

Annotated checklist of decapod crustaceans of Atlantic coastal and continental shelf waters of the United States

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Abstract.—The decapod crustacean assemblage inhabiting estuarine, neritic and continental shelf waters (to 190 m) of the temperate eastern United States is diverse, with 391 species reported from Maine to Cape Canaveral, Florida. Three recognized biogeographic provinces (Boreal in part, Virginian and Carolinian) are included in this region. The assemblage contains 122 shrimp species (28 penaeids, 2 stenopodids, and 92 carideans), 10 thalassinideans, 8 lobsters, 61 anomurans and 190 brachyurans. Since previous compilation of this fauna, 12 additional species have been described, including four carideans, one callinassid, four anomurans, and three brachyurans. Range extensions into the region have been reported for another five species (*Parapenaeus americanus*, *Scyllarides aequinoctialis*, *Petrolisthes armatus*, *Dromia erythropus*, *Clythrocerus nitidus*). One species, *Hemigrapsus sanguineus*, has been introduced and become established throughout intertidal environments from southern Maine to northern North Carolina. Six species previously recorded from this region are no longer considered to occur there. Two of these species occur south of the Carolinian biogeographic province, three others are now known to occur only in the Pacific Ocean, and one species previously considered as likely to occur in the region has never actually been recorded there. Scientific nomenclature for all species recorded from the region is updated and referenced. Geographic distributions are summarized for each species incorporating recent published information where available.

The decapod crustacean assemblage (shrimps, lobsters, and crabs) inhabiting estuarine, neritic and continental shelf waters (to 190 m) of the temperate eastern United States is diverse and fairly well known. The most recent comprehensive review of this fauna (Williams 1984) recognized 342 species of decapods and listed 14 extralimital species (species thought to occur incidentally in the region). Williams' (1984) monograph is widely used and continues to be the best available reference for decapod crustaceans of the east coast of the United States. However, in the nearly 20 years since publication of Williams (1984), knowledge regarding shallow water (≤ 190

m) decapods in this region has advanced. Numerous changes in taxonomy and/or systematic placement of species occurring in this region have also been published in papers scattered throughout the literature.

Objectives of this paper are to re-evaluate the taxonomic status and to update nomenclature for the 342 nominal species of decapods treated by Williams (1984). The list of species he presented is updated by inclusion of all decapods now known to occur in this region based on recently published information. Emendations to Williams' original list include (1) the addition of species in this region described after Williams' publication, (2) adding of species newly re-

ported from the region as published range extensions and introductions, and (3) removal of species no longer considered to occur in the region based on published range revisions. The emended list also includes 13 species listed in Williams (1984) as extralimital, as well as 16 other species that Williams (1984) did not treat, but which previously had been recorded from this region.

Methods

This compilation largely follows the classification and arrangement of Martin & Davis (2001). Based on other recent systematic studies (cited below), some species and genera have been moved to different families, and other species have been reassigned to different genera. Where new systematic information has necessitated changes, updated nomenclature with relevant references is provided, together with a cross-reference to names used in Williams (1984). Symbols preceding species listings highlight the following changes between Williams (1984) and the present compilation: ► denotes new additions to the decapod assemblage; ★ denotes changes in nomenclature and/or systematic placement. Additionally, distributional information is reported for each species that occurs in the region with recently published range revisions incorporated and referenced. Justification explaining changes in systematic placement of taxa, together with appropriate reference sources, are provided in a remarks section when relevant.

The region of coverage in the present work is the same as that in Williams (1984), spanning depths from shallow water to the 100-fathom (ca. 190 m) depth contour in three biogeographic provinces. These provinces, defined by marine climatic zones (Williams 1984, Engle & Summers 1999), are, from north to south, Boreal (represented by the region from Maine to north of Cape Cod, Massachusetts), Virginian (Cape Cod, Massachusetts, to Cape Hatteras, North Carolina) and Carolinian (Cape Hat-

teras, North Carolina, to Cape Canaveral, Florida). Williams (1984) commented that inclusion or exclusion of some species from his list was subjective. For example, he regarded some species as extralimital (i.e., their center of distribution was outside the region) and did not consider them to be part of the assemblage despite the fact that they had been recorded from the region. Williams' treatment of extralimital taxa has proved to be problematic and confusing especially in attempts to summarize decapod crustacean diversity of the region. To alleviate this confusion, the present work does not consider species as extralimital (sensu Williams). Based on available distributional information, the present compilation treats species as either occurring in the geographic region and thus included in the list, or as not occurring in the region and thus excluded.

Systematic Account

Order Decapoda Latreille, 1802

Suborder Dendrobranchiata Bate, 1888

Infraorder Penaeidea Rafinesque, 1815

Superfamily Penaeoidea Rafinesque, 1815

► Family Aristeidae Wood-Mason, 1891

Remarks.—Pérez Farfante & Kensley (1997) diagnosed the family and genera, presented a key to the genera based on morphological characters, and illustrated important diagnostic characters for the genera included in their study.

► *Aristaeomorpha foliacea* (Risso, 1827)

Remarks.—Species diagnosis and figures are provided in Pérez Farfante (1988) and Rodríguez (1993). This species occurs between 170–1300 m (Pérez Farfante 1988).

Known range.—Western Atlantic: Massachusetts to Florida, Gulf of Mexico, Caribbean Sea to Venezuela (Pérez Farfante & Kensley 1997), and Brazil (D'Incao 1998); Eastern Atlantic: Bay of Biscay to Western Sahara; Azores; Madeira; Canary Islands; Mediterranean Sea; Indo-West Pacific:

South Africa to Mozambique; Madagascar; Réunion Island; Maldivé Islands; Sri Lanka; Indonesia; Philippines; Taiwan; Japan; Australia; New Zealand; New Caledonia; Wallis and Futuna Islands; Fiji (Pérez Farfante & Kensley 1997).

Family Penaeidae Rafinesque, 1815

Remarks.—Dall et al. (1990) provided a comprehensive account of many aspects of penaeid systematics, biology and ecology. Pérez Farfante & Kensley (1997) diagnosed the family and genera, presented a key to the genera based on morphological characters, and illustrated important diagnostic characters for the genera included in their study. Former subgenera (*Farfantepenaeus* and *Litopenaeus*) of the more inclusive *Penaeus* were raised to full generic status by Pérez Farfante & Kensley (1997). Results of some molecular phylogenies (Baldwin et al. 1998, Gusmão et al. 2000) have failed to support elevation of these subgenera to genera, however, an alternative hypothesis of relationships proposed in the molecular phylogeny of Maggioni et al. (2001) supported conclusions of Pérez Farfante & Kensley (1997) derived from their analysis of morphological characters. *Trachypenaeus*, as previously defined and as listed in Williams (1984), was shown to be a complex of five genera (Pérez Farfante & Kensley 1997). Only one of these five genera, *Rimapenaeus* Pérez Farfante & Kensley, 1997, is represented in the region by a single species.

★ *Farfantepenaeus aztecus* (Ives, 1891)

Penaeus (*Farfantepenaeus*) *aztecus* Ives.—Williams, 1984:24.

Known range.—Western Atlantic: Martha's Vineyard, Massachusetts, to Florida; Gulf of Mexico to Yucatán (Williams 1984, Pérez Farfante & Kensley 1997).

★ *Farfantepenaeus brasiliensis*
(Latreille, 1817)

Penaeus (*Farfantepenaeus*) *brasiliensis* Latreille.—Williams, 1984:28.

Remarks.—This species occurs in shallow water to 366 m (Caetano da Costa et al. 2000), but more frequently at depths of less than 60 m (D'Incao 1998).

Known range.—Western Atlantic: Cape Hatteras, North Carolina, to Florida Keys; southern Gulf of Mexico (off Campeche) and Yucatán; Caribbean Sea to Rio Grande do Sul, Brazil; Bermuda (Williams 1984, Pérez Farfante & Kensley 1997).

★ *Farfantepenaeus duorarum*
(Burkenroad, 1939)

Penaeus (*Farfantepenaeus*) *duorarum* Burkenroad.—Williams, 1984:28.

Known range.—Western Atlantic: lower Chesapeake Bay to Florida; Gulf of Mexico to tip of Yucatán Peninsula; Bermuda (Williams 1984, Pérez Farfante & Kensley 1997).

★ *Litopenaeus setiferus* (Linnaeus, 1767)

Penaeus (*Litopenaeus*) *setiferus* (Linnaeus).—Williams, 1984:32.

Known range.—Western Atlantic: New York to St. Lucie Inlet, Florida; Gulf of Mexico to Yucatán (Williams 1984, Pérez Farfante & Kensley 1997).

Metapenaepsis goodei (Smith, 1885)

Known range.—Western Atlantic: northeast of Cape Lookout, North Carolina, through the Florida Straits to Alabama; off Cape Catoche, Yucatán; Bahamas through the Caribbean Sea and along the coasts of Central and South America to Espírito Santo, Brazil; Bermuda (Williams 1984, Pérez Farfante & Kensley 1997, D'Incao 1998).

► *Parapenaepsis americanus* Rathbun,
1901

Remarks.—Pérez Farfante & Kensley (1997) record this species from off New England. This species occurs at 37–412 m (Pérez Farfante 1977b, D'Incao 1998).

Known range.—Western Atlantic: off

New England; off Ponte Vedra, Florida; Gulf of Mexico; Bahamas; Cuba; Puerto Rico; St. Lucia; Belize; Brazil (Rio de Janeiro to Rio Grande do Sul); northern Uruguay (Pérez Farfante 1977b, Pérez Farfante & Kensley 1997, D'Incao 1998).

Parapenaeus politus Smith, 1881

Remarks.—*Parapenaeus politus* occurs over mud and sandy mud sediments at depths of 3–752 m, but is usually found between 65–275 m (Rodríguez 1993).

Known range.—Western Atlantic: Martha's Vineyard, Massachusetts, south through Gulf of Mexico, Caribbean Sea to French Guiana, and Pará, Brazil (Williams 1984, Pérez Farfante & Kensley 1997, D'Incao 1998).

► *Penaeopsis serrata* Bate, 1881

Remarks.—Species diagnosis, description, illustrations, as well as, color and size information were provided in Pérez Farfante (1980). *Penaeopsis serrata* occurs at 120–750 m, with maximum concentrations occurring between 300–450 m (Pérez Farfante 1980, Rodríguez 1993).

Known range.—Western Atlantic: New Jersey to Gulf of Mexico; Caribbean Sea to French Guiana; southern Brazil; Eastern Atlantic: Portugal to northwest coast of Africa (Pérez Farfante 1980, Pérez Farfante & Kensley 1997).

★ *Rimapenaeus constrictus*
(Stimpson, 1871)

Trachypenaeus constrictus (Stimpson).—Williams, 1984:38.

Remarks.—*Rimapenaeus constrictus* is a new combination proposed by Pérez Farfante & Kensley (1997). This species occurs in shallow water to 127 m (Caetano da Costa et al. 2000).

Known range.—Western Atlantic: Nova Scotia; Chesapeake Bay to Florida Keys, Gulf of Mexico; Bermuda; Caribbean Sea to Santa Catarina, Brazil (Williams 1984,

Pérez Farfante & Kensley 1997, D'Incao 1998).

Xiphopenaeus kroyeri (Heller, 1862)

Remarks.—This species occurs in shallow water to 70 m (Caetano da Costa et al. 2000).

Known range.—Western Atlantic: Virginia (Maris 1986) to Rio Grande do Sul, Brazil, including the Gulf of Mexico and Caribbean Sea (Williams 1984, Pérez Farfante & Kensley 1997, Caetano da Costa et al. 2000); Eastern Pacific: Punta Piactla, Sinaloa, Mexico to Paita, Peru (Pérez Farfante & Kensley 1997).

Family Sicyoniidae Ortmann, 1898

Remarks.—Pérez Farfante & Kensley (1997) provided family and generic diagnoses and illustrations of diagnostic characters.

Sicyonia brevirostris Stimpson, 1871

Known range.—Western Atlantic: Norfolk, Virginia, to Florida, through the Gulf of Mexico; Campeche and Yucatán banks; Cuba; Bahamas; Eastern Pacific: off southern Mexico (Williams 1984, Pérez Farfante & Kensley 1997).

Sicyonia burkenroadi Cobb, 1971

Known range.—Western Atlantic: Cape Lookout, North Carolina, to Florida, through the Gulf of Mexico; West Indies; Caribbean coasts of Central and South America to Bahia, Brazil (Williams 1984, Pérez Farfante & Kensley 1997).

Sicyonia dorsalis Kingsley, 1878

Known range.—Western Atlantic: Cape Hatteras, North Carolina, through the Gulf of Mexico to Texas; Caribbean coasts of Central and South America to southern Brazil (Williams 1984, Pérez Farfante & Kensley 1997, D'Incao 1998).

Sicyonia laevigata Stimpson, 1871

Known range.—Western Atlantic: Cape Hatteras, North Carolina, to southern Florida; Gulf of Mexico; West Indies; Caribbean coasts of Mexico, Central America and South America to Rio Grande do Sul, Brazil (Williams 1984, Pérez Farfante & Kensley 1997, Caetano da Costa et al. 2000); Eastern Pacific: southern Gulf of California; Costa Rica; Panama (Pérez Farfante & Kensley 1997).

Sicyonia parri (Burkenroad, 1934)

Known range.—Western Atlantic: Beaufort, North Carolina, through the Gulf of Mexico; West Indies to São Paulo, Brazil (Williams 1984, Pérez Farfante & Kensley 1997, Caetano da Costa et al. 2000).

Sicyonia stimpsoni Bouvier, 1905

Known range.—Western Atlantic: Cape Hatteras, North Carolina, to Florida through the Gulf of Mexico; West Indies; Caribbean coasts of Mexico, Central and northern South America to Suriname (Williams 1984, Pérez Farfante & Kensley 1997).

Sicyonia typica (Boeck, 1864)

Known range.—Western Atlantic: Wrightsville Beach, North Carolina, through the Gulf of Mexico; Cuba through the West Indies; Caribbean coasts of Central and South America to Rio Grande do Sul, Brazil (Williams 1984, Pérez Farfante & Kensley 1997, D’Incao 1998, Caetano da Costa et al. 2000).

Family Solenoceridae Wood-Mason, 1891

Remarks.—Pérez Farfante & Kensley (1997) diagnosed the family and genera, presented a key to the genera based on morphological characters, and illustrated important diagnostic characters for the genera included in their study.

► *Hadropenaeus affinis* (Bouvier, 1906)

Remarks.—Description, affinities, comparisons, and illustrations are included in Pérez Farfante (1977a). This species occurs between 165–570 m (Pérez Farfante 1977a).

Known range.—Western Atlantic: North Carolina to Florida; Gulf of Mexico; Caribbean; Eastern Atlantic: Cape Verde Islands (Pérez Farfante 1977a, Pérez Farfante & Kensley 1997).

► *Hadropenaeus modestus* (Smith, 1885)

Remarks.—Description, affinities, comparisons, and illustrations are included in Pérez Farfante (1977a). This species occurs at depths of 150–550 m (Pérez Farfante 1977a).

Known range.—Western Atlantic: Delaware to Florida, Gulf of Mexico, Bahamas, Caribbean, and northern Brazil (Pérez Farfante 1977a, Pérez Farfante & Kensley 1997).

Mesopenaeus tropicalis (Bouvier, 1905)

Known range.—Western Atlantic: north-east of Cape Lookout, North Carolina, to southern Brazil, including Gulf of Mexico (Williams 1984, Pérez Farfante & Kensley 1997).

► ★ *Pleoticus robustus* (Smith, 1885)

Hymenopenaeus robustus Smith.—Williams, 1984:484.

Remarks.—Williams (1984) considered this species to be extralimital. Pérez Farfante (1977a) concluded that *Hymenopenaeus* comprised a complex of genera and consequently transferred *H. robustus* and two other species (*H. muelleri* and *H. steindachneri*) to the genus *Pleoticus* Bate, 1888. Description, affinities, comparisons, and illustrations of *P. robustus* were included in Pérez Farfante (1977a) and Squires (1990). This species occurs at 70–915 m, but is most abundant between 250–475 m (Pérez Farfante 1977a, Rodríguez 1993).

Known range.—Western Atlantic: Massachusetts to Gulf of Mexico; Caribbean Sea to French Guiana (Pérez Farfante 1977a, 1988; Squires 1990; Pérez Farfante & Kensley 1997).

Solenocera atlantidis Burkenroad, 1939

Known range.—Western Atlantic: North Carolina to southern Brazil, including Gulf of Mexico and West Indies (Williams 1984, Pérez Farfante & Kensley 1997).

Solenocera necopina Burkenroad, 1939

Known range.—Western Atlantic: off Oregon Inlet, North Carolina, to Uruguay, including Gulf of Mexico and Bahamas (Williams 1984, Pérez Farfante & Kensley 1997).

Solenocera vioscai Burkenroad, 1934

Known range.—Western Atlantic: south-east of Cape Lookout, North Carolina, to Florida and Gulf of Mexico (Williams 1984, Pérez Farfante & Kensley 1997).

Superfamily Sergestoidea Dana, 1852
Family Luciferidae De Haan, 1849

Remarks.—Pérez Farfante & Kensley (1997) provided a family diagnosis and illustrated important diagnostic characters.

Lucifer faxoni Borradaile, 1915

Known range.—Western Atlantic: Long Island Sound, New York, to Rio Grande do Sul, Brazil, including Gulf of Mexico, Caribbean Sea, and Bermuda (Williams 1984, Pérez Farfante & Kensley 1997, D'Incao 1998); Eastern Atlantic: Senegal; Congo (Williams 1984, Pérez Farfante & Kensley 1997).

► *Lucifer typus* H. Milne Edwards, 1837

Remarks.—Williams (1984) did not include this species in his study because depth of occurrence was centered beyond the limits of bathymetric range he consid-

ered. *Lucifer typus* is usually found offshore (>180 m bottom depth), but occasionally is collected in shallower waters (Bowman and McCain 1967). Bowman and McCain (1967) provided information on diagnostic characters.

Known range.—Western Atlantic: Newfoundland; east coast of United States (Maine to Florida); Sargasso Sea; Brazil; Eastern Atlantic: Mediterranean Sea; Cape of Good Hope; east coast of South Africa; East-Central Pacific: Baja California; Gulf of California to north of 4°; Indo-West Pacific: Bay of Bengal; Philippines; Queensland, Australia (Abele and Kim 1986, Pérez Farfante & Kensley 1997, D'Incao 1998).

Family Sergestidae Dana, 1852

Remarks.—Pérez Farfante & Kensley (1997) provided family and generic diagnoses and illustrations of diagnostic characters.

Acetes americanus carolinae Hansen,
1933

Remarks.—Pérez Farfante and Kensley (1997) considered subspecific designation valid.

Known range.—Western Atlantic: lower Chesapeake Bay through Gulf of Mexico to Panama; Suriname; French Guiana (Williams 1984, Pérez Farfante and Kensley 1997).

Suborder Pleocyemata Burkenroad, 1963

Infraorder Stenopodidea Claus, 1872

Family Stenopodidae Claus, 1872

Stenopus hispidus (Olivier, 1811)

Known range.—Western Atlantic: Bermuda; North Carolina to southern Florida, through the Gulf of Mexico to Fernando de Noronha and Espírito Santo, Brazil (Williams 1984, Coelho & Ramos-Porto 1998a); Central Pacific: Hawaii; Indo-West Pacific: Durban, South Africa; Red Sea; Japan; western Australia; eastern Australia through New Caledonia; New Hebrides; Lord Howe

Island; northern New Zealand to Tuamotu Archipelago (Williams 1984).

Stenopus scutellatus Rankin, 1898

Known range.—Western Atlantic: Bermuda; South Carolina; Gulf of Mexico to Fernando de Noronha and Rio Grande do Norte, Brazil (Williams 1984, Coelho & Ramos-Porto 1998a).

Infraorder Caridea Dana, 1852

Superfamily Pasiphaeoidea Dana, 1852

Family Pasiphaeidae Dana, 1852

Remarks.—Subgeneric designations within *Leptochela* are considered valid by Holthuis (1993).

Leptochela (Leptochela) papulata Chace, 1976

Known range.—Western Atlantic: Georges Bank, off Massachusetts; North Carolina to Georgia; eastern Gulf of Mexico (Williams 1984).

Leptochela (Leptochela) serratorbita Bate, 1888

Known range.—Western Atlantic: Beaufort, North Carolina, to South Carolina; western Gulf of Mexico; Florida Keys to Leeward Islands; Amapá to Pernambuco, and São Paulo, Brazil (Williams 1984, Ramos-Porto & Coelho 1998).

Leptochela (Proboloura) carinata Ortmann, 1893

Known range.—Western Atlantic: Georges Bank, off Massachusetts; South Carolina; Gulf of Mexico, through Bahamas to Alagoas, Brazil (Williams 1984, Ramos-Porto & Coelho 1998).

Pasiphaea multidentata Esmark, 1866

Known range.—Western Atlantic: southeast of Greenland to Cape Cod, Massachusetts, including Gulf of St. Lawrence and Gulf of Maine; Eastern Atlantic: Iceland;

Norway to British Isles; Bay of Biscay; Mediterranean to Adriatic (Williams 1984, Squires 1990).

Superfamily Bresilioidea Calman, 1896

★ Family Disciadidae Rathbun, 1902

Remarks.—Martin & Davis (2001) recognized the family Disciadidae. Species of *Discias* were previously considered part of the Bresiliidae (Williams 1984).

Discias atlanticus Gurney, 1939

Remarks.—Criales & Lemaitre (1997) reported the discovery of this species inhabiting tubes of the polychaete *Chaetopterus variopedatus*. This represents the first reported occurrence of this symbiotic relationship for these species. These authors also discussed morphological sexual dimorphism.

Known range.—Western Atlantic: Bermuda; Savannah, Georgia; Fort Pierce, Florida; Gulf of Mexico; Guadeloupe; Colombia; Maranhão and Ceará, Brazil (Kensley 1983, Williams 1984, Criales & Lemaitre 1997, Ramos-Porto & Coelho 1998); Eastern Atlantic: Cape Verde Islands; Gabon (Williams 1984); Indian Ocean: northern Kenya (Williams 1984); Red Sea; Western Pacific: Great Barrier Reef, Australia (Kensley 1983).

► *Discias vernbergi* Boothe & Heard, 1987

Remarks.—Boothe & Heard (1987:506) described this species and provided a diagnosis, illustrations, and size and sexual maturity information. This species occurs at 54–74 m (Boothe & Heard 1987).

Known range.—Western Atlantic: Georgia; eastern Gulf of Mexico (west Florida) (Boothe & Heard 1987).

Superfamily Palaemonoidea Rafinesque, 1815

► Family Anchistioididae Borradaile, 1915

Anchistioides antiguensis (Schmitt, 1924)

Remarks.—This species was listed under family Palaemonidae, subfamily Pontoni-

inae, in Williams (1984). Chace (1992) provided evidence for familial separation of *Anchistioides*; Holthuis (1993) also adopted this arrangement.

Known range.—Western Atlantic: Bermuda; South Carolina; west Florida through West Indies to Maranhão, Pernambuco, and Alagoas, Brazil (Williams 1984, Ramos-Porto & Coelho 1998).

Family Gnathophyllidae Dana, 1852

Gnathophyllum modestum Hay, 1917

Known range.—Western Atlantic: Beaufort, North Carolina; Biscayne Bay, Florida (Williams 1984).

Family Palaemonidae Rafinesque, 1815

Subfamily Palaemoninae Rafinesque, 1815

Remarks.—Subgeneric designations within *Palaemonetes* are considered valid by Holthuis (1993).

Brachycarpus biunguiculatus
(Lucas, 1849)

Remarks.—This species occurs from shallow water to 105 m (Ramos-Porto & Coelho 1998).

Known range.—Western Atlantic: Bermuda; Cape Fear, North Carolina; western Gulf of Mexico through West Indies to Curaçao and Old Providence Island (Williams 1984); Amapá to Espírito Santo and Fernando de Noronha Archipelago, Brazil (Ramos-Porto & Coelho 1998); Eastern Atlantic: Mediterranean; West Africa; Eastern Pacific: west American coast; Indo-Pacific (Williams 1984).

Leander tenuicornis (Say, 1818)

Known range.—Western Atlantic: Newfoundland Banks to Falkland Islands; tropical and subtropical waters worldwide except for west coast of Americas (Williams 1984).

Macrobrachium acanthurus
(Wiegmann, 1836)

Known range.—Western Atlantic: Neuse River estuary, North Carolina, to Rio Grande do Sul, Brazil (Williams 1984, Ramos-Porto & Coelho 1998).

Macrobrachium carcinus (Linnaeus, 1758)

Known range.—Western Atlantic: St. Augustine, St. Johns County and Silver Glen Springs, Marion County, Florida, to Rio Grande do Sul, Brazil, including Gulf of Mexico and Caribbean Sea (Williams 1984, Ramos-Porto & Coelho 1998).

Macrobrachium ohione (Smith, 1874)

Known range.—Western Atlantic: James River, Hopewell, Virginia, to southern Georgia; coastal Alabama to Aransas Bay, Texas; Freshwater: Mississippi River and tributaries upstream to McCurtain County, Oklahoma; Fort Smith, Arkansas; St. Louis, Missouri; Washington County, Ohio (Williams 1984).

Macrobrachium olfersii (Wiegmann, 1836)

Known range.—Western Atlantic: lower Cape Fear River, North Carolina; Florida; Louisiana; Texas; Veracruz, Mexico, to Rio Grande do Sul, Brazil (Williams 1984, Ramos-Porto & Coelho 1998).

Palaemonetes (Palaemonetes) intermedius
Holthuis, 1949

Known range.—Western Atlantic: Vineyard Sound, Massachusetts, to Port Aransas Texas; Bahía de la Ascensión, Quintana Roo, Mexico (Williams 1984).

Palaemonetes (Palaemonetes) pugio
Holthuis, 1949

Known range.—Western Atlantic: Verte River, west of St. Modeste, Quebec, through Nova Scotia to Corpus Christi, Texas; Matamoros, Tamaulipas, to Campe-

che, Mexico (Williams 1984, Squires 1990, Rodríguez-Almaraz et al. 2000).

Palaemonetes (Palaemonetes) vulgaris
(Say, 1818)

Known range.—Western Atlantic: southern Gulf of St. Lawrence to Cameron County, Texas; Rio Champoton and near Progreso, Yucatán, Mexico (Williams 1984, Squires 1990).

Subfamily Pontoniinae Kingsley, 1878

Remarks.—Subgeneric designations within *Periclimenes* are considered valid by Holthuis (1993).

Neopontonides beaufortensis
(Borradaile, 1920)

Known range.—Western Atlantic: Beaufort, North Carolina, to Grand Isle, Louisiana; Caledonia Bay, Panama; Antigua (Williams 1984).

Periclimenaeus schmitti Holthuis, 1951

Known range.—Western Atlantic: Bogue Sound, Black Rocks off New River and Lockwoods Folly River, North Carolina; Dry Tortugas, Florida (Williams 1984).

Periclimenaeus wilsoni (Hay, 1917)

Known range.—Western Atlantic: Beaufort, North Carolina; Sapelo Island, Georgia; Loggerhead Key, near Dry Tortugas; Franklin County, Florida (Williams 1984).

★ *Periclimenes (Harpilius) americanus*
(Kingsley, 1878)

Periclimenes americanus (Kingsley).—Williams, 1984:83.

Known range.—Western Atlantic: Beaufort, North Carolina, to western Gulf of Mexico, through West Indies to Aruba; Amapá to Pernambuco, Espírito Santo and São Paulo, Brazil (Williams 1984, Ramos-Porto & Coelho 1998).

★ *Periclimenes (Periclimenes) iridescens*
Lebour, 1949

Periclimenes iridescens Lebour.—Williams, 1984:85.

Known range.—Western Atlantic: Bermuda; off Cape Hatteras, North Carolina; southern and northwestern Florida; Tobago; Cubagua Island, Venezuela (Williams 1984).

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

Periclimenes longicaudatus (Stimpson).—Williams, 1984:86.

Known range.—Western Atlantic: Cape Hatteras, North Carolina, to southwestern Florida; West Indies to São Paulo, Brazil (Williams 1984).

★ *Periclimenes (Periclimenes) pedersoni*
Chace, 1958

Periclimenes pedersoni Chace.—Williams, 1984:87.

Known range.—Western Atlantic: off Cape Lookout, North Carolina; off northwest Florida (?); Bahamas through West Indies to Bonaire; Belize (Williams 1984).

Pontonia domestica Gibbes, 1850

Known range.—Western Atlantic: Atlantic Beach near Beaufort Inlet, North Carolina, through Gulf of Mexico to South Padre Island, Texas; Bahamas; Caribbean coast of Costa Rica (Williams 1984, Strenth & Chace 1995, Vargas & Cortés 1999); Eastern Atlantic: Madeira (Williams 1984).

► *Pontonia manningi* Fransen, 2000

Remarks.—Fransen (2000:101) described this species and provided illustrations, size, color, and host information. This species is found at shallow depths to 80 m (Fransen 2000).

Known range.—Western Atlantic: North Carolina to Caribbean Sea; Gulf of Mexico;

Eastern Atlantic: Canary Islands; Cape Verde Islands (Fransen 2000).

Superfamily Alpheoidea Rafinesque, 1815
 Family Alpheidae Rafinesque, 1815
 ► *Alpheus angulosus* McClure, 2002

Alpheus angulatus McClure, 1995.

Remarks.—McClure (1995:85) described this species and provided a diagnosis, illustrations, color, size, and habitat information. McClure (2002) provided a replacement name (*A. angulosus*) for this species because *angulatus* had previously been used by Coutière (1905) for a subspecies of *Alpheus* (*A. strenuus* var. *angulatus*) from the Indo-Pacific. Comparisons of morphological variation among species, including *A. angulosus*, of the *edwardsii* group of *Alpheus* occurring in the northern Gulf of Mexico and northwestern Atlantic were provided in McClure (1995) and McClure & Wicksten (1997).

Known range.—Western Atlantic: Beaufort, North Carolina, to Quintana Roo, Mexico, including northern Gulf of Mexico; Haiti (McClure 1995).

Alpheus armillatus H. Milne Edwards,
 1837

Known range.—Western Atlantic: Bermuda; North Carolina through Gulf of Mexico and West Indies to Santa Catarina, Brazil (Williams 1984, Christoffersen 1998).

► *Alpheus estuariensis* Christoffersen,
 1984

Remarks.—Christoffersen (1984:191) described this species and provided illustrations, color description, and ecological information. This species occurs from the intertidal region to depths of 22 m (Christoffersen 1984).

Known range.—Western Atlantic: east coast of Florida (near Jacksonville and Indian River region); northern Gulf of Mexico; Cuba; Dominican Republic; Trinidad;

Curaçao; Ceará to Paraná, Brazil (Christoffersen 1984, 1998; McClure & Wicksten 1997). Christoffersen (1998) reported that his earlier records (Christoffersen 1984) of *A. estuariensis* in the Gulf of Mexico are actually *A. angulatus* (= *A. angulosus*, see above). However, McClure & Wicksten (1997) have reported *A. estuariensis* occurring in the northern Gulf of Mexico.

Alpheus formosus Gibbes, 1850

Known range.—Western Atlantic: Bermuda; near Beaufort, North Carolina, through Gulf of Mexico and West Indies to São Paulo, Brazil (Williams 1984, Christoffersen 1998).

Alpheus heterochaelis Say, 1818

Remarks.—McClure (1995) redescribed this species and designated a neotype to clarify taxonomic confusion surrounding this species. Comparisons of morphological variation among species, including *A. heterochaelis*, of the *edwardsii* group of *Alpheus* occurring in northern Gulf of Mexico and northwestern Atlantic were provided in McClure (1995) and McClure & Wicksten (1997).

Known range.—Western Atlantic: lower Chesapeake Bay to Aransas County, Texas; Bermuda; Cuba; Curaçao; Suriname; Pará to Paraíba, Brazil (Williams 1984, McClure 1995, Christoffersen 1998).

Alpheus normanni Kingsley, 1878

Remarks.—Based on material examined from both western Atlantic and eastern Pacific locations, Kim & Abele (1988) concluded that variation between Pacific and Atlantic forms of *A. normanni* was sufficient to recognize two species. This decision has not gained universal acceptance since *A. normanni* continues to be used for the Atlantic form. If *A. normanni* is restricted to the eastern Pacific as suggested by Kim & Abele (1988), then western Atlantic specimens would be known as *A. packardii*

Kingsley, 1880 (Christoffersen 1998). Further research is needed to resolve this taxonomic question.

Known range.—Western Atlantic: around Cape Charles, Virginia, and lower Chesapeake Bay through Gulf of Mexico and West Indies to São Paulo, Brazil; Bermuda; Eastern Pacific: Gulf of California; Panama (Williams 1984, Christoffersen 1998).

★ *Automate dolichognatha* De Man, 1888
Automate gardineri Coutière.—Williams, 1984:100.

Remarks.—Chace (1988) placed *A. gardineri* and three other nominal species in the synonymy of ‘the variable and wide-ranging’ *A. dolichognatha*.

Known range.—Western Atlantic: Beaufort Inlet, North Carolina; Yucatán; Virgin Islands; Barbados; Rio de Janeiro, Brazil; Indo-Pacific: Red Sea to Samoa (Williams 1984, Christoffersen 1998). Chace (1988) considered the range to be pantropical, except for the eastern Atlantic.

Automate evermanni Rathbun, 1901

Known range.—Western Atlantic: Virginia to Texas; Puerto Rico; São Paulo and Rio Grande do Sul, Brazil; Eastern Atlantic: Cape Verde Islands; Liberia to Nigeria (Williams 1984, Chace 1988, Christoffersen 1998).

Leptalpheus forceps Williams, 1965

Known range.—Western Atlantic: North Carolina to Sergipe, Brazil (Williams 1984, Christoffersen 1998).

Synalpheus fritzmulleri Coutière, 1909

Known range.—Western Atlantic: Bermuda; Beaufort, North Carolina, to Santa Catarina, Brazil (Williams 1984, Christoffersen 1998); South Atlantic: St. Helena Island; Eastern Pacific: Baja California (Williams 1984).

Synalpheus longicarpus (Herrick, 1891)

Known range.—Western Atlantic: Beaufort, North Carolina, to west Flower Garden Reef, southeast of Galveston, Texas; Yucatán, Mexico through West Indies to Rio de Janeiro, Brazil (Williams 1984, Christoffersen 1998).

Synalpheus minus (Say, 1818)

Known range.—Western Atlantic: Bermuda; Cape Hatteras, North Carolina, to São Paulo, Brazil (Williams 1984, Christoffersen 1998).

Synalpheus townsendi Coutière, 1909

Known range.—Western Atlantic: Bermuda; Beaufort, North Carolina, to Rio de Janeiro, Brazil; Rocas Atoll, Brazil (Williams 1984, Christoffersen 1998); Eastern Pacific: Gulf of California (Williams 1984).

Family Hippolytidae Dana, 1852

► *Bythocaris nana* Smith, 1885

Remarks.—This species was considered extralimital by Williams (1984). Abele & Martin (1989) redescribed the species, and provided illustrations and developmental notes. *Bythocaris nana* occurs at 79–1175 m depth and is not common (Abele & Martin 1989).

Known range.—Western Atlantic: Martha’s Vineyard, Massachusetts, to southern Florida; northeastern Gulf of Mexico (Abele & Martin 1989).

► *Caridion gordonii* (Bate, 1858)

Remarks.—Williams (1984) considered this species to be extralimital. Squires (1990) provided a description and illustrations. This species occurs at 5–421 m depth (Williams & Wigley 1977).

Known range.—Western Atlantic: southwestern Newfoundland to Chesapeake Bay; North Atlantic: Iceland; Eastern Atlantic: northern Europe to Bay of Biscay (Williams 1984, Squires 1990).

Eualus fabricii (Krøyer, 1841)

Known range.—Western Atlantic: Hudson Bay, Foxe Basin, and northwestern Greenland to Cape Cod; North Pacific: Chukchi Sea; Bering Sea to British Columbia; Western Pacific: Sea of Okhotsk to Sea of Japan (Williams 1984, Squires 1990).

Eualus gaimardii
(H. Milne Edwards, 1837)

Remarks.—Squires (1990) recognized two subspecies, *E. g. gaimardii* and *E. g. belcheri*, both of which show considerable variation in diagnostic features and overlap completely in distribution. Williams (1984), however, believed that observed morphological variation was not sufficient to warrant recognition of more than one species among this material.

Known range.—Western Atlantic: Greenland and Baffin Island to Cape Cod; Eastern Atlantic: Spitsbergen to North Sea; Arctic Ocean: Point Barrow to Siberia; North Pacific: south to Sitka, Alaska (Williams 1984, Squires 1990).

Eualus pusiolus (Krøyer, 1841)

Known range.—Western Atlantic: Gulf of St. Lawrence to Cape Henry, Virginia; Northeastern Atlantic: Iceland; Murman Sea to Channel Islands, southward along Bay of Biscay to Spain; Catalonian coast of Spain; North Pacific: Chukchi and Bering seas to British Columbia and Washington; Western Pacific: Sea of Okhotsk and Sea of Japan (Williams 1984, Squires 1990).

Exhippolysmata oplophoroides
(Holthuis, 1948)

Remarks.—This species occurs over a bathymetric range of 5–45 m (Rodríguez 1993, Caetano da Costa et al. 2000).

Known range.—Western Atlantic: Cape Fear, North Carolina, to Port Aransas, Texas; Guyana to northern Uruguay (Williams 1984, Caetano da Costa et al. 2000).

Hippolyte coerulea (Fabricius, 1775)

Known range.—Tropical and subtropical Atlantic Ocean, including south of the Grand Banks in the Gulf Stream; and Sargasso Sea (Williams 1984, Squires 1990).

★ *Hippolyte obliquimanus* Dana, 1852

Hippolyte curacaoensis Schmitt.—Williams, 1984:117.

Remarks.—Udekem d'Acoz (1997) examined topotypic specimens of *Hippolyte obliquimanus* Dana and *H. exilirostratus* Dana and determined that these two nominal species are identical. He also concluded that *H. curacaoensis* Schmitt is conspecific with *H. obliquimanus*. Udekem d'Acoz (1997) redescribed *H. obliquimanus* based on this new information.

Known range.—Western Atlantic: Beaufort and Sneads Ferry, North Carolina; Puerto Rico; West Indies from Cuba to Curaçao; Venezuela to Santa Catarina, Brazil (Williams 1984, Udekem d'Acoz 1997, Christoffersen 1998).

Hippolyte pleuracanthus (Stimpson, 1871)

Known range.—Western Atlantic: Connecticut to North Carolina (Williams 1984).

Hippolyte zostericola (Smith, 1873)

Known range.—Western Atlantic: southern Massachusetts; Bermuda; North Carolina to Yucatán; Trinidad; Curaçao; Ceará, Brazil (Williams 1984, Christoffersen 1998). Christoffersen (1998) noted that previously reported occurrences of this species in Brazil may actually refer to *H. obliquimanus*.

Latreutes fucorum (Fabricius, 1798)

Known range.—Western Atlantic: Newfoundland to Brazil (Pernambuco to Bahia), including Gulf of Mexico south to Bahía de la Ascensión, Quintana Roo, Mexico; Eastern Atlantic: Azores; Cape Verde Islands

(Williams 1984, Christoffersen 1998, Rodríguez-Almaraz et al. 2000).

Latreutes parvulus (Stimpson, 1866)

Known range.—Western Atlantic: Beaufort, North Carolina, to Buenos Aires, Argentina; Eastern Atlantic: West Africa (Williams 1984, Christoffersen 1998).

Lebbeus groenlandicus (Fabricius, 1775)

Known range.—Western Atlantic: Hudson Bay to Greenland, southward to Rhode Island; North Pacific: Arctic Canada, southern Chukchi Sea through Bering Sea to Puget Sound; Western Pacific: Okhotsk Sea southward to Vladivostok (Williams 1984, Squires 1990).

★ *Lebbeus microceros* (Krøyer, 1841)

Lebbeus zebra (Leim).—Williams, 1984: 125.

Remarks.—Holthuis (1947) recognized both *L. microceros* and *L. zebra* as valid species. Couture & Trudel (1968) noted great similarity between these nominal species and commented that they might be synonymous, but rarity of material prevented an adequate evaluation of these taxa (Williams 1984). Squires (1990) placed *L. zebra* into the synonymy of *L. microceros* without comment or explanation for this action. Chace (1997) also listed *L. zebra* in the synonymy of *L. microceros*.

Known range.—Western Atlantic: Southern Greenland; Foxe Basin; Ungava Bay; Newfoundland to New Brunswick, including Gulf of St. Lawrence to southeast of Isles of Shoals; North Pacific: possibly from Bering Sea to Kamchatka; Eastern Pacific: Checleset Bay, Vancouver Island (Williams 1984, Squires 1990).

Lebbeus polaris (Sabine, 1824)

Known range.—Circumarctic; Western Atlantic: southward to Chesapeake Bay; North Pacific: Okhotsk Sea; Bering Sea to

British Columbia; Eastern Atlantic: Arctic to the Hebrides (Williams 1984, Squires 1990).

Lysmata rathbunae Chace, 1970

Known range.—Western Atlantic: Bermuda; Cape Fear, North Carolina; east coast of Florida to Yucatán; Venezuela (Williams 1984).

Lysmata wurdemanni (Gibbes, 1850)

Known range.—Western Atlantic: New Jersey to Port Aransas, Texas; Suriname; French Guiana; Ceará and Bahia to Rio Grande do Sul, Brazil (Williams 1984, Christoffersen 1998).

Spirontocaris liljeborgii
(Danielssen, 1859)

Known range.—Western Atlantic: Foxe Channel and Davis Strait; Greenland, to off Delaware Bay; Northeastern Atlantic: Iceland; Spitsbergen; Murman coast to south coast of England; west and southwestern Ireland; Arctic: Alaska (Williams 1984, Squires 1990).

Spirontocaris phippisii (Krøyer, 1841)

Known range.—Circumarctic; Western Atlantic: Cornwallis Island; Hudson Bay to Martha's Vineyard; North Atlantic: Spitsbergen to southern Norway; Britain; Arctic: north of Siberia; Beaufort Sea; North Pacific: Bering Sea to Siberian east coast; Shumagin Islands, Alaska (Williams 1984, Squires 1990).

Spirontocaris spinus (Sowerby, 1805)

Known range.—Circumarctic; Western Atlantic: Hudson Bay; Foxe Basin; Greenland, southward to Massachusetts Bay; North Atlantic: Spitsbergen to northern North Sea and Irish Sea; North Pacific: Plover Bay, Siberia; Bering Sea; Shumagin Islands, Alaska; Puget Sound, Washington; Western Pacific: Okhotsk Sea; Sea of Japan (Williams 1984, Squires 1990).

Thor dobkini Chace, 1972

Known range.—Western Atlantic: off Shackleford Bank, North Carolina, to Yucatán; Louisiana; north coast of Cuba (Williams 1984).

Thor floridanus Kingsley, 1878

Known range.—Western Atlantic: Black Rocks off New River, North Carolina (?), to Yucatán (Williams 1984).

Thor manningi Chace, 1972

Known range.—Western Atlantic: Beaufort, North Carolina, to Yucatán, through West Indies to Curaçao; Brazil (Paraíba, Bahia, and São Paulo); Eastern Pacific: Islas Tres Marías, Mexico (Williams 1984, Christoffersen 1998).

Tozeuma carolinense Kingsley, 1878

Known range.—Western Atlantic: Vineyard Sound, Massachusetts, to Colón, Panama, including Gulf of Mexico; through West Indies to Curaçao; Paraíba to Alagoas and São Paulo, Brazil (Williams 1984, Christoffersen 1998).

Tozeuma serratum A. Milne-Edwards, 1881

Known range.—Western Atlantic: Non-amesset Island, Massachusetts; off Cape Hatteras and Cape Lookout, North Carolina; Cape Canaveral; extreme southern and northwestern Florida; Barbados; Colombia; off Rio de Janeiro and São Paulo, Brazil (Williams 1984, Christoffersen 1998).

► *Trachycaris rugosa* (Bate, 1888)

Remarks.—Based on available information, Williams (1984) presumed this species to occur beyond the southern limits of the region. However, Criales (1992) recorded *T. rugosa* from southern areas within this region. Criales (1992) provided a redescription of the species, illustrations, and com-

mented on color, interspecific comparisons, and sexual dimorphism.

Known range.—Western Atlantic: South Carolina through the Gulf of Mexico; Caribbean Sea to Santa Marta, Colombia (Criales 1992).

Family Ogyrididae Holthuis, 1955

Ogyrides alphaerostris (Kingsley, 1880)

Known range.—Western Atlantic: Virginia to Rio Grande do Sul, Brazil, including Gulf of Mexico (Williams 1984, Christoffersen 1998).

Ogyrides hayi Williams, 1981

Known range.—Western Atlantic: Beaufort, North Carolina, to Sebastian Inlet, Florida; northwestern Florida to Mississippi; Puerto Rico; Pernambuco and São Paulo, Brazil (Williams 1984, Christoffersen 1998).

► Superfamily Processoidea Ortmann, 1890

Remarks.—Previously the family Processidae was placed in the superfamily Alpheoidea (Williams 1984). Chace (1992) erected the superfamily Processoidea, which consists of a single family (Processidae). Holthuis (1993) also adopted this arrangement.

Family Processidae Ortmann, 1890

Nikoides schmitti Manning & Chace, 1971

Known range.—Western Atlantic: east of Cape Lookout, North Carolina; Biscayne Bay and Dry Tortugas, Florida; Guadeloupe; the Guianas (Williams 1984).

Processa bermudensis (Rankin, 1900)

Known range.—Western Atlantic: Bermuda; Cape Hatteras, North Carolina, to northwestern Florida; Veracruz, Mexico; Cuba; Puerto Rico; Guadeloupe; Venezuela; Bahia, Rio de Janeiro and Paraná, Brazil (Williams 1984, Christoffersen 1998).

Processa fimbriata Manning & Chace,
1971

Known range.—Western Atlantic: off New River, North Carolina, to Rio de Janeiro, Brazil (Williams 1984, Christoffersen 1998).

Processa guyanae Holthuis, 1959

Known range.—Western Atlantic: Cape Hatteras, North Carolina, to eastern Gulf of Mexico, including northern coast of Cuba; Suriname to Uruguay (Williams 1984, Christoffersen 1998).

Processa hemphilli Manning & Chace,
1971

Known range.—Western Atlantic: east of Cape Lookout and Bogue Sound, North Carolina; east coast of Florida; northwest Florida; Guadeloupe; Brazil to Buenos Aires (Williams 1984, Christoffersen 1998).

Processa profunda Manning & Chace,
1971

Known range.—Western Atlantic: southeast of Cape Hatteras, North Carolina; off South Carolina; Gulf of Mexico, off southern and western Florida; Suriname to Uruguay (Williams 1984, Christoffersen 1998).

Processa vicina Manning & Chace, 1971

Known range.—Western Atlantic: southeast of Cape Lookout, North Carolina; northwest Florida; off Isla Margarita, Venezuela (Williams 1984).

Superfamily Pandaloidea Haworth, 1825

Remarks.—Christoffersen (1989) proposed a phylogeny of this taxon.

Family Pandalidae Haworth, 1825

★ *Atlantopandalus propinquus*
(G.O. Sars, 1870)

Pandalus propinquus G.O. Sars.—Williams, 1984:156.

Remarks.—In his revision of the genus *Pandalus*, Komai (1999) transferred *Pandalus propinquus* to a monotypic genus *Atlantopandalus*; a description was provided. Additionally, Komai (1999) stated that G.O. Sars consistently spelled the name of this species as ‘*propinquus*’ in the original description and that this spelling should be used. This species occurs at depths of 20–2180 m (Komai 1999).

Known range.—Western Atlantic: Greenland; Davis Strait to Delaware Bay, including Gulf of St. Lawrence and Gulf of Maine; North Atlantic: Iceland; Eastern Atlantic: Norway to the British Isles; Bay of Biscay (Komai 1999).

Dichelopandalus leptocerus (Smith, 1881)

Known range.—Western Atlantic: Gulf of St. Lawrence and St. Mary’s Bay, Newfoundland, to off Oregon Inlet, North Carolina; North Pacific: Shumagin Bank, Alaska (Williams 1984, Squires 1990).

► *Heterocarpus ensifer*
A. Milne-Edwards, 1881

Remarks.—Diagnostic characters of this species were reported in Crosnier & Forest (1973), Chace (1985), and Rodríguez (1993). This species occurs on muddy bottoms usually at 200–885 m (Chace 1985), but may be found at shallower depths (140 m; Rodríguez 1993).

Known range.—Western Atlantic: North Carolina to the Guianas, including the Gulf of Mexico and Caribbean Sea; Brazil (Chace 1985, Rodríguez 1993, Ramos-Porto & Coelho 1998).

Pandalus borealis Krøyer, 1838

Remarks.—The geographic range of *Pandalus borealis* has been reported as Arctic boreal in both Atlantic and Pacific oceans (Williams 1984). Recent studies (Squires 1992, Komai 1999) have demonstrated that morphological differences between Atlantic and Pacific ‘varieties’ were

sufficient to warrant full species rank for both. *Pandalus borealis* is restricted to the Atlantic Ocean and considered a geminate species of *P. eous* Makarov from Pacific localities (Squires 1992).

Known range.—Western Atlantic: western Greenland to Gulf of Maine; North Atlantic: Barents Sea to the North Sea (Komai 1999).

Pandalus montagui Leach, 1814

Known range.—Arctic-boreal; Western Atlantic: Greenland and Hudson Bay to Rhode Island; North Atlantic: Iceland; White Sea; Eastern Atlantic: Norway to the western Baltic; North Sea; British Isles (Williams 1984, Squires 1990).

Pantomus parvulus A. Milne-Edwards,
1883

Known range.—Western Atlantic: Cape Lookout, North Carolina, to Yucatán; Puerto Rico; St. Croix; Suriname; Uruguay (Williams 1984, Christoffersen 1989).

► *Plesionika edwardsii* (Brandt, 1851)

Remarks.—Chan & Yu (1991) provided a diagnosis, color description, and interspecific comparisons. This species occurs on muddy bottoms at depths of 50–690 m (Rodríguez 1993), commonly at 200–400 m (Chan & Yu 1991).

Known range.—Western Atlantic: Virginia to Gulf of Mexico; Eastern Atlantic: Mediterranean to Angola; Indo-Pacific (Chan & Yu 1991).

► *Plesionika martia*
(A. Milne-Edwards, 1883)

Remarks.—Williams (1984) considered this species to be extralimital. This species occurs at 165–2100 m depth (Williams & Wigley 1977).

Known range.—Western Atlantic: south of Nantucket, Massachusetts, to Brazil; Bermuda; Eastern Atlantic: southwest Ireland; Bay of Biscay to southern Africa;

Mediterranean Sea; Central Pacific: Hawaii; Indo-Pacific: East Africa to Japan, including Gulf of Aden; New Zealand; southeastern Australia (Williams & Wigley 1977).

► *Plesionika tenuipes* (Smith, 1881)

Remarks.—Williams (1984) considered this species to be extralimital. This species occurs at 159–476 m depth (Williams 1984).

Known range.—Western Atlantic: Rhode Island to southern Florida; Gulf of Mexico (Williams 1984).

► ★ *Plesionika willisi*
(L. H. Pequegnat, 1970)

Parapandalus willisi L. H. Pequegnat.—Williams, 1984:484.

Remarks.—Williams (1984) considered this species to be extralimital. Chace (1985) placed *Parapandalus* into the synonymy of *Plesionika*. This species occurs at 150–500 m depth (Williams & Wigley 1977).

Known range.—Western Atlantic: south of Martha's Vineyard, Massachusetts; Gulf of Mexico to French Guiana (Williams & Wigley 1977).

Superfamily Crangonoidea Haworth, 1825

Family Crangonidae Haworth, 1825

Argis dentata (Rathbun, 1902)

Remarks.—Komai (1997) evaluated the systematics of this species and several congeners to clarify their taxonomic status. In this study, he also provided a detailed description, illustrations, color, size and comparative information for *A. dentata*.

Known range.—Arctic-boreal; Western North Atlantic: northwest Greenland; Hudson Bay; Canadian Arctic islands to Nova Scotia; North Pacific: Bering Sea to Sitka, Alaska; southeast coast of Kamchatka; northern Okhotsk Sea (Komai 1997).

★ *Crangon (Crangon) septemspinosa* Say,
1818

Crangon septemspinosa Say.—Williams, 1984:159.

Remarks.—Subgeneric designation considered valid by Holthuis (1993).

Known range.—Primarily subarctic-boreal; Western Atlantic: northern Gulf of St. Lawrence to east Florida (Williams 1984, Squires 1990). Squires (1990) restricted the geographic range to the north Atlantic.

★ *Philocheras gorei* (Dardeau, 1980)

Pontophilus gorei Dardeau.—Williams, 1984:161.

Remarks.—Chace (1984) provided morphological evidence for recognizing *Philocheras* as a valid genus and removed it from the synonymy of *Pontophilus*. Christoffersen's (1988) phylogenetic analysis supported this arrangement. Bathymetric range was reported as 59–194 m (Christoffersen 1998).

Known range.—Western Atlantic: central Georgia; central eastern Florida; Gulf of Mexico (southwestern Florida, Cape San Blas and Padre Island, Texas); Rio de Janeiro, Brazil; Uruguay (Dardeau & Heard 1983, Williams 1984, Christoffersen 1988).

Pontophilus brevirostris Smith, 1881

Known range.—Western Atlantic: Gulf of Maine to eastern Gulf of Mexico, off Dry Tortugas, Florida; Cuba (Williams 1984).

Pontophilus norvegicus (M. Sars, 1861)

Known range.—Western Atlantic: Greenland to Maryland; North Atlantic: Iceland; Spitsbergen; Murman coast; Eastern Atlantic: northwestern Europe, including British Isles to Bay of Biscay; and Balearic Islands (Williams 1984, Squires 1990).

Sabinea sarsii Smith, 1879

Known range.—Western Atlantic: Davis Strait to southeast of Nantucket, Massachusetts; North Atlantic: Iceland; Eastern Atlantic: northern Europe (Williams 1984, Squires 1990).

Sabinea septemcarinata (Sabine, 1824)

Known range.—Western Atlantic: Hudson Bay and Greenland to Massachusetts Bay; Arctic-North Atlantic: Iceland (except south coast), Kara, White and Barents seas; Wrangel Island; Eastern Atlantic: north of Faroes; Norway (north of 67°N); British Isles; North Pacific: Arctic Canada and Alaska to Point Barrow and Chukchi Sea (Williams 1984, Squires 1990).

Sclerocrangon boreas (Phipps, 1774)

Known range.—Western Atlantic: Hudson Bay; east and west Greenland south to Cape Cod; Arctic-North Atlantic: Iceland; Spitsbergen; Kara and White seas; Franz Joseph Land; Novaya Zemlya; Eastern Atlantic: Faroes; Norway (north of approximately 67°N); Arctic-North Pacific: Arctic Canada, north coast of Alaska; Chukchi Sea south to British Columbia (Williams 1984, Squires 1990).

Infraorder Astacidea Latreille, 1802

Superfamily Nephropoidea Dana, 1852

Family Nephropidae Dana, 1852

Subfamily Nephropinae Dana, 1852

Homarus americanus H. Milne Edwards, 1837

Known range.—Western Atlantic: Newfoundland to Cape Hatteras, North Carolina; occasionally Wilmington, North Carolina and south Florida (Williams 1984, Cofer-Shabica & Nielsen 1988, Holthuis 1991). Williams (1984) noted that this species is occasionally found as far south as Wilmington, North Carolina. One specimen of *H. americanus*, however, was collected off southern Florida (Miami Beach, 252 m; Cofer-Shabica & Nielsen 1988), suggesting that the range of this species occasionally extends further south, especially in deeper waters.

► Subfamily Thymopinae Holthuis, 1974

► *Nephropsis aculeata* Smith, 1881

Remarks.—Species diagnosis provided in Holthuis (1991). This species occurs on mud

or fine sand sediments at 137–824 m, but usually between 200–600 m (Holthuis 1991).

Known range.—Western Atlantic: Massachusetts to French Guiana, including Gulf of Mexico and Caribbean Sea; Bermuda (Holthuis 1991).

★ Infraorder Thalassinidea Latreille, 1831

Remarks.—Thalassinidea was considered a Section under the infraorder Anomura in Williams (1984:180). Poore (1994) proposed a phylogeny of the infraorder and provided a new classification, diagnoses, and keys to families and currently recognized genera.

Superfamily Callianassoidea Dana, 1852

Family Callianassidae Dana, 1852

Remarks.—Manning & Felder (1991) restricted this family as a result of their revision of the American Callianassidae. In a phylogenetic analysis of generic relationships within the family based on 93 adult morphological characters, Tudge et al. (2000) determined that the Callianassidae comprised a monophyletic group. Sakai (1999) presented very different conclusions regarding the composition of, and generic relationships within, the Callianassidae. Sakai's work, however, was not conducted within a phylogenetic framework and is widely regarded as controversial. More research is needed to resolve the composition and relationships of genera in this and related families and subfamilies.

Subfamily Callianassinae Dana, 1852

Remarks.—Tudge et al. (2000) conducted a phylogenetic analysis of relationships within the family Callianassidae based on adult morphological characters and they determined that the subfamily Callianassinae was a monophyletic group.

★ *Biffarius biformis* (Biffar, 1971)

Callianassa biformis Biffar.—Williams, 1984:182.

Remarks.—In a recent revision of the American Callianassidae, Manning & Felder (1991) concluded that *Callianassa* was a composite of numerous genera. Manning & Felder (1991) described the genus *Biffarius* and provided a diagnosis, illustrations, and comparative information regarding the genera within the subfamily Callianassinae.

Known range.—Western Atlantic: Bass River, Yarmouth, Nova Scotia; Nantucket Sound, Massachusetts; Chesapeake Bay (?); North Inlet, South Carolina, to McIntosh County, Georgia; Franklin County, north-west Florida (Williams 1984).

★ *Gilvossius setimanus* (De Kay, 1844)

Callianassa atlantica Rathbun.—Williams, 1984:180.

Remarks.—Manning (1987) addressed the status of *Gonodactylus setimanus* DeKay. He determined this species was valid as *Callianassa setimanus* (DeKay) and that it was the senior synonym of *Callianassa atlantica* Rathbun. Members of *Callianassa sensu stricto*, as restricted by Manning & Felder (1991), are not represented in the American fauna. The genus *Gilvossius* was described (Manning & Felder, 1992) with *Gonodactylus setimanus* DeKay (= *Callianassa atlantica* Rathbun) as the type species.

Known range.—Western Atlantic: Bass River, Nova Scotia, to Georgia; Franklin County, Florida (Williams 1984).

► *Necallianassa berylae* Heard & Manning, 1998

Remarks.—Heard & Manning (1998: 883–884) described this genus and species and provided illustrations and diagnostic comparisons with eastern Atlantic congeners. *Necallianassa berylae* occurs at depths of 35–75 m (Heard & Manning 1998).

Known range.—Western Atlantic: South Carolina and Georgia (Heard & Manning 1998).

Subfamily Callichirinae Manning &
Felder, 1991

Remarks.—Tudge et al. (2000) conducted a phylogenetic analysis of relationships within the family Callianassidae utilizing adult morphological characters. They determined that the subfamily Callichirinae was a paraphyletic group and that more research is needed to resolve relationships within this group.

★ *Callichirus major* (Say, 1818)

Callianassa major Say.—Williams, 1984: 183.

Remarks.—Manning & Felder (1986) redefined *Callichirus* to remove the ambiguity surrounding previous concepts of this genus.

Known range.—Western Atlantic: Beaufort Inlet, North Carolina, to Cape Canaveral, Florida; Grand Terre Island to Timbalier Island, Louisiana; Sergipe to Santa Catarina, Brazil (Williams 1984, Rodrigues & Shimizu 1998).

Family Laomediidae Borradaile, 1903

Naushonia crangonoides Kingsley, 1897

Known range.—Western Atlantic: Bass River, Yarmouth, Nova Scotia; Vineyard Sound and Elizabeth Islands, Massachusetts, to Bogue Sound, North Carolina (Williams 1984).

Family Upogebiidae Borradaile, 1903

Upogebia affinis (Say, 1818)

Remarks.—Williams (1993) provided an improved diagnosis and detailed description of this species and noted that its southern limits of distribution are in Texas. Specimens identified as *U. affinis* from more southern locations (West Indies to São Paulo, Brazil) are actually *Upogebia paraffinis* Williams, 1993.

Known range.—Western Atlantic: Massachusetts to southern Texas (Williams 1993).

Superfamily Axioidea Huxley, 1879

Family Axiidae Huxley, 1879

► *Axius armatus* Smith, 1881

Remarks.—Kensley (2001) redescribed this species, provided illustrations, and compared *A. armatus* to its sympatric congener, *A. serratus*. Although Sakai & de Saint Laurent (1989) questioned the generic placement of this species, Kensley (2001) provided morphological evidence supporting placement of this species in the genus *Axius*. This apparently rare species occurs at depths of 108–260 m (Kensley 2001).

Known range.—Western Atlantic: Massachusetts to South Carolina (Kensley 2001).

Axius serratus Stimpson, 1852

Remarks.—Kensley (2001) redescribed, illustrated, and compared this species to its Atlantic congeners. This species occurs at depths of 19–220 m (Kensley 2001), which represents an increase in the maximum reported depth of occurrence.

Known range.—Western Atlantic: Nova Scotia to Maryland (Kensley 2001).

★ *Calaxius jenneri* (Williams, 1974)

Axiopsis jenneri (Williams).—Williams, 1984:185.

Remarks.—Sakai & de Saint Laurent (1989) described the genus *Calaxius* in their revision of the family Axiidae.

Known range.—Western Atlantic: Cape Lookout, North Carolina (Williams 1984).

► Family Calocarididae Ortmann, 1891

Remarks.—Kensley (1989) reinstated the Calocarididae Ortmann, which contained only *Calocaris*, and then expanded the family with the addition of several genera.

Calocaris templemani Squires, 1965

Known range.—Western Atlantic: Newfoundland to the Gulf of Maine; Cape Lookout, North Carolina (Williams 1984,

Kensley 1989, Sakai & de Saint Laurent 1989, Squires 1990). The southernmost locality reported for this species is southeast of Cape Lookout, North Carolina (Williams 1984). This appears to be the only recorded occurrence of *C. templemani* this far south.

Infraorder Palinura Latreille, 1802

Superfamily Palinuroidea Latreille, 1802

Family Palinuridae Latreille, 1802

Panulirus argus (Latreille, 1804)

Remarks.—Based on mtDNA samples from individuals collected from nine locations between Bermuda and Venezuela, Silberman et al. (1994) hypothesized that *Panulirus argus* was genetically homogenous throughout the tropical western Atlantic and Caribbean. However, three individuals with distinctly different mtDNA haplotypes, collected off Miami, Florida, were identified (Silberman et al. 1994). Sarver et al. (1998) compared mtDNA sequences between western Atlantic-Caribbean populations and Brazilian lobsters and found sufficient differences to suggest that *P. argus* is a complex of two species or subspecies. In addition to genetic differences, characteristic color patterns were also identified distinguishing the Brazilian *P. argus* from the Caribbean form (Sarver et al. 1998). They recommended provisional recognition of two subspecies until formal taxonomic revision could be completed: *Panulirus argus argus* representing populations from Bermuda to Venezuela and *Panulirus argus westonii* representing populations from Brazil. Sarver et al. (2000) re-examined the genetically distinct individuals of Silberman et al. (1994) and determined that these unusual individuals were the provisionally recognized Brazilian form of *P. argus* (*P. argus westonii*). However, until formal revision is conducted, the taxonomic status of these subspecies remains uncertain.

Known range.—Western Atlantic: Bermuda; North Carolina to Rio de Janeiro, Brazil, including Gulf of Mexico and Ca-

ribbean Sea (Williams 1984, Holthuis 1991).

Family Scyllaridae Latreille, 1825

Subfamily Arctidinae Holthuis, 1985

► *Scyllarides aequinoctialis* (Lund, 1793)

Remarks.—This species was originally considered to occur outside the region, and therefore was not included in Williams (1984). Lyons (1970) provided a detailed description. *Scyllarides aequinoctialis* occurs on sandy or rocky bottoms at depths of 0–180 m, usually 1–64 m (Lyons 1970, Holthuis 1991).

Known range.—Western Atlantic: Bermuda; South Carolina to southern Brazil, including the Gulf of Mexico, Caribbean Sea, and West Indies (Holthuis 1991).

Scyllarides nodifer (Stimpson, 1866)

Known range.—Western Atlantic: Bermuda; Cape Lookout, North Carolina, to Yucatán, including Gulf of Mexico (Williams 1984, Holthuis 1991).

Subfamily Scyllarinae Latreille, 1825

Scyllarus americanus (Smith, 1869)

Known range.—Western Atlantic: Bogue Inlet, North Carolina, to Campeche Banks, Mexico; Venezuela (Williams 1984).

Scyllarus chacei Holthuis, 1960

Known range.—Western Atlantic: Cape Hatteras, North Carolina, to Bahia, Brazil, including Gulf of Mexico, West Indies, and Caribbean Sea (Williams 1984, Coelho & Ramos-Porto 1998b).

Scyllarus depressus (Smith, 1881)

Known range.—Western Atlantic: Martha's Vineyard, Massachusetts; Cape Hatteras, North Carolina, to São Paulo, Brazil, including Gulf of Mexico and West Indies (Williams 1984).

Infraorder Anomura MacLeay, 1838
Superfamily Galatheoidea Samouelle,
1819

Family Galatheidæ Samouelle, 1819
Galathea rostrata A. Milne-Edwards,
1880

Known range.—Western Atlantic: off Cape Hatteras, North Carolina, to southern Florida; northwestern Florida to Mississippi River delta; off Cape Catoche, Yucatán (Williams 1984).

► *Munida forceps* A. Milne-Edwards,
1880

Remarks.—Williams (1984) did not include this species in his study because the known geographic range and depth of occurrence were outside the region. This species is now known from off southern New England and Virginia within the region. *Munida forceps* occurs at 80–337 m (Williams 1988, Melo-Filho & Melo 1992). Melo-Filho & Melo (1992) provided a description, illustrations, and measurements; Williams (1988) provided a color description and figure of male carapace.

Known range.—Western Atlantic: Veatch and Lydonia Canyons, off southern New England (Williams 1988); Virginia; Florida; Gulf of Mexico; Antilles; Guianas; Brazil (Melo-Filho & Melo 1992).

Munida iris iris A. Milne-Edwards, 1880

Known range.—Western Atlantic: off Nova Scotia through southeastern Gulf of Mexico to near Cozumel Island, Yucatán; through Caribbean islands to Rio Grande do Sul, Brazil (Williams 1984, Squires 1990, Melo-Filho 1998).

Munida irrasa A. Milne-Edwards, 1880

Known range.—Western Atlantic: off Bermuda; off Cape Lookout, North Carolina, through eastern Gulf of Mexico; Caribbean Sea to Uruguay (Williams 1984).

Munida longipes A. Milne-Edwards, 1880

Known range.—Western Atlantic: Baltimore Canyon, off the coast of Maryland (Williams 1988) southward through Gulf of Mexico to Belize; through West Indies to Curaçao (Williams 1984); São Paulo to Rio Grande do Sul, Brazil (Melo-Filho 1998).

Munida pusilla Benedict, 1902

Known range.—Western Atlantic: off Cape Lookout, North Carolina, to Straits of Florida, through eastern Gulf of Mexico to Yucatán; Colombia; Trinidad (Williams 1984); Amapá, Brazil (Melo-Filho 1998).

Munida valida Smith, 1883

Known range.—Western Atlantic: off Nova Scotia to Rio Grande do Sul, Brazil, including Gulf of Mexico and Caribbean (Williams 1984, Squires 1990, Melo-Filho & Melo 1992, Melo-Filho 1998).

Family Porcellanidae Haworth, 1825
Euceramus praelongus Stimpson, 1860

Known range.—Western Atlantic: Delaware Bay to Aransas area, Texas (Williams 1984).

Megalobrachium soriatum (Say, 1818)

Known range.—Western Atlantic: off Cape Hatteras, North Carolina, to Port Aransas, Texas; West Indies to Barbados; Contoy Island, Mexico; Bahia Caledonia and Galeta Island, Panama (Williams 1984); Ceará to São Paulo, Brazil (Velooso 1998).

Pachycheles pilosus
(H. Milne Edwards, 1837)

Known range.—Western Atlantic: Charleston, South Carolina; Key West to Sarasota Bay, Florida; through West Indies to Tobago and Aruba (Williams 1984).

Pachycheles rugimanus
A. Milne-Edwards, 1880

Known range.—Western Atlantic: Cape Hatteras, North Carolina, through Florida to St. Thomas, U.S. Virgin Islands; Contoy Island, Mexico (Williams 1984); Amapá to Pará (Veloso 1998) and Pernambuco, Brazil (Williams 1984).

► *Petrolisthes armatus* (Gibbes, 1850)

Remarks.—This species was recently reported in the region (Knott et al. 2000). Although Knott et al. (2000) reported the presence of this crab as an introduction, the occurrence of *P. armatus* in Georgia and South Carolina possibly represents a northern range extension because the original description by Gibbes (1850) listed the locality of specimens examined as “Florida.” This species is the dominant decapod crustacean on rocky substrates in Georgia and is well established on rocky rubble, oyster reefs, and other shallow subtidal and intertidal habitats throughout Georgia and South Carolina (Knott et al. 2000).

Known range.—Western Atlantic: Bermuda; South Carolina southward through the Gulf of Mexico; Bahamas; West Indies and Caribbean; northern South America to Santa Catarina, Brazil; Central Atlantic: Ascension Island; Eastern Atlantic: tropical West Africa; Eastern Pacific: Gulf of California to Peru (Veloso 1998, Knott et al. 2000).

Petrolisthes galathinus (Bosc, 1802)

Known range.—Western Atlantic: Cape Hatteras, North Carolina, through Gulf of Mexico and Caribbean Sea to Rio Grande do Sul, Brazil; Eastern Pacific: Isla San Lucas, Costa Rica, to off La Libertad, Ecuador (Williams 1984, Veloso 1998).

Polyonyx gibbesi Haig, 1956

Known range.—Western Atlantic: Woods Hole, Massachusetts, to Uruguay (Williams 1984).

Porcellana sayana (Leach, 1820)

Known range.—Western Atlantic: Cape Hatteras, North Carolina, to Rio Grande do Sul, Brazil, including Gulf of Mexico and Caribbean Sea (Williams 1984, Veloso 1998).

Porcellana sigsbeiana A. Milne-Edwards,
1880

Known range.—Western Atlantic: off Martha’s Vineyard, Massachusetts, to southwestern Caribbean Sea off Colombia; West Indies to Virgin Islands (Williams 1984); Pará and Maranhão, Brazil (Veloso 1998).

Superfamily Hippoidea Latreille, 1825

Family Albuneidae Stimpson, 1858

Albunea gibbesii Stimpson, 1859

Known range.—Western Atlantic: Bermuda; east of Cape Lookout, North Carolina, to Texas, through West Indies to São Paulo, Brazil (Williams 1984, Calado 1998).

Albunea paretii Guérin-Méneville, 1853

Known range.—Western Atlantic: Beaufort Inlet, North Carolina, to Corpus Christi, Texas, through West Indies to Rio Grande do Sul, Brazil (Williams 1984, Calado 1998); Eastern Atlantic: Cape Verde Islands; Senegal to Ghana (Williams 1984).

Lepidopa websteri Benedict, 1903

Known range.—Western Atlantic: mouth of Chesapeake Bay; Drum Inlet, North Carolina, to east central Florida; Tampa Bay, Florida; Petit Bois Island, Mississippi (Williams 1984, Manning 1988).

Family Hippidae Latreille, 1825

Emerita benedicti Schmitt, 1935

Known range.—Western Atlantic: Charleston County, South Carolina, to Veracruz, Mexico (Williams 1984).

Emerita talpoida (Say, 1817)

Known range.—Western Atlantic: Harwich, Massachusetts, to Horn Island, Mississippi; Progreso, Yucatán, Mexico (Williams 1984).

Superfamily Coenobitoidea Dana, 1851

Remarks.—Williams (1984) recognized two superfamilies (Coenobitoidea and Paguroidea) for hermit crabs. McLaughlin (1983) had recommended that the superfamily Coenobitoidea be suppressed and that a single superfamily of hermit crabs should be recognized. Martin & Davis (2001) accepted the arrangement proposed by McLaughlin (1983). However, McLaughlin & Lemaitre (2001a) recently provided evidence to support reinstatement of the Coenobitoidea. Based on their results, two distinct superfamilies should be recognized with respect to hermit crab higher classification.

Family Diogenidae Ortmann, 1892

Cancellus ornatus Benedict, 1901

Known range.—Western Atlantic: Cape Fear, North Carolina, through eastern Gulf of Mexico; Greater and Lesser Antilles, to Bahia, Brazil (Williams 1984, Rieger 1998).

Clibanarius vittatus (Bosc, 1802)

Known range.—Western Atlantic: Potomac River, Gunston, Virginia, to Santa Catarina, Brazil, including the Gulf of Mexico (Williams 1984).

Dardanus fucosus Biffar & Provenzano, 1972

Known range.—Western Atlantic: near Cape Hatteras, North Carolina, to Pará, Brazil (Williams 1984, Rieger 1998).

Dardanus insignis (de Saussure, 1858)

Known range.—Western Atlantic: off Oregon Inlet, North Carolina, to Port Aran-

sas, Texas; through West Indies to Argentina (Williams 1984, Rieger 1998).

Paguristes hummi Wass, 1955

Known range.—Western Atlantic: Newport River, North Carolina, to off Sapelo Island, Georgia; southwestern Florida, including Tampa Bay, to off Isles Dernieres, Louisiana; Caribbean coast of Colombia (Williams 1984, Campos & Sánchez 1995, Strasser & Price 1999).

Paguristes lymani A. Milne-Edwards & Bouvier, 1893

Known range.—Western Atlantic: southeast of Cape Lookout, North Carolina; Florida Keys to Swan Island, off Honduras; through West Indies to Guyana (Williams 1984).

Paguristes moorei Benedict, 1901

Known range.—Western Atlantic: off Cape Lookout, North Carolina; Florida Straits; Puerto Rico (Williams 1984).

Paguristes sericeus A. Milne-Edwards, 1880

Known range.—Western Atlantic: off Cape Lookout, North Carolina; West Flower Garden Bank, northwestern Gulf of Mexico, to Virgin Islands (Williams 1984).

Paguristes spinipes A. Milne-Edwards, 1880

Known range.—Western Atlantic: Gulf Stream south of Cape Lookout, North Carolina; off Cape Canaveral to Florida Straits; Sarasota, Florida; Barbados to Pernambuco and Alagoas, Brazil (Williams 1984, Rieger 1998).

Paguristes tortugae Schmitt, 1933

Known range.—Western Atlantic: reefs off Beaufort, North Carolina, to southern and southwestern Florida; Gulf of Mexico;

Known range.—Western Atlantic: North Carolina to Florida; Bahamas; Jamaica; Dominican Republic; U.S. Virgin Islands; Leeward Islands; Bonaire; Curaçao; Belize; Colombia; Venezuela; Suriname; French Guiana (García-Gómez 1983).

★ *Manucomplanus ungulatus*
(Studer, 1883)

Manucomplanus corallinus (Benedict).—Williams, 1984:224.

Remarks.—Lemaitre & McLaughlin (1996) determined that the range of variation of specimens of the nominal species *M. corallinus* and *M. ungulatus* was such that the two taxa could not be separated. Consequently, they placed *M. corallinus* in the synonymy of *M. ungulatus*. The authors provided a species diagnosis and illustrations.

Known range.—Western Atlantic: off Cape Hatteras, North Carolina, to Florida; Gulf of Mexico; Straits of Florida; Bahamas; Eastern Atlantic: South and West Africa (Williams 1984, Lemaitre & McLaughlin 1996).

Pagurus acadianus Benedict, 1901

Known range.—Western Atlantic: Straits of Belle Island and Notre Dame Bay, Newfoundland; Gulf of St. Lawrence to mouth of Chesapeake Bay (Williams 1984, Squires 1990).

Pagurus annulipes (Stimpson, 1860)

Remarks.—Lemaitre et al. (1982) reported the depth distribution for this species as subtidal to 90 m, which represented an increase in the maximum reported depth of occurrence.

Known range.—Western Atlantic: Vineyard Sound, Massachusetts, to south central Florida (Williams 1984, Lemaitre et al. 1982).

Pagurus arcuatus Squires, 1964

Known range.—Western Atlantic: Greenland to off Virginia Capes (Williams 1984).

► *Pagurus brevidactylus* (Stimpson, 1859)

Remarks.—Lemaitre et al. (1982) provided a species diagnosis and commented on interspecific comparisons. This species occurs from the intertidal to 50 m (Lemaitre et al. 1982).

Known range.—Western Atlantic: Bermuda; northeastern Florida; Bahamas to Brazil; Gulf of Mexico; Caribbean (Lemaitre et al. 1982).

Pagurus carolinensis McLaughlin, 1975

Remarks.—Lemaitre et al. (1982) provided species diagnosis and interspecific comparisons.

Known range.—Western Atlantic: North Carolina to southeastern Florida (Lemaitre et al. 1982); Tampa Bay, Florida (Strasser & Price 1999).

Pagurus defensus (Benedict, 1892)

Known range.—Western Atlantic: Cape Hatteras, North Carolina, to Georgia; Dry Tortugas, Florida, to Alabama (Williams 1984).

Pagurus impressus (Benedict, 1892)

Known range.—Western Atlantic: off Diamond Shoals, North Carolina, to near Cape Canaveral, Florida; Florida Bay (near Flamingo), north to Pensacola, Florida; Port Aransas, Texas (Williams 1984).

Pagurus longicarpus Say, 1817

Known range.—Western Atlantic: Minas Basin and Chignecto Bay to Hutchinson Island, Florida; southwestern Florida to Texas (Williams 1984, Squires 1990).

► *Pagurus maclaughlinae* García-Gómez,
1982

Remarks.—García-Gómez (1982:647) recognized and described this species. Lemaitre et al. (1982) reported this species in the region and provided a species diagnosis. *Pagurus maclaughlinae* occurs from the subtidal to 5 m (García-Gómez 1982).

Known range.—Western Atlantic: Wassaw, Georgia, to Florida; Gulf of Mexico; Caribbean (Lemaitre et al. 1982).

Pagurus politus (Smith, 1882)

Known range.—Western Atlantic: Nova Scotia to off Dry Tortugas, Florida (Williams 1984, Squires 1990).

Pagurus pollicaris Say, 1817

Known range.—Western Atlantic: Grand Manan, New Brunswick, to northeastern Florida; Key West, Florida, to Texas (Williams 1984).

Pagurus pubescens Krøyer, 1838

Known range.—Western Atlantic: West Greenland; Foxe Basin; Hudson Bay to Cape Hatteras, North Carolina; Arctic-North Atlantic: East Greenland; Iceland; Spitsbergen; Barents Sea; Novaya Zemlya; Eastern Atlantic: Faroes and the British Isles (Williams 1984, Squires 1990).

★ *Pagurus stimpsoni*

(A. Milne-Edwards & Bouvier, 1893)

Pagurus hendersoni Wass.—Williams, 1984:214.

Remarks.—Lemaitre et al. (1982), in comparing type material of *P. hendersoni* with specimens of *P. stimpsoni*, determined that the two species were conspecific, and placed *P. hendersoni* in the synonymy of *P. stimpsoni*. *Pagurus stimpsoni* occurs from the subtidal purportedly to 512 m (Wass 1963), usually from the subtidal to 73 m. Depths of occurrence reported for types of *P. hendersoni* (228 and 347–512 m) by

Wass are problematic according to Lemaitre et al. (1982) who were unable to verify the accuracy of these collection data.

Known range.—Western Atlantic: North Carolina to Florida; Gulf of Mexico; Caribbean coast of South America (Lemaitre et al. 1982).

Phimochirus holthuisi (Provenzano, 1961)

Remarks.—McLaughlin (1981) reported the bathymetric range for this species as 1–210 m.

Known range.—Western Atlantic: North Carolina to Florida; Straits of Florida and Bahama Islands; Gulf of Mexico from Florida to Texas; Caribbean and northern South America from Colombia to Bahia, Brazil (McLaughlin 1981, Williams 1984, Rieger 1998).

Pylopagurus discoidalis

(A. Milne-Edwards, 1880)

Remarks.—McLaughlin & Lemaitre (2001b) rediagnosed the genus *Pylopagurus* and diagnosed, illustrated, and discussed morphological variation of all species within this genus.

Known range.—Western Atlantic: North Carolina to central Brazil, including Gulf of Mexico and Caribbean (Williams 1984, McLaughlin & Lemaitre 2001b).

Rhodochirus rosaceus

(A. Milne-Edwards & Bouvier, 1893)

Known range.—Western Atlantic: south of Cape Lookout, North Carolina, to Key West, Florida; northwestern Gulf of Mexico; Grenada; Suriname; São Paulo and Rio Grande do Sul, Brazil (McLaughlin 1981, Williams 1984, Rieger 1998).

Tomopaguropsis problematica

(A. Milne-Edwards & Bouvier, 1893)

Known range.—Western Atlantic: northeast of Cape Lookout, North Carolina; southern Florida and Bahamas; Barbados; off Honduras (Williams 1984).

► *Tomopagurus cokeri* (Hay, 1917)

Remarks.—McLaughlin (1981) redescribed the genus and provided a species diagnosis and illustrations. This species occurs at 44–302 m (McLaughlin 1981).

Known range.—Western Atlantic: south of Cape Lookout, North Carolina; off northeastern Florida; Gulf of Mexico; Caribbean; off French Guiana (McLaughlin 1981).

► *Tomopagurus wassi* McLaughlin, 1981

Remarks.—McLaughlin (1981) redescribed the genus, described this species, and provided illustrations and comparative information. This species occurs at 75–360 m (McLaughlin 1981).

Known range.—Western Atlantic: southeastern United States; Straits of Florida; Gulf of Mexico; Caribbean to northern Brazil (McLaughlin 1981).

► Family Parapaguridae Smith, 1882

► *Parapagurus pilosimanus* Smith, 1879

Remarks.—Lemaitre (1989) provided a description, illustrations, and information on symbiotic associations and affinities. This species occurs at 102–3864 m, but is most frequently found in depths of 400–1400 m (Lemaitre 1989).

Known range.—North Atlantic: southwest of Iceland and the Faroe Islands to west of Ireland; Western Atlantic: Nova Scotia to Guyana; Eastern Atlantic: Bay of Biscay to Gulf of Guinea; South Atlantic: Tristan da Cunha (Lemaitre 1989).

► *Sympagurus pictus* Smith, 1883

Remarks.—Lemaitre (1989) provided a description, illustrations, and information on symbiotic associations and affinities. This species occurs at 180–2322 m, but is most frequently found at depths of 200 to 800 m (Lemaitre 1989).

Known range.—Western Atlantic: off Long Island, New York to off French Guiana (Lemaitre 1989).

Infraorder Brachyura Latreille, 1802
Superfamily Dromioidea De Haan, 1833
Family Dromiidae De Hann, 1833

★ *Cryptodromiopsis antillensis*
(Stimpson, 1858)

Dromidia antillensis Stimpson.—Williams, 1984:255.

Remarks.—McLay (1993) redefined the genera within the family Dromiidae. As a result, *Dromidia antillensis* was reassigned to the genus *Cryptodromiopsis*.

Known range.—Western Atlantic: Bermuda; off Cape Hatteras, North Carolina, to Rio Grande do Sul, Brazil, including Gulf of Mexico and Caribbean Sea; Central Atlantic: Saint Helena (Williams 1984, Melo et al. 1998).

► *Dromia erythropus*
(George Edwards, 1771)

Remarks.—Previously, the geographic range of this species was considered to be outside the region, however, Williams (unpublished data) records this species from off North Carolina. *Dromia erythropus* inhabits various types of sediments from the intertidal to 360 m (Laughlin et al. 1982, Melo et al. 1998) and is usually found with sponges and ascidians on its carapace (Melo et al. 1998).

Known range.—Western Atlantic: Bermuda; Florida to São Paulo, Brazil (Laughlin et al. 1982, Melo et al. 1998). Williams (unpublished) noted a specimen “Taken off North Carolina (33°48′06″N, 76°34′24″W), 105 m, 14 May 1981 (USNM 202800).”

Hypoconcha arcuata Stimpson, 1858

Known range.—Western Atlantic: off Cape Lookout, North Carolina, to west Florida; St. Thomas, U.S. Virgin Islands; Suriname to São Paulo, Brazil (Williams 1984, Melo et al. 1998).

★ *Hypoconcha parasitica*
(Linnaeus, 1763)

Hypoconcha sabulosa (Herbst).—Williams, 1984:258.

Remarks.—Holthuis and Manning (1987) concluded that *Hypoconcha parasitica* was the oldest available name for the species formerly known as *H. sabulosa*.

Known range.—Western Atlantic: off Cape Hatteras, North Carolina, through Gulf of Mexico to São Paulo, Brazil (Williams 1984, Melo et al. 1998).

Hypoconcha spinosissima Rathbun, 1933

Known range.—Western Atlantic: off Cape Hatteras, North Carolina, to Gulf of Mexico, off Mississippi River delta; Yucatán; Jamaica (Williams 1984).

Superfamily Homoloidea De Haan, 1839

Family Homolidae De Haan, 1839

► *Homola minima* Guinot & Richer de Forges, 1995

Homola barbata (Fabricius).—Williams, 1984:261 (in part).

Remarks.—Guinot & Richer de Forges (1995:326) described this species, provided photographs, and discussed congeneric comparisons. *Homola minima* occurs at depths of 55–690 m (Guinot & Richer de Forges 1995, Martin & Zimmerman 2001). *Homola barbata*, formerly considered to be a wide-ranging species (Williams 1984), is now known to occur only in the Mediterranean Sea and also possibly in the adjoining eastern Atlantic (Guinot & Richer de Forges 1995).

Known range.—Western Atlantic: Martha's Vineyard, Massachusetts, to Rio Grande do Sul, Brazil; Bahamas (Guinot & Richer de Forges 1995, Martin & Zimmerman 2001).

Family Latreilliidae Stimpson, 1858

Latreillia manningi Williams, 1982

Known range.—Western Atlantic: Nantucket Shoals, off Massachusetts, to off Havana, Cuba; Venezuela; Central Atlantic: Ascension Island (Williams 1984).

Superfamily Raninoidea De Haan, 1841

Family Raninidae De Haan, 1841

Remarks.—Guinot (1993) subdivided the family Raninidae into six subfamilies: Raninae De Haan, 1841, Notopodinae Serène & Umali, 1972, Symethinae Goeke, 1981, Raninoidinae Lörenthey & Beurlen, 1929, Lyreidinae Guinot, 1993, and Cyrtorhinae Guinot, 1993. Three subfamilies (Raninae, Notopodinae, and Symethinae) were recognized in Williams (1984).

★ Subfamily Lyreidinae Guinot, 1993

► *Lysirude nitidus*

(A. Milne-Edwards, 1880)

Remarks.—Diagnostic characteristics and congeneric comparisons are provided in Goeke (1980, 1985) and Tucker (1998). This species is found on soft mud bottoms at depths of 119–823 m (Powers 1977, as *Lyreidus bairdii*).

Known range.—Western Atlantic: Massachusetts; Gulf of Mexico; Greater Antilles to Venezuela; Suriname (Goeke 1980).

★ Subfamily Notopodinae Serène & Umali, 1972

Remarks.—Placement of *Ranilia* in subfamily Notopodinae was supported by Tucker's (1998) phylogenetic study.

Ranilia constricta

(A. Milne-Edwards, 1880)

Known range.—Western Atlantic: southeast of Cape Fear, North Carolina; Palm Beach, Florida, to Florida Straits and Yucatán Channel; Cuba; off Barbados (Williams 1984); Amapá, Rio de Janeiro to Rio Grande do Sul, Brazil (Melo et al. 1998); Central Atlantic: Ascension Island; Eastern Atlantic: Senegal to Congo; Annobon Island (Williams 1984).

Ranilia muricata H. Milne Edwards, 1837

Known range.—Western Atlantic: off Cape Lookout, North Carolina, to north-

western Gulf of Mexico; Colombia (Williams 1984); Pernambuco, Brazil (Melo et al. 1998).

★ Subfamily Raninoidinae Lörenthey & Beurlen, 1929

Remarks.—Placement of *Raninoides* in subfamily Raninoidinae was supported by Tucker's (1998) phylogenetic study.

Raninoides loevis (Latreille, 1825)

Remarks.—This species was listed under subfamily Ranininae in Williams (1984).

Known range.—Western Atlantic: south of Cape Hatteras, North Carolina, to São Paulo, Brazil, including Gulf of Mexico, southern Caribbean Sea and Leeward Islands (Williams 1984, Melo et al. 1998).

★ Family Symethidae Goeke, 1981

Remarks.—This taxon was previously considered a subfamily of the Raninidae (e.g., Williams 1984, Guinot 1993). Tucker (1998) considered the subfamily Symethinae sufficiently distinct to warrant elevation of the subfamily to the rank of family.

Symethis variolosa (Fabricius, 1793)

Known range.—Western Atlantic: southeast of Cape Lookout, North Carolina, through western Gulf of Mexico to São Paulo, Brazil, and Fernando de Noronha (Williams 1984, Melo et al. 1998).

★ Superfamily Cyclodorippoidea
Ortmann, 1892

Remarks.—Tavares (1991a) proposed the use of the superfamilial name Cyclodorippoidea to replace Tymoloidea. Martin & Davis (2001) accepted this arrangement.

★ Family Cyclodorippidae Ortmann, 1892

Family Tymolidae.—Williams, 1984:259.

Remarks.—Family Tymolidae is placed in the synonymy of Cyclodorippidae (Ta-

vares 1991a, 1993, 1996). Tavares (1996) conducted a revision of the family Cyclodorippidae.

Clythrocerus granulatus (Rathbun, 1898)

Known range.—Western Atlantic: southeast of Cape Lookout, North Carolina; Honduras; southern Florida, through Antilles, to Venezuela and Trinidad (Williams 1984), and southward to Rio Grande do Sul, Brazil (Melo et al. 1998).

▶ *Clythrocerus nitidus*
(A. Milne-Edwards, 1880)

Remarks.—Tavares (1996) included a description and illustrations, and discussed morphological variation for this species. This species occurs at 12–531 m (Tavares 1996).

Known range.—Western Atlantic: South Carolina; Florida; Barbados; Grenada (Tavares 1996).

★ *Deilocerus perpusillus* (Rathbun, 1901)

Clythrocerus perpusillus Rathbun.—Williams, 1984:260.

Remarks.—As a result of his review of the New World cyclodorippoid crabs, Tavares (1993) identified and described four new genera, including *Deilocerus*. *Clythrocerus perpusillus* was designated the type species of this new genus.

Known range.—Western Atlantic: North Carolina to Georgia; Bahama Banks; Gulf of Mexico; Puerto Rico; Barbados; Amapá to Rio Grande do Sul, Brazil (Williams 1984, Tavares 1996, Melo et al. 1998).

Superfamily Dorippoidea MacLeay, 1838

Family Dorippidae MacLeay, 1838

Subfamily Ethusinae Guinot, 1977

★ *Ethusa americana* A. Milne-Edwards,
1880

Ethusa mascarone americana A. Milne-Edwards.—Williams, 1984:269.

Remarks.—Hendrickx (1989) elevated

the subspecies *E. m. americana* to full species status. *Ethusa americana* occurs only in the western Atlantic; references of this species at eastern Pacific localities refer to *E. panamensis* Finnegan. *Ethusa mascaro-ne* (Herbst) occurs in the Mediterranean (Manning & Holthuis 1981).

Known range.—Western Atlantic: south of Cape Lookout, North Carolina, to Gulf of Mexico and West Indies; Maranhão to Rio de Janeiro, Brazil (Williams 1984, Melo et al. 1998).

Ethusa microphthalmia Smith, 1881

Known range.—Western Atlantic: off Martha's Vineyard, Massachusetts, to Cuba; throughout Gulf of Mexico (Williams 1984); São Paulo, Brazil (Melo et al. 1998).

Ethusa tenuipes Rathbun, 1897

Known range.—Western Atlantic: off Cape Lookout, North Carolina; East Florida to Gulf of Mexico, east of Mississippi River delta; Cuba (Williams 1984); Rio de Janeiro to São Paulo, Brazil (Melo et al. 1998).

Superfamily Calappoidea H. Milne
Edwards, 1837

Family Calappidae H. Milne Edwards,
1837

Remarks.—Bellwood (1996) evaluated phylogenetic relationships of four subfamilies within the Calappidae (Calappinae, Matutinae, Orithyiinae, and Hepatinae) using cladistic analysis. She rejected the monophyly of an expanded Calappidae, but demonstrated support for the monophyly of each component taxon and proposed elevating the four subfamilies to family status. Additionally, Bellwood (1996) reassigned these families to different superfamilies, with Calappidae and Hepatidae remaining in the superfamily Calappoidea, Matutidae placed in the superfamily Leucosioidea, and Orithyiidae placed in the superfamily Dorippoidea. Based on fossil evidence (carapace morphology), Schweitzer and Feld-

mann (2000) supported the conclusions of Bellwood (1996).

Acanthocarpus alexandri Stimpson, 1871

Known range.—Western Atlantic: Georges Bank, off Massachusetts, to west coast of Florida; Puerto Rico to Grenadines; Rio de Janeiro (Williams 1984) to Rio Grande do Sul, Brazil (Melo et al. 1998).

Calappa flammea (Herbst, 1794)

Known range.—Western Atlantic: Woods Hole region, Massachusetts, to Florida Keys; Gulf coast of United States and Mexico; Bahamas; Bermuda (Williams 1984).

Calappa ocellata Holthuis, 1958

Known range.—Western Atlantic: Bermuda; Cape Hatteras, North Carolina, to Rio de Janeiro, Brazil (Williams 1984).

Calappa sulcata Rathbun, 1898

Remarks.—This species occurs on sand, mud, and calcareous algal bottoms from shallow depths to 200 m (Melo et al. 1998).

Known range.—Western Atlantic: Cape Hatteras, North Carolina, through Gulf of Mexico to Paraná, Brazil (Williams 1984, Melo et al. 1998).

★ *Calappa tortugae* Rathbun, 1933

Calappa angusta A. Milne-Edwards.—Williams, 1984:273 (in part).

Remarks.—Williams & Child (1989) determined that "*Calappa angusta*," as previously understood, was poorly defined and actually comprised a complex of species. The next available name for species of *Calappa* in the western Atlantic, *Calappa saussurei tortugae* Rathbun, was removed from synonymy and elevated to full species rank (Williams & Child 1989). Species diagnosis, illustrations and measurements were provided in Williams & Child (1989). This species occurs at 13–238 m (Williams & Child 1989).

Known range.—Western Atlantic: North Carolina to off Venezuela, including Gulf of Mexico, Caribbean, and Leeward Islands (Williams & Child 1989).

★ *Cryptosoma balguerii*
(Desbonne, 1867)

Cycloes bairdii (Stimpson).—Williams, 1984:278.

Remarks.—Galil & Clark (1996) reported that populations of *C. bairdii* occurred exclusively in the eastern Pacific (Baja California to Costa Rica); previous records of *C. bairdii* from Costa Rica to Ecuador were actually those of a new *Cryptosoma* species, whereas records reported as *C. bairdii* from Atlantic localities pertained to *C. balguerii* (a nominal species previously considered to be a subjective synonym of *Cycloes bairdii*). *Cryptosoma balguerii* occurs in shallow waters to 230 m (Galil & Clark 1996).

Known range.—Western Atlantic: North Carolina and Bermuda to Espirito Santo, Brazil (Galil & Clark 1996).

▶ ★ *Cyclozodion angustum*
(A. Milne-Edwards, 1880)

Calappa angusta A. Milne-Edwards.—Williams, 1984:273 (in part).

Remarks.—Williams & Child (1989) concluded that *Calappa angusta*, as described by A. Milne-Edwards, was generically misplaced. They described the genus *Cyclozodion*, of which *C. angustum* (A. Milne-Edwards) is the type species, and provided illustrations, measurements, and comparative information. This species occurs at 95–421 m (Williams & Child 1989).

Known range.—Western Atlantic: off Cape Canaveral, Florida, to Isla Providencia, Colombia; Guyana (Williams & Child 1989).

▶ *Cyclozodion tuberatum* Williams &
Child, 1989

Remarks.—Williams & Child (1989:112) described this species and provided illustra-

tions, measurements and color description. This species occurs at 31–188 m depth, rarely to 640 m (Williams & Child 1989).

Known range.—Western Atlantic: off Cape Lookout, North Carolina, through Bahamas; eastern Gulf of Mexico; and Suriname (Williams & Child 1989).

★ Family Hepatidae Stimpson, 1871

Remarks.—Species in the genera *Hepatus* and *Osachila* were previously assigned to the subfamily Matutinae (Williams 1984). Based on results of a phylogenetic study by Bellwood (1996) and corroborating fossil evidence (carapace morphology) of Schweitzer & Feldmann (2000), these genera are now placed in the family Hepatidae.

Hepatus epheliticus (Linnaeus, 1763)

Known range.—Western Atlantic: Chesapeake Bay to western Gulf of Campeche, Mexico; Cuba; Jamaica; Dominican Republic (Williams 1984).

Hepatus pudibundus (Herbst, 1785)

Known range.—Western Atlantic: Georgia to Rio Grande do Sul, Brazil (Williams 1984, Melo et al. 1998).

Osachila semilevis Rathbun, 1916

Known range.—Western Atlantic: off Beaufort, North Carolina, to northwest Florida (Williams 1984).

Osachila tuberosa Stimpson, 1871

Known range.—Western Atlantic: off Cape Hatteras, North Carolina, to northwest Florida and Yucatán Channel (Williams 1984); Rio de Janeiro and Rio Grande do Sul, Brazil (Melo et al. 1998).

Superfamily Leucosioidea Samouelle,
1819

Family Leucosiidae Samouelle, 1819

Remarks.—Leucosiidae was previously assigned to the superfamily Calappoidea

(Williams 1984). Based on results of a phylogenetic study of the Calappidae, Bellwood (1996) placed the family Leucosiidae in the superfamily Leucosioidea.

Subfamily Ebaliinae Stimpson, 1871

Ebalia cariosa (Stimpson, 1860)

Known range.—Western Atlantic: Bogue Sound near Beaufort, North Carolina, to west Florida; western Gulf of Mexico; Jamaica; northeastern South America to São Paulo, Brazil (Williams 1984).

Ebalia stimpsonii A. Milne-Edwards, 1880

Known range.—Western Atlantic: southeast of Cape Lookout, North Carolina; west Florida to Barbados (Williams 1984); Amapá to São Paulo, Brazil (Melo et al. 1998).

Speloeophorus nodosus (Bell, 1855)

Known range.—Western Atlantic: Florida; West Indies (Williams 1984); Maranhão to Rio de Janeiro, Brazil (Melo et al. 1998).

Speloeophorus pontifer (Stimpson, 1871)

Known range.—Western Atlantic: southeast of Cape Lookout and off Beaufort, North Carolina, to west Florida; West Indies to Barbados (Williams 1984).

Subfamily Iliinae Stimpson, 1871

Myropsis quinquespinosa Stimpson, 1871

Known range.—Western Atlantic: south of Martha's Vineyard, Massachusetts, to Suriname, including Gulf of Mexico and Caribbean Sea (Williams 1984).

Persephona mediterranea (Herbst, 1794)

Known range.—Western Atlantic: New Jersey to Rio Grande do Sul, Brazil, including Gulf of Mexico and Caribbean Sea (Williams 1984, Melo et al. 1998).

Subfamily Leucosiinae Samouelle, 1819

★ *Acanthilia intermedia* (Miers, 1886)

Iliacantha intermedia Miers.—Williams, 1984:290.

Remarks.—Galil (2000) removed *I. intermedia* from the genus *Iliacantha* and placed it in the newly erected genus *Acanthilia* Galil; generic description and species redescription are provided. This species occurs at depths of 10–329 m.

Known range.—Western Atlantic: North Carolina to Brazil (Galil 2000).

Callidactylus asper Stimpson, 1871

Known range.—Western Atlantic: south of Cape Lookout, North Carolina, through southeastern Gulf of Mexico to Panama, and southeastward to Alagoas, Brazil (Williams 1984).

Iliacantha subglobosa Stimpson, 1871

Known range.—Western Atlantic: off Cape Hatteras, North Carolina, to northwest Florida; through eastern Gulf of Mexico and Caribbean Sea, south to Alagoas, Brazil (Williams 1984).

Superfamily Majoidea Samouelle, 1819

Remarks.—Recent investigations of intrarelationships within the Majoidea include those of Drach & Guinot (1983), Griffin & Tranter (1986), Clark & Webber (1991), Guinot & Richer de Forges (1997), Guinot & Bouchard (1998), and Pohle & Marques (2000). Although all subfamilies within the superfamily have not been considered in a phylogenetic framework, previously recognized subfamilies within the family Majidae have been elevated to the level of family (Hendrickx 1995). Martin & Davis (2001) also adopted this arrangement. However, results of a recent phylogenetic analysis based on larval characters (Pohle & Marques 2000) supported monophyly only of the Oregoniidae, Majidae and Inachidae.

★ Family Epialtidae MacLeay, 1838

Remarks.—All species listed below were previously placed in subfamily Epialtinae of the Majidae in Williams (1984).

Epialtus dilatatus A. Milne-Edwards, 1878

Known range.—Western Atlantic: off Beaufort Inlet and New River, North Carolina; southwest Florida; Yucatán; Bahamas to St. Thomas (Williams 1984).

Sphenocarcinus corrosus
A. Milne-Edwards, 1875

Remarks.—Tavares (1991b) provided a generic revision and diagnosis.

Known range.—Western Atlantic: off Cape Lookout, North Carolina; Gulf of Mexico to Barbados (Williams 1984).

★ Family Inachidae MacLeay, 1838

Remarks.—Elevation of subfamily Inachinae to family level was supported by the cladistic analysis of Clark & Webber (1991). Other morphological evidence (Guinot & Bouchard 1998) supported this conclusion. All species of the genera *Anomalothir*, *Metoporphaphis*, *Podochela*, and *Stenorhynchus* (listed below) were previously placed in subfamily Inachinae of the Majidae in Williams (1984). The genus *Rochinia* was previously placed in the subfamily Pisinae of the Majidae (Williams 1984, Griffin & Tranter 1986). Cladistic relationships hypothesized by Clark & Webber (1991) indicated that *Rochinia* should be placed in the Inachidae. Tavares (1991b) conducted a generic revision of *Rochinia*.

Anomalothir furcillatus (Stimpson, 1871)

Known range.—Western Atlantic: off Cape Lookout, North Carolina, through eastern Gulf of Mexico; West Indies to Grenada (Williams 1984).

Metoporphaphis calcarata (Say, 1818)

Known range.—Western Atlantic: off Cape Hatteras, North Carolina, to Rio de Janeiro, Brazil, including Gulf of Mexico and Caribbean Sea (Williams 1984, Melo 1998).

Podochela gracilipes Stimpson, 1871

Known range.—Western Atlantic: off Cape Lookout, North Carolina, to Rio Grande do Sul, including Gulf of Mexico and Caribbean Sea (Williams 1984, Melo 1998).

Podochela riisei Stimpson, 1860

Known range.—Western Atlantic: Bermuda; North Carolina to Campeche, Mexico; Antilles; Rio de Janeiro, Brazil (Williams 1984, Melo 1998).

Podochela sidneyi Rathbun, 1924

Known range.—Western Atlantic: off Cape Hatteras, North Carolina, to Veracruz, Mexico; northwestern Cuba; Yucatán Channel (Williams 1984).

Rochinia crassa
(A. Milne-Edwards, 1879)

Known range.—Western Atlantic: Nantucket Shoals, Massachusetts, to Gulf of Mexico, off southern Texas; northern Cuba; west of Cabo de la Vela, Colombia; off French Guiana (Williams 1984). Recently, a male measuring 89.2 mm carapace width and 89.5 mm carapace length was caught off Lunenburg, Nova Scotia, at 243 m (Moriyasu et al. 2001). This first recorded occurrence of this species in Canadian waters constitutes a northern range extension from the previous northernmost occurrence on Nantucket Shoals, Massachusetts (Williams 1984). Moriyasu et al. (2001) considered this as a stray occurrence of this species in Canadian waters.

Rochinia tanneri (Smith, 1883)

Known range.—Western Atlantic: off Martha's Vineyard, Massachusetts, to Straits of Florida (Williams 1984).

Rochinia umbonata (Stimpson, 1871)

Known range.—Western Atlantic: south-east of Cape Lookout, North Carolina,

through eastern and northern Gulf of Mexico to northeast of Nicaragua; through West Indies to St. Vincent (Williams 1984).

Stenorhynchus seticornis (Herbst, 1788)

Remarks.—Goeke (1989) determined that two co-occurring species were confused under the name *S. seticornis*. He restricted the specific description of *S. seticornis*, redescribed the species, and selected a neotype. This species occurs at 1–366 m (Goeke 1989).

Known range.—Western Atlantic: Bermuda; Cape Fear, North Carolina, to Rio Grande do Sul, Brazil, including Gulf of Mexico, Antilles, and northern South America (Williams 1984, Goeke 1989, Melo 1998).

► *Stenorhynchus yangi* Goeke, 1989

Remarks.—Goeke (1989:631) described this species and provided a diagnosis, illustrations, color description, and discussed morphological variation. This species occurs at 31–365 m (Goeke 1989).

Known range.—Western Atlantic: off Martha's Vineyard, Massachusetts, to Suriname, including Gulf of Mexico (Goeke 1989).

★ Family Inachoididae Dana, 1851

Remarks.—Drach & Guinot (1983) proposed elevating the Inachoidinae to family level. This decision was corroborated with morphological evidence (Guinot & Richer de Forges 1997). The genera included within this family are based on the recommendation of Guinot & Richer de Forges (1997). All species listed below were previously placed in the subfamily Inachinae of the Majidae in Williams (1984).

Aepinus septemspinus
(A. Milne-Edwards, 1879)

Known range.—Western Atlantic: south of Cape Lookout, North Carolina; southwest of Cape San Blas, Florida; Bahama

Banks to São Paulo, Brazil, and Fernando de Noronha Archipelago and Rocas Atoll, Brazil (Williams 1984, Melo 1998).

Anasimus latus Rathbun, 1894

Known range.—Western Atlantic: off Cape Lookout, North Carolina, to Amapá, Brazil, including Gulf of Mexico and Antilles (Williams 1984, Melo 1998).

Arachnopsis filipes Stimpson, 1871

Known range.—Western Atlantic: southeast of Cape Hatteras, North Carolina; Gulf of Mexico, off northwest Florida, through Antilles to Rio Grande do Norte, Brazil (Williams 1984, Melo 1998).

Batrachonotus fragosus Stimpson, 1871

Known range.—Western Atlantic: Cape Hatteras, North Carolina, to southern and western Florida; West Indies to Barbados (Williams 1984).

Collodes robustus Smith, 1883

Known range.—Western Atlantic: Cape Cod, Massachusetts, to southeast of Cape Lookout, North Carolina (Williams 1984).

Collodes trispinosus Stimpson, 1871

Known range.—Western Atlantic: near Cape Hatteras, North Carolina, to southern and western Florida (Williams 1984); Amapá, Rio de Janeiro, and São Paulo, Brazil (Melo 1998).

Euprognatha rastellifera Stimpson, 1871

Known range.—Western Atlantic: off Georges Bank to Uruguay, including Antilles (Williams 1984, Melo 1998 as *E. acuta*).

Inachoides forceps A. Milne-Edwards,
1879

Known range.—Western Atlantic: southeast of Cape Lookout, North Carolina; west coast of Florida to Rio de Janeiro, Brazil,

including Antilles; the Guianas (Williams 1984, Melo 1998).

► *Pyromaia arachna* Rathbun, 1924

Remarks.—Lemaitre et al. (2001) provided information on distinguishing characteristics and congeneric comparisons. This species occurs on mud, mud-sand, and mud-shell sediments at 183–324 m depth (Powers 1977).

Known range.—Western Atlantic: South Carolina to Gulf of Mexico (Powers 1977, Lemaitre et al. 2001).

Pyromaia cuspidata Stimpson, 1871

Known range.—Western Atlantic: off Cape Lookout, North Carolina, to west Florida; Cuba; Yucatán Channel to Nicaragua (Williams 1984).

★ Family Mithracidae Balss, 1929

Remarks.—All species of *Hemus*, *Macrocoeloma*, *Microphrys*, *Mithrax*, *Mithraculus*, and *Stenocionops* (listed below) were previously placed in the subfamily Mithracinae of the Majidae in Williams (1984). Based on results of his investigation of western Atlantic *Mithrax* crabs, Wagner (1990) considered the morphological evidence sufficient to warrant recognition of distinct genera instead of two subgenera within *Mithrax*; *Mithraculus* was elevated to full generic status.

Hemus cristulipes A. Milne-Edwards,
1875

Known range.—Western Atlantic: off Cape Lookout, North Carolina; South Carolina; northwest Gulf of Mexico and Yucatán, through West Indies to Rio de Janeiro, Brazil, and Fernando de Noronha Archipelago (Williams 1984, Melo 1998).

Macrocoeloma camptocerum
(Stimpson, 1871)

Known range.—Western Atlantic: Beaufort Harbor, North Carolina; around south-

ern Florida to Alligator Harbor, Florida (Williams 1984); Amapá to Maranhão, Brazil (Melo 1998).

Macrocoeloma eutheca (Stimpson, 1871)

Known range.—Western Atlantic: southeast of Cape Lookout, North Carolina; off northwest Florida through Bahama Banks and West Indies; Central America; Maranhão to Espírito Santo, Brazil (Williams 1984, Melo 1998).

Macrocoeloma trispinosum
(Latreille, 1825)

Macrocoeloma trispinosum, variety of
Rathbun, 1925

Macrocoeloma trispinosum nodipes
(Desbonne, 1867)

Remarks.—Williams (1984:328) listed these nominal taxa together in one species account. No further investigation of these taxa has been conducted, and further revision is needed. Until further results are available, these taxa are considered as they were in Williams (1984).

Known range (for *M. trispinosum* (Latreille, 1825)).—Western Atlantic: Beaufort, North Carolina, to Alligator Harbor, Florida; Yucatán; West Indies to São Paulo, Brazil, and Fernando de Noronha Archipelago (Williams 1984, Melo 1998).

Microphrys antillensis Rathbun, 1920

Known range.—Western Atlantic: Cape Hatteras to Cape Fear, North Carolina; Antilles; Paraíba to Rio de Janeiro, Brazil (Williams 1984, Melo 1998).

Microphrys bicornutus (Latreille, 1825)

Known range.—Western Atlantic: Bermuda; near Beaufort, North Carolina, through Gulf of Mexico to Rio Grande do Sul, Brazil; Fernando de Noronha Archipelago, Brazil (Williams 1984, Melo 1998).

★ *Mithraculus forceps*

(A. Milne-Edwards, 1875)

Mithrax (Mithraculus) forceps (Milne Edwards).—Williams, 1984:337.*Known range.*—Western Atlantic: Bermuda; Cape Hatteras, North Carolina, through Gulf of Mexico and Antilles to São Paulo, Brazil; Fernando de Noronha Archipelago and Rocas Atoll, Brazil (Williams 1984, Wagner 1990, Melo 1998).★ *Mithrax cornutus* de Saussure, 1857*Mithrax (Mithrax) acuticornis* Stimpson.—Williams, 1984:332.*Remarks.*—Wagner (1990) determined that *M. cornutus* and *M. acuticornis* were conspecific. *Mithrax cornutus* was originally regarded as extralimital by Williams (1984:484). This species occurs between 20–458 m (Wagner 1990).*Known range.*—Western Atlantic: Bermuda; off Cape Lookout, North Carolina; east and west coasts of Florida, through Gulf of Mexico, Yucatán Channel, and West Indies to Rio de Janeiro, Brazil (Williams 1984, Wagner 1990, Melo 1998).★ *Mithrax hispidus* (Herbst, 1790)*Mithrax (Mithrax) hispidus* (Herbst).—Williams, 1984:333.*Mithrax (Mithrax) pleuracanthus* Stimpson.—Williams, 1984:334.*Remarks.*—Wagner (1990) placed *M. pleuracanthus* in the synonymy of *M. hispidus*.*Known range.*—Western Atlantic: Delaware Bay; Bermuda; Beaufort, North Carolina; Charleston, South Carolina; Georgia to Pensacola, Florida; northwestern Gulf of Mexico to Yucatán Channel; Bahamas and Florida Keys through West Indies; Colombia to São Paulo, Brazil (Williams 1984, Wagner 1990, Melo 1998).★ *Mithrax spinosissimus* (Lamarck, 1818)*Mithrax (Mithrax) spinosissimus* (Lamarck).—Williams, 1984:335.*Known range.*—Western Atlantic: North (?) and South Carolina to Nicaragua, through West Indies to Barbados; Venezuela (Williams 1984, Wagner 1990).★ *Mithrax verrucosus* H. Milne Edwards, 1832*Mithrax (Mithrax) verrucosus* H. Milne Edwards.—Williams, 1984:336.*Known range.*—Western Atlantic: Charleston, South Carolina; Florida; Campeche Banks; Curaçao; Venezuela; West Indies to Fernando de Noronha Archipelago and Rocas Atoll, Brazil (Williams 1984, Wagner 1990, Melo 1998).*Stenocionops furcata coelata*
(A. Milne-Edwards, 1878)*Known range.*—Western Atlantic: Beaufort, North Carolina, to northwest Florida and Alabama; Yucatán Channel; West Indies to Barbados (Williams 1984).▶ *Stenocionops furcata furcata*
(Olivier, 1791)*Remarks.*—This subspecies was only referenced in the remarks section of *S. f. coelata* in Williams (1984). It is unclear why *S. f. furcata* was not given a full account since its geographic range and depth distribution (shallow water to 64 m) were clearly within the limits of coverage. Much confusion surrounds identification of members of this species group, and more research is needed (D. Felder, pers. comm.). Until such time, both subspecies are considered valid as in Williams (1984).*Known range.*—Western Atlantic: Georgia to Rio Grande do Sul, Brazil, including Antilles and Colombia (Williams 1984, Melo 1998).*Stenocionops spinimana* (Rathbun, 1892)*Known range.*—Western Atlantic: off Cape Hatteras, North Carolina, to Florida Straits; Gulf of Mexico, off Mobile Bay,

Alabama, and east of Chandeleur Island, off Mississippi (Williams 1984); São Paulo, Brazil (Melo 1998).

► *Stenocionops spinosissima*
(de Saussure, 1857)

Remarks.—This species was considered extralimital by Williams (unpublished), but reported occurrence off North Carolina (Powers 1977) indicated that this species should be included. This species occurs at depths of 46–480 m on mud and sand sediments (Powers 1977, Melo 1998), with its center of distribution in the Gulf of Mexico at 110–183 m (Powers 1977).

Known range.—Western Atlantic: off North Carolina; south and southwest Florida; off Texas and east coast of Mexico; north coast of Cuba; Haiti; Guadeloupe; Dominica; Rio Grande do Norte to Rio Grande do Sul, Brazil; Fernando de Noronha Archipelago, Brazil (Powers 1977, Melo 1998).

★ Family Oregoniidae Garth, 1958

Remarks.—Family level status was supported by a cladistic analysis (Clark & Webber 1991) and morphological evidence (Guinot & Bouchard 1998). In their classification, Martin & Davis (2001) recognized this taxon at the subfamily level. All species listed below were previously placed in the subfamily Oregoniinae of the Majidae in Williams (1984).

Chionoecetes opilio opilio
(O. Fabricius, 1788)

Known range.—Western Atlantic: Greenland south to St. Lawrence estuary and Gulf of Maine; Arctic-North Pacific: Point Barrow, Alaska, and northeastern Siberia through Bering Strait to Alaskan Peninsula and Aleutian chain; Eastern Pacific: Kamchatka; Okhotsk Sea southward to Japan (Williams 1984).

Hyas araneus (Linnaeus, 1758)

Known range.—Western Atlantic: West Greenland to Rhode Island; Arctic-North

Atlantic: between Greenland and Iceland; Spitsbergen; Kara Sea; Eastern Atlantic: through British Isles and northwest France (Williams 1984, Squires 1990).

Hyas coarctatus coarctatus Leach, 1815

Known range.—Western Atlantic: Hudson Bay and Greenland to North Carolina; Arctic-Eastern Atlantic: Murman Sea to Iceland and the British Isles (Williams 1984, Squires 1990).

★ Family Pisidae Dana, 1851

Remarks.—The following six species (listed below) were previously placed in the subfamily Pisinae of the Majidae in Williams (1984).

Coelocerus spinosus A. Milne-Edwards,
1875

Known range.—Western Atlantic: off Cape Fear, North Carolina, to Cape Canaveral, Florida; west Florida to east of Mississippi River delta (Williams 1984).

Libinia dubia H. Milne Edwards, 1834

Known range.—Western Atlantic: Cape Cod, Massachusetts, to southern Texas; Bahamas; Cuba (Williams 1984).

Libinia emarginata Leach, 1815

Known range.—Western Atlantic: Prince Edward Island and Nova Scotia to western Gulf of Mexico (Williams 1984, Squires 1990).

Nibilia antilocapra (Stimpson, 1871)

Known range.—Western Atlantic: off Cape Hatteras, North Carolina, to Gulf of Mexico just east of Mississippi River delta; Gulf of Campeche; Antilles; off Guyana; Rio Grande do Norte and Rio Grande do Sul, Brazil (Williams 1984, Melo 1998).

Pelia mutica (Gibbes, 1850)

Known range.—Western Atlantic: Buzzards Bay and Vineyard Sound, Massachusetts, to Texas; Cuba; Puerto Rico; St. Thomas, U.S. Virgin Islands (Williams 1984).

★ Family Tychidae Dana, 1851

Remarks.—All species listed below were previously placed in the subfamily Tychinae of the Majidae in Williams (1984).

Pitho lherminieri (Schramm, 1867)

Known range.—Western Atlantic: off Beaufort Inlet, North Carolina, to west Florida; Veracruz, Mexico; West Indies to São Paulo, Brazil (Williams 1984).

Tyche emarginata White, 1847

Known range.—Western Atlantic: off Beaufort Inlet, North Carolina, through Bahamas to west coast of Florida (Williams 1984); Antilles; Rio Grande do Norte, Brazil (Melo 1998).

Superfamily Parthenopoidea MacLeay,
1838Family Parthenopidae MacLeay, 1838
Subfamily Parthenopinae MacLeay, 1838

Remarks.—Ng & Rodríguez (1986) did not recognize subgenera within the genus *Parthenope*; *Platylambrus* was assigned full generic status.

★ *Celatopesia concava* (Stimpson, 1871)

Cryptopodia concava Stimpson.—Williams, 1984:346.

Remarks.—Chiong & Ng (1998) determined that the American species of the genus *Cryptopodia*, including *C. concava*, differed markedly in carapace appearance from that of the Indo-West Pacific species. *Celatopesia* was described, and the American species formerly included in *Cryptopodia* were referred to the new genus

(Chiong & Ng 1998). Generic comparisons, species redescription and illustrations were also provided (Chiong & Ng 1998).

Known range.—Western Atlantic: southeast of Cape Lookout, North Carolina; east central Florida; south of Cape San Blas, Florida, to St. Thomas, U.S. Virgin Islands; through Antilles; Maranhão to Rio de Janeiro, Brazil (Williams 1984, Melo 1998).

Heterocrypta granulata (Gibbes, 1850)

Known range.—Western Atlantic: from Nantucket Sound, Massachusetts, around peninsular Florida to southern Texas; through West Indies to Trinidad; Ceará to Paraná, Brazil (Williams 1984, Melo 1998).

Mesorhoea sexspinosa Stimpson, 1871

Known range.—Western Atlantic: southeast of Cape Lookout, North Carolina; off northwest Florida to Flanagan Passage, Virgin Islands (Williams 1984).

★ *Parthenope agona* (Stimpson, 1871)

Parthenope (Parthenope) agona (Stimpson).—Williams, 1984:342.

Known range.—Western Atlantic: off Cape Hatteras and Cape Lookout, North Carolina; east central Florida; Gulf of Mexico (Pensacola, Florida to near Ft. Myers, Florida), through Florida Straits, West Indies and Caribbean Sea to Paraná, Brazil (Williams 1984, Melo 1998).

★ *Platylambrus fraterculus*
(Stimpson, 1871)

Parthenope (Platylambrus) fraterculus (Stimpson).—Williams, 1984:343.

Known range.—Western Atlantic: off Cape Fear, North Carolina; east central Florida southward; Gulf of Mexico (off Cape San Blas, Florida) to Florida Straits; off Cape Catoche, Yucatán, Mexico; through West Indies to Rio Grande do Sul, Brazil (Williams 1984, Melo 1998).

★ *Platylambrus granulata*
(Kingsley, 1879)

Parthenope (Platylambrus) granulata
(Kingsley).—Williams, 1984:344.

Known range.—Western Atlantic: Bermuda; off Cape Hatteras, North Carolina, southward around Florida into Gulf of Mexico to Louisiana; Bahía Honda, Cuba (?); St. Thomas, U.S. Virgin Islands (Williams 1984).

★ *Platylambrus pourtalesii*
(Stimpson, 1871)

Parthenope (Platylambrus) pourtalesii
(Stimpson).—Williams, 1984:345.

Known range.—Western Atlantic: off Martha's Vineyard, Massachusetts; New Jersey to southern Florida; Gulf of Mexico through West Indies to Grenada (Williams 1984, Abele & Kim 1986).

Solenolambrus tenellus Stimpson, 1871

Known range.—Western Atlantic: off Cape Lookout, North Carolina; east central Florida southward, including the Florida Keys, into eastern Gulf of Mexico to near Cape St. George, Florida; Bahamas; Barbados (Williams 1984, Abele & Kim 1986).

Solenolambrus typicus Stimpson, 1871

Known range.—Western Atlantic: south-east of Cape Lookout, North Carolina; western Gulf of Mexico off Corpus Christi, Texas, and north of Yucatán; Nicaragua Shelf; southern Florida through West Indies to Suriname and Rio de Janeiro, Brazil (Williams 1984, Melo 1998).

Superfamily Cancroidea Latreille, 1802
Family Cancridae Latreille, 1802

Remarks.—Based on fossil evidence (primarily characters of the carapace and chelipeds) Nations (1975) recognized four subgenera (*Glebocarcinus* Nations, 1975, *Romaleon* Gistel, 1848, *Metacarcinus* A. Milne-

Edwards, 1862, *Cancer*, sensu stricto Linnaeus, 1758) within the genus *Cancer*. Williams (1984) adopted this classification. Schweitzer & Feldmann (2000) re-evaluated the Cancridae and elevated the subgenera of Nations (1975) to full generic status, again basing their conclusions only on fossil evidence. This classification has not gained acceptance with researchers working on extant species. Until more thorough investigation, incorporating a broader range of characters, is conducted, the classification of Williams (1984) will be followed. Williams & Wahle (1992) summarized and illustrated the differences between juvenile *Cancer borealis* and *C. irroratus*.

Cancer (Metacarcinus) borealis Stimpson,
1859

Known range.—Western Atlantic: Nova Scotia to south of Dry Tortugas, Florida (Williams 1984).

Cancer (Cancer) irroratus Say, 1817

Known range.—Western Atlantic: Labrador to off Miami, Florida (Williams 1984).

Superfamily Portunoidea Rafinesque, 1815
Family Geryonidae Colosi, 1923

► ★ *Chaceon quinquedens* (Smith, 1879)

Geryon quinquedens Smith.—Williams, 1984:485.

Remarks.—Williams (1984) considered this species to be extralimital. Manning & Holthuis (1989) described the new genus *Chaceon* for 21 species including *C. quinquedens*. This species occurs at 40–2155 m depth, but is usually found at the shelf edge or on the continental slope (Wigley et al. 1975, Williams 1984).

Known range.—Western Atlantic: Nova Scotia southward to Gulf of Mexico; Cuba; Brazil and Argentina (Wigley et al. 1975, Williams & Wigley 1977, Williams 1984).

Family Portunidae Rafinesque, 1815
 Subfamily Carcininae Alcock, 1899
Carcinus maenas (Linnaeus, 1758)

Remarks.—Behrens Yamada & Hauck (2001) provided extensive information on distinguishing characteristics of this species and evaluated the usefulness of these characters in making field identifications.

Known range.—Western Atlantic (introduced): Northumberland Strait and Cape Breton to Virginia; Eastern Atlantic: Iceland; Norway, including southwestern and rarely southern Baltic Sea, through North Sea and British Isles to Mauritania; northwest Africa; also introduced to South Africa; Madagascar; Red Sea; Myanmar; India; Ceylon; Japan; Australia; Tasmania (Williams 1984, Squires 1990, Behrens Yamada & Hauck 2001); multiple eastern Pacific localities, including sites in California, Oregon, Washington, and Vancouver Island, British Columbia (Cohen et al. 1995, Grosholz & Ruiz 1996, Behrens Yamada et al. 2000).

Subfamily Polybiinae Ortmann, 1893

► *Bathynectes longispina* Stimpson, 1871

Remarks.—Williams (1984) considered this species to be extralimital. This species has been captured and observed recently at depths somewhat shallower (124–152 m; V. Guida, pers. comm.) than previously reported (100–1455 m, commonly >200 m; Williams & Wigley 1977). Manning & Holthuis (1981) reported that western Atlantic specimens identified as *B. superbus* (Costa, 1853) are actually *B. longispina*.

Known range.—Western Atlantic: Martha's Vineyard, Massachusetts, to off Mississippi River delta southward to Goajara Peninsula, Colombia; Bermuda (Williams 1984).

Ovalipes ocellatus (Herbst, 1799)

Known range.—Western Atlantic: Northumberland Strait, Prince Edward Island, to Georgia (Williams 1984).

Ovalipes stephensoni Williams, 1976

Known range.—Western Atlantic: southern New Jersey to Biscayne Bay, Florida (Williams 1984, Stehlik et al. 1991).

Subfamily Portuninae Rafinesque, 1815
Arenaeus cribrarius (Lamarck, 1818)

Remarks.—Juveniles of this species were collected at 6–10 m on sand and mud-sand sediments (Scelzo 2001).

Known range.—Western Atlantic: Vineyard Sound, Massachusetts, to Mar del Plata, Argentina (Williams 1984, Scelzo 2001).

Callinectes bocourti A. Milne-Edwards, 1879

Known range.—Western Atlantic: occasionally North Carolina, Florida, and Mississippi; otherwise Jamaica; Belize to Santa Catarina, Brazil, including Antilles and northern coast of South America (Williams 1984, Melo 1998).

Callinectes danae Smith, 1869

Known range.—Western Atlantic: Bermuda; New Hanover County, North Carolina (near Cape Fear); southern Florida; eastern side of Yucatán Peninsula to Rio Grande do Sul, Brazil, including Antilles and northern coast of South America (Williams 1984, Melo 1998).

Callinectes exasperatus
 (Gerstaecker, 1856)

Known range.—Western Atlantic: Bermuda; Duval County, east of Jacksonville, Florida, to Santa Catarina, Brazil, including Antilles and Venezuela; extreme southern Texas; Veracruz, Mexico (Williams 1984, Melo 1998).

Callinectes larvatus Ordway, 1863

Known range.—Western Atlantic: Bermuda; Beaufort, North Carolina, through Caribbean Sea to São Paulo, Brazil, including Antilles (Williams 1984, Melo 1998).

Callinectes ornatus Ordway, 1863

Known range.—Western Atlantic: Virginia through southern Florida; Bermuda; northwestern Yucatán to Rio Grande do Sul, Brazil, including Antilles (Williams 1984, Melo 1998).

Callinectes sapidus Rathbun, 1896

Known range.—Western Atlantic: Cape Cod, Massachusetts, to northern Argentina, including Bermuda, Antilles, Central America, and Venezuela (occasionally north of Cape Cod to Maine and Nova Scotia, in favorably warm periods); Eastern Atlantic: Øresund, Denmark; the Netherlands and adjacent North Sea; northwest and southwest France; Mediterranean Sea, including northern Adriatic, Aegean, and western Black seas; Eastern Pacific: Japan (Williams 1984, Squires 1990, Melo 1998).

Callinectes similis Williams, 1966

Known range.—Western Atlantic: off Delaware Bay to Key West, Florida; northwestern Florida around Gulf of Mexico to off Campeche, Yucatán; Isla de Providencia, Colombia (Williams 1984).

Cronius ruber (Lamarck, 1818)

Known range.—Western Atlantic: Little Egg Inlet, New Jersey; Rehoboth Bay, Delaware; Virginia; South Carolina to Rio Grande do Sul, Brazil, including Central America, Antilles, and northern South America; Eastern Atlantic: West Africa from Mauritania to Angola; Cape Verde, Principe, São Tome and Annobon islands; Eastern Pacific: Baja California to Peru; Clipperton Island; Galápagos Islands (Williams 1984, Melo 1998).

Portunus anceps (de Saussure, 1858)

Known range.—Western Atlantic: Bermuda; Cape Hatteras, North Carolina, to Rio de Janeiro, Brazil, including Antilles (Williams 1984, Melo 1998).

Portunus depressifrons (Stimpson, 1859)

Known range.—Western Atlantic: Bermuda; Fort Macon, North Carolina, through northwest Florida to Gulf of Campeche and Caribbean Sea (Williams 1984).

Portunus floridanus Rathbun, 1930

Known range.—Western Atlantic: east of Cape Lookout, North Carolina, to Nicaragua; through West Indies and northern South America to Suriname (Williams 1984).

Portunus gibbesii (Stimpson, 1859)

Known range.—Western Atlantic: southern Massachusetts through Gulf of Mexico along coast to French Guiana (Williams 1984); Bahia, Brazil (Melo 1998).

Portunus ordwayi (Stimpson, 1860)

Known range.—Western Atlantic: Vineyard Sound, Massachusetts; Bermuda; North Carolina through Gulf of Mexico, West Indies and Caribbean Sea to Rio Grande do Sul, Brazil; Fernando de Noronha, Brazil (Williams 1984, Melo 1998).

Portunus sayi (Gibbes, 1850)

Known range.—Western Atlantic: off the Grand Banks through Gulf of Mexico to the Guianas; Bermuda; Eastern Atlantic: Canary Islands; Morocco (Williams 1984, Squires 1990).

Portunus spinicarpus (Stimpson, 1871)

Known range.—Western Atlantic: off Oregon Inlet, North Carolina, to Santa Catarina, Brazil, including Antilles and northern South America (Williams 1984, Melo 1998).

Portunus spinimanus Latreille, 1819

Known range.—Western Atlantic: New Jersey to Rio Grande do Sul, Brazil, including Gulf of Mexico, West Indies and

northern South America; Bermuda (Williams 1984, Melo 1998).

Superfamily Xanthoidea MacLeay, 1838

Remarks.—Guinot (1978) concluded that Xanthidae actually represented eight different families (Carpiliidae Ortmann, 1893, Menippidae Ortmann, 1893, Platyxanthidae Guinot, 1977, Xanthidae McLeay, 1838, Panopeidae Ortmann, 1893, Pilumnidae Samouelle, 1819, Trapeziidae Miers, 1886, and Geryonidae Colosi, 1924) which should be recognized under the superfamily Xanthoidea. Williams (1984) elected not to adopt this classification. Instead, he placed the majority of xanthid taxa (exclusive of the Goneplacidae) under the single family Xanthidae. In the intervening years, Guinot's classification, with minor modification, has gained acceptance by the majority of crustacean researchers (Schubart, Neigel, & Felder 2000, Martin & Davis 2001).

Family Goneplacidae MacLeay, 1838

Remarks.—The Goneplacidae has long been recognized as containing heterogeneous groups of genera (Hendrickx 1998, and references therein). Because revisionary studies of the Goneplacidae are still in progress, formal subdivision into subfamilies is not attempted here. Furthermore, after further revision of this family, it is likely that new families will be added and subfamilies elevated to full family status (Guinot 1978, Williams 1984, Sternberg, pers. comm.).

Euryplax nitida Stimpson, 1859

Known range.—Western Atlantic: Bermuda; off Beaufort, North Carolina, to Heald Bank, Texas; Antilles to Santa Catarina, Brazil (Williams 1984, Melo 1998).

Frevillea hirsuta (Borradaile, 1916)

Known range.—Western Atlantic: North Carolina to Rio Grande do Sul, Brazil (Williams 1984, Melo 1998).

Goneplax sigsbei (A. Milne-Edwards, 1880)

Known range.—Western Atlantic: east of Cape Fear, North Carolina; Grenada (Williams 1984).

Speocarcinus carolinensis Stimpson, 1859

Known range.—Western Atlantic: south of Cape Hatteras, North Carolina, to Rio Grande do Sul, Brazil, including West Indies (Williams 1984, Melo 1998).

★ Family Menippidae Ortmann, 1893

Remarks.—Williams (1984) listed these taxa under the family Xanthidae.

Eriphia gonagra (Fabricius, 1781)

Known range.—Western Atlantic: Bermuda; North Carolina to Patagonia, including Central America, Antilles, and northern South America (Williams 1984, Melo 1998).

Menippe mercenaria (Say, 1818)

Remarks.—Williams & Felder (1986) recognized two morphologically distinct populations of stone crab in the Gulf of Mexico and determined that these populations represented distinct species. Range of *Menippe mercenaria* was restricted; *M. adina* Williams & Felder, which ranges from northwestern Florida around the Gulf of Mexico to Tamaulipas State, Mexico, was described (Williams & Felder 1986).

Known range.—Western Atlantic: Cape Lookout, North Carolina, through peninsular Florida; Bahamas and Greater Antilles to Yucatán Peninsula, Mexico; and Belize (Williams & Felder 1986).

★ Family Panopeidae Ortmann, 1893

Remarks.—Williams (1984) listed these taxa under the family Xanthidae. Genera included in this family were based on the conclusions of Guinot (1978) and subsequent acceptance of generic placements by

Martin & Abele (1986). Schubart, Neigel, & Felder (2000) presented a molecular phylogeny of western Atlantic Panopeidae.

★ *Dyspanopeus sayi* (Smith, 1869)

Neopanope sayi (Smith).—Williams, 1984: 409.

Remarks.—Martin & Abele (1986) described the new genus *Dyspanopeus* for *D. sayi* (occurring in the western Atlantic) and *D. texanus* (occurring in the Gulf of Mexico).

Known range.—Western Atlantic: southern Gulf of St. Lawrence to Florida Keys; Eastern Atlantic (introduced): Bristol Channel, United Kingdom (Williams 1984, Squires 1990).

Eurypanopeus abbreviatus
(Stimpson, 1860)

Known range.—Western Atlantic: South Carolina to Rio Grande do Sul, Brazil, including Gulf of Mexico, Antilles, and northern South America (Williams 1984, Melo 1998).

Eurypanopeus depressus (Smith, 1869)

Known range.—Western Atlantic: Massachusetts Bay through Florida to southern Texas; Dutch West Indies; Uruguay; Bermuda (Williams 1984).

Eurytium limosum (Say, 1818)

Known range.—Western Atlantic: Bermuda; South Carolina; Louisiana to Santa Catarina, Brazil, including West Indies and Caribbean Sea (Williams 1984, Melo 1998).

Glyptoplax smithii A. Milne-Edwards,
1880

Remarks.—This species previously was placed in the family Goneplacidae (Williams 1984). Guinot (1978) transferred this species to the Panopeidae; Martin & Abele (1986) adopted this arrangement.

Known range.—Western Atlantic: Cape Hatteras, North Carolina, to Gulf of Mexico and Yucatán Channel (Williams 1984).

Hexapanopeus angustifrons
(Benedict & Rathbun, 1891)

Known range.—Western Atlantic: Vineyard Sound, Massachusetts, to Port Aransas, Texas; West Indies; Pernambuco to Santa Catarina, Brazil (Williams 1984, Melo 1998).

Hexapanopeus paulensis Rathbun, 1930

Known range.—Western Atlantic: South Carolina to Uruguay, including Gulf of Mexico (Williams 1984).

Panopeus herbstii H. Milne Edwards,
1834

Remarks.—Williams (1983) examined the *Panopeus herbstii* species complex and determined that 'forms' previously recognized by Rathbun (1930) were sufficiently different and represented distinct species. As a result, *P. herbstii* was better defined, and its range determined to be the shallow intertidal and subtidal waters of the eastern United States.

Known range.—Western Atlantic: Boston Harbor, Massachusetts, to Indian River County, Florida (Williams 1983).

► *Panopeus obesus* Smith, 1869

Remarks.—This species was recognized previously as a form of *Panopeus herbstii* (Rathbun 1930). Williams (1983) rediagnosed this form and elevated it to full species rank; diagnosis, measurements, and color description of this species were also provided. *Panopeus obesus* is found in marsh edge, and shallow intertidal and subtidal waters of the Carolinian province.

Known range.—Western Atlantic: Beaufort, North Carolina, to northeastern Florida; Sarasota County, Florida, to Louisiana; Texas; northern Mexico (Williams 1983).

Panopeus occidentalis de Saussure, 1857

Known range.—Western Atlantic: Bermuda; North Carolina to Santa Catarina, Brazil, including Central America, Antilles and northern South America (Williams 1984, Melo 1998).

Panoplax depressa Stimpson, 1871

Remarks.—This species was placed previously in the family Goneplacidae (Williams 1984). Guinot (1978) transferred this species to the Panopeidae; Martin & Abele (1986) adopted this arrangement.

Known range.—Western Atlantic: southeast of Cape Lookout, North Carolina; off Jacksonville and Cape San Blas, Florida; through Antilles; Amapá to Pernambuco, Brazil (Williams 1984, Melo 1998).

Rhithropanopeus harrisii (Gould, 1841)

Known range.—Western Atlantic: southwestern Gulf of St. Lawrence to Veracruz, Mexico; Eastern Atlantic (introduced): parts of Europe; Eastern Pacific (introduced): west coast of United States (Williams 1984, Squires 1990).

★ Family Pilumnidae Samouelle, 1819

Remarks.—Williams (1984) listed these taxa under the family Xanthidae.

Lobopilumnus agassizii (Stimpson, 1871)

Known range.—Western Atlantic: Bermuda; North Carolina; eastern Gulf of Mexico; Yucatán; Cuba; Venezuela; Trinidad (Williams 1984).

Pilumnus dasypodus Kingsley, 1879

Known range.—Western Atlantic: off Cape Hatteras, North Carolina, to Santa Catarina, Brazil, including Gulf of Mexico, Caribbean Sea, and West Indies (Williams 1984, Melo 1998).

Pilumnus floridanus Stimpson, 1871

Known range.—Western Atlantic: off Cape Lookout, North Carolina, to Bahia, Brazil, including Gulf of Mexico, Yucatán Channel, Central America, Venezuela, and West Indies (Williams 1984, Melo 1998).

Pilumnus lacteus Stimpson, 1871

Known range.—Western Atlantic: near Beaufort, North Carolina, to Florida; Cuba (Williams 1984).

Pilumnus pannosus Rathbun, 1896

Known range.—Western Atlantic: Bogue Sound, off Beaufort, North Carolina, to Port Aransas, Texas; West Indies to Virgin Islands (Williams 1984).

Pilumnus sayi Rathbun, 1897

Known range.—Western Atlantic: North Carolina to Curaçao, including Gulf of Mexico and West Indies (Williams 1984).

★ Family Pseudorhombilidae Alcock, 1900

Remarks.—This taxon was previously considered a subfamily (Pseudorhombilinae) within the Goneplacidae (Williams 1984). Hendrickx (1998) proposed the family designation to accommodate six genera.

Nanoplax xanthiformis
(A. Milne-Edwards, 1881)

Known range.—Western Atlantic: Cape Hatteras, North Carolina, to Rio de Janeiro, Brazil, including Gulf of Mexico, Yucatán, West Indies, and northern South America (Williams 1984, Melo 1998).

★ Family Trapeziidae Miers, 1886

Remarks.—Williams (1984) listed this taxon under the family Xanthidae.

Domecia acanthophora acanthophora
(Desbonne & Schramm, 1867)

Known range.—Western Atlantic: Bermuda; Cape Lookout Shoals, North Carolina; northwestern Gulf of Mexico to Alagoas, Brazil, including West Indies and Caribbean Sea (Williams 1984, Melo 1998).

Family Xanthidae MacLeay, 1838
Allactaea lithostrota Williams, 1974

Known range.—Western Atlantic: Bermuda; off Cape Lookout, North Carolina; Florida Straits; off Cape Catoche, Yucatán; off Venezuela and Suriname (Williams 1984); Antilles; off Rio de Janeiro to Rio Grande do Sul, Brazil (Melo 1998).

Carpaporus papulosus Stimpson, 1871

Known range.—Western Atlantic: between Cape Hatteras and Cape Lookout, North Carolina; Gulf of Mexico, off Mobile Bay southeastward; Cape Catoche, Yucatán (Williams 1984).

Glyptoxanthus erosus (Stimpson, 1859)

Known range.—Western Atlantic: Cape Lookout, North Carolina, southward around Florida into Gulf of Mexico to off Grand Isle, Louisiana; Yucatán; West Indies to Guadeloupe (Williams 1984).

Melybia thalamita Stimpson, 1871

Known range.—Western Atlantic: off Cape Lookout, North Carolina, southwest of Mississippi River delta to São Paulo, Brazil, including West Indies and northern South America (Williams 1984, Melo 1998).

Micropanope nuttingi (Rathbun, 1898)

Known range.—Western Atlantic: Cape Hatteras, North Carolina, to São Paulo, Brazil, including Gulf of Mexico and West Indies (Williams 1984, Melo 1998).

Micropanope sculptipes Stimpson, 1871

Known range.—Western Atlantic: southeast of Cape Lookout, North Carolina, to Port Aransas, Texas; West Indies to Barbados; Amapá to Rio de Janeiro, Brazil (Williams 1984, Melo 1998).

Micropanope urinator
(A. Milne-Edwards, 1881)

Known range.—Western Atlantic: off Cape Hatteras and Cape Lookout, North Carolina; Florida Keys to St. Croix (Williams 1984); Antilles; Pará to Maranhão, Brazil (Melo 1998).

Paractaea rufopunctata nodosa
(Stimpson, 1860)

Known range.—Western Atlantic: southeast of Cape Lookout, North Carolina; off Mississippi River delta, through West Indies to Uruguay; Central Atlantic: Ascension Island (Williams 1984, Melo 1998).

Pseudomedaesus agassizii
(A. Milne-Edwards, 1880)

Known range.—Western Atlantic: Cape Hatteras, North Carolina, to southern Texas (Williams 1984).

Pseudomedaesus distinctus (Rathbun, 1898)

Known range.—Western Atlantic: off Cape Hatteras, North Carolina, through Straits of Florida to northwest of Dry Tortugas; Puerto Rico; Barbados (Williams 1984).

Tetraxanthus rathbunae Chace, 1939

Known range.—Western Atlantic: off Cape Lookout, North Carolina, to Rio Grande do Sul, Brazil, including Gulf of Mexico and Antilles (Williams 1984, Melo 1998).

Superfamily Pinnotheroidea De Haan,
1833

Family Pinnotheridae De Haan, 1833

Remarks.—Marques & Pohle (1995) conducted a phylogenetic analysis of this family using larval characters and demonstrated that several taxa are paraphyletic taxa and that further analysis will be needed to resolve relationships within this family.

Subfamily Pinnotherinae De Haan, 1833

Remarks.—Griffith (1987) presented a hypothesis of phylogenetic relationships within the genus *Dissodactylus* based on adult morphology. Marques & Pohle (1995) conducted a phylogenetic analysis of members of this genus using larval characters and produced results that only partially corroborated the relationships proposed by Griffith (1987). In a separate analysis, both data sets (adult morphology and larval morphology) were combined (Marques & Pohle 1995). Results of this analysis provided a more robust hypothesis of relationships than when either character set was analyzed independently.

Dissodactylus crinitichelis Moreira, 1901

Known range.—Western Atlantic: southeast of Cape Lookout, North Carolina; off northwest Florida; Caribbean Sea and South America to Rio de la Plata, Argentina (Williams 1984).

Dissodactylus mellitae (Rathbun, 1900)

Known range.—Western Atlantic: western Vineyard Sound, Massachusetts, to Charleston, South Carolina; Hutchinson Island, east Florida; western Florida; off Galveston, Texas (Williams 1984).

★ *Gemmotheres chamae* (Roberts, 1975)

Pinnotheres chamae Roberts.—Williams, 1984:440.

Remarks.—Campos (1996) described the

new genus *Gemmotheres* for *P. chamae*; illustrations were also provided.

Known range.—Western Atlantic: North Carolina coast (Williams 1984, Campos 1996).

► *Parapinnixa beaufortensis* Rathbun, 1918

Remarks.—Williams (1984) considered this species to be extralimital.

Known range.—Western Atlantic: off Beaufort, North Carolina (Williams 1984).

Parapinnixa bouvieri Rathbun, 1918

Known range.—Western Atlantic: off Charleston, South Carolina; south of Dry Tortugas, Florida; off Cape Catoche, Yucatán; Puerto Rico; Amapá, Brazil (Williams 1984, Melo 1998).

Parapinnixa hendersoni Rathbun, 1918

Known range.—Western Atlantic: southeast of Cape Lookout, North Carolina; off Tampa Bay, Florida, through West Indies to Curaçao; Venezuela; Maranhão to Espírito Santo, Brazil (Williams 1984, Melo 1998).

Pinnaxodes floridensis Wells and Wells, 1961

Known range.—Western Atlantic: off North Carolina to Georgia; northwest Florida (Williams 1984).

★ *Tumidotheres maculatus* (Say, 1818)

Pinnotheres maculatus Say.—Williams, 1984:441.

Remarks.—Campos (1989) described the new genus *Tumidotheres* and discussed generic relationships and life history traits.

Known range.—Western Atlantic: off Martha's Vineyard, Massachusetts, to Golfo San Matías, Argentina (Williams 1984).

★ *Zaops ostreum* (Say, 1817)

Pinnotheres ostreum Say.—Williams, 1984: 444.

Remarks.—Manning (1993) concluded that *Zaops* Rathbun, 1900 should be removed from the synonymy of *Pinnotheres* and recognized as a distinct genus. Additionally, other pinnotherid genera formerly placed in the synonymy of *Pinnotheres* were diagnosed, figured and differentiated from *Pinnotheres* sensu Manning (1993).

Known range.—Western Atlantic: Salem, Massachusetts, to Santa Catarina, Brazil (Williams 1984).

Subfamily Pinnothereliinae Alcock, 1900

★ *Austinixa cristata* (Rathbun, 1900)

Pinnixa cristata Rathbun.—Williams, 1984:453.

Remarks.—Heard & Manning (1997) recognized and described the new genus *Austinixa* for *Pinnixa cristata* and six other species formerly assigned to *Pinnixa*.

Known range.—Western Atlantic: Beaufort, North Carolina, to Miami, Florida; northern and southwestern Gulf of Mexico (Manning & Felder 1989); Central America; Brazil (Melo 1998).

Pinnixa chaetoptera Stimpson, 1860

Known range.—Western Atlantic: Wellfleet, Massachusetts, to Rio Grande do Sul, Brazil (Williams 1984).

Pinnixa cylindrica (Say, 1818)

Known range.—Western Atlantic: North Falmouth, Massachusetts, to Pensacola, Florida, including Dry Tortugas (Williams 1984).

Pinnixa floridana Rathbun, 1918

Known range.—Western Atlantic: southeast of Cape Lookout, North Carolina; Hutchinson Island, east Florida; west coast of Florida (Williams 1984).

Pinnixa lunzi Glassell, 1937

Known range.—Western Atlantic: off the eastern shore of Virginia; North and South

Carolina; Georgia; off Mississippi River delta; Seven and One-Half Fathom Reef, off Texas (Williams 1984).

Pinnixa retinens Rathbun, 1918

Known range.—Western Atlantic: Delaware Bay; Chesapeake Bay; Little River Inlet, South Carolina; Alligator Harbor, Florida; Aransas area of Texas coast (Williams 1984).

Pinnixa sayana Stimpson, 1860

Known range.—Western Atlantic: Vineyard Sound, Massachusetts, to Beaufort, North Carolina; Hutchinson Island, east central Florida; Sarasota Bay, Florida to Grand Isle, Louisiana; Amapá to Rio Grande do Sul, Brazil (Williams 1984, Melo 1998).

Superfamily Ocypodoidea Rafinesque, 1815

Family Ocypodidae Rafinesque, 1815

Subfamily Ocypodinae Rafinesque, 1815

Remarks.—Rosenberg (2001) conducted a phylogenetic analysis of the genus *Uca* using 236 discrete morphological characters. Although many scientists ignore subgeneric designations, Rosenberg (2001) considered subgenera within *Uca* to be valid. The three species of *Uca* occurring in the region are considered to be members of the subgenus *Minuca* (Rosenberg 2001).

Ocypode quadrata (Fabricius, 1787)

Known range.—Western Atlantic: Block Island, Rhode Island, to Rio Grande do Sul, Brazil; Fernando de Noronha Archipelago, Brazil; Bermuda (Williams 1984, Melo 1998).

Uca minax (LeConte, 1855)

Remarks.—Felder & Staton (1994) analyzed electrophoretic allozyme assays and observed slight differentiation between Gulf of Mexico and Atlantic populations.

Known range.—Western Atlantic: Buzzards Bay, Cape Cod, Massachusetts, to Daytona Beach, Florida; Yankeetown, northwest Florida, to Matagorda Bay, Texas (Williams 1984, Barnwell & Thurman 1984).

Uca pugilator (Bosc, 1802)

Known range.—Western Atlantic: Cape Cod, Massachusetts, southward around the tip of peninsular Florida and westward to Pensacola Beach, Florida; possible rare occurrences in Bahamas and western Gulf of Mexico (Barnwell & Thurman 1984).

Uca pugnax (Smith, 1870)

Known range.—Western Atlantic: Provincetown, Massachusetts, to Daytona Beach, Florida (Williams 1984, Barnwell & Thurman 1984).

Family Palicidae Bouvier, 1898

Palicus alternatus Rathbun, 1897

Known range.—Western Atlantic: Cape Hatteras to southeast of Cape Fear, North Carolina; Gulf of Mexico along west coast of Florida from Cape San Blas to Key West (Williams 1984).

Palicus faxoni Rathbun, 1897

Known range.—Western Atlantic: off Cape Hatteras, North Carolina, to near Cape Canaveral, Florida; off Yucatán, Mexico, near Quita Sueño Banks; southwest of St. Christopher; Rio Grande do Norte to Rio de Janeiro, Brazil (Williams 1984, Melo 1998).

► *Palicus gracilis* (Smith, 1883)

Remarks.—Williams (1984) considered this species to be extralimital. This species occurs at 183–512 m (Williams & Wigley 1977).

Known range.—Western Atlantic: Martha's Vineyard, Massachusetts, to Curaçao, including Gulf of Mexico (Williams & Wigley 1977).

Palicus sica (A. Milne-Edwards, 1880)

Known range.—Western Atlantic: off Charleston, South Carolina, to Cape Canaveral, Florida; west coast of Florida to Rio Grande do Sul, Brazil, including West Indies (Williams 1984, Melo 1998).

Superfamily Grapsoidea MacLeay, 1838

Family Grapsidae MacLeay, 1838

Remarks.—Previously, family Grapsidae was considered to be comprised of four subfamilies. Based on a cladistic study by Sternberg & Cumberlidge (1998) the Grapsidae were redefined and restricted to include all genera previously placed in the subfamily Grapsinae. Molecular data also supported elevation of grapsid subfamilies to full family status (Schubart, Cuesta, Diesel, & Felder 2000).

Pachygrapsus transversus (Gibbes, 1850)

Known range.—Western Atlantic: Bermuda; Cape Lookout, North Carolina, to Montevideo, Uruguay; Eastern Atlantic: Mediterranean Sea to northern Angola; Eastern Pacific: California to Peru; Galápagos Islands (Williams 1984).

Planes minutus (Linnaeus, 1758)

Known range.—Western Atlantic: off the Grand Banks of Newfoundland south to 11°N, exclusive of Gulf of Mexico; Eastern Atlantic: southern North Sea south to 11°N, including Mediterranean Sea (Williams 1984, Squires 1990).

★ Family Plagusiidae Dana, 1851

Remarks.—This taxon was previously considered a subfamily of the Grapsidae (e.g., Williams 1984, Guinot & Bouchard 1998). Based on results of a cladistic study, Sternberg & Cumberlidge (1998) concluded that the two genera (*Percnon* and *Plagusia*) placed in the subfamily Plagusinae formed a monophyletic taxon; subfamily Plagusinae was redefined and elevated to family

status (Plagusiidae). Based on results of a molecular phylogeny, however, Schubart, Cuesta, Diesel, & Felder (2000) questioned taxonomic placement of *Percnon* in this family. Sternberg & Cumberlidge (1998) had placed *Euchirograpsus* in the Varuninae. However, based on morphological and molecular evidence (Schubart, Cuesta, Diesel, & Felder 2000), *Euchirograpsus* belongs in the Plagusiidae.

Euchirograpsus americanus
A. Milne-Edwards, 1880

Remarks.—This species was previously considered a member of the Varuninae (Williams 1984). Based on molecular evidence and larval morphology, Schubart, Cuesta, Diesel, & Felder (2000) proposed inclusion of this species in the family Plagusiidae.

Known range.—Western Atlantic: Oceanographer Canyon, edge of Georges Bank; off Oregon Inlet, North Carolina; Florida to Venezuela, including West Indies; Rio Grande do Sul, Brazil (Williams 1984, 1988; Melo 1998).

Percnon gibbesi
(H. Milne Edwards, 1853)

Remarks.—Based on molecular evidence, Schubart, Cuesta, Diesel, & Felder (2000) suggested that this species does not belong in the family Plagusiidae. Those authors reported that the taxonomic position of *Percnon gibbesi* was uncertain and required further investigation. Until more definitive results are available, placement of this species will remain in the Plagusiidae.

Known range.—Western Atlantic: Bermuda; Fort Macon, North Carolina; southern Florida and Bahamas to Fernando de Noronha Archipelago, Brazil, including Antilles; Eastern Atlantic: Azores to Angola; Mediterranean Sea (Pipitone et al. 2001); Eastern Pacific: Cape San Lucas, lower California, to Chile; Galápagos Islands (Williams 1984, Melo 1998).

Plagusia depressa (Fabricius, 1775)

Known range.—Western Atlantic: Bermuda; Beaufort, North Carolina, to Bahia, Brazil, including Gulf of Mexico and West Indies; Fernando de Noronha Archipelago, Rocas Atoll, Saint Paul Rocks, and Trindade Island, Brazil; Eastern Atlantic: Azores; Madeira; Morocco to northern Angola; Central Atlantic: St. Helena Island (Williams 1984, Melo 1998).

★ Family Sesarmidae Dana, 1851

Remarks.—This taxon was previously considered a subfamily of the Grapsidae (e.g., Williams 1984, Guinot & Bouchard 1998). Based on results of a cladistic study, Sternberg & Cumberlidge (1998) concluded that taxa previously included in the subfamily Sesarinae formed a polyphyletic group. However, one clade comprising the majority of *Sesarma*-like genera, including *Sesarma* and *Armases*, was redefined as the family Sesarmidae (Sternberg & Cumberlidge 1998).

★ *Armases cinereum* (Bosc, 1802)

Sesarma (Chiromantes) cinereum (Bosc).—Williams, 1984:465.

Remarks.—Abele (1992) described the new genus *Armases* for American species of *Sesarma* assigned to the subgenus *Chiromantes*; generic diagnosis, species description, and illustrations are provided. The phylogeny of *Armases* proposed by Niem (1996) supported establishment of *Armases* Abele, 1992.

Known range.—Western Atlantic: Magothy River, Chesapeake Bay, Maryland, to Palm Beach, east Florida; Collier County, west Florida, to Veracruz, Mexico (Williams 1984).

★ *Sesarma reticulatum* (Say, 1817)

Sesarma (Sesarma) reticulatum (Say).—Williams, 1984:466.

Remarks.—Subgenera were not recog-

nized within the genus *Sesarma* by Abele (1992). Based on electrophoretic results, Felder & Staton (1994) concluded that allozyme divergence between Gulf of Mexico and Atlantic populations was comparable to levels previously reported for speciated populations, suggesting that *Sesarma reticulatum* represented a species complex.

Known range.—Western Atlantic: Woods Hole, Massachusetts, to Volusia County, east Florida; Sarasota, west Florida, to Barra del Tordo, Tamaulipas, Mexico (Williams 1984, Felder & Staton 1994).

★ Family Varunidae H. Milne Edwards, 1853

Remarks.—This taxon was previously considered a subfamily of the Grapsidae (e.g., Williams 1984, Guinot & Bouchard 1998). Cladistic analysis revealed that the Varuninae is an artificial group in need of re-examination (Sternberg & Cumberlidge 1998). It is possible that this group, presently recognized at the family level (Schubart, Cuesta, Diesel, & Felder 2000, Martin & Davis 2001) may prove to represent several different families (Sternberg & Cumberlidge 1998). Molecular data also support this conclusion (Schubart, Cuesta, Diesel, & Felder 2000).

► *Hemigrapsus sanguineus*
(De Haan, 1853)

Remarks.—The Asian shore crab was most likely introduced in the western Atlantic via ballast water discharged sometime in the early 1980's (McDermott 1998). The crab was first discovered in 1988 in southern New Jersey (Williams & McDermott 1990). *Hemigrapsus sanguineus* was the most abundant brachyuran at the intertidal monitoring site in southern New Jersey, some areas of Long Island Sound (McDermott 1998) and Narragansett Bay, RI (pers. obs.). McDermott (1998) reported this crab occurring in the upper to middle intertidal zone of New Jersey, whereas others (Lohrer & Whitlatch 1997, Ledesma &

O'Connor 2001) observed higher abundances in the middle and lower intertidal zone of sampling locations in eastern Long Island Sound and southeastern New England. Crab abundance increased with increased rock cover (Ledesma & O'Connor 2001).

Known range.—Western Atlantic: Appledore Island, Isles of Shoals, Maine (J. Morin, pers. comm.) and New Hampshire (McDermott 2000) to Oregon Inlet, North Carolina (McDermott 1998); Eastern Atlantic: Le Havre, France; "Oosterschelde", Netherlands (Breton et al. 2002); Western Pacific: Sakhalin, Korea; north China to Hong Kong; all coasts of Japan from Hokkaido to Okinawa (Williams & McDermott 1990).

Discussion

The decapod crustacean assemblage occurring in shallow waters (≤ 190 m) of the temperate eastern United States from Maine to Cape Canaveral, Florida, totals 391 species. This assemblage includes 122 shrimp species (28 penaeids, 2 stenopodids, and 92 carideans), 10 thalassinideans, 8 lobsters, 61 anomurans, and 190 brachyurans. By comparison, the previous comprehensive review of this assemblage by Williams (1984) recognized 103 species of shrimps (21 penaeids, 2 stenopodids, and 80 carideans), 8 thalassinideans (including callinassids, upogebiids and axiids), 6 lobsters, 51 anomurans, and 174 brachyurans (total decapods = 342).

Since publication of Williams (1984), 51 species are new to this checklist. Thirteen species (Table 1) previously considered extralimital by Williams (1984:484) because their centers of distribution or abundance occur beyond the boundaries of the region are now incorporated into the updated checklist because their geographic and bathymetric ranges are within the limits set for the region under consideration. An additional 16 species (Table 1), most likely excluded (i.e., not even considered as ex-

Table 1.—Western Atlantic decapod Crustacea occurring in regions that were considered 'extralimital' or excluded from consideration by Williams (1984) because their geographic or bathymetric range centered beyond the boundaries of regions of consideration.

'Extralimital'	Excluded
<i>Pleoticus robustus</i>	<i>Aristaeomorpha foliacea</i>
<i>Bythocaris nana</i>	<i>Hadropenaeus affinis</i>
<i>Caridion gordonii</i>	<i>Hadropenaeus modestus</i>
<i>Plesionika martia</i>	<i>Penaeopsis serrata</i>
<i>Plesionika tenuipes</i>	<i>Lucifer typus</i>
<i>Plesionika willisi</i>	<i>Heterocarpus ensifer</i>
<i>Catapagurus sharreri</i>	<i>Plesionika edwardsii</i>
<i>Hemipagurus gracilis</i>	<i>Nephropsis aculeata</i>
<i>Mithrax cornutus</i>	<i>Tomopagurus cokeri</i>
<i>Bathynectes longispina</i>	<i>Parapagurus pilosimanus</i>
<i>Chaceon quinquedens</i>	<i>Sympagurus pictus</i>
<i>Parapinnixa beaufortensis</i>	<i>Munida forceps</i>
<i>Palicus gracilis</i>	<i>Lysirude nitidus</i>
	<i>Cyclozodion angustum</i>
	<i>Pyromaia arachna</i>
	<i>Stenocionops furcata furcata</i>

tralimital) from consideration by Williams because their bathymetric distributions were centered beyond 190 m or their geographic distributions were centered south of Cape Canaveral, Florida, are included in the present checklist for this same reason. Twelve species, discovered and described during the past 20 years, were also added to the regional assemblage (Table 2). Four species (*Trachycaris rugosa*, *Axius armatus*, *Pagurus brevidactylus*, *Panopeus obesus*) were added through a refined understanding of the systematics of species complexes with improved recognition and delineation of component species. One nonindigenous species (*Hemigrapsus sanguineus*) was introduced and has become established in the region. An additional five species (*Parapenaeus americanus*, *Scyllarides aequinoctialis*, *Petrolisthes armatus*, *Dromia erythropus*, *Clythrocerus nitidus*) have also become part of the regional assemblage through northward extension of their geographic ranges.

Six species have been removed from Williams (1984) checklist (Table 3). Four species (*Pontonia margarita*, *Anisopagurus pygmaeus*, *Iridopagurus caribbensis*, and *Hyas coarctatus alutaceus*) once thought to

be members of this assemblage (Williams 1984) are removed from the checklist because recent revisions and investigations involving these species (García-Gómez 1983, Lemaitre & McLaughlin 1996, Fransen 2000) clearly indicate that they do not occur in the region. One eastern Pacific species (*Notolopos lamellatus*) was erroneously reported from the region by Rathbun (Williams 1984). Additionally, *Leptochela bermudensis* was previously included in the checklist because it was considered as likely to occur in the region by Williams (1984). Since this species has never actually been recorded from the region, it has been removed from the checklist.

Better understanding of species concepts and interspecific variation has necessitated placement of some nominal species previously considered part of this regional assemblage into synonymy. For decapod crustaceans of the eastern United States, eleven nominal species (Table 4) have been re-evaluated and determined not to represent distinct species. Additionally, one family and one genus have also been placed into synonymy (Table 4).

A significant proportion of systematic research on western Atlantic decapod crusta-

Table 2.—Summary of more recently described western Atlantic decapod Crustacea not previously listed in Williams (1984).

Family	Genus and species	Year of description	Geographic range	Depth of occurrence
Disciidae	<i>Discias vernbergi</i>	1987	Georgia–west Florida	54–74 m
Palaemonidae	<i>Pontonia manningi</i>	2000	North Carolina–Gulf of Mexico, Caribbean Sea, eastern Atlantic	shallow–80 m
Alpheidae	<i>Alpheus angulosus</i>	2002	North Carolina–Gulf of Mexico, Mexico, Haiti	intertidal, shallow
Alpheidae	<i>Alpheus estuariensis</i>	1984	Florida, Gulf of Mexico, Caribbean Sea, Brazil	intertidal–22 m
Callinassidae	<i>Necallianassa berylae</i>	1998	South Carolina–Georgia	35–75 m
Paguridae	<i>Anisopagurus hopkinsi</i>	1996	Georgia–Gulf of Mexico	91–165 m
Paguridae	<i>Iridopagurus reticulatus</i>	1983	North Carolina–Florida, Bahamas, Greater and Lesser Antilles, northern South America	1–38 m
Paguridae	<i>Pagurus maclaughlinae</i>	1982	Georgia–Florida, Gulf of Mexico, Caribbean	1–5 m
Paguridae	<i>Tomopagurus wassi</i>	1981	Southeastern United States, Florida Straits, Gulf of Mexico, Caribbean–northern Brazil	75–360 m
Homolidae	<i>Homola minima</i>	1995	Massachusetts–Brazil	55–690 m
Calappidae	<i>Cyclozodion tuberatum</i>	1988	North Carolina–Bahamas–eastern Gulf of Mexico, Suriname	31–188 m
Inachidae	<i>Stenorhynchus yangi</i>	1989	Massachusetts–Gulf of Mexico–Suriname	31–365 m

Table 3.—Summary of western Atlantic decapod crustacean species previously (Williams 1984) considered to be part of the fauna off the eastern United States but now known not to occur in the region. These species were removed from the checklist.

Species	Range	Reason for removal from checklist
<i>Leptochela bermudensis</i> Gurney, 1939	Bermuda, Puerto Rico through the Lesser Antilles	Previously considered likely to occur in the region (Williams 1984), but has never been reported.
<i>Pontonia margarita</i> Smith, 1869	Eastern Pacific	Formerly thought to be a widespread species; with resolution of species complex now known to occur only in the Pacific Ocean (Fransen 2000).
<i>Anisopagurus pygmaeus</i> (Bouvier, 1918)	Florida Keys, Cuba to Curaçao	Resolution of species systematics indicated geographic range occurs beyond limits of region (Lemaitre & McLaughlin 1996).
<i>Iridopagurus caribbensis</i> (A. Milne-Edwards & Bouvier, 1893)	Miami, Florida to Colombia	Resolution of species systematics indicated geographic range occurs beyond limits of region (García-Gómez 1983).
<i>Hyas coarctatus alutaceus</i> Brandt, 1851	Eastern Pacific	Resolution of species systematics indicated geographic range occurs beyond limits of region (Squires 1990).
<i>Notolopas lamellatus</i> Stimpson, 1871	Eastern Pacific	Erroneously reported from the region (Williams 1984).

Table 4.—Summary of nominal taxa of western Atlantic decapod crustaceans placed in synonymy since publication of Williams (1984).

Nominal taxa appearing in Williams (1984)		Senior synonym
<i>Automate gardineri</i>	=	<i>Automate dolichognatha</i>
<i>Hippolyte curacaoensis</i>	=	<i>Hippolyte obliquimanus</i>
<i>Lebbeus zebra</i>	=	<i>Lebbeus microceros</i>
<i>Callianassa atlantica</i>	=	<i>Gilvossius setimanus</i>
<i>Manucomplanus corallinus</i>	=	<i>Manucomplanus ungulatus</i>
<i>Pagurus hendersoni</i>	=	<i>Pagurus stimpsoni</i>
<i>Hypoconcha sabulosa</i>	=	<i>Hypoconcha parasitica</i>
<i>Homola barbata</i> (in part)	=	<i>Homola minima</i>
<i>Cycloes bairdii</i>	=	<i>Cryptosoma balguerii</i>
<i>Mithrax pleuracanthus</i>	=	<i>Mithrax hispidus</i>
<i>Mithrax acuticornis</i>	=	<i>Mithrax cornutus</i>
Family Tymolidae	=	Family Cyclodorippidae
Genus <i>Parapandalus</i>	=	Genus <i>Plesionika</i>

ceans is being conducted on higher-level relationships. Better understanding of relationships based on identification of monophyletic groups has required reorganization of taxa at higher levels (e.g., within superfamilies, families, and genera) as well as elevating subfamilies and subgenera to family and generic levels, respectively. In the nearly 20-year period since Williams (1984), one new superfamily (Processoidae) and one new family (Anchistioididae) are recognized in the infraorder Caridea, and two subgenera have been elevated to genera (*Farfantepenaeus* and *Litopenaeus*) in the family Penaeidae, for shrimps occurring in the region. Thalassinideans, previously placed in the section Thalassinidea within infraorder Anomura, are now recognized at the level of infraorder. Within brachyuran taxa, three new subfamilies within the Raninidae are now recognized, 17 former subfamilies (seven in Majidae, four in Xanthidae, three in Grapsidae, one each in Raninidae, Calappidae, and Goneplacidae) have been elevated to family, two subgenera elevated to genus (*Mithraculus* in family Majidae and *Platylambrus* in family Parthenopidae), and one subspecies (of *Ethusa*) elevated to species. Considerable changes in generic concepts involving western Atlantic decapod crustaceans have also necessitated the recognition and redefinition

of genera to accommodate western Atlantic decapod species. Fifteen new genera have been described since publication of Williams' (1984) monograph, including one genus each in the Penaeidae, Pandalidae, Axiidae, and Paguridae, two in Callianassidae, and nine brachyuran genera placed in seven different families (Table 5). Twenty-one species of decapods occurring in the region have been reassigned to genera other than those listed in Williams (1984).

Knowledge concerning well-known faunas, such as that of the decapod crustaceans of the western Atlantic, is not static, and new discoveries, additional collecting, and better understanding of systematic relationships will continue to improve our understanding of regional biodiversity. New evidence from adult morphology, fossils, larval development, and molecular genetics has led to the reinterpretation of classical views of decapod crustacean relationships. Hypotheses of phylogenetic relationships are being proposed at a relatively fast rate compared with previous time periods and the taxonomic status of species continues to be re-evaluated. Information gained from these systematic studies will undoubtedly result in better understanding of the species, provide refined hypotheses of relationships among these taxa, and subsequently will continue to improve our knowledge regard-

Table 5.—Summary of western Atlantic decapod crustacean species assigned to new genera or reassigned to established genera since publication of Williams (1984).

Species name as appears in Williams (1984)	Species name as appears in present compilation	Newly-described genus? (Y/N)
<i>Hymenopenaeus robustus</i>	<i>Pleoticus robustus</i>	N
<i>Trachypenaeus constrictus</i>	<i>Rimapenaeus constrictus</i>	Y
<i>Pandalus propinquus</i>	<i>Atlantopandalus propinquus</i>	Y
<i>Parapandalus willisi</i>	<i>Plesionika willisi</i>	N
<i>Pontophilus gorei</i>	<i>Philocheras gorei</i>	N
<i>Callianassa biformis</i>	<i>Biffarius biformis</i>	Y
<i>Callianassa atlantica</i>	<i>Gilvossius setimanus</i>	Y
<i>Callianassa major</i>	<i>Callichirus major</i>	N
<i>Axiopsis jenneri</i>	<i>Calaxius jenneri</i>	Y
<i>Pagurus piercei</i>	<i>Goreopagurus piercei</i>	Y
<i>Dromidia antillensis</i>	<i>Cryptodromiopsis antillensis</i>	N
<i>Clythrocerus perpusillus</i>	<i>Deilocerus perpusillus</i>	Y
<i>Iliacantha intermedia</i>	<i>Acanthilia intermedia</i>	Y
<i>Cryptopodia concava</i>	<i>Celatopesia concava</i>	Y
<i>Geryon quinquedens</i>	<i>Chaceon quinquedens</i>	Y
<i>Neopanope sayi</i>	<i>Dyspanopeus sayi</i>	Y
<i>Pinnotheres chamae</i>	<i>Gemmotheres chamae</i>	Y
<i>Pinnotheres maculatus</i>	<i>Tumidotheres maculatus</i>	Y
<i>Pinnotheres ostreum</i>	<i>Zaops ostreum</i>	N
<i>Pinnixa cristata</i>	<i>Austinixa cristata</i>	Y
<i>Sesarma cinereum</i>	<i>Armases cinereum</i>	Y

ing the marine decapod crustacean assemblage of the eastern United States.

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Note Added in Proof

Recent revision of the Albuneidae (Boyko 2002) provided new information for three species included in the present check-

list. Western Atlantic specimens identified as *Albunea paretii* Guérin-Méneville, 1853 in Williams (1984) included two species, *A. paretii* and *A. catherinae* Boyko, 2002. Of these, only *A. catherinae* occurs in the region (see account below). *Albunea paretii* ranges from the Florida Keys southward through the Caribbean to Rio Grande do Sul, Brazil, and should be removed from the checklist. According to Boyko (2002), all eastern Atlantic references to *A. paretii* refer to *A. elegans*. Boyko (2002) included additional distributional information for *Lepidopa websteri* that extends this species range to Texas.

Based on new data for *A. paretii* and *A. catherinae*, 52 species are new to the checklist. Thirteen of these have been discovered and described since publication of Williams (1984), and seven species previously recorded from the region are no lon-

ger considered part of the regional decapod assemblage.

Family Albuneidae Stimpson, 1858

► *Albunea catherinae* Boyko, 2002

Remarks.—Boyko (2002:343) provided a description, diagnosis, illustrations, and size information for this species. *Albunea catherinae* occurs at depths less than 64 m.

Known range.—Western Atlantic: Virginia to Palm Beach County, Florida; Collier County, Florida, through the Gulf of Mexico, to southern Texas; absent from the Florida Keys (Boyko 2002).

Literature Cited

- Boyko, C. B. 2002. A worldwide revision of the recent and fossil sand crabs of the Albuneidae Stimpson and Blepharipodidae, new family (Crustacea: Decapoda: Anomura: Hippoidea).—Bulletin of the American Museum of Natural History 272:1–396.