



Gulf of Mexico

Origin, Waters, and Biota

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Seaweeds of the Gulf of Mexico

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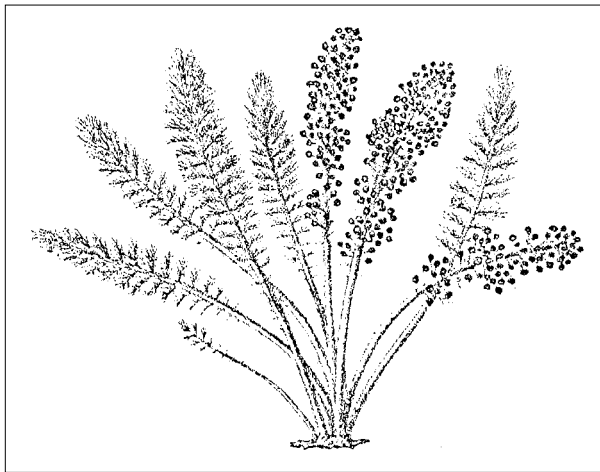
The marine macroalgae, or seaweeds, are a heterogeneous group historically lumped together as “Protists,” an assemblage of taxa whose members typically lack true roots, shoots, leaves, seeds, or water-conducting tissues. They comprise the multicellular green algae (Chlorophyta), red algae (Rhodophyta), and brown algae (Phaeophyceae). Until very recently, the relationship among the Algae and other Protists remained inconclusive and often contradictory (Adl et al. 2005).

Our understanding of algal phylogeny has dramatically increased with molecular evolutionary methods, and the latest research indicates that the Rhodophyta is a distinct eukaryotic lineage that shares a most common ancestry with the Chlorophyta in the Plant lineage (Oliveira and Bhattacharya 2000). A second cluster, the Chromalveolata, comprises the Stramenopiles, in which the brown algae belong, in addition to diatoms, many zoosporic fungi, and the opalinids, among others (Palmer 2000, Adl et al. 2005). Of the three seaweed groups, the red algae are unique in the Tree of Life in that they share a suite of characters that do not occur together in any other eukaryote, namely, a complete lack of flagellated stages including absence of centrioles, flagellar basal bodies, or other 9+2 structures (Adl et al. 2005). The seaweeds exhibit a broad variety of morphologies and life histories. Unlike green plants, animals, and even brown algae, red algae have attained this diversity without having evolved true tissue differentiation (Hommersand and Fredericq 1990). The molecular and biochemical mechanisms of their development remain largely unexplored.



A green seaweed, *Acetabularia*. After Taylor 1954.

The classification within the Rhodophyta at the ordinal level is unstable and in a constant flux, more so than in the Chlorophyta and the Phaeophyceae, and it is currently undergoing much taxonomic revision that has led to proposals of new and recircumscribed orders (Adl et al. 2005). As misinterpretations of superficial similarities have resulted in erroneous systems of classification at a variety of taxonomic levels, molecular-based phylogenies in the red, brown, and green algae each provide an independent test of classification to the one based on morphological or ultrastructural evidence. Besides elucidating relationships, phylogenetic hypotheses inferred from gene sequence data provide the critical framework for studies of morphological character evolution and life history evolution. Hence, as is the case for other taxa previously referred to as “Protists,” we have here opted to follow a hierarchical system of listing the taxa from the Gulf of



A green seaweed, *Batophora*. After Børgesen 1913.

Mexico without formal rank designations, such as “class,” “subclass,” “super-order,” or “order”; this approach is currently the preferred decision primarily motivated by utility, to avoid the common problem of a single change causing a cascade of changes to the system (Adl et al. 2005).

There are 10,000–20,000 accepted species names of seaweeds worldwide (Woelkerling 1990, Norton, Melkonian, and Andersen 1996, Guiry and Guiry 2007). There are about 5900 validly accepted species of red algae; of these, only 3 percent are freshwater. There are about 1600 species of marine green algae and 1800 species of brown algae listed in AlgaeBase (Guiry and Guiry 2007). Seaweeds are most common on hard-bottom habitats in marine environments, growing as epiphytes on other algae, seagrasses, or mangrove roots, epizooic on animals, epilithic on pebbles or rocky substrata, psammophilic in sand, or pelagic and drifting (Lüning 1990). They occur at all latitudes from the Arctic to the Antarctic and occupy the entire range of depths inhabitable by photosynthetic organisms, from high intertidal regions to subtidal depths as great as 268 m (San Salvador I., Bahamas, is the greatest depth for known plant life) (Littler et al. 1985).

Historically, the seaweeds were defined as taxonomic groups based on their pigmentation. The red color in the red algae is due to the presence of phycoerythrin that reflects red light, absorbs blue light, and masks the green chlorophyll *a* (Gantt 1990). The color varies according to the ratio of phycoerythrin to phycocyanin and may appear green or bluish from the chlorophyll and other masking pigments. Because blue light penetrates water to a greater depth than light of longer wavelengths, these pigments allow red algae to photosynthesize and live at somewhat greater depths than most other algae (Ramus

1978). Green and brown algae lack phycoerythrin, and brown algae contain chlorophyll *c* in addition to chl *a*. In addition, the red, brown, and green seaweeds contain a suite of additional secondary pigments (Lobban and Harrison 1994).

The cell walls of red algae consist of cellulosic fibers embedded in a matrix of nonfibrillar materials, the phycocolloids. The most abundant of these polysaccharides are referred to either as agars or carrageenans, and they are of economic importance (Abbott 1996). Agar finds its widest use as a solid microbiological culture substratum and in a range of laboratory applications. It is not used for nutritional value in food, but rather as an emulsifier as a pectin in preserves; as a clarifying agent in the production of beer, wine, and coffee; and in the cosmetic and medical industries (Zemke-White and Ohno 1999). Agarophytes that produce high-quality agar are found in the Gelidiales and Gracilariaceae (Craigie 1990).

Carrageenans are used by the food industry as texture modifiers because of their high viscosity and gelling properties (Santos 1989, De Ruiter and Rudolph 1997). It is the gelling-strength, *kappa*-type carrageenans that are much sought after by the phycocolloid industry (Knutsen et al. 1994). Current markets for *kappa* carrageenan are concentrated in the food, dentifrice, pharmaceutical, and cosmetics industries (Kapraun 1999). Economically important carageenophytes are members of the Gigartinales-complex and the Solieriaceae-complex (McCandless 1978, Doty and Norris 1985). More and more, chemists are discovering that cell wall composition is highly correlated with revised systematic concepts at every taxonomic level, and recent papers deal with the integration of polysaccharide chemistry, anatomical features, and DNA sequences (Usov 1992, Liao et al. 1993, Chiovitti et al. 1995, 2001, Fredericq, Hommersand, and Freshwater 1996, Fredericq, Freshwater, and Hommersand 1999, Chopin, Kerin, and Mazerolle 1999). Alginates are extracted from the cell walls of brown algae (Chapman and Chapman 1980).

Antiviral and anticoagulant properties of the insoluble polysaccharide fraction have been reported, which suggest promising antiherpetic activity (Caceres et al. 2000, Lee et al. 2004). In Asia, seaweeds are important sources of food with a high vitamin and protein content, such as nori (Oohusa 1993). Many red algae metabolize polyunsaturated fatty acids to oxidized products resembling the eicosanoid hormones from mammals (Wise et al. 1996). Because of their biological properties, seaweed-derived oxylipins have potential utility as pharmaceutical

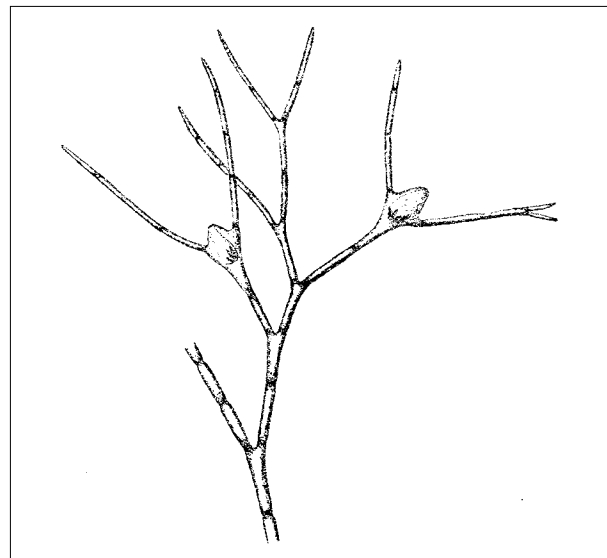
and research biochemicals (Gerwick et al. 1993, Fenical 1997).

Some seaweed species reproduce by vegetative fragmentation (Hernandez-Gonzalez et al. 2007) or spore formation, but most undergo a complex life cycle involving an alternation of generations. It was only after culture methods were introduced (von Stosch 1965) that it was finally verified that in most red algae there is a fundamental linkage of the sexual system and a life history consisting of three phases (Hawkes 1990). It has been argued that selection has favored the evolution of a triphasic life history in red algae as a compensation for an inefficient fertilization in the absence of motile gametes (Searles 1980, Maggs 1988). The comparative morphology of the great diversity of postfertilization fruiting body types, ranging from simple to very complex, has traditionally formed the basis for the classification of red algae (Kyllin 1956, Hommersand and Fredericq 1990).

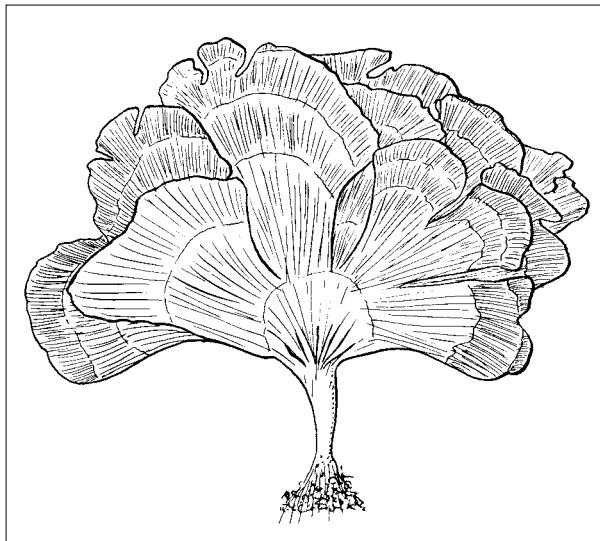
Calcareous algae have long been recognized as predominant contributors to both the bulk and frame structures of the majority of reef limestone deposits. Some of the adaptive advantages of calcification in reef algae include mechanical support and minimization of damage from sand scour, wave shock, and herbivory, as well as reduction of fouling epiphytes (Littler et al. 2006). Few reefs are dominated solely by corals, hence the term “coral” reef is often a misnomer and calcareous coralline red algae generally exceed corals in importance as reef-building organisms, as they are the principal cementing agents of nearly all tropical reefs. Use of the terms tropical reefs or biotic reefs is often preferred when referring to these complex marine structures (Littler, Littler, and Taylor 1995). Without certain species of crustose corallines or peyssonnelioid red algae, most reefs would not exist. Algal structure is harder than most corals, and this durability enables them to withstand the tremendous power of the huge breakers on oceanic islands. Within such extreme high-energy systems, coralline algae form an algal ridge that absorbs wave energy, and hence protects the more delicate corals, fleshy algae, sponges, and other organisms (Adey 1998). Reef-building corallines are able to grow at greater depths in weaker light than other primary producers (Littler and Littler 2007). Deeper sand plains often contain isolated rubble fragments and unattached forms of coralline algae or rhodoliths that provide suitable substrata for a host of fleshy seaweeds. These rhodoliths are harvested as maerl in western Europe (Blake and Maggs 2003).

Where herbivory is reduced, or due to excess nutrient

increases and other stresses, biotic reefs shift from coral to fleshy macroalgal-dominated communities with high gross and net primary productivities (Miller and Hay 1996, Morand and Brian 1996). In this state, production of a calcified framework is low, and as a result of constant carbonate bioerosion, the reef begins to degenerate to a more-or-less flat pavement. The transformation represents serious environmental degradation, with the delicate balance between nutrients, grazing, and reef community structure extensively studied in the past decades (Littler and Littler 2007). Whereas frondose macroalgae normally are rare on reefs because of intense grazing pressure by herbivorous fishes, mollusks, crustaceans, and sea urchins, sparse mats of fast-growing, opportunistic filamentous red and green algae and algal turfs usually are responsible for the very high primary productivity per unit area (Burkpile and Hay 2006). By their scraping mode of feeding, herbivorous fishes continuously provide new substrata and thereby select for opportunistic taxa, as well as long-lived, scrape-tolerant coralline algae (Dethier and Steneck 2001). Some algae that are not excessively tough are nonetheless inedible to herbivores, as many contain a variety of potentially distasteful substances such as various halogenated secondary metabolites (Schnitzler et al. 2001). Chemical defenses reach their greatest diversity and frequency in tropical reef habitats, and some genera (*Laurencia*) often are abundant even where grazing is high (Fenical and Norris 1975). Some algae seem to encourage the settlement and metamorphosis of the larvae of a variety of invertebrate grazers (Huggett et al.



A red seaweed, *Jania*. After Børgesen 1920.



A green seaweed, *Udotea*. After Taylor 1954.

2005, Daume 2006). Several herbivorous species of fish maintain “gardens” of green and red algae that, if the animal is removed, are soon consumed by rival herbivores (Ceccarelli, Jones, and McCook 2005). Many seaweeds arise from a basal crust or have a crustose phase in their life history, which are often more resistant to grazing than the erect plants (Dethier and Steneck 2001).

Coralline red algae and green siphonous algae, such as *Halimeda*, are responsible for much of the reef accretion of CaCO_3 , and a major biotic source of reef carbonates for the Pleistocene and Holocene, and sand (Adey 1998). Some thrive on sandy shores, where abrasion and intermittent burial exclude most algae. Their survival is greatly aided by their ability to regenerate following scouring by having incomplete or asexual life histories. When algae of different species are adjacent, one often overgrows the other, and these become constituents of mixed algal turfs (Jompa and McCook 2003, Santelices et al. 2003).

Many algae are sensitive to day length as a trigger for seasonal behavior (Lüning 1990). Growth rates and morphology are influenced greatly by temperature, particularly in saturating irradiance (Pereira, Yarish, and Sousa-Pinto 2006). Temperature is the principal extant controlling factor in geographical distribution behavior (Lüning 1990). One important criterion is the tolerance of extremes, with the upper temperature limit less extreme in subtidal species than in intertidal species, whereas lowered salinities reduce the upper temperature tolerance of many species (Kim and Garbary 2006). Osmotic stress and unfavorable ionic exchange and a shortage of essential metabolites are several ways in which salinity changes

may be important to the survival of seaweeds (Lüning 1990, Adey and Steneck 2001).

Some species thrive in relative calm water sites, others in more turbulent localities (Taylor 1998, Rossi 2006). Moderate water movement is beneficial to seaweeds as it carries a supply of nutrients and gases to the plants, removes waste products, and prevents the settling of silt (Gaylord and Denny 1997). The surface of many algae is mucilaginous, which may reduce skin friction drag (Raven 1992). Among the upright stiff algae are calcareous species in which the risk of breakage is minimized by soft articulations between the calcified segments (Martone 2006).

Most seaweeds are attached to stable rock or animal carapaces or shells (Santelices and Aedo 1999), with rougher substrata enhancing settlement, anchorage, and subsequent survival of the spores. Some that live in calm-water localities are unattached and are drifting (Merceron and Morand 2004). The roughness of the rock surface even on a microscopic scale may be important for some seaweed propagules caught in tiny depressions, and attachment within such depressions also enhances the germlings’ ability to survive water motion (Gaylord et al. 2006). The degree of tolerance to desiccation seems to determine the upper limits of several species of seaweeds on the shore. Mild desiccation might slightly stimulate their photosynthesis, but significant drying usually causes a substantial decline (Lobban and Harrison 1994).

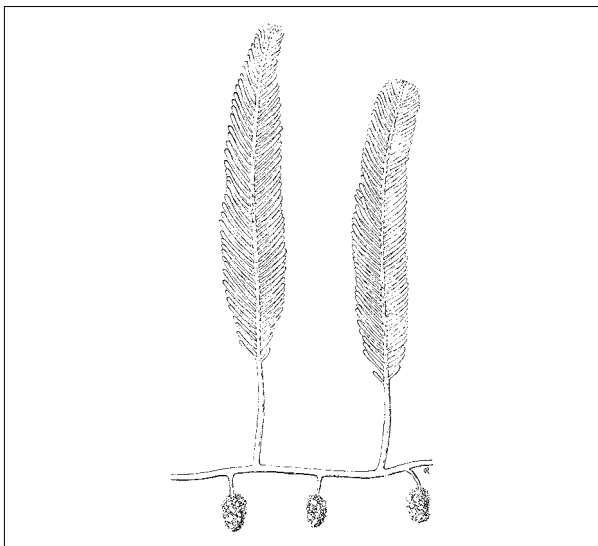
Competition on the shore may be fierce and often sets the lower limits of algal zones (Kim and Garbary 2006). In contrast to the intertidal environment, the influences in the subtidal change fairly gradually within depth, so zonation is not particularly clearcut unless a change in substratum creates a sharp zone (Swanson and Druehl 2000). Temperature limits for reproduction often are narrower than for either growth or survival (Lobban and Harrison 1994). Close to its geographical limit, an alga may lose its power to spread further by means of spores, and vegetative propagation may allow species to persist in the same site at the northern or southern limits of its range (Novacek, Lubbers, and Breeman 1990).

Seagrass leaves appear to be particularly suitable surfaces for algal settlement (Ballantine and Humm 1975, Armitage et al. 2005, Johnson, Heck, and Fourqurean 2006). Except for species of *Syringodium*, seagrass leaves are flat, thus maximizing their photosynthetic surface, diffusion of gases, and nutrient uptake (Dawes 1998, Cornelisen and Thomas 2004). The presence of an epiphytic load on the leaves increases drag and reduces movement

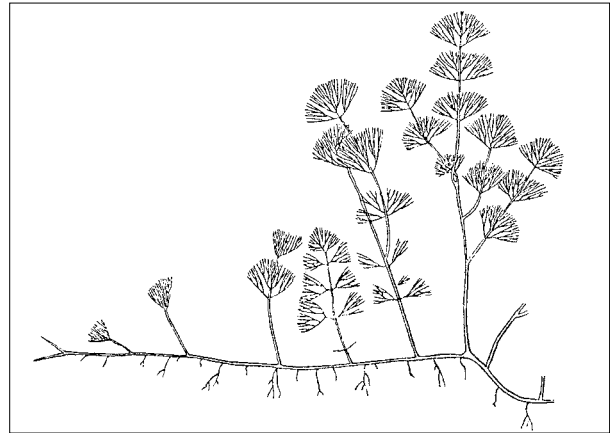
through the water column (Drake, Dobbs, and Zimmerman 2003). In doing so, epiphytes reduce the leaves' ability to remove inorganic nutrients, causing the plant to rely more on absorption of nutrients by roots (Frankovich and Fourqurean 1997). All but one genus of seagrass grows in sandy and silty sediments, usually subtidally, and many red algae, such as *Gracilaria tikvahiae*, frequently lie in loose mats at the base of seagrass leaves in the northeastern (NE) Gulf of Mexico (Dawes 1994).

Macroalgal vegetation is less diverse where siltation is rapid than in places with stable substrata (Karsten et al. 2000). Mangroves roots and the upright pneumatophores emerging from the sediment both support algae (Phillips et al. 1996). Several dominant salt marsh algae show adaptations to extreme environmental conditions, such as desiccation and extreme salinities, and are characterized by ephemeral and often morphologically plastic species (Mathieson and Hehre 1994). Although a few species occasionally lay loose or are embedded in mud, muddy areas are generally inhospitable to red and brown algae in contrast to some green algae (Albrecht 1998).

Introductions of nonindigenous macroalgal species to new ecosystems are a growing concern and one of the major threats to biodiversity and ecosystem function (Schaffelke, Smith, and Hewitt 2006). For example, an aggressive clone of the green alga *Caulerpa taxifolia*, whose origin was traced to a population in Australia (Meusnier et al. 2004), has proved to be highly invasive in the Mediterranean Sea, where the efforts of the governments of France, Spain, Monaco, and Italy have been unable to control its spread.



A green seaweed, *Caulerpa*. After Børgesen 1913.



A green seaweed, *Caulerpa*, verticillate species. After Børgesen 1920.

Numerous factors, including eutrophication and introduction of invasive species from ballast water, cause macroalgal blooms (Schaffelke, Smith, and Hewitt 2006). The result of these seaweed blooms can be shading or smothering of other organisms that need sunlight to survive, habitat degradation, and hypoxia as the seaweeds decompose (Lapointe and Bedford 2007). Any type of algal bloom can lead to hypoxia when the algae die and are decomposed by bacteria in the water, with the decomposition process consuming oxygen. Harmful algal blooms (HABs) that produce toxins dangerous to humans and aquatic animals are mostly caused by dinoflagellates and diatoms (Lee et al. 2005), not seaweeds, whereas nontoxic HABs include large blooms of seaweeds that can blanket beaches (Schaffelke, Smith, and Hewitt 2006).

There is no significant fossil record of the evolutionary history of the marine red algae, except for the order Corallinales extending back as far as the Jurassic (Johansen 1981). The oldest taxonomically resolved eukaryote on record, ca. 1200 million years old from Arctic Canada, is identified as a bangiophyte red alga, *Bangiomorpha pubescens*, and marks the onset of a major protistan radiation near the Mesoproterozoic/Neoproterozoic boundary (Butterfield 2000).

In contrast to the Caribbean basin (e.g., Norris and Bucher 1989) and the western Atlantic Ocean as a whole, the Gulf of Mexico historically has been understudied phycologically. Taylor (1954a), in the original list of Bulletin 89 (Galtsoff 1954), listed only 30 species of green algae, 20 species of brown algae, and 28 species of red algae for the entire Gulf of Mexico. Up until the "Hourglass Cruises" on the West Florida Shelf (Dawes and Van Breedveld 1969), the deepwater seaweeds of the Gulf were

practically unknown, except for the Dry Tortugas, Florida (Taylor 1928). Taylor (1954b) had characterized the flora in the northern part of the Gulf of Mexico as an impoverished tropical Caribbean flora rather than a replacement by a temperate flora, and considered coastal habitats ranging from Galveston, Texas, to Alabama “botanically barren or at least monotonous” (Taylor 1960), due in great part to the high turbidity caused by effluents from the Mississippi, lack of hard substratum in the nearshore intertidal zones, and seasonal fluctuations in salinity and temperature. A major synopsis of the Gulf of Mexico seaweeds since Taylor (1960) was provided by Earle (1972), who synthesized all the records known at the time. In their identification guide to reef plants of the Caribbean, Bahamas, Florida, and Gulf of Mexico, Littler and Littler (2000) included photographic documentation of common taxa from the Gulf. The present paper updates Earle’s list by revising the nomenclature and taxonomic placement, and adds many more recently published records, thereby reporting nearly 700 published species and over 70 families of seaweeds from the Gulf (see the taxonomic summary). Many of the algal names listed by Earle (1972) have been placed in synonymy with other taxa; these are listed at the end of this paper (following the checklist of seaweeds).

The Gulf of Mexico is characterized by a relatively shallow but well-developed continental shelf with an extensive system of generally deep, hard, banks of varying origin and composition (Rezak, Bright, and McGrail 1985). Whereas banks of the southern Gulf (below Matagorda Bay, Texas) were typically formed on relict carbonate reefs, upper northwestern mid- and outer-shelf banks originated on unique tectonically created salt domes (Rezak, Bright, and McGrail 1985) along an extensive continental shelf with an average width of about 100 miles. The Flower Garden Banks are deepwater coral habitats in the northwestern Gulf of Mexico and are located on the edge of the outer continental shelf. These bedrock domes overlying uplifted salt domes are capped by an overgrowth of calcareous organisms and represent the largest charted calcareous banks in the northwestern Gulf of Mexico and the northernmost coral reefs on the continental shelf of North America (Bright and Pequegnat 1974). Two mid-shelf northwestern (NW) Gulf hard banks, Stetson Banks and Sonnier Banks, are historically viewed to be largely devoid of algae (Rezak, Bright, and McGrail 1985, Rezak, Gittings, and Bright 1990); however, recent SCUBA collections off these hard banks point to a rich and diverse macroalgal flora (Fredericq, Phillips, and Gavio 2000, Famà et al. 2002, Gavio and Fredericq 2005) and continue

to increase the number of species listed by Rezak, Bright, and McGrail (1985). Published records documenting the offshore presence of deepwater macroalgae in the northwestern Gulf have been even more sparse and restricted to a few hard banks (Eiseman and Blair 1982, Rezak, Bright, and McGrail 1985, Gurgel, Fredericq, and Norris 2004a, Gavio and Fredericq 2005, Gavio, Hickerson, and Fredericq 2005).

The outer shelf West Banks of the Flower Garden Banks National Marine Sanctuary (NW Gulf), together with the Florida Middle Ground (NE Gulf) represent separate biogeographic extremes in the northward distribution of tropical Atlantic coral reefs or communities dominated by corals (Rezak, Bright, and McGrail 1985). Benthic macroalgae are the dominant biotic components of these communities (Earle 1972, Eiseman and Blair 1982, Gavio, Hickerson, and Fredericq 2005), and deepwater collections conducted in the NW Gulf revealed a greater tropical affinity of the deepwater flora compared to the algae inhabiting the nearshore shallow-water habitats (Kapraun 1974, 1980, Kaldy, Dunton, and Czerny 1995). Seaweeds collected from shallower hard banks are typically small, cryptic, and intermixed, forming small turf or extensive mats less than 1 cm in height and subject to heavy herbivore pressure (Fredericq, Phillips, and Gavio 2000).

Dredged macroalgal collections at depths ranging from 40 m to 90 m conducted offshore the northwestern Gulf and made on unconsolidated rubble banks with box dredges previously employed for the “Hourglass Cruises” (Joyce and Williams 1969) revealed macroalgae that are typically freestanding, leafy, and large, epilithic on loose bedrock or on rhodoliths dominated by crustose coralline red algae. New records of seaweeds dredged offshore of Louisiana have been incorporated in various taxonomic and phylogenetic treatments (e.g., Gavio and Fredericq 2003, 2005, Lin and Fredericq 2003, Gurgel and Fredericq 2004, Gurgel, Fredericq, and Norris 2004a, Gavio, Hickerson, and Fredericq 2005).

The most significant reports of intertidal seaweed species inhabiting the northwestern Gulf off Texas include: Humm and Hildebrand (1962), Edwards (1970, 1976), Edwards and Kapraun (1973), Cowper (1978), Baca, Sorensen, and Cox (1979), Kapraun (1980), Kaldy, Dunton, and Czerny (1995), Kaldy (1996), Lehman (1999), Wardle (1999), and DeYoe and Hockaday (2001); off Louisiana: Humm and Darnell (1959) and Kapraun (1974); and off Mississippi: Humm and Caylor (1957). Deepwater species are listed in Bright and Pequegnat (1974), Eise-

man and Blair (1982), Rezak, Bright, and McGrail (1985), Fredericq, Phillips, and Gavio (2000), Gurgel et al. (2004a, c), Gavio and Fredericq (2003, 2005), and Gavio, Hicker-son, and Fredericq (2005).

In the northeastern Gulf, offshore seaweed collec-tions from depths up to 73 m were made during the his-toric “Hourglass” expedition in the 1960s and reported by Dawes and Van Breedveld (1969) off central West Florida. Dredged collections from the Florida Middle Ground, located on the outer edge of the continental shelf approximately 160 km WNW of Tampa, were also included in Humm and Earle Taylor (1961). The Florida Middle Ground is characterized by discontinuous lime-stone outcroppings covered with shell, rock, and living and dead corals, with relief of 2–10 m at depths of 25–60 m. Cheney and Dyer (1974) listed 84 species of green, brown, and red seaweeds, and Hopkins et al. (1977) sub-sequently added 40 new records for the area, increasing the number of macroalgal species to 103; the seaweed flora was characterized as having distinct tropical affini-ties and undergoing a seasonal pattern of abundance and species diversity, both of which were maximal in the sum-mer (Cheney and Dyer 1974). Deepwater collections con-ducted in the NW Gulf (Eiseman and Blair 1982) and off East Florida (Hanisak and Blair 1988), and off the NW Atlantic continental shelf in the Carolinas (Searles 1972, 1984a, b, Schneider and Searles 1975, 1976, 1991, Searles and Schneider 1980) revealed a greater tropical affinity of the deepwater flora compared to the algae inhabiting the nearshore shallow-water habitats (e.g., Kapraun 1974 for Louisiana algae). Relevant surveys of seaweeds from the NE Gulf off Florida are listed in Humm (1956), Phillips and Springer (1960), Earle (1969), Humm and Earle Tay-lor (1961), Dawes et al. (1967), Dawes and Van Breedveld (1969), Croley and Dawes (1970), Dawes (1974), Cheney and Dyer (1974), and Hopkins et al. (1977).

The main treatments for seaweeds in the south- western (SW) Gulf of Mexico predominantly include a series of studies from the Instituto Polytechnico in Mex-ico City, pioneered by Laura Huerta, and her students Mendoza-González and Mateo-Cid (e.g., Mateo-Cid and Mendoza-González 1986). The reefs at Cabo Rojo, ~100 km south of Tampico, Mexico, are the closest exten-sively developed coral reefs in the Gulf of Mexico near the Flower Garden Banks. Marine algae from the Mexican Gulf Coast are listed by Humm and Hildebrand (1962). Regional lists of SW Gulf of Mexico algae include the fol-lowing: for Tamaulipas—Hildebrand (1957), Garza Bar-rientos, Martínez Lozano, and Escalante (1984), Zamora

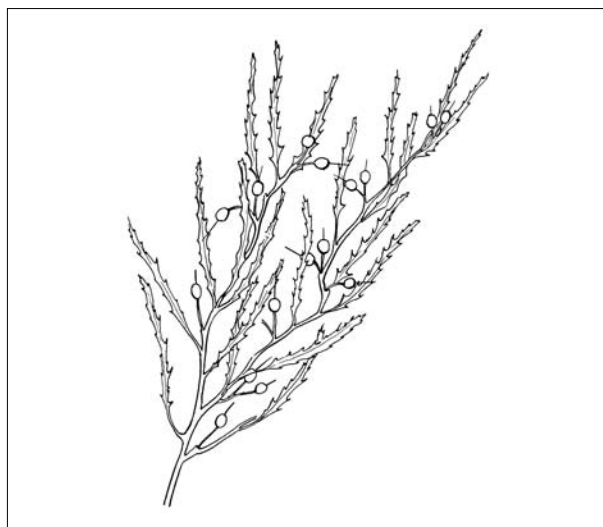
Tovar (1990), Martínez Lozano and Guajardo Ríos (1991), Martínez Lozano and Villarreal Rivera (1991), López Bautista (1992), Martínez Lozano, López Bautista, and Vasquez Martinez (1992), Wynne (1993), López Bautista and Kapraun (1995), and Kapraun, López-Bautista, and Bird (1996); for Veracruz, including Enmedio Reef—Huerta (1960a, b), Humm and Hildebrand (1962), Huerta and Garza Barrientos (1964), de la Campa de Guzmán (1965), Sánchez Rodríguez (1965), Rigby and McIntire (1966), Chávez, Hidalgo, and Sevilla (1970), Lot Hel-gueras (1971), Villalobos (1971), Chávez (1973), Sánchez Rodríguez, Flores Davis, and Ramírez Rodríguez (1975), Huerta, Chavez-Barrera, and Sanchez Rodríguez (1977), Novelo Retana (1978), Quintana Molina (1980), Sánchez Rodríguez (1980), Quintana Molina et al. (1981a, b), Men-doza González and Mateo-Cid (1985), Sobrino-Figueroa and Senties-Granados (1986), Quintana Molina (1991), Lehman and Tunnell (1992), Flores Davis (1993), Dreck-mann and Pérez-Hernández (1994), Gonzáles Fierro et al. (1994), Orozco Vega and Dreckmann (1995), Collado Vides and West (1996), Mateo-Cid, Mendoza-González, and Garcia (1996), Dreckmann and de Lara-Isassi (2000), Gurgel, Fredericq, and Norris (2003), Mateo-Cid, Mendoza-González, and Searles (2003), and Mateo-Cid and Pedroche (2004); for Tabasco—Dreckmann and de Lara-Isassi (2000); for Campeche—Huerta (1958, 1961), Huerta and Garza Barrientos (1964, 1966), Villalobos (1971), Orozco Vega and Dreckmann (1995), Ortega (1995), Mateo-Cid, Mendoza-González, and Galicia Gar-cia (1996), Robledo, Freile-Peregrin, and Sanchez Rodrí-guez (2003), and Callejas Jiménez, Senties Granados, and Dreckmann (2005); for Yucatán, including Alacrán Reef—Kornicker et al. (1959), Taylor (1960), Huerta (1961), Kim (1964), Taylor (1972), Huerta, Mendoza González, and Mateo Cid (1987), Cheney (1988), Arellano-Guillermo and Serrano-Islas (1993), Robledo and Freile Pere-grin (1997), Dreckmann (1998), Aguilar-Rosas et al. (2001), and Ortegón-Aznar, Gonzáles-González, and Senties-Granados (2001); for Quintana Roo—Huerta and Garza Barrientos (1980). General lists for the Mexi-can Gulf of Mexico include Humm (1964), Earle (1972), Orozco Vega and Dreckmann (1995), González González et al. (1996), and Ortega, Godínez, and Garduño Solór-zano (2001).

The main treatments for the seaweeds in the south-eastern Gulf of Mexico are still based on collections from the Dry Tortugas by Taylor (1928), and recent sub-tidal collections made by Ballantine (1996). Major ref-erences for Cuba include Díaz Pifferer (1964), Vinogra-

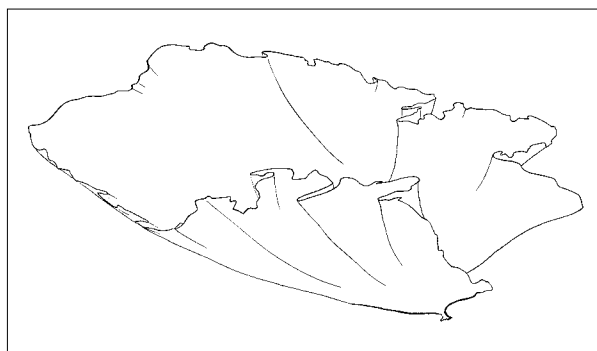
dova (1975), Sosa (1977, 1985), Vinogradova and Sosa (1977), and Suárez (1973, 2005). Ecological works on seaweeds comprise Buesa (1977), González-Sansón and Berdayes (1981), de la Cruz (1982), Suárez and Cortés (1983), Areces (1989), Suárez (1989), Suárez, Gil, and Poseck (1996), Jiménez (1990), Jiménez and Alcolado (1990), Suárez and Ravelo (1996), Trelles, Suarez, and Collado-Vides (1997), Trelles, Suárez, and de la Guardia (2001), Aguilar et al. (2000), Guardia, González, and Trelles (2001), Zayas, Suárez, and Ocana (2002), Cabrera and Suárez (2003, 2005), Cabrera et al. (2004), Cabrera, Moreira, and Suárez (2004), Cabrera et al. (2005), Moreira, Suárez, and Cabrera (2004), Moreira, Cabrera, and Suárez (2005), and Valdivia et al. (2004).

Seaweed cultures in Cuba have been attempted on the red algal genera *Bryothamnion* (see Areces 1989), and *Gracilaria* and *Gracilariopsis* (see Castellanos Gonzáles, Leon, and Moreira 2003, Castellanos Gonzáles, Sharp, and Leon 2003) to assess agar production and quality. The brown algal genera *Sargassum* and *Turbinaria* are cultivated for the extraction of alginates (Zúñiga and Suárez 1999). Green algae, such as *Ulva*, are harvested for food on rocky shores (Cano Mallo et al. 2005).

Seaweed species from the Gulf of Mexico have been used in molecular phylogenetic treatments, and in biogeographical and population genetic studies. Examples of green algae are included in Famá et al. (2002), of brown algae in Phillips and Fredericq (2000), and of red algae in Lin, Fredericq, and Hommersand (2001), Lin, Hommersand, and Fredericq (2004), Zuccarello and West (2002), Lin and Fredericq (2003), Gurgel and Fredericq (2004),



A brown seaweed, *Sargassum*. After Taylor 1954.



A green seaweed, *Ulva*. After Taylor 1954.

Gurgel, Fredericq, and Norris (2004a, b, c), Gavio and Fredericq (2005), and Gavio, Hickerson, and Fredericq (2005).

Since the 1954 "Bulletin 89" treatment of the seaweeds in the Gulf of Mexico, many regional studies have been conducted (see previous paragraphs). The checklist furnished here for Gulf of Mexico seaweeds represents a thorough review of predominantly peer-reviewed publications of regional species. The present study lists the macroalgal species alphabetically per family and indicates to which families the taxa belong. Families are grouped phylogenetically as much as possible. Records include information on habitat and distribution worldwide. In the past 35 years the systematics of the red, brown, and green seaweeds has changed significantly, and there has been the addition of species previously unreported from the Gulf of Mexico. The species binomials and authorship reported herein follow the rules of the International Code of Botanical Nomenclature and the Type Method as found in Silva (1952, 1972, 1980), Silva, Basson, and Moe (1996), and Wynne (2005). Online resources such as the Index Nominum Algarum (Silva 2007) and Algaebase (Guiry and Guiry 2007) databases provide information on the diversity of the groups worldwide.

Abbreviations

All abbreviations for Habitat-Biology used in this checklist are given with their definitions following. Ecological group descriptors: ben = benthic; plk = planktonic; epi = epiphytic or epizoic on soft tissue; par = parasite; or = oyster reef; est = estuary. General depth/strata descriptors: bns = bay and nearshore; dr = drift; int = intertidal; oc = ocean; ofs = offshore; osp = oceanic surface and epipelagic; shw = shallow subtidal (from 3 to 10 m depth); subt = subtidal (from deeper than 10 m depth). Depths are for entire

range of the species. Substratum/biotic associations: hsb = hard substratum; sft = soft substrata (mud, sands, clays). Geographic distribution descriptors: Afr = Africa; AK = Alaska, U.S.A.; Am = American; Aust = Australia; Atl = Atlantic Ocean; Carib = Caribbean Sea; C = Central; CT = Connecticut, U.S.A.; E = East or eastern; Eur = Europe; Falkl = Falkland; FL = Atlantic Florida, U.S.A.; GoCA = Gulf of California; GMx = Gulf of Mexico; HI = Hawaii; I = Island; Isls = Islands; Mex = Mexico; NC = North Carolina, U.S.A.; New Zeal = New Zealand; N = North or northern; ne = northeastern Gulf; NW = Northwest; nw = northwestern Gulf; NY = New York, U.S.A.; Oc = ocean; Pac = Pacific; PNG = Papua New Guinea; se = southeastern Gulf; S = South or southern; SE = Southeast; SC = South Carolina, U.S.A.; SW = Southwest; sw = southwestern Gulf; trop = tropical; VA = Virginia, U.S.A.; W = West or western; Zeal = Zealand. Other descriptors: exc = except for.

The geographic range for each reported taxon listed here is a compilation from many published sources. Some categories have been included to denote a general distribution if a taxon is listed more than once in a geographic area. For example, SW Asia (India, Pakistan, Bahrain, Iran, Jordan, Kuwait, Levant States, Oman, the Philippines, Qatar, Saudi Arabia, Sri Lanka, Yemen), SE Asia (Indonesia, Vietnam, Burma, Malaysia), Europe (throughout N, W, and S), Atlantic Islands (Bermuda, Azores, Canary Islands, Cape Verde Islands, Madeira, Salvage Islands, Asencion Island), Africa (West, North, East, and South; thus, "W, E, & S Afr" indicates that the taxon has been reported from, for example, Ghana, Tanzania, and South Africa), Indian Ocean Islands (Aldabra, Seychelles, Andaman Islands, Maldives), tropical Pacific Islands (Hawaiian Islands, Micronesia, French Polynesia, Samoan Archipelago, Solomon Islands, Marshall Islands, Fiji, Chagos Archipelago, Diego Garcia Atoll, Réunion Island, Rodrigues Island) or Australia (West Australia includes Lord Howe Island).

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References

1. Abbott, I. A. 1990. A taxonomic nomenclatural assessment of the species of *Liagora* (Rhodophyta, Nemaliales) recognized by J. Agardh, based upon studies of type specimens. *Cryptogamic Botany* 1: 30–322.
2. Abbott, I. A. 1996. Ethnobotany of seaweeds: clues to uses of seaweeds. *Hydrobiologia* 326–327: 15–20.
3. Adey, W. H. 1970. A revision of the Foslie crustose coralline herbarium. *Kongelige Norske Videnskabinets Selskaps (Trondheim)* 1970: 1–46.
4. Adey, W. A. 1998. Coral reefs: algal structured and mediated ecosystems in shallow, turbulent, alkaline waters. *Journal of Phycology* 34: 293–406.
5. Adey, W. H., and R. S. Steneck. 2001. Thermogeography over time creates biogeographic regions: a temperature/space/time-integrated model and an abundance-weighted test for benthic marine algae. *Journal of Phycology* 37: 1–22.
6. Adl, S. M., A. G. B. Simpson, M. A. Farmer, R. A. Andersen, J. Barta, S. Bowser, G. Brugerolle, R. Fensome, S. Fredericq, T. Y. James, S. Karpov, P. Kugrens, J. Krug, C. Lane, L. A. Lewis, J. Lodge, D. H. Lynn, D. Mann,

- R. M. McCourt, L. Mendoza, Ø. Moestrup, S. E. Mozeley-Standridge, T. A. Nerad, C. Shearer, F. Spiegel, and M. F. J. R. Taylor. 2005. The new higher level classification of eukaryotes and taxonomy of protists. *Journal of Eukaryotic Microbiology* 52: 399–432.
7. Aguilar, C., G. González-Sansón, E. de la Guardia, A. M. Suárez, J. Trelles, and J. Angulo. 2000. Inventario de los componentes más comunes de la flora y la fauna del arrecife de coral costero de la Caleta de San Lázaro, región noroccidental de Cuba, en el periodo de 1996 a 1998. *Revista Investigaciones Marinas* 21: 53–59.
 8. Aguilar-Rosas, L. E., R. Aguilar Rosas, and J. Espinosa Avalos. 2001[2003]. Distribución de las especies de la familia Udoteaceae (Bryopsidales, Chlorophyta) de la Península de Yucatán, México. *Anales de la Escuela Nacional de Ciencias Biológicas, México* 47: 99–108.
 9. Albrecht, A. S. 1998. Soft bottom versus hard rock: community ecology of macroalgae on intertidal mussel beds in the Wadden Sea. *Journal of Experimental Marine Biology and Ecology* 229: 85–109.
 10. Aponte, N. E., D. L. Ballantine, and J. N. Norris. 1994. Culture studies on the morphology and life history of *Aglaothamnion herveyi* (Howe) comb. nov., with notes on *A. felipponei* (Howe) comb. nov. (Ceramiaceae, Rhodophyta). *Phycologia* 33: 231–238.
 11. Aponte, N. E., D. L., Ballantine, and J. N. Norris. 1997. *Aglaothamnion halliae* comb. nov. and *A. collinsii* sp. nov. (Ceramiaceae, Rhodophyta): resolution of nomenclatural and taxonomic confusion. *Journal of Phycology* 33: 81–87.
 12. Areces, A. J. 1989. Fisionomía del agar y su industria. Instituto de Oceanología. Editorial Academia. 36 pp.
 13. Areces, A. J. 1999. Tres nuevos registros del género *Laurencia* (Ceramiaceae, Rhodophyta) para el archipiélago cubano. *Avicenna* (10/11): 185–186.
 14. Arellano-Guillermo, A., and M. A. Serrano-Islas. 1993. Reserva de Dzilam, Yucatán. Pp. 630–640 in S. I. Salazar Vallejo and N. E. González, eds. Biodiversidad Marina y Costera de México. Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO) y Centro de Investigaciones de Quintana Roo (CIQRO), México, D.F.
 15. Armitage, A. R., T. A. Frankovich, K. L. Heck, and J. W. Fourqurean. 2005. Experimental nutrient enrichment causes complex changes in seagrass, microalgae, and macroalgae community structure in Florida Bay. *Estuaries* 28: 422–434.
 16. Baca, B. J., O. Sorensen, and E. R. Cox. 1979. Systematic list of the seaweeds of South Texas. *Contributions in Marine Science* 22: 179–192.
 17. Ballantine, D. L. 1996. New records of benthic marine algae from Florida. *Gulf of Mexico Science* 1: 11–15.
 18. Ballantine, D. L., and N. E. Aponte. 2002. *Botryocladia bahamense* sp. nov. (Rhodymeniaceae, Rhodophyta) from the Bahamas, Western Atlantic. *Cryptogamie, Algologie* 23: 123–130.
 19. Ballantine, D., and H. J. Humm. 1975. Benthic algae of the Anclote Estuary I. Epiphytes of seagrass leaves. *Florida Scientist* 38: 150–162.
 20. Ballantine, D. L., H. Ruiz, and N. E. Aponte. 2002. *Predaea goffiana* sp. nov. (Nemastomataceae, Rhodophyta), from Puerto Rico, Caribbean Sea. *Botanica Marina* 45: 385–389.
 21. Ballantine, D. L., and M. J. Wynne. 1998a. The life history and development of *Hypoglossum rhizophorum* (Delesseriaceae, Rhodophyta) in culture, a new deep-water species from the Caribbean. *Journal of Phycology* 24: 8–12.
 22. Ballantine, D. L., and M. J. Wynne. 1998b. *Ptilothamnion speluncarum* (Collins & Herv.) comb. nov. (Ceramiaceae, Rhodophyta) from Puerto Rico. *Cryptogamie, Algologie* 19: 223–228.
 23. Bird, C. J., E. C. de Oliveira, and J. McLachlan. 1986. *Gracilaria cornea*, the correct name for the western Atlantic alga hitherto known as *G. debilis* (Rhodophyta, Gigartinales). *Canadian Journal of Botany* 64: 2045–2051.
 24. Blake, C., and C. A. Maggs. 2003. Comparative growth rates and internal banding periodicity of maerl species (Corallinales, Rhodophyta) from northern Europe. *Phycologia* 42: 606–612.
 25. Bright, T. J., and L. H. Pequegnat. 1974. Biota of the West Flower Garden Bank. Gulf Publishing Co., Houston, Texas. 435 pp.
 26. Bucher, K. E., and J. N. Norris. 1992. A new deepwater red alga, *Titanophora submarina* sp. nov. (Gymnophloeaceae, Gigartinales), from the Caribbean Sea. *Phycologia* 31: 180–191.
 27. Buesa, R. J. 1977. Photosynthesis and respiration of some tropical marine plants. *Aquatic Botany* 3: 203–216.
 28. Bula-Meyer, G. 1994. Notas sobre *Dictyota pfaflii* y *D. humifusa* (Dictyotales, Phaeophyta). *Anales Instituto Investigaciones Marinas Punta Betin* 23: 177–181.
 29. Burkpile, D. E., and M. E. Hay. 2006. Herbivore vs. nutrient control of marine primary producers: context-dependent effects. *Ecology* 87: 3128–3139.
 30. Burrows, E. M. 1991. Seaweeds of the British Isles.

- Volume 2. Chlorophyta. Natural History Museum Publications, London. 238 pp.
31. Butterfield, N. J. 2000. *Bangiomorpha pubescens* n.gen., n.sp.: implications for the evolution of sex, multicellularity, and the Mesoproterozoic/Neoproterozoic radiation of eukaryotes. *Paleobiology* 26: 386–404.
 32. Cabrera, R. B., B. Martínez Daranas, A. M. Suárez, and A. Moreira. 2004. Adiciones a las rodoficeas marinas de Cuba. *Revista Investigaciones Marinas* 25: 163–166.
 33. Cabrera, R., A. Moreira, J. Primelles, and A. M. Suárez. 2005. Variación de la biomasa de *Chondrophyucus papillosus* (C. Agardh) Garbary et Harper (Ceramiliales: Rhodophyta) y su epifitismo en la bahía de Nuevitás, Cuba. *Revista Investigaciones Marinas* 26: 15–20.
 34. Cabrera, R. B., A. Moreira, and A. M. Suárez. 2004. Variación en la composición y estructura de las asociaciones algales en la Bahía de Nuevitás, costa NE de Cuba. *Revista Investigaciones Marinas* 25: 133–142.
 35. Cabrera, R., and A. M. Suárez. 2003. Adiciones a las cloroficeas de Cuba del género *Avrainvillea* Decaisne, 1842 (Bryopsidales, Udoteaceae). *Revista Investigaciones Marinas* 24: 95–98.
 36. Cabrera, R. B., and A. M. Suárez. 2005. Lista sistemática y distribución mundial del género *Avrainvillea* Decaisne 1842 (Bryopsidales, Udoteaceae). VII Congreso Latinoamericano y del Caribe de Ficología y V Reunión Iberoamericana de Ficología, La Habana: 16.
 37. Caceres, P. J., M. J. Carlucci, E. B. Damonte, B. Matsuhiro, and E. A. Zuñiga. 2000. Carrageenans from Chilean samples of *Stenogramme interrupta* (Phyllophoraceae): structural analysis and biological activity. *Phytochemistry* 53: 81–86.
 38. Callejas Jiménez, M. E., A. Senties Granados, and K. M. Dreckmann. 2005. Macroalgas bentónicas de Puerto Real, Faro Santa Rosalia y Playa Preciosa, Campeche, México, con algunas consideraciones florísticas y ecológicas para el estado. *Hidrobiológica* 15: 89–96.
 39. Cano Mallo, M., J. Díaz, O. Valdés Iglesias, F. Montalvo, I. Bustio, and T. Chopin. 2005. Concentración de nutrientes en talos de *Ulva fasciata* Delile en la costa norte de La Habana, Cuba. VII. Congreso Latinoamericano y del Caribe de Ficología y V Reunión Iberoamericana de Ficología, La Habana: 126.
 40. Castellanos Gonzáles, M. E., A. R. León, and A. Moreira. 2003. Caracterización química de la agarófita *Gracilaria blodgettii* Harvey en la bahía de Cienfuegos, Cuba. *Revista Investigaciones Marinas* 24: 18–192.
 41. Castellanos Gonzáles, M. E., G. J. Sharp, and A. R. León. 2003. Management strategies for sustainable exploitation of red algae, *Gracilaria* sp., an agarophyte from Cienfuegos bay, Cuba. *Revista Investigaciones Marinas* 24: 247–254.
 42. Ceccarelli, D. M., G. P. Jones, and L. J. McCook. 2005. Effects of territorial damselfish on an algal-dominated coastal coral reef. *Coral Reefs* 24: 606–620.
 43. Chapman, V. J., and D. J. Chapman. 1980. *Seaweeds and Their Uses*. Chapman and Hall, New York.
 44. Chávez, E. A. 1973. Observaciones generales sobre las comunidades del arrecife de Lobos, Veracruz. *Anales Escuela Nacional de Ciencias Biológicas, Mexico* 20: 13–21.
 45. Chávez, E. A., E. Hidalgo, and M. L. Sevilla. 1970. Datos acerca de las comunidades bentónicas del arrecife de Lobos, Veracruz. *Revista Sociedad Mexicana de Historia Natural* 31: 211–280.
 46. Chávez-Barrera, M. L. 1980. Distribución del género *Padina* en las costas de México. *Anales Escuela Nacional de Ciencias Biológicas, Mexico* 23: 45–51.
 47. Cheney, D. P. 1988. The genus *Euchema* J. Agardh in Florida and the Caribbean. Pp. 209–219 in I. A. Abbott, ed. *Taxonomy of Economic Seaweeds with Reference to Some Pacific and Caribbean Species*. California Sea Grant College Program, University of California, La Jolla, California, vol. II.
 48. Cheney, D. P., and J. P. Dyer III. 1974. Deep-water benthic algae of the Florida Middle Grounds. *Marine Biology* 27: 185–190.
 49. Chiovitti, A., G. T. Kraft, A. Bacic, and M.-L. Liao. 2001. Gelling polysaccharides from Australian seaweeds: research and potential. *Marine and Freshwater Research* 52: 917–935.
 50. Chiovitti, A., M.-L. Liao, G. T. Kraft, S. L. A. Munro, D. J. Craik, and A. Bacic. 1995. Cell wall polysaccharides from Australian red algae of the family Solieriaceae (Gigartinales, Rhodophyta): Iota/kappa/beta-carrageenans from *Melanoma dumosum*. *Phycologia* 34: 522–527.
 51. Cho, T. O., and S. Fredericq. 2006. Two creeping *Ceramium* species from the Florida Keys: *C. reptans* sp. nov., and a recircumscription of *C. codii* (Richards) Mazoyer (Ceramiaceae, Rhodophyta). *Phycologia* 45: 495–504.
 52. Chopin, T., B. F. Kerin, and R. Mazerolle. 1999. Phycocolloid chemistry as a taxonomic indicator of phylogeny in the Gigartinales, Rhodophyceae: a review and current developments using Fourier transform infrared diffuse

- reflectance spectroscopy. *Phycological Research* 47: 167–188.
53. Colinvaux, L. H. 1968. New species of *Halimeda*: taxonomic reappraisal. *Journal of Phycology* 4: 30–35.
 54. Collado-Vides, L., R. E. DeWreede, and K. L. D. Milligan. 1998. Biomechanical properties of *Udotea* (Halimedales, Chlorophyta) in a Mexican reef lagoon. *Phycologia* 37: 443–449.
 55. Collado-Vides, L., and J. A. West. 1996. *Bostrychia calliptera* (Montagne) Montagne (Rhodomelaceae, Rhodophyta), registro nuevo para el centro del Golfo de México. *Ciencias Marinas* 22: 47–55.
 56. Cormaci, M., G. Furnari, and F. Pizzuto. 1994. Taxonomic and nomenclatural notes on *Anotrichium tenue* and related species (Ceramiaceae, Rhodophyta). *Taxon* 43: 633–637.
 57. Cornelisen, C. D., and F. I. M. Thomas. 2004. Ammonium and nitrate uptake by leaves of the seagrass *Thalassia testudinum*: impact of hydrodynamic regime and epiphyte cover on uptake rates. *Journal of Marine Systems* 49: 177–194.
 58. Cowper, S. W. 1978. The drift algae community of seagrass beds on Redfish Bay, Texas. *Contributions in Marine Science* 21: 125–132.
 59. Craigie, J. S. 1990. Cell walls. Pp. 221–257 in K. M. Cole and R. G. Sheath, eds. *Biology of the Red Algae*. Cambridge University Press, Cambridge.
 60. Croley, F. C., and C. J. Dawes. 1970. Ecology of the algae of a Florida Key, pt. 1: a preliminary checklist, zonation and seasonality. *Bulletin of Marine Science* 20: 165–185.
 61. Cruz, D., de la. 1982. Adiciones a la flora marina de Cuba. *Revista Investigaciones Marinas* 3: 3–9.
 62. Daume, S. 2006. The roles of bacteria and micro and macroalgae in abalone aquaculture: a review. *Journal of Shellfish Research* 25: 151–157.
 63. Dawes, C. J. 1974. *Marine Algae of the West Coast of Florida*. University of Miami Press, Miami.
 64. Dawes, C. J. 1994. Physiological differentiation of the red seaweed *Gracilaria tikvahiae* from a mangel estuary, exposed coast, and culture. *Bulletin of Marine Science* 54: 361–366.
 65. Dawes, C. J. 1998. Biomass and photosynthetic responses to irradiance by a shallow and a deep water population of *Thalassia testudinum* on the west coast of Florida. *Bulletin of Marine Science* 62: 89–96.
 66. Dawes, C. J., S. A. Earle, and F. C. Croley. 1967. The offshore benthic flora of the southwest coast of Florida. *Bulletin of Marine Science* 17: 211–231.
 67. Dawes, C. J., and J. F. Van Breedveld. 1969. Benthic marine algae. *Memoirs of the Hourglass Cruises* 1(2): 1–47.
 68. De Clerck, O., F. Leliaert, H. Verbruggen, C. E. Lane, J. C. De Paula, D. A. Payo, and E. Coppejans. 2006. A revised classification of the Dictyotaceae (Dictyotales, Phaeophyceae) based on *rbcL* and 26 ribosomal DNA sequence analyses. *Journal of Phycology* 42: 1271–1288.
 69. De la Campa de Guzmán, S. 1965. Notas preliminares sobre un reconocimiento de la flora marina del Estado de Veracruz. *Anales Instituto Nacional Investestigaciones Biologico-Pesqueras* 1: 9–49.
 70. De Ruyter, G. A., and B. Rudolph. 1997. Carrageenan biotechnology. *Trends in Food Science and Technology* 8: 389–395.
 71. Dethier, M. N., and R. S. Steneck. 2001. Growth and persistence of diverse intertidal crusts: survival of the slow in a fast-paced world. *Marine Ecology-Progress Series* 223: 89–100.
 72. DeYoe, H. R., and D. L. Hockaday. 2001. Range extensions of the seaweeds *Codium taylorii* and *Caulerpa prolifera* into the lower Laguna Madre, Texas. *Texas Journal of Science* 53: 190–192.
 73. Díaz-Piferrer, M. 1964. Adiciones a la flora marina de Cuba. *Caribbean Journal of Science* 4: 353–371.
 74. Doty, M. S., and E. G. Meñez. 1960. *Tiffaniella*, a new genus in the Ceramiales. *Transactions of the American Microscopical Society* 79: 135–144.
 75. Doty, M. S., and J. N. Norris. 1985. *Eucheuma* species (Solieriaceae, Rhodophyta) that are major sources of carrageenan. Pp. 237–245 in I. A. Abbott, ed. *Taxonomy of Economic Seaweeds With Reference to Pacific Species*. Vol. 5. California Sea Grant College Program, La Jolla.
 76. Drake, L. A., F. C. Dobbs, and R. C. Zimmerman. 2003. Effects of epiphyte load on optical properties and photosynthetic potential of the seagrasses *Thalassia testudinum* Banks ex König and *Zostera marina* L. *Limnology and Oceanography* 48: 456–463.
 77. Dreckmann, K. M. 1998. Clasificación y nomenclatura de las macroalgas marinas bentónicas del Atlántico mexicano. Comisión Nacional para el Conocimiento y uso de la Biodiversidad, México, D.F. 140 pp.
 78. Dreckmann, K. M., and G. de Lara-Isassi. 2000. *Gracilaria caudata* J. Agardh (Gracilariaceae, Rhodophyta) en el Atlántico Mexicano. *Hidrobiológica* 10: 125–130.
 79. Dreckmann, K. M., and M. A. Pérez Hernández. 1994. Macroalgas bentónicas de la laguna de Tampamachoco, Veracruz. México. *Revista Biología Tropical* 42: 715–717.
 80. Dreckmann, K. M., and A. Senties Granados. 1994. El alga *Digenea simplex* (Ceramiales, Rhodomelaceae) en

- México: variación biogeográfica. *Revista Biología Tropical* 42: 443–453.
81. Dreckmann, K. M. 1998. Clasificación y nomenclatura de las macroalgas marinas bentónicas del Atlántico mexicano. Comisión Nacional para el Conocimiento y uso de la Biodiversidad, México, D.F. 140 pp.
 82. Earle, S. A. 1969. Phaeophyta of the Eastern Gulf of Mexico. *Phycologia* 7: 71–254.
 83. Earle, S. A. 1972. Benthic algae and seagrasses. Appendix II. Pp. 15–18 in L. S. Z. El-Sayed, W. M. Sackett, L. M. Jeffrey, A. D. Fredericks, R. P. Saunders, P. S. Conger, G. A. Fryxell, K. A. Steidinger, and S. A. Earle, eds. Chemistry, Primary Production, and Benthic Algae of the Gulf of Mexico. Folio 22. The Serial Atlas of the Marine Environment. American Geographical Society, New York.
 84. Edwards, P. 1970. Illustrated guide to the seaweeds and seagrasses in the vicinity of Port Aransas, Texas. *Contributions in Marine Science* 15 (suppl.): 1–27.
 85. Edwards, P. 1976. Illustrated Guide to the Seaweeds and Seagrasses in the Vicinity of Port Aransas, Texas. University of Texas Press, Austin. 128 pp.
 86. Edwards, P., and D. F. Kapraun. 1973. Benthic marine algal ecology in the Port Aransas, Texas. *Contributions Marine Science* 17: 15–52.
 87. Eiseman, N. J., and S. M. Blair. 1982. New records and range extensions of deepwater algae from East Flower Garden, northwestern Gulf of Mexico. *Contributions in Marine Science* 25: 21–26.
 88. Famà, P., B. Wysor, W. H. C. F. Kooistra, and G. C. Zuccarello. 2002. Molecular phylogeny of the genus *Caulerpa* (Caulerpales, Chlorophyta) inferred from chloroplast *tufA* gene. *Journal of Phycology* 38: 1040–1050.
 89. Fenical, W. 1997. New pharmaceuticals from marine organisms. *Trends in Biotechnology* 15: 339–341.
 90. Fenical, W., and J. N. Norris. 1975. Chemotaxonomy in marine algae—chemical separation of some *Laurencia* species (Rhodophyta) from the Gulf of California. *Journal of Phycology* 11: 104–108.
 91. Flores Davis, J. G. 1993. Clorofíceas del litoral rocoso de la Mancha, Veracruz. Secretaría de Educación y Cultura, Dirección General de Educación Media Superior y Superior. Xalapa, Veracruz, México. 94 pp.
 92. Frankovich, T. A., and J. W. Fourqurean. 1997. Seagrass epiphyte loads along a nutrient availability gradient, Florida Bay, USA. *Marine Ecology-Progress Series* 159: 37–50.
 93. Fredericq, S., D. W. Freshwater, and M. H. Hommersand. 1999. Observations on the phylogenetic systematics and biogeography of the Solieriaceae (Gigartinales, Rhodophyta) inferred from *rbcL* sequences and morphological evidence. *Hydrobiologia* 398/399: 25–38.
 94. Fredericq, S., M. H. Hommersand, and D. W. Freshwater. 1996. The molecular systematics of some agar- and carrageenan-containing marine red algae based on *rbcL* sequence analysis. *Hydrobiologia* 326/327: 125–135.
 95. Fredericq, S., and J. N. Norris. 1992. Studies on cylindrical species of Western Atlantic *Gracilaria* (Gracilariales, Rhodophyta): *G. cylindrica* Børgesen and *G. blodgettii* Harvey. Pp. 211–231 in I. A. Abbott, ed., Taxonomy of Economic Seaweeds with Reference to some Pacific and Western Atlantic Species III. California Sea Grant College program, Report No. T-CSGCP-023, La Jolla.
 96. Fredericq, S., N. Phillips, and B. Gavio. 2000. Observations of the macroalgae inhabiting deep-water hard bank communities in the Northwestern Gulf of Mexico. *Gulf of Mexico Science* 2000(2): 88–96.
 97. Freshwater, D. W., and J. Ruess. 1994. Phylogenetic relationship of some European *Gelidium* (Gelidiales Rhodophyta) species based on *rbcL* nucleotide sequence analysis. *Phycologia* 33: 187–194.
 98. Fujii, M. T., S. M. P. B. Guimarães, C. F. D. Gurgel, and S. Fredericq. 2006. Characterization and phylogenetic affinities of the red alga *Chondrophycus flagelliferus* (Rhodomelaceae, Ceramiales) from Brazil based on morphological and molecular evidence. *Phycologia* 45: 432–441.
 99. Furnari, G., M. Cormaci, and G. Alongi. 1996. *Lithophyllum frondosum* (Dufour) comb. nov. (Corallinales, Rhodophyta): the species to which Mediterranean '*Pseudolithophyllum expansum*' should be referred. *European Journal of Phycology* 31: 117–122.
 100. Gabrielson, P. W. 1985. *Agardhiella* versus *Neoagardhiella* (Solieriaceae, Rhodophyta): another look at the lectotypification of *Gigartina tenera*. *Taxon* 34: 275–280.
 101. Gabrielson, P. W., and D. P. Cheney. 1987. Morphology and taxonomy of *Meristiella* gen. nov. (Solieriaceae, Rhodophyta). *Journal of Phycology* 23: 481–493.
 102. Gabrielson, P. W., and M. H. Hommersand. 1982. The Atlantic species of *Solieria* (Gigartinales, Rhodophyta): their morphology, distribution and affinities. *Journal of Phycology* 18: 31–45.
 103. Galtsoff, P. S. 1954. Gulf of Mexico, Its Origin, Waters, and Marine Life. Fishery Bulletin 89. Fishery Bulletin of the Fish and Wildlife Service, Vol. 55, Washington, D.C. 604 pp.
 104. Gantt, E. 1990. Pigmentation and photoacclimation. Pp. 203–219 in K. M. Cole and R. G. Sheath, eds. Biology of the Red Algae. Cambridge University Press, Cambridge.

105. Garbary, D. J. 1987. The Acrochaetiaceae (Rhodophyta): an annotated bibliography. *Bibliotheca Phycologica* 77: 1–267.
106. Garbary, D. J., and J. T. Harper. 1998. A phylogenetic analysis of the *Laurencia* complex (Rhodomelaceae) of the red algae. *Cryptogamie, Algologie* 19: 185–200.
107. Garza Barrientos, M. A., and S. Martínez Lozano. 1980. Determinación preliminar del contenido de carragenano en algunas algas marinas mexicanas (Rhodophyta). *Memorias del Segundo Simposio Latinoamericano de Acuicultura* 3: 2195–2207.
108. Garza Barrientos, M. A., S. Martínez Lozano, and M. A. Escalante. 1984. Contribución al conocimiento de las algas marinas bentónicas de Ciudad Madero, Tamaulipas, México. *Phycología Latino-Americana* 2: 103–125.
109. Gavio, B., and S. Fredericq. 2003. *Botryocladia caraibica* (Rhodymeniaceae, Rhodymeniales), a new species from the Caribbean. *Cryptogamie, Algologie* 24: 93–106.
110. Gavio, B., and S. Fredericq. 2005. New species and new records of offshore members of the Rhodymeniales (Rhodophyta) in the northern Gulf of Mexico. *Gulf of Mexico Science* 23: 58–83.
111. Gavio, B., E. Hickerson, and S. Fredericq. 2005. *Platoma chrysymenioides* sp. nov. (Schizymeniaceae), and *Sebdenia integra* sp. nov. (Sebdeniaceae), two new red algal species from the northwestern Gulf of Mexico, with a phylogenetic assessment of the Cryptonemiales complex (Rhodophyta). *Gulf of Mexico Science* 23: 38–57.
112. Gaylord, B., and M. W. Denny. 1997. Flow and flexibility.—I. Effects of size, shape and stiffness in determining wave forces on the stipitate kelps *Eisenia arborea* and *Pterygophora californica*. *Journal of Experimental Biology* 200: 3141–3164.
113. Gaylord, B., D. C. Reed, P. T. Raimondi, and L. Washburn. 2006. Macroalgal spore dispersal in coastal environments: mechanistic insights revealed by theory and experiment. *Ecological Monographs* 76: 481–502.
114. Gerwick, W. H., P. J. Proteau, D. G. Nagle, M. L. Wise, Z. D. Jiang, M. W. Bernart, and M. Hamberg. 1993. Biologically-active oxylipins from seaweeds. *Hydrobiologia* 261: 653–665.
115. González Fierro, A., A. Vázquez Botello, S. Villanueva-Fragoso, and G. Ponce Vélez. 1994. Presencia de metales en sedimentos recientes y organismos de la Laguna Sontecomapan, Veracruz, México. *Hidrobiológica [México]* 4: 35–43.
116. González González, J., M. Gold Morgan, H. León Tejera, C. Candelaria, D. León Álvarez, E. Serviere Zaragoza, and D. Fragoso. 1996. Catálogo onomástico (nomenclátor) y bibliografía indexada de las algas bentónicas marinas de México. Instituto de Biología, Universidad Nacional Autónoma de México, México, D.F., Cuadernos del Instituto de Biología 29: 5–492.
117. Gonzáles-Sansón, G., and A. J. Berdayes. 1981. La producción primaria en las lagunas costeras de Tunas de Zaza, Cuba. *Revista Investigaciones Marinas* 2: 109–139.
118. Guardia, E. de la, P. González, and J. Trelles. 2001. Macrobentos del arrecife coralino adyacente al río Almendares, Habana, Cuba. *Revista Investigaciones Marinas* 22: 167–178.
119. Guimarães, S. M. P. B., and M. T. Fujii. 1999. Morphological studies of five species of *Peyssonnelia* (Gigartinales, Rhodophyta) from southeastern Brazil. *Phycologia* 38: 167–183.
120. Guiry, M. D., and G. M. Guiry. 2007. AlgaeBase version 4.2. World-wide electronic publication, National University of Ireland, Galway. [Accessed 11 January 2007.] Available from <http://www.algaebase.org>
121. Gurgel, C. F. D., and S. Fredericq. 2004. Systematics of the Gracilariaceae (Gracilariales, Rhodophyta): a critical assessment based on *rbcL* sequence analysis. *Journal of Phycology* 40: 138–159.
122. Gurgel, C. F., S. Fredericq, and J. N. Norris. 2003. *Gracilariopsis silvana*, *G. hommersandii* and *G. cataluziana*, three new species of Gracilariaceae (Gracilariales, Rhodophyta) from the Western Atlantic. *Hidrobiológica* 13: 57–68.
123. Gurgel, C. F. D., S. Fredericq, and J. N. Norris. 2004a. Molecular systematics and taxonomy of flattened species of *Gracilaria* Greville (Gracilariaceae, Gracilariales, Rhodophyta) from the Western Atlantic. Pp. 159–199 in I. A. Abbott and K. McDermid, eds. *Taxonomy of Economic Seaweeds IX (With Reference to the Pacific and Other Locations)*. Hawaii Sea Grant College Program, Report No. UNIH-SeaGrant-CR-02-04, Honolulu.
124. Gurgel, C. F. D., S. Fredericq, and J. N. Norris. 2004b. Phylogeography of *Gracilaria tikvahiae* (Gracilariaceae, Rhodophyta): a study of genetic discontinuity in a continuously distributed species based on molecular evidence. *Journal of Phycology* 40: 748–758.
125. Gurgel, C. F., S. Fredericq, and J. N. Norris. 2004c. *Gracilaria apiculata* and *G. flabelliformis* (Gracilariaceae, Rhodophyta): restoring old names for common tropical western Atlantic species, including the recognition of three new subspecies, and a replacement name for “*G. lacinulata*.” *Cryptogamie, Algologie* 25: 367–396.
126. Guzman, C. de S. 1965. Notas preliminares sobre un

- reconocimiento de la flora marina del estado de Veracruz. Anales Instituto Nacional Investigaciones Biológico-Pesqueras 1: 9–49.
127. Hanisak, M. D., and S. M. Blair. 1988. The deep-water macroalgal community of the East Florida continental shelf (USA). *Helgolander Meeresuntersuchungen* 42: 133–163.
 128. Haroun, R. J., M. C. Gil-Rodriguez, J. Diaz de Castro, and W. F. Prud'homme van Reine. 2002. A checklist of the marine plants from the Canary Islands (Central Eastern Atlantic Ocean). *Botanica Marina* 45: 139–169.
 129. Hawkes, M. J. 1990. Reproductive strategies. Pp. 455–476 in K. M. Cole and R. G. Sheath, eds. *Biology of the Red Algae*. Cambridge University Press, Cambridge.
 130. Hayden, H. S., J. Blomster, C. A. Maggs, P. C. Silva, M. J. Stanhope, and J. R. Waaland. 2003. Linnaeus was right all along: *Ulva* and *Enteromorpha* are not distinct genera. *European Journal of Phycology* 38: 277–294.
 131. Heerebout, G. R. 1968. Studies on the Erythropeltidaceae (Rhodophyceae-Bangiophycidae). *Blumea* 16: 139–157.
 132. Hernandez-Gonzalez, M. C., A. H. Buschmann, M. Cifuentes, J. A. Correa, and R. Westermeier. 2007. Vegetative propagation of the carrageenophytic red alga *Gigartina skottsbergii* Setchell et Gardner: indoor and field experiments. *Aquaculture* 262: 120–128.
 133. Hildebrand, H. H. 1957. Estudios biológicos preliminares sobre la Laguna Madre de Tamaulipas. *Ciencia (México)* 17: 151–173.
 134. Hoek, C. van den. 1963. Revision to the European Species of *Cladophora*. E. J. Brill, Leiden. 248 pp.
 135. Hommersand, M. H., and S. Fredericq. 1990. Sexual reproduction and cystocarp development. Pp. 305–345 in K. M. Cole and R. G. Sheath, eds. *Biology of the Red Algae*. Cambridge University Press, Cambridge.
 136. Hommersand, M. H., M. D. Guiry, S. Fredericq, and G. L. Leister. 1993. New perspectives in the taxonomy of the Gigartinaceae (Gigartinales, Rhodophyta). *Hydrobiologia* 260/261: 105–120.
 137. Hopkins, T. S., D. R. Blizzard, S. Brawley, S. A. Earle, D. E. Grimm, D. K. Gilbert, P. G. Johnson, E. H. Livingston, C. H. Lutz, J. K. Shaw, and B. B. Shaw. 1977. A preliminary characterization of the biotic components of composite strip transects on the Florida Middle Grounds, northeastern Gulf of Mexico. *Proceedings Third International Coral Reef Symposium, May 1977*: 31–37.
 138. Hörnig, I., and R. Schnetter. 1988. Notes on *Dictyota dichotoma*, *D. menstrualis*, *D. indica* and *D. pulchella* spec. nova (Phaeophyta). *Phyton* 28: 277–291.
 139. Huerta, L. 1958. Contribución al conocimiento de las algas de los bajos de la Sonda de Campeche, Cozumel e Isla Mujeres. *Anales de la Escuela Nacional de Ciencias Biológicas, Mexico* 9: 115–123.
 140. Huerta, L. 1960a. Lista preliminar de las algas marinas del litoral del Estado de Veracruz. *Boletín Sociedad Botánica de México* 25: 39–45.
 141. Huerta, L. 1960b. Guía de excursión: Veracruz [lista de algas marinas]. Pp. 25–26 in *Primer Congreso Mexicano de Botánica (24 a 26 de Octubre de 1960)*. Sociedad Botánica de México, México, D.F.
 142. Huerta, L. 1961. Flora marina de los alrededores de la Isla Pérez, Arrecife Alacranes, Sonda de Campeche, México. *Anales Escuela Nacional de Ciencias Biológicas, Mexico* 10: 11–22.
 143. Huerta, L., 1986. Algas marinas poco comunes de la flora mexicana-IV-*Crouania attenuata* (Bonnemaison) J. Agardh (Rhodophycophyta.-Fam. Ceramiaceae). *Phytologia* 60: 443–445.
 144. Huerta, L., M. L. Chávez-Barrera, and M. E. Sánchez Rodríguez. 1977. Algas marinas de la Isla de Enmedio, Veracruz. *Memorias Congreso Nacional de Oceanografía (Guaymas, Sonora, Mexico, 1974)* 5: 314–325.
 145. Huerta, L., and M. A. Garza Barrientos. 1964. Algas marinas de la Barra de Tuxpan y de los arrecifes Blanquilla y Lobos. *Anales Escuela Nacional de Ciencias Biológicas Mexico* 13: 5–21.
 146. Huerta, L., and M. A. Garza Barrientos. 1966. Algas marinas del litoral del Estado de Campeche. *Ciencia (México)* 24: 193–200.
 147. Huerta, L., and M. A. Garza Barrientos. 1980. Contribución al conocimiento de la flora marina de la zona sur del litoral de Quintana Roo, México. *Anales Escuela Nacional de Ciencias Biológicas Mexico* 23: 25–44.
 148. Huerta, L., A. C. Mendoza González, and L. E. Mateo Cid. 1987. Avance sobre un estudio de las algas marinas de la Península de Yucatán. *Phytologia* 62: 23–53.
 149. Huggett, M. J., R. de Nys, J. E. Williamson, M. Heasman, and P. D. Steinberg. 2005. Settlement of larval blacklip abalone, *Haliotis rubra*, in response to green and red macroalgae. *Marine Biology* 147: 1155–1163.
 150. Huisman, J. M., and M. A. Borowitzka. 1990. A revision of the Australian species of *Galaxaura* (Rhodophyta, Galaxauraceae), with a description of *Tricleocarpa* gen. nov. *Phycologia* 29: 150–172.
 151. Huisman, J. M., and R. A. Townsend. 1993. An examination of Linnaean and pre-Linnaean taxa referable to *Galaxaura* and *Tricleocarpa* (Galaxauraceae, Rhodophyta). *Botanical Journal of the Linnaen Society* 113: 95–101.

152. Humm, H. J. 1956. Annotated checklist of the marine fauna and flora of the Georges Sound-Apalachee Bay region, Florida Gulf coast. *In* R. W. Menzel, ed. *Contributions of the Oceanic Institute, Florida State University* 60: 1–78.
153. Humm, H. J. 1964. Algae of the southern Gulf of Mexico. *Proceedings International Seaweed Symposium* 4: 202–206.
154. Humm, H. J., and R. L. Caylor. 1957. The summer marine flora of Mississippi Sound. *Publications of the Institute of Marine Science at the University of Texas* 4: 228–264.
155. Humm, H. J., and R. M. Darnell. 1959. A collection of marine algae from the Chandeleur Islands. *Publications of the Institute of Marine Science, University of Texas* 6: 265–276.
156. Humm, H. J., and S. Earle Taylor. 1961. Marine Chlorophyta of the upper west coast of Florida. *Bulletin of Marine Science of the Gulf and Caribbean* 11: 321–380.
157. Humm, H. J., and D. Hamm. 1976. New records and range extensions of benthic algae in the Gulf of Mexico. *Florida Scientist* 39: 42–45.
158. Humm, H. J., and H. H. Hildebrand. 1962. Marine algae from the Gulf coast of Texas and Mexico. *Publications of the Institute of Marine Science, University of Texas* 8: 227–268.
159. Jiménez, C. 1990. Macroalgas y fanerógamas marinas de la macrolaguna del Golfo de Batabanó. Pp. 14–17 *in* P. Alcolado, ed. *El bentos de la macrolagna del Golfo de Batabanó*, Editorial Academia.
160. Jiménez, C., and P. Alcolado. 1990. Características del macrofitobentos de la macrolaguna del Golfo de Batabanó. Pp. 8–13 *in* P. Alcolado, ed. *El bentos de la macrolaguna del Golfo de Batabanó*, Editorial Academia.
161. Johansen, H. W. 1981. *Coralline Algae, A First Synthesis*. CRC Press, Boca Raton.
162. Johnson, M. W., K. L. Heck, and J. W. Fourqurean. 2006. Nutrient content of seagrasses and epiphytes in the northern Gulf of Mexico: evidence of phosphorus and nitrogen limitation. *Aquatic Botany* 85: 103–111.
163. Jompa, J., and L. J. McCook. 2003. Coral-algal competition: macroalgae with different properties have different effects on corals. *Marine Ecology-Progress Series* 258: 87–95.
164. Joyce, E. A. Jr., and J. Williams. 1969. Rationale and pertinent data. *Memoirs of the Hourglass Cruises* 1(1): 1–50.
165. Kaldy, J. 1996. Range extension of *Halimeda incrassata* (Chlorophyta, Bryopsidales): occurrence in the lower Laguna Madre of Texas. *Southwestern Naturalist* 4: 419–423.
166. Kaldy, J. E., K. H. Dunton, and A. B. Czerny. 1995. Variation in macroalgal species composition and abundance on a rock jetty in the northwest Gulf of Mexico. *Botanica Marina* 38: 519–527.
167. Kapraun, D. F. 1974. Seasonal periodicity and spatial distribution of benthic marine algae in Louisiana. *Contributions in Marine Science* 18: 139–167.
168. Kapraun, D. F. 1980. Summer aspect of algal zonation on a Texas jetty in relation to wave exposure. *Contributions in Marine Science* 23: 101–109.
169. Kapraun, D. F. 1999. Red algal polysaccharide industry: economics and research status at the turn of the century. *Hydrobiologia* 399: 7–14.
170. Kapraun, D. F., A. J. Lemus, and G. Bula-Meyer. 1983. Genus *Polysiphonia* (Rhodophyta, Ceramiales) in the tropical Western Atlantic. *Bulletin of Marine Science* 33: 881–898.
171. Kapraun, D. F., J. López-Bautista, and K. T. Bird. 1996. DNA base composition heterogeneity in some agaro-phytes (Gracilariales, Rhodophyta) from Mexico and the Philippines. *Journal of Applied Phycology* 8: 229–237.
172. Kapraun, D. F., and J. N. Norris. 1982. The red alga *Polysiphonia* Greville (Rhodomelaceae) from Carrie Bow Cay and vicinity, Belize. *Smithsonian Contributions to the Marine Sciences* 12: 225–238.
173. Karsten, U., T. Sawall, J. West, and C. Wiencke. 2000. Ultraviolet sunscreen compounds in epiphytic red algae from mangroves. *Hydrobiologia* 432: 159–171.
174. Kim, Ch. S. 1964. *Marine Algae of Alacran Reef, Southern Gulf of Mexico* [PhD dissertation]. Duke University, Durham, North Carolina. 213 pp. [University Microfilms International, Ann Arbor, 1976].
175. Kim, K. Y., and D. J. Garbary. 2006. Fluorescence responses of photosynthesis to extremes of hyposalinity, freezing and desiccation in the intertidal crust *Hildenbrandia rubra* (Hildenbrandiales, Rhodophyta). *Phycologia* 45: 680–686.
176. Knutsen, S. H., D. E. Myslabodski, B. Larsen, and A. I. Usov. 1994. A modified system of nomenclature for red algal galactans. *Botanica Marina* 37: 163–169.
177. Kornicker, L. S., F. Bonet, R. Cann, and C. M. Hoskin. 1959. Alacran Reef, Campeche Bank, México. *Publications of the Institute of Marine Science* 6: 1–22.
178. Kornmann, P. 1989. *Sahlingia* nov. gen. based on *Erythrocladia subintegra* (Erythropeletiales, Rhodophyta). *British Phycological Journal* 24: 223–228.

179. Kraft, G. T., and M. J. Wynne. 1979. An earlier name for the Atlantic North American red alga *Neoagardiella baileyi* (Solieriaceae, Gigartinales). *Phycologia* 18: 325–329.
180. Kraft, G. T., and M. J. Wynne. 1996. Delineation of the genera *Struvea* Sonder and *Phyllodictyon* J. E. Gray (Cladophorales, Chlorophyta). *Phycological Research* 44: 129–142.
181. Kylin, H. 1956. *Die Gattungen der Rhodophyceen*. Gleerup, Lund.
182. Lapointe, B. E., and B. J. Bedford. 2007. Drift rhodophyte blooms emerge in Lee County, Florida, USA: evidence of escalating coastal eutrophication. *Harmful Algae* 6: 421–437.
183. Lee, J. B., K. Hayashi, M. Maeda, and T. Hayashi. 2004. Antiherpetic activities or sulfated polysaccharides from green algae. *Planta Medica* 70: 813–817.
184. Lee, J. H. W., I. J. Hodgkiss, K. T. M. Wong, and I. H. Y. Lam. 2005. Real time observations of coastal algal blooms by an early warning system. *Estuarine Coastal and Shelf Science* 65: 172–190.
185. Lehman, R. L. 1999. A checklist of benthic marine macroalgae from the Corpus Christi Bay area. *Texas Journal of Science* 51: 241–252.
186. Lehman, R. L., and J. Tunnell Jr. 1992. Species composition and ecology of the macroalgae of Enmedio Reef, Veracruz, Mexico. *Texas Journal of Science* 44: 445–457.
187. Liao, M.-L., G. T. Kraft, S. L. A. Munro, and D. J. Craik. 1993. Beta/kappa-carrageenans as evidence for continued separation of the families Dicranemataceae and Sarcodiaceae (Gigartinales, Rhodophyta). *Journal of Phycology* 29: 833–844.
188. Lin, S. M., and S. Fredericq. 2003. *Nitophyllum hommersandii* sp. nov. (Delesseriaceae, Rhodophyta) from Taiwan. *European Journal of Phycology* 38: 143–151.
189. Lin, S. M., S. Fredericq, and M. H. Hommersand. 2001. Systematics of the Delesseriaceae (Ceramiales, Rhodophyta) based on LSU rDNA and *rbcL* sequences, including the Phycodryoideae, subfam. nov. *Journal of Phycology* 37: 881–899.
190. Lin, S. M., M. H. Hommersand, and S. Fredericq. 2004. Two new species of *Martensia* (Delesseriaceae, Rhodophyta) from Kenting National Park, southern Taiwan. *Phycologia* 43: 13–25.
191. Littler, D. S., and M. M. Littler. 1990. Systematics of *Udotea* species (Bryopsidales, Chlorophyta) in the tropical western Atlantic. *Phycologia* 29: 206–252.
192. Littler, D. S., and M. M. Littler. 1991. Systematics of *Anadyomene* species (Anadyomenaceae, Chlorophyta) in the tropical western Atlantic. *Journal of Phycology* 27: 101–118.
193. Littler, D. S., and M. M. Littler. 1992. Systematics of *Avrainvillea* (Bryopsidales, Chlorophyta) in the tropical western Atlantic. *Phycologia* 31: 375–418.
194. Littler, D. S., and M. M. Littler. 2000. *Caribbean Reef Plants. An Identification Guide to the Reef Plants of the Caribbean, Bahamas, Florida and Gulf of Mexico*. OffShore Graphics, Inc., Washington, D.C.
195. Littler, M. M., and D. S. Littler. 2007. Assessment of coral reefs using herbivory/nutrient assays and indicator groups of benthic primary producers: a critical synthesis, proposed protocols, and critique of management strategies. *Aquatic Conservation-Marine and Freshwater Ecosystems* 17: 195–215.
196. Littler, M. M., D. S. Littler, S. M. Blair, and J. N. Norris. 1985. Deepest known plant life discovered on an uncharted seamount. *Science* 227: 57–59.
197. Littler, M. M., D. S. Littler, B. L. Brooks, and B. E. Lapointe. 2006. Nutrient manipulation methods for coral reef studies: a critical review and experimental field data. *Journal of Experimental Marine Biology and Ecology* 336: 242–253.
198. Littler, M. M., D. S. Littler, and P. R. Taylor. 1995. Selective herbivore increases biomass of its prey—a chiton-coraline reef-building association. *Ecology* 76: 1666–1681.
199. Lobban, C. S., and P. J. Harrison. 1994. *Seaweed Ecology and Physiology*. Cambridge University Press, Cambridge.
200. López-Bautista, J. M. 1992. Las algas marinas bentónicas de Tamaulipas, México (porción Occidental del Golfo de México). P. 56 in *Memoirs VII Semana y I Simposio Regional de Biología, Instituto Tecnológico de Cd. Victoria (Cd. Victoria, Tamaulipas, México)*.
201. López-Bautista, J. M., and D. F. Kapraun. 1995. Agar analysis, nuclear genome quantification and characterization of four agarophytes (*Gracilaria*) from the Mexican Gulf coast. *Journal of Applied Phycology* 7: 351–357.
202. Lot Holgueras, A. 1971. Estudios sobre fanerógamas marinas en las cercanías de Veracruz, Veracruz *Anales Instituto de Biología, Universidad Nacional Autónoma México, Série Botanica* 42: 1–48.
203. Lüning, K. 1990. *Seaweeds. Their Environment, Biogeography, and Ecophysiology*. John Wiley & Sons, New York.
204. Maggs, C. A. 1988. Intraspecific life history variability in the Florideophycidae (Rhodophyta). *Botanica Marina* 31: 465–490.
205. Maggs, C. A., and M. H. Hommersand. 1993. Seaweeds of

- the British Isles. Vol. I. Rhodophyta: part 3A, Ceramiales. The Natural History Museum, London.
206. Martínez Lozano, S., and O. Guajardo Ríos. 1991. Lista sistemática de las algas marinas del Puerto El Mezquital, Matamoros, Tamaulipas, México. *Biotam (México)* 3: 16–26.
207. Martínez Lozano, S., and J. M. López-Bautista. 1991. Algas marinas bénticas de Soto la Marina, Tamaulipas, México. *Publicaciones Biologicas Facultad Ciencias Biologicas, Universidad Autónoma Nuevo León (México)* 5: 13–22.
208. Martínez Lozano, S., J. M. López-Bautista, and S. Vázquez Martínez. 1992. Flora ficológica marinade Altamira, Tamaulipas. *Publicaciones Biologicas Facultad Ciencias Biologicas, Universidad Autónoma Nuevo León (México)* 6: 30–37.
209. Martínez Lozano, S., and L. Villarreal Rivera. 1991. Algas marinas de San Fernando, Tamaulipas, México. *Publicaciones Biologicas Facultad Ciencias Biologicas, Universidad Autónoma Nuevo León (México)* 5: 9–12.
210. Martone, P. T. 2006. Size, strength and allometry of joints in the articulated coralline *Calliarthron*. *Journal of Experimental Biology* 209: 1678–1689.
211. Mateo-Cid, L. E., and A. C. Mendoza-González. 1986. Algas marinas poco comunes de las costas mexicanas (I). *Phytologia* 60: 428–433.
212. Mateo-Cid, L. E., and A. C. Mendoza-González. 1993. Algas marinas poco conocidas de la flora mexicana. X. *Derbesia marina* (Lyngbye) Solier y *D. prolifera* W. Taylor (Chlorophyta-Bryopsidaceae). *Anales Escuela Nacional de Ciencias Biologicas Mexico* 38: 9–16.
213. Mateo-Cid, L. E., A. C. Mendoza-González, and C. Galicia García. 1996. Algas marinas de Isla Verde, Veracruz, México. *Acta Botánica Mexicana* 36: 59–75.
214. Mateo-Cid, L. E., A. C. Mendoza-González, and R. B. Searles. 2003. La tribu Callithamnieae (Ceramiales, Rhodophyta) en la costa del Atlántico de México. *Hidrobiológica* 123: 39–50.
215. Mateo-Cid, L. E., and F. F. Pedroche. 2004. The occurrence of *Neogoniolithon fosliei* (Heydrich) Setchell *et* Mason in the Mexican Caribbean and the relationship of this species to *N. solubile* (Foslie *et* Howe) Setchell *et* Mason (Corallinales, Rhodophyta). *Caribbean Journal of Science* 40: 182–191.
216. Mathieson, A. C., and E. J. Hehre. 1994. A comparison of the marine algae from the Goleta Slough and adjacent open coast of Goleta, Santa Barbara, California with those in the southern Gulf of Maine. *Rhodora* 96: 207–258.
217. McCandless, E. L. 1978. The importance of cell wall constituents in algal taxonomy. Pp. 63–85 *in* D. E. G. Irvine and J. H. Price, eds. *Modern Approaches to the Taxonomy of Red and Brown Algae*. Academic Press, London.
218. McLachlan, J. 1979. *Gracilaria tikvahiae* sp. nov. (Rhodophyta, Gigartinales, Gracilariaceae), from the northwestern Atlantic. *Phycologia* 18: 19–23.
219. Mendoza-González, A. C., and L. E. Mateo-Cid. 1985. Contribución al conocimiento de la floramarina bentónica de las Islas Sacrificios y Santiaguillo, Veracruz, México. *Phytologia* 59: 9–16.
220. Mendoza-González, A. C., and L. E. Mateo-Cid. 1986. Algas marinas poco comunes de las costas mexicanas (III). *Phytologia* 60: 437–442.
221. Mendoza-González, A. C., L. E. Mateo-Cid, R. Aguilar Rosas, and L. E. Aguilar-Rosas. 2000. La familia Sphacelariaceae (Sphacelariales, Phaeophyta) en las costas de México. *Polibotánica* 11: 21–48.
222. Merceron, M., and P. Morand. 2004. Existence of a deep subtidal stock of drifting *Ulva* in relation to intertidal algal mat developments. *Journal of Sea Research* 52: 269–280.
223. Meusnier, I., M. Valero, J. L. Olsen, and W. T. Stam. 2004. Analysis of rDNA ITS1 indels in *Caulerpa taxifolia* (Chlorophyta) supports a derived, incipient species status for the invasive strain. *European Journal of Phycology* 39: 83–92.
224. Miller, M. W., and M. E. Hay. 1996. Coral-seaweed-grazer-nutrient interactions on temperate reefs. *Ecological Monographs* 66: 323–344.
225. Monreal Guevara, J. C., R. M. Margain Hernández, and C. Zamora Tovar. 1994. Primera experienciade cultivo de algas marinas del género *Gracilaria* Greville (Gracilariales, Rhodophyta) en Los Legales, Laguna Madre Tamaulipas. Pp. 51–60 *in* C. Álvarez Silva *et al.*, eds. *Los sistemas litorales*. Universidad Autónoma Metropolitana, Iztapalapa e Instituto de Biología.
226. Morand, P., and X. Brian. 1996. Excessive growth of macroalgae: a symptom of environmental disturbance. *Botanica Marina* 39: 491–516.
227. Moreira, A., A. M. Suárez, and R. Cabrera. 2004. Adiciones a las algas marinas de Cuba. *Revista Investigaciones Marinas* 25: 159–161.
228. Moreira, L., R. Cabrera, and A. M. Suárez. 2005. Evaluación de caracteres morfo-anatómicos el el género *Sargassum* C. Agardh (Phaeophyta, Fucales, Sargassaceae) en aguas cubanas. VII Congreso Latinoamericano y del Caribe de Ficología y V Reunión Iberoamericana de Ficología, La Habana: 15.
229. Norris, J. N., and D. L. Ballantine. 1995. Two new species

- of the red alga *Chrysiomenia* J. Agardh (Rhodymeniales: Rhodymeniaceae) from the tropical western Atlantic. *Proceedings of the Biological Society of Washington* 108: 153–165.
230. Norris, J. N., and K. E. Bucher. 1989. *Rhodogorgon*, an anomalous red algal genus from the Caribbean Sea. *Proceedings of the Biological Society of Washington* 102: 1050–1066.
231. Norris, R. E. 1985. Studies on *Pleonosporium* and *Mesothamnion* (Ceramiaceae, Rhodophyta) with a description of a new species from Natal. *British Phycological Journal* 20: 59–68.
232. Norris, R. E. 1991. The structure, reproduction and taxonomy of *Vidalia* and *Osmundaria* (Rhodophyta, Rhodomelaceae). *Botanical Journal of the Linnean Society* 106: 1–40.
233. Norton, T. A., M. Melkonian, and R. A. Andersen. 1996. Algal biodiversity. *Phycologia* 35: 308–326.
234. Novaczek, I., G. W. Lubbers, and A. M. Breeman. 1990. Thermal ecotypes of amphi-Atlantic algae. I. Algae of Arctic to cold-temperate distribution (*Chaetomorpha melagonium*, *Devaleraea ramentacea* and *Phycodryx rubens*). *Helgolander Meeresuntersuchungen* 44: 459–474.
235. Novelo Retana, A. 1978. La vegetación de la Estación Biológica El Morro de la Mancha, Veracruz. *Biotica* 3: 9–21.
236. Oliveira, M. C., and D. Bhattacharya. 2000. Phylogeny of the Bangiophycidae (Rhodophyta) and the secondary endosymbiotic origin of algal plastids. *American Journal of Botany* 87: 482–492.
237. Olsen, J. L., and J. A. West. 1988. *Ventricaria* (Siphonocladales-Cladophorales complex, Chlorophyta), a new genus for *Valonia ventricosa*. *Phycologia* 27: 103–108.
238. Olsen-Stojkovich, J. 1985. A systematic study of the genus *Avrainvillea* Decaisne (Chlorophyta, Udoteaceae). *Nova Hedwigia* 41: 1–68.
239. Oohusa, T. 1993. Recent trends in nori products and markets in Asia. *Journal of Applied Phycology* 5: 155–159.
240. Orduna-Rojas, J., D. Robledo, and C. J. Dawes. 2002. Studies on the tropical agarophyte *Gracilaria cornea* J. Agardh (Rhodophyta, Gracilariales) from Yucatan, Mexico. I. Seasonal physiological and biochemical responses. *Botanica Marina* 45: 453–458.
241. Orozco Vega, H., and K. M. Dreckmann. 1995. Macroalgas estuarinas del litoral mexicano del Golfo de México. *Cryptogamie, Algologie* 16: 189–198.
242. Ortega, M. M. 1995. Observaciones del fitobentos de la laguna de Términos, Campeche, México. *Anales de Instituto de Biología Universidad Nacional Autónoma de México. Serie Botánica* 66: 1–36.
243. Ortega, M. M., J. L. Godínez, and G. Garduño Solórzano. 2001. Catálogo de Algas Bénticas de las Costas Mexicanas del Golfo de México y Mar Caribe. Cuadernos 34, Instituto de Biología, Universidad Nacional Autónoma de México. México. 594 pp.
244. Ortegón-Aznar, I., J. Gonzáles-González, and A. Senties-Granados. 2001. Estudio ficoflorístico de la laguna de Río Lagartos, Yucatán, México. *Hidrobiológica* 11: 97–104.
245. Palmer, J. D. 2000. Molecular evolution—a single birth of all plastids? *Nature* 405: 32–322.
246. Penrose, D., and M. Chamberlain. 1993. *Hydrolithon farinosum* (Lamouroux) comb. nov.: implications for generic concepts in the Mastophoroideae (Corallinaceae, Rhodophyta). *Phycologia* 32: 295–303.
247. Penrose, D., and W. J. Woelkerling. 1991. *Pneophyllum fragile* in southern Australia: implications for generic concepts in the Mastophoroideae (Corallinaceae, Rhodophyta). *Phycologia* 30: 495–506.
248. Pereira, R., C. Yarish, and I. Sousa-Pinto. 2006. The influence of stocking density, light and temperature on the growth, production and nutrient removal capacity of *Porphyra dioica* (Bangiales, Rhodophyta). *Aquaculture* 252: 66–78.
249. Phillips, A., G. Lambert, J. E. Granger, and T. D. Steinke. 1996. Vertical zonation of epiphytic algae associated with *Avicennia marina* (Forssk) Vierh pneumatophores at Beachwood Mangroves Nature Reserve, Durban, South Africa. *Botanica Marina* 39: 167–175.
250. Phillips, N., and S. Fredericq. 2000. Phylogenetic and biogeographic investigations of the pantropical algal genus *Sargassum* (Fucales, Phaeophyceae) with relevance to the Gulf of Mexico. *Gulf of Mexico Science* 2000 (2): 77–87.
251. Phillips, R. C., and V. G. Springer. 1960. Observations on the offshore benthic flora in the Gulf of Mexico off Pinellas County, Florida. *American Midland Naturalist* 64: 362–381.
252. Piña, C., M. M. Ortega, and D. Landeros. 1983. Contribución al estudio de la composición química del alga mexicana *Ulva fasciata* Delile. *Anales de l'Instituto de Biología de la Universidad Nacional Autónoma de México, Ser. Botanica* 54: 243–246.
253. Quintana Molina, J. R. 1980. La zonación rocosa intermareal de Playa Paraíso, Veracruz. Universidad

- Autónoma Metropolitana, México, D.F., Rep. E investigación 4: 1–52.
254. Quintana Molina, J. R. 1991. Resultados del programa de investigaciones en arrecifes veracruzanos del laboratorio de sistemas bentónicos litorales. *Hidrobiológica (México)* 1: 73–86.
255. Quintana Molina, J. R., A. Ramos Cárdenas, M. G. Miranda Arce, and G. de Lara Isassi. 1981a. Catálogo de las algas macroscópicas de la zona de intermareas de playa Paraíso, Veracruz. Universidad Autónoma Metropolitana, México, D.F., Rep. Investigación 11: 1–128.
256. Quintana Molina, J. R., A. Ramos Cárdenas, M. G. Miranda Arce, and G. de Lara Isassi. 1981b. Contribución al conocimiento de la flora ficológica de Playa Paraíso, Ver., México. *Memoirs Simposio Latinoamericano de Oceanografía y Biología (Acapulco, Guerrero, México, 1981)* 7: 387–405.
257. Ramus, J. 1978. Seaweed anatomy and photosynthetic performance, ecological significance of light guides, heterogeneous absorption and multiple scatter. *Journal of Phycology* 14: 352–362.
258. Raven, J. A. 1992. How benthic macroalgae cope with flowing fresh-water—resource acquisition and retention. *Journal of Phycology* 28: 133–146.
259. Rezak, R., T. J. Bright, and D. M. McGrail. 1985. Reefs and Banks of the Northwestern Gulf of Mexico: Their Geological, Biological, and Physical Dynamics. John Wiley & Sons, New York.
260. Rezak, R., S. R. Gittings, and T. J. Bright. 1990. Biotic assemblages and ecological controls on reefs and banks of the northwest Gulf of Mexico. *American Zoologist* 30: 23–35.
261. Rigby, J. K., and W. G. McIntire. 1966. The Isla de Lobos and associated reefs, Veracruz, Mexico. *Brigham Young University Geological Studies* 13: 3–46.
262. Robledo, D., and Y. Freile-Pelegrín. 1997. Chemical and mineral composition of six potentially edible seaweed species of Yucatán. *Botanica Marina* 40: 301–306.
263. Robledo, D., Y. Freile-Peregrín, and I. Sánchez Rodríguez. 2003. Marine benthic algae from the Campeche Banks, Mexico. Pp. 257–264 in A. R. O. Chapman, R. J. Anderson, V. J. Vreeland, and I. R. Davison, eds. *Proceedings of the XVIIth International Seaweed Symposium, Cape Town, South Africa*.
264. Rossi, F. 2006. Small-scale burial of macroalgal detritus in marine sediments: effects of *Ulva* spp. on the spatial distribution of macrofauna assemblages. *Journal of Experimental Marine Biology and Ecology* 332: 84–95.
265. Sánchez Rodríguez, M. E. 1963. Datos relativos a los manglares de México. *Anales Escuela Nacional de Ciencias Biológicas, Mexico* 12: 61–72.
266. Sánchez Rodríguez, M. E. 1965. Flora marina de Monte Pío, Edo. de Veracruz, México. *Anales Escuela Nacional de Ciencias Biológicas, Mexico* 14: 9–18.
267. Sánchez Rodríguez, M. E. 1980. Ficoflora del sustrato rocoso dentro de las costas del Golfo de México, México. *Boletín Instituto Oceanografía (São Paulo)* 29: 347–350.
268. Sánchez Rodríguez, M. E., G. Flores Davis, and A. Ramírez Rodríguez. 1975. Trayecto Playa Paraíso-Villa Rica-Boca Andrea. Pp. 77–82 in *Guías botánicas de excursiones en México*. Sociedad Botánica de Mexico, Xalapa [México].
269. Santelices, B. 1976. Taxonomic and nomenclatural notes on some Gelidiales (Rhodophyta). *Phycologia* 15: 165–173.
270. Santelices, B., and D. Aedo. 1999. Evaluating substances that facilitate algal spore adhesion. *Hydrobiologia* 399: 241–246.
271. Santelices, B., J. A. Correa, M. Hormazabal, and V. Flores. 2003. Contact responses between spores and sporelings of different species, karyological phases and cystocarps of coalescing Rhodophyta. *Marine Biology* 143: 381–392.
272. Santelices, B., and M. Hommersand. 1997. *Pterocliadiella*, a new genus in the Gelidiaceae (Gelidiales, Rhodophyta). *Phycologia* 36: 114–119.
273. Santos, G. A. 1989. Carrageenans of species of *Eucheuma* J. Agardh and *Kappaphycus* Doty (Solieriaceae, Rhodophyta). *Aquatic Botany* 36: 55–67.
274. Saunders, G. W., I. M. Strachan, and G. T. Kraft. 1999. The families of the order Rhodymeniales (Rhodophyta): a molecular-systematic investigation with a description of *Faucheaceae* fam. nov. *Phycologia* 38: 23–40.
275. Schaffelke, B., J. E. Smith, and C. L. Hewitt. 2006. Introduced macroalgae—a growing concern. *Journal of Applied Phycology* 18: 529–541.
276. Schils, T., and E. Coppejans. 2002. Gelatinous red algae of the Arabian Sea, including *Platoma heteromorphum* sp. nov. (Gigartinales, Rhodophyta). *Phycologia* 41: 254–267.
277. Schneider, C. W. 1975. North Carolina marine algae. V. Additions to the flora of Onslow Bay, including the reassignment of *Faucheia peltata* Taylor to *Weberella* Schmitz. *British Phycological Journal* 10: 129–138.
278. Schneider, C. W. 1984. Studies on *Antithamniella*, *Callithamniella* and *Calloseris* (Rhodophyta, Ceramiales) from North Carolina, USA. *Phycologia* 23: 455–464.
279. Schneider, C. W., and R. P. Reading. 1987. A revision of the genus *Peyssonnelia* (Rhodophyta, Cryptonemiales) from North Carolina, including *P. atlantica* new species. *Bulletin of Marine Science* 40: 175–192.

280. Schneider, C. W., and R. B. Searles. 1975. North Carolina marine algae. IV. Further contributions from the continental shelf, including two new species of Rhodophyta. *Nova Hedwigia* 24: 83–101.
281. Schneider, C. W., and R. B. Searles. 1976. North Carolina marine algae. VII. New species of *Hypnea* and *Petroglossum* (Rhodophyta, Gigartinales) and additional records of the Rhodophyta. *Phycologia* 15: 51–60.
282. Schneider, C. W., and R. B. Searles. 1991. Seaweeds of the Southeastern United States: Cape Hatteras to Cape Canaveral. Duke University Press. 554 pp.
283. Schneider, C. W., and R. B. Searles. 1997a. Notes on the marine algae of the Bermudas. 1. New records of the Antithamnieae and Dohrniellaceae (Ceramiaceae, Rhodophyta), including *Antithamnionella bermudica*, sp. nov. *Phycologia* 36: 12–23.
284. Schneider, C. W., and R. B. Searles. 1997b. Notes on the marine algae of the Bermudas. 2. Some Rhodophyta, including *Polysiphonia tongatensis* and a discussion of the *Herposiphonia secunda/tenella* complex. *Cryptogamie Algologie* 18: 187–210.
285. Schnetter, R. 1972. Nuevas algas bentónicas del litoral caribe de Columbia. *Mutisia* 36: 12–16.
286. Schnetter, R. 1978. *Botryocladia monoica* (Rhodymeniales, Rhodophyta), a new species from the Caribbean coast of Colombia. *Phycologia* 17: 13–15.
287. Schnetter, R., I. Hörning, and G. Weber-Peukert. 1987. Taxonomy of some North Atlantic *Dictyota* species (Phaeophyta). *Hydrobiologia* 151/152: 193–197.
288. Schnitzler, I., G. Pohnert, M. Hay, and W. Boland. 2001. Chemical defense of brown algae (*Dictyopterus* spp.) against the herbivorous amphipod *Ampithoe longimana*. *Oecologia* 126: 515–521.
289. Searles, R. B. 1972. North Carolina marine algae. I. Three new species from the continental shelf. *Phycologia* 11: 19–24.
290. Searles, R. B. 1980. The strategy of the red algal life history. *American Naturalist* 115: 113–120.
291. Searles, R. B. 1984a. Seaweed biogeography of the mid-Atlantic coast of the United States. *Helgoländer Wissenschafte Meeresuntersuchungen*. 38: 259–271.
292. Searles, R. B. 1984b. North Carolina marine algae. XII. *Gloioderma rubrisporum* sp. nov. (Rhodophyta, Rhodymeniales). *Bulletin of the Torrey Botanical Club* 111: 217–221.
293. Searles, R. B., and C. W. Schneider. 1980. Biogeographic affinities of the shallow and deep-water benthic marine algae of North Carolina. *Bulletin of Marine Sciences of the Gulf and Caribbean* 30: 732–736.
294. Silva, P. C. 1952. A review of nomenclatural conservation in the algae from the point of view of the type method. *University of California Publications in Botany* 25: 241–323.
295. Silva, P. C. 1960. *Codium* (Chlorophyta) in the tropical western Atlantic. *Nova Hedwigia* 1: 497–536.
296. Silva, P. C. 1972. Remarks on algal nomenclature. *V. Taxon* 21: 199–205.
297. Silva, P. C. 1980. Names of classes and families of living algae with special reference to their use in the Index Nominum Genericorum (Plantarum). *Regnum Vegetabile* 103: 1–156.
298. Silva, P. C. 2007. (edited by R. Moe). *Index Nominum Algarum*. University Herbarium, University of California, Berkeley. [Internet document]. Accessed 17 April 2007, at <http://ucjeps.berkeley.edu/INA.html>
299. Silva, P. C., P. W. Basson, and R. L. Moe. 1996. Catalogue of the benthic marine algae of the Indian Ocean. *University of California Publications in Botany* 79: 1–1259.
300. Silva, P. C., and H. W. Johansen. 1986. A reappraisal of the order Corallinales (Rhodophyceae). *British Phycological Journal* 21: 245–254.
301. Sobrino-Figueroa, G. A., and A. Senties Granados. 1986. Macroalgas de la zona norte y sur de la Laguna de Tamiahua, Veracruz. II. Reunión Alejandro Villalobos. *Biología de la Laguna de Tamiahua* 22–24 Oct. Facultad de Ciencias.
302. Sosa, E. 1977. Adiciones a la flora marina de Cuba. *Ciencias Biológicas* 1: 158–160.
303. Sosa, E. 1985. Adiciones a la flora marina de Cuba. Chlorophyta III. Simposio de Ciencias del mar y VII Jornada Científica del Instituto de Oceanología XX Aniversario, Academia de Ciencias de Cuba, 172–178.
304. Suárez, A. M. 1973. Catálogo de algas cubanas. *Ciencias (8 Invest. Mar.)* 2: 1–107.
305. Suárez, A. M. 1989. Ecología del macrofitobentos de la plataforma de Cuba. *Revista Investigaciones Marinas* 10: 187–206.
306. Suárez, A. M. 2005. Lista de las macroalgas marinas cubanas. *Revista Investigaciones Marinas* 26: 93–148.
307. Suárez, A. M., L. Collado Vides, and Jorge González-González. 1996. Estudio comparativo de la ficoflora del Caribe de México y Cuba. *Revista Investigaciones Marinas* 17: 9–16.
308. Suárez, A. M., and I. Cortés. 1983. Riqueza del fitobentos en una zona de la costa norte de la Habana. *Revista Investigaciones Marinas* 4: 3–21.
309. Suárez, A. M., L. Gil, and R. Poseck. 1989. Variación del

- epifitismo en *Styopodium zonale* (Lamouroux) Papenfuss a lo largo de un año. *Revista Investigaciones Marinas* 10: 3–20.
310. Suárez, A. M., and M. V. Ravelo. 1996. Las especies cubanas del género *Codium* y su distribución. *Revista Investigaciones Marinas* 17: 99–106.
311. Swanson, A. K., and L. D. Druehl. 2000. Differential meiospore size and tolerance of ultraviolet light stress within and among kelp species along a depth gradient. *Marine Biology* 136: 657–664.
312. Taylor, R. B. 1998. Short-term dynamics of a seaweed epifaunal assemblage. *Journal of Experimental Marine Biology and Ecology* 227: 67–82.
313. Taylor, W. R. 1928. The marine algae of Florida with special reference to the Dry Tortugas. Carnegie Institution of Washington, Tortugas Laboratory. 193 pp., 20 pls.
314. Taylor, W. R. 1954a. Sketch of the character of the marine algal vegetation of the shores of the Gulf of Mexico. Pp. 177–192 in P. S. Galtsoff, ed. *Gulf of Mexico, Its Origin, Waters, and Marine Life*. Fishery Bulletin 89. Fishery Bulletin of the Fish and Wildlife Service, Volume 55, Washington, D.C.
315. Taylor, W. R. 1954b. Distribution of marine algae in the Gulf of Mexico. *Papers of the Michigan Academy of Sciences* 39: 85–109.
316. Taylor, W. R. 1960. *Marine Algae of the Eastern Tropical and Subtropical Coasts of the Americas*. University of Michigan Press, Ann Arbor.
317. Taylor, W. R. 1972. Marine algae of the Smithsonian-Bredin expedition to Yucatan—1960. *Bulletin of Marine Science* 22: 34–44.
318. Trelles, J., A. M. Suárez, and L. Collado-Vides. 1997. Macroalgas del Arrecife de la Herradura, Costa NO de la Habana. *Revista Investigaciones Marinas* 18: 101–103.
319. Trelles, J., A. M. Suárez, and E. de la Guardia. 2001. Macroalgas dominantes de playa Herradura, plataforma noroccidental de Cuba: Caulerpales y Dictyotales. *Revista Investigaciones Marinas* 22: 1–6.
320. Tunnell, J. W. Jr., and S. A. Alvarado, eds. 1996. Chlorophytes, Phaeophytes, Rhodophytes. Pp. 27–40 in *Checklist of Species Within Corpus Christi Bay National Estuary Program Study Area: References, Habitats, Distribution, and Abundance. Current Status and Historical Trends of Estuarine Living Resources of the Corpus Christi Bay National Estuary Program Study Area*.
321. Usov, A. I. 1992. Sufated polysaccharides of the red seaweeds. *Food Hydrocolloids* 6: 9–23.
322. Valdivia, A., E. de la Guardia, M. Armenteros, P. González, A. M. Suárez, C. Aguilar, and G. González-Sansón. 2004. Inventario de los componentes más comunes de algunos arrecifes coralinos de la península de Guanacahabibes. *Revista Investigaciones Marinas* 25: 113–121.
323. Vergés, A. J., M. A. Utgé, and C. Rodríguez-Prieto. 2004. Life histories of *Predaea ollivieri* and *P. pusilla* (Nemastomatales, Rhodophyta). *European Journal of Phycology* 39: 411–421.
324. Verlaque, M. 1990. Contribution à l'étude du genre *Predaea* (Rhodophyta) en Méditerranée. *Phycologia* 29: 489–500.
325. Villalobos, A. 1971. Estudios ecológicos en un arrecife coralino en Veracruz, México. Pp. 531–545 in *Symposium on Investigations and Resources of the Caribbean Sea and Adjacent Regions*. CICAR, UNESCO, and FAO.
326. Vinogradova, K. L. 1975. Composición específica de algas de las costas de la isla de Cuba. *Novitates Systematicae Plantarum Non Vascularum* 12: 94–101. [In Russian.]
327. Vinogradova, K. L., and E. Sosa. 1977. Additamenta ad floram Rhodophycearum insulae Cuba. *Novitates Systematicae Plantarum Non Vascularum* 14: 8–19.
328. von Stosch, H. A. 1965. The sporophyte of *Liagora farinosa* Lamour. *British Phycological Bulletin* 2: 486–496.
329. Wardle, W. J. 1999. Additions to the marine macroalgal flora of Galveston, Texas, with an annotated checklist of species. *Texas Journal of Sciences* 51: 49–54.
330. Wise, M. L., K. Soderstrom, T. F. Murray, and W. H. Gerwick. 1996. Synthesis and cannabinoid receptor binding activity of conjugated triene anandamide, a novel eicosanoid. *Experientia* 52: 88–92.
331. Woelkerling, W. J. 1990. An Introduction. Pp. 1–8 in K. M. Cole and R. G. Sheath, eds. *Biology of the Red Algae*. Cambridge University Press, Cambridge.
332. Womersley, H. B. S. 1994. The marine benthic flora of southern Australia. Rhodophyta: Part IIIA. Bangiophyceae and Florideophyceae (Acrochaetales, Nemaliales, Gelidiales, Hildenbrandiales and Gigartinales *sensu lato*). *Australian Biological Resources Study*, Canberra. 508 pp.
333. Wynne, M. J. 1985a. Concerning the names *Scagelia corallina* and *Heterosiphonia wurdemannii* (Ceramiales, Rhodophyta). *Cryptogamie, Algologie* 5: 81–90.
334. Wynne, M. J. 1985b. Notes on *Herposiphonia* (Rhodomelaceae, Rhodophyta) in South Africa, with a description of a new species. *Cryptogamie Algologie* 5: 167–177.
335. Wynne, M. J. 1989. The re-instatement of *Hydropuntia*

- Montagne (Gracilariaceae, Rhodophyta). *Taxon* 38: 476–479.
336. Wynne, M. J. 1991. A change in the name of the type of *Chondria* C. Agardh (Rhodomelaceae, Rhodophyta). *Taxon* 40: 316–318.
337. Wynne, M. J. 1993. *Prionitis pterocladina* sp. nov. (Halymeniaceae, Rhodophyta), a newly recognized alga in the Western Gulf of México. *Botanica Marina* 36: 535–543.
338. Wynne, M. J. 1997. *Roseningea antillarum* (P. Crouan & H. Crouan) comb. nov. to replace *R. floridana* (W. R. Taylor) W. R. Taylor (Scytosiphonales, Phaeophyta). *Cryptogamie, Algologie* 18: 331–336.
339. Wynne, M. J. 2005. A checklist of benthic marine algae of the tropical and subtropical western Atlantic: second revision. *Beihefte Nova Hedwigia* 129: 1–152.
340. Wynne, M. J., and D. L. Ballantine. 1986. The genus *Hypoglossum* Kützing (Delesseriaceae, Rhodophyta) in the tropical Western Atlantic, including *H. anomalum* sp. nov. *Journal of Phycology* 22: 185–193.
341. Zamora Tovar, C. 1990. Algas de importancia económica en Tamaulipas. I. Caracterización y propiedades del ficocoloide obtenido de tres Rhodophytas [rodofitas]. *Biotam (México)* 2(1): 33–44.
342. Zayas, C. R., A. M. Suárez, and F. A. Ocaña. 2002. Lista de especies y variación estacional del fitobentos marino de playa Guardalavaca, Cuba. *Revista Investigaciones Marinas* 23: 81–84.
343. Zemke-White, W. L., and M. Ohno. 1999. World seaweed utilization: an end-of-century summary. *Journal of Applied Phycology* 11: 369–376.
344. Zuccarello, G. C., and J. A. West. 2002. Phylogeography of the *Bostrychia calliptera*-*B. pinnata* complex (Rhodomelaceae, Rhodophyta) and divergence rates based on molecular, mitochondrial and plastid DNA markers. *Phycologia* 41: 49–60.
345. Zúñiga, D., and A. M. Suárez. 1999. Adiciones a las Phaeophyceae marinas de Cuba, Fucales. *Revista Investigaciones Marinas* 3: 101–102.

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**Taxonomic summary for the seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae)
of the Gulf of Mexico.**

Component subgroups	Total species	Number of presumed endemic species
Porphyridiaceae	2	0
Phragmonemataeae	1	0
Erythrotrichiaceae	5	0
Bangiaceae	2	0
Acrochaetiaceae	18	0
Galaxauraceae	6	0
Sciniaaceae	2	0
Liagoraceae	13	0
Hildenbrandiaceae	1	0
Rhodogorgonaceae	1	0
Corallinaceae	38	0
Gelidiaceae	16	0
Gracilariaceae	21	1
Bonnemaisoniaceae	1	0
Peyssonneliaceae	9	0
Rhizophyllidaceae	2	0
Dumontiaceae	2	0
Kallymeniaceae	2	0
Calosiphoniaceae	1	0
Halymeniaceae	15	1
Sebdeniaceae	2	1
Nemastomataceae	2	0
Schizymeniaceae	3	1
Champiaceae	5	0
Lomentariaceae	4	0
Rhodymeniaceae	14	1
Faucheaceae	3	2
<i>Incertae sedis</i>	3	1
Ceramiaceae	68	1
Dasyaceae	16	0
Heterosiphoniaceae	2	0
Delesseriaceae	16	0
Sacromeniaceae	2	0
Rhodomelaceae	75	0
Furcellariaceae	1	0
Caulacanthaceae	2	0
Cystocloniaceae	5	0
Solieriaceae	8	0
Gigartinaceae	1	0
Phyllophoraceae	2	0
REDS	392	9
Palmellopsidaceae	1	0
Gomontiaceae	3	0
Ulvellaceae	7	0
Ulotrichaceae	2	0
Phaeophilaceae	2	0
Gayraliaceae	1	0
Gomontiaceae	3	0
Ulvaceae	14	0
Anadyomenaceae	7	0
Cladophoraceae	38	0

Taxonomic summary for the seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) of the Gulf of Mexico. (continued)

Component subgroups	Total species	Number of presumed endemic species
Boodleaceae	4	0
Siphonocladaceae	9	0
Valoniaceae	5	0
Chaetosiphoniaceae	1	0
Bryopsidaceae	10	0
Caulerpaceae	18	0
Codiaceae	5	0
Pseudocodiaceae	1	0
Halimedaceae	12	0
Ostreobiaceae	1	0
Udoteaceae	34	0
Dasycladaceae	8	0
Polyphysaceae	9	0
GREENS	195	0
Acinetosporaceae	7	0
Ectocarpaceae	9	0
Ralfiaceae	1	0
Sphacelariaceae	5	0
Dictyotaceae	28	0
Chordariaceae	6	0
Scytosiphonaceae	7	0
Sporochnaceae	3	0
Cystoseiraceae	1	0
Sargassaceae	19	0
BROWNS	86	0
REDS, GREENS, & BROWNS	673	9

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico.

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
Division: Rhodophyta					
Class: Rhodophyceae					
Family: Porphyridiaceae					
<i>Chroodactylon ornatum</i> (C. Agardh) Basson, 1979	epi, hs, est	int-subt	FL to MA, CA, Carib, GMx, Eur, Atl Isls, Vietnam, trop Pac Isls, N, E, & W Afr, Indian Oc Isls, Japan, Vietnam, PNG, S Aust	entire	19, 60, 67, 83, 84, 85, 158, 174, 185, 219, 241, 243, 306, 316, 320
<i>Stylonema alsidii</i> (Zanardini) K. M. Drew, 1956	epi, hs, est	int-subt	FL to E Canada, Pac Mex Isls, CA to W Canada, Carib, GMx, Eur, Atl Isls, Brazil, W S Am, Uruguay, Afr, SW & SE Asia, Aust, Japan, trop Pac Isls, PNG	entire	63, 83, 84, 85, 86, 148, 185, 168, 206, 207, 213, 219, 243, 251, 259, 267, 243, 306, 320

(continued)

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
Family: Phragmonemataceae					
<i>Bangiopsis dumontioides</i> (P. L. & H. Crouan) Krishnamurthy, 1957	hsb	int–shw	Carib, GMx, Bermuda, Brazil, Vietnam, India, Fiji	nw, sw, se	83, 243, 306
Family: Erythrotrichiaceae					
<i>Erythrocladia endophloea</i> M. Howe, 1914	epi, endo	int–subt	SC to CT, Carib, GMx, Peru	nw, se	96, 306
<i>Erythrocladia irregularis</i> Rosenvinge, 1909	epi	int–subt	CA to AK, NC, Arctic Canada, Chile, GMx, Eur, Atl Isls, W & E Afr, Japan, Korea, Com- mander Isls, Vietnam, S & W Aust	entire	213, 242, 267, 268
<i>Erythrocladia pinnata</i> W. R. Taylor, 1942	epi	int–subt	Carib, GMx, Philippines	sw	142
<i>Erythrotrichia carnea</i> (Dillwyn) J. Agardh, 1883	epi	int–subt	FL to E Canada, CA to Arctic Canada, Carib, GMx, Eur, Atl Isls, Brazil, W S Am, Afr, Indian Oc Isls, SW & SE Asia, Japan, Korea, Russia, New Zeal, Aust, trop Pac Isls, Ant- arctica, Tierra del Fuego	entire	60, 63, 83, 84, 85, 108, 142, 144, 148, 158, 167, 168, 174, 185, 206, 207, 243, 251, 259, 306, 316, 320, 329
<i>Sahlingia subintegra</i> (Rosenvinge) Kornmann, 1989	epi	shw–subt	FL to NC, CA to WA, Carib, GMx, Eur, Atl Isls, Brazil, Afr, SE Asia, Japan, S & W Aust, trop Pac Isls, Campbell I, Maldives	entire	60, 63, 83, 84, 85, 108 131, 142, 144, 148, 158, 167, 168, 174, 178, 185, 206, 207, 243, 259, 306, 316, 320, 329
Family: Bangiaceae					
<i>Bangia fuscopurpurea</i> (Dillwyn) Lyngbye, 1819	hsb, epi	int	VA to E Canada, CA to AK, GMx, Eur, Atl Isls, Brazil, Peru, Uruguay, W & N Afr, China, Taiwan, Vietnam, S Aust, King George I	entire	83, 85, 86, 108, 144, 148, 158, 168, 185, 206, 207, 209, 243, 306
<i>Porphyra leucosticta</i> Thuret in Le Jolis, 1863	hsb, epi	int	FL to E Canada, Carib, GMx, Eur, Uruguay, Atl Isls, N & W Afr, Fuegia	nw, sw	83, 85, 86, 185, 206, 316, 320
Family: Acrochaetiaceae					
<i>Acrochaetium affine</i> M. Howe & Hoyt, 1916	epi, endo	shw–subt	NC, GMx	sw	108, 243
<i>Acrochaetium antillarum</i> W. R. Taylor, 1942	epi	shw–subt	Carib, GMx	ne, sw	67, 83
<i>Acrochaetium avrainvilleae</i> Børgesen, 1915	epi	shw–subt	Carib, GMx	ne, sw, se	63, 83, 251, 306
<i>Acrochaetium bisporum</i> (Børgesen) Børgesen, 1915	epi	shw–subt	GA to NC, Carib, GMx	sw	243, 306, 326
<i>Acrochaetium flexuosum</i> Vickers, 1905	epi, hsb	shw–subt	VA to MA, Carib, GMx, Ber- muda India, Brazil	ne, sw, se	60, 63, 66, 108, 148, 243, 267, 268, 316, 306
<i>Acrochaetium hallandicum</i> (Kylin) Hamel, 1927	epi	shw–subt	FL to NC, Carib, GMx, Eur, Bra- zil, trop Pac Isls, W Afr, Uru- guay, Arctic Canada, Fiji	entire	67, 84, 85, 86, 105, 108, 158, 168, 185, 207, 208, 243, 251, 306, 320
<i>Acrochaetium hoytii</i> Collins, 1908	epi, hsb	shw–subt	GA to NC, GMx, Bermuda	nw, sw	84, 85, 86, 158, 168, 185, 209, 243, 320

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Acrochaetium hypneae</i> (Børgesen) Børgesen, 1915	epi, hsb, est	shw-subt	GA to NC, Carib, GMx, W & S Afr, Seychelles, SW & SE Asia, trop Pac Isls, Japan, trop Pac Isls, Bermuda, W Afr, Bermuda	entire	63, 83, 84, 85, 86, 108, 158, 168, 207, 241, 251, 306, 320, 326
<i>Acrochaetium leptonema</i> (Rosenvinge) Børgesen, 1915	epi	shw-subt	FL, AK, Carib, GMx, Eur, Bermuda, N Afr	sw	83, 316
<i>Acrochaetium microscopicum</i> (Nägeli ex Kützing) Nägeli, 1858	epi, hsb	shw-subt	FL to VA, CA to AK, Carib, GMx, HI, Eur, Atl Isls, Canary Isls, W Afr, Brazil, Seychelles, SW & SE Asia, Japan, Aust	entire	19, 63, 85, 108, 158, 168, 185, 207, 208, 219, 243, 267, 306, 320
<i>Acrochaetium netrocarpum</i> Børgesen, 1915	epi	shw-subt	Carib, GMx	ne, se	83, 251, 316
<i>Acrochaetium phacelorhizum</i> Børgesen, 1915	epi	shw-subt	Carib, GMx, Korea, S Aust	ne, se	83, 251, 316
<i>Acrochaetium pulchellum</i> Børgesen, 1915	epi	shw-subt	Carib, GMx, Atl Isls, Vietnam	sw	243, 266, 267
<i>Acrochaetium robustum</i> Børgesen, 1915	epi, hsb	shw-subt	NC to VA, Carib, GMx, Atl Isls, Egypt, Maldives, SW & SE Asia, China, Japan	sw	148, 243
<i>Acrochaetium sancti-thomae</i> Børgesen, 1915	epi	shw-subt	Carib, GMx, India, Korea, Japan	ne, sw	19, 243
<i>Acrochaetium savianum</i> (Meneghini) Nägeli, 1862	epi	shw-subt	VA to MA, CA, Carib, GMx, Eur, Atl Isls, Brazil, Afr, SW & SE Asia, Aust, trop Pac Isls	ne, sw, se	19, 60, 63, 66, 67, 79, 83, 158, 241, 243, 306
<i>Acrochaetium secundatum</i> (Lyngb.) Nägeli, 1862	epi, hsb	shw-subt	NC to E Canada, GMx, Eur, Atl Isls, N, E & S Afr, Korea, Russia, Japan, trop Pac Isls, S Aust	nw	83, 84, 85, 86, 168, 185, 320
<i>Acrochaetium unipes</i> Børgesen, 1915	epi	subt	Carib, GMx, Pakistan	ne	251
Family: Galaxauraceae					
<i>Dichotomaria marginata</i> (Ellis & Solander) Lamarck, 1816	hsb	shw-subt	FL, Carib, GMx, Bermuda, Brazil, Afr, Indian Oc Isls, SW & SE Asia, Japan, Korea, Taiwan, China, PNG, New Zeal, Aust, trop Pac Isls, Galápagos Isls	sw, se	186, 243, 306, 316
<i>Dichotomaria obtusata</i> (Ellis & Solander) Lamarck, 1816	hsb	shw-subt	FL to NC, Carib, GMx, Atl Isls, Brazil, W, E & S Afr, Indian Oc Isls, SW & SE Asia, Japan, China, Taiwan, PNG, Aust	entire	63, 69, 83, 140, 243, 254, 259, 306
<i>Galaxaura comans</i> Kjellman, 1900	hsb	shw-subt	Carib, GMx	ne, sw, se	60, 142, 145, 148, 243, 306, 326
<i>Galaxaura rugosa</i> (Ellis & Solander) Lamouroux, 1816	hsb, epi	shw-subt	FL, Carib, GMx, Atl Isls, Brazil, Pac Mex Isls, Afr, Indian Oc Isls, SW & SE Asia, Japan, Korea, Taiwan, New Zeal, PNG, W & N Aust, trop Pac Isls	sw, se	45, 69, 83, 141, 142, 145, 144, 148, 158, 174, 186, 219, 243, 306

(continued)

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Tricleocarpa cylindrica</i> (Ellis & Solander) Huisman & Borowitzka, 1990	hsb	shw-subt	FL, Carib, GMx, GoCA, Bermuda, Brazil, Egypt, W, E, & S Afr, SE & SW Asia, Japan, Atl Isls, Indian Oc Isls, Aust, PNG, New Zeal, trop Pac Isls	entire	48, 60, 83, 148, 150, 151, 174, 243, 259, 267, 306, 316
<i>Tricleocarpa fragilis</i> (Linnaeus) Huisman & Townsend, 1993	hsb	shw-subt	FL, Carib, GMx, Eur, Atl Isls, Brazil, Ecuador, Peru, Afr, SW & SE Asia, China, Japan, Korea, Taiwan, Indian Oc Isls, N & W Aust, PNG, trop Pac Isls	entire	45, 69, 83, 87, 145, 144, 158, 243, 259, 306, 316
Family: Scinaiaaceae					
<i>Scinaia complanata</i> (Collins) Cotton, 1907	hsb	subt	FL to NC, Carib, GMx, Eur, Atl Isls, Brazil, Galápagos Isls, Egypt, Senegal, Seychelles, SW Asia	entire	38, 60, 63, 69, 83, 140, 209, 243, 251, 259, 267, 316
<i>Scinaia furcellata</i> (Turner) J. Agardh, 1851	hsb	subt	Carib, GMx, Eur, Atl Isls, Tunisia	sw	108, 207, 208, 243
Family: Liagoraceae					
<i>Ganonema dendroideum</i> (P. & H. Crouan) Ballantine & Aponte, 2002	hsb	shw	FL, Carib, GMx, Bermuda	sw, se	60, 83, 142, 145, 148, 158, 174, 177, 186, 243, 306
<i>Ganonema farinosum</i> (Lamouroux) Fan & Wang, 1974	hsb	int-shw	FL, Carib, GMx, S Eur, Atl Isls, Brazil, Egypt, W & E Afr, SW & SE Asia, New Zeal, Aust, Indian Oc Isls, SW & SE Asia, China, Japan, Taiwan, trop Pac Isls	sw, se	60, 69, 83, 140, 142, 144, 148, 174, 177, 219, 243, 306, 316
<i>Ganonema pinnatum</i> (Harvey) Huisman, 2002	hsb	int-shw	Carib, GMx, Mauritius, Seychelles, China, Vietnam, N & W Aust, trop Pac Isls	sw	83, 142, 148, 177, 186
<i>Helminthocladia calvadosii</i> (Lamouroux ex Duby) Setchell, 1925	hsb	int-shw	FL, Carib, GMx, Eur, Atl Isls, India	ne	67
<i>Liagora albicans</i> Lamouroux, 1816	hsb	shw	Carib, GMx, Atl Isls, Mauritius, Indian Oc Isls, SW Asia, Japan, trop Pac Isls	sw	1, 148, 243
<i>Liagora ceranoides</i> Lamouroux, 1816	hsb	int-shw	FL, Carib, GMx, Eur, Atl Isls, Brazil, Indian Oc Isls, SW & SE Asia, China, Japan, Taiwan, N & W Aust, trop Pac Isls, E & S Afr	sw, se	60, 69, 83, 144, 148, 213, 219, 243, 266, 267, 306
<i>Liagora megagyna</i> Borgesen, 1915	hsb	int-shw	Carib, GMx, trop Pac Isls	se	140, 144, 148, 174
<i>Liagora valida</i> Harvey, 1853	hsb	int-shw	FL, Carib, GMx, Atl Isls, Brazil, W, E & S Afr, Comoros, SW & SE Asia, N & W Aust, trop Pac Isls	se	69, 83, 140, 141, 144, 148, 219, 266, 267
<i>Liagoropsis schrammii</i> (P. & H. Crouan) Doty & Abbott, 1964	hsb	int-shw	Carib, GMx, Brazil, Cape Verde Isls, Andaman Isls, SW Asia, Taiwan	nw, sw	69, 83, 140, 243, 259

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Nemalion helminthoides</i> (Velley) Batters, 1902	epi	int–shw	FL to E Canada, CA to AK, Carib, GMx, Eur, Atl Isls, Brazil, Japan, Uruguay, N & W Afr, New Zeal, S Aust	sw	45, 83, 145, 243
<i>Trichogloea herveyi</i> W. R. Taylor, 1951	hsb	shw–subt	Carib, GMx, Bermuda	sw, se	186, 213, 243, 306
<i>Trichogloea requienii</i> (Montagne) Kützling, 1847	hsb	shw–subt	Carib, GMx, Egypt, E Afr, Cape Verde Isls, Philippines, Indonesia, Japan, Korea, W & N Aust, trop Pac Isls	ne, sw, se	60, 83, 158, 243, 306
<i>Trichogloeopsis pedicellata</i> (Howe) Abbott & Doty, 1960	hsb	int–shw	FL, Carib, GMx, Atl Isls	ne, se	60, 83, 306, 316
Family: Hildenbrandiaceae					
<i>Hildenbrandia rubra</i> (Sommerfelt) Meneghini, 1841	hsb	int–subt	FL to E Canada, CA to AK, Carib, GMx, Eur, Atl Isls, Brazil, Galápagos Isls, Afr, China, Russia, Japan, SE & SW Asia, N & S Aust, trop Pac Isls, Fuegia, Réunion, Micronesia, GoCA	ne, sw, se	63, 66, 83, 158, 243, 266, 267, 268, 316, 332
Family: Rhodogorgonaceae					
<i>Rhodogorgon ramosissima</i> J. Norris & K. Bucher, 1989	hsb	subt	Carib, GMx, PNG, Fiji	sw	186, 230, 243
Family: Corallinaceae					
<i>Amphiroa beauvoisii</i> Lamouroux, 1816	hsb	shw–subt	FL to NC, Carib, GMx, Eur, Atl Isls, Brazil, Afr, SW & SE Asia, Korea, trop Pac Isls	sw, se	83, 148, 174, 243, 306
<i>Amphiroa fragilissima</i> (Linnaeus) Lamouroux, 1816	hsb	int–shw	FL to NC, Carib, GMx, Pac Mex, S Eur, Atl Isls, Brazil, Chile, N, W & E Afr, SW & SE Asia, China, Japan, Taiwan, N & W Aust, trop Pac Isls	ne, sw, se	45, 60, 63, 69, 83, 140, 141, 144, 145, 146, 148, 158, 174, 177, 186, 202, 213, 219, 243, 251, 254, 266, 267, 300, 306
<i>Amphiroa hancockii</i> W. R. Taylor, 1942	hsb	shw–subt	Carib, GMx, Philippines	sw	83, 145, 243
<i>Amphiroa rigida</i> Lamouroux, 1816	hsb	shw–subt	FL, Carib, GMx, Eur, Atl Isls, GoCA, N, W, & E Afr, Indian Oc Isls, SW & SE Asia, Japan, N Aust, trop Pac Isls	entire	60, 63, 67, 69, 83, 87, 140, 142, 145, 148, 158, 174, 186, 219, 243, 251, 259, 306
<i>Amphiroa tribulus</i> (Ellis & Solander) Lamouroux, 1816	hsb, epi	int–shw	FL, Carib, GMx, E Afr, Philippines, Burma, trop Pac Isls	entire	83, 87, 142, 148, 174, 186, 243, 306
<i>Amphiroa van-bosseae</i> Lemoine, 1929	hsb	shw–subt	Spain, GMx, Galápagos Isls, Mauritiana	sw	108, 148, 208
<i>Goniolithon decutescens</i> (Heydrich) Foslie in M. Howe, 1918	hsb	shw–subt	FL, Carib, GMx, Bermuda	ne, sw	63, 83, 243, 251, 316
<i>Halitilton cubense</i> (Montagne ex Kützling) Garbary & Johansen, 1982	hsb	shw–subt	FL to NC, Carib, GMx, Bermuda, Pac Mex, Brazil, Atl Isls, Mozambique, SW Asia	entire	63, 69, 85, 86, 141, 148, 185, 186, 206, 207, 208, 266, 243, 306, 320

(continued)

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Halitilton subulatum</i> (Ellis & Solander) Johansen, 1970	epi, hsb	shw-subt	Carib, GMx, HI, Pac Mex, Brazil, Italy, Chile, E, W, & S Afr, Seychelles	nw, sw, se	86, 85, 108, 158, 168, 185, 186, 243, 268, 306, 320
<i>Hydrolithon boergesenii</i> Foslie, 1909	hsb	shw-subt	FL, Carib, GMx, W Afr, Japan	sw	83, 140, 158, 243
<i>Hydrolithon farinosum</i> (Lamouroux) Penrose & Chamberlain, 1993	epi	shw-subt	FL to VA, Carib, GMx, Eur, Atl Isls, Brazil, Afr, Chile, SW & SE Asia, China, Japan, Russia, New Zeal, Aust, trop Pac Isls	entire	38, 60, 63, 83, 96, 140, 144, 158, 174, 186, 219, 242, 243, 246, 251, 306, 320
<i>Hydrolithon improcerum</i> (Foslie & Howe) Foslie, Gabel, & Freshwater, 2004	hsb	shw-subt	GMx, S Aust	sw	213, 243
<i>Hydrolithon pachydermum</i> (Foslie) Bailey, Gabel, & Freshwater, 2004	hsb	shw-subt	Carib, GMx	sw	243
<i>Jania adhaerens</i> Lamouroux, 1816	epi, hsb	int-subt	FL to NC, Pac Mex, CA, Carib, GMx, Eur, Atl Isls, Brazil, Ecuador, Afr, Indian Oc Isls, SW & SE Asia, China, Japan, Korea, Taiwan, N & W Aust, trop Pac Isls	entire	19, 60, 63, 67, 83, 144, 148, 158, 186, 206, 208, 213, 219, 241, 242, 243, 251, 267, 268, 316, 306
<i>Jania capillacea</i> Harvey, 1853	epi, dr, hsb	int-subt	FL to VA, Carib, GMx, Pac Mex, Brazil, Ecuador, W & E Afr, Indian Oc Isls, Japan, Vietnam, trop Pac Isls	entire	38, 45, 58, 60, 63, 67, 83, 84, 85, 96, 144, 145, 148, 158, 167, 174, 185, 207, 243, 251, 259, 306, 316, 317, 320
<i>Jania pumila</i> Lamouroux, 1816	epi	shw-subt	FL, Carib, GMx, Atl Isls, Brazil, Egypt, E Afr, Seychelles, SW & SE Asia, Japan, trop Pac Isls	ne, sw, se	38, 60, 63, 83, 174, 243, 251, 306, 316
<i>Jania rubens</i> (Linnaeus) Lamouroux, 1816	hsb	int-subt	FL to NC, Carib, GMx, Eur, Pac Mex, Brazil, Chile, Uruguay, Atl Isls, Afr, Indian Oc Isls, SW & SE Asia, N & W Aust, trop Pac Isls	sw, se	69, 83, 142, 144, 148, 158, 209, 243, 267, 268, 306
<i>Lithophyllum absimile</i> Foslie & M. Howe, 1907	hsb	shw-subt	GMx, Spain, Japan, Canary Isls	sw	83, 140, 144, 243
<i>Lithophyllum congestum</i> (Foslie) Foslie, 1900	hsb	shw-subt	Carib, GMx, Canary Isls	sw, se	148, 174, 186, 213, 243, 306
<i>Lithophyllum frondosum</i> (Dufour) Furnari, Cormaci, & Alongi, 1996	hsb	shw-subt	GMx, S Eur, Madeira, Tanzania, Aust	sw	99, 186, 213, 243
<i>Lithophyllum intermedium</i> (Foslie) Foslie, 1906	hsb	shw-subt	FL to NC, Carib, GMx, Bermuda, Galápagos Isls	sw	213, 219, 243
<i>Lithoporella atlantica</i> (Foslie) Foslie, 1909	epi, hsb	shw-subt	Carib, GMx	ne, sw	19, 63, 67, 83, 174, 243
<i>Lithothamnion occidentale</i> (Foslie) Foslie, 1908	hsb	shw-subt	FL to NC, Carib, GMx	ne, sw, se	63, 67, 69, 140, 141, 144, 243, 251, 306
<i>Melobesia membranacea</i> (Esper) Lamouroux, 1816	epi, hsb	shw-subt	FL to VA, Carib, GMx, Eur, Atl Isls, Brazil, N, W, & E Afr, Réunion I, SW & SE Asia, Aust, Macquarie I, Japan	ne, sw, se	83, 140, 148, 243, 251, 266, 267
<i>Mesophyllum floridanum</i> (Foslie) Wynne, 1986	hsb	shw-subt	FL, GMx	se	306

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Mesophyllum incertum</i> (Foslie) Lemoine, 1928	hsb	shw-subt	FL, Carib, GMx	ne	67
<i>Mesophyllum mesomorphum</i> (Foslie) Adey, 1970	epi	shw-subt	Carib, GMx, Indian Oc Isls, Korea, N Aust, trop Pac Isls	sw	81, 186, 243, 306
<i>Mesophyllum syntrophicum</i> (Foslie) Adey, 1970	hsb	shw-subt	FL, GMx	ne	63, 251
<i>Neogoniolithon accretum</i> (Foslie & M. Howe) Setchell & Mason, 1943	hsb	shw-subt	FL, Carib, GMx, Canary Isls, Kenya, Japan	sw, se	83, 219, 243, 306, 316
<i>Neogoniolithon affine</i> (Foslie & M. Howe) Setchell & Mason, 1943	hsb	shw-subt	Carib, GMx, India	sw	83, 142, 148, 174, 243
<i>Neogoniolithon erosum</i> (Foslie) Adey, 1970	hsb	shw-subt	Carib, GMx	sw	3, 219, 243
<i>Neogoniolithon fosliei</i> (Heydrich) Setchell & Mason, 1943	hsb	shw-subt	GMx, Carib, Egypt, E Afr, SW Asia, China, Japan, Indone- sia, N Aust, trop Pac Isls	ne, sw	83, 215, 243, 251, 316
<i>Neogoniolithon mammillare</i> (Harvey) Setchell & Mason, 1943	hsb	int-subt	Carib, GMx, Brazil, Japan, Fue- gia, Atl Isls, Chile, W & S Afr	ne, sw	67, 213, 243
<i>Neogoniolithon spectabile</i> (Foslie) Setchell & Mason, 1943	hsb	shw-subt	FL, Carib, GMx, Bermuda, Mauritius	ne, sw	148, 186, 213, 243
<i>Neogoniolithon strictum</i> (Foslie) Setchell & Mason, 1943	hsb	int-subt	FL, Carib, GMx	ne, sw, se	67, 140, 144, 148, 174, 243, 306
<i>Pneophyllum fragile</i> Kützing, 1843	epi, hsb	shw-subt	FL to VA, Carib, GMx, Eur, Atl Isls, N, E, & W Afr, Indian Oc Isls, SW Asia, Japan, China, Korea, Russia, S & W Aust, Brazil	entire	45, 63, 83, 85, 86, 96, 108, 140, 144, 145, 148, 158, 174, 185, 209, 213, 242, 243, 247, 251, 267, 268, 306, 320
<i>Titanoderma bermudense</i> (Foslie & Howe) Woelkerling, Chamberlain, & Silva, 1985	hsb	shw-subt	Bermuda, GMx	nw	259
<i>Titanoderma pustulatum</i> (Lamouroux) Nägeli, 1858	epi, hsb	shw-subt	FL to NC, CA to OR, Carib, GMx, Atl Isls, Eur, SW & SE Asia, Japan, trop Pac Isls, Afr, Fuegia, Brazil, Chile, Aust	nw, sw, se	83, 85, 86, 158, 168, 206, 207, 208, 243, 306, 320
Family: Gelidiaceae					
<i>Gelidiella acerosa</i> (Forsskål) Feldmann & Hamel, 1934	epi, hsb	shw-subt	FL, Pac Mex to CA, GoCA, Carib, GMx, Brazil, trop Pac Isls, Atl Isls, Chile, Afr, Indian Oc Isls, SW & SE Asia, China, Japan, Taiwan, N & W Aust, PNG	ne, sw, se	63, 83, 144, 148, 213, 243, 306, 316
<i>Gelidiella lubrica</i> (Kützing) Feldmann & Hamel, 1934	epi	shw-subt	GMx, Atl Isls, Bermuda, Indian Oc Isls, India, SE Asia, N & W Aust	sw	148, 243
<i>Gelidiella sanctarum</i> Feldmann & Hamel, 1934	hsb	shw-subt	Carib, GMx, Seychelles, Morocco	sw	83, 174, 243

(continued)

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Gelidiella setacea</i> (Feldmann) Feldmann & Hamel, 1934	hsb	int-subt	Carib, GMx, Guyana	se	306
<i>Gelidiella taylorii</i> Joly, 1957	hsb	int-subt	GMx, Brazil, Philippines	sw	146, 148, 243
<i>Gelidiella trinitatensis</i> W. R. Taylor, 1943	hsb	int-subt	Carib, GMx, Brazil	sw, se	219, 243, 267, 306
<i>Gelidium americanum</i> (W. R. Taylor) Santelices, 1976	epi, hsb	int-subt	FL to NC, Carib, GMx, Ber- muda	sw, se	63, 108, 145, 219, 242, 243, 267, 268, 306
<i>Gelidium crinale</i> (Turner) Gaillon, 1828	hsb	int-shw	FL to ME, Carib, GMx, Eur, Atl Isls, Brazil, Chile, Uruguay, Galápagos Isls, Afr, Indian Oc Isls, SW & SE Asia, China, Japan, Korea, Aust, trop Pac Isls, Antarctica	entire	63, 69, 83, 84, 85, 86, 140, 146, 148, 154, 158, 168, 185, 206, 207, 209, 243, 269, 306
<i>Gelidium floridanum</i> W. R. Taylor, 1943	hsb	int-subt	FL, Carib, GMx, Brazil	sw, se	83, 243, 267, 306
<i>Gelidium pusillum</i> (Stackhouse) Le Jolis, 1863	hsb	int-subt	FL to NC, GoCA, Pac Mex, CA to OR, Carib, GMx, Eur, Atl Isls, Brazil, Chile, Uruguay, Afr, Indian Oc Isls, SW & SE Asia, China, Japan, Korea, Taiwan, PNG, New Zeal, Aust, trop Pac Isls	entire	63, 69, 83, 86, 85, 96, 97, 146, 148, 158, 168, 174, 185, 186, 242, 243, 251, 306, 320, 329
<i>Gelidium radicans</i> (Bory de Saint-Vincent) Kützing, 1849	hsb	subt	Carib, GMx	se	83, 316
<i>Gelidium spinosum</i> (S. Gmelin) P. Silva et al., 1996	hsb	int-shw	FL, Carib, GMx, Eur, Atl Isls, N & W Afr, Korea, N Aust, SW & SE Asia	ne, nw, sw	83, 154, 158, 185, 241, 243, 306, 316, 320
<i>Parviphycus tenuissimus</i> (Feldmann & Hamel) Santelices, 2004	hsb	int-shw	GMx, Eur, Atl Isls, N, E & W Afr, Indian Oc Isls, SW & SE Asia, Japan, trop Pac Isls, Bra- zil, Galápagos Isls, N Aust	sw	83, 148, 174, 243
<i>Pterocladia bartlettii</i> (S. G. Gmelin) Santelices, 1999	hsb	int-shw	Carib, GMx	nw, sw, se	186, 316
<i>Pterocladia caerulescens</i> (Kützing) Santelices & Hommersand, 1997	hsb	int-shw	FL, Carib, GMx, HI, Bermuda, SE Asia, Brazil, N, E, & S Afr, Japan, China, Korea, Sey- chelles, SE & SW Asia, W & N Aust, trop Pac Isls	sw	174, 213, 243
<i>Pterocladia capillacea</i> (S. G. Gmelin) Santelices & Hommersand, 1997	hsb	int-shw	Carib, GMx, Eur, Atl Isls, Pac Mex to CA, W S Am, N, E, & W Afr, SW & SE Asia, China, Korea, Japan, Taiwan, Aust, New Zeal, Galápagos Isls, Brazil, Uruguay, trop Pac Isls	nw, sw, se	243, 272, 306, 320, 326
Family: Gracilariaceae					
<i>Gracilaria apiculata</i> (P. & H. Crouan) in Schramm & Mazé, 1865	hsb	int-shw	Carib, GMx	ne, sw	67, 83, 124, 125, 243

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Gracilaria blodgettii</i> Harvey, 1853	hsb	shw-subt	FL to NC, Carib, GMx, Mauritius, Indian Oc Isls, SW & SE Asia, China, Japan, Taiwan, N & W Aust	ne, sw, se	38, 63, 67, 69, 83, 95, 108, 148, 174, 209, 242, 243, 251, 306
<i>Gracilaria bursa-pastoris</i> (S. G. Gmelin) Silva, 1952	hsb, est	shw-subt	FL, Carib, GMx, Eur, Brazil, N, W, & E Afr, Cape Verde Isls, SW & SE Asia, China, Japan, trop Pac Isls	sw	69, 140, 243, 306
<i>Gracilaria cervicornis</i> (Turner) J. Agardh, 1852	hsb	int-subt	FL, Carib, GMx, S Italy, Atl Isls, E S Am, W & S Afr, Seychelles, Brazil	ne, sw, se	63, 67, 69, 83, 108, 140, 141, 145, 146, 186, 209, 219, 235, 241, 242, 243, 251, 253, 267, 268, 306
<i>Gracilaria cuneata</i> Areschoug, 1854	hsb	subt	FL, Carib, GMx, Brazil	ne	67, 83
<i>Gracilaria curtissiae</i> J. Agardh, 1885	hsb	subt	FL, Carib, GMx	sw, se	83, 242, 243, 306, 316
<i>Gracilaria damaecornis</i> J. Agardh, 1852	hsb	shw-subt	FL, Carib, GMx, Bermuda, Senegal, Philippines	ne, sw, se	63, 108, 158, 242, 243, 267, 306
<i>Gracilaria domingensis</i> (Kützting) Sonder ex Dickie, 1874	hsb	shw-subt	Carib, GMx, Brazil	ne, sw	83, 108, 158, 242, 243, 267, 306
<i>Gracilaria flabelliformis</i> (P. & H. Crouan in Mazé & Schramm) Fredericq & Gurgel in Gurgel & Fredericq, 2004	hsb	shw-subt	FL, Carib, GMx, Brazil	ne, sw, se	63, 123, 124
<i>Gracilaria isabellana</i> Gurgel, Fredericq, & J. Norris, 2004	hsb	int-shw	Carib, GMx, Cape Verde Isls, Brazil, Philippines, Indonesia	sw, se	123, 243, 306
<i>Gracilaria mammillaris</i> (Montagne) Howe, 1918	hsb, ocs	subt-75m	Carib, GMx, Bermuda, GoCA, Senegal, Fiji	entire	38, 108, 125, 209, 243, 251, 306
<i>Gracilaria occidentalis</i> (Børgesen) Bodard, 1965	hsb, ocs	subt-75m	Carib, GMx, GoCA	nw	125
<i>Gracilaria secunda</i> (P. & H. Crouan) in Schramm & Mazé, 1865	hsb, sft	int-shw	Carib, GMx	ne	63, 121
<i>Gracilaria</i> sp.	hsb	int-subt	worldwide	ne, nw	63, 67, 83, 84, 320
<i>Gracilaria tikvahiae</i> McLachlan, 1979	hsb, est, bns, bsl, rit	int-shw	FL to E Canada, GMx,	ne, sw	58, 63, 85, 86, 124, 158, 168, 171, 185, 218, 242, 243, 320
<i>Gracilaria venezuelensis</i> W. R. Taylor, 1942	hsb, sft, dr	int-shw	FL, Carib, GMx, Philippines	ne, sw	79, 125, 140, 241, 242, 243
<i>Gracilariopsis cata-luziana</i> Gurgel, Fredericq, & J. Norris, 2003	sft	int-shw	GMx	sw	122
<i>Gracilariopsis tenuifrons</i> (Bird & Oliveira) Fredericq & Hommersand, 1989	hsb	int-shw	Carib, GMx, Brazil	ne, sw, se	63, 158, 186, 242, 243, 267, 306
<i>Hydropuntia caudata</i> (J. Agardh) Gurgel & Fredericq, 2004	hsb, est	shw-subt	Carib, GMx	nw, sw, se	58, 79, 83, 85, 86, 158, 185, 242, 243, 306

(continued)

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Hydropuntia cornea</i> (J. Agardh) Wynne, 1989	hsb	shw-subt	Carib, GMx, Brazil, Tanzania	entire	23, 38, 58, 67, 83, 85, 86, 140, 146, 148, 158, 185, 240, 243, 251, 306, 335
<i>Hydropontia crassissima</i> (P. & H. Crouan) Wynne, 1989	hsb	int-subt	FL, Carib, GMx, Bermuda	sw, se	63, 83, 148, 243, 306
Family: Bonnemaisoniaceae					
<i>Asparagopsis taxiformis</i> (Delile) Trevisan, 1845	epi, hsb	subt	FL to NC, CA, Carib, GMx, GoCA, Pac Mex, Atl Isls, S Italy, Brazil, Chile, Afr, Indian Oc Isls, SW & SE Asia, China, Japan, Taiwan, New Zeal, Aust, trop Pac Isls	ne, sw, se	60, 83, 96, 148, 158, 174, 186, 243, 306
Family: Peyssonneliaceae					
<i>Peyssonnelia armorica</i> (P. & H. Crouan) Weber-van Bosse, 1916	hsb	subt	Carib, GMx, Eur, Atl Isls, Indian Oc Isls, N Aust, Brazil, Japan	ne	66, 83
<i>Peyssonnelia atropurpurea</i> P. & H. Crouan, 1867	hsb	subt	Carib, GMx, Afr, N Aust	se	83, 316
<i>Peyssonnelia conchicola</i> Piccone & Grunow in Piccone, 1884	hsb	subt	NC, Carib, GMx, E & S Afr, SW & SE Asia, Réunion, Japan, Taiwan, N Aust, trop Pac Isls	ne, se	60, 119, 243, 279, 306
<i>Peyssonnelia dubyi</i> P. & H. Crouan, 1844	hsb	subt	Carib, GMx, Eur, Atl Isls, Brazil, N Afr, Seychelles, Japan, SE Asia, S Aust, Pac Mex Isls, Micronesia	se	316
<i>Peyssonnelia inamoena</i> Pilger, 1911	hsb	subt	FL to NC, Carib, GMx, Eur, Atl Isls, Brazil, W Afr, SE Asia, N & S Aust, trop Pac Isls	nw, se	96, 306
<i>Peyssonnelia nordstedtii</i> Weber-van Bosse in Børgesen, 1916	epi	subt	Carib, GMx, Madagascar	sw	148
<i>Peyssonnelia rosenvingei</i> Schmitz in Rosenvinge, 1893	hsb	subt	FL, GMx, Bermuda, Brazil, W & N Eur, Japan, Arctic Canada	ne, se	60, 83, 306
<i>Peyssonnelia rubra</i> (Greville) J. Agardh, 1851	hsb	subt	FL to NC, Carib, GMx, Eur, Atl Isls, Chile, W, N, & E Afr, Indian Oc Isls, SW & SE Asia, Aust, trop Pac Isls	entire	19, 48, 60, 66, 67, 83, 87, 251, 259, 316
<i>Peyssonnelia simulans</i> Weber-van Bosse, 1916	hsb	subt	FL to NC, Carib, GMx, Brazil, E & S Afr, Kuwait	ne	60, 83
Family: Rhizophyllidaceae					
<i>Contarinia magdae</i> Weber-van Bosse in Børgesen, 1916	epi	subt	NC, Carib, GMx	sw	83, 142, 148, 243
<i>Ochtodes secundiramea</i> (Montagne) M. Howe, 1920	hsb	subt	Carib, GMx	se	83, 306
Family: Dumontiaceae					
<i>Dudresnaya caribaea</i> (J. Agardh) Setchell, 1912	epi	subt	Bermuda, GMx	ne	83, 251
<i>Dudresnaya crassa</i> M. Howe, 1905	epi, hsb	subt	FL to NC, Carib, GMx, Bermuda, Senegal	sw	186, 243

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
Family: Kallymeniaceae					
<i>Kallymenia perforata</i> J. Agardh, 1872	hsb	subt	FL, Carib, GMx, Bermuda, Mauritius, SW & SE Asia, Japan	ne	63
<i>Kallymenia westii</i> Ganesan, 1976	hsb	subt	NC, Carib, GMx, Canary Isls	ne, nw	48, 83, 87, 259
Family: Calosiphoniaceae					
<i>Calosiphonia verticillifera</i> (J. Agardh) Setchell, 1912	hsb	shw-subt	FL, Bermuda, GMx	se	83, 316
Family: Halymeniaceae					
<i>Corynomorpha clavata</i> (Harvey) J. Agardh, 1872	hsb	shw-subt	FL, Carib, GMx, Bermuda	se	83, 306, 316
" <i>Kallymenia</i> " <i>limminghei</i> Montagne, 1861	epi	shw-subt	FL, Carib, GMx, Bermuda	ne, se	38, 63
<i>Cryptonemia crenulata</i> (J. Agardh) J. Agardh, 1851	hsb	shw-subt	FL to NC, Carib, GMx, Atl Isls, Brazil, W Afr, Indian Oc Isls, Philippines, Fiji	sw, se	83, 174, 243, 306, 316
<i>Cryptonemia luxurians</i> (C. Agardh) J. Agardh, 1851	hsb	shw-subt	FL to NC, Carib, GMx, Atl Isls, Brazil, W Afr, SW Asia, Japan, S Ourkney Isls	nw, se	83, 259, 316
<i>Cryptonemia obovata</i> J. Agardh, 1876	hsb	shw-subt	CA to AK, W S Am, GMx, E Aust	sw	108, 200, 243
<i>Cryptonemia seminervis</i> (C. Agardh) J. Agardh, 1851	epi	shw-subt	Carib, GMx, Eur, Atl Isls, N & W Afr, Indian Oc Isls	se	306
<i>Grateloupia gibbesii</i> Harvey, 1853	hsb	shw-subt	FL to SC, Carib, GMx	se	83
<i>Grateloupia pterocladina</i> (Wynne) Kawaguchi & Wang in Wang et al., 2001	hsb	int-shw	GMx	nw, sw	185, 243, 320, 337
<i>Grateloupia</i> sp.	hsb	int-subt	worldwide	entire	58, 79, 83, 84, 85, 86, 87, 108, 146, 154, 158, 168, 185, 206, 207, 208, 241, 243, 259, 266, 267, 306, 320
<i>Halymenia bermudensis</i> Collins & M. Howe, 1916	epi, hsb	shw-subt	FL to NC, Carib, GMx, Atl Isls	ne	67, 83
<i>Halymenia duchassaingii</i> (J. Agardh) Kylin, 1932	hsb	shw-subt	Carib, GMx, Atl Isls, W Afr, Bangladesh	sw, se	186, 243
<i>Halymenia floresii</i> (Clemente & Rubio) C. Agardh, 1817	hsb	shw-subt	FL to NC, Carib, GMx, Eur, Atl Isls, Brazil, N & E Afr, Comoros, SW & SE Asia, Japan, Taiwan, N & W Aust, Micronesia	entire	38, 60, 63, 67, 83, 108, 145, 241, 243, 251, 259, 316, 306
<i>Halymenia floridana</i> J. Agardh, 1892	hsb	shw-subt	FL, Carib, GMx, Canary Isls, Yemen	nw, sw, se	67, 83, 158, 185, 259, 316, 320
<i>Halymenia gelinaria</i> Collins & M. Howe, 1916	hsb	shw-subt	FL, Carib, GMx, Brazil	ne, se	63, 67, 251, 316
<i>Halymenia rosea</i> M. Howe & W. R. Taylor, 1931	hsb	shw-subt	FL, Carib, GMx, Canary Isls, Brazil, Senegal	sw	108, 243

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Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
Family: Sebdeniaceae					
<i>Sebdenia flabellata</i> (J. Agardh) Parkinson, 1980	hsb	subt-75m	FL to NC, Carib, GMx, Bermuda, Brazil, W, E, & S Afr, Chile, SW India, China, Japan, Taiwan, W Aust, Fiji	entire	60, 63, 67, 83, 108, 111, 241, 251
<i>Sebdenia integra</i> Gavio, Hickerson, & Fredericq, 2005	hsb	subt-75m	GMx	nw	111
Family: Nemastomataceae					
<i>Predaea feldmannii</i> Børgesen, 1950	hsb	subt	GA to NC, Carib, GMx, Atl Isls, Ghana, S Afr	nw, sw	20, 128, 186, 323, 324
<i>Predaea pusilla</i> (Berthold) Feldmann, 1942	hsb	subt	Canary Isls, GMx	nw	111
Family: Schizymeniaceae					
<i>Platoma chrysymenioides</i> Gavio, Hickerson, & Fredericq, 2005	hsb	subt	GMx	nw	26, 111, 276
<i>Schizymenia ecuadoreana</i> (W. R. Taylor) Abbott, 1967	hsb	shw	GMx, Galápagos Isls	sw	108, 200
<i>Titanophora incrustans</i> (J. Agardh) Børgesen, 1949	hsb	subt	FL, Carib, GMx, Philippines	nw	26, 87, 111, 259
Family: Champiaceae					
<i>Champia compressa</i> Harvey, 1838	epi	shw-subt	Carib, GMx, Brazil, E & S Afr, Indian Oc Isls, SW Asia, W & E Aust, trop Pac Isls	se	110, 111
<i>Champia minuscula</i> Joly & Ugadim in Joly, Cordeiro, Yamaguishi, & Ugadim, 1966	epi	shw-subt	Carib, GMx, Brazil	se	110, 306
<i>Champia parvula</i> (C. Agardh) Harvey, 1853	epi, hsb	int-subt	FL to VA, Pac Mex to CA, GoCA, Carib, GMx, Eur, Atl Isls, Brazil, W S Am, Afr, Indian Oc Isls, SE & SW Asia, China, Japan, Russia, Taiwan, New Zeal, Aust, trop Pac Isls	entire	19, 45, 66, 67, 69, 83, 85, 86, 108, 110, 140, 145, 148, 174, 206, 316, 208, 213, 241, 242, 251, 267, 268, 306, 320
<i>Champia parvula</i> (C. Agardh) Harvey var. <i>prostata</i> Williams, 1951	epi	int-subt	GA to NC, Carib, GMx, Bermuda, Fiji	nw, sw, se	110, 148, 306
<i>Champia salicornioides</i> Harvey, 1853	epi, hsb	shw-subt	FL, Carib, GMx, Atl Isls, Brazil, W Afr, Indian Oc Isls, SW & SE Asia	entire	60, 83, 110, 142, 148, 158, 306, 316
Family: Lomentariaceae					
<i>Gelidiopsis intricata</i> (C. Agardh) Vickers, 1905	hsb	int-subt	FL, Carib, GMx, S Eur, N & W Aust, Atl Isls, Brazil, E & S Afr, Indian Oc Isls, SW & SE Asia, China, Japan, trop Pac Isls	sw, se	145, 144, 148, 306
<i>Gelidiopsis planicaulis</i> (W. R. Taylor) W. R. Taylor, 1960	hsb	int-subt	Carib, GMx, Atl Isls, Brazil, W Afr	sw, se	108, 306

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Gelidiopsis variabilis</i> (J. Agardh) Schmitz, 1895	hsb	int-subt	Carib, GMx, Brazil, GoCA, Pac Mex, W, E, & S Afr, Indian Oc Isls, SW & SE Asia, trop Pac Isls	sw	213
<i>Lomentaria baileyana</i> (Harvey) Farlow, 1876	hsb	shw-subt	FL to VA, Carib, GMx, Atl Isls, Pac Mex, Brazil, E Afr	nw, sw, se	83, 85, 86, 148, 158, 168, 185, 306, 320
Family: Rhodymeniaceae					
<i>Asteromenia peltata</i> (W. R. Taylor) Huisman & Millar, 1996	hsb	shw-subt	FL to NC, Carib, GMx, Canary Isls, Maldives, SW Asia, W Aust, trop Pac Isls	ne, nw, se	48, 110, 259, 277, 306
<i>Botryocladia ballantina</i> Gavio & Fredericq, 2005	hsb	subt	GMx	nw	110
<i>Botryocladia monoica</i> Schnetter, 1978	hsb	shw-subt	Carib, GMx	nw	109, 110, 286
<i>Botryocladia occidentalis</i> (Børgesen) Kylin, 1931	hsb	shw-subt	FL to NC, Carib, GMx, Atl Isls, Brazil	entire	18, 38, 48, 60, 66, 67, 83, 87, 108, 148, 185, 306
<i>Botryocladia pyriformis</i> (Børgesen) Kylin, 1931	hsb	shw-subt	Carib, GMx	ne, nw, se	60, 83, 109, 110, 306, 316
<i>Chrysomenia agardhii</i> Harvey, 1853	epi, hsb	subt	FL to NC, Carib, GMx, Bermuda	se	83, 316
<i>Chrysomenia enteromorpha</i> Harvey, 1853	epi, hsb, ocs	subt	FL to NC, Carib, GMx, Atl Isls, Brazil, Ghana, Seychelles, Bangladesh	entire	60, 67, 83, 110, 174, 251, 259, 316
<i>Chrysomenia halymenioides</i> Harvey, 1853	epi, hsb	subt	FL, Carib, GMx, Bermuda	ne, nw, se	48, 67, 83, 87, 110, 229, 259, 316
<i>Chrysomenia planifrons</i> (Melvill) J. Agardh, 1876	hsb	subt	FL, Carib, GMx, Brazil	se	83, 316
<i>Chrysomenia ventricosa</i> (Lamouroux) J. Agardh, 1842	hsb	subt	Carib, GMx, S Eur, Atl Isls, N Afr, French Polynesia	ne, nw	60, 67, 83, 259,
<i>Coelarthrum cliftonii</i> (Harvey) Kylin, 1931	hsb	subt	Carib, GMx, HI, Atl Isls, S Afr, PNG, S & W Aust	entire	48, 67, 87, 110, 137, 259, 306
<i>Coelothrix irregularis</i> (Harvey) Børgesen, 1920	hsb	int-shw	FL, Carib, GMx, Portugal, Brazil, E & S Afr	sw, se	60, 174, 186, 306, 316
<i>Rhodymenia occidentalis</i> Børgesen, 1920	hsb	shw-subt	Carib, GMx, GoCA	nw, sw	79, 241, 259
<i>Rhodymenia pseudopalmata</i> (Lamouroux) Silva, 1952	hsb	int-shw	FL to NC, Carib, GMx, Eur, Atl Isls, Brazil, Galápagos Isls, N, W & S Afr	nw, sw	85, 158, 168, 185, 186, 206, 207, 208, 209, 259, 274
Family: Faucheaceae					
<i>Faucheia hassleri</i> M. Howe & W. R. Taylor, 1931	hsb	subt	Brazil, GMx, Senegal	ne, nw	48, 83, 87, 259
<i>Gloiocladia pelicana</i> Gavio & Fredericq, 2005	hsb	subt	GMx	nw	110
<i>Gloiocladia tenuissima</i> Gavio & Fredericq, 2005	hsb	subt	GMx	nw	110
Incertae sedis					
<i>Leptofaucheia earleae</i> Gavio, Hickerson, & Fredericq, 2005	hsb	subt	GMx	nw	110
<i>Leptofaucheia rhodymenioides</i> W. R. Taylor, 1942	hsb	subt	Carib, GMx, Cape Verde Isls	nw	259

(continued)

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Agardhinula browneae</i> (J. Agardh) De Toni, 1897	hsb	subt	FL to NC, Carib, GMx	nw, se	83, 110, 316
Family: Ceramiaceae					
<i>Acrothamnion butleriae</i> (Collins) Kylin, 1956	epi	shw-subt	Carib, GMx, Sierra Leone, Maldives, India, Japan, trop Pac Isls	se	306
<i>Aglaothamnion boergesenii</i> (Aponte & Ballantine) L'Hardy-Halos & Rueness in Aponte et al., 1997	epi, hsb	shw-subt	NC, GMx, N Atl Isls, trop W Pac	sw	241, 243
<i>Aglaothamnion cordatum</i> (Børgesen) Feldmann-Mazoyer, 1941	epi, hsb	shw-subt	FL to NC, Pac Mex to CA, Carib, GMx, Bermuda, S Eur, Canary Isls, N & S Afr, SW & SE Asia, Japan, N & W Aust, Brazil	ne, sw, se	83, 108, 145, 148, 209, 208, 214, 220, 243, 306, 320
<i>Aglaothamnion felliponei</i> (Howe) Aponte, Ballantine, & J. Norris, 1994	epi	shw-subt	Carib, GMx	se	306
<i>Aglaothamnion halliae</i> (Collins) Aponte, Ballantine, & J. Norris, 1994	epi, hsb	shw-subt	FL, Carib, GMx, Bermuda, N Eur	ne, nw, se	11, 60, 83, 85, 86, 158, 174, 185, 243, 251, 320
<i>Aglaothamnion herveyi</i> (M. A. Howe) Aponte, Ballantine, & J. Norris, 1994	epi	shw-subt	Carib, GMx, Bermuda	ne, se	10, 60, 83, 306
<i>Aglaothamnion roseum</i> (Roth) Maggs & L'Hardy-Halos, 1993	epi, hsb	shw-subt	VA, Carib, GMx, Eur, Atl Isls, W Afr	ne	251
<i>Aglaothamnion uruguayense</i> (W. R. Taylor) Aponte, Ballantine, & J. Norris, 1994	epi	shw-subt	Carib, GMx, Brazil, Uruguay	se	306
<i>Anotrichium barbatum</i> (C. Agardh) Nägeli, 1862	epi, hsb	shw-subt	Carib, GMx, Eur, Atl Isls, N & W Afr	ne	60, 67, 83
<i>Anotrichium tenue</i> (C. Agardh) Nägeli, 1861	epi, hsb	shw-subt	FL to NC, Carib, GMx, S Eur, Atl Isls, Pac Mex, GoCA, Brazil, Afr, SE & SW Asia, China, Japan, Aust, trop Pac Isls, Indian Oc Isls	entire	19, 45, 56, 60, 83, 85, 86, 96, 144, 145, 148, 174, 185, 242, 243, 306, 320
<i>Antithamnion antillanum</i> Børgesen, 1917	epi	shw-subt	Carib, GMx, Pac Mex, GoCA, Atl Isls, S Eur, Brazil, SW Asia, Japan, N & W Aust, trop Pac Isls, E & S Afr, Seychelles	ne, nw, se	60, 83, 96, 278, 306
<i>Antithamnion cruciatum</i> (C. Agardh) Nägeli, 1847	epi	shw-subt	FL to VA, Carib, GMx, Eur, Atl Isls, Chile, N & W Afr, SW Asia, S Aust, New Zeal	ne, sw	60, 66, 83
<i>Callithamiella tingitana</i> (Schousboe ex Bornet) Feldmann-Mazoyer, 1938	epi, hsb, ocs	shw-subt	NC, Carib, GMx, S Eur, Atl Isls, Brazil, N & W Afr	nw	96
<i>Callithamnion corymbosum</i> (Smith) Lyngbye, 1819	epi, hsb	shw-subt	VA, Carib, GMx, Eur, Atl Isls, Brazil, N & W Afr, SW Asia, China, Japan	sw	83, 158, 214

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Callithamnion dasytrichum</i> (Montagne) Montagne, 1842	epi	shw-subt	GMx, Brazil	se	316
<i>Carpoblepharis curtissiae</i> (J. Agardh) Wynne, 1985	hsb	dr, subt	FL, GMx	se	83, 316
<i>Centroceras</i> sp.	epi, hsb	shw-subt	worldwide	entire	19, 38, 45, 69, 83, 85, 86, 96, 108, 148, 158, 168, 174, 185, 186, 206, 207, 209, 213, 219, 241, 242, 243, 266, 267, 268, 306, 320
<i>Ceramium brasiliense</i> Joly, 1957	epi, hsb	shw-subt	Carib, GMx, Brazil, Uruguay	sw, se	146, 148, 243, 306
<i>Ceramium brevizonatum</i> Petersen, 1918	epi, hsb	shw-subt	Carib, GMx, S France, N & E Afr, SW Asia, Fiji	sw, se	108, 144, 243, 306
<i>Ceramium byssoideum</i> Harvey, 1853	epi, sgr	shw-subt	FL to NC, Carib, GMx, Bermuda, S Eur, Brazil, Marshall Isls	ne	19, 251
<i>Ceramium caudatum</i> Setchell & Gardner, 1924	epi	shw-subt	Pac Mex to CA, GoCA, GMx, Mauritius	sw	243
<i>Ceramium cimbricum</i> Petersen in Rosenvinge, 1924	epi, hsb	shw-subt	FL to VA, OR to AK, Carib, GMx, Eur, Atl Isls, Egypt, Sierra Leone, SW Asia, Japan, Russia, N Aust	nw, sw, se	85, 86, 158, 168, 174, 185, 186, 208, 243, 325
<i>Ceramium codii</i> (Richards) Feldmann-Mazoyer, 1938	epi	shw-subt	FL, Carib, GMx, Eur, Atl Isls, Easter I, Chile, Afr, Réunion I, SW Asia, Japan, N, W, E Aust, trop Pac Isls	ne, sw, se	51, 108, 243, 251, 306
<i>Ceramium corniculatum</i> Montagne, 1861	epi, hsb	shw-subt	FL, Carib, GMx, Bermuda, Brazil, Uruguay, Senegal	ne, sw, se	38, 83, 144, 148, 158, 243, 251, 306, 316
<i>Ceramium cruciatum</i> Collins & Hervey, 1917	epi	shw-subt	Carib, GMx, Bermuda, Chile, SW Asia, Chile, Easter I	ne, sw, se	60, 83, 146, 174, 243, 306
<i>Ceramium deslongchampsii</i> Chauvin ex Duby, 1830	epi, hsb	shw-subt	FL to NC, Carib, E & W Canada, GMx, Eur, Atl Isls, Afr, SW & SE Asia, Russia, Macquarie I, Brazil	entire	83, 84, 85, 86, 146, 168, 185, 207, 209, 251, 316, 320
<i>Ceramium diaphanum</i> (Lightfoot) Roth, 1806	epi, hsb	shw-subt	FL to NC, Carib, GMx, Eur, Atl Isls, S Am, Afr, Indian Oc Isls, SW & SE Asia, N Aust, Antarctica, China, Japan, S Georgia I, Arctic Canada, Brazil, trop Pac Isls	sw, se	66, 83, 142, 146, 148, 174, 242, 243, 251, 266, 267, 316
<i>Ceramium evermannii</i> Setchell & Gardner, 1930	epi	shw-subt	Pac Mex, GMx	sw	139, 243
<i>Ceramium flaccidum</i> (Kützinger) Ardissonne, 1871	epi	shw-subt	worldwide exc. polar regions	entire	19, 45, 83, 85, 86, 108, 142, 144, 145, 148, 158, 174, 185, 213, 219, 243, 251, 266, 267, 306, 320, 325
<i>Ceramium floridanum</i> J. Agardh, 1894	epi	shw-subt	FL, Carib, GMx	ne	251
<i>Ceramium leptozonum</i> M. Howe, 1918	snd	shw-subt	GA, GMx, Bermuda, Mauritania	ne, se	67, 83

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Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Ceramium luetzelburgii</i> Schmidt, 1924	epi, hsb	shw-subt	SW Asia, GMx, Brazil	sw	213, 243, 267, 268
<i>Ceramium nitens</i> (C. Agardh) J. Agardh, 1851	epi	shw-subt	FL, Carib, GMx, Atl Isls, Brazil, Philippines	ne, sw, se	60, 67, 148, 174, 186, 213, 219, 243, 306, 316
<i>Ceramium reptans</i> Cho & Fredericq, 2006	epi	shw-subt	GMx	se	51
<i>Ceramium subtile</i> J. Agardh, 1851	epi	shw-subt	FL, Carib, GMx, Bermuda	ne, sw, se	60, 83, 140, 145, 158, 243, 251, 306, 316
<i>Ceramium vagans</i> Silva, 1987	epi	shw-subt	GMx, GoCA, W Mex, trop Pac Isls, N & E Aust, Seychelles, SW & SE Asia	se	306
<i>Ceramium virgatum</i> Roth, 1897	epi	shw-subt	FL to E Canada, WA to W Canada, GMx, Eur, Atl Isls, S Am, N, E, & S Afr, SW India, New Zeal, S & W Aust, Antarctica	ne, sw, se	67, 83, 142, 145, 186, 243, 316
<i>Compsothamnion thuyoides</i> (Smith) Schmitz, 1889	epi, ocs	shw-subt	FL to NC, Carib, GMx, N Afr, Eur, Atl Isls	nw	87, 259
<i>Crouania attenuata</i> (C. Agardh) J. Agardh, 1842	hsb, rbl	int-subt	FL, Carib, GMx, Eur, Atl Isls, Pac Mex, Chile, Afr, Indian Oc Isls, SW & SE Asia, Japan, N & W Aust, trop Pac Isls	ne, sw, se	60, 67, 83, 143, 148, 174, 243, 251, 306, 316
<i>Crouania pleonospora</i> W. R. Taylor, 1928	epi, hsb	shw-subt	FL, Carib, GMx, Bermuda	se	60, 83, 306, 316
<i>Diplothamnion jolyi</i> van den Hoek, 1978	epi, ocs	subt	Carib, GMx, Atl Isls, Vietnam, trop Pac Isls	nw	96
<i>Dohrniella antillarum</i> (W. R. Taylor) Feldmann-Mazoyer, 1941	epi	shw-subt	Carib, GMx, Bermuda, Brazil, W Afr	se	283, 306
<i>Griffithsia caribaea</i> Feldmann-Mazoyer, 1947	epi	shw-subt	Carib, GMx	se	306
<i>Griffithsia globulifera</i> Harvey ex Kützing, 1862	epi	shw-subt	FL to NY, Carib, GMx, Atl Isls, Seychelles, SW Asia, Chile, Fuegia	entire	19, 96, 243, 251, 306
<i>Griffithsia heteromorpha</i> Kützing, 1863	epi	shw-subt	Carib, GMx, Bermuda, India, Japan, SE Asia, W & N Aust, trop Pac Isls	nw	96
<i>Griffithsia radicans</i> Kützing, 1862	epi	shw-subt	Canary Isls, Brazil, GMx	sw	148, 243
<i>Griffithsia schousboei</i> Montagne, 1839	epi	shw-subt	Carib, GMx, S Eur, Atl Isls, Brazil, N, W & S Afr, SW Asia, trop Pac Isls	se	306
<i>Gymnothamnion elegans</i> (Schousboe ex C. Agardh) J. Agardh, 1892	epi	shw-subt	FL, CA, Pac Mex, Brazil, Carib, GMx, Galápagos Isls, Atl Isls, S Eur, Seychelles, SW & SE India, Japan, S Aust, trop Pac Isls	sw, se	83, 174, 306, 316
<i>Haloplegma duperreyi</i> Montagne, 1842	hsb	shw-subt	Carib, GMx, Brazil, E Afr, Indian Oc Isls, SW Asia, China, Japan, Aust, trop Pac Isls	se	306
<i>Pleonosporium caribaeum</i> (Børgesen) R. Norris, 1985	epi	shw-subt	Carib, GMx, Canary Isls, S Eur, E & S Afr, India, Japan, W Aust, trop Pac Isls	ne, sw	108, 231, 243, 251

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Pleonosporium flexuosum</i> (C. Agardh) Bornet ex De Toni, 1892	epi, ocs	shw-subt	Carib, GMx, N & S Afr, S Eur	nw, se	306
<i>Ptilothamnion occidentale</i> Searles, 1989	epi, ocs	shw-subt	GA to SC, GMx	nw	96
<i>Ptilothamnion speluncarum</i> (Collins & Hervey) Ballantine & Wynne, 1998	epi, hsb	shw-subt	GA to SC, GMx	sw	22, 60, 83, 206, 243, 267
<i>Seirospora occidentalis</i> Børgesen, 1909	epi	shw-subt	FL, Carib, GMx, N Aust, French Polynesia	ne	83, 251, 316
<i>Seirospora purpurea</i> M. Howe, 1918	epi	shw-subt	FL, Carib, GMx, Bermuda	se	306
<i>Spermothamnion gymnocarpum</i> M. Howe, 1920	epi	shw-subt	Carib, GMx	ne	60, 83
<i>Spermothamnion investiens</i> (P. & H. Crouan in Schramm & Mazé) Vickers, 1905	epi, ocs	shw-subt	NC, Carib, GMx, Bermuda, W Afr, Seychelles	ne, nw, sw	60, 83, 96, 174, 243, 251
<i>Spermothamnion macromeres</i> Collins & Hervey, 1917	epi	shw-subt	Carib, GMx, Bermuda	ne, sw	60, 83, 174, 243
<i>Spermothamnion repens</i> (Dillwyn) Rosenvinge, 1924	epi	shw-subt	MA, GMx, Eur, Atl Isls, N Afr, SW Asia	ne, se	60, 83, 316
<i>Spyridia ceramioides</i> J. Agardh, 1842	hsb	shw-subt	Carib, GMx	se	316
<i>Spyridia clavata</i> Kützinger, 1842	hsb	int-subt	FL to NC, Carib, GMx, Cape Verde Isls, Brazil, N & W Afr, Indonesia	ne, sw, se	66, 69, 108, 158, 208, 243
<i>Spyridia filamentosa</i> (Wulfen) Harvey in Hooker, 1833	hsb	int-subt	FL to MA, GoCA, Pac Mex, CA, Carib, GMx, Atl Isls, Eur, Brazil, Afr, Indian Oc Isls, SW & SE Asia, China, Japan, Taiwan, Aust, New Zeal, trop Pac Isls	entire	251, 306, 320
<i>Spyridia hypnoides</i> (Bory in Belanger) Papenfuss, 1968	hsb	int-subt	FL to NC, Carib, GMx, Atl Isls, S Eur, Brazil, SW Asia, N, W, & E Afr, Japan, Indian Oc Isls, SW & SE Asia, trop Pac Isls	nw, sw, se	60, 83, 84, 108, 158, 243, 306, 316, 320
<i>Tiffaniella gorgonea</i> (Montagne) Doty & Meñez, 1960	epi	shw-subt	FL, Carib, GMx, Atl Isls	ne, sw, se	60, 74, 83, 243, 251, 306, 316
<i>Tiffaniella saccorhiza</i> (Setchell & Gardner) Doty & Meñez, 1960	epi	shw-subt	Carib, GMx, Pac Mex, Morocco, trop Pac Isls	se	306
<i>Wrangelia argus</i> (Montagne) Montagne, 1856	epi, hsb	shw-subt	FL, Carib, GMx, Atl Isls, Brazil, W, E, & S Afr, Indian Oc Isls, SW & SE Asia, China, Japan, N & W Aust, trop Pac Isls	ne, sw, se	38, 60, 83, 145, 148, 158, 174, 186, 219, 242, 243, 267, 268, 306
<i>Wrangelia bicuspidata</i> Børgesen, 1916	epi, hsb	shw-subt	FL, Carib, GMx, Bermuda, E Afr, Réunion I, SW & SE Asia, Micronesia	ne, sw, se	60, 83, 148, 243, 306, 316,

(continued)

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Wrangelia penicillata</i> (C. Agardh) C. Agardh, 1828	epi	shw-subt	FL, Carib, GMx, S Eur, Atl Isls, Afr, SW Asia, Japan, New Zeal, N Aust, trop Pac Isls	ne, sw, se	60, 83, 243, 306
Family: Dasyaceae					
<i>Dasya antillarum</i> (Howe) Millar, 1996	ocs	shw-subt	FL, Carib, GMx, Philippines	ne, se	63, 60, 83, 251, 316
<i>Dasya baillouviana</i> (S. G. Gmelin) Montagne, 1841	epi, hsb	shw-subt	FL to NC, GoCA, Carib, GMx, Eur, Atl Isls, Mauritius, N, E, & W Afr, Indian Oc Isls, SW & SE Asia, New Zeal, N & W Aust	ne, sw, se	19, 60, 63, 67, 83, 158, 207, 243, 306, 316
<i>Dasya caraibica</i> Børgesen, 1919	hsb	shw-subt	Carib, GMx, Atl Isls, Mauritania, SW & SE Asia, N Aust	ne, sw, se	60, 66, 83, 148, 243, 306
<i>Dasya collinsiana</i> M. Howe, 1918	epi	shw-subt	FL, Carib, GMx, Bermuda	ne, sw, se	67, 83, 148, 243, 306, 316
<i>Dasya corymbifera</i> J. Agardh, 1884	hsb	shw-subt	FL, Carib, GMx, S Eur, Atl Isls, N Afr, SW Asia, trop Pac Isls	entire	60, 63, 67, 83, 87, 108, 243, 259, 306
<i>Dasya crouaniana</i> J. Agardh, 1890	hsb	shw-subt	FL, Carib, GMx, Atl Isls	se	67, 83, 306, 316,
<i>Dasya harveyi</i> Ashmead in Harvey, 1853	hsb	shw-subt	FL, Carib, GMx	ne, se	60, 83, 316
<i>Dasya hutchinsiae</i> Harvey, 1833	epi, esb	shw-subt	GMx, Eur, Atl Isls, N & W Afr, SW Asia	sw, se	83, 148, 243, 316
<i>Dasya mollis</i> Harvey, 1853	epi	shw-subt	Carib, GMx, Bermuda, Indian Oc Isls, SW Asia, trop Pac Isls	se	306
<i>Dasya ocellata</i> (Grateloup) Harvey in Hooker, 1833	epi	shw-subt	NC, Carib, GMx, Eur, Atl Isls, N & W Afr, SW Asia	ne	38, 60, 66, 83
<i>Dasya punicea</i> (Zanardini) Meneghini ex Zanardini, 1841	epi	shw-subt	Carib, GMx, S Eur, Bermuda, N Afr, SW Asia	se	60, 83, 316, 306
<i>Dasya ramossissima</i> Harvey, 1853	hsb, snd	shw-subt	FL, Carib, GMx, Bermuda	ne, se	60, 83, 316, 306
<i>Dasya rigidula</i> (Kützting) Ardissonne, 1878	epi	shw-subt	FL to NC, Carib, GMx, S Eur, Atl Isls, N & W Afr, SW Asia	ne, se, sw	60, 66, 67, 69, 83, 108, 148, 158, 243, 306, 316
<i>Dasya spinuligera</i> Collins & Hervey, 1917	hsb	shw-subt	NC, Carib, GMx	se	306
<i>Dictyurus occidentalis</i> J. Agardh, 1847	hsb	shw-subt	FL, Carib, GMx, Seychelles	ne, sw, se	83, 243, 306, 316
<i>Halydictyon mirabile</i> Zanardini, 1843	epi	shw-subt	Carib, GMx, S Eur, Atl Isls, N & W Afr, SW Asia	se	83, 306, 316
Family: Heterosiphoniaceae					
<i>Heterosiphonia crispella</i> (C. Agardh) Wynne, 1985	epi	int-shw	FL, Carib, GMx, S Eur, Atl Isls, Brazil, N, W, & E Afr, trop Pac Isls, Chile, SW & SE Asia, N & W Aust	sw, se	60, 108, 148, 242, 243, 306, 316, 333
<i>Heterosiphonia gibbesii</i> (Harvey) Falkenberg, 1901	epi, hsb	shw-subt	FL, Carib, GMx, Bermuda, French Polynesia, Brazil	ne, sw, se	60, 66, 83, 148, 243, 267, 306, 316
Family: Delesseriaceae					
<i>Apoglossum ruscifolium</i> (Turner) J. Agardh, 1898	epi	shw-subt	FL to NC, Carib, GMx, Eur, Atl Isls, N, E & S Afr, St. Paul I	nw	87, 259

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Caloglossa leprieurii</i> (Montagne) Martens, 1869	epi	int-shw	FL to CT, Carib, GMx, Atl Isls, S Am, Galápagos Isls, Afr, Indian Oc Isls, SW & SE Asia, China, Japan, Aust, New Zeal, trop Pac Isls	entire	148, 154, 241, 242, 265, 301, 306, 316
<i>Calonitophyllum medium</i> (Hoyt) Aregood, 1975	epi, hsb	shw-subt	SC to NC, Carib, GMx	nw	190
<i>Cryptopleura ramose</i> (Hudson) Kylin ex Newton, 1931	hsb	shw-subt	FL, Carib, GMx, Brazil, Eur, Atl Isls, S Am, China, N Aust, N Afr	nw	83
<i>Grimmellia americana</i> (C. Agardh) Harvey, 1853	hsb	shw-subt	FL to NC, Carib, GMx	ne, se	83, 251, 306
<i>Hypoglossum hypoglossoides</i> (Stackhouse) Collins & Hervey, 1917	hsb	shw-subt	FL to NC, Carib, GMx, Eur, Atl Isls, N & W Afr, SW Asia, N Aust	se	340, 306
<i>Hypoglossum involvens</i> (Harvey) J. Agardh, 1898	hsb	shw-subt	FL, Carib, GMx	nw, se	259, 306
<i>Hypoglossum rhizophorum</i> Ballantine & Wynne, 1988	epi, ocs	shw-subt	Carib, GMx, Bermuda, HI	nw	21, 96
<i>Hypoglossum tenuifolium</i> (Harvey) J. Agardh, 1898	epi	shw-subt	FL to NC, Carib, GMx, Bermuda, Morocco	ne, nw, se	48, 60, 66, 87, 251, 259, 306
<i>Martensia fragilis</i> Harvey, 1854	hsb	subt	FL, Carib, GMx, Maldives, SW & SE Asia, Taiwan, W, E, & N Aust, New Zeal, trop Pac Isls	se	306
<i>Martensia pavonia</i> (J. Agardh) J. Agardh, 1863	hsb	subt	FL, Carib, GMx, N Aust	sw	148, 243
<i>Nitophyllum adhaerens</i> Wynne, 1997	epi, hsb	subt	Carib, GMx, Bermuda, Vietnam, trop Pac Isls	nw, sw	188, 243, 259
<i>Nitophyllum wilkinsoniae</i> Collins & Hervey, 1917	epi, hsb	shw-subt	Carib, GMx, Bermuda	sw	243
<i>Polyneura subtropica</i> (Schneider) Yoshida & Mikami, 1991	hsb	shw-subt	FL to NC, GMx	nw	87, 259
<i>Taenioma nanum</i> (Kützting) Papenfuss, 1952	epi	shw-subt	Carib, GMx, Eur, Atl Isls, Brazil, N, W, & E Afr, Maldives, SW India, Japan, New Zeal, N Aust, trop Pac Isls	sw	83, 148, 158, 174, 243
<i>Taenioma perpusillum</i> (J. Agardh) J. Agardh, 1863	epi	shw-subt	FL, Carib, GMx, S Eur, Atl Isls, GoCA, Brazil, Chile, N, E, & S Afr, Indian Oc Isls, SW & SE Asia, Japan, Aust, trop Pac Isls	sw	38, 83, 140, 142, 144, 243
Family: Sarcomeniaceae					
<i>Cottoniella filamentosa</i> (Howe) Børgesen, 1920	epi, hsb	shw-subt	FL, Carib, GMx, S Eur, Atl Isls, Brazil, N & E Afr, Philippines, W Aust	se	306
<i>Platysiphonia delicata</i> (Clemente & Rubio) Cremades, 1990	epi	shw-subt	FL, Carib, GMx, Brazil, Spain, Atl Isls, Afr, SW Asia, Aust	se	306

(continued)

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
Family: Rhodomelaceae					
<i>Acanthophora muscoides</i> (Linnaeus) Bory, 1828	hsb	int–shw	FL, Carib, GMx, Brazil, Turkey, Ascension I, W & E Afr, Indian Oc Isls, SW & SE Asia, China, Japan, N Aust, Auckland Isls	ne, sw, se	60, 83, 140, 142, 144, 158, 243, 306, 316
<i>Acanthophora spicifera</i> (Vahl) Børgesen, 1910	hsb	int–shw	FL, Carib, GMx, Atl Isls, Eur, Brazil, W & E Afr, SW & SE Asia, Indian Oc Isls, China, Japan, Taiwan, N & W Aust, trop Pac Isls	ne, sw, se	38, 45, 60, 66, 69, 140, 141, 144, 145, 146, 148, 158, 174, 177, 213, 241, 242, 243, 265, 306
<i>Amansia multifida</i> Lamouroux, 1809	hsb	shw–shw	FL, Carib, GMx, Brazil, Madagascar	sw, se	83, 243, 306, 316
<i>Bostrychia calliptera</i> (Montagne) Montagne, 1842	epi, hsb	int–shw	FL, Carib, GMx, S Am, Galápagos Isls, W Afr, SW & SE Asia, N Aust	sw, se	55, 241, 243, 306
<i>Bostrychia montagnei</i> Harvey, 1853	epi, hsb	int–shw	FL, Carib, GMx, Bermuda, Brazil, W Afr	ne, se	83, 243, 306, 316
<i>Bostrychia moritziana</i> (Sonder ex Kützing) J. Agardh, 1863	epi, hsb	int–shw	FL to NC, Carib, GMx, Guyana, Afr, Seychelles, SW & SE Asia, Japan, Aust, New Zeal, New Caledonia, Brazil	sw, se	83, 241, 243, 306, 316
<i>Bostrychia radicans</i> (Montagne) Montagne, 1842	epi, hsb	int–shw	FL to CT, GoCA, Carib, GMx, Brazil, Atl Isls, Afr, SE & SW Asia, Japan, N & W Aust, trop Pac Isls	ne, sw, se	60, 79, 83, 154, 241, 242, 243, 267, 301, 306, 316
<i>Bostrychia tenella</i> (Lamouroux) J. Agardh, 1863	hsb	int–shw	FL, Carib, GMx, Afr, Bermuda, Brazil, SW & SE Asia, China, Japan, Taiwan, trop Pac Isls, Indian Oc Isls, Aust	ne, sw, se	60, 83, 154, 243, 306, 316
<i>Bryocladia cuspidata</i> (J. Agardh) De Toni, 1903	hsb	int–shw	FL to GA, Carib, GMx, Cape Verde Isls, Brazil, W Afr	nw, sw, se	38, 83, 85, 86, 140, 146, 148, 158, 168, 243, 268, 306, 316, 320
<i>Bryocladia thyrsgigera</i> (J. Agardh) Falkenberg, 1901	hsb	int–shw	FL, Carib, GMx, Peru, Brazil, W Afr, Cape Verde Isls	nw, sw, se	83, 84, 85, 86, 108, 168, 185, 206, 207, 208, 243, 316, 320
<i>Bryothamnion seaforthii</i> (Turner) Kützing, 1843	hsb	shw–subt	FL to NC, Carib, GMx, Brazil, Guyana, W Afr, Sri Lanka	sw, se	38, 69, 83, 140, 148, 243, 253, 255, 266, 267, 268, 306, 316
<i>Bryothamnion triquetrum</i> (S. Gmelin) M. Howe, 1915	hsb	shw–subt	FL, Carib, GMx, Atl Isls, W Afr, Brazil	sw, se	14, 69, 83, 108, 144, 158, 243, 266, 267, 306, 316
<i>Chondria atropurpurea</i> Harvey, 1853	hsb	shw–subt	FL to NC, Carib, GMx, Bermuda, Brazil, Uruguay	sw, se	83, 243, 306, 316
<i>Chondria baileyana</i> (Montagne) Harvey, 1853	epi, hsb, sft	shw–subt	FL to VA, Carib, GMx, Vietnam	ne, sw, se	83, 60, 67, 243, 242, 306
<i>Chondria capillaris</i> Collins & Hervey, 1917	hsb	shw–subt	FL to VA, Carib, GMx, Eur, Atl Isls, China, Japan, N, E, & W Afr, SW India	entire	19, 38, 60, 67, 69, 83, 108, 140, 148, 158, 174, 185, 242, 243, 306, 316, 320
<i>Chondria cnicophylla</i> (Melville ex Murray) De Toni, 1903	dft, hsb	int–subt	FL, Carib, GMx	entire	60, 83, 84, 85, 86, 185, 208, 243, 259, 306, 320, 336
<i>Chondria collinsiana</i> M. Howe, 1920	hsb	shw–subt	FL, Carib, GMx, S Eur, Egypt, E Afr, Qatar	ne, se	19, 60, 83, 243, 306
<i>Chondria curvilineata</i> Collins & Hervey, 1917	epi, hsb	shw–subt	NC, Carib, GMx, S Eur, Atl Isls, Maldives, Egypt, Philippines	ne, sw, se	66, 83, 144, 148, 158, 213, 241, 243, 306

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Chondria dasyphylla</i> (Woodward) C. Agardh, 1817	hsb	int-subt	FL to VA, GoCA, Carib, GMx, Eur, Atl Isls, Brazil, N, E, & S Afr, Indian Oc Isls, SW & SE Asia, Japan, Russia, N Aust, trop Pac Isls	entire	19, 60, 83, 84, 85, 86, 142, 174, 185, 206, 209, 241, 243, 251, 306, 316, 320
<i>Chondria floridana</i> (Collins) M. Howe in W. R. Taylor, 1928	hsb	shw-subt	FL to NC, Carib, GMx, Brazil	ne, nw, se	67, 83, 148, 174, 243, 259, 306, 316
<i>Chondria leptacremom</i> (Melvill ex Murray) De Toni, 1903	epi, hsb	shw-subt	FL, Carib, GMx	ne, se	60, 158, 243, 306, 316
<i>Chondria littoralis</i> Harvey, 1853	hsb	shw-subt	FL to NC, Carib, GMx, Bermuda	entire	38, 60, 83, 84, 85, 86, 158, 174, 185, 186, 241, 243, 306, 316, 320
<i>Chondria polyrhiza</i> Collins & Hervey, 1917	epi	shw-subt	FL to NC, Carib, GMx, S Eur, Bermuda, Brazil, Indian Oc Isls, Philippines, Japan, trop Pac Isls	entire	83, 144, 148, 158, 174, 241, 243, 316, 306
<i>Chondria sedifolia</i> Harvey, 1853	hsb	shw-subt	FL to VA, Carib, GMx, Brazil, Tanzania, St. Paul I, SW Asia, Fiji	ne, sw, se	60, 67, 69, 83, 148, 158, 174, 242, 243, 306, 316
<i>Chondrophycus corallopsis</i> (Montagne) Nam, 1999	hsb	shw-subt	FL to NC, Carib, GMx, Atl Isls, Philippines, Indonesia	ne, sw, se	83, 144, 158, 174, 306
<i>Chondrophycus gemmiferus</i> (Harvey) Garbary & Harper, 1998	hsb, sft	shw-subt	FL to NC, Carib, GMx, Bermuda, Brazil	ne, sw, se	45, 60, 83, 145, 242, 243, 251, 306
<i>Chondrophycus iridescens</i> (Wynne & Ballantine) Garbary & Harper, 1998	hsb	shw-subt	Carib, GMx	se	306
<i>Chondrophycus papillosus</i> (C. Agardh) Garbary & Harper, 1998	hsb	int-subt	FL, Carib, GMx, Eur, Atl Isls, Brazil, Afr, Indian Oc Isls, SW & SE Asia, Japan, Taiwan, Aust, Micronesia	ne, sw, se	38, 45, 106, 140, 144, 145, 146, 148, 158, 174, 177, 186, 213, 219, 242, 243, 251, 253, 266, 267, 306
<i>Chondrophycus poiteauii</i> (Lamouroux) Nam, 1999	dft, hsb	int-subt	FL to NC, Carib, GMx, Atl Isls, Brazil, W & E Afr, Réunion I, SW Asia, N Aust	ne, nw, se	19, 58, 85, 86, 98, 158, 185, 243, 251, 306, 320
<i>Digenea simplex</i> (Wulfen) C. Agardh, 1822	dft, epi, hsb	int-subt	FL, Carib, GMx, GoCA, Eur, Atl Isls, Pac Mex, Brazil, Indian Oc Isls, SW Asia, China, Japan, N & W Aust	nw, sw	38, 45, 58, 69, 79, 80, 85, 86, 108, 140, 142, 144, 148, 158, 174, 186, 206, 207, 208, 213, 219, 241, 242, 243, 251, 255, 267, 268, 306, 320, 341
<i>Dipterosiphonia rigens</i> (C. Agardh) Falkenberg, 1901	epi, hsb	shw-subt	FL, Carib, GMx, Eur, Atl Isls, N Afr	sw	83, 174
<i>Enantiocladia duperreyi</i> (C. Agardh) Falkenberg, 1889	hsb	shw-subt	FL, Carib, GMx, Brazil	se	306
<i>Herposiphonia bipinnata</i> Howe, 1920	epi	shw-subt	Carib, GMx	ne, se	60, 306
<i>Herposiphonia parca</i> Setchell, 1926	epi	shw-subt	Carib, GMx, France, E Afr, Indian Oc Isls, SE & SW Asia, Japan, trop Pac Isls	se	306

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Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Herposiphonia pecten-veneris</i> (Harvey) Falkenberg, 1901	epi	shw-subt	FL, Carib, GMx, Bermuda	sw, se	83, 148, 158, 174, 243, 306
<i>Herposiphonia secunda</i> (C. Agardh) Ambronn, 1880	epi, hsb	shw-subt	FL, CA, Carib, GMx, Eur, Atl Isls, Afr, Brazil, Indian Oc Isls, SW Asia, Japan, Aust, trop Pac Isls	entire	19, 83, 85, 86, 96, 148, 158, 168, 174, 185, 242, 243, 267, 306, 317, 320, 334
<i>Herposiphonia tenella</i> (C. Agardh) Ambronn, 1880	epi	shw-subt	FL to NC, CA, Carib, GMx, Eur, Atl Isls, Pac Mex, Brazil, SW & SE Asia, N Aust, trop Pac Isls	ne, sw, se	60, 66, 83, 84, 158, 174, 284, 316
<i>Heterodasya mucronata</i> (Harvey) Wynne, 2005	hsb	shw-subt	FL to NC, Carib, GMx, Brazil, Bermuda, W Afr, E Aust	ne, sw, se	67, 83, 108, 148, 209, 243, 316
<i>Laurencia caraibica</i> P. Silva, 1972	hsb	int-subt	Carib, GMx, SW Asia, Micronesia	sw, se	108, 148, 219, 243, 306
<i>Laurencia chondrioides</i> Borgesen, 1918	epi, ocs	shw-subt	Carib, GMx, S Eur, Canary Isls, Philippines	ne, nw, se	66, 83, 96, 306
<i>Laurencia coelenterata</i> Ballantine & Aponte, 1995	hsb	shw-subt	Carib, GMx	se	13, 306
<i>Laurencia corymbosa</i> J. Agardh, 1852	hsb	shw-subt	FL, Carib, GMx, Fiji, Seychelles, Vietnam, S Afr	sw	83, 142, 243
<i>Laurencia filiformis</i> (C. Agardh) Montagne, 1845	hsb	shw-subt	NC, Carib, GMx, Tanzania, SW & SE Asia, Aust, Bermuda, Brazil, Senegal	se	306
<i>Laurencia intricata</i> Lamouroux, 1813	hsb	int-subt	FL, Carib, GMx, S Eur, Atl Isls, E & W Afr, Japan, Korea, N Aust, Micronesia, Philippines	ne, sw, se	60, 66, 67, 83, 148, 158, 174, 243, 251, 316, 317
<i>Laurencia microcladia</i> Kützinger, 1865	hsb	shw-subt	FL, Carib, GMx, Eur, Atl Isls, Brazil, N & W Afr, SE Asia, Samoa Archipelago	ne, sw, se	60, 69, 83, 144, 146, 148, 158, 208, 243, 267, 306, 316
<i>Laurencia obtusa</i> (Hudson) Lamouroux, 1813	hsb	int-subt	FL, Carib, GMx, Eur, Atl Isls, Brazil, Afr, Indian Oc Isls, SW & SE Asia, China, Japan, Korea, N, E, & W Aust, trop Pac Isls	entire	19, 158, 185, 205, 243, 251, 306, 320
<i>Lophocladia trichoclados</i> (C. Agardh) Schmitz, 1893	hsb	shw-subt	FL, Carib, GMx, S Eur, Atl Isls, Guyana, W Afr, Indian Oc Isls, SW Asia, N Aust, Micronesia	sw, se	208, 242, 243, 306
<i>Lophosiphonia cristata</i> Falkenberg, 1901	epi	shw-subt	FL, Carib, GMx, S Eur, Atl Isls, Chile, N Afr, SW Asia, N Aust, trop Pac Isls	sw, se	174, 243, 306
<i>Lophosiphonia obscura</i> (C. Agardh) Falkenberg, 1897	epi	shw-subt	FL, Carib, GMx, Eur, Atl Isls, trop Pac Isls, Burma, N Afr, SW Asia, N & S Aust	sw	83, 174, 243
<i>Murayella pericladus</i> (C. Agardh) Schmitz, 1893	epi, hsb	shw-subt	FL, Carib, GMx, Bermuda, Brazil, Guyana, Afr, Seychelles, SW & SE Asia, Japan, N Aust, trop Pac Isls	se	306
<i>Neosiphonia ferulacea</i> (Suhr ex J. Agardh) Guimarães & Fujii, 2004	epi	shw-subt	FL to NC, Carib, GMx, Eur, Atl Isls, Brazil, W & E Afr, Indian Oc Isls, SW & SE Asia, Japan, N & W Aust	sw, se	108, 144, 158, 207, 208, 209, 241, 242, 243, 267, 306

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Neosiphonia flaccidissima</i> (Hollenberg) Kim & Lee, 1992	epi	shw-subt	Carib, GMx, CA	nw, se	96, 306
<i>Neosiphonia gorgoniae</i> (Harvey) Guimarães & Fujii, 2004	epi, hsb	shw-subt	FL to GA, Carib, GMx, N Afr, Mauritius, Philippines	entire	85, 86, 144, 148, 158, 174, 185, 219, 251, 259, 306, 320
<i>Neosiphonia sphaerocarpa</i> (Børgesen) Kim & Lee, 1992	epi, hsb	shw-subt	GA to NC, Carib, GMx, S Eur, Atl Isls, Chile, W & N Afr, Maldives, Philippines, N & W Aust, trop Pac Isls, Vietnam	nw, se	45, 79, 144, 148, 241, 243, 306
<i>Neosiphonia tepida</i> (Hollenberg) Guimarães & Fujii, 2004	hsb	shw-subt	FL to NC, Carib, GMx, Atl Isls, Uruguay, Maldives, Philippines, trop Pac Isls	nw, sw	85, 86, 96, 144, 148, 158, 174, 185, 219, 243, 320, 329
<i>Ophidocladus simpliciusculus</i> (P. & H. Crouan) Falkenberg & Schmitz in Falkenberg, 1897	hsb	shw-subt	CA, GMx, Atl Isls, Eur, Afr, S & W Aust, Brazil	sw	219, 243
<i>Osmundaria obtusiloba</i> (C. Agardh) R. Norris, 1991	hsb	shw-subt	FL, Carib, GMx, Brazil, Philippines, Asia, HI	sw, se	69, 232, 243, 267, 306
<i>Polysiphonia atlantica</i> Kapraun & J. Norris, 1982	epi, hsb	shw-subt	FL to NC, Carib, GMx, Eur, Atl Isls, Chile, N Afr, N Aust, India	entire	38, 69, 140, 144, 146, 148, 158, 168, 170, 172, 185, 241, 243, 251, 306, 320
<i>Polysiphonia binneyi</i> Harvey, 1853	epi, hsb	shw-subt	FL, Carib, GMx, Bermuda	ne, sw, se	158, 243, 251, 306
<i>Polysiphonia boldii</i> Wynne & Edwards, 1970	hsb	shw-subt	Carib, GMx, W Eur	nw, sw	85, 185, 320
<i>Polysiphonia decussata</i> Hollenberg, 1942	epi, hsb	shw-subt	CA, Brazil, Galápagos Isls, Réunion I, GMx	sw	83, 174, 243
<i>Polysiphonia denudata</i> (Dillwyn) Greville ex Harvey in Hooker, 1833	epi, hsb	shw-subt	FL to VA, Carib, GMx, Eur, Atl Isls, Brazil, N, W & E Afr, SE Asia, N & W Aust	entire	85, 86, 96, 108, 167, 168, 185, 206, 241, 243, 251, 306, 320
<i>Polysiphonia echinata</i> Harvey, 1853	epi, hsb	shw-subt	FL, GMx	entire	19, 69, 85, 86, 185, 243, 306, 320
<i>Polysiphonia exilis</i> Harvey, 1853	epi	shw-subt	FL, Carib, GMx, Bermuda, Maldives, N Aust, trop Pac Isls	se	306
<i>Polysiphonia foetidissima</i> Cocks ex Bornet, 1892	epi, hsb	shw-subt	Carib, GMx, Atl Isls, Eur	se	146, 243, 306
<i>Polysiphonia hapalacantha</i> Harvey, 1853	epi, hsb	shw-subt	FL, Carib, GMx	entire	158, 185, 251, 306, 320
<i>Polysiphonia havanensis</i> Montagne, 1837	epi, hsb	shw-subt	FL to NC, Carib, GMx, Atl Isls	entire	19, 83, 85, 86, 144, 158, 186, 243, 251, 306, 320
<i>Polysiphonia howei</i> Hollenberg in W. R. Taylor, 1945	epi	shw-subt	FL to NC, Carib, GMx, Atl Isls, Brazil, E Afr, Indian Oc Isls, SW & SE Asia, N Aust, trop Pac Isls	entire	19, 83, 85, 86, 144, 158, 186, 243, 251, 306
<i>Polysiphonia ramentacea</i> Harvey, 1853	epi, hsb	shw-subt	FL, Carib, GMx	nw, sw	69, 85, 158, 185, 243, 320
<i>Polysiphonia saccorhiza</i> (Collins & Hervey) Hollenberg, 1917	epi	shw-subt	Carib, GMx, Bermuda, N Afr, trop Pac Isls	ne, sw	19, 174

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Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Polysiphonia scopulorum</i> Harvey, 1855	epi, hsb	shw-subt	CA to AK, Carib, GMx, Eur, Atl Isls, N, E & S Afr, Seychelles, SW & SE Asia, New Zeal, S & W Aust, trop Pac Isls	ne, se	251, 306
<i>Polysiphonia subtilissima</i> Montagne, 1840	epi	shw-subt	FL to VA, Carib, GMx, Eur, Atl Isls, S Am, Indian Oc Isls, SE & SW Asia, Aust, New Zeal	nw, sw, se	85, 86, 146, 168, 185, 207, 241, 243, 267, 306, 320
<i>Pterosiphonia pennata</i> (C. Agardh) Sauvageau, 1897	hsb	shw-subt	SC to NC, CA, Carib, GMx, HI, Eur, Atl Isls, Brazil, N & W Afr, SW Asia, Japan, Aust, New Zeal	sw, se	206, 243, 306
<i>Wrightiella blodgettii</i> (Harvey) Schmitz, 1893	hsb	shw-subt	FL, Carib, GMx, Bermuda	sw	108, 208, 243
<i>Wrightiella tumanowiczii</i> (Gatty ex Harvey) F. Schmitz, 1893	hsb	shw-subt	FL to NC, Carib, GMx, Ber- muda, Brazil	se	306
Family: Furcellariaceae					
<i>Halarachnion ligulatum</i> (Woodward) Kützing, 1843	hsb	subt	GMx, Eur, Brazil, Atl Isls, N Afr	se	316
Family: Caulacanthaceae					
<i>Catenella caespitosa</i> (Withering) Levring, 1976	epi, hsb	int-shw	FL, Carib, GMx, Eur, Chile, E S Am, N, W, & E Afr, Atl Isls, Brazil, SW & SE Asia, Japan	ne, sw, se	60, 83, 148, 306, 316
<i>Catenella impudica</i> (Montagne) J. Agardh, 1852	hsb	int-shw	Carib, GMx, Brazil, W Afr, Mauritius, SE & SW Asia, China, Japan	se	306
Family: Cystocloniaceae					
<i>Hypnea musciformis</i> (Wulfen) Lamouroux, 1813	dft, hsb	int-subt	FL to VA, Carib, GMx, HI, Eur, Atl Isls, Brazil, Afr, Indian Oc Isls, SW & SE Asia, N & W Aust	entire	18, 58, 79, 83, 85, 86, 140, 141, 145, 146, 148, 158, 168, 174, 185, 186, 202, 207, 208, 209, 225, 242, 253, 267, 268, 306, 320, 341
<i>Hypnea spinella</i> (C. Agardh) Kützing, 1847	hsb	int-subt	FL to NC, Carib, GMx, Eur, Atl Isls, Brazil, Indian Oc Isls, SW & SE Asia, Japan, China, Taiwan, PNG, W & S Aust, trop Pac Isls	ne, sw, se	19, 45, 60, 67, 69, 108, 141, 146, 148, 158, 174, 206, 207, 208, 209, 213, 219, 242, 266, 267, 306
<i>Hypnea valentiae</i> (Turner) Montagne, 1841	dft, hsb	int-subt	FL to NC, CA, Carib, GMx, Eur, Atl Isls, Brazil, Afr, Indian Oc Isls, SW & SE Asia, Aust, trop Pac Isls	nw, sw, se	45, 58, 69, 83, 85, 86, 145, 146, 148, 158, 185, 206, 208, 242, 306, 320
<i>Hypnea volubilis</i> Searles in Schneider & Searles, 1976	epi, hsb	subt	FL to NC, GoCA, Carib, GMx	nw	96, 281
<i>Hypneocolax stellaris</i> Børgesen, 1920	par	shw-subt	Carib, GMx, Tanzania	sw	242
Family: Solieriaceae					
<i>Agardhiella ramosissima</i> (Harvey) Kylin, 1932	hsb	shw-subt	FL to NC, Carib, GMx, Ber- muda	ne, sw, se	60, 83, 107, 146, 148, 242, 251, 316
<i>Agardhiella subulata</i> (C. Agardh) Kraft & Wynne, 1979	dft, hsb	int-subt	FL to MA, GoCA, Carib, GMx, Brazil, Senegal, Mauritius, N Eur, India	entire	58, 60, 84, 85, 86, 100, 140, 146, 158, 179, 185, 186, 242, 251, 306, 316

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Eucheuma isiforme</i> (C. Agardh) J. Agardh, 1847	hsb	int-subt	FL, Carib, GMx, Bermuda, Philippines	ne, sw, se	38, 47, 60, 66, 83, 146, 158, 186, 242, 251, 306
<i>Kappaphycus inermis</i> (Schmitz) Doty & Silva in Silva et al., 1996	hsb	shw-subt	Carib, GMx, Philippines, Vietnam, Tanzania	sw	242
<i>Meristotheca echinocarpa</i> (Areschoug) Faye & Masuda, 2004	hsb	shw-subt	FL, Carib, GMx, Brazil	ne, se	60, 83, 306
<i>Meristotheca gelidium</i> (J. Agardh) Faye & Masuda, 2004	hsb	shw-subt	FL to NC, Carib, GMx, Bermuda, Brazil	ne, sw, se	38, 60, 66, 69, 83, 101, 148, 242, 251, 306
<i>Solieria filiformis</i> (Kützinger) Gabrielson, 1985	hsb	int-subt	FL to VA, Carib, GMx, W Eur, Atl Isls, Brazil, W Afr, Mauritius	nw, sw, se	58, 102, 108, 148, 168, 185, 186, 209, 208, 306
<i>Wurdemannia miniata</i> (Sprengel) Feldmann & Hamel, 1934	hsb	shw-subt	FL to NC, Carib, GMx, Atl Isls, S Eur, Brazil, N, W, & E Afr, Indian Oc Isls, SW & SE Asia, China, Japan, trop Pac Isls	entire	45, 96, 145, 251, 267, 306
Family: Gigartinaeae					
<i>Chondracanthus acicularis</i> (Roth) Fredericq in Hommersand et al., 1993	hsb	int-shw	FL to NC, Carib, GMx, HI, Eur, Atl Isls, Brazil, Afr, Uruguay, Andaman Isls, SW Asia, Malaysia, N Aust	sw, se	69, 136, 219, 306
Family: Phylloporaceae					
<i>Gymnogongrus griffithsiae</i> (Turner) Martius, 1833	hsb	int-shw	FL to NC, Carib, GMx, Eur, Atl Isls, Brazil, Chile, Uruguay, N & W Afr, N & S Aust, Fuegia	sw	146, 241
<i>Gymnogongrus tenuis</i> J. Agardh, 1849	hsb	int-shw	Carib, GMx, Azores, W Afr	sw, se	69, 83, 145, 146, 242, 267, 306
Division: Chlorophyta					
Family: Palmellopsidaceae					
<i>Pseudotetraspora marina</i> Wille, 1906	hsb	subt	Carib, GMx	ne	19, 60, 67, 83, 156
Family: Gomontiaceae					
<i>Blidingia marginata</i> (J. Agardh) Dangeard ex Bliding, 1963	hsb	shw-subt	GA to E Canada, CA to W Canada, Carib, GMx, Eur, Arctic Canada, Argentina, Uruguay, Atl Isls, N & S Afr, SW Asia, Japan, S & W Aust	sw, se	83, 142, 306
<i>Blidingia minima</i> (Nägeli ex Kützinger) Kylin, 1949	hsb	shw-subt	GA to E Canada, CA to AK, Carib, GMx, Eur, Brazil, Atl Isls, Afr, Arctic Canada, Argentina, Uruguay, Chile, St. Paul I, SW Asia, China, Japan, Korea, Commander Isls, New Zeal, S Aust, subantarctic Isls	ne, sw	79, 83, 146, 148, 241
<i>Gomontia polyrhiza</i> (Lagerheim) Bornet & Flahault, 1888	hsb	shw-subt	FL to E Canada, CA to W Canada, Carib, GMx, Eur, Arctic Oc, Atl Isls, N Afr, India, Japan, Micronesia	entire	19, 60, 83, 158, 174, 316

(continued)

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
Family: Ulvellaceae					
<i>Acrochaete flustrae</i> (Reinke) O'Kelly, 2006	epi	int-subt	FL to ME, W Canada, Carib, GMx, Eur, Madeira, N Afr	ne	83, 156
<i>Entocladia ventriculosa</i> (Børgesen) W. R. Taylor, 1960	epi	int-subt	Carib, GMx	se	242
<i>Entocladia viridis</i> Reinke, 1879	epi, hsb	int-subt	CA to OR, Arctic Canada, Carib, GMx, Eur, Atl Isls, Brazil, S Am, Afr, Maldives, SW & SE Asia, Korea, Commander Isls, Aust, trop Pac Isls, Antarctic & Subantarctic Isls, Fiji	ne, nw, sw	19, 60, 83, 84, 85, 86, 96, 154, 156, 158, 174, 185, 207, 320
<i>Entocladia wittrockii</i> Wille, 1880	epi, hsb	shw-subt	VA to ME, W Canada, GMx, Eur, Pakistan	nw	83, 86, 153, 156, 158, 185, 251, 320
<i>Pringsheimiella scutata</i> (Reinke) Höhnell ex Marchewianka, 1925	epi	shw-subt	FL to Arctic Canada, Carib, GMx, Eur, Atl Isls, N & W Afr, SW Asia, Japan	se	83, 174
<i>Pseudendoclonium marinum</i> (Reinke) Aleem & Schulz, 1952	epi	shw-subt	FL to ME, Carib, GMx, Eur, Atl Isls	ne, se	83, 156, 174, 316
<i>Ulvella lens</i> P. & H. Crouan, 1859	epi, hsb	int-subt	FL to NC, Carib, GMx, Eur, Atl Isls, Afr, Maldives, SW & SE Asia, Japan, W Aust, trop Pac Isls	entire	19, 83, 84, 85, 86, 91, 148, 154, 158, 174, 185, 186, 206, 207, 267, 320
Family: Ulotrachaceae					
<i>Ulothrix flacca</i> (Dillwyn) Thuret in Le Jolis, 1863	epi, hsb	int-subt	GA to E Canada, CA to AK, Carib, GMx, Eur, Arctic Can- ada, Atl Isls, Argentina, Chile, N & S Afr, China, Korea, Japan, Commander Isls, trop Pac Isls, Antarctica	nw, sw	79, 83, 84, 85, 86, 185, 207, 241, 320
<i>Ulothrix subflaccida</i> Wille, 1901	hsb	shw-subt	VA, WA, GMx, HI, Eur, Argen- tina, N Afr, SE Asia, Aust	ne, se	60, 83, 156
Family: Phaeophilaceae					
<i>Phaeophila dendroides</i> (P. & H. Crouan) Batters, 1902	epi	shw-subt	FL to MA, WA to W Canada, HI, Carib, GMx, Eur, Pac Mex, Galápagos Isls, Atl Isls, N & E Afr, Seychelles, SW Asia, N Aust, Fiji	ne, nw, sw	19, 60, 83, 148, 154, 155, 158, 174, 185, 242, 316, 320
<i>Phaeophila vagans</i> (Børgesen) Nielsen, 1972	epi	shw-subt	Carib, GMx, Ghana, Namibia, W Eur	ne	60, 83
Family: Gayraliaceae					
<i>Gayralia oxyspermum</i> (Kützing) Vinogradova ex Scagel et al., 1845	hsb	int-shw	FL to AK, CA to W Canada, HI, Carib, GMx, Eur, N, E, & W Afr, Brazil, SW & SE Asia, Japan, Korea, New Zealand, S Aust, Atl Isls, trop Pac Isls	ne, se	60, 83, 156, 306
Family: Ulvaceae					
<i>Percursaria percursa</i> (C. Agardh) Rosenvinge, 1893	hsb	shw-subt	CA to AK, VA to NJ, Carib, GMx, W & S Eur, Atl Isls, Argentina, Chile, N & S Afr, Japan, Commander Isls, N & S Aust, New Zeal, Antarctica	se	306

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Ulva chaetomorphoides</i> (Børgesen) Hayden et al., 2003	epi, hsb	int-shw	FL, Carib, GMx, W Eur, Brazil, Philippines, Vietnam, Bermuda	ne, sw, se	19, 66, 83, 148, 174, 306
<i>Ulva clathrata</i> (Roth) C. Agardh, 1811	epi, hsb	int-shw	FL to NC, CA to AK, Carib, GMx, Atl Isls, Eur, Afr, Arctic Canada, Galápagos Isls, Japan, Korea, E S Am, Indian Oc Isls, SE & SW Asia, PNG, N & W Aust, New Zeal, trop Pac Isls, Antarctica, Chile	entire	67, 79, 83, 84, 85, 86, 148, 155, 156, 158, 168, 174, 185, 206, 207, 241, 306, 320
<i>Ulva compressa</i> Linnaeus, 1753	epi, hsb	shw-subt	FL to NJ, CA to AK, GoCA, Carib, GMx, Eur, Atl Isls, Afr, trop Pac Isls, Arctic Canada, SW & SE Asia, China, Japan, Korea, Taiwan, PNG, New Zeal, Aust, Antarctica	sw, se	45, 66, 69, 83, 144, 145, 146, 148, 174, 213, 219, 306
<i>Ulva fasciata</i> Delile, 1813	epi, hsb	int-shw	FL to NC, Carib, GMx, W & S Eur, Atl Isls, E S Am, Galápagos Isls, Afr, Indian Oc Isls, SW & SE Asia, PNG, New Zeal, N & S Aust	nw, sw, se	69, 83, 84, 85, 86, 108, 141, 145, 146, 148, 156, 158, 168, 174, 177, 185, 186, 206, 207, 208, 209, 241, 242, 252, 263, 266, 267, 306, 320
<i>Ulva flexuosa</i> Wulfen, 1803	epi, hsb	int-shw	FL to NC, CA to W Canada, Carib, GMx, GoCA, Eur, Atl Isls, S Am, Chile, Afr, Indian Oc Isls, SW & SE Asia, China, Commander Isls, Japan, New Zeal, Aust, trop Pac Isls	entire	38, 60, 66, 69, 83, 84, 85, 86, 108, 130, 140, 144, 145, 148, 154, 156, 158, 168, 174, 185, 206, 207, 208, 241, 263, 266, 267, 268, 306, 316, 320
<i>Ulva hookeriana</i> (Kützinger) Hayden et al., 2003	epi, hsb	int-shw	Carib, GMx, Namibia	sw	69
<i>Ulva intestinalis</i> Linnaeus, 1753	epi, hsb	int-shw	worldwide exc polar regions	ne, sw, se	69, 156, 241, 306
<i>Ulva lactuca</i> Linnaeus, 1753	epi, hsb	int-shw	worldwide exc polar regions	nw, sw, se	38, 79, 83, 87, 85, 86, 91, 142, 148, 154, 158, 174, 185, 206, 207, 208, 209, 219, 235, 241, 253, 259, 267, 268, 320
<i>Ulva linza</i> Linnaeus, 1753	hsb	int-subt	worldwide exc polar regions	ne, sw, se	83, 148, 174, 306
<i>Ulva paradoxa</i> C. Agardh, 1817	hsb	shw-subt	FL to E Canada, HI, Carib, GMx, Atl Isls, Arctic Canada, Eur, Pac Mex, E S Am, Japan, SE Asia, PNG, Aust, N & E Afr, trop Pac Isls	sw, se	45, 69, 83, 145, 148, 174, 186, 242, 306
<i>Ulva prolifera</i> O. F. Müller, 1778	hsb	int-subt	FL to E Canada, CA to AK, Carib, GMx, Eur, Atl Isls, Afr, trop Pac Isls, Chile, Galápagos Isls, Arctic Canada, Indian Oc Isls, SW & SE Asia, New Zeal, S Aust	entire	19, 83, 84, 85, 86, 144, 145, 148, 156, 158, 168, 174, 185, 207, 267, 306, 316, 320
<i>Ulva profunda</i> W. R. Taylor, 1928	hsb	subt	FL, Carib, GMx, Mauritius, India	se	83, 316

(continued)

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Ulva rigida</i> C. Agardh, 1823	hsb	int-subt	FL, CA to AK, GA to NC, HI, GoCA, Carib, GMx, Eur, Arctic Canada, Atl Isls, Argentina, S Am, Afr, Indian Oc Isls, SW Asia, New Zeal, PNG, Aust	ne, sw	69, 83, 148, 255, 316
Family: Anadyomenaceae					
<i>Anadyomene menziesii</i> (Gray) J. Agardh, 1887	hsb	subt	Carib, GMx	ne, se	67, 83, 316
<i>Anadyomene pavonina</i> (J. Agardh) Wille, 1910	hsb	subt	FL, GMx, Madagascar	ne, se	67, 83, 316
<i>Anadyomene saldanhae</i> Joly & Olivera Filho, 1969	epi, hsb	subt	FL to NC, Carib, GMx, Canary Isls	nw, se	96, 306
<i>Anadyomene stellata</i> (Wulfen) C. Agardh, 1823	epi, hsb	subt	FL, Carib, GMx, Balearic Isls, S Eur, Atl Isls, Brazil, SW & SE India, S Aust	entire	60, 66, 67, 69, 83, 87, 140, 148, 153, 156, 157, 174, 186, 192, 213, 259, 267, 306
<i>Microdictyon boergesenii</i> Setchell, 1925	epi, hsb	subt	FL to NC, Carib, GMx, Atl Isls, Brazil, Madagascar	ne, nw, se	60, 83, 87, 186, 259, 306, 316
<i>Microdictyon marinum</i> (Bory) Silva, 1955	hsb	shw-subt	Carib, GMx	se	83, 306
<i>Valoniopsis pachynema</i> (G. Martens) Børgesen, 1934	hsb	shw-subt	Carib, GMx, GoCA, SE & SW Asia, Bermuda, N, E, & S Afr, Indian Oc Isls, China, Japan, Taiwan, W & N Aust, trop Pac Isls	se	306
Family: Cladophoraceae					
<i>Bryobesia johanna</i> e Weber-van Bosse, 1911	epi, hsb	int-shw	Carib, GMx, Canary Isls	se	306
<i>Chaetomorpha aerea</i> (Dillwyn) Kützing, 1849	hsb	shw-subt	FL to NH, CA to W Canada, HI, GoCA, Carib, GMx, Brazil, Eur, Atl Isls, S Am, Afr, Indian Oc Isls, SW & SE Asia, Japan, Korea, New Zeal, Aust, Easter I	ne, sw, se	66, 69, 83, 108, 156, 242, 306
<i>Chaetomorpha antennina</i> (Bory) Kützing, 1847	hsb	shw-subt	CA, Pac C Am, GoCA, Carib, S Am, Galápagos Isls, Afr, GMx, Atl Isls, Indian Oc Isls, SW & SE Asia, trop Pac Isls, Brazil	ne, sw, se	83, 91, 108, 141, 146, 158, 207, 242, 267, 268, 306, 316
<i>Chaetomorpha brachygona</i> Harvey, 1858	hsb	shw-subt	FL, HI, W Canada, Carib, GMx, Brazil, S Am, W & E Afr, Indian Oc Isls, SW & SE Asia, N Aust	entire	19, 66, 69, 83, 140, 145, 158, 185, 306, 320
<i>Chaetomorpha clavata</i> Kützing, 1824	hsb	shw-subt	FL, Carib, GMx, Cape Verde Isls, Brazil, Chile, Mauritius, W Afr, India, Indonesia	se	83, 306
<i>Chaetomorpha crassa</i> (C. Agardh) Kützing, 1845	epi, sft	shw-subt	FL, Carib, GMx, W & S Eur, Atl Isls, Brazil, W S Am, Afr, SW & SE Asia, Japan, Korea, Taiwan, PNG, N Aust	ne, sw, se	66, 83, 148, 306
<i>Chaetomorpha geniculata</i> Montagne, 1846	hsb	shw-subt	Carib, GMx, Guyana	se	306

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Chaetomorpha gracilis</i> Kützting, 1845	hsb	shw-subt	FL to NC, Carib, GMx, W & S Eur, Black Sea, Atl Isls, Brazil, N, W, & E Afr, Indian Oc Isls, SW & SE Asia, Japan, Korea, PNG, W Aust	entire	45, 60, 66, 83, 145, 146, 148, 158, 174, 185, 263, 306, 320
<i>Chaetomorpha linum</i> (O. F. Müller) Kützting, 1845	sft	int-subt	FL to E Canada, CA to AK, Carib, GMx, Eur, Atl Isls, E S Am, Afr, Indian Oc Isls, SW & SE Asia, China, Korea, Taiwan, Commander Isls, PNG, New Zeal, Aust, trop Pac Isls	entire	58, 66, 84, 85, 86, 146, 156, 168, 174, 206, 207, 208, 242, 306, 320
<i>Chaetomorpha minima</i> Collins & Hervey, 1917	hsb	shw-subt	Carib, GMx, Bermuda, Kenya, Maldives	ne, sw, se	60, 83, 144, 148, 174, 263, 306
<i>Cladophora albida</i> (Nees) Kützting, 1843	hsb	shw-subt	worldwide exc polar regions	entire	66, 83, 84, 85, 86, 142, 148, 185, 206, 306, 320, 325
<i>Cladophora brasiliiana</i> Martens, 1868	hsb	shw-subt	Carib, GMx, Brazil	sw, se	148, 306
<i>Cladophora catenata</i> (Linnaeus) Kützting, 1843	hsb	shw-subt	FL, Carib, GMx	ne, sw, se	60, 66, 83, 140, 145, 146, 148, 156, 158, 174, 263, 306, 316, 317
<i>Cladophora coelothrix</i> Kützting, 1843	hsb	shw-subt	FL, Carib, GMx, S Eur, Brazil, SW Asia, China, Japan, Taiwan, S Afr, N Aust, SE Asia, trop Pac Isls	entire	60, 83, 134, 146, 148, 158, 185, 213, 316
<i>Cladophora conferta</i> P. & H. Crouan, 1865	hsb	shw-subt	Carib, GMx, Atl Isls, Uruguay, W Afr, SW Asia, Fiji	se	306
<i>Cladophora constricta</i> Collins, 1909	hsb	shw-subt	Carib, GMx, Bermuda, Seychelles	sw	83, 148, 174
<i>Cladophora corallicola</i> Børgesen, 1913	hsb	shw-subt	Carib, GMx, Bermuda	nw, sw	142, 144, 148, 259
<i>Cladophora crispula</i> Vickers, 1905	hsb	shw-subt	Carib, GMx, Bermuda, SW & SE Asia	ne, se	60, 66, 83, 306
<i>Cladophora crystallina</i> (Roth) Kützting, 1843	hsb	shw-subt	FL, Carib, GMx, S Eur, Atl Isls, NC to MA, N Afr, Indian Oc Isls, SW Asia, Korea, PNG, N Aust, Micronesia	ne, sw	83, 145
<i>Cladophora dalmatica</i> Kützting, 1843	hsb	shw-subt	FL to NC, Carib, GMx, Eur, Atl Isls, Afr, SW Asia, Japan, Aust	entire	60, 79, 83, 84, 85, 168, 185, 207, 241, 316, 320
<i>Cladophora flexuosa</i> (O. F. Müller) Kützting, 1843	hsb	shw-subt	FL to E Canada, Carib, GMx, Eur, Atl Isls, Chile, N Afr, SW & SE Asia, Japan, Korea, Antarctic & Subantarctic Isls	sw, se	69, 83, 145, 158, 306, 316
<i>Cladophora glomerata</i> (Linnaeus) Kützting, 1843	hsb	shw-subt	Carib, GMx, Eur, Madeira, SW & SE Asia, Japan, Aust, trop Pac Isls	ne, sw, se	60, 83, 142, 148, 306
<i>Cladophora hutchinsiae</i> (Dillwyn) Kützting, 1845	hsb	shw-subt	FL to E Canada, OR to AK, Carib, GMx, Eur, Atl Isls, N & S Africa, SW Asia	ne	60, 83, 316
<i>Cladophora intertexta</i> Collins, 1901	hsb	shw-subt	Carib, GMx	ne, sw	60, 83, 142, 148

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Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Cladophora laetevirens</i> (Dillwyn) Kützing, 1843	hsb	shw	GA to E Canada, WA to W Canada, Carib, GMx, Eur, Atl Isls, Falkl Isls, N & NW Afr, Seychelles, SW & SE Asia, Japan, Korea, Aust	sw, se	38, 83, 142, 225, 306
<i>Cladophora liebetruthii</i> Grunow in Piccone, 1884	hsb	shw-subt	Carib, GMx, S Eur, Atl Isls, Uruguay, S Afr, Laccadive Isls, SW Asia, N & W Aust, Micronesia	se	144, 306
<i>Cladophora liniformis</i> Kützing, 1849	hsb, sft	shw-subt	NC, Carib, GMx, W & S Eur, Japan, Commander Isls, Kamschatska	sw	38
<i>Cladophora montagneana</i> Kützing, 1847	epi, hsb	shw-subt	FL to NC, GoCA, Carib, GMx, Bermuda, W Afr, S & W Aust, Guyana	entire	66, 67, 69, 83, 84, 85, 86, 108, 140, 144, 145, 146, 148, 155, 156, 158, 185, 213, 241, 263, 316, 317, 306, 320
<i>Cladophora prolifera</i> (Roth) Kützing, 1843	dft, hsb	shw-subt	FL to NC, Carib, GMx, Eur, Atl Isls, Atl S Am, Galápagos Isls, Afr, Seychelles, SW & SE Asia, Pac Isls, New Zeal, Aust	nw, sw, se	38, 79, 168, 185, 241, 267, 306, 320
<i>Cladophora ruchingeri</i> (C. Agardh) Kützing, 1845	hsb	int-subt	FL to NC, Carib, GMx, Eur, Cape Verde Isls, SW Asia, N & W Afr	nw, sw	60, 83, 84, 85, 86, 156, 158, 168, 185, 206, 316, 320
<i>Cladophora sericea</i> (Hudson) Kützing, 1843	hsb	shw-subt	FL to E Canada, CA to AK, HI, GoCA, Carib, GMx, Brazil, Eur, Atl Isls, Afr, Réunion I, SW & SE Asia, Korea, Japan, New Zeal, Aust, trop Pac Isls, Chile	ne, nw, sw	19, 66, 83, 108, 155, 158, 174, 185, 241, 316, 320, 325
<i>Cladophora socialis</i> Kützing, 1849	hsb	shw-subt	Carib, GMx, S Eur, Madeira, Chile, Afr, SW & SE Asia, Japan, Indian Oc Isls, PNG, N Aust, New Zeal, trop Pac Isls	sw	213
<i>Cladophora submarina</i> P. & H. Crouan ex Schramm & Mazé, 1865	hsb	shw-subt	Carib, GMx, Bermuda	ne, sw, se	67, 83, 144, 306
<i>Cladophora vagabunda</i> (Linnaeus) van den Hoek, 1963	hsb	shw-subt	FL to E Canada, OR, Carib, GMx, Atl Isls, Brazil, Uruguay, Chile, N Afr, China, Japan, Taiwan, SW & SE Asia, Sea of Okhotsk, N Aust, trop Pac Isls, Eur, Indian Oc Isls, Afr, Aust	entire	67, 69, 83, 84, 85, 86, 91, 108, 140, 141, 142, 145, 148, 154, 156, 158, 174, 185, 206, 207, 208, 209, 242, 263, 267, 268, 306, 316, 320
<i>Rhizoclonium africanum</i> Kützing, 1853	hsb	shw-subt	FL, Carib, GMx, Atl Isls, Brazil, SW & SE Asia, Japan, Korea, Easter I, Afr, Indian Oc Isls, PNG, N & W Aust, trop Pac Isls	ne, sw, se	19, 83, 148, 242, 316, 306
<i>Rhizoclonium antillarum</i> Kützing, 1849	hsb	shw-subt	Carib, GMx, India	se	306
<i>Rhizoclonium riparium</i> (Roth) Harvey, 1849	hsb	shw-subt	worldwide	ne, nw, sw	19, 30, 83, 91, 108, 154, 155, 156, 158, 174, 242, 251, 306, 325

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Rhizoclonium tortuosum</i> (Dillwyn) Kützing, 1845	hsb	shw-subt	FL, CA to AK, HI, Carib, GMx, Atl Isls, W & S Eur, Afr, E S Am, Indian Oc Isls, SW & SE Asia, Japan, trop Pac Isls, Chile, N & S Aust, New Zeal	sw,	79, 91, 241, 267
Family: Boodleaceae					
<i>Boodlea composita</i> (Harvey) Brand, 1904	hsb, sft	shw-subt	FL, Carib, GMx, Atl Isls, Afr, SE & SW Asia, Indian Oc Isls, trop Pac Isls, China, Japan, Taiwan, PNG, N & W Aust	sw, se	83, 174, 213, 306
<i>Phyllodictyon anastomosans</i> (Harvey) Kraft & Wynne, 1996	epi, hsb	subt	FL, Carib, GMx, Atl Isls, SW & SE Asia, trop Pac Isls, Peru, Afr, China, Japan, Indian Oc Isls	sw, se	83, 306, 316
<i>Phyllodictyon pulcherrimum</i> Gray, 1866	hsb	subt	FL to NC, Carib, GMx, Atl Isls, Kenya, Indian Oc Isls, SW Asia	ne, se	83, 180, 306
<i>Struvea elegans</i> Børgesen, 1912	hsb	subt	FL, Carib, GMx, Indian Oc Isls, PNG, Fiji	se	306, 316
Family: Siphonocladaceae					
<i>Chamaedoris peniculum</i> (Ellis & Solander) Kuntze, 1898	hsb	shw-subt	FL, Carib, GMx, Brazil	ne, sw, se	66, 83, 306, 316
<i>Cladophoropsis macromeres</i> W. R. Taylor, 1928	hsb, sft	int-subt	FL, Carib, GMx, Bermuda, Canary Isls, Kenya	sw, se	83, 148, 174, 208, 306, 316, 317
<i>Cladophoropsis membranacea</i> (C. Agardh) Børgesen, 1905	hsb, sft	int-subt	FL to GA, Carib, GMx, Brazil, Atl Isls, N & W Afr, Indian Oc Isls, SW & SE Asia, N & S Aust, Black Sea, S Eur, trop Pac Isls	nw, sw, se	38, 45, 60, 83, 91, 96, 115, 144, 145, 148, 155, 156, 167, 174, 206, 213, 219, 242, 267, 306, 316, 329
<i>Dictyosphaeria cavernosa</i> (Forsskål) Børgesen, 1932	hsb	int-subt	FL, Carib, GMx, Atl Isls, Brazil, Egypt, W & S Afr, Indian Oc Isls, SW & SE Asia, China, Korea, Taiwan, PNG, N & W Aust	ne, sw, se	83, 140, 142, 145, 174, 316, 317, 306
<i>Dictyosphaeria ocellata</i> (Howe) Olsen-Stojkovich, 1985	hsb	shw-subt	FL, Carib, GMx, N, E, & S Afr, Indian Oc Isls, SW & SE Asia, China, Japan, PNG, Aust, trop Pac Isls	ne, sw, se	60, 83, 142, 174, 306, 316, 317
<i>Dictyosphaeria versluisii</i> Weber-van Bosse, 1905	hsb	shw-subt	Carib, GMx, Pac Mex, W & S Afr, Ascencion I, Indian Oc Isls, China, Japan, SE Asia, PNG, N & W Aust, trop Pac Isls	se	306
<i>Siphonocladus rigidus</i> M. Howe, 1905	hsb	shw-subt	FL, Carib, GMx, Bermuda, Seychelles, Japan, trop Pac Isls	ne, sw, se	60, 83, 140, 174, 306, 316
<i>Siphonocladus tropicus</i> (P. & H. Crouan) J. Agardh, 1887	epi, hsb	shw-subt	FL, HI, Carib, GMx, Atl Isls, Afr, Indian Oc Isls, SW Asia, Japan, N & W Aust, Micronesia	ne, se	66, 83, 306, 316
<i>Ventricaria ventricosa</i> (J. Agardh) Olsen & West, 1988	epi, hsb	int-subt	FL, Carib, GMx, W Afr, Indian Oc Isls, India, SE Asia, Japan, Taiwan, N & W Aust, PNG, trop Pac Isls, Chile	ne, nw, se	60, 83, 87, 140, 142, 158, 174, 237, 259, 306, 316

(continued)

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
Family: Valoniaceae					
<i>Ernodesmis verticillata</i> (Kützinger) Børgesen, 1912	epi, sft	shw-subt	FL, Carib, GMx, Atl Isls, Brazil, Italy, W Afr, Réunion I, SW Asia, Fiji	ne, se	83, 251, 306, 316
<i>Petrosiphon adhaerens</i> M. Howe, 1905	hsb	shw-subt	FL, Carib, GMx, Bermuda	se	83, 174, 306
<i>Valonia aegagropila</i> C. Agardh, 1823	hsb	int-shw	FL, Carib, GMx, S Eur, Canary Isls, Brazil, Egypt, E & S Afr, Indian Oc Isls, SW & SE Asia, N & W Aust, trop Pac Isls	ne, se	60, 83, 306, 316
<i>Valonia macrophysa</i> Kützinger, 1842	hsb	int-subt	FL, Carib, GMx, S Eur, Atl Isls, N, E, & S Afr, SW & SE Asia, Japan, Aust, trop Pac Isls	ne, nw, se	60, 67, 83, 87, 251, 259, 306, 316
<i>Valonia utricularis</i> (Roth) C. Agardh, 1823	hsb	int-subt	FL to NC, Carib, GMx, Brazil, S Eur, Atl Isls, N & W Afr, Indian Oc Isls, SW & SE Asia, PNG, N Aust, China, Japan, trop Pac Isls	ne, sw, se	60, 83, 174, 306, 316
Family: Chaetosiphoniaceae					
<i>Blastophysa rhizopus</i> Reinke, 1888	epi, end	shw-subt	MA to NC, HI, Carib, GMx, Black Sea, Eur, Atl Isls, Japan, N & W Aust	se	306
Family: Bryopsidaceae					
<i>Bryopsis hypnoides</i> Lamouroux, 1809	epi, hsb	int-subt	FL to MA, CA, Carib, GMx, Eur, Atl Isls, S Am, Afr, Laccadive Isls, SW Asia, Japan, Korea, PNG, trop Pac Isls	entire	60, 66, 67, 83, 84, 85, 86, 158, 168, 185, 306, 316, 320
<i>Bryopsis pennata</i> Lamouroux, 1809	epi, hsb	int-subt	FL to NC, Carib, GMx, Pac Mex, Eur, Atl Isls, E S Am, Afr, Indian Oc Isls, SW & SE Asia, Japan, PNG, N Aust, trop Pac Isls	entire	66, 96, 126, 156, 158, 185, 306, 316, 317, 320, 329
<i>Bryopsis plumosa</i> (Hudson) C. Agardh, 1823	hsb	int-subt	worldwide exc polar regions	entire	84, 85, 86, 96, 158, 167, 168, 185, 251, 306, 320
<i>Bryopsis ramulosa</i> Montagne, 1842	epi, hsb	shw-subt	FL, Carib, GMx, Brazil, India	nw, se	83, 306
<i>Derbesia fastigiata</i> W. R. Taylor, 1928	epi	int-shw	FL, Carib, GMx, Japan, N Aust, tropical Pac Isls	se	83, 306, 316
<i>Derbesia marina</i> (Lyngbye) Solier, 1846	epi	int-shw	AK to Baja CA, Aleutian Isls, NC to GA, Carib, GMx, Eur, Atl Isls, Brazil, W S Am, Senegal, S Afr, Indian Oc Isls, SW Asia, Japan, Korea, Aust, trop Pac Isls	se, sw	212, 306
<i>Derbesia osterhoutii</i> (L. & A. Blinks) Page, 1970	hsb	shw-subt	FL, Carib, GMx, Bermuda	sw, se	83, 142, 306
<i>Derbesia vaucheriaeformis</i> (Harvey) J. Agardh, 1887	hsb	shw-subt	FL to MA, Carib, GMx, Brazil, Fiji	entire	19, 83, 84, 85, 86, 156, 168, 174, 185, 251, 306, 316, 320
<i>Pedobesia simplex</i> (Kützinger) Wynne & Leliaert, 2001	epi	shw-subt	FL to NC, Carib, GMx, S Eur, N Afr, Namibia, Senegal, Atl Isls, Japan, Korea	se	174, 306

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Trichosolen duchassaingii</i> (J. Agardh) W. R. Taylor, 1962	hsb	shw-subt	FL, Carib, GMx, Bermuda	ne, se	60, 83, 306
Family: Caulerpaceae					
<i>Caulerpa ashmeadii</i> Harvey, 1858	sft	shw-subt	FL, Carib, GMx, Brazil, India	ne, se	60, 66, 67, 83, 156, 306, 316
<i>Caulerpa cupressoides</i> (West in Vahl) C. Agardh, 1817	sft	shw-subt	FL, Carib, GMx, Atl Isls, Brazil, W & S Afr, Indian Oc Isls, SW & SE Asia, China, Japan, PNG, N & W Aust, trop Pac Isls	ne, sw, se	38, 60, 66, 67, 145, 156, 158, 174, 251, 306
<i>Caulerpa fastigiata</i> Montagne, 1837	sft	int-shw	FL, Carib, GMx, Bermuda, Canary Isls, Brazil, W & E Afr, Indian Oc Isls, SW & SE Asia, Japan, Aust, N Zeal, trop Pac Isls	ne, sw, se	60, 174, 306, 316
<i>Caulerpa floridana</i> W. R. Taylor, 1960	sft	shw-subt	FL, Carib, GMx	se	306
<i>Caulerpa lanuginosa</i> J. Agardh, 1873	hsb, sft	shw-subt	FL, Carib, GMx, Brazil, W & S Afr	ne, se	60, 306, 316
<i>Caulerpa mexicana</i> Sonder ex Kützing, 1849	hsb, sft	shw-subt	FL, Carib, GMx, Atl Isls, trop Atl S Am, Egypt, E & S Afr, Indian Oc Isls, SW & SE Asia, PNG, Aust, trop Pac Isls	ne, sw, se	38, 60, 66, 67, 83, 156, 158, 174, 251, 306, 316
<i>Caulerpa microphysa</i> (Weber-van Bosse) Feldmann, 1955	hsb, sft	shw-subt	FL, HI, Carib, GMx, Japan, SE & SW Asia, Mauritius, Bermuda, Indian Oc Isls, PNG, trop Pac Isls	entire	48, 60, 66, 67, 83, 87, 96, 145, 259, 306, 316
<i>Caulerpa ollivieri</i> Dostál, 1929	sft	shw-subt	FL, GMx, Balearic Isls, France, Turkey	ne	67, 83
<i>Caulerpa paspaloides</i> (Bory) Greville, 1830	sft	shw-subt	FL to NC, Carib, GMx, Brazil, S Eur, Atl Isls, N Afr, SW & SE Asia	ne, se	66, 67, 83, 156, 194, 251, 306, 316
<i>Caulerpa prolifera</i> (Försskal) Lamouroux, 1809	sft	shw-subt	FL, Carib, GMx, S Eur, Atl Isls, Brazil, N & W Afr, SW & SE Asia	entire	19, 38, 60, 66, 67, 83, 156, 158, 174, 251, 259, 306, 316
<i>Caulerpa pusilla</i> (Kützing) J. Agardh, 1873	sft	shw-subt	Carib, GMx, Brazil	se	306
<i>Caulerpa racemosa</i> (Försskal) J. Agardh, 1873	epi, hsb	shw-subt	Trop regions worldwide	entire	38, 48, 66, 67, 83, 87, 156, 174, 251, 259, 306, 316
<i>Caulerpa serrulata</i> (Försskal) J. Agardh, 1873	hsb	shw-subt	FL, Carib, GMx, Egypt, E Afr, Indian Oc Isls, Chile, SW & SE Asia, PNG, N & W Aust, trop Pac Isls	se	306
<i>Caulerpa sertularoides</i> (S. G. Gmelin) M. Howe, 1905	epi, sft	shw-subt	Trop regions worldwide	ne, sw, se	38, 60, 66, 67, 83, 156, 158, 174, 213, 251, 306, 316
<i>Caulerpa taxifolia</i> (Vahl) C. Agardh, 1817	sft	shw-subt	Carib, GMx, S Eur, Atl Isls, E & W Afr, Indian Oc Isls, SE & SW Asia, China, Japan, PNG, Aust, trop Pac Isls	se, sw	83, 174, 306

(continued)

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Caulerpa verticillata</i> J. Agardh, 1847	epi, sft	shw-subt	FL, Carib, GMx, Atl Isls, Brazil, W Afr, Indian Oc Isls, SW & SE Asia, China, PNG, N & W Aust, trop Pac Isls	ne, sw, se	60, 66, 174, 306, 316, 317
<i>Caulerpa webbiana</i> Montagne, 1837	hsb	shw-subt	FL, Carib, GMx, Atl Isls, Brazil, Egypt, W & S Afr, Indian Oc Isls, SW Asia, W & N Aust, New Zeal, trop Pac Isls	ne, se	60, 83, 306, 316
<i>Caulerpella ambigua</i> (Okamura) Prud'homme van Reine & Lokhorst, 1992	epi, hsb	shw-subt	FL, Carib, GMx, Atl Isls, W, E, & S Afr, Indian Oc Isls, SW & SE Asia, Japan, N Aust, trop Pac Isls	nw, sw, se	60, 66, 67, 83, 158, 174, 306
Family: Codiaceae					
<i>Codium decorticatum</i> (Woodward) M. Howe, 1911	hsb	shw-subt	NC to FL, HI, Carib, GMx, S Europe, Atl Isls, Mauritius, Morocco, N Aust, Brazil, Indian Oc Isls, SW Asia	entire	83, 140, 156, 259, 306, 316
<i>Codium intertextum</i> Collins & Hervey, 1917	hsb	shw-subt	NC to FL, Carib, GMx, Atlantic Isls, Brazil	se	83, 295, 306, 316
<i>Codium isthmocladum</i> Vickers, 1905	epi, hsb	shw-subt	FL, Carib, GMx, Bermuda, Brazil, Mauritania, Senegal	entire	38, 60, 66, 67, 83, 156, 158, 251, 259, 295, 306
<i>Codium repens</i> P. & H. Crouan in Vickers, 1905	hsb	shw-subt	FL, Carib, GMx, Atl Isls, Egypt, Indian Oc Isls, SW Asia, China, Japan, Pac Isls	se, ne	83, 251, 306
<i>Codium taylorii</i> Silva, 1960	epi, hsb	subt	NC to FL, Carib, GMx, Atl Isls, Brazil, N & W Afr, Seychelles, SW & SE Asia	ne, nw, se	83, 87, 140, 156, 158, 259, 295, 306, 316,
Family: Pseudocodiaceae					
<i>Pseudocodium floridanum</i> Dawes & Mathieson, 1972	hsb	subt	Carib, GMx, S Afr, Indonesia, PNG	ne, nw	67, 83, 259
Family: Halimedaceae					
<i>Halimeda copiosa</i> Goreau & Graham, 1967	hsb	subt	Carib, GMx, W Afr, Indian Oc Isls, Indonesia, Aust, New Zeal	se	306
<i>Halimeda discoidea</i> Decaisne, 1842	hsb	shw-subt	Carib, GMx, Brazil, Canary & Cape Verde Isls, GoCA, W Afr, China, Japan, SE Asia, trop Pac Isls	entire	38, 60, 66, 67, 53, 83, 87, 140, 156, 251, 259, 306, 316
<i>Halimeda favulosa</i> M. Howe, 1905	sft	shw-subt	Carib, GMx	se	306
<i>Halimeda goreau</i> W. R. Taylor, 1962	hsb	shw-subt	Carib, GMx, Brazil	se	306
<i>Halimeda gracilis</i> Harvey ex J. Agardh, 1887	sft	int-subt	Carib, GMx, W & S Afr, Indian Oc Isls, SW Asia, Indonesia, PNG, trop Pac Isls	ne, se	87, 259, 306
<i>Halimeda incrassata</i> (Ellis) Lamouroux, 1816	sft	int-subt	Carib, GMx, FL, W Afr, Indian Oc Isls, SW & SE Asia, PNG, N Aust, trop Pac Isls, Bermuda	ne, sw, se	38, 66, 67, 83, 118, 156, 174, 306, 316
<i>Halimeda lacrimosa</i> M. Howe, 1909	hsb	shw-subt	Carib, GMx, Madagascar	ne, se	60, 66, 83, 306

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Halimeda monile</i> (Ellis & Solander) Lamouroux, 1816	sft	int-subt	Carib, GMx, Bermuda, Egypt, SW Asia, trop Pac Isls	ne, sw, se	66, 83, 142, 174, 306, 316
<i>Halimeda opuntia</i> (Linnaeus) Lamouroux, 1816	epi, hsb	int-subt	Carib, GMx, Greece, Brazil, W Afr, Indian Oc Isls, SW & SE Asia, Japan, China, PNG, N Aust, trop Pac Isls	ne, nw, se	66, 83, 140, 158, 174, 251, 259, 306, 316, 317
<i>Halimeda scabra</i> M. Howe, 1905	hsb	int-subt	Carib, GMx	ne, sw, se	83, 174, 251, 306, 316, 317
<i>Halimeda simulans</i> Howe, 1907	sft	int-subt	Carib, GMx, Bermuda, Brazil, Tanzania, Indian Oc Isls, SW & SE Asia, Japan, N Aust, trop Pac Isls	ne, sw, se	60, 66, 83, 174, 306, 316
<i>Halimeda tuna</i> (Ellis & Solander) Lamouroux, 1816	hsb	int-subt	Carib, GMx, S Eur, Atl Isls, Brazil, Easter I, N, W & S Afr, Indian Oc Isls, SE & SW Asia, PNG, S & W Aust, trop Pac Isls	entire	38, 60, 83, 140, 158, 174, 259, 306
Family: Ostreobiaceae					
<i>Ostreobium quekettii</i> Bornet & Flahault, 1889	hsb	int-subt	CA to WA, MA to FL, Carib, GMx, Eur, Atl Isls, N Canada, N & W Afr, Maldives, SW Asia, Japan, N Aust, trop Pac Isls, Pac Mex	ne, nw, sw	83, 154, 156, 158, 174
Family: Udoteaceae					
<i>Avrainvillea asarifolia</i> Børgesen, 1909	sft	int-subt	FL, Carib, GMx, Fiji	ne, se	60, 67, 83, 251, 306, 316
<i>Avrainvillea digitata</i> D. & M. Littler, 1992	sft	int-subt	Carib, GMx	se	306
<i>Avrainvillea elliottii</i> A. & E. Gepp, 1911	sft	int-subt	FL, Carib, GMx, Seychelles	ne, se	60, 67, 83, 306
<i>Avrainvillea fulva</i> (M. Howe) D. & M. Littler, 1992	sft	int-subt	Carib, GMx	se	306
<i>Avrainvillea hayi</i> D. & M. Littler, 1992	sft	int-subt	Carib, GMx	se	306
<i>Avrainvillea levis</i> M. Howe, 1905	sft	int-subt	FL, Carib, GMx	ne, sw, se	60, 67, 83, 156, 174, 306, 316
<i>Avrainvillea longicaulis</i> (Kützting) Murray & Boodle, 1889	sft	int-subt	FL to NC, Carib, GMx, Indonesia	ne, sw, se	60, 67, 83, 156, 174, 238, 306, 316
<i>Avrainvillea mazei</i> Murray & Boodle, 1889	sft	int-subt	Carib, GMx, India, Micronesia	se	306
<i>Avrainvillea nigricans</i> Decaisne, 1842	sft	int-subt	FL, Carib, GMx, Bermuda, Brazil, W Afr, Seychelles, SW & SE Asia, Japan, trop Pac Isls	ne, sw, se	60, 67, 83, 145, 174, 193, 251, 306
<i>Avrainvillea rawsonii</i> (Dickie) M. Howe, 1907	sft	shw-subt	Carib, GMx, Madagascar	ne, sw, se	60, 83, 306, 317
<i>Avrainvillea silvana</i> D. & M. Littler, 1992	sft	shw-subt	Carib, GMx	se	306
<i>Boodleopsis pusilla</i> (Collins) W. R. Taylor, Joly & Bernatowicz, 1953	epi	int-subt	FL to NC, Carib, GMx, Brazil, W Afr, Indian Oc Isls, SW Asia, Japan, N Aust	se	60, 66, 67, 83, 306

(continued)

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Cladocephalus luteofuscus</i> (P. & H. Crouan) Børgesen, 1909	sft	shw-subt	Carib, GMx, Seychelles	ne, se	60, 83, 306, 316, 317
<i>Penicillus capitatus</i> Lamarck, 1813	sft	int-subt	FL, Carib, GMx, S Eur, Atl Isls, Brazil, N Afr, SW Asia	ne, sw, se	60, 66, 83, 142, 156, 158, 251, 306, 317
<i>Penicillus dumetosus</i> (Lamouroux) Blainville, 1830	sft	int-subt	FL, Carib, GMx	sw, se	38, 60, 66, 83, 306, 316, 317
<i>Penicillus lamourouxii</i> Decaisne, 1842	sft	int-subt	FL, Carib, GMx	ne, se	66, 83, 156, 306
<i>Penicillus pyriformis</i> A. & E. Gepp, 1905	sft	int-subt	FL, Carib, GMx	se	66, 83, 142, 306
<i>Rhipilia tomentosa</i> Kützting, 1858	sft	shw-subt	Carib, GMx, Canary Isls, Brazil, Seychelles, Micronesia	ne, se	60, 83, 306
<i>Rhipocephalus oblongus</i> (Decaisne) Kützting, 1849	sft	int-subt	FL, Carib, GMx	ne, se	83, 251, 306, 316
<i>Rhipocephalus phoenix</i> (Ellis & Solander) Kützting, 1843	sft	int-subt	FL, Carib, GMx	ne, sw, se	60, 67, 140, 145, 158, 174, 251, 306, 316
<i>Udotea abbottiorum</i> D. & M. Littler, 1990	sft	shw-subt	Carib, GMx	se	306
<i>Udotea caribaea</i> D. & M. Littler, 1990	sft	shw-subt	Carib, GMx, India	se	306
<i>Udotea conglutinata</i> (Ellis & Solander) Lamouroux, 1816	sft	shw-subt	FL, Carib, GMx, Bermuda, Brazil	ne, se	60, 66, 67, 83, 156, 251, 306, 316
<i>Udotea cyathiformis</i> Decaisne, 1842	sft	shw-subt	FL to NC, Carib, GMx, Bermuda, Brazil	ne, nw, se	83, 87, 174, 259, 306, 316
<i>Udotea dixonii</i> D. & M. Littler, 1990	sft	shw-subt	Carib, GMx	se	306
<i>Udotea dotyi</i> D. & M. Littler, 1990	sft	int-subt	Carib, GMx	se	306
<i>Udotea flabellum</i> (Ellis & Solander) Howe, 1904	sft	int-subt	FL to NC, Carib, GMx, Atl Isls, Brazil, W Afr, Seychelles, SW & SE Asia, N & W Aust	entire	38, 54, 60, 66, 67, 83, 87, 156, 174, 191, 251, 259, 306, 317
<i>Udotea goreauii</i> D. & M. Littler, 1990	sft	subt	Carib, GMx	se	306
<i>Udotea luna</i> D. & M. Littler, 1990	sft	int-subt	Carib, GMx	se	306
<i>Udotea norrisii</i> D. & M. Littler, 1990	sft	int-subt	Carib, GMx, Bermuda	se	306
<i>Udotea occidentalis</i> A. & E. Gepp, 1911	sft	shw-subt	FL, Carib, GMx, Bermuda, Brazil, Philippines	sw, se	83, 174, 306
<i>Udotea spinulosa</i> M. Howe, 1909	sft	shw-subt	FL, Carib, GMx, Seychelles	ne, sw, se	60, 83, 174, 251, 306
<i>Udotea unistratea</i> D. & M. Littler, 1990	sft	shw-subt	Carib, GMx	sw, se	38, 306
<i>Udotea wilsonii</i> A. & E. Gepp & Howe, 1911	sft	shw-subt	FL, Carib, GMx, Bermuda, Mozambique	se	83, 306, 316
Family: Dasycladaceae					
<i>Batophora occidentalis</i> (Harvey) Berger & Kaever ex Wynne, 1998	epi	int-subt	Carib, GMx	nw, se	306, 320

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Batophora oerstedii</i> J. Agardh, 1854	hsb	int-subt	FL, Carib, GMx, Bermuda	nw, se	60, 67, 83, 156, 158, 185, 306, 316
<i>Cymopolia barbata</i> (Linnaeus) Lamouroux, 1816	hsb	int-subt	FL, Carib, GMx, Bermuda, Canary Isls	ne, se	60, 66, 83, 140, 158, 306, 316
<i>Dasycladus vermicularis</i> (Scopoli) Krasser, 1898	hsb	int-subt	FL, Carib, GMx, S Eur, Atl Isls, Brazil, N Afr, SW Asia, Japan	ne, se	60, 83, 156, 306, 316
<i>Neomeris annulata</i> Dickie, 1874	hsb	int-subt	FL, Carib, GMx, Egypt, E Afr, Indian Oc Isls, SW & SE India, China, Japan, PNG, N Aust, trop Pac Isls	ne, sw, se	60, 66, 83, 142, 145, 174, 306, 316
<i>Neomeris cokeri</i> M. Howe, 1904	hsb	int-subt	Carib, GMx	se	306
<i>Neomeris dumetosa</i> Lamouroux, 1816	hsb	int-subt	Carib, GMx, W & S Afr, Indian Oc Isls, SW & SE Asia, PNG, trop Pac Isls	se	83, 306
<i>Neomeris mucosa</i> M. Howe, 1909	hsb	int-subt	Carib, GMx, Atl Isls, Indian Oc Isls, Japan, trop Pac Isls	se	83, 306
Family: Polyphysaceae					
<i>Acetabularia calyculus</i> Lamouroux in Quoy & Gaimard, 1824	hsb	int-subt	Carib, GMx, Balearic Isls, Spain, Canary Isls, Brazil, Egypt, W & S Afr, Indian Oc Isls, SW & SE Asia, China, Japan, Aust, Fiji	se	306
<i>Acetabularia crenulata</i> Lamouroux, 1816	epi, hsb	int-subt	FL, Carib, GMx, Bermuda, Andaman Isls, SW Asia, N Aust	ne, nw, se	66, 82, 83, 85, 86, 156, 158, 251, 306, 316, 320
<i>Acetabularia farlowii</i> Solms-Laubach, 1895	epi	int-subt	FL, Carib, GMx	nw, se	82, 83, 156, 158, 185, 306, 316
<i>Acetabularia myriospora</i> Joly & Cordeiro-Marino, 1965	hsb	shw-subt	Carib, GMx	se	306
<i>Acetabularia schenckii</i> Möbius, 1889	epi, hsb	shw-subt	Carib, GMx, Brazil	entire	38, 145, 156, 158, 185, 306, 316, 320,
<i>Chalmasia antillana</i> Solms-Laubach, 1895	hsb	int-subt	FL, Carib, GMx	se	83, 316
<i>Parvocaulis parvula</i> (Solms-Laubach) Berger et al., 2003	hsb	int-subt	Carib, GMx, Atl Isls, Turkey, S Eur, Pac Mex, N, W, & S Afr, Indian Oc Isls, SW & SE Asia, China, Japan, New Zeal, trop Pac Isls	se	306
<i>Parvocaulis polyphysoides</i> (P. & H. Crouan) Berger et al., 2003	hsb	int-subt	Carib, GMx, Atl Isls, N & W Afr, Indian Oc Isls, SW & SE Asia, Japan, N Aust	se	306
<i>Parvocaulis pusillus</i> (P. & H. Crouan) Berger et al., 2003	hsb	int-subt	FL, Carib, GMx, Liberia, Indian Oc Isls, Japan, SE Asia	ne, se	83, 158, 306, 316
Class: Phaeophyceae					
Family: Acinetosporaceae					
<i>Acinetospora crinita</i> (Carmichael ex Harvey in Hooker) Kornmann, 1953	epi, hsb	shw-subt	NC, Carib, GMx, Atl Isls, Eur, Chile, N & S Afr, SW Asia, Japan, Korea, S Aust	ne, nw, sw	82, 83, 158, 174, 267

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Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Feldmannia indica</i> (Sonder) Womersley et Bailey, 1970	epi, hsb	shw-subt	FL to VA, Carib, GMx, Egypt, Afr, Pac Mex, Atl Isls, China, Japan, Chile, Korea, Indian Oc Isls, SW & SE Asia, New Zeal, N & W Aust, trop Pac Isls	entire	85, 86, 148, 158, 207, 242, 251, 267, 268, 306, 320
<i>Feldmannia irregularis</i> (Kützing) Hamel, 1939	hsb	shw-subt	GMx, Eur, Brazil, Mauritius	sw, se	235, 267, 268, 306
<i>Feldmannia padinae</i> (Buffham) Hamel, 1939	epi	shw-subt	GMx, Eur, Azores, Andaman Isls, India		267
<i>Hincksia mitchelliae</i> (Harvey) Silva in Silva et al., 1987	epi, hsb, or	shw-subt	FL to MA, CA, Carib, GMx, Atl Isls, Eur, Brazil, Mauritius, W S Am, Uruguay, Afr, China, Japan, Korea, Taiwan, SE & SW Asia, Indian Oc Isls, trop Pac Isls	entire	19, 79, 85, 108, 148, 158, 185, 206, 207, 209, 219, 241, 242, 263, 267, 306, 320
<i>Hincksia rallsiae</i> (Vickers) Silva in Silva et al., 1987	epi, hsb, or	shw-subt	FL, Carib, GMx, Atl Isls, Afr, SW Asia	nw, sw	85, 86, 108, 144, 158, 207, 208, 209, 267, 320
<i>Kuetzingiella elachistaeformis</i> (Heydrich) M. Balakrishnan & Kinkar, 1981	epi, hsb	shw-subt	VA, Carib, GMx, Egypt, Israel, N Aust, PNG	nw, sw, se	259, 45, 108, 144, 145, 146, 148, 158, 174, 242, 267, 268, 306
Family: Ectocarpaceae					
<i>Asteronema breviararticulatum</i> (J. Agardh) Ouriques & Bouzon, 2000	epi, hsb	shw-subt	FL, Carib, HI, GMx, Pac Mex, Atl Isls, Brazil, Afr, China, PNG, N Aust, trop Pac Isls, Japan, Taiwan, Indian Oc Isls, SE & SW Asia	sw, se	148, 174, 242, 263, 266, 267, 268, 306
<i>Asteronema rhodoortonoides</i> (Børgesen) D. Müller ex Parodi, 1994	hsb	shw-subt	HI, Carib, GMx, Atl Isls, Afr, SW Asia, N Aust, Nicobar Isls	sw, se	108, 148, 242, 263, 306
<i>Bachelotia antillarum</i> (Grunow) Gerloff, 1959	epi, hsb	shw-subt	FL to NC, HI, Carib, GMx, Eur, Atl Isls, Brazil, Guyana, Afr, Chile, India, Japan, New Zeal, N & S Aust, trop Pac Isls, Antarctica	nw, se	82, 83, 158, 185, 267, 306, 320
<i>Ectocarpus rallsiae</i> Vickers, 1905	epi	shw-subt	Carib, GMx, Canary Isls	ne, nw, se	19, 85, 86, 158, 185, 306
<i>Ectocarpus siliculosus</i> (Dillwyn) Lyngbye, 1819	epi, or	shw-subt	FL to Arctic Canada, CA to AK, Carib, GMx, Eur, Atl Isls, S Am, Afr, Andaman Isls, SW & SE Asia, China, Japan, Korea, N & W Aust, New Zeal, Antarctic & Subantarctic Isls	nw, sw, se	85, 86, 148, 185, 241, 267, 268, 306, 320
<i>Ectocarpus variabilis</i> Vickers, 1905	epi, hsb	shw-subt	Carib, GMx, France, Maldives, Malaysia	sw	158, 174, 267
<i>Herponema tortugense</i> (W. R. Taylor) W. R. Taylor, 1960	epi	shw-subt	FL, GMx	se	306, 316

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Spongonema tomentosum</i> (Hudson) Kützting, 1849	hsb	shw-subt	CA to AK, Carib, GMx, Eur, Atl Isls, Chile, W Afr, Japan, Fuegia	se	306
<i>Streblonema oligosporum</i> Strömfelt, 1884	epi, hsb	shw-subt	NC to ME, GMx, Adriatic, Baltic, & Black Seas, Britain, Romania	nw	85, 86, 320
Family: Ralfsiaceae					
<i>Ralfsia expansa</i> (J. Agardh) J. Agardh, 1848	epi, hsb	shw-subt	FL, HI, Carib, GMx, Atl Isls, Brazil, Spain, Afr, SW & SE Asia, Japan, N Aust, trop Pac Isls	sw, se	174, 267, 306
Family: Sphacelariaceae					
<i>Sphacelaria brachygona</i> Montagne, 1843	hsb	shw-subt	Carib, GMx, S Eur, Cape Verde Isls, Brazil, N, W, & S Afr, S Aust	sw	148
<i>Sphacelaria fusca</i> (Hudson) S. Gray, 1821	epi, hsb	shw-subt	VA to ME, Carib, GMx, Eur, W & N Afr, China, Korea, Indonesia, S & W Aust	sw	174
<i>Sphacelaria novae-hollandiae</i> Sonder, 1845	hsb	shw-subt	FL, Carib, GMx, Atl Isls, Indian Oc Isls, Chile, E & S Afr, SW & SE Asia, China, N & W Aust, trop Pac Isls	sw, se	144, 267, 306
<i>Sphacelaria rigidula</i> Kützting, 1843	epi, hsb	shw-subt	FL to NC, CA to AK, HI, Carib, GMx, Eur, Atl Isls, Afr, Indian Oc Isls, SW & SE Asia, China, Japan, Korea, S & W Aust, trop Pac Isls, Brazil, Antarctica, Chile	entire	19, 83, 96, 174, 219, 221, 241, 251, 259, 267, 306, 329
<i>Sphacelaria tribuloides</i> Meneghini, 1840	epi, hsb	shw-subt	FL to NC, Carib, HI, GMx, Eur, Atl Isls, Brazil, Afr, Indian Oc Isls, SW & SE Asia, China, Japan, Korea, Aust, New Zeal, trop Pac Isls	entire	19, 45, 96, 144, 145, 148, 158, 174, 213, 219, 221, 267, 268, 306
Family: Dictyotaceae					
<i>Dictyopteris delicatula</i> Lamouroux, 1809	epi, hsb	shw-subt	FL to SC, Carib, GMx, Brazil, Atl Isls, Chile, Afr, Indian Oc Isls, SW & SE Asia, W & N Aust, trop Pac Isls	entire	82, 83, 79, 108, 158, 174, 206, 207, 209, 219, 241, 251, 253, 259, 267, 268, 306, 316
<i>Dictyopteris jamaicensis</i> W. R. Taylor, 1960	hsb	shw-subt	Carib, GMx, Brazil, Philippines, Indonesia	sw	38, 148, 263
<i>Dictyopteris justii</i> Lamouroux, 1809	hsb	shw-subt	FL, Carib, GMx, Bermuda, Brazil	nw, sw, se	83, 87, 108, 148, 259, 263, 306
<i>Dictyopteris plagiogramma</i> (Montagne) Vickers, 1905	hsb	int-subt	FL, HI, Carib, GMx, Brazil, Bermuda, Madagascar, Seychelles, Japan, W Aust, trop Pac Isls	sw, se	82, 83, 148, 306
<i>Dictyopteris polypodioides</i> (De Candolle) Lamouroux, 1809	hsb	sh-subt	FL to NC, Carib, GMx, Eur, Atl Isls, Afr, Indian Oc Isls, SW Asia, Japan, Brazil	nw, sw, se	60, 67, 83, 148, 306

(continued)

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Dictyota bartayresiana</i> Lamouroux, 1809	epi, hsb	int-subt	FL, Carib, GMx, Atl Isls, Brazil, Afr, Indian Oc Isls, SW & SE Asia, Japan, Taiwan, China, New Zeal, N & W Aust, trop Pac Isls	nw, sw, se	69, 83, 87, 142, 145, 148, 158, 174, 186, 213, 219, 241, 242, 259, 267, 306
<i>Dictyota caribaea</i> Hörnig & Schnetter, 1992	hsb	int-subt	FL, Carib, GMx	se	306
<i>Dictyota cervicornis</i> Kützinger, 1859	epi, hsb	int-subt	FL, Carib, GMx	entire	38, 45, 68, 69, 96, 144, 148, 158, 174, 186, 202, 213, 251, 267, 287, 306, 325
<i>Dictyota ciliolata</i> Sonder ex Kützinger, 1859	hsb	int-subt	FL to NC, HI, Carib, GMx, Atl Isls, Brazil, Afr, Réunion I, SW & SE Asia, N & W Aust, trop Pac Isls, Japan, Korea	sw, se	69, 158, 206, 242, 263, 267, 306
<i>Dictyota crenulata</i> J. Agardh, 1847	hsb	shw-subt	FL, Carib, GMx, Atl Isls, GoCA, Chile, W Afr, SW & SE Asia, trop Pac Isls, Brazil	sw, se	69, 144, 148, 306
<i>Dictyota divaricata</i> Lamouroux, 1809	epi, hsb	int-subt	FL, Carib, GMx, Atl Isls, Pac Mex, Brazil, W & E Afr, Indian Oc Isls, Asia, trop Pac Isls	nw, sw	45, 142, 144, 145, 148, 158, 174, 186, 219, 259
<i>Dictyota friabilis</i> Setchell, 1926	hsb	shw-subt	Carib, GMx, Indian Oc Isls, Afr, SW & SE Asia, China, Japan, Korea, Taiwan, W Aust, trop Pac Isls, Atl Isls, Brazil, PNG	nw	28, 96, 285
<i>Dictyota guineensis</i> (Kützinger) P. & H. Crouan in Mazé & Schramm, 1878	epi, hsb	int-subt	FL, Carib, GMx, Madeira, W Afr, Brazil	sw, se	69, 83, 148, 174, 219, 267, 306
<i>Dictyota linearis</i> (C. Agardh) Greville, 1830	epi, hsb	int-subt	FL, Carib, GMx, Eur, Atl Isls, N, E, & S Afr, SW & SE Asia, China, Japan, Korea, Taiwan	nw	83, 140, 145, 148, 186, 174, 177, 259, 267
<i>Dictyota menstrualis</i> (Hoyt) Schnetter, Hörning, & Weber-Peukert, 1987	dft, epi, hsb	shw-subt	FL to SC, Carib, GMx, Atl Isls, Brazil	entire	58, 69, 86, 87, 96, 140, 142, 144, 148, 158, 167, 168, 174, 206, 208, 209, 253, 259, 263, 267, 268, 306, 320, 329
<i>Dictyota mertensii</i> (Martus) Kützinger, 1859	hsb	shw-subt	FL, Carib, GMx, Atl Isls, Brazil, W Afr, SE & SW Asia, Japan, Fiji	sw, se	148, 174, 266, 306
<i>Dictyota pinnatifida</i> Kützinger, 1859	hsb	shw-subt	FL, Carib, GMx, Atl Isls, Brazil, Indian Oc Isls, SW Asia, trop Pac Isls	ne, sw, se	251, 263, 306
<i>Dictyota pulchella</i> Hörnig & Schnetter, 1988	hsb	shw-subt	FL to NC, Carib, GMx, Atl Isls	entire	38, 87, 96, 138, 167, 251, 306
<i>Lobophora variegata</i> (Lamouroux) Womersley ex Oliveira, 1977	hsb	int-shw	FL to NC, Carib, GMx, Atl Isls, Brazil, SW & SE Asia, trop Pac Isls, Afr, S Eur, Pac Mex, Ecuador, Galápagos Isls, Chile, Indian Oc Isls, Japan, Taiwan, N & W Aust	nw, sw	87, 96, 108, 142, 148, 167, 186, 259, 306
<i>Padina boergesenii</i> Allender & Kraft, 1983	hsb	shw	FL, Carib, GMx, Atl Isls, N & S Afr, SW & SE Asia, W Aust, trop Pac Isls	sw, se	45, 46, 83, 145, 148, 158, 213, 219, 235, 242, 243, 263, 267, 268, 306

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Padina gymnospora</i> (Kützting) Sonder, 1871	dft, hsb	int-subt	FL to NC, Carib, GMx, Atl Isls, Afr, Indian Oc Isls, SE & SW Asia, China, Japan, Korea, Taiwan, N & W Aust, Brazil, trop Pac Isls	entire	38, 58, 69, 85, 86, 144, 148, 158, 168, 174, 185, 186, 206, 207, 209, 219, 242, 251, 263, 267, 306, 320
<i>Padina haitiensis</i> Thivy in W. R. Taylor, 1960	hsb	shw	Carib, GMx	sw, se	69, 306
<i>Padina pavonica</i> (Linnaeus) Thivy in W. R. Taylor, 1960	hsb	int-shw	Carib, GMx, Atl Isls, Eur, Brazil, Afr, Indian Oc Isls, SW & SE Asia, trop Pac Isls, Chile, W & N Aust	sw, se	38, 46, 69, 144, 145, 148, 253, 267, 306
<i>Padina perindusiata</i> Thivy in W. R. Taylor, 1960	hsb	int-shw	Carib, GMx	sw, se	69, 306
<i>Padina sanctae-crucis</i> Børgesen, 1914	hsb	int-shw	FL, HI, Carib, GMx, Bermuda, Brazil, SW & SE Asia, S & W Aust, trop Pac Isls, Japan	nw, sw, se	83, 96, 144, 148, 158, 167, 174, 261, 263, 267, 306
<i>Spatoglossum schroederi</i> (C. Agardh) Kützting, 1859	hsb, sft	shw-subt	FL, Carib, GMx, Brazil, Afr, Atl Isls, SW Asia, Micronesia	entire	69, 83, 87, 108, 141, 148, 158, 207, 208, 209, 219, 251, 259, 261, 267, 268
<i>Styopodium zonale</i> (Lamouroux) Papenfuss, 1940	hsb	int-subt	FL, Carib, GMx, Atl Isls, Eur, Brazil, SW & SE Asia, Japan, Galápagos Isls, Afr, Micronesia, N Aust	nw, sw, se	69, 87, 148, 174, 206, 259, 261, 267
<i>Zonaria tournefortii</i> (Lamouroux) Montagne, 1846	hsb	shw	NC to SC, Carib, GMx, Eur, N & S Afr, Atl Isls, Brazil	sw	174
Family: Chordariaceae					
<i>Asperococcus fistulosus</i> (Hudson) Hooker, 1833	hsb	shw	NC to Arctic Canada, Carib, GMx, Eur, Atl Isls, S Aust	ne	82, 83
<i>Cladosiphon occidentalis</i> Kylin, 1940	epi	int-shw	FL, Carib, GMx, Atl Isls, Tanzania, Kuwait	entire	19, 67, 82, 83, 84, 85, 153, 155, 185, 186, 306, 320
<i>Cladosiphon zosterae</i> (J. Agardh) Kylin, 1907	epi	int-subt	FL to E Canada, Carib, GMx, Eur, Atl Isls, Chile, Fuegia, Tanzania, Kuwait	ne, sw	82, 83, 144, 158, 219, 251
<i>Hummia onusta</i> (Kützting) Fiore, 1975	epi, hsb, or	shw	VA to MA, Carib, GMx	entire	19, 85, 86, 148, 158, 185, 241, 306, 320
<i>Myrionema magnusii</i> (Sauvageau) Loiseaux, 1967	hsb	shw-subt	NC to VA, CA, Carib, GMx, Eur, S Afr, Atl Isls	ne	19, 82, 83
<i>Nemacystus howei</i> (W. R. Taylor) Kylin, 1940	epi	shw-subt	FL to NC, Carib, GMx, Atl Isls	ne	251
Family: Scytosiphonaceae					
<i>Chnoospora minima</i> (Hering) Papenfuss, 1956	hsb	int-shw	FL, Carib, GMx, GoCA, Eur, Atl Isls, Brazil, Chile, Afr, SW & SE Asia, China, Japan, Pacific Isls, New Zeal, N Aust, Indian Oc Isls, trop Pac Isls	sw, se	67, 83, 145, 267, 268, 306
<i>Colpomenia sinuosa</i> (Mertens ex Roth) Derbès & Solier, 1851	epi, hsb	int-shw	FL to GA, Pac Mex to CA, GoCA, Carib, GMx, Eur, Atl Isls, S Am, Afr, Indian Oc Isls, SE & SW Asia, China, Japan, Korea, Taiwan, Aust, New Zeal, trop Pac Isls	sw, se	45, 67, 69, 82, 83, 140, 141, 144, 145, 148, 158, 174, 209, 219, 253, 263, 267, 306

(continued)

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Hydroclathrus clathratus</i> (C. Agardh) Howe, 1920	epi, hsb	int–shw	FL, CA, GoCA, Carib, GMx, Eur, Atl Isls, Brazil, Chile, Afr, Indian Oc Isls, Aust, New Zeal, SW & SE Asia, trop Pac Isls	sw, se	45, 69, 83, 140, 141, 144, 145, 158, 174, 186, 263, 306
<i>Petalonia fascia</i> (O. F. Müller) Kuntze, 1898	hsb	int–shw	FL to E Canada, Pac Mex to Arctic Canada, Carib, GMx, Eur, Atl Isls, Afr, Brazil, SW Asia, China, Commander Isls, Korea, Japan, New Zeal, Aust	nw, sw	85, 86, 158, 185, 206, 207, 209, 320
<i>Rosenvingea intricata</i> (J. Agardh) Børgesen, 1914	hsb	shw–subt	FL, Carib, GMx, Atl Isls, Pac Mex, Brazil, Afr, Indian Oc Isls, SW & SE Asia, China, Japan, Vietnam, N & W Aust, trop Pac Isls	nw, sw, se	96, 158, 206, 241, 267, 301, 306, 338
<i>Rosenvingea sanctae-crucis</i> Børgesen, 1914	hsb	shw–int	FL, Carib, GMx, Canary Isls, Brazil, NC, SW Asia	se	306
<i>Scytosiphon lomentaria</i> (Lyngbye) Link, 1833	hsb	shw–int	FL to Arctic Canada, Pac Mex to AK, Carib, GMx, Atl Isls, S Am, Afr, St. Paul I, SW Asia, China, Japan, Korea, Commander Isls, Antarctica, Subantarctic Isls, New Zeal, Aust	sw	147
Family: Sporochneaceae					
<i>Nereia filiformis</i> (J. Agardh) Zanardini, 1846	hsb	shw–subt	FL, Carib, GMx, Atl Isls, N Afr, SW Asia	se	306
<i>Sporochnus bolleanus</i> Montagne, 1842	hsb	shw–subt	FL, Carib, GMx, Atl Isls, Brazil, Galápagos Isls, Mauritania	se	306
<i>Sporochnus pedunculatus</i> (Hudson) C. Agardh, 1817	hsb	shw–subt	FL to NC, CA, Carib, GMx, Eur, Atl Isls, Brazil, N & S Afr, Oman	sw	83, 148, 174
Family: Cystoseiraceae					
<i>Cystoseira myrica</i> (S. G. Gmelin) C. Agardh, 1820	hsb	shw–subt	FL, Carib, GMx, Atl Isls, Indian Oc Isls	ne, se	82, 83, 306
Family: Sargassaceae					
<i>Sargassum acinarium</i> (Linnaeus) Setchell, 1933	hsb	shw–subt	FL, Carib, GMx, Atl Isls, Eur, N, W, & E Afr, Chile, SW India	nw, sw, se	206, 306, 316
<i>Sargassum bermudense</i> Grunow, 1916	hsb	shw	Carib, GMx, Bermuda	se	306
<i>Sargassum brevipes</i> Kützting, 1861	hsb	shw	Carib, GMx	sw	243
<i>Sargassum buxifolium</i> (Chauvin ex J. Agardh) Moreira & Cabrera, 2005	hsb	shw	FL to MA, Carib, GMx, Brazil	se	306
<i>Sargassum cymosum</i> C. Agardh, 1820	hsb	subt	FL, Carib, GMx, Brazil, W Afr, Atl Isls, Andaman Isls, SW & SE Asia	sw, se	69, 306
<i>Sargassum filipendula</i> C. Agardh, 1824	pel	osp	FL to MA, Carib, GMx, Atl Isls, Brazil, W Afr, SW & SE Asia	sw, se	69, 108, 140, 141, 208, 209, 267, 241, 306, 316, 317

Checklist of seaweeds (Rhodophyta, Chlorophyta, Phaeophyceae) from the Gulf of Mexico. (continued)

Taxon	Habitat-Biology	Depth	Overall geographic range	GMx range	References/Endnotes
<i>Sargassum fluitans</i> (Børgesen) Børgesen, 1914	pel, hsb	osp	FL to MA, Carib, GMx, Bermuda, Sargasso Sea, SW Asia	entire	69, 83, 85, 96, 144, 148, 174, 177, 185, 186, 206, 207, 251, 306, 320, 329
<i>Sargassum furcatum</i> Kützing, 1843	hsb	shw	FL, Carib, GMx, Atl Isls, Brazil, Philippines	sw, se	148, 306
<i>Sargassum hystrix</i> J. Agardh, 1847	hsb	shw-subt	FL, Carib, GMx, Bermuda, Brazil, W Afr	entire	69, 140, 141, 144, 158, 174, 251, 259, 306
<i>Sargassum natans</i> (Linnaeus) Gaillon, 1828	pel, hsb	osp, subt	FL to E Canada, Carib, GMx, Atl Isls, W & E Afr, Brazil, SW & SE Asia, Indonesia, N Aust, Portugal	nw, sw, se	69, 85, 96, 140, 141, 144, 148, 158, 167, 174, 186, 207, 306, 320, 329
<i>Sargassum platycarpum</i> Montagne, 1837	hsb	shw-subt	Carib, GMx, Atl Isls, Brazil	se	306
<i>Sargassum polyceratium</i> Montagne, 1837	hsb	shw-subt	FL, Carib, GMx, Brazil, Philippines	sw, se	69, 142, 145, 148, 158, 174, 306
<i>Sargassum pteropleuron</i> Grunow, 1867	hsb	shw-subt	FL, Carib, GMx, Bermuda, Philippines	nw, se	306, 316
<i>Sargassum pusillum</i> W. R. Taylor, 1975	hsb	shw-subt	Carib, GMx	se	306
<i>Sargassum ramifolium</i> Kützing, 1861	hsb	shw	Carib, GMx, Canary Isls, Brazil, W Afr	se	306
<i>Sargassum rigidulum</i> Kützing, 1849	hsb	shw	Carib, GMx, Atl Isls, Brazil	se	306
<i>Sargassum vulgare</i> C. Agardh, 1820 (nom. illeg.)	hsb	shw	FL, Carib, GMx, Atl Isls, Eur, Afr, Indian Oc Isls, SW & SE Asia, Brazil	ne, sw, se	38, 69, 148, 177, 206, 241, 251, 266, 267, 268
<i>Turbinaria tricostata</i> Barton, 1891	hsb	shw-subt	Carib, GMx, Bermuda	sw, se	148, 174, 177, 306
<i>Turbinaria turbinata</i> (Linnaeus) Kuntze, 1898	hsb	shw-subt	FL, Carib, GMx, Indian Oc Isls, Brazil, SW & SE Asia	sw, se	148, 306

List of reported synonymous taxa (taxonomic and/or nomenclature changes) as they apply to the Gulf of Mexico, along with their current species name.

Component subgroups	Reported former name	Current species name
Division: Rhodophyta	<i>Acrochaetium crassipes</i>	= <i>Acrochaetium microscopicum</i>
	<i>Acrochaetium sagraeanum</i>	= <i>Acrochaetium secundatum</i>
	<i>Galaxaura obtusata</i>	= <i>Dichotomaria obtusata</i>
	<i>Acrochaetium sargassi</i>	= <i>Acrochaetium hallandicum</i>
	<i>Acrochaetium seriatum</i>	= <i>Acrochaetium hypneae</i>
	<i>Acrochaetium thuretii</i>	= <i>Acrochaetium savianum</i>
	<i>Acrochaetium trifilum</i>	= <i>Acrochaetium microscopicum</i>
	<i>Acrochaetium virgatulum</i>	= <i>Acrochaetium secundatum</i>
	<i>Agardhiella baileyi</i>	= <i>Agardhiella subulata</i>
	<i>Agardhiella tenera</i>	= <i>Agardhiella subulata</i>
	<i>Aglaothamnion pseudobyssoides</i>	= <i>Aglaothamnion halliae</i>
	<i>Amphiroa rigida</i> var. <i>antillana</i>	= <i>Amphiroa rigida</i>
	<i>Antithamnion lherminieri</i>	= <i>Antithamnion antillanum</i>
	<i>Asterocystis ornata</i>	= <i>Chroodactylon ornatum</i>
	<i>Asterocystis ramosa</i>	= <i>Chroodactylon ornatum</i>
	<i>Audouinella affinis</i>	= <i>Acrochaetium affine</i>
	<i>Audouinella antillarum</i>	= <i>Acrochaetium antillarum</i>
	<i>Audouinella bispora</i>	= <i>Acrochaetium bisporum</i>
	<i>Audouinella crassipes</i>	= <i>Acrochaetium microscopicum</i>
	<i>Audouinella flexuosa</i>	= <i>Acrochaetium flexuosum</i>
	<i>Audouinella hoytii</i>	= <i>Acrochaetium hoytii</i>
	<i>Audouinella hypneae</i>	= <i>Acrochaetium hypneae</i>
	<i>Audouinella microscopica</i>	= <i>Acrochaetium microscopicum</i>
	<i>Audouinella pulchella</i>	= <i>Acrochaetium pulchellum</i>
	<i>Audouinella robusta</i>	= <i>Acrochaetium robustum</i>
	<i>Audouinella secundata</i>	= <i>Acrochaetium secundatum</i>
	<i>Audouinella virgulata</i>	= <i>Acrochaetium secundatum</i>
	<i>Bangia atropurpurea</i>	= <i>Bangia fuscopurpurea</i>
	<i>Bostrychia binderi</i>	= <i>Bostrychia tenella</i>
	<i>Bostrychia pinnata</i>	= <i>Bostrychia calliptera</i>
	<i>Bostrychia rivularis</i>	= <i>Bostrychia tenella</i>
	<i>Brongniartella mucronata</i>	= <i>Micropeuce mucronata</i>
	<i>Calaconema secundatum</i>	= <i>Acrochaetium secundatum</i>
	<i>Callithamnion byssoides</i>	= <i>Aglaothamnion halliae</i>
	<i>Callithamnion cordatum</i>	= <i>Aglaothamnion cordatum</i>
	<i>Callithamnion halliae</i>	= <i>Aglaothamnion halliae</i>
	<i>Callithamnion herveyi</i>	= <i>Aglaothamnion herveyi</i>
	<i>Callithamnion pseudobyssoides</i>	= <i>Aglaothamnion halliae</i>
	<i>Callithamnion roseum</i>	= <i>Aglaothamnion roseum</i>
	<i>Catenella repens</i>	= <i>Catenella caespitosa</i>
	<i>Centroceras clavulatum</i>	= <i>Centroceras</i> sp.
	<i>Ceramium byssoideum</i>	= <i>Ceramium flaccidum</i>
	<i>Ceramium fastigiatum</i> f. <i>flaccidum</i>	= <i>Ceramium cimbricum</i>
	<i>Ceramium fastigiatum</i> var. <i>flaccidum</i>	= <i>Ceramium flaccidum</i>
	<i>Ceramium gracillimum</i>	= <i>Ceramium flaccidum</i>
	<i>Ceramium rubrum</i>	= <i>Ceramium virgatum</i>
	<i>Ceramium strictum</i>	= <i>Ceramium deslongchampsii</i>
	<i>Ceramium tenuissimum</i>	= <i>Ceramium diaphanum</i>
	<i>Ceramium vagabundum</i>	= <i>Ceramium vagans</i>
	<i>Chantransia flexuosa</i>	= <i>Acrochaetium flexuosum</i>
	<i>Chondria tenuissima</i>	= <i>Chondria capillaris</i>
	<i>Coelarthrum albertesii</i>	= <i>Coelarthrum cliftonii</i>
<i>Corallina cubense</i>	= <i>Haliptilon cubense</i>	

List of reported synonymous taxa. (continued)

Component subgroups	Reported former name	Current species name
	<i>Corallina subulata</i>	= <i>Haliptilon subulatum</i>
	<i>Cryptopleura fimbriata</i>	= <i>Cryptopleura ramosa</i>
	<i>Cyclospora curtissiae</i>	= <i>Carpoblepharis curtissiae</i>
	<i>Dasya arbuscula</i>	= <i>Dasya hutchinsiae</i>
	<i>Dasya pedicellata</i>	= <i>Dasya baillouviana</i>
	<i>Dasyopsis antillarum</i>	= <i>Dasya antillarum</i>
<i>Dermatolithon pustulatum</i>		= <i>Lithophyllum pustulatum</i>
	<i>Erythrocladia recondita</i>	= <i>Erythrocladia endophloea</i>
	<i>Erythrocladia subintegra</i>	= <i>Sahlingia subintegra</i>
	<i>Erythrocladia vagabunda</i>	= <i>Erythrocladia endophloea</i>
	<i>Erythropeltis subintegra</i>	= <i>Sahlingia subintegra</i>
<i>Eucheuma acanthocladum</i>		= <i>Meristotheca gelidium</i>
<i>Eucheuma echinocarpum</i>		= <i>Meristotheca echinocarpa</i>
	<i>Eucheuma gelidium</i>	= <i>Meristiella gelidium</i>
<i>Eupogodon antillarum</i>		= <i>Dasya antillarum</i>
	<i>Falkenbergia</i> sp.	= <i>Falkenbergia</i> -stage of <i>Asparagopsis taxiformis</i>
	<i>Faucheia peltata</i>	= <i>Asteromenia peltata</i>
	<i>Fosliella affinis</i>	= <i>Neogoniolithon affine</i>
	<i>Fosliella atlantica</i>	= <i>Lithoporella atlantica</i>
	<i>Fosliella farinosa</i>	= <i>Hydrolithon farinosum</i>
	<i>Fosliella lejolisii</i>	= <i>Pneophyllum fragile</i>
	<i>Galaxaura cylindrica</i>	= <i>Tricleocarpa cylindrica</i>
	<i>Galaxaura fragilis</i>	= <i>Tricleocarpa fragilis</i>
	<i>Galaxaura marginata</i>	= <i>Dichotomaria marginata</i>
	<i>Galaxaura oblongata</i>	= <i>Tricleocarpa fragilis</i>
	<i>Galaxaura stellifera</i>	= <i>Tricleocarpa fragilis</i>
<i>Galaxaura subverticillata</i>		= <i>Galaxaura rugosa</i>
	<i>Gelidium corneum</i>	= <i>Gelidium spinosum</i>
	<i>Gelidium rigidum</i>	= <i>Gelidiella acerosa</i>
	<i>Gelidiella pannosa</i>	= <i>Parviphycus tenuissimus</i>
	<i>Gigartina acicularis</i>	= <i>Chondracanthus acicularis</i>
<i>Goniolithon accretum</i>		= <i>Neogoniolithon accretum</i>
	<i>Goniolithon affine</i>	= <i>Neogoniolithon affine</i>
<i>Goniolithon mamillare</i>		= <i>Neogoniolithon mamillare</i>
	<i>Goniolithon solubile</i>	= <i>Neogoniolithon solubile</i>
<i>Goniolithon spectabile</i>		= <i>Neogoniolithon spectabile</i>
	<i>Goniolithon strictum</i>	= <i>Neogoniolithon strictum</i>
<i>Goniothrichum alsidii</i>		= <i>Stylonema alsidii</i>
	<i>Gracilaria armata</i>	= <i>Gracilaria apiculata</i>
	<i>Gracilaria armata</i>	= <i>Gracilaria secunda</i>
	<i>Gracilaria caudata</i>	= <i>Hydropuntia caudata</i>
	<i>Gracilaria compressa</i>	= excluded name
<i>Gracilaria confervoides</i>		= excluded name
	<i>Gracilaria cornea</i>	= <i>Hydropuntia cornea</i>
	<i>Gracilaria cylindrica</i>	= <i>Gracilaria blodgettii</i>
	<i>Gracilaria damaecornis</i>	= <i>Hydropuntia cornea</i>
<i>Gracilaria debilis</i> , in part		= <i>Hydropuntia crassissima</i>
	<i>Gracilaria divaricata</i>	= excluded name
	<i>Gracilaria ferox</i>	= <i>Gracilaria cervicornis</i>
	<i>Gracilaria foliifera</i>	= <i>Gracilaria tikvahiae</i>
	<i>Gracilaria lacinulata</i>	= <i>Gracilaria isabellana</i>
	<i>Gracilaria mamillaris</i>	= <i>Gracilaria flabelliformis</i>
	<i>Gracilaria verrucosa</i>	= <i>Gracilaria caudata</i>

(continued)

List of reported synonymous taxa. (continued)

Component subgroups	Reported former name	Current species name
	<i>Gracilaria verrucosa</i>	= <i>Gracilaria secunda</i>
	<i>Gracilariopsis costaricensis</i>	= <i>Gracilariopsis tenuifrons</i>
	<i>Gracilariopsis lemaneiformis</i>	= <i>Gracilariopsis tenuifrons</i>
	<i>Gracilariopsis sjoestedtii</i>	= <i>Gracilariopsis tenuifrons</i>
	<i>Grateloupia filicina</i>	= <i>Grateloupia</i> sp.
	<i>Griffithsia barbata</i>	= <i>Anotrichium barbatum</i>
	<i>Griffithsia tenuis</i>	= <i>Anotrichium tenue</i>
	<i>Halymenia agardhii</i>	= <i>Sebdenia flabellata</i>
	<i>Halymenia ligulata</i>	= <i>Halarachnion ligulata</i>
	<i>Halymenia pseudofloresia</i>	= <i>Halymenia floresia</i>
	<i>Heteroderma lejolisii</i>	= <i>Pneophyllum fragile</i>
	<i>Heterosiphonia wurdemannii</i>	= <i>Heterosiphonia crispella</i>
	<i>Hildenbrandia prototypus</i>	= <i>Hildenbrandia rubra</i>
	<i>Hypnea alopecuroides</i>	= <i>Hypnea musciformis</i>
	<i>Hypnea cervicornis</i>	= <i>Hypnea spinella</i>
	<i>Hypnea cornuta</i>	= <i>Hypnea valentiae</i>
	<i>Kallymenia limminghei</i>	= "Kallymenia limminghei"
	<i>Kylinia crassipes</i>	= <i>Acrochaetium microscopicum</i>
	<i>Kylinia pulchella</i>	= <i>Acrochaetium pulchellum</i>
	<i>Kylinia robusta</i>	= <i>Acrochaetium robustum</i>
	<i>Kylinia secundata</i>	= <i>Acrochaetium secundatum</i>
	<i>Laurencia corallopsis</i>	= <i>Chondrophycus corallopsis</i>
	<i>Laurencia gemmifera</i>	= <i>Chondrophycus gemmifera</i>
	<i>Laurencia papillosa</i>	= <i>Chondrophycus papillosa</i>
	<i>Laurencia poiteaui</i>	= <i>Chondrophycus poiteaui</i>
	<i>Liagora decussata</i>	= <i>Liagora albicans</i>
	<i>Liagora dendroidea</i>	= <i>Ganonema dendroidea</i>
	<i>Liagora elongata</i>	= <i>Ganonema farinosum</i>
	<i>Liagora farinosum</i>	= <i>Ganonema farinosum</i>
	<i>Liagora maxima</i>	= <i>Liagora albicans</i>
	<i>Liagora mucosa</i>	= <i>Ganonema dendroidea</i>
	<i>Liagora pedicellata</i>	= <i>Trichogloeopsis pedicellata</i>
	<i>Liagora pinnata</i>	= <i>Ganonema pinnatum</i>
	<i>Liagora valida</i>	= <i>Titanophycus validus</i>
	<i>Lithophyllum bermudense</i>	= <i>Titanoderma bermudense</i>
	<i>Lithophyllum pustulatum</i>	= <i>Titanoderma pustulatum</i>
	<i>Lithothamnion incertum</i>	= <i>Mesophyllum incertum</i>
	<i>Lithothamnion syntrophicum</i>	= <i>Mesophyllum syntrophicum</i>
	<i>Lomentaria uncinata</i>	= <i>Lomentaria baileyana</i>
	<i>Lophosiphonia saccorhiza</i>	= <i>Polysiphonia saccorhiza</i>
	<i>Lophosiphonia scopulorum</i>	= <i>Polysiphonia scopulorum</i>
	<i>Meristiella gelidium</i>	= <i>Meristotheca gelidium</i>
	<i>Mesothamnion caribaeum</i>	= <i>Pleonosporium caribaeum</i>
	<i>Nemalion multifidum</i>	= <i>Nemalion helminthoides</i>
	<i>Nemalion schrammii</i>	= <i>Liagoropsis schrammii</i>
	<i>Neogoniolithon solubile</i>	= <i>Neogoniolithon fosliei</i>
	<i>Nitophyllum punctatum</i>	= <i>Nitophyllum adhaerens</i>
	<i>Polysiphonia ferulacea</i>	= <i>Neosiphonia ferulacea</i>
	<i>Polysiphonia flaccidissima</i>	= <i>Neosiphonia flaccidissima</i>
	<i>Polysiphonia gorgoniae</i>	= <i>Neosiphonia gorgoniae</i>
	<i>Polysiphonia sertularioides</i>	= <i>Neosiphonia flaccidissima</i>
	<i>Polysiphonia sphaerocarpa</i>	= <i>Neosiphonia sphaerocarpa</i>
	<i>Polysiphonia tepida</i>	= <i>Neosiphonia tepida</i>

List of reported synonymous taxa. (continued)

Component subgroups	Reported former name	Current species name
	<i>Porolithon boergesenii</i>	= <i>Hydrolithon boergesenii</i>
	<i>Porolithon pachydermum</i>	= <i>Hydrolithon pachydermum</i>
	<i>Porphyra atropurpurea</i>	= <i>Porphyra leucosticta</i>
	<i>Prionitis pterocladina</i>	= <i>Grateloupia pterocladina</i>
	<i>Pseudotetraspora antillarum</i>	= <i>Pseudotetraspora marina</i>
	<i>Pterocladia americana</i>	= <i>Gelidium americanum</i>
	<i>Pterocladia bartlettii</i>	= <i>Pterocладиella bartlettii</i>
	<i>Rhabdonia ramosissima</i>	= <i>Agardhiella ramosissima</i>
	<i>Searlesia subtropica</i>	= <i>Polyneura subtropica</i>
	<i>Solieria tenera</i>	= <i>Agardhiella subulata</i>
	<i>Spermothamnion gorgonea</i>	= <i>Tiffaniella gorgonea</i>
	<i>Spermothamnion speluncarum</i>	= <i>Ptilothamnion speluncarum</i>
	<i>Spermothamnion turneri</i>	= <i>Spermothamnion repens</i>
	<i>Spongites absimile</i>	= <i>Lithophyllum absimile</i>
	<i>Spyridia acuelata</i>	= <i>Spyridia hypnoides</i>
	<i>Trichogloea jadinii</i>	= <i>Trichogloea requienii</i>
	<i>Trichogloea papenfussii</i>	= <i>Trichogloea requienii</i>
	<i>Vidalia obtusiloba</i>	= <i>Osmundaria obtusiloba</i>
Division: Chlorophyta	<i>Acetabularia polyphysoides</i>	= <i>Parvocaulis polyphysoides</i>
	<i>Acetabularia pusilla</i>	= <i>Parvocaulis pusilla</i>
	<i>Acicularia schenckii</i>	= <i>Acetabularia schenckii</i>
	<i>Acrochaete viridis</i>	= <i>Entocladia viridis</i>
	<i>Bryobesia cylindricarpa</i>	= <i>Bryobesia johannae</i>
	<i>Bryopsis duchassaigii</i>	= <i>Trichosolen duchassaigii</i>
	<i>Bryopsis pennata</i> var. <i>secunda</i>	= <i>Bryopsis pennata</i>
	<i>Caulerpa ambigua</i>	= <i>Caulerpella ambigua</i>
	<i>Caulerpa crassifolia</i>	= <i>Caulerpa mexicana</i>
	<i>Caulerpa cupressoides</i> var. <i>elegans</i>	= <i>Caulerpa cupressoides</i>
	<i>Caulerpa cupressoides</i> var. <i>flabellata</i>	= <i>Caulerpa cupressoides</i>
	<i>Caulerpa cupressoides</i> var. <i>lycopodium</i>	= <i>Caulerpa cupressoides</i>
	<i>Caulerpa cupressoides</i> var. <i>mamillosa</i>	= <i>Caulerpa cupressoides</i>
	<i>Caulerpa cupressoides</i> var. <i>serrata</i>	= <i>Caulerpa cupressoides</i>
	<i>Caulerpa cupressoides</i> var. <i>turneri</i>	= <i>Caulerpa cupressoides</i>
	<i>Caulerpa fastigiata</i> var. <i>compressa</i>	= <i>Caulerpa paspaloides</i>
	<i>Caulerpa fastigiata</i> var. <i>confervoides</i>	= <i>Caulerpa fastigiata</i>
	<i>Caulerpa fastigiata</i> var. <i>laxa</i>	= <i>Caulerpa paspaloides</i>
	<i>Caulerpa fastigiata</i> var. <i>wurdemannii</i>	= <i>Caulerpa paspaloides</i>
	<i>Caulerpa racemosa</i> var. <i>lamourouxii</i>	= <i>Caulerpa racemosa</i>
	<i>Caulerpa racemosa</i> var. <i>macrophysa</i>	= <i>Caulerpa racemosa</i>
	<i>Caulerpa racemosa</i> var. <i>occidentalis</i>	= <i>Caulerpa racemosa</i>
	<i>Caulerpa racemosa</i> var. <i>peltata</i>	= <i>Caulerpa racemosa</i>
	<i>Caulerpa racemosa</i> var. <i>turbinata</i>	= <i>Caulerpa racemosa</i>
	<i>Caulerpa vickersiae</i>	= <i>Caulerpella ambigua</i>
	<i>Chaetomorpha media</i>	= <i>Chaetomorpha antennina</i>
	<i>Cladophora brachyclados</i>	= <i>Cladophora montagneana</i>
	<i>Cladophora crispata</i>	= <i>Cladophora glomerata</i>
	<i>Cladophora delicatula</i>	= <i>Cladophora montagneana</i>
	<i>Cladophora expansa</i>	= <i>Cladophora vagabunda</i>
	<i>Cladophora fascicularis</i>	= <i>Cladophora vagabunda</i>
	<i>Cladophora fuliginosa</i>	= <i>Cladophora catenata</i>
	<i>Cladophora glaucescens</i>	= <i>Cladophora sericea</i>
	<i>Cladophora glomerata</i> var. <i>crassior</i>	= <i>Cladophora glomerata</i>

(continued)

List of reported synonymous taxa. (continued)

Component subgroups	Reported former name	Current species name
	<i>Cladophora gracilis</i>	= <i>Cladophora ruchingeri</i>
	<i>Cladophora heteronema</i>	= <i>Cladophora laetevirens</i>
	<i>Cladophora luteola</i>	= <i>Cladophora dalmatica</i>
	<i>Cladophora polycantha</i>	= <i>Cladophora montagneana</i>
	<i>Cladophora repens</i>	= <i>Cladophora coelothrix</i>
<i>Codium</i>	<i>interetxum</i> var. <i>clavatum</i>	= <i>Codium isthmocladum</i>
	<i>Cystodictyon pavonium</i>	= <i>Anadyomene pavonina</i>
	<i>Derbesia lamourouxii</i>	= <i>Pedobesia simplex</i>
	<i>Entocladia flustrae</i>	= <i>Acrochaete flustrae</i>
	<i>Entocladia vagans</i>	= <i>Phaeophila vagans</i>
	<i>Enteromorpha clathrata</i>	= <i>Ulva clathrata</i>
<i>Enteromorpha</i>	<i>chaetomorphoides</i>	= <i>Ulva chaetomorphoides</i>
	<i>compressa</i>	= <i>Ulva compressa</i>
	<i>flexuosa</i>	= <i>Ulva flexuosa</i>
	<i>intestinalis</i>	= <i>Ulva intestinalis</i>
	<i>lingulata</i>	= <i>Ulva flexuosa</i>
	<i>Ulva lingulata</i>	= <i>Ulva flexuosa</i>
	<i>Enteromorpha linza</i>	= <i>Ulva linza</i>
	<i>Enteromorpha marginata</i>	= <i>Blidingia marginata</i>
	<i>Enteromorpha minima</i>	= <i>Blidingia minima</i>
	<i>Enteromorpha muscoides</i>	= <i>Ulva clathrata</i>
	<i>Enteromorpha plumosa</i>	= <i>Ulva flexuosa</i>
	<i>Enteromorpha plumosa</i>	= <i>Ulva paradoxa</i>
	<i>Enteromorpha ramulosa</i>	= <i>Ulva muscoides</i>
	<i>Enteromorpha ramulosa</i>	= <i>Ulva clathrata</i>
	<i>Enteromorpha salina</i>	= <i>Ulva prolifera</i>
	<i>Halicystis osterhoutii</i>	= <i>Derbesia osterhoutii</i>
<i>Monostroma</i>	<i>oxyspermum</i>	= <i>Gayralia oxyspermum</i>
	<i>Pedobesia lamourouxii</i>	= <i>Pedobesia simplex</i>
	<i>Protoderma marinum</i>	= <i>Pseudendoclonium marinum</i>
	<i>Pseudocodium</i> sp.	= <i>Pseudocodium floridanum</i>
	<i>Rhizoclonium hookeri</i>	= <i>Rhizoclonium africanum</i>
	<i>Rhizoclonium kernerii</i>	= <i>Rhizoclonium riparium</i>
	<i>Rhizoclonium kochianum</i>	= <i>Rhizoclonium riparium</i>
	<i>Struvea anastomosans</i>	= <i>Phyllodictyon anastomosans</i>
	<i>Struvea pulcherrima</i>	= <i>Phyllodictyon pulcherrimum</i>
	<i>Struvea ramosa</i>	= <i>Phyllodictyon pulcherrimum</i>
<i>Udotea</i>	<i>cyathiformis</i> var. <i>flabellifolia</i>	= <i>Udotea cyathiformis</i>
	<i>Udotea sublittoralis</i>	= <i>Udotea cyathiformis</i>
	<i>Valonia ocellata</i>	= <i>Dictyosphaeria ocellata</i>
	<i>Valonia ventricosa</i>	= <i>Ventricaria ventricosa</i>
Class: Phaeophyceae	<i>Ascocyclus magnusii</i>	= <i>Myrionema magnusii</i>
	<i>Ascocyclus orbicularis</i>	= <i>Myrionema magnusii</i>
	<i>Bachelotia fulvescens</i>	= <i>Bachelotia antillarum</i>
<i>Dictyopteris</i>	<i>membranacea</i>	= <i>Dictyopteris polypodioides</i>
	<i>Dictyota bartayresii</i>	= <i>Dictyota bartayresiana</i>
	<i>Dictyota dentata</i>	= <i>Dictyota mertensii</i>
	<i>Dictyota dichotoma</i>	= <i>Dictyota menstrualis</i>
	<i>Dictyota divaricata</i>	= <i>Dictyota pulchella</i>
	<i>Dictyota jamaicensis</i>	= <i>Dictyota crenulata</i>
	<i>Dictyota pfaffi</i>	= <i>Dictyota friabilis</i>
	<i>Dictyota linearis</i>	= <i>Dictyota pulchella</i>

List of reported synonymous taxa. (continued)

Component subgroups	Reported former name	Current species name
	<i>Dilophus alternans</i>	= <i>Dictyota pinnatifida</i>
	<i>Dilophus guineensis</i>	= <i>Dictyota guineensis</i>
	<i>Ectocarpus breviararticulatus</i>	= <i>Asteronema breviararticulatum</i>
	<i>Ectocarpus elachistaeformis</i>	= <i>Kuetzingiella elachistaeformis</i>
	<i>Ectocarpus mitchelliae</i>	= <i>Hincksia mitchelliae</i>
	<i>Ectocarpus rallsiae</i>	= <i>Hincksia rallsiae</i>
	<i>Ectocarpus rhodochortonoides</i>	= <i>Asteronema rhodochortonoides</i>
	<i>Ectocarpus subcorymbosus</i>	= <i>Hummia onusta</i>
	<i>Eudesme howei</i>	= <i>Nemacystus howei</i>
	<i>Giffordia duchassaigiana</i>	= <i>Feldmannia indica</i>
	<i>Giffordia indica</i>	= <i>Feldmannia indica</i>
	<i>Giffordia mitchelliae</i>	= <i>Hincksia mitchelliae</i>
	<i>Giffordia rallsiae</i>	= <i>Hincksia rallsiae</i>
	<i>Herponema luteolum</i>	= <i>Spongonema tometosum</i>
	<i>Herponema rhodochortonoides</i>	= <i>Asteronema rhodochortonoides</i>
	<i>Hincksia breviararticulata</i>	= <i>Asteronema breviararticulatum</i>
	<i>Myriotrichia subcorymbos</i>	= <i>Hummia onusta</i>
	<i>Padina jamaicensis</i>	= <i>Padina sanctae-crucis</i>
	<i>Padina vickersiae</i>	= <i>Padina gymnospora</i>
	<i>Pockockiella variegata</i>	= <i>Lobophora variegata</i>
	<i>Pylaiella fulvescens</i>	= <i>Bachelotia antillarum</i>
	<i>Pylaiella antillarum</i>	= <i>Bachelotia antillarum</i>
	<i>Sargassum affine</i>	= <i>Sargassum filipendula</i>
	<i>Sargassum cymosum</i> var. <i>lendigerum</i>	= <i>Sargassum cymosum</i>
	<i>Sargassum filipendula</i> var. <i>contractum</i>	= <i>Sargassum filipendula</i>
	<i>Sargassum filipendula</i> var. <i>laxum</i>	= <i>Sargassum filipendula</i>
	<i>Sargassum filipendula</i> var. <i>montagnei</i>	= <i>Sargassum filipendula</i>
	<i>Sargassum filipendula</i> var. <i>pinnatum</i>	= <i>Sargassum filipendula</i>
	<i>Sargassum hystrix</i> var. <i>buxifolium</i>	= <i>Sargassum hystrix</i>
	<i>Sargassum hystrix</i> var. <i>subcristatum</i>	= <i>Sargassum hystrix</i>
	<i>Sargassum lendigerum</i>	= <i>Sargassum cymosum</i>
	<i>Sargassum polyceratium</i> var. <i>ovatum</i>	= <i>Sargassum polyceratium</i>
	<i>Sargassum vulgare</i> var. <i>foliosissimum</i>	= <i>Sargassum vulgare</i>
	<i>Sphacelaria furcigera</i>	= <i>Sphacelaria rigidula</i>
	<i>Stictyosiphon subsimplex</i>	= <i>Hummia onusta</i>