smith, 1882)**—CNI Sund (1920, as *Sergia robustus*); 200–700 m—CVI Pérez Farfante & Kensley, 1997, as *S. robusta*); depth unknown—Pelagic. AAWD.

***Sergestes atlanticus* H. Milne Edwards, 1830**—CNI Chun (1889); 30–2000 m—Pelagic. COSM.

***Sergia japonica* (Spence Bate, 1881)**—CNI Sund (1920, as *S. japonicus*); depth unknown—Pelagic, 500–5591 m. COSM.

***Sergia laminata* (Burkenroad, 1940)**—CNI Bordes (2009); 464–924 m—Pelagic, 0–2500 m. PANT.

***Sergia tenuiremis* (Krøyer, 1855)**—CNI Sund (1920, as *Sergestes tropicus*); 570–1000 m—Pelagic, 500–2000 m. COSM.

PLEOCYEMATA Burkenroad, 1963

STENOPODIDEA Spence Bate, 1888

Spongicolidae Schram, 1986

***Microprosthema inornatum* Manning & Chace, 1990** – CVI De Grave *et al.* (2016); 10 m—Benthic, 18–100 m. AAWA.

***Spongiocaris koehleri* (Caullery, 1896)**—CNI González *et al.* (2016); 500 m—Benthic, 754–1410 m. ATLM.

Stenopodidae Claus, 1872

***Stenopus spinosus* Risso, 1827**—CNI Barquín *et al.* (1982–1983); 6–250 m—Benthic, 1.5–690 m. ATLM.

CARIDEA Latreille, 1817

PASIPHAEOIDEA Dana, 1852

Pasiphaeidae Dana, 1852

***Eupasiphae gilesii* (Wood-Mason, 1892)**—CNI Foxton (1970, as *Eupasiphaea gilesii*); 800–1000 m—Benthopelagic, 800–1893 m. PANT.

***Glyphus marsupialis* Filhol, 1884**—CNI Bordes (2009); 495–1009 m—CVI Krakstad *et al.* (2011); 878 m—Benthopelagic, 500–1500 m. PANT.

***Pasiphaea tarda* Krøyer, 1845**—CNI likely (occurs from Iceland and Norway to Western Sahara and southward to south-east Atlantic, d'Udekem d'Acoz 1999, including Cape Verde Islands)—CVI Neves (2016); 878 m—Benthopelagic, 250–2400 m. COSM.

***Pasiphaea hoplocerca* Chace, 1940**—CNI Foxton (1970); 524–950 m—CVI Iwasaki (1990); 524 m—Benthopelagic, 524–1650 m. AAWA.

***Pasiphaea multidentata* Esmark, 1866**—CNI Iwasaki (1990); 228–500 m—CVI Krakstad *et al.* (2011); 878 m—Benthopelagic, 10–2000 m. AAWD.

***Pasiphaea princeps* Smith, 1884**—CVI Iwasaki (1990); 1450–2500 m—Benthopelagic. AAWA.

***Pasiphaea sivado* (Risso, 1816)**—CNI Bordes (2009); 58–414 m—Pelagic, 0–871 m. EACT.

***Psathyrocaris infirma* Alcock & Anderson, 1894**—CNI Araújo *et al.* (2013); 751–1050 m—Benthopelagic, 0–2000 m. PANT.

OPLOPHOROIDEA Dana, 1852

Acanthephyridae Spence Bate, 1888

***Acanthephyra curtirostris* Wood-Mason & Alcock, 1891**—CNI Casanova (1972); 900–1000 m—Benthopelagic, 660–4970 m. PANT.

***Acanthephyra eximia* Smith, 1884**—CNI García Cabrera (1971, as *Acanthefira [sic] eximia*); 926–2156 m—CVI González *et al.* (2004, 2009); 360–1000 m—Benthic, 200–3700 m. PANT.

***Acanthephyra kingsleyi* Spence Bate, 1888**—CVI Ortmann (1893, as *A. purpurea*); 849–909 m (Neves *et al.* 2016)—Pelagic, 200–4500 m. TSEA.

***Acanthephyra pelagica* (Risso, 1816)**—CNI García Cabrera (1971, as *Acanthefira [sic] pelagica*); 200–400 m—CVI Krakstad *et al.* (2011); 848–909 m—Benthopelagic, 200–3200 m. COSM.

***Acanthephyra purpurea* A. Milne-Edwards, 1881**—CNI Coutière (1905, as *Acanthephyra parva paucidens*); 100–3000 m—Pelagic, 100–3400 m. AAWD.

***Acanthephyra stylorostratis* (Spence Bate, 1888)**—CNI Coutière (1907); 1000–1500 m—CVI Lenz & Strunck (1914, as *Bentheocaris stylorostris*); 3000 m—Pelagic, 1000–5000 m. PANT.

***Acanthephyra tenuipes* (Spence Bate, 1888)**—CNI Sivertsen & Holthuis (1956, as *A. gracilipes*); 1000–1500 m—Pelagic, 1000–3840 m. PANT.

***Ephyrina benedicti* Smith, 1885**—CNI Sivertsen & Holthuis (1956); depth unknown—Pelagic, 1400–4400 m. PANT.

***Ephyrina figueirai figueirai* Crosnier & Forest, 1973**—CNI Foxton (1970, as *Ephyrina hoskynii*); 900–1000 m—Pelagic, 497–1682 m. PANT.

***Ephyrina ombango* Crosnier & Forest, 1973**—CNI Crosnier & Forest (1973); 495–1009 m—CVI Crosnier & Forest (1973); 0–1000 m—Pelagic, 0–2000 m. AAWA.

***Heterogenys microphthalma* (Smith, 1885)**—CNI Sivertsen & Holthuis (1956); 2000 m—CVI Crosnier & Forest (1973, at 16°12'N 27°04'W); 3890–3890 m—Benthopelagic, 2000–4792 m. PANT.

***Hymenodora glacialis* (Buchholz, 1874)**—CNI Spence Bate (1888, as *H. mollicutis*); 0–4000 m—CVI Balss (1925, in part); depth unknown—Pelagic, 0–5686 m. COSM.

***Hymenodora gracilis* Smith, 1886**—CNI Sivertsen & Holthuis (1956); 1000 m—Pelagic, 500–5300 m. COSM.

***Meningodora compsa* (Chace, 1940)**—CNI likely (occurs in Madeira and Senegal)—CVI Crosnier & Forest (1973); depth unknown—Pelagic, 874–1829 m. AAWA.

***Meningodora miccyla* (Chace, 1940)**—CVI Crosnier & Forest (1973); 1100 m—Pelagic, 915–1830 m. AAWA.

***Meningodora mollis* Smith, 1882**—CNI Foxton (1970); 925–1000 m—CVI Fransen (1991); 330–3000 m—Benthopelagic, 330–5000 m. PANT.

***Meningodora vesca* (Smith, 1886)**—CNI Sivertsen & Holthuis (1956); 615–925 m—CVI Fransen (1991); 400–3000 m—Pelagic, 400–5400 m. AAWD.

***Notostomus auriculatus* Barnard, 1950**—CVI Crosnier & Forest (1973); 0–1000 m—Benthopelagic, 0–2835 m. PANT.

***Notostomus distirus* Chace, 1940**—CNI Sivertsen & Holthuis (1956); 1000 m—Pelagic, 1000–2000 m. AAWA.

***Notostomus elegans* A. Milne-Edwards, 1881**—CNI Sivertsen & Holthuis (1956, as *N. longirostris*); 700–800 m—Pelagic, 450–5380 m. PANT.

***Notostomus gibbosus* A. Milne-Edwards, 1881**—CVI Crosnier & Forest (1973, at 16°16'N 22°16'W); 1000 m—Benthopelagic, 850–4000 m. PANT.

***Notostomus robustus* Smith, 1884**—CNI Casanova (1972); 900–1000 m—Pelagic, 850–3000 m. PANT.

Oplophoridae Dana, 1852

***Oplophorus spinosus* (Brullé, 1839)**—CNI Brullé (1839, as *Palaemon spinosus*); 110–950 m—CVI likely (occurs off Canary Islands, Senegal, Valdivia Bank, and Tristan da Cunha, d'Udekem d'Acoz 1999)—Pelagic, 10–3923 m. PANT.

***Systellaspis braueri braueri* (Balss, 1914)**—CNI Foxton (1970); 900–1000 m—Pelagic, 150–4000 m. AAWA.

***Systellaspis cristata* (Faxon, 1893)**—CNI Foxton (1970); 700–1000 m—Benthopelagic, 142–5300 m. PANT.

***Systellaspis debilis* (A. Milne-Edwards, 1881)**—CNI Sivertsen & Holthuis (1956); 50–1500 m—CVI Lenz & Strunck (1914); 848–3000 m—Benthopelagic, 25–3000 m. COSM.

***Systellaspis pellucida* (Filhol, 1884)**—CNI González *et al.* (1988); 104–215 m—CVI Crosnier & Forest (1973); 410–1000 m—Benthic, 90–3292 m. PANT.

BRESILIOIDEA Calman, 1896

Disciadidae Rathbun, 1902

***Discias atlanticus* Gurney, 1939**—CVI Holthuis (1951); 40 m—Benthic, 15–50 m. AAWA.

NEMATOCARCINOIDEA Smith, 1884

Nematocarcinidae Smith, 1884

***Nematocarcinus ensifer* (Smith, 1882)**—CNI Sivertsen & Holthuis (1956); 2603 m—CVI Smith (1882, as *Eumiersia ensifera*), type-locality; 3000–3655 m—Benthic, 1000–3655 m. AAWA.

***Nematocarcinus exilis* (Spence Bate, 1888)**—CNI type-locality (as *Stochasmus exilis*); 1000–1500—Benthic, 800–2600 m. EACT.

***Nematocarcinus gracilipes* Filhol, 1884**—CNI González *et al.* (1993); 456–1146 m—CVI Crosnier & Forest (1973); 590–660 m—Benthic, 590–2000 m. TSEA.

***Nigmatullinus acanthitelsonis* (Pequegnat, 1970)**—CNI Sivertsen & Holthuis (1956, as *Nematocarcinus acanthitelsonis*); 0–3138 m—Benthopelagic, 2020–3470 m. PANT.

Rhynchocinetidae Ortmann, 1890

***Cinetorhynchus rigens* (Gordon, 1936)**—CNI Santaella (1973, as *Rhynchocinetes rigens*); 1–25 m—CVI Wirtz *et al.* (1988, as *R. rigens*); 0.5–15 m—Benthic. AAWA.

STYLODACTYLOIDEA Spence Bate, 1888

Stylodactylidae Spence Bate, 1888

***Stylodactylus serratus* A. Milne-Edwards, 1881**—CNI Fransen (1991); 1500 m—Benthic, 611–1500 m. AAWA.

CAMPYLONOTOIDEA Sollaud, 1913

Bathypalaemonellidae de Saint Laurent, 1985

***Bathypalaemonella serratipalma* Pequegnat, 1970**—CNI Fransen (1991); 1440–1540 m—Benthic, 723–2100 m. AAWA.

PALAEMONOIDEA Rafinesque, 1815

Gnathophyllidae Dana, 1852

***Gnathophylleptum tellei* d'Udekem d'Acoz, 2001**—CNI d'Udekem d'Acoz (2001), type-locality; 0–17 m—Benthic, 12 m. AAWA.

***Gnathophyllum americanum* Guérin-Méneville, 1855**—CNI Holthuis (1949); 0–50 m—Benthic. PANT.

***Gnathophyllum elegans* (Risso, 1816)**—CNI Brullé (1839); 0–10 m—CVI Türkay (1982); 0.5–2 m—Benthic, 0–30 m. ATLM.

Palaemonidae Rafinesque, 1815

***Brachycarpus biunguiculatus* (Lucas, 1846)**—CNI Moreno *et al.* (1982); 1–45 m—CVI likely (occurs in Canary, Ascension and St. Helena Islands, d'Udekem d'Acoz 1999)—Benthic, 0–56 m. PANT.

***Palaemon elegans* Rathke, 1837**—CNI Brullé (1839, as *P. squilla*); 0–5 m—CVI Ortmann (1893); same depth—Benthic. EACT.

***Palaemon serratus* (Pennant, 1777)**—CNI Holthuis (1949); 2–10 m—Benthic, 2–40 m. ATLM.

***Palaemon vicinus* Ashelby, 2009**—CVI Ashelby (2009), type-locality; 0–4 m—Benthic. TSEA.

***Palaemon xiphias* Risso, 1816**—CNI Holthuis (1949); 0–5 m—Benthic, 0.5–10 m. ATLM.

***Ascidonia flavomaculata* (Heller, 1864)**—CNI Pérez & Moreno (1991, as *Pontonia flavomaculata*); 5–42 m—CVI Fransen (2002); 0–15 m—Benthic, 0–100 m. ATLM.

***Balssia gasti* (Balss, 1921)**—CNI Barquín *et al.* (1982–1983); 20–40 m—CVI Wirtz & d'Udekem d'Acoz (2001); 20–40 m—Benthic, 12–120 m. ATLM.

***Palaemonella atlantica* Holthuis, 1951**—CNI Fransen & Wirtz (1997); 15–18 m—CVI type-locality; 5–40 m—Benthic, 2–75 m. TSEA.

***Periclimenes sagittifer* (Norman, 1861)**—CNI González (1995, as *Periclimenes* sp.); 1–25 m—Benthic, 0–5 m. EACT.

***Periclimenes scriptus* (Risso, 1822)**—CNI Holthuis (1949); depth unknown—CVI Holthuis (1951); littoral—Benthic, 12–65 m. TSEA.

***Periclimenes wirtzi* d'Udekem d'Acoz, 1996**—CNI Fransen & Wirtz (1997); 36–54 m—CVI Wirtz & d'Udekem d'Acoz (2001); 15–30 m—Benthic, 29–54 m. ECAI.

***Pontonia manningi* Fransen, 2000**—CNI Fransen (2000); 10–15 m—CVI Fransen (2000); 5–60 m—Benthic, 3.5–69.5 m. AAWA.

***Pontonia pilosa* Fransen, 2002**—CVI type-locality; 10 m—Benthic. ECVI.

***Pontonia pinnophylax* (Otto, 1821)**—CNI Santaella (1973); 2–28 m—CVI Türkay (1982); 0–22 m—Benthic, 0–137 m. EAWT.

***Pseudocoutierea wirtzi* d'Udekem d'Acoz, 2000**—CVI d'Udekem d'Acoz (2000b), type-locality; 20–30 m—Benthic, 14–29 m. TSEA.

***Rapipontonia platalea* (Holthuis, 1951)**—CVI Holthuis (1951, as *Periclimenes (Harpilius) platalea*); 14–30 m—Benthic, 10–34 m. TSEA.

***Tulеariocaris neglecta* Chace, 1969**—CNI Barquín *et al.* (1982–1983); 0–50 m—CVI Wirtz (2009); 15 m—Benthic. AAWA.

***Typton gnathophylloides* Holthuis, 1951**—CNI Pérez & Moreno (1991); 14–18 m—Benthic, 82 m. AAWA.

***Typton spongicola* O.G. Costa, 1844**—CNI Barquín *et al.* (1982–1983); 5 m—CVI Lenz & Strunck (1914); 9 m—Benthic, 8–300 m. ATLM.

ALPHEOIDEA Rafinesque, 1815

Alpheidae Rafinesque, 1815

***Alpheopsis africana* Holthuis, 1952**—CVI Sollaud (1932, as *A. trispinosus*); 54–347 m—Benthic, 150 m. TSEA.

***Alpheus agilis* Anker, Hurt & Knowlton, 2009**—CVI Anker *et al.* (2009); intertidal—Benthic. AAWA.
***Alpheus bouvieri* A. Milne-Edwards, 1878**—CVI Türkay (1982); 9–40 m—Benthic. AAWA.
***Alpheus crockeri* (Armstrong, 1941)**—CVI Wirtz *et al.* (2016); littoral—Benthic, 1–50 m. PANT.
***Alpheus dentipes* Guérin, 1832**—CNI Santaella (1973); 0–73 m—CVI Stimpson (1860, as *A. streptochirus*); 2–94 m—Benthic. EAWT.
***Alpheus edwardsii* (Audouin, 1826)**—CVI Coutière (1898); littoral—Benthic. PANT.
***Alpheus holthuisi* Ribeiro, 1964**—CVI Ribeiro (1964), type-locality; littoral—Benthic. ECAI.
***Alpheus macrocheles* (Hailstone, 1835)**—CNI Santaella (1973); 0–185 m—CVI Holthuis (1951); 41–185 m—Benthic, 0–1182 m. EAWT.
***Alpheus malleator* Dana, 1852**—CVI A. Milne-Edwards (1878, as *A. pugilator*); littoral—Benthic. PANT.
***Alpheus paracrinitus* Miers, 1881**—CVI Türkay (1982); 5 m—Benthic, 0–30 m. PANT.
***Alpheus platydactylus* Coutière, 1897**—CVI Crosnier & Forest (1973); depth unknown—Benthic, 45–600 m. AAWA.
***Alpheus ribeiroae* Anker & Dworschak, 2004**—CVI Anker & Dworschak (2004), type-locality; intertidal—Benthic. ECVI.
***Alpheus rugimanus* A. Milne-Edwards, 1878**—CVI type-locality; 2–5 m—Benthic. TSEA.
***Alpheus sulcatus* Kingsley, 1878**—CNI González (1995, as *Alpheus* sp.); 1–24 m—CVI Herrera *et al.* (2001); littoral—Benthic. PANT.
***Alpheus talismani* Coutière, 1898**—CVI Crosnier & Forest (1973); 410–628 m—Benthic, 30–440 m. AAWD.
***Athanas amazone* Holthuis, 1951**—CVI Türkay (1982); 5 m—Benthic, 5–150 m. ATLM.
***Athanas grimaldii* Coutière, 1911**—CVI Coutière (1911), ?type-locality; 9–50 m—Benthic, 9–155 m. EAWT.
***Athanas nitescens* (Leach, 1813)**—CNI Coutière (1896, as *A. nitescens veloculus*); 0–65 m—CVI Spence Bate (1888, as *A. veloculus*); littoral—Benthic. EAWD.
***Athanas nouvelae* Holthuis, 1951**– CVI type-locality; 22–40 m—Benthic. ECVI.
***Automate evermanni* Rathbun, 1901**—CVI Holthuis (1951); 32 m—Benthic, 22–225 m. AAWA.
***Automate talismani* Coutière, 1902**—CVI Coutière (1897, as *A. dolichognatha*); littoral—Benthic. TSEA.
***Deioneus sandizelli* Dworschak, Anker & Abed-Navandi, 2000**—CVI type-locality; intertidal—Benthic. IWAF.
***Salmoneus caboverdensis* Dworschak, Anker & Abed-Navandi, 2000**—CVI type-locality; intertidal—Benthic. ECVI.
***Synalpheus africanus* Crosnier & Forest, 1965**—CNI Santaella (1973, as *Synalpheus*); 0–39 m—CVI Crosnier & Forest (1966, as *S. hululensis africanus*); 0–35 m—Benthic. ATLM.

Barbouriidae Christoffersen, 1987

***Janicea antiguensis* (Chace, 1972)**—CNI Wirtz (2004); 7–12 m—CVI d'Udekem d'Acoz (2000a); same depth—Benthic, 5–15 m. AAWA.

Hippolytidae Spence Bate, 1888

***Eualus cranchii* (Leach, 1817)**—CVI Türkay (1982, as *Thoralus cranchii*); 22 m—Benthic, 0–130 m. EACT.
***Eualus gracilipes* Crosnier & Forest, 1973**—CVI type-locality; 150–275 m—Benthic. ECVI.
***Eualus lebourae* Holthuis, 1951**—CNI Fransen & Wirtz (1997); 70–80 m—CVI Fransen & Wirtz (1997); 55–80 m—Benthic, 40–180 m. TSEA.
***Eualus occultus* (Lebour, 1936)**—CNI Fransen & Wirtz (1997); 1–150 m—CVI Fransen & Wirtz (1997); 60–130 m—Benthic, 0–115 m. EACT.
***Hippolyte coerulescens* (Fabricius, 1775)**—CNI Holthuis (1951); surface—CVI Ortmann (1893, as *Virbius acuminatus*); same depth—Pelagic, epibiont. AAWD.
***Hippolyte garciarasoi* d'Udekem d'Acoz, 1996**—CNI Fransen & Wirtz (1997); 6–19 m—Benthic, 0–15 m. ATLM.
***Hippolyte inermis* Leach, 1816**—CNI Pérez & Moreno (1991); 2–5 m—Benthic, 0–30 m. ATLM.

***Hippolyte leptocerus* (Heller, 1863)**—CNI Moro *et al.* (2014); 0–32 m—CVI d'Udekem d'Acoz (1996); 0–30 m—Benthic. ATLM.

***Hippolyte prideauxiana* Leach, 1817**—CNI Pérez & Moreno (1991, as *H. huntii*); 4–60 m—Benthic, 0–60 m. ATLM.

***Hippolyte varians* Leach, 1814**—CNI d'Udekem d'Acoz (1996); 0–50 m—Benthic, 0–60 m. EACT.

***Latreutes fucorum* (Fabricius, 1798)**—CNI Holthuis (1949); 0–50 m—CVI Stebbing (1914); surface—Benthopelagic, 0–18 m. AAWD.

***Ligur ensiferus* (Risso, 1816)**—CNI Santaella (1973); 150–760 m—CVI Crosnier & Forest (1973); 410–460 m—Benthic (rarely pelagic, Landeira & Fransen 2012), 300–871 m. PANT.

***Lysmata grabhami* (Gordon, 1935)**—CNI Moreno *et al.* (1978, as *Hippolysmata grabhami*); 3–60 m—CVI Türkay (1982, as *L. amboinensis*); 15 m—Benthic, 5–55 m. AAWA.

***Lysmata moorei* (Rathbun, 1901)**—CVI Wirtz *et al.* (2016); 0–12 m—Benthic, 0–28 m. AAWA.

***Lysmata nilita* Dohrn & Holthuis, 1950**—CNI Moreno & Fernández-Palacios (1981); 2–8 m—Benthic, 0.5–35 m. ATLM.

***Lysmata olavoi* Fransen, 1991**—CNI Quiles *et al.* (2001); 250 m—Benthic, 135–360 m. ATLM.

***Lysmata seticaudata* (Risso, 1816)**—CNI Holthuis (1949); 0–130 m—Benthic, 0–160 m. ATLM.

***Lysmata stenolepis* Crosnier & Forest, 1973**—CVI type-locality; 150–275 m—Benthic. ECVI.

***Lysmata* spec. nov.**—CNI Fransen & González (in prep.); 12 m—Benthic. ECNI.

***Merhippolyte ancistrota* Crosnier & Forest, 1973**—CVI type-locality; 150–275 m—Benthic, 75–295 m. TSEA (also in Alboran, and Mediterranean Sea *fide* J. E. García Raso, pers. comm. 2018).

***Thor amboinensis* (de Man, 1888)**—CNI Pérez & Moreno (1991); 0–30 m—Benthic. PANT.

***Trachycaris restricta* (A. Milne-Edwards, 1878)**—CNI Holthuis (1949, as *T. restrictus*); 0–180 m—CVI type-locality (as *Hippolyte restrictus*); 40 m—Benthic, 0–47 m. TSEA.

PROCESSOIDEA Ortmann, 1896

Processidae Ortmann, 1896

***Processa canaliculata* Leach, 1815**—CNI Quiles *et al.* (2001); 30–85 m—CVI Holthuis (1951); littoral—Benthic, 10–871 m. ATLM.

***Processa intermedia* Holthuis, 1951**—CVI Holthuis (1951); 9–41 m—Benthic, 7–50 m. ATLM.

***Processa macrophthalma* Nouvel & Holthuis, 1957**—CNI likely (occurs off Azores, Madeira, Portugal, Gulf of Guinea, and Cape Verde Islands, Wirtz *et al.* 2016)—CVI Wirtz *et al.* (2016); littoral—Benthic, 20–119 m. ATLM.

***Processa modica carolii* Williamson, 1979**—CNI Fransen & Wirtz (1997); 12–40 m—CVI Fransen & Wirtz (1997); 185–260 m—Benthic, 24–260 m. ATLM.

***Processa modica modica* Williamson, 1979**—CNI d'Udekem d'Acoz (1999, as *P. modica*); depth unknown—CVI d'Udekem d'Acoz (1999, as *P. modica*); littoral—Benthic, 0–260 m. ATLM.

***Processa parva* Holthuis, 1951**—CNI Fransen & Wirtz (1997); 2–74 m—CVI Fransen & Wirtz (1997); 12–90 m—Benthic, 10–125 m. TSEA.

***Processa robusta* Nouvel & Holthuis, 1957**—CNI Fransen & Wirtz (1997); 0–7 m—Benthic, 0–19 m. ATLM.

PANDALOIDEA Haworth, 1825

Pandalidae Haworth, 1825

***Bitias stocki* Fransen, 1990**—CNI González (1995); 1004 m—CVI Fransen (1990), type-locality (in part); 1100–1300 m—Benthic, 790–1350 m. AAWA.

***Heterocarpus ensifer* A. Milne-Edwards, 1881**—CNI IEO Lab. Canarias (1968); 88–821 m—CVI Gurney & Lebour (1941); 104–559 m—Benthic, 200–885 m. AAWA.

***Heterocarpus grimaldii* A. Milne-Edwards & Bouvier, 1900**—CNI Sivertsen & Holthuis (1956); 535–1632 m—CVI Richard (1902); 659–975 m—Benthic, 500–1550 m. TSEA.

***Heterocarpus laevigatus* Spence Bate, 1888**—CNI Santaella (1973); 667–1450 m—CVI Crosnier & Forest (1973); 790–1060 m—Benthic, 366–1200 m. PANT.

***Plesionika acanthonotus* (Smith, 1882)**—CNI García Cabrera (1971); depth unknown—CVI Fransen (1991); 525 m—Benthic, 190–1405 m. AAWA.

***Plesionika antigai* Zariquiey Álvarez, 1955**—CNI González *et al.* (2001); 330–425 m—CVI Neves *et al.* (2016), Neves (2016); 275–283 m—Benthic, 120–800 m. ATLM.

***Plesionika edwardsii* (Brandt, 1851)**—CNI IEO Lab. Canarias (1968); 54–649 m—CVI González *et al.* (2004); 66–515 m—Benthic, 110–680 m. PANT.

***Plesionika ensis* (A. Milne-Edwards, 1881)**—CNI IEO Lab. Canarias (1968, as *P. carinata*); 128–700 m—CVI González *et al.* (2004); 104–426 m—Benthic, 101–1251 m. PANT.

***Plesionika gigliolii* (Senna, 1902)**—CNI Fransen (1991, Salvage Islands, at 30°07'N 15°53'W; also in Atlantic Morocco); 260 m—Benthic, 120–800 m. ATLM.

***Plesionika heterocarpus* (A. Costa, 1871)**—CNI Sivertsen & Holthuis (1956); depth unknown—CVI likely (occurs from Bay of Biscay to Angola, including Madeira and Canary Islands, d'Udekem d'Acoz 1999)—Benthic, 10–850 m. EAWT.

***Plesionika holthuisi* Crosnier & Forest, 1968**—CNI Santana *et al.* (1987, as *P. ensis*, in part); 150–420 m—CVI González *et al.* (2009); 196–364 m—Benthic, 480–800 m. AAWA.

***Plesionika longicauda* (Rathbun, 1901)**—CVI González *et al.* (2017b); 90–167 m—Benthic, 55–500 m. AAWA.

***Plesionika martia* (A. Milne-Edwards, 1883)**—CNI Santana *et al.* (1987, as *P. ensis*, in part); 206–1004 m—CVI González *et al.* (2004); 216–805 m—Benthic, 190–1215 m. PANT.

***Plesionika narval* (Fabricius, 1787)**—CNI Balss (1925, as *Parapandalus pristis escatilis*); 20–476 m—CVI González *et al.* (2009); 66–302 m—Benthic, 10–910 m. PANT.

***Plesionika rossignoli* Crosnier & Forest, 1968**—CVI Fransen (1991); 400–750 m—Pelagic, 600–990 m. TSEA.

***Plesionika williamsi* Forest, 1964**—CNI IEO Lab. Canarias (1969, as *P. martia*); 238–900 m—CVI González *et al.* (2004); 205–710 m—Benthic, 238–1140 m. PANT.

***Stylopandalus richardi* (Coutière, 1905)**—CNI type-locality (also Madeira, as *Parapandalus (Stylopandalus) richardi*); 100–650 m—CVI Fransen (1991); 3825–4025 m—Pelagic, 12–3825 m. COSM.

PHYSETOCARIDOIDEA Chace, 1940

Physetocarididae Chace, 1940

***Physetocaris microphthalma* Chace, 1940**—CNI likely (occurs off Azores, Western Sahara, and Cape Verde Islands, d'Udekem d'Acoz 1999); 1300–1600 m—CVI Crosnier & Forest (1973); 1300 m—Pelagic, 410–500 m. PANT.

CRANGONOIDEA Haworth, 1825

Crangonidae Haworth, 1825

***Aegaeon cataphractus* (Olivi, 1792)**—CNI Holthuis (1949, as *Pontocaris cataphracta*); 20–40 m—Benthic, 3–110 m. PANT.

***Aegaeon lacazei* (Gourret, 1887)**—CNI Monterroso & González (in prep.); 50 m—CVI Crosnier & Forest (1973); 235–580 m—Benthic, 13–871 m. PANT.

***Philocheras bispinosus bispinosus* (Hailstone, 1835)**—CNI Fransen & Wirtz (1997); 9–45 m—CVI Crosnier & Forest (1973, as *Pontophilus mbizi*); 75–90 m—Benthic, 5–360 m. EACT.

***Philocheras bispinosus neglectus* (G.O. Sars, 1883)**—CNI Lindley *et al.* (2000); 0–1500 m—Benthopelagic, 4–137 m. EACT.

***Philocheras fasciatus* (Risso, 1816)**—CNI Fransen & Wirtz (1997); 2–20 m—Benthic, 0–60 m. ATLM.

***Philocheras prionolepis* (Holthuis, 1952)**—CVI Crosnier & Forest (1973, as *Pontophilus prionolepis*); 225 m—Benthic, 100–150 m. TSEA.

***Philocheras sculptus* (Bell, 1847)**—CNI Holthuis (1987); 22–150 m—Benthic, 0–230 m. EAWT.

***Philocheras trispinosus* (Hailstone, 1835)**—CNI Holthuis (1949, as *Pontocaris trispinosus*); 7–36 m—Benthic, 0–50 m. EACT.

***Parapontophilus abyssi* (Smith, 1884)**—CVI Ortmann (1893, as *Pontophilus challengeri*); 5000 m—Benthic, 1400–5852 m. PANT.

***Parapontophilus talismani* (Crosnier & Forest, 1973)**—CVI type-locality (as *Pontophilus talismani*); 3200 m—Benthic, 2366–3731 m. AAWA.

***Sabinea hystrix* (A. Milne-Edwards, 1881)**—CNI Fransen (1991); 1440–1820 m—Benthic, 536–3957 m. AAWD.

Glyphocrangonidae Smith, 1884

***Glyphocrangon longirostris* (Smith, 1882)**—CNI Crosnier & Forest (1973); 1918 m—Benthic, 1207–2509 m. AAWA.

ASTACIDEA Latreille, 1802

ENOPLOMETOPOIDEA de Saint Laurent, 1988

Enoplometopidae de Saint Laurent, 1988

***Enoplometopus antillensis* Lütken, 1865**—CNI Wirtz *et al.* (1988); 5–30 m—CVI Wirtz *et al.* (1988); littoral—Benthic, 5–201 m. AAWA.

***Enoplometopus callistus* Intès & Le Loeuff, 1970**—CNI Santaella (1973); 30–200 m—CVI Merino & Lindley (2003); littoral—Benthic, 40–200 m. TSEA.

NEPHROPOIDEA Dana, 1852

Nephropidae Dana, 1852

***Nephrops norvegicus* (Linnaeus, 1758)**—CNI Barquín *et al.* (1998); 230–540 m—Benthic, 14–871 m. EACT.

***Nephropsis atlantica* Norman, 1882**—CNI Bouvier (1917); 1380–1500 m—CVI Bouvier (1917); deepwater—Benthic, 470–1804 m. EAWD.

AXIIDEA de Saint Laurent, 1979

Callianassidae Dana, 1852

***Pestarella candida* (Olivi, 1792)**—CNI Moro *et al.* (2014); 23 m—Benthic, 0–8 m. ATLM.

***Pestarella tyrrhena* (Petagna, 1792)**—CNI Santaella (1973); 5–20 m—Benthic, 0–22 m. ATLM.

***Callichirus adamas* (Kensley, 1974)**—CVI Türkay (1982); sublittoral—Benthic, 10–35 m. TSEA.

***Corallianassa intesi* (de Saint Laurent & Le Loeuff, 1979)**—CVI Dworschak *et al.* (2000); sublittoral—Benthic, 5–15 m. TSEA.

***Neocallichirus pachydactylus* (A. Milne-Edwards, 1870)**—CVI A. Milne-Edwards (1870, as *Callianassa pachydactyla*), type-locality; 0–5 m—Benthic. TSEA.

GEBIIDEA de Saint Laurent, 1979

Upogebiidae Borradaile, 1903

***Upogebia aristata* Le Loeuff & Intès, 1974**—CVI Türkay (1982); intertidal—Benthic. TSEA.
***Upogebia nitida* (A. Milne-Edwards, 1868)**—CVI type-locality (as *Gebiopsis nitidus*); littoral—Benthic. TSEA.
***Upogebia pusilla* (Petagna, 1792)**—CNI Santaella (1973); 0–65 m—Benthic. EACT.

ACHELATA Scholtz & Richter, 1995

Palinuridae Latreille, 1802

***Palinurus charlestoni* Forest & Postel, 1964**—CVI Forest & Postel (1964); 50–300 m—Benthic. ECVI.
***Palinurus elephas* (Fabricius, 1787)**—CNI IEO Lab. Canarias (1968); 5–275 m—Benthic, 3–160 m. ATLM.
***Panulirus argus* (Latreille, 1804)**—CVI Freitas & Castro (2005); 20–40 m—Benthic, 0–90 m. AAWA.
***Panulirus echinatus* Smith, 1869**—CNI Holthuis *et al.* (1980); 0–35 m—CVI Benedict (1893, as *P. guttatus*); 4–35 m—Benthic. AAWA.
***Panulirus regius* de Brito Capello, 1864**—CNI absent (incorrect records)—CVI de Brito Capello (1864); 5–50 m—Benthic. EAWT.

Scyllaridae Latreille, 1825

***Scyllarides herklotsii* (Herklots, 1851)**—CVI likely (Iñaki Gaztañaga, Degree in Physics, expert in lobster's fishery, pers. comm. 2016); littoral—Benthic, 5–200 m. TSEA.
***Scyllarides latus* (Latreille, 1803)**—CNI Bouvier (1917); 4–30 m—CVI de Brito Capello (1864); 4–50 m—Benthic, 4–100 m. ATLM.
***Ibacus brevipes* Spence Bate, 1888**—CVI doubtful (Türkay, 1982, as *I. verdi*); littoral—Benthic, 186–457 m. PANT.
***Scyllarus arctus* (Linnaeus, 1758)**—CNI Brullé (1839); 1.5–100 m—CVI Türkay (1982); littoral—Benthic, 0–65 m. ATLM.
***Scyllarus caparti* Holthuis, 1952**—CNI González (in prep.); 12 m—Benthic, 17–260 m. TSEA.
***Scyllarus pygmaeus* (Spence Bate, 1888)**—CNI type-locality (as *Arctus pygmaeus*); 55–110 m—CVI Bouvier (1917); littoral—Benthic, 5–162 m. ATLM.
***Scyllarus subarctus* Crosnier, 1970**—CNI González (in prep.); 10–15 m—Benthic. TSEA.

POLYCHELIDA Scholtz & Richter, 1995

ERYONOIDEA de Haan, 1841

Polychelidae Wood-Mason, 1875

***Cardus crucifer* (Thomson, 1873)**—CNI Bouvier (1917, as *Polycheles crucifer*); 1200–1800 m—Benthic, 549–2195 m. AAWA.
***Pentacheles laevis* Spence Bate, 1878**—CNI Bouvier (1917, as *Polycheles granulatus*); 1290–2300 m—CVI Bouvier (1917, as *P. granulatus*); 950–1698 m—Benthic, 347–2505 m. COSM.
***Pentacheles validus* A. Milne-Edwards, 1880**—CNI Beaubrun (1979, as *Polycheles validus*); 1700–3120 m—Benthic, 914–3365 m. COSM.
***Polycheles perarmatus* Holthuis, 1952**—CVI Holthuis (1952, as *P. typhlops perarmatus*); depth unknown—Benthopelagic, 100–2050 m. PANT.

***Polycheles typhlops* Heller, 1862**—CNI Bouvier (1917); 366–786 m—CVI Bouvier (1917); 400–580 m—Benthic, 77–2055 m. COSM.

***Stereomastis sculpta* (Smith, 1880)**—CNI Sivertsen & Holthuis (1956); 1300–1540 m—CVI Holthuis (1952); depth unknown—Benthic, 200–4000 m. COSM.

***Stereomastis talismani* (Bouvier, 1917)**—CVI Neves *et al.* (2016), Neves (2016); 878 m—Benthic, 100–2453 m. AAWD.

***Willemoesia leptodactyla* (Thomson, 1873)**—CNI Galil (2000); 3315–4000 m—CVI Galil (2000); 3650–4130 m—Benthic, 2396–5124 m. COSM.

ANOMURA MacLeay, 1838

CHIROSTYLOIDEA Ortmann, 1892

Chirostylidae Ortmann, 1892

***Gastroptychus formosus* (Filhol, 1884)**—CNI A. Milne-Edwards & Bouvier (1900, as *Ptychogaster formosus*); 946–1786 m—CVI González *et al.* (2017b); 525–630 m—Benthic, 699–1786 m. AAWD.

***Uroptychus concolor* (A. Milne-Edwards & Bouvier, 1894)**—CNI Bouvier (1940, as *U. nitidus concolor*); 495–1968 m—CVI A. Milne-Edwards & Bouvier (1900, as *Diptychus nitidus concolor*); 495–618 m—Benthic. EACT.

***Uroptychus rubrovittatus* (A. Milne-Edwards, 1881)**—CNI Bouvier (1940); 300–1410 m—Benthic. EACT.

Eumunididae A. Milne-Edwards & Bouvier, 1900

***Eumunida bella* de Saint Laurent & Macpherson, 1990**—CNI A. Milne-Edwards & Bouvier (1894, as *E. picta*); 489–535 m—CVI A. Milne-Edwards & Bouvier (1990, as *E. picta*); 150–630 m—Benthic, 150-850 m. TSEA.

GALATHEOIDEA Samouelle, 1819

Galatheidae Samouelle, 1819

***Galathea dispersa* Spence Bate, 1859**—CNI Henderson (1888); 30–500 m—Benthic, 5–950 m. PANT.

***Galathea faiali* Nunes-Ruivo, 1961**—CNI Santaella (1973); 5–25 m—Benthic, 48–350 m. EACT.

***Galathea intermedia* Liljeborg, 1851**—CNI A. Milne-Edwards & Bouvier (1900); 4–318 m—CVI A. Milne-Edwards & Bouvier (1900); 13–318 m—Benthic, 2–318 m. COSM.

***Galathea machadoi* Barrois, 1888**—CNI A. Milne-Edwards & Bouvier (1900, as *G. dispersa*); 100–645 m—CVI A. Milne Edwards & Bouvier (1900); 100–750 m—Benthic, 100–1262 m. ATLM.

***Galathea nexa* Embleton, 1834**—CNI Bull (1937); 200 m—Benthic, 0–860 m. EACT.

***Galathea rufipes* A. Milne-Edwards & Bouvier, 1894**—CNI likely (occurs off Bay of Biscay, Azores and Cape Verde Islands, d'Udekem d'Acoz 1999)—CVI A. Milne-Edwards & Bouvier (1900); 40–318 m—Benthic, 40–629 m. EACT.

***Galathea squamifera* Leach, 1814**—CNI A. Milne-Edwards & Bouvier (1900); 0–180 m—CVI Studer (1882); 70–91 m—Benthic, 0–220 m. EACT.

***Galathea strigosa* (Linnaeus, 1761)**—CNI Brullé (1839); 12–160 m—Benthic, 0–500 m. EACT.

Munididae Ahyong, Baba, Macpherson & Poore, 2010

***Munida curvimana* A. Milne-Edwards & Bouvier, 1894**—CNI Miyake & Baba (1970); 80–278 m—CVI A. Milne-Edwards & Bouvier (1900); 60 m—Benthic, 48–250 m. ATLM.

***Munida intermedia* A. Milne-Edwards & Bouvier, 1899**—CNI Santaella (1973); 50–292 m—Benthic, 35–1360 m. EACT.

***Munida microphthalma* A. Milne-Edwards, 1880**—CVI Doflein & Balss (1913); 627–2165 m—Benthic. COSM.

***Munida rugosa* (Fabricius, 1775)**—CNI likely (occurs from Norway to Portugal, Madeira and Cape Verde Islands, d'Udekem d'Acoz 1999)—CVI Bouvier (1922); 440–628 m—Benthic, 30–1265 m. EACT.

***Munida rutllanti* Zariquiey Álvarez, 1952**—CNI Bouvier (1922, as *M. iris*); 45–540 m—CVI A. Milne-Edwards & Bouvier (1900); 130–540 m—Benthic, 40–1303 m. ATLM.

***Munida sanctipauli* Henderson, 1885**—CNI A. Milne-Edwards & Bouvier (1900); 150–1050 m—CVI A. Milne-Edwards & Bouvier (1900); 150–1229 m—Benthic, 18–2360 m. AAWA.

***Munida subcaeca* Bouvier, 1922**—CNI type-locality (also Madeira); 1340–1700 m—Benthic, 842–1700 m. AAWA.

***Munida tropicalis* A. Milne-Edwards & Bouvier, 1897**—CVI A. Milne-Edwards & Bouvier (1897); 150–275 m—Benthic. ECVI.

Munidopsidae Ortmann, 1898

***Galacantha rostrata* A. Milne-Edwards, 1880**—CNI likely (occurs off Cape Ghir, very near to the Canary region, and Atlantic Morocco, 2075–2200 m, Baba *et al.* 2008)—Benthic, 1500–3800 m. COSM.

***Leiogalathea agassizii* (A. Milne-Edwards, 1880)**—CNI A. Milne-Edwards & Bouvier (1900, as *Galathea agassizii*); 640–1642 m—CVI Bouvier (1922, as *G. agassizii*); 150–1642 m—Benthic, 300–1642 m. COSM.

***Munidopsis crassa* Smith, 1885**—CNI Gordon (1955); 4255–4267 m—Benthic, 2679–5315 m. PANT.

***Munidopsis livida* (Perrier, 1886)**—CNI A. Milne-Edwards & Bouvier (1894, as *Orophorhynchus lividus*); 2115 m—Benthic, 2070–3113 m. AAWA.

***Munidopsis polymorpha* Koelbel, 1892**—CNI Koelbel (1892), type-locality; 2–8 m—Benthic, anchialine. ECNI.

***Munidopsis serricornis* (Lovén, 1852)**—CNI likely (occurs from Norway to Azores and Cape Bojador, Morocco, and off Cape Verde Islands, d'Udekem d'Acoz 1999)—CVI A. Milne-Edwards & Bouvier (1900, as *Galathodes tridentata*); 593–633 m—Benthic, 92–2165 m. COSM.

Porcellanidae Haworth, 1825

***Pachycheles barbatus* A. Milne-Edwards, 1878**—CVI type-locality; 0.5–30 m—Benthic. TSEA.

***Pachycheles sahariensis* Monod, 1933**—CVI Monod (1933), type-locality; littoral—Benthic, 0–30 m. TSEA.

***Petrolisthes marginatus* Stimpson, 1859**—CVI Holthuis & Manning (1970, as *P. cessacii*); littoral—Benthic. AAWA.

***Petrolisthes monodi* Chace, 1956**—CVI Chace (1956), type-locality; 0.5–5 m—Benthic, littoral. TSEA.

***Pisidia longicornis* (Linnaeus, 1767)**—CNI Heller (1863); 2–100 m—CVI Türkay (1982); littoral—Benthic. EACT.

***Pisidia longimana* (Risso, 1816)**—CNI Moro *et al.* (2014); 0–2 m—Benthic. ATLM.

***Porcellana elegans* Chace, 1956**—CVI Chace (1956), type-locality; littoral—Benthic. ECVI.

***Porcellana platycheles* (Pennant, 1777)**—CNI Brullé (1839); 0–4 m—Benthic, 0–5 m. ATLM.

HIPPOIDEA Latreille, 1825

Albuneidae Stimpson, 1858

***Albunea carabus* (Linnaeus, 1758)**—CNI ?Brullé (1839, as *A. symnista*); González (1995); 4–40 m—CVI Boyko (2002); 40 m—Benthic, 3–40 m. ATLM.

***Albunea elegans* A. Milne-Edwards & Bouvier, 1898**—CVI type-locality; Boyko (2002, including African records of *A. paretii*); 7–30 m—Benthic, 0–30 m. TSEA.

Hippidae Latreille, 1825

***Hippa carcineutes* Holthuis & Manning, 1970**—CVI Cunningham (1871, as *Remipes scutellatus*); 0–0.5 m—Benthic. TSEA.

LITHODOIDEA Samouelle, 1819

Lithodidae Samouelle, 1819

***Neolithodes grimaldii* (A. Milne-Edwards & Bouvier, 1894)**—CNI Macpherson (1988); 2500 m—CVI Macpherson (1988); 1477 m—Benthic, 1267–5230 m. AAWD.

PAGUROIDEA Latreille, 1802

Diogenidae Ortmann, 1892

***Calcinus talismani* A. Milne-Edwards & Bouvier, 1892**—CVI type-locality; 0.5–2 m—Benthic, littoral. TSEA.

***Calcinus tubularis* (Linnaeus, 1767)**—CNI Chevreux & Bouvier (1892, as *C. ornatus*); 0–50 m—CVI Forest (1961, as *C. ornatus*); 1–15 m—Benthic, 0–73 m. ATLM.

***Ciliopagurus caparti* (Forest, 1952)**—CVI Türkay (1982, as *Trizopagurus caparti*); littoral—Benthic. TSEA.

***Clibanarius aequabilis* (Dana, 1851)**—CNI Balss (1916); 0–5 m—CVI Forest (1953); same depth—Benthic. ECAI.

***Clibanarius chapini* Schmitt, 1926**—CVI Forest (1966); littoral—Benthic. TSEA.

***Clibanarius erythropus* (Latreille, 1818)**—CNI Ingle (1993); 0–27 m—Benthic, 0–4 m. PANT.

***Dardanus arrosor* (Herbst, 1796)**—CNI García Cabrera (1971, as *D. arrosos*); 4–322 m—CVI Türkay (1982); 75–300 m—Benthic, 5–750 m. PANT.

***Dardanus calidus* (Risso, 1827)**—CNI Brullé (1839, as *Pagurus callidus*); 3–110 m—CVI Henderson (1888) and Osorio (1888) both as *P. calidus*; 7–300 m—Benthic. ATLM.

***Dardanus pectinatus* (Ortmann, 1892)**—CVI Türkay (1982); littoral—Benthic. TSEA.

***Diogenes pugilator* (Roux, 1829)**—CVI Forest (1961); 7–15 m—Benthic, 0–40 m. PANT.

***Paguristes rubropictus* A. Milne-Edwards & Bouvier, 1892**—CNI Santaella (1973); 132–150 m—Benthic, 30–240 m. TSEA.

***Petrochirus pustulatus* (H. Milne Edwards, 1848)**—CVI Türkay (1982); littoral—Benthic. AAWA.

***Pseudopagurus granulimanus* (Miers, 1881)**—CVI A. Milne-Edwards & Bouvier (1900, as *Pagurus granulimanus*); 10 m—Benthic, littoral. TSEA.

***Trizopagurus rubrocinctus* Forest & García Raso, 1990**—CVI Forest & García Raso (1990); 0–5 m—Benthic. ECVI.

Paguridae Latreille, 1802

***Acanthopagurus dubius* (A. Milne-Edwards & Bouvier, 1900)**—CVI type-locality (as *Anapagurus ?dubius*); 225 m—Benthic. ECVI.

***Anapagurus chiroacanthus* (Lilljeborg, 1856)**—CNI d'Udekem d'Acoz (1999); 0–200 m—CVI Türkay (1982); same depth—Benthic. EACT.

***Anapagurus laevis* (Bell, 1846)**—CNI Barquín *et al.* (1982–1983); 50–400 m—Benthic, 5–1262 m. EACT.

***Anapagurus longispina* A. Milne-Edwards & Bouvier, 1900**—CNI García-Gómez (1994); 57–445 m—Benthic. ATLM.

***Anapagurus pusillus* Henderson, 1888**—CNI type-locality; 0–146 m—Benthic. MAC (also in Azores and South of Portugal).

***Catapaguroides megalops* A. Milne-Edwards & Bouvier, 1892**—CNI likely (occurs off Azores, Atlantic Morocco, Ingle 1993, and Cape Verde Islands)—CVI Türkay (1982); depth unknown—Benthic, 200–636 m. ECAI.

***Catapaguroides microps* A. Milne-Edwards & Bouvier, 1892**—CNI A. Milne-Edwards & Bouvier (1900); 975 m—Benthic, 960–2828 m. AAWA.

***Cestopagurus timidus* (Roux, 1830)**—CNI A. Milne-Edwards & Bouvier (1900, as *Catapaguroides acutifrons*); 2–30 m—Benthic, 2–80 m. ATLM.

***Nematopagurus longicornis* A. Milne-Edwards & Bouvier, 1892**—CNI likely (occurs from Ireland to Atlantic Morocco and Angola; also in Azores, Madeira, Ingle 1993, and Cape Verde Islands)—CVI Türkay (1982); 75–105 m—Benthic, 73–445 m. EAWT.

***Paguridium minimum* (Chevreux & Bouvier, 1892)**—CVI Türkay (1982); littoral—Benthic. TSEA.

***Pagurus alatus* Fabricius, 1775**—CNI A. Milne-Edwards & Bouvier (1899, as *Eupagurus variabilis*); 120–978 m—Benthic, 40–1340 m. EAWD.

***Pagurus anachoretus* Risso, 1827**—CNI Santaella (1973); 0–20 m—Benthic. ATLM.

***Pagurus carneus* (Pocock, 1889)**—CNI González (1995); 540 m—CVI Bouvier (1922); 590 m—Benthic, 106–1360 m. EAWD.

***Pagurus cuanensis* Bell, 1846**—CNI Chevreux & Bouvier (1892, as *Eupagurus cuanensis*); 0–90 m—Benthic, 0–250 m. EAWD.

***Pagurus excavatus* (Herbst, 1791)**—CNI likely (occurs from Bay of Biscay, Portugal and Morocco to Guinea-Conakry; Madeira, d'Udekem d'Acoz 1999)—Benthic, 10–265 m. ATLM.

***Pagurus forbesii* Bell, 1846**—CNI A. Milne-Edwards & Bouvier (1900, as *Eupagurus sculptimanus*); <80 m—CVI Türkay (1982, as *P. forbesi*); littoral—Benthic, 3–182 m. ATLM.

***Pagurus mbizi* (Forest, 1955)**—CVI Neves *et al.* (2016), Neves (2016); 162–185 m—Benthic, 30–650 m. ATLM.

***Pagurus prideaux* Leach, 1815**—CNI A. Milne-Edwards & Bouvier (1900, as *Eupagurus prideauxi*); 3–90 m—CVI Studer (1882); Türkay (1982); 6–85 m—Benthic, 0–250 m. EACT.

***Pagurus pseudosculptimanus* García Muñoz, Cuesta & García Raso, 2014**—CNI and CVI likely, García Muñoz *et al.* (2014, Alborán Sea and Morocco to Senegal)—Benthic, 15–25 m. TSEA.

***Pagurus pulchellus* (A. Milne-Edwards & Bouvier, 1892)**—CVI A. Milne-Edwards & Bouvier (1900, as *Eupagurus pulchellus*); 70–106 m—Benthic. ECVI.

***Pagurus triangularis* (Chevreux & Bouvier, 1892)**—CVI A. Milne-Edwards & Bouvier (1892, as *Eupagurus triangularis*); littoral—Benthic. TSEA.

***Spiropagurus elegans* Miers, 1881**—CNI Henderson (1888); 5–120 m—Benthic, 3–65 m. ATLM.

Parapaguridae Smith, 1882

***Oncopagurus bicristatus* (A. Milne-Edwards, 1880)**—CNI A. Milne-Edwards & Bouvier (1900, as *Sympagurus bicristatus*); 270–1582 m—CVI Lemaitre (1989); 410–633 m—Benthic, 250–1582 m. AAWA.

***Paragiopagurus rutichelesi* (A. Milne-Edwards, 1891)**—CNI Lemaitre (1990, as *Sympagurus rutichelesi*); 225–475 m—Benthic, 200–1440 m. PANT.

***Parapagurus abyssorum* (Filhol, 1885)**—CNI likely (occurs off Azores and Cape Verde Islands, Lemaitre 1989)—CVI Lemaitre (1989); deepwater—Benthic, 2500–4360 m. COSM.

***Parapagurus alaminos* Lemaitre, 1986**—CNI type-locality; 850–3360 m—CVI Lemaitre (1989); deepwater—Benthic. AAWA.

***Parapagurus nudus* (A. Milne-Edwards, 1891)**—CNI Lemaitre (1986); 2400–3864 m—CVI Lemaitre (1986); deepwater—Benthic. AAWA.

***Parapagurus pilosimanus* Smith, 1879**—CNI A. Milne-Edwards & Bouvier (1900); 102–3864 m—CVI d'Udekem d'Acoz (1999); 878–3655 m—Benthic. AAWD.

***Strobopagurus gracilipes* (A. Milne-Edwards, 1891)**—CNI Lemaitre (1989); 500–650 m—CVI A. Milne-Edwards & Bouvier (1900, as *Sympagurus gracilipes*); 410–633 m—Benthic, 500–1130 m. COSM.

***Sympagurus acinops* Lemaitre, 1989**—CNI type-locality; 1246–2537 m—Benthic, 1246–2537 m. COSM.

BRACHYURA Linnaeus, 1758

DROMIOIDEA de Haan, 1833

Dromiidae de Haan, 1833

***Dromia marmorea* Forest, 1974**—CNI type-locality; 0–96 m—CVI A. Milne-Edwards & Bouvier (1900, as *D. vulgaris*); 10–30 m—Benthic, 0–76 m. TSEA.
***Dromia nodosa* A. Milne-Edwards & Bouvier, 1898**—CVI type-locality; 75–90 m—Benthic, 75–95 m. TSEA.
***Dromia personata* (Linnaeus, 1758)**—CNI Brullé (1839, as *D. vulgaris*); 2–201 m—Benthic, 0–100 m. EACT.
***Sternodromia spinirostris* (Miers, 1881)**—CVI Forest (1974, as *Dromia spinirostris*); 40–122 m—Benthic, 7.5–108 m. TSEA.

Dynomenidae Ortmann, 1892

***Dynomene filholi* Bouvier, 1894**—CVI Bouvier (1894), type-locality; 58–1477 m—Benthic, 23–85 m. IWAF.

HOMOLOIDEA de Haan, 1839

Homolidae de Haan, 1839

***Homola barbata* (Fabricius, 1793)**—CNI Brullé (1839, as *H. spinifrons*); 40–324 m—CVI Bouvier (1922); 91–165 m—Benthic, 2–637 m. AAWD.
***Homologenus boucheti* Guinot & Richer de Forges, 1995**—CNI Bouvier (1922, as *H. rostratus*); 733–1575 m—Benthic, 738–2195 m. EACT.
***Paromola cuvieri* (Risso, 1816)**—CNI Santaella (1973); 120–860 m—CVI Manning & Holthuis (1981); 80–700 m—Benthic, 10–1212 m. EAWD.

Latreilliidae Stimpson, 1858

***Latreillia elegans* Roux, 1830**—CNI García Cabrera (1971, as *Latreilla elegans*); 180–330 m—CVI A. Milne-Edwards & Bouvier (1900); 100–475 m—Benthic, 35–475 m. ATLM.

RANINOIDEA de Haan, 1839

Raninidae de Haan, 1839

***Ranilia constricta* (A. Milne-Edwards, 1880)**—CVI Fransen (1991); 76 m—Benthic, 40–481 m. AAWA.

AETHROIDEA Dana, 1851

Aethridae Dana, 1851

***Sakaila africana* Manning & Holthuis, 1981**—CVI Neves *et al.* (2016), Neves (2016); 79–99 m—Benthic, 65/75–132 m. TSEA.

CALAPPOIDEA de Haan, 1833

Calappidae de Haan, 1833

***Calappa galloides* Stimpson, 1859**—CNI González *et al.* (2000); 15–80 m—CVI Miers (1886, as *C. gallus*); 0–80 m—Benthic, 12–218 m. AAWA.

***Calappa granulata* (Linnaeus, 1758)**—CNI Brullé (1839); 15–300 m—CVI A. Milne-Edwards & Bouvier (1900); 75–233 m—Benthic, 10–400 m. ATLM.

***Calappa* spec. Fransen, 1991**—CNI type-locality; 45–80 m (also in Salvage Islands, 192 m);—CVI Fransen (1991); 92 m—Benthic, 80–192 m. ECAI.

***Cryptosoma cristatum* Brullé, 1837**—CNI type-locality (as *C. cristata*); 2–89 m—CVI Lucas (1882); Türkay (1982, as *Cycloes cristata*); 40–50 m—Benthic, 2–75 m. ECAI.

CANCROIDEA Latreille, 1802

Atelecyclidae Ortmann, 1893

***Atelecyclus rotundatus* (Olivi, 1792)**—CNI Fransen (1991); 65–278 m—CVI A. Milne-Edwards & Bouvier (1900, as *A. septemdentatus*); 102–275 m—Benthic, 0–795 m. EAWD.

***Atelecyclus undecimdentatus* (Herbst, 1783)**—CNI Brullé (1939, as *A. cruentatus*); 0–51 m;—CVI ?A. Milne-Edwards & Bouvier (1900, as *A. rotundatus*); same depth—Benthic. ATLM.

Cancridae Latreille, 1802

***Cancer bellianus* Johnson, 1861**—CNI Bouvier (1940); 120–871 m—Benthic, 37–700 m. EACT.

***Cancer pagurus* Linnaeus, 1758**—CNI González (2016); 150–400 m—Benthic, 0–520 m. EACT.

DORIPPOIDEA MacLeay, 1838

Dorippidae MacLeay, 1838

***Phyllodorippe armata* (Miers, 1881)**—CVI A. Milne-Edwards & Bouvier (1900, as *Dorippe armata*); 60 m—Benthic, 7–105 m. TSEA.

***Medorippe lanata* (Linnaeus, 1767)**—CNI Brullé (1839, as *Dorippa lanata*); 10–100 m—Benthic, 9–952 m. EAWT.

Ethusidae Guinot, 1977

***Ethusa mascarone* (Herbst, 1785)**—CNI Miers (1881); 3–80 m—Benthic, 5–100 m. ATLM.

***Ethusa rosacea* A. Milne-Edwards & Bouvier, 1897**—CNI type-locality; 125–132 m—CVI Bouvier (1922); 628–660 m—Benthic, 100–1013 m. TSEA.

***Ethusa rugulosa* A. Milne-Edwards & Bouvier, 1897**—CVI type-locality; 88–275 m—Benthic, 60–305 m. TSEA.

***Ethusa vossi* Manning & Holthuis, 1981**—CVI A. Milne-Edwards & Bouvier (1900, as *E. mascarone*); 40–69 m—Benthic, 6–96 m. TSEA.

***Ethusina alba* Filhol, 1884**—CNI likely (occurs between France and Azores, off Azores and Cape Verde Islands, d'Udekem d'Acoz 1999)—CVI A. Milne-Edwards & Bouvier (1900, as *E. abyssicola*); 3000–3890 m—Benthic, 2800–4265 m. EACT.

***Ethusina talismani* A. Milne-Edwards & Bouvier, 1897**—CNI Fransen (1991); 2050–2083 m—Benthic, 1892–2400 m. EACT.

ERIPHIOIDEA MacLeay, 1838

Eriphiidae MacLeay, 1838

***Eriphia verrucosa* (Forskål, 1775)**—CNI Brullé (1839, as *E. spinifrons*); 0–6 m—Benthic. ATLM.

Menippidae Ortmann, 1893

***Menippe nodifrons* Stimpson, 1859**—CVI A. Milne-Edwards (1878, as *M. rudis*); 3 m—Benthic, 0–20 m. AAWA.

Oziidae Dana, 1851

***Epixanthus helleri* A. Milne Edwards, 1867**—CVI A. Milne-Edwards & Bouvier (1900); 0–6 m—Benthic, 0–10 m. TSEA.

***Eupilumnus africanus* (A. Milne-Edwards, 1867)**—CNI Barquín & Carrillo (1988, as *Pilumnus africanus*); 0–20 m—CVI Miers (1886, as *Pilumnus africanus*); 0–15 m—Benthic, 0–35 m. TSEA.

***Eupilumnus* aff. *stridulans* (Monod, 1956)**—CVI Fransen (1991, as *Globopilumnus* aff. *stridulans*); 0–6 m—Benthic. ECVI.

GONEPLACOIDEA MacLeay, 1838

Acidopsidae Števčić, 2005

***Acidops cessacii* (A. Milne-Edwards, 1878)**—CVI type-locality (as *Epimelus cessaci*); 0.5–61 m—Benthic, 0.5–15 m. TSEA.

Chasmocarcinidae Serène, 1964

***Typhlocarcinodes integrifrons* (Miers, 1881)**—CVI Fransen (1991); 70–88 m—Benthic, 12–90 m. TSEA.

Euryplacidae Stimpson, 1871

***Machaerus atlanticus* (Miers, 1881)**—CNI Barquín & Carrillo (1988, as *Pilumnoplax atlantica*)—Benthic, 10–90 m. TSEA.

Goneplacidae MacLeay, 1838

***Goneplax barnardi* (Capart, 1951)**—CNI Fransen (1991); 500–570 m—CVI Fransen (1991); 328–590 m—Benthic, 200–590 m. TSEA.

***Goneplax rhomboides* (Linnaeus, 1758)**—CNI Brullé (1839, as *Gonoplax rhomboideus*); 15–570 m—CVI Fransen (1991); 310 m—Benthic, 0–600/700 m. EAWT.

Mathildellidae Karasawa & Kato, 2003

***Neopilumnoplax* sp.**—CNI Fransen & González (in prep.); 279 m—Benthic. AAWA.

Progeryonidae Števčić, 2005

***Paragalene longicrura* (Nardo, 1869)**—CNI González (1995); 130–160 m—Benthic, 20–30 m. ATLM.

LEUCOSIOIDEA Samouelle, 1819

Leucosiidae Samouelle, 1819

***Atlantolocia laevidorsalis* (Miers, 1881)**—CVI A. Milne-Edwards & Bouvier (1900, as *Philyra laevidorsalis*); littoral—Benthic, 4–30 m. TSEA.

***Ebalia affinis* Miers, 1881**—CNI likely (occurs off Madeira, and from Senegal to Angola, González 2016)—CVI A. Milne-Edwards & Bouvier (1898, as *E. (Phlyxia) atlantica*); 60 m—Benthic, 40–140 m. TSEA.

***Ebalia deshayesi* Lucas, 1846**—CNI A. Milne-Edwards & Bouvier (1900, as *E. edwardsi*); 280 m—Benthic, 5–100 m. ATLM.

***Ebalia edwardsii* Costa, 1838**—CNI A. Milne-Edwards & Bouvier (1900, as *E. algirica*); 0–190 m—Benthic, 0–100 m. ATLM.

***Ebalia fragifera* Miers, 1881**—CNI type-locality; depth unknown—Benthic. MAC (also in Madeira).

***Ebalia nux* A. Milne-Edwards, 1883**—CNI Bouvier (1922); 540–2983 m—CVI A. Milne-Edwards & Bouvier (1900); 219–875 m—Benthic, 80–2983 m. EACT.

***Ebalia tuberculata* Miers, 1881**—CNI Quiles *et al.* (2002); 40–300 m—CVI A. Milne-Edwards & Bouvier (1900); 60 m—Benthic, 12–110 m. TSEA.

***Ebalia tuberosa* (Pennant, 1777)**—CNI A. Milne-Edwards & Bouvier (1900, as *E. tuberosa* and *E. tuberculata*); 30–180 m—Benthic, 0–199 m. EACT.

***Ebalia tumefacta* (Montagu, 1808)**—CNI Quiles *et al.* (2002); 150–200 m—Benthic, 0–199 m. EACT.

***Ilia nucleus* (Linnaeus, 1758)**—CNI A. Milne-Edwards & Bouvier (1900); 162 m—CVI A. Milne-Edwards & Bouvier (1900); 60 m—Benthic, 0.5–80 m. ATLM.

***Ilia spinosa* Miers, 1881**—CNI type-locality; 0–107 m—CVI Guinot & Ribeiro (1962); 8–150 m—Benthic, 5–132 m. TSEA.

***Merocryptus boletifer* A. Milne-Edwards & Bouvier, 1894**—CNI Moro *et al.* (2014); 100–150 m—Benthic, 40–629 m. ATLM.

***Merocryptus obsoletus* A. Milne-Edwards & Bouvier, 1898**—CVI type-locality; 75–122 m—Benthic, 75–132 m. TSEA.

MAJOIDEA Samouelle, 1819

Epialtidae MacLeay, 1838

***Acanthonyx brevifrons* A. Milne-Edwards, 1869**—CNI González (2016); 7 m—CVI Miers (1886, as *A. lunulatus*); 75–110 m—Benthic, 0–110 m. ECAI.

***Acanthonyx depressifrons* Manning & Holthuis, 1981**—CVI Türkay (1982); 5 m—Benthic, 5–10 m. TSEA.

***Acanthonyx lunulatus* (Risso, 1816)**—CNI Santaella (1973); 0–15 m—CVI Guinot & Ribeiro (1962); 0–90 m—Benthic. EAWT.

***Anamathia rissoana* (Roux, 1828)**—CNI Barquín *et al.* (1982–1983); 100–500 m—CVI González *et al.* (2017c); 220–258 m—Benthic, 100–730 m. ATLM.

***Apiomithrax violaceus* (A. Milne-Edwards, 1868)**—CVI type-locality (as *Micropisa violacea*); 3–110 m—Benthic, 3–36 m. TSEA.

***Herbstia condyliata* (Fabricius, 1787)**—CNI Brullé (1839, as *H. condylata*); 0–54 m—Benthic, 0–80 m. ATLM.

***Herbstia rubra* A. Milne-Edwards, 1869**—CNI Fransen (1991); 0–20 m—CVI type-locality; 0.5–75 m—Benthic. TSEA.

***Micropisa ovata* Stimpson, 1858**—CNI Fransen (1991); 0–3 m—CVI type-locality; 0–110 m—Benthic. TSEA.

***Pisa armata* (Latreille, 1803)**—CNI? Brullé (1839); 41–82 m—CVI Studer (1883, as *P. gibsii*); 70–110 m—Benthic, 18–162 m. EAWT.

***Pisa carinimana* Miers, 1879**—CNI Miers (1879), type-locality; 4–120 m—Benthic, 4–100 m. EAWT.

***Pisa nodipes* (Leach, 1815)**—CNI Brullé (1839, as *P. armata*); 30–70 m—CVI A. Milne-Edwards & Bouvier (1900, as *P. armata*); 75 m—Benthic, 0–100 m. ATLM.

***Pisa tetraodon* (Pennant, 1777)**—CNI Brullé (1839, as *P. tetradon*); 2–50 m—Benthic, 0–50 m. ATLM.

***Rochinia carpenteri* (Thomson, 1873)**—CNI A. Milne-Edwards & Bouvier (1900, as *Scyramathia carpenteri*); 500–1059 m—Benthic, 400–1340 m. EACT.

Inachidae MacLeay, 1838

***Achaeus cranchii* Leach, 1817**—CNI A. Milne-Edwards & Bouvier (1898, *A. cursor*); 0–>20 m—Benthic, 0–70 m. ATLM.

***Dorhynchus thomsoni* Thomson, 1873**—CNI Fransen (1991); 570–1163 m—CVI A. Milne-Edwards & Bouvier (1900, as *Lispognathus thomsoni*); 225–1200 m—Benthic, 106–2080 m. COSM.

***Inachus aguiarii* de Brito Capello, 1876**—CNI Fransen (1991); 55–110 m—Benthic, 20–100 m. ATLM.

***Inachus dorsettensis* (Pennant, 1777)**—CNI Bouvier (1922); 540 m—Benthic, 0–749 m. EAWD.

***Inachus grallator* Manning & Holthuis, 1981**—CNI Fransen (1991); 60–125 m—CVI doubtful, ?A. Milne-Edwards & Bouvier (1900, as *I. dorsettensis*); 90–318 m—Benthic, 36–325 m. TSEA.

***Inachus nanus* Manning & Holthuis, 1981**—CNI Fransen (1991); 45–80 m—Benthic, 29–118 m. TSEA.

***Inachus phalangium* (Fabricius, 1775)**—CNI Brullé (1839, as *I. dorynchus*); 0.5–35 m—CVI Studer (1883, as *Stenorhynchus phalangium*); depth unknown—Benthic, 0.5–160 m. EACT.

***Inachus thoracicus* Roux, 1830**—CNI A. Milne-Edwards & Bouvier (1900); 30–90 m—Benthic, 10–200 m. ATLM.

***Inachus* spec.2 Fransen, 1991**—CVI type-locality; 50–110 m—Benthic. ECVI.

***Macropodia deflexa* Forest, 1978**—CNI Forest (1978); 23 m—Benthic, 0–90 m. EACT.

***Macropodia doracis* Manning & Holthuis, 1981**—CVI A. Milne-Edwards & Bouvier (1900, as *Stenorhynchus aegyptius* [part]); 110–180 m—Benthic. ECVI.

***Macropodia* aff. *doracis* Manning & Holthuis, 1981**—CVI Fransen (1991); 60–90 m—Benthic. ECVI.

***Macropodia* aff. *hesperiae* Manning & Holthuis, 1981**—CNI González (1995); 821 m—Benthic. ECNI.

***Macropodia linaresi* Forest & Zariquiey Álvarez, 1964**—CNI Monterroso *et al.* (2016); 29–39 m—Benthic, 3.5–140 m. ATLM.

***Macropodia longicornis* A. Milne-Edwards & Bouvier, 1899**—CVI type-locality (as *Stenorhynchus longicornis*); 150–275 m—Benthic. ECVI.

***Macropodia longipes* (A. Milne-Edwards & Bouvier, 1899)**—CVI A. Milne-Edwards & Bouvier (1900, as *Stenorhynchus longicornis*); 318 m—Benthic, 50–445 m. ATLM.

***Macropodia longirostris* (Fabricius, 1775)**—CNI A. Milne-Edwards & Bouvier (1900, as *Stenorhynchus aegyptius*); 30–60 m—Benthic, 4–130 m. ATLM.

***Macropodia* aff. *longirostris* (Fabricius, 1775)**—CNI Fransen (1991); 50–60 m—Benthic. ECNI.

***Macropodia* aff. *parva* van Noort & Adema, 1985**—CNI Fransen (1991); 25–82 m—CVI Fransen (1991); 30–90 m—Benthic, 20–90 m. TSEA.

***Macropodia rostrata* (Linnaeus, 1761)**—CNI ?A. Milne-Edwards & Bouvier (1900, as *Stenorhynchus phalangium*); 0–100 m—Benthic, 0–193 m. EAWD.

***Macropodia spinulosa* (Miers, 1881)**—CVI Studer (1882, as *Stenorhynchus phalangium*); 70 m—Benthic, 1–126 m. TSEA.

***Macropodia tenuirostris* (Leach, 1814)**—CVI Fransen (1991, as *M. longipes*); 115 m—Benthic, 9–748 m. EACT.

***Macropodia* spec. 2 Fransen, 1991**—CNI Fransen (1991); 86–200 m—Benthic, 140–170 m. MAC (also in Salvage Islands).

***Macropodia* spec. 3 Fransen, 1991**—CVI Fransen (1991); 61–1200 m—Benthic. ECVI.

***Stenorhynchus lanceolatus* (Brullé, 1837)**—CNI type-locality (as *Leptopodia lanceolata*); 2–273 m—CVI Miers (1886, as *Leptopodia sagittaria*); 5–90 m—Benthic, 5–96 m. TSEA.

Majidae Samouelle, 1819

***Eurynome aspera* (Pennant, 1777)**—CNI Fransen (1991); 10–200 m—CVI A. Milne-Edwards & Bouvier (1900); 61–318 m—Benthic, 10–1216 m. EAWD.

***Maja brachydactyla* Balss, 1922**—CNI type-locality (as *M. squinado brachydactyla*); 0–72 m—CVI Türkay (1982, as *M. squinado*); depth unknown—Benthic, 0–91 m. EAWT.

***Maja crispata* Risso, 1827**—CNI absent (incorrect records)—CVI A. Milne-Edwards & Bouvier (1900, as *M. verrucosa*); 84 m—Benthic, 0.5–95 m. ATLM.

***Neomaja goltziana* (d'Oliveira, 1889)**—CNI Santaella (1973, as *Maja goltziana*); 50–287 m—Benthic, 27–250 m. ATLM.

Mithracidae MacLeay, 1838

***Mithrax caboverdianus* Türkay, 1986**—CVI Türkay (1982, as Majidae gen. sp. indet.), type-locality; 0.5–2 m—Benthic. ECVI.

Oregoniidae Garth, 1958

***Ergasticus clouei* A. Milne-Edwards, 1882**—CNI Fransen (1991); 420–570 m—CVI Studer (1882); 70–400 m—Benthic, 70–1000 m. ATLM.

PALICOIDEA Bouvier, 1898

Palicidae Bouvier, 1898

***Palicus caronii* (Roux, 1828)**—CNI Miers (1886, as *Cymopolia caroni*); 20–220 m—CVI Miers (1886, as *Cymopolia caronii*); 20–100 m—Benthic, 18–220 m. ATLM.

PARTHENOPOIDEA MacLeay, 1838

Parthenopidae MacLeay, 1838

***Daldorfia bouvieri* (A. Milne-Edwards, 1869)**—CVI type-locality (as *Parthenope bouvieri*); 0.5–91 m—Benthic, 4–5 m. TSEA.

***Distolambrus maltzami* (Miers, 1881)**—CNI Fransen (1991, as *Heterocrypta maltzami*); 45–125 m—CVI A. Milne-Edwards & Bouvier (1900, as *Heterocrypta maltzani*); 24–347 m—Benthic, 22–550 m. EAWT.

***Parthenopoides massena* (Roux, 1830)**—CNI Miers (1881, as *Lambrus (Parthenopoides) bicarinatus*); 25–90 m—CVI Stimpson (1858, as *Lambrus rugosus*); 20–110 m—Benthic, 3–141 m. ATLM.

***Spinolambrus macrochelos* (Herbst, 1790)**—CNI Santaella (1973, as *Parthenope macrochelos*); 100–475 m—CVI Bouvier (1922, as *Lambrus miersi*); 91 m—Benthic, 5–1478 m. ATLM.

***Spinolambrus notialis* (Manning & Holthuis, 1981)**—CVI Fransen (1991, as *Parthenope notialis/miersi*, specimens with intermediate features); not material from Cap Vert, Senegal compiled by d'Udekem d'Acoz (1999); 55–80 m—Benthic, 18–162 m. TSEA (also in Mauritania).

***Velolambrus expansus* (Miers, 1879)**—CNI A. Milne-Edwards & Bouvier (1900, as *Parthenolambrus expansus*); 2–125 m—CVI A. Milne-Edwards & Bouvier (1900, as *Parthenolambrus expansus*)—Benthic, 30–170 m. ATLM.

PILUMNOIDEA Samouelle, 1819

Pilumnidae Samouelle, 1819

***Pilumnus hirtellus* (Linnaeus, 1761)**—CNI Fransen (1991); 0–25 m—CVI Manning & Holthuis (1981); littoral—Benthic, 0–90 m. EACT.

***Pilumnus inermis* A. Milne-Edwards & Bouvier, 1894**—CNI Brullé (1839); 200–250 m—CVI A. Milne-Edwards & Bouvier (1900, as *P. hirtellus inermis*); 3–225 m—Benthic, 5–400 m. ATLM.

***Pilumnus minutus* de Haan, 1835**—CVI Neves *et al.* (2016), Neves (2016), both as *P. hirsutus*; 92–98 m—Benthic, littoral. PANT.

***Pilumnus perrieri* A. Milne-Edwards & Bouvier, 1898**—CVI type-locality; 40–91 m—Benthic, 20–91 m. TSEA.

***Pilumnus spinifer* H. Milne Edwards, 1834**—CNI Santaella (1973); 0–20 m—CVI Bouvier (1922, as *P. hirtellus spinifer*); 91 m—Benthic, 1–179 m. ATLM.

***Pilumnus villosissimus* (Rafinesque, 1814)**—CNI Barquín & Carrillo (1988); 0–20 m—Benthic. ATLM.

PORTUNOIDEA Rafinesque, 1815

Carcinidae MacLeay, 1838

***Carcinus aestuarii* Nardo, 1847**—CNI ?Heller (1863, as *C. maenas*); 10 m; doubtful (see González 2016)—Benthic, 1–26 m. COSM.

***Carcinus maenas* (Linnaeus, 1758)**—CNI Heller (1863); depth unknown; doubtful (see González 2016)—Benthic, 0–60 m. EACT.

***Portumnus latipes* (Pennant, 1777)**—CNI Santaella (1973); 0–3 m—Benthic, 0–30 m. ATLM.

***Xaiva biguttata* (Risso, 1816)**—CVI A. Milne-Edwards & Bouvier (1900, as *Portumnus biguttatus*); littoral—Benthic, 1–10 m. EAWT.

***Xaiva mcleayi* (Barnard, 1947)**—CNI Moro *et al.* (2014); 4 m—Benthic, 8–73 m. TSEA.

Geryonidae Colosi, 1923

***Chaceon affinis* (A. Milne-Edwards & Bouvier, 1894)**—CNI Santana *et al.* (1985, as *Geryon maritae*); 411–1350 m—CVI Bouvier (1922, as *Geryon affinis*)—Benthic, 130–2047 m. EACT.

***Chaceon gordonae* (Ingle, 1985)**—CVI Ingle (1985, as *Geryon gordonae*, not as part of type-material); 628 m—Benthic, 1183 m. TSEA.

***Chaceon inglei* Manning & Holthuis, 1989**—CNI Araújo *et al.* (2009); 2156 m—Benthic, 1640–2500 m. EACT.

***Chaceon maritae* (Manning & Holthuis, 1981)**—CNI Santaella (1973); depth unknown—CVI González *et al.* (2004); 301–1000 m—Benthic, 100–1100 m. TSEA.

***Geryon trispinosus* (Herbst, 1803)**—CNI González *et al.* (1996); 639–833 m—Benthic, 32-2220 m. EACT.

Pirimelidae Alcock, 1899

***Pirimela denticulata* (Montagu, 1808)**—CNI Santaella (1973); 0–15 m—CVI Cunningham (1871); littoral—Benthic, 0–250 m. EACT.

Polybiidae Ortmann, 1893

***Bathynectes longipes* (Risso, 1816)**—CNI Heller (1863, as *Portunus longipes*); 30–100 m—Benthic, 15–226 m. ATLM.

***Bathynectes maravigna* (Prestandrea, 1839)**—CNI Santaella (1973, as *B. superbus*); 366–846 m—CVI González *et al.* (2004); 301–700 m—Benthic, 60–1410 m. EACT.

***Bathynectes piperitus* Manning & Holthuis, 1981**—CVI Filhol (1885, as *Bathynectes*); 108–628 m—Benthic, 200–546 m. TSEA.

***Liocarcinus corrugatus* (Pennant, 1777)**—CNI Brullé (1839, as *Portunus corrugatus*); 1-225 m—CVI Miers (1881, *P. corrugatus*)—Benthic, 1–147 m. EAWT.

***Liocarcinus depurator* (Linnaeus, 1758)**—CNI Fransen (1991); 45–90 m—Benthic, 1–871 m. EACT.

***Liocarcinus holsatus* (Fabricius, 1798)**—CNI Brullé (1839, as *Portunus halsatus*); <100 m—Benthic, 1–400 m. EACT.

***Liocarcinus navigator* (Herbst, 1794)**—CNI Monterroso *et al.* (2016); 12–39 m—Benthic, 0–108 m. EACT.

***Liocarcinus pusillus* (Leach, 1816)**—CNI A. Milne-Edwards & Bouvier (1900, as *Portunus pusillus*); 20–30 m—Benthic, 0–455 m. EACT.

***Liocarcinus vernalis* (Risso, 1816)**—CNI Fransen (1991); 35–100 m—Benthic, 0–150 m. ATLM.

***Liocarcinus zariquieyi* Gordon, 1968**—CNI A. Milne-Edwards & Bouvier (1900, as *Portunus pusillus*); 23–80 m—Benthic, 5–80 m. ATLM.

***Macropipus rugosus* (Doflein, 1904)**—CVI González *et al.* (2017c); 125–130 m—Benthic, 5–530 m. TSEA.

***Macropipus tuberculatus* (Roux, 1830)**—CNI Moro *et al.* (2014); 100–150 m—Benthic, 48–748 m. EACT.

***Polybius henslowii* Leach, 1820**—CNI González (1995); 0–5 m—Pelagic, 2–1245 m. EACT.

Portunidae Rafinesque, 1815

***Callinectes amnicola* (De Rochebrune, 1883)**—CVI Guinot & Ribeiro (1962, as *C. latimanus*); inshore estuarine—Benthic, 0–30 m. TSEA.

***Callinectes marginatus* (A. Milne-Edwards, 1861)**—CVI A. Milne-Edwards (1878, as *C. africanus* [var. de *diacanthus*]); shallow waters—Benthic. TSEA.

***Cronius ruber* (Lamarck, 1818)**—CNI González *et al.* (2017a); 2–10 m—CVI A. Milne-Edwards (1869, as *Goniosoma milleri*); 2.5–20 m—Benthic, 5–69 m. PANT.

***Laleonectes vocans* (A. Milne-Edwards, 1878)**—CNI González (1995, as *Portunus* sp.); 5–10 m—CVI type-locality (as *Neptunus vocans*); 5–6 m—Benthic, 6–37 m. AAWA.

***Portunus (Portunus) hastatus* (Linnaeus, 1767)**—CNI Brullé (1839, as *Lupa hastata*); 2–60 m—CVI Fransen (1991); 20–40 m—Benthic. TSEA.

***Portunus (Portunus) inaequalis* (Miers, 1881)**—CNI González (2016); 8–12 m—CVI Monod (1956, as *Neptunus inaequalis*); 4–15 m—Benthic, 4–73 m. TSEA.

***?Sanquerus validus* (Herklots, 1851)**—CVI González *et al.* (2004, as *Portunus validus*); 150–280 m (three specimens lost during the sinking of R/V "Taliarte")—Benthic, 3–55 m. TSEA.

***Thalamita poissonii* (Audouin, 1826)**—CNI Brullé (1839, as *T. admete*); 0.5–120 m—CVI Guinot & Ribeiro (1962, as *T. africana*); 2–8 m—Benthic, 0.5–20 m. PANT.

Thiidae Dana, 1852

***Thia scutellata* (Fabricius, 1793)**—CNI Monterroso *et al.* (2016); 27 m—Benthic, 0–110 m. EACT.

PSEUDOZIOIDEA MacLeay, 1838

Pseudoziidae MacLeay, 1838

***Euryozius bouvieri* (A. Milne-Edwards, 1869)**—CNI Santaella (1973); 0–23 m—CVI type-locality (as *Xantho bouvieri*); 0–30 m—Benthic, 6–30 m. ECAI.

TRAPEZIOIDEA Miers, 1886

Domeciidae Ortmann, 1893

***Domecia acanthophora africana* Guinot, 1964**—CNI Fransen (1991); 0 m—CVI Bouvier (1922, *D. hispida*); 2.5–22 m—Benthic, 0–35 m. ECAI.

XANTHOIDEA MacLeay, 1838

Panopeidae Ortmann, 1893

***Eurypanopeus blanchardi* (A. Milne-Edwards, 1881)**—CVI Dana (1852, as *Xanthus (Xantho) parvulus*); 0–22 m—Benthic, 0–6 m. TSEA.

***Panopeus africanus* A. Milne-Edwards, 1867**—CNI Barquín & Carrillo (1988); 0–8 m—CVI Fransen (1991); same depth—Benthic, 0–140 m. TSEA.

Xanthidae MacLeay, 1838

Xanthidae spec. Fransen, 1991—CVI type-locality; 0–312 m—Benthic, 0–0.5 m. TSEA (also in Senegal).

***Paractaea margaritaria* (A. Milne-Edwards, 1868)**—CVI type-locality (as *Actaea margaritaria*); 3–91 m—Benthic, 4/5–45 m. TSEA.

***Paractaea monodi* Guinot, 1969**—CNI Guinot (1969); 5–82 m—CVI A. Milne-Edwards & Bouvier (1900, as *Actaea margaritaria*); 0.5–91 m—Benthic, 0.5–200 m. ATLM.

***Paractaea rufopunctata* (H. Milne Edwards, 1834)**—CNI Brullé (1839, as *Xantho rufo-punctatus*); 0–45 m—CVI A. Milne-Edwards (1868, as *Actaea rufopunctata*); 30–91 m—Benthic, 0–69 m. PANT.

***Glyptoxanthus cavernosus* (A. Milne-Edwards, 1878)**—CNI Fransen (1991); 0 m—CVI type-locality (as *Actaea cavernosa*); 0–17 m—Benthic. ECAI.

***Glyptoxanthus corrosus* (A. Milne-Edwards, 1869)**—CVI type-locality (as *Xantho corrosus*); littoral—Benthic. ECVI.

***Monodaeus couchii* (Couch, 1851)**—CNI Fransen (1991); 20–500 m—CVI A. Milne-Edwards & Bouvier (1900, as *Xantho tuberculatus*); 110–594 m—Benthic, 0–1415 m. EAWT.

***Monodaeus rouxi* (Capart, 1951)**—CNI likely (occurs at Madeira, and from Senegal to Angola, d'Udekem d'Acoz 1999)—Benthic, 11–510 m. TSEA.

***Coralliope parvula* (A. Milne-Edwards, 1869)**—CNI Fransen (1991); 0–33 m—CVI type-locality (as *Actumnus parvulus*); 5–110 m—Benthic, 0–355 m. TSEA.

***Cycloxanthops occidentalis* (A. Milne-Edwards, 1868)**—CVI type-locality (as *Xantho occidentalis*); 0–3 m—Benthic, 0–23 m. TSEA.

***Microcassiope minor* (Dana, 1852)**—CNI Monod (1956, as *Micropanope rufopunctata*); 0–20 m—CVI A. Milne-Edwards (1869, as *Xanthodes rufopunctatus*); 0.5–61 m—Benthic, 0–220 m. AAWA.

***Nanocassiope melanodactyla* (A. Milne-Edwards, 1867)**—CNI Miers (1886, as *Xanthodes melanodactylus*); 5–110 m—CVI Dana (1852, as *Xantho parvulus*); 4–225 m—Benthic, 5–200 m. TSEA.

***Paraxanthias eriphioides* (A. Milne-Edwards, 1867)**—CVI type-locality (as *Xanthodes eriphioides*); 0.5–85 m—Benthic. ECAI.

***Xantho hydrophilus* (Herbst, 1790)**—CNI A. Milne-Edwards & Bouvier (1900, as *X. floridus*); 0–25 m—CVI A. Milne-Edwards & Bouvier (1900, as *X. floridus*); 0–30 m—Benthic, 0–37 m. ATLM.

***Xantho pilipes* A. Milne-Edwards, 1867**—CNI Luis Florido (1976); 0–36 m—Benthic, 0–133 m. EAWD.

***Xantho poressa* (Olivi, 1792)**—CNI Brullé (1839, as *X. rivulosus*); 0–15 m—Benthic, 0–20 m. ATLM.

***Xantho sexdentatus* (Miers, 1881)**—CNI Fransen (1991); 0–15 m—CVI Fransen (1991); same depth—Benthic, 0–35 m. TSEA.

***Xantho* sp. Fransen, 1991**—CNI 0–7 m—CVI probably 0–15 m—Benthic. TSEA.

***Xanthodius inaequalis faba* (Dana, 1852)**—CVI ?type-locality (as *Actaeodes faba*); 0.5–10 m—Benthic. ECVI.

***Platypodiella picta* (A. Milne-Edwards, 1869)**—CNI A. Milne-Edwards & Bouvier (1900, as *Lophactaea picta*); 0–30 m—CVI type-locality (as *Lophactaea picta*); 0.5–28 m—Benthic. TSEA.

CRYPTOCHIROIDEA Paul'son, 1875

Cryptochiridae Paul'son, 1875

***Detocarcinus balssi* (Monod, 1956)**—CNI Manning & Holthuis (1981); 20–25 m—Benthic, 3–62 m. TSEA.

GRAPSOIDEA MacLeay, 1838

Grapsidae MacLeay, 1838

***Geograpsus lividus* (H. Milne Edwards, 1837)**—CVI A. Milne-Edwards & Bouvier (1900); 10 m—Benthic. PANT.

***Grapsus adscensionis* (Osbeck, 1765)**—CNI Brullé (1839, as *G. strigosus*); 0–7 m—CVI Dana (1852); 0–10 m—Benthic, 0–5 m. TSEA.

***Pachygrapsus marmoratus* (Fabricius, 1787)**—CNI Brullé (1939, as *Grapsus varius*); 0–6 m—Benthic, 0–20 m. ATLM.

***Pachygrapsus maurus* (Lucas, 1846)**—CNI Zariquiey Álvarez (1968); 0–6 m—CVI ?Monod (1956, as *Goniograpsus simplex*); 0 m—Benthic. ATLM.

***Pachygrapsus transversus* (Gibbes, 1850)**—CNI Brullé (1839, as *Grapsus messor*); 0–7 m—CVI Miers (1886); 0–6 m—Benthic, 0–7 m. PANT.

***Planes minutus* (Linnaeus, 1758)**—CNI Heller (1863, as *Nautilograpsus minutus*); 0–31 m—CVI Fransen (1991); same depth—Pelagic. PANT.

Percnidae Števčić, 2005

***Percnon gibbesi* (H. Milne Edwards, 1853)**—CNI Brullé (1839, as *Plagusia clavimana*); 0–29 m—CVI A. Milne-Edwards & Bouvier (1900, as *Leiolophus planissimus*); 0.5–29 m—Benthic. PANT.

Plagusiidae Dana, 1851

***Euchirograpsus liguricus* H. Milne Edwards, 1853**—CNI García Cabrera (1971, as *Euchinograpsus americanus*); 150–250 m—CVI A. Milne-Edwards & Bouvier (1900, as *E. americanus*); 110–180 m—Benthic, 10–359 m. EAWT.

***Plagusia depressa* (Fabricius, 1775)**—CNI Brullé (1839, as *P. squamosa*); 0–5 m—CVI Miers (1886); same depth—Benthic. AAWA.

Varunidae H. Milne-Edwards, 1853

***Cyclograpsus integer* H. Milne Edwards, 1837**—CVI A. Milne-Edwards (1878, as *C. occidentalis*); 0–10 m—Benthic, 2–5 m. AAWA.

***Brachynotus sexdentatus* (Risso, 1827)**—CNI Moro *et al.* (2014); 1.5 m—Benthic, 0–2 m. ATLM (origin: alien).

OCYPODOIDEA Rafinesque, 1815

Ocypodidae Rafinesque, 1815

***Ocypode africana* de Man, 1881**—CVI Bouvier (1922); 0–3 m; needs confirmation—Benthic. TSEA.
***Ocypode cursor* (Linnaeus, 1758)**—CVI Stimpson (1858); 0–3 m—Benthic. EAWT.
***Afruca tangeri* (Eydoux, 1835)**—CNI Castro (2012, as *Uca tangeri*); 1–2 m—CVI Monod (1956, as *Uca tangeri*); 0–2 m—Benthic. TSEA.

PINNOTHEROIDEA de Haan, 1833

Pinnotheridae de Haan, 1833

***Nepinnotheres pinnotheres* (Linnaeus, 1758)**—CNI Moreno *et al.* (1982, as *Pinnotheres pinnotheres*); 2–25 m—Benthic, 6–250 m. ATLM.
***Pinnotheres pisum* (Linnaeus, 1767)**—CNI Moro *et al.* (2014); 38 m—Benthic, 0–150 m. EACT.
***Viridotheres marionae* Manning, 1996**—CVI Manning (1996), type-locality; 91 m—Benthic. ECVI.
***Viridotheres viridis* (Manning, 1993)**—CVI Fransen (1991, as *Pinnotheres* spec.); 3–15 m—Benthic. ECVI.

Taxa richness and characterising taxa. The number of marine families, genera and species/subspecies by higher taxa, as well as the percentage of the species from the total for both archipelagos is showed in Table 1. The percentage composition of the 10 higher taxa is very similar between both decapodal biotas, which are dominated by brachyuran and caridean species (Table 1). The current list of Canarian marine decapods comprises 374 species/subspecies, grouped in 198 genera and 82 families; whereas the Cape Verdean marine decapods are currently represented by 343 species/subspecies, grouped in 200 genera and 79 families (Table 1). This comparative data gives an overwiew of the subject. However, it is evident that the Canary Islands have received much more sampling effort in the set of their different habitats, and this might be relevant to understand some differences found.

TABLE 1. Comparison (in number of species) of higher taxa of marine decapod crustaceans from the Canary and Cape Verde Islands, including the percentage of species by groups.

	Canary Islands				Cape Verde Islands			
	Families	Genera	Species	Spp %	Families	Genera	Species	Spp %
Dendrobranchiata	6	27	49	13.1	6	21	31	9.1
Pleocyemata	76	171	325	86.9	74	180	312	90.9
Stenopodidea	2	2	2	0.6	1	1	1	0.3
Caridea	17	49	109	33.6	15	49	107	34.3
Astacidea	2	3	4	1.2	2	2	3	1.0
Axiidea	1	1	2	0.6	1	3	3	1.0
Gebiidea	1	1	1	0.3	1	1	2	0.6
Achelata	2	4	7	2.2	2	5	9	2.9
Polychelida	1	5	6	1.8	1	4	6	1.9
Anomura	11	27	60	18.5	12	31	55	17.6
Brachyura	39	79	134	41.2	39	84	126	40.4
Totals	82	198	374	100	80	201	343	100

It is widely accepted that the set of littoral and upper-bathyal taxa better characterize the marine fauna of one ecoregion and their zoogeographic affinities (e.g. González 2016; González *et al.* 2017c). With regard to taxa richness based on decapods living shallower than the insular upper slopes, some typically benthic families appear to be as relevant in terms of diversity (with relatively high number of genera) and specious (with at least 10 species/subspecies in one archipelago) in both archipelagos. This is the case of the Hippolytidae, Palaemonidae and Pandalidae (Caridea), Paguridae (Anomura) and Leucosiidae, Epialtidae, Inachidae and Xanthidae (Brachyura) which are well represented in both biotas. However, the Galatheidae (8 vs. 4 species) and Paguridae (17 vs. 12) (Anomura) and Polybiidae (9 vs. 3) (Brachyura) appear to be more relevant for the Canarian decapod carcinofauna; whereas the Diogenidae (12 vs. 8) (Anomura) and Alpheidae (23 vs. 5) (Caridea) much better represent the Cape Verdean biota.

Comparison of taxa composition. When compared both decapod catalogues, the Canary and Cape Verde Islands have divergent taxa composition taking into account the supra-species taxa (families and genera). The Canarian families Luciferidae (Dendrobranchiata), Stenopodidae (Stenopodidea), Bathypalaemonellidae, Glyphocrangonidae, Stylodactylidae (Caridea), Cancridae, Eriphiidae, Euryplacidae, Mathildellidae, Progeryonidae, Thiidae, and Cryptochiridae (Brachyura) do not currently occur in waters of the Cape Verde Islands. The Cape Verdean families Sicyoniidae (Dendrobranchiata), Disciadidae (Caridea), Hippidae (Anomura), Dynomenidae, Raninidae, Aethridae, Menippidae, Acidopsidae, Chasmocarcinidae, Mithracidae, and Ocypodidae (except for one specimen of *Afruca tangeri* probably introduced in the Canaries) (Brachyura) have not been found in waters of the Canaries. Dissimilarity in familiar taxa composition was 25%, i.e. 23 different families of the 93 decapod families occurring at both archipelagos combined.

The Canarian genera *Aristaeomorpha* (Aristeidae), *Bentheogennema* (Benthesicymidae), *Penaeopsis* (Penaeidae), *Solenocera* (Solenoceridae), *Allosergestes*, *Cornutosergestes*, *Deosergestes*, *Eusergestes* and *Sergestes* (Sergestidae) within the Dendrobranchiata, *Spongiocaris* (Spongicolidae) within the Stenopodidea, *Sabinea* (Crangonidae), *Nigmatullinus* (Nematocarcinidae), *Gnathophylleptum* (Gnathophyllidae), *Eupasiphae* and *Psathyrocaris* (Pasiphaeidae) within the Caridea, *Nephrops* (Nephropidae) within the Astacidea, *Pestarella* (Callianassidae) within the Axiidea, *Cardus* (Polychelidae) within the Polychelida, *Galacantha* (Munidopsidae), *Paguristes* (Diogenidae), *Paragiopagurus* and *Sympagurus* (Parapaguridae) within the Anomura, *Homologenus* (Homolidae), *Medorippe* (Dorippidae), *Rochinia* (Epialtidae), *Achaeus* (Inachidae), *Neomaja* (Majidae), *Polybius* (Polybiidae), *Nepinnotheres* and *Pinnotheres* (Pinnotheridae) within the Brachyura do not currently occur in waters of the Cape Verde Islands. The Cape Verdean genera *Aristeus* (Aristeidae), *Metapenaeopsis*, *Metapenaeus* (Penaeidae) and *Challengerosergia* (Sergestidae) within the Dendrobranchiata, *Microprosthema* (Spongicolidae) within the Stenopodidea, *Alpheopsis*, *Automate*, *Deioneus*, *Salmoneus* (Alpheidae), *Merhippolyte* (Hippolytidae) and *Parapontophilus* (Crangonidae) within the Caridea, *Callichirus*, *Corallianassa* and *Neocallichirus* (Callianassidae) within the Axiidea, *Ibacus* (Scyllaridae) within the Achelata, *Pachycheles*, *Petrolisthes* (Porcellanidae), *Ciliopagurus*, *Diogenes*, *Petrochirus*, *Pseudopagurus, Trizopagurus* (Diogenidae), *Acanthopagurus* and *Paguridium* (Paguridae) within the Anomura, *Sternodromia* (Dromiidae), *Sakaila* (Aethridae), *Phyllodorippe* (Dorippidae), *Epixanthus* (Oziidae), *Atlantolocia* (Leucosiidae), *Apiomithrax* (Epialtidae), *Daldorfia* (Parthenopidae), *Callinectes*, *Sanquerus* (likely) (Portunidae), *Eurypanopeus* (Panopeidae), *Paraxanthias*, *Xanthodius*, one new undescribed genus of Xanthidae, *Geograpsus* (Grapsidae), *Ocypode* (Ocypodidae) and *Viridotheres* (Pinnotheridae) within the Brachyura have not been found in waters of the Canaries. Taking into account the genera of families absent from each other ecoregion, dissimilarity in generic taxa composition was 37%, i.e. 90 different genera (41 Canarian and 49 Cape Verdean) of the 245 decapod genera occurring at both archipelagos combined.

At infra-generic level, 170 Canarian decapod species/subspecies do not currently occur in waters of the Cape Verde Islands, and 136 Cape Verdean decapod species/subspecies have not been found in waters of the Canaries. Dissimilarity in infra-generic taxa composition reached 60%, i.e. 306 different species of the 509 decapod species occurring at both archipelagos combined. When referred to littoral and upper-bathyal benthic forms, dissimilarity increased to 63%, i.e. 229 different species of the 365 decapod species present in both archipelagos combined.

Comparison of species' biogeographic patterns. A compared description of biogeographic patterns of decapod crustaceans from the Canary and Cape Verde Islands grouped by higher taxa is presented in Table 2.

When compared littoral and upper-bathyal benthic pleocyemata species, the biogeographic composition at the Canaries resulted in favour of Atlanto-Mediterranean forms (ATLM), whereas this composition was quite different

in the Cape Verdes with the tropical/subtropical component (TSEA) as dominant. Regarding the coastal benthic dendrobranchiate shrimps, the Canarian composition was dominated by pantropical species (PANT), whereas the Cape Verdean one was composed of two main biogeographic groups (TSEA and PANT) (Table 2).

Rates of endemicity. In the Canaries three biogeographic groups accounted for their endemic components: ECAI, MAC, and ECNI. With regard to coastal benthic species, the ECAI group is represented by 9 species, and both the MAC and ECNI groups by 3 species each (Table 2).

In the Cape Verdes other three biogeographic groups accounted for their endemics: ECAI, IWAF, and ECVI. With regard to coastal benthic species, the ECAI group is represented by 11 species, the IWAF by 1, and the ECVI by 22 (Table 2).

Species probably tending to shift their distributions to higher latitudes. With regard to littoral and upper-bathyal benthic species, the eastern Atlantic cold-temperate species (EACT), i.e. which generally have the Canary Islands as their southern limit of occurrence, are currently represented by 7 species (9.6%) within the Stenopodidea and Caridea combined, 13 species (23.7%) within the remaining Pleocyemata, and 21 species (16.8%) within the Brachyura (Table 2).

TABLE 2. Compared description of biogeographic patterns of decapods from the Canary and Cape Verde Islands grouped by higher taxa.

Species' biogeographic pattern	Canary Islands				Cape Verde Islands			
	All species		Coastal benthic		All species		Coastal benthic	
	N	%	N	%	N	%	N	%
	Brachyura				Brachyura			
Atlanto-Mediterranean (ATLM)	39	29.1	39	31.2	18	14.3	12	12.4
Tropical and subtropical Eastern Atlantic (TSEA)	28	20.9	28	22.4	51	40.5	42	43.3
Eastern Atlantic cold-temperate (EACT)	27	20.1	21	16.8	8	6.3	3	3.1
Eastern Atlantic warm-temperate (EAWT)	10	7.5	10	8.0	10	7.9	7	7.2
Eastern Atlantic of wide distribution (EAWD)	6	4.5	6	4.8	3	2.4	1	1.0
Amphi-Atlantic of warm affinity (AAWA)	5	3.7	5	4.0	7	5.6	7	7.2
Eastern-central Atlantic island (ECAI)	6	4.5	6	4.8	7	5.6	7	7.2
Pantropical or circumtropical (PANT)	6	4.5	5	3.2	8	6.3	8	8.3
Macaronesian (MAC)	2	1.5	2	1.6	-	-	-	-
Cosmopolitan or worldwide (COSM)	2	1.5	1	0.8	1	0.8	0	0.0
Amphi-Atlantic of wide distribution (AAWD)	1	0.7	1	0.8	1	0.8	0	0.0
Endemic to the Canary Islands (ECNI)	2	1.5	1	0.8	-	-	-	-
Endemic to the Cape Verde Islands (ECVI)	-	-	-	-	11	8.7	10	10.3
Insular West African (IWAF)	-	-	-	-	1	0.8	0	0.0
Sub-totals	134	100	125	100	126	100	97	100
	Stenopodidea + Caridea				Stenopodidea + Caridea			
Atlanto-Mediterranean (ATLM)	24	21.6	23	31.5	13	12.1	13	16.8
Tropical and subtropical Eastern Atlantic (TSEA)	7	6.3	5	6.8	18	16.7	14	18.2
Eastern Atlantic cold-temperate (EACT)	9	8.1	7	9.6	4	3.7	4	5.2
Eastern Atlantic warm-temperate (EAWT)	5	4.5	5	6.8	5	4.6	5	6.5
Eastern Atlantic of wide distribution (EAWD)	1	0.9	1	1.4	1	0.9	1	1.3
Amphi-Atlantic of warm affinity (AAWA)	20	18.0	10	13.7	23	21.3	14	18.2
Eastern-central Atlantic island (ECAI)	1	0.9	1	1.4	2	1.9	2	2.6
Pantropical or circumtropical (PANT)	31	28.0	14	19.2	25	23.1	14	18.2
Macaronesian (MAC)	0	0.0	0	0.0	-	-	-	-

.....continued on the next page

TABLE 2. (Continued)

Species' biogeographic pattern	Canary Islands				Cape Verde Islands			
	All species		Coastal benthic		All species		Coastal benthic	
	N	%	N	%	N	%	N	%
	Brachyura				Brachyura			
Cosmopolitan or worldwide (COSM)	6	5.4	4	5.5	5	4.6	1	1.3
Amphi-Atlantic of wide distribution (AAWD)	6	5.4	2	2.7	5	4.6	2	2.6
Endemic to the Canary Islands (ECNI)	1	0.9	1	1.4	-	-	-	-
Endemic to the Cape Verde Islands (ECVI)	-	-	-	-	6	5.6	6	7.8
Insular West African (IWAF)	-	-	-	-	1	0.9	1	1.3
Sub-totals	111	100	73	100	108	100	77	100
	Remaining Pleocyemata				Remaining Pleocyemata			
Atlanto-Mediterranean (ATLM)	19	23.8	19	33.9	11	14.1	11	19.0
Tropical and subtropical Eastern Atlantic (TSEA)	6	7.5	5	8.9	21	26.9	21	36.2
Eastern Atlantic cold-temperate (EACT)	15	18.8	13	23.2	7	9.0	5	8.7
Eastern Atlantic warm-temperate (EAWT)	2	2.5	2	3.6	2	2.6	2	3.4
Eastern Atlantic of wide distribution (EAWD)	4	5.0	2	3.6	2	2.6	0	0.0
Amphi-Atlantic of warm affinity (AAWA)	10	12.5	4	7.1	9	11.5	6	10.3
Eastern-central Atlantic island (ECAI)	2	2.5	2	3.6	2	2.6	2	3.4
Pantropical or circumtropical (PANT)	5	6.3	4	7.1	4	5.1	4	7.0
Macaronesian (MAC)	1	1.2	1	1.8	-	-	-	-
Cosmopolitan or worldwide (COSM)	12	15.0	2	3.6	10	12.8	1	1.7
Amphi-Atlantic of wide distribution (AAWD)	3	3.7	1	1.8	4	5.3	0	0.0
Endemic to the Canary Islands (ECNI)	1	1.2	1	1.8	-	-	-	-
Endemic to the Cape Verde Islands (ECVI)	-	-	-	-	6	7.7	6	10.3
Insular West African (IWAF)	-	-	-	-	0	0.0	0	0.0
Sub-totals	80	100	56	100	78	100	58	100
	Dendrobranchiata				Dendrobranchiata			
Atlanto-Mediterranean (ATLM)	0	0.0	0	0.0	0	0.0	0	0.0
Tropical and subtropical Eastern Atlantic (TSEA)	3	6.1	0	0.0	4	12.9	3	42.8
Eastern Atlantic cold-temperate (EACT)	0	0.0	0	0.0	0	0.0	0	0.0
Eastern Atlantic warm-temperate (EAWT)	2	4.1	2	22.2	0	0.0	0	0.0
Eastern Atlantic of wide distribution (EAWD)	0	0.0	0	0.0	0	0.0	0	0.0
Amphi-Atlantic of warm affinity (AAWA)	11	22.4	1	11.1	7	22.6	1	14.3
Eastern-central Atlantic island (ECAI)	0	0.0	0	0.0	0	0.0	0	0.0
Pantropical or circumtropical (PANT)	26	53.1	5	55.6	16	51.6	2	28.6
Macaronesian (MAC)	0	0.0	0	0.0	-	-	-	-
Cosmopolitan or worldwide (COSM)	3	6.1	0	0.0	0	0.0	0	0.0
Amphi-Atlantic of wide distribution (AAWD)	4	8.2	1	11.1	4	12.9	1	14.3
Endemic to the Canary Islands (ECNI)	0	0.0	0	0.0	-	-	-	-
Endemic to the Cape Verde Islands (ECVI)	-	-	-	-	0	0.0	0	0.0
Insular West African (IWAF)	-	-	-	-	0	0.0	0	0.0
Sub-totals	49	100	9	100	31	100	7	100

Within the Cape Verdean coastal benthic species of warm affinity, the following numbers currently represent the decapod species not occurring (yet) in waters of the Canary Islands: 2 dendrobranchiates, 7 carideans, 3 axiideans, 2 gebiideans, 1 achelate, 12 anomurans, and 26 brachyurans within the TSEA group; 1 dendrobranchiate, 1 stenopodidean, 7 carideans, 1 achelate, 2 anomurans, and 3 brachyurans within the AAWA group; and 3 dendrobranchiates, 4 carideans, 1 achelate, 1 polychelidan, 1 anomuran, and 1 brachyuran within the PANT group; and surprisinly 1 ATLM anomuran species (*Pagurus mbizi*) (Table 3). Table 3 also includes 22 Cape Verdean warm-affinity decapod species recorded from the Canaries in the last 25 years.

Lastly, Table 4 includes another six warm-affinity species recorded from the Canaries in the last 35 years, but not (yet) found in waters of the Cape Verde Islands.

Discussion

Supported by the updated referenced checklist of marine decapods occurring in waters of the Canary and Cape Verde Islands, which includes the species' vertical distributional and biogeographic information, our study methodologies demonstrate that the separation by Spalding *et al.* (2007) of the Canaries and the Cape Verdes in two different ecoregions is clearly consistent. Our analysis on this higher taxa (one of the most diverse in coastal ecosystems and most representative of the benthos), have satisfactorily validated the appropriateness in separating both archipelagos. Hence, the Canary Islands belong to the Macaronesian ecoregion within the Lusitanian biogeographic province of the Temperate Northern Atlantic realm, whereas the Cape Verde Islands belong to its own ecoregion within the West African Transition province of the Tropical Atlantic realm.

The possibility that the Banc d'Arguin (at the North limit of Mauritania, bordering with the Western Sahara) may represent a biogeographic boundary was suggested by Fransen (1991) and Spalding *et al.* (2007). The abiotic and ecological factors that may cause such a boundary are poorly understood, but the area coincides with the meeting point of the southwards, cooling Canary Current and the northwards, warming Guinea Current and these currents may play a role in determining the faunal distributions in the region (Fransen 2002).

Although the exclusion of the Cape Verde Islands from the Macaronesia has been recently postulated by several works consisting in partial accounts (Brito *et al.* 2007) or checklist (Wirtz *et al.* 2013) of coastal fish species from that archipelago, this is the first time that two equivalent relevant biotas are compared for assessing the validity of both biogeographic ecoregions. Such biogeographic comparison between the Canaries and the Cape Verdes was *a priori* (and has resulted) very interesting because of reasons mentioned in the Introduction.

The present work reveals the following four evidences supporting that the Canaries and the Cape Verdes belong to different biogeographic marine ecoregions, especially when compared the set of littoral and upper-bathyal decapods.

1. Each biota is characterised by different taxa (in terms of diversity of families/genera and number of species representing them). Galatheidae squat lobsters, Paguridae hermit crabs and Polybiidae true crabs appear to be more relevant for the Canarian decapod carcinofauna, whereas Diogenidae hermit crabs and Alpheidae shrimps much better represent the Cape Verdean biota.
2. The Canary and Cape Verde Islands have divergent taxa composition. Dissimilarity in taxa composition has been currently estimated to be of 25% for families, 37% for genera, and 63% for coastal benthic species. Despite the absence (to our knowledge) of a predetermined level of dissimilarity indicating that two sample sets (faunal catalogues) should be considered as different, dissimilarity values found herein suggest that taxa compositions of decapod carcinofaunas compared can be objectively considered as clearly different.
3. A compared description of both decapod biotas has revealed different composition of species' biogeographic patterns for all higher taxa, especially when referred to coastal benthic forms. In coastal brachyuran crabs, the Canarian carcinofauna contains a mix of characteristically Atlanto-Mediterranean taxa (31.2%) with significant Guinean taxa (22.4%) and a moderate eastern Atlantic cold-temperate group (16.8%), whereas the Cape Verdean biota is markedly dominated by the sub- and tropical components (43.3%) with low Atlanto-Mediterranean taxa (12.4%). In coastal benthic stenopodidean and caridean shrimps combined, the biogeographic composition at the Canaries resulted again in favour of the Atlanto-Mediterranean species (31.5%) with relevant pantropical (19.2%) and amphi-Atlantic species of warm affinity (13.7%), whereas at the Cape Verdes this biota appears to be balanced with three warm-affinity components (Guinean, amphi-

Atlantic, and pantropical species all with 18.2%) followed by the Atlanto-Mediterranean taxa (16.8%). In the remaining Pleocyemata groups, in the Canaries main temperate components appear as dominant (Atlanto-Mediterranean 33.9%, and eastern Atlantic cold-temperate species 23.2%) with warm-affinity groups as testimonial, whereas at the Cape Verdes this biota composition is clearly dominated by Guinean taxa (36.2%) followed by Atlanto-Mediterranean (19.0%) and amphi-Atlantic species of warm affinity (10.3%). In coastal benthic Dendrobranchiata shrimps, the Canarian biota is characterised by the circumtropical group (55.6%) followed by eastern Atlantic warm-temperate taxa (22.2%), whereas at the Cape Verdes the Guinean group appeared as dominant (42.8%) followed by circumtropical taxa (28.6%).

The relevance (compared with the Canaries) of amphi-Atlantic taxa of warm affinity found in the Cape Verdean carcinofauna suggested, according to Spalding *et al.* (2007), a good bio-connexion between the Cape Verde ecoregion and the North Brazil Shelf biogeographic province (formed by the Guianan and Amazonia ecoregions). Present results corroborate the role of Cape Verde Islands as stepping stones in the mid Atlantic, connecting both western and eastern basins.

4. Endemicity rates found herein suggest that taxa compositions of decapod carcinofaunas from the Canary and Cape Verde Islands can be objectively considered as markedly different in favor of the Cape Verdes, especially when referred to benthic endemic species restricted to each archipelago. In the Canaries, only 1 brachyuran (0.8%), 1 caridean (1.4%) and 1 anomuran species (1.8%) are endemics to this archipelago (total rate of endemicity of 1.2%, i.e. 3 endemics over 247 littoral and upper-bathyal benthic species). In the Cape Verdes, 10 brachyurans (10.3%), 6 carideans (7.8%), and 1 achelate and 5 anomurans (10.3% of the remaining Pleocyemata) are endemics to this archipelago (total rate of endemicity of 8.6%, i.e. 22 endemics over 257 coastal benthic species).

Recent works have proposed some reasons explaining the higher diversity and greater number of coastal endemics to the Cape Verde Islands than those of the Macaronesian archipelagos, which are characterised by low endemism rates and relatively low diversity (Brito *et al.* 2007; Wirtz *et al.* 2008; Afonso *et al.* 2013; Araújo & Wirtz 2015; González *et al.* 2017c). Accordingly, the Cape Verde archipelago has a considerable geological age (oldest age 15.8 my, but younger than the Canaries) with a good bio-connexion despite of its isolation, and their coastal habitats are relatively healthy. On the contrary, the Canary archipelago is geologically older (oldest age 19 my), less isolated, and their shallow habitats and oceanographic bottlenecks have been shortened during the most recent glaciations (Brito *et al.* 2007; Wirtz *et al.* 2008; Afonso *et al.* 2013).

These parametres (i.e. taxa composition, composition of biogeographic patterns and endemicity rates) combined would be used as a valuable tool at comparing biotas from oceanic (or more or less isolated) archipelagos.

Marine species tend to shift their distributions to higher latitudes in response to warmer conditions, and organisms are predicted to keep shifting under climate change scenarios (e.g. Perry *et al.* 2005). In this regard, 41 Canarian coastal benthic species are known to have their southern limit of geographic distribution at this latitude (around 27°N). This set of species conforms the Canarian eastern Atlantic cold-temperate biogeographic group (Table 2), representing 16.7% of the total 246 benthic forms involved. If the current process of tropicalization of coastal biotas (generally associated with global warming) in this part of the eastern Atlantic continues, these cold-temperate species will probably tend to shift their distributions to the North, and a defaunation or loss of these taxa for the Canary Islands biota can be predicted. The implementation of long-term monitoring regional biota to control and preserve biodiversity is critical (e.g. Araújo & Wirtz 2015), and research projects should be executed for assessing whether some selected species are capable to move (their optimal bathymetric range) deeper in response to local tropicalization and global warming.

Three sets of Cape Verdean coastal benthic species of warm affinity (53 tropical/subtropical forms, 15 amphi-Atlantic species of warm affinity, and 11 pantropical forms) were not (yet) found in waters of the Canary Islands (Table 3). Another set of 22 warm-affinity coastal benthic species known to occur in waters of the Cape Verde Islands have been progressively recorded for the Canary Islands in the last 25 years (Table 3).

Another set of 6 warm-affinity coastal benthic species have been recorded for the Canaries in the last 35 years, but not (yet) found in the Cape Verde Islands waters (Table 4), indicating that colonization of the Canary Islands can also have taken place through dispersal from continental coastal areas, probably from waters of Mauritania-Senegal in most cases.

Also, the Canaries are located on an important maritime route, and both ships and oil platforms have been recognized as major vectors for the introduction of non-native species (e.g. Triay-Portella *et al.* 2015). The latter work has summarized the occurrence of sub- and tropical fish species in waters of the Canaries in the last 30 years, and alerted on the oilrigs as human-mediated vectors of increasing importance for the introduction of non-indigenous species in the region. Anthropogenic vectors of introduction of warm-affinity exotic species are generally synergic with the natural range extensions and, therefore all causes together are significantly reinforcing (for instance in the Canaries) the tropical/subtropical component of their coastal assemblages. The ecological impact of these non-indigenous species on the native communities remains unknown, and more investigation and awareness is needed to understand these extensions or translocations prior to take environmental management measures (e.g. Triay-Portella *et al.* 2015; González 2016). In the marine environment there are many records of invasive species including decapod crustaceans, and portunids of several genera as the Cape Verdean *Callinectes* (e.g. Molnar *et al.* 2008) and *Cronius* (González *et al.* 2017a) are among the most widespread invasive groups.

Ecological traits associated with the rafting behaviour of species involved in recent/future displacements should be assessed as proposed by Luiz *et al.* (2015), to better understand/predict the species' capacity for long-distance oceanic dispersal in isolated areas of benthic habitats.

TABLE 3. Cape Verdean coastal benthic species of warm affinity not occurring in the Canary Islands. In last column, warm-affinity benthic species occurring in Cape Verde Islands and recorded from the Canaries in the last 30 years.

Taxa / Species			Depth range (m)	Biogeographic pattern	Year of 1st record from Canaries
Dendrobranchiata	Aristeidae	*Aristeus antennatus* (Risso, 1816)	250–250	PANT	-
		Aristeus varidens Holthuis, 1952	192–878	TSEA	-
	Penaeidae	*Metapenaeopsis miersi* (Holthuis, 1952)	7–15	TSEA	-
		Metapenaeus affinis (H. Milne Edwards, 1837)	410–460	PANT	-
		Penaeus monodon Fabricius, 1798	shallows	PANT	-
	Sicyoniidae	*Sicyonia carinata* (Brünnich, 1768)	shallows	AAWA	-
Pleocyemata					
Stenopodidea	Spongicolidae	*Microprosthema inornatum* Manning & Chace, 1990	10–10	AAWA	-
Caridea	Alpheidae	*Alpheopsis africana* Holthuis, 1952	54–347	TSEA	-
		Alpheus agilis Anker, Hurt & Knowlton, 2009	intertidal	AAWA	-
		Alpheus bouvieri A. Milne-Edwards, 1878	9–40	AAWA	-
		Alpheus crockeri (Armstrong, 1941)	littoral	PANT	-
		Alpheus edwardsii (Audouin, 1826)	littoral	PANT	-
		Alpheus malleator Dana, 1852	littoral	PANT	-
		Alpheus paracrinitus Miers, 1881	5–5	PANT	-
		Alpheus platydactylus Coutière, 1897	45–600	AAWA	-
		Alpheus rugimanus A. Milne-Edwards, 1878	2–5	TSEA	-
		Alpheus sulcatus Kingsley, 1878	1–24	PANT	1995
		Automate talismani Coutière, 1902	littoral	TSEA	-
	Barbouriidae	*Janicea antiguensis* (Chace, 1972)	7–12	AAWA	2004
	Hippolytidae	*Eualus lebourae* Holthuis, 1951	55–80	TSEA	1997
		Lysmata moorei (Rathbun, 1901)	0–12	AAWA	-

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TABLE 3. (Continued)

Taxa / Species			Depth range (m)	Biogeographic pattern	Year of 1st record from Canaries
		Merhippolyte ancistrota Crosnier & Forest, 1973	150–275	TSEA	-
	Disciadidae	*Discias atlanticus* Gurney, 1939	40–40	AAWA	-
	Crangonidae	*Aegaeon lacazei* (Gourret, 1887)	235–580	PANT	2001
		Philocheras prionolepis (Holthuis, 1952)	225–225	TSEA	-
	Palaemonidae	*Palaemon vicinus* Ashelby, 2009	0–4	TSEA	-
		Palaemonella atlantica Holthuis, 1951	5–40	TSEA	1997
		Pontonia manningi Fransen, 2000	5–60	AAWA	2000
		Pseudocoutierea wirtzi d'Udekem d'Acoz, 2000	20–30	TSEA	-
		Rapipontonia platalea (Holthuis, 1951)	14–25	AAWA	-
	Pandalidae	*Plesionika longicauda* (Rathbun, 1901)	90–167	AAWA	-
	Processidae	*Processa parva* Holthuis, 1951	12–90	TSEA	1997
Astacidea	Enoplometopidae	*Enoplometopus antillensis* Lütken, 1865	5–201	AAWA	1988
Axiidea	Callianassidae	*Callichirus adamas* (Kensley, 1974)	10–35	TSEA	-
		Corallianassa intesi (de Saint Laurent & Le Loeuff, 1979)	5–15	TSEA	-
		Neocallichirus pachydactylus (A. Milne-Edwards, 1870)	0–5	TSEA	-
Gebiidea	Upogebiidae	*Upogebia aristata* Le Loeuff & Intès, 1974	0–10	TSEA	-
		Upogebia nitida (A. Milne-Edwards, 1868)	0–60	TSEA	-
Achelata	Palinuridae	*Panulirus argus* (Latreille, 1804)	20–40	AAWA	-
	Scyllaridae	*Scyllarides herklotsii* (Herklots, 1851)	littoral	TSEA	-
		Ibacus brevipes Spence Bate, 1888	littoral	PANT	-
Polychelida	Polychelidae	*Polycheles perarmatus* Holthuis, 1952	100–2050	PANT	-
Anomura	Porcellanidae	*Pachycheles barbatus* A. Milne-Edwards, 1878	0.5–30	TSEA	-
		Pachycheles sahariensis Monod, 1933	0–30	TSEA	-
		Petrolisthes marginatus Stimpson, 1859	littoral	AAWA	-
		Petrolisthes monodi Chace, 1956	0.5–5	TSEA	-
	Albuneidae	*Albunea elegans* A. Milne-Edwards & Bouvier, 1898	7–30	TSEA	-
	Hippidae	*Hippa carcineutes* Holthuis & Manning, 1970	0–0.5	TSEA	-
	Diogenidae	*Calcinus talismani* A. Milne-Edwards & Bouvier, 1892	0.5–2	TSEA	-
		Ciliopagurus caparti (Forest, 1952)	littoral	TSEA	-
		Clibanarius chapini Schmitt, 1926	littoral	TSEA	-
		Dardanus pectinatus (Ortmann, 1892)	littoral	TSEA	-
		Diogenes pugilator (Roux, 1829)	7–15	PANT	-
		Petrochirus pustulatus (H. Milne Edwards, 1848)	littoral	AAWA	-

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TABLE 3. (Continued)

Taxa / Species			Depth range (m)	Biogeographic pattern	Year of 1st record from Canaries
		Pseudopagurus granulimanus (Miers, 1881)	10–10	TSEA	-
		Trizopagurus rubrocinctus Forest & García Raso, 1990	0–5	ECVI	-
	Paguridae	*Paguridium minimum* (Chevreux & Bouvier, 1892)	littoral	TSEA	-
		Pagurus mbizi (Forest, 1955)	162–185	ATLM	-
		Pagurus triangularis (Chevreux & Bouvier, 1892)	littoral	TSEA	-
Brachyura	Dromiidae	*Dromia nodosa* A. Milne-Edwards & Bouvier, 1898	75–90	TSEA	-
		Sternodromia spinirostris (Miers, 1881)	40–122	TSEA	-
	Raninidae	*Ranilia constricta* (A. Milne-Edwards, 1880)	76–76	AAWA	-
	Aethridae	*Sakaila africana* Manning & Holthuis, 1981	79–99	TSEA	-
	Calappidae	*Calappa galloides* Stimpson, 1859	0–80	AAWA	2000
	Dorippidae	*Phyllodorippe armata* (Miers, 1881)	60–60	TSEA	-
	Ethusidae	*Ethusa rugulosa* A. Milne-Edwards & Bouvier, 1897	88–275	TSEA	-
		Ethusa vossi Manning & Holthuis, 1981	40–69	TSEA	-
	Menippidae	*Menippe nodifrons* Stimpson, 1859	3–3	AAWA	-
	Oziidae	*Epixanthus helleri* A. Milne Edwards, 1867	0–6	TSEA	-
		Eupilumnus africanus (A. Milne-Edwards, 1867)	0–15	TSEA	1988
	Acidopsidae	*Acidops cessacii* (A. Milne-Edwards, 1878)	0.5–61	TSEA	-
	Chasmocarcinidae	*Typhlocarcinodes integrifrons* (Miers, 1881)	70–88	TSEA	-
	Leucosiidae	*Atlantolocia laevidorsalis* (Miers, 1881)	4–30	TSEA	-
		Ebalia tuberculata Miers, 1881	60–60	TSEA	2002
		Merocryptus obsoletus A. Milne-Edwards & Bouvier, 1898	75–122	TSEA	-
	Epialtidae	*Acanthonyx depressifrons* Manning & Holthuis, 1981	5–5	TSEA	-
		Apiomithrax violaceus (A. Milne-Edwards, 1868)	3–110	TSEA	-
		Herbstia rubra A. Milne-Edwards, 1869	0.5–75	TSEA	1991
		Micropisa ovata Stimpson, 1858	0–110	TSEA	1991
	Inachidae	*Inachus grallator* Manning & Holthuis, 1981	90–318	TSEA	1991
		Macropodia aff. *parva* van Noort & Adema, 1985	30–90	TSEA	1991

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TABLE 3. (Continued)

Taxa / Species			Depth range (m)	Biogeographic pattern	Year of 1st record from Canaries
	Parthenopidae	*Daldorfia bouvieri* (A. Milne-Edwards, 1869)	0.5–91	TSEA	-
		Spinolambrus notialis (Manning & Holthuis, 1981)	55–80	TSEA	-
	Pilumnidae	*Pilumnus perrieri* A. Milne-Edwards & Bouvier, 1898	40–91	TSEA	-
	Polybiidae	*Bathynectes piperitus* Manning & Holthuis, 1981	108–628	TSEA	-
		Macropipus rugosus (Doflein, 1904)	125–130	TSEA	-
	Portunidae	*Callinectes amnicola* (De Rochebrune, 1883)	0–30	TSEA	-
		Callinectes marginatus (A. Milne-Edwards, 1861)	shallows	TSEA	-
		Cronius ruber (Lamarck, 1818)	2.5–20	PANT	2017
		Laleonectes vocans (A. Milne-Edwards, 1878)	5–6	AAWA	1995
		Portunus (Portunus) inaequalis (Miers, 1881)	4–15	TSEA	2016
		Sanquerus validus (Herklots, 1851)	150–180	TSEA	-
	Panopeidae	*Eurypanopeus blanchardi* (A. Milne-Edwards, 1881)	0–22	TSEA	-
		Panopeus africanus A. Milne-Edwards, 1867	0–8	TSEA	1988
	Xanthidae	Xanthidae spec. Fransen, 1991	0–312	TSEA	-
		Paractaea margaritaria (A. Milne-Edwards, 1868)	3–91	TSEA	-
		Coralliope parvula (A. Milne-Edwards, 1869)	5–110	TSEA	1991
		Xantho sexdentatus (Miers, 1881)	0–15	TSEA	1991
	Grapsidae	*Geograpsus lividus* (H. Milne Edwards, 1837)	10–10	PANT	-
	Varunidae	*Cyclograpsus integer* H. Milne Edwards, 1837	0–10	AAWA	-
	Ocypodidae	*Ocypode africana* de Man, 1881	0–3	TSEA	-
		Afruca tangeri (Eydoux, 1835)	0–2	TSEA	2012

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TABLE 4. Warm-affinity benthic species recorded for the Canaries in recent years, but not found in the Cape Verde Islands.

Taxa / Species		Depth range (m)	Biogeographic pattern	Previous North limit in E Atlantic	Year of 1st record from Canaries
Pleocyemata					
Achelata					
Scyllaridae	*Scyllarus subarctus* Crosnier, 1970	10–15	TSEA	Mauritania	2001
Brachyura					
Euryplacidae	*Machaerus atlanticus* (Miers, 1881)	10–90	TSEA	Senegal	1988
Mathildellidae	*Neopilumnoplax* sp.	279–279	AAWA	none	1997
Inachidae	*Inachus nanus* Manning & Holthuis, 1981	45–80	TSEA	Mauritania	1991
Carcinidae	*Xaiva mcleayi* (Barnard, 1947)	4–4	TSEA	Mauritania	2014
Cryptochiridae	*Detocarcinus balssi* (Monod, 1956)	20–25	TSEA	Mauritania	1981

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