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Marine and inland fishes of St. Croix, U. S. Virgin Islands: an annotated checklist

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Table of contents

Abstract

An historical account is given for the ichthyological research at St. Croix, U. S. Virgin Islands, followed by an annotated list of 544 species of mostly marine shore fishes known or reported from the island to depths of 200 m. Color photographs are included for 103 of these species. Collections made at Buck Island Reef National Monument with the ichthyocide rotenone in 2001 and 2005 increased the known ichthyofauna by about 80 species. The rational for inclusion of each species in the checklist is given, with remarks for those species for which additional documentation or voucher specimens are needed. Reports of species known or presumed to have been based on misidentifications are discussed. Of the total marine fish fauna of the island, 404 species (75%) are restricted to the western Atlantic Ocean, (223 of these species are essentially Caribbean endemics that do not occur south of the Amazon River outflow), and no St. Croix endemic species are known. An additional 17 species (3.2%) also occur at mid-Atlantic islands, 57 species (10.6 %) are limited to both sides of the Atlantic Ocean, and 40 species (7.4%) have circumtropical distributions. The four most species-rich families are the Gobiidae (47 species), Serranidae (groupers and sea basses, 41), Labridae (wrasses and parrotfishes, 31), and Labrisomidae (scaly blennies, 27). Literature reports of Mosquitofish, *Gambusia* sp., from St. Croix apparently were based on misidentifications of a different introduced poeciliid genus. Four species of the amphidromus goby genus *Sicydium* occur in St. Croix inland waters, together with three established introduced species (one cichlid and two poeciliids). Also included are one catfish (Ictaluridae) and three sunfishes (Centrarchidae) known only from ponds. The Lionfish, *Pterois volitans*, the only introduced marine species, was first reported from St. Croix in 2008 and is now common despite control efforts.

Key words: Caribbean, distribution, biogeography, rotenone, visual censuses, introduced species

List of families and common names

Introduction

This checklist is the result of our efforts to document more completely the ichthyofauna of St. Croix, U.S. Virgin Islands, including the supporting data or justification upon which occurrence records are based. The impetus for this research was our awareness that faunal inventories of marine fishes are very incomplete or unavailable for most Caribbean islands and that data from visual surveys, which detect relatively few cryptic species, are increasingly becoming accepted as an adequate substitute. Our first introduction to the fishes of St. Croix began in 2001 when the U. S. Geological Survey was invited by the National Park Service to conduct an inventory of the fishes of Buck Island Reef National Monument. The only previous attempt at a complete summary of St. Croix fishes is the checklist of Clavijo *et al.* (1980). Approximately 400 species were listed, including non-native inland

species, and some taxa identified to genus only or questionably identified. In most cases no distinction was made between sight identifications or those based on preserved specimens, and no catalog numbers or collection data were given. We have accepted their identifications for most species but problematical records are discussed, and we indicate those records where museum voucher specimens are needed for confirmation or better documentation. Scientific names used in the original checklist with outdated nomenclature or that were misapplied (due to misidentifications) are included together with their correct equivalents herein.

Clavijo *et al.*'s 1980 checklist was an outgrowth of knowledge of St. Croix fishes following establishment of the West Indies Laboratory at Tague Bay on the east end of St. Croix by Fairleigh Dickinson University in 1971. Category 4 Hurricane Hugo destroyed the laboratory in 1989, forcing its closure, and the entire collection of preserved fish specimens was presumed to have been lost. However, we were informed by William C. Coles that some of the West Indies Laboratory specimens, still in their original jars, had survived the hurricane and were stored at the Department of Planning and Natural Resources building in Frederiksted in a virtually inaccessible state. These historically important voucher specimens were subsequently transferred to the University of Florida where they have been properly curated, identifications checked or revised, and cataloged into an on-line searchable database.

The fate of the West Indies Laboratory and its fish collection is just one example of the importance of depositing representative voucher material of rare or difficult-to-identify fish species in permanent repositories. Accurate baseline faunal data are critical for understanding changes over time, and scientific research collections are the best sites to permanently archive specimens and associated data. Concepts of species and their distributions also must be carefully reviewed because taxonomy of Caribbean reef fishes continues to change. Recent advances in molecular technologies during the past decade have revealed the existence of previously unrecognized species that occur in St. Croix (Baldwin *et al.* 2010; Baldwin and Weigt, 2012; Tornabene *et al.*, 2010; Victor, 2010, 2013; Knudsen and Clements, 2013) including some whose names have been resurrected from synonymy.

The current checklist includes most marine fishes that occur in inshore waters, at least occasionally, to a bottom depth of approximately 200 m (656 feet). We also include native and introduced fishes found in inland waters of St. Croix because they have not been adequately studied, and some of them occur in both freshwater and estuarine habitats. Some oceanic and pelagic species, such as remoras, tunas and billfishes that may occur in inshore waters are also included, as are the benthopelagic snake mackerels and cutlassfishes, species which only rarely ascend above 200 m. Excluded are three species reported by Clavijo *et al.* (1980), each belonging to a different family of deep-slope or benthopelagic fishes that rarely or never ocur as shallow as 200 m: Astronesthidae, Trachipteridae and Acropomatidae. The latter family is represented in St. Croix by *Verilus sordidus* Poey, which was erroneously listed as a lutjanid. Another deep-slope representative, the scombropid, *Scombrops oculatus* (Poey), also occurs in St. Croix (based on two museum collections, and a photograph we identified of a 73.5 cm SL fish caught in April 2005) but is excluded for the same reason. Also excluded are flyingfishes (Exocoetidae), and mesopelagic fishes such as lanternfishes (Myctophidae) that make diel migrations to or near the surface. One important, recently established non-native marine fish, the Red Lionfish, *Pterois volitans* (see account under Scorpaenidae), is also discussed.

Materials

Institutional abbreviations for fish collections follow Fricke and Eschmeyer (2013); the same source also gives the internet sites for searchable on-line databases for most of these collections. The following institutional collections include St. Croix voucher material cited in this checklist: American Museum of Natural History, New York (AMNH); Academy of Natural Sciences of Drexel University, Philadelphia, Pennsylvania (ANSP); Natural History Museum, London (BMNH); Field Museum of Natural History, Chicago, Illinois (FMNH); Scripps Institute of Oceanography, La Jolla, California (SIO); Texas A&M University, Texas Cooperative Wildlife Collection, College Station, Texas (TCWC); Florida Museum of Natural History, University of Florida, Gainesville (UF); University of Puerto Rico, Mayagüez (UPR); National Museum of Natural History, Washington, D.C. (USNM); Københavns Universitet, Zoologisk Museum, Copenhagen, Denmark (ZMUC).

We have made no attempt to search every institutional collection that might contain St. Croix specimens, and for relatively common species we usually only list UF material. Specimen identifications were made and confirmed by the first author unless otherwise indicated. Because specimen catalog numbers and associated collection data for

most major institutional collections are now accessible in searchable on-line databases, we do not include such information for most species. The majority of fishes reported herein for which voucher specimens are available are deposited in the UF ichthyology collection (http://www.flmnh.ufl.edu/fish/Collection/collection.htm), and includes almost 3,000 lots of cataloged fishes from St. Croix taken in depths <200 m.

FIGURE 1. Buck Island Reef National Monument, St. Croix; (below) view of island from northeast, photograph by L.A. Rocha.

Justification for and limitations of the checklist

As marine ecosystems become altered by coral disease (Clark *et al.*, 2009; Miller *et al.*, 2009; Rogers *et al.*, 2009), overexploitation, and other kinds of human degradation, accurate species checklists will become increasingly important as a historical baseline. Moreover, effective management strategies for reef resources benefit from access to the most complete ichthyofaunal information. Inventories are used in comparisons of faunas at different localities and at different times. Comparisons are most meaningful when data are obtained from similar sampling methods and efforts. As noted by Miloslavich *et al.* (2010), "the use and comparability of species inventories are limited by the extent of their completeness and the heterogeneity of sampling effort between sites or areas."

Only voucher specimens housed in museum collections can be used to independently verify identifications, and the importance of such documentation cannot be over-emphasized. Furthermore, accurate identification of some species requires careful examination with a microscope and often direct comparison with voucher specimens of closely related species and, in a few cases, even tissue samples for genetic comparisons. In lieu of vouchers, a quality photograph can be used to document occurrence of some species. Considering the availability and quality of identification guides, reports of most of the larger and distinctively colored reef fishes that are based solely on visual records are probably correct. Cryptic reef fishes represent a significant component of reef diversity and include many small species that are very difficult to visually identify or even detect without the use of the ichthyocide rotenone (Ackerman and Bellwood, 2000; Dennis *et al.*, 2005; Smith-Vaniz *et al.*, 2006; Robertson and Smith-Vaniz, 2008; Williams *et al.*, 2010). Because of restrictions on the use of rotenone (Robertson and Smith-Vaniz, 2008), it is becoming very difficult to obtain reasonably complete faunal lists for most Caribbean localities.

Fortunately, the U. S. National Park Service was interested in having an accurate inventory of their natural resources. Buck Island Reef National Monument (Fig. 1; hereafter BIRNM) is the best-studied area of St. Croix (Smith-Vaniz *et al.*, 2006; Harborne *et al.*, 2012), accounting for 80 species collected with rotenone that were not recorded by Clavijo *et al.* (1980). The deep reef (>50 m) is the most poorly sampled St. Croix habitat and undoubtedly includes species not reported in this checklist. The eastern end of St. Croix has the most diverse aquatic habitat, is very different from the rest of the island, and includes the largest island barrier reef system in the eastern Caribbean. Most of the East End Marine Park (established in 2003) consists of a no-take zone, so knowledge of cryptic fishes in that area is essentially limited to visual censuses.

Relative abundances can be inferred for some species based on Reef Environmental Education Foundation (REEF) visual survey data and Smith-Vaniz *et al.* (2006), but the reader is cautioned that this is not the intent of this checklist. For most common species we recorded only the number of BIRNM stations at which they were collected. In the case of rare or uncommon species, or those without voucher specimens, we give the category of "abundance" (unqualified) reported by Clavijo *et al.* (1980). We have relied heavily on historical museum collections (primarily ZMUC) and secondary sources, such as technical reports for records of some commercially exploited species. Despite the lack of inventories or adequate samples from some habitats, it is apparent that St. Croix has a much larger and more species-rich ichyofauna than previously realized.

Geography, geology, and marine and inland environments

St. Croix (17°45'N, 64°45'W) is located south of the other Virgin Islands. Its closest neighbor (82 km) in the Lesser Antilles is Saba Bank. The largest of the Virgin Islands at 214.6 km^2 (83 square miles), St. Croix is irregularly shaped, 37 km long and about 11 km at its widest point, with 113 km of shoreline (Fig. 2). A shallow (<25 m) and broad limestone shelf along the south coast extends 20 km east to form Lang Bank. While its political affinity is with the other United States Virgin Islands (St. John and St. Thomas), St. Croix has generally been considered part of the Lesser Antilles despite having a very different and complex tectonic history (Speed, 1989). The 55-km wide gap of the Virgin Islands Basin, combined with its depth (ca. 4,100 m), separates St. Croix from the northern Virgin Islands and Puerto Rico (Fig. 3). Its northern neighbors are located on the relatively shallow Puerto Rican Platform (also called the Anegada Platform), which was completely exposed during Quaternary glacial periods. In contrast, the emergence of St. Croix occurred some time after the Miocene and is geologically more closely related to Aves Ridge than to the northern Virgin Islands (Hubbard *et al.*, 2008). The core of the island is of volcanic origin with a crust of uplifted marine sediments of Cretaceous and Miocene age (Lidz, 1988). Its shelf area of 362 km^2 is

relatively narrow and small compared to the adjacent Puerto Rican Platform and Saba Bank, and its northern margin off Cane Bay includes one of the steepest submarine slopes in the world. García-Sais (2005) gives a three dimensional bathymetric map of the east coast of Puerto Rico and the U. S. Virgin Islands, including St. Croix. Of particular interest is a "submerged ridge that connects the shelf of St. Croix with the southeast shelf of Puerto Rico with pinnacles that reach depths of 100 to 700 m, where ahermatypic corals may be found, perhaps forming deep coral reef communities."

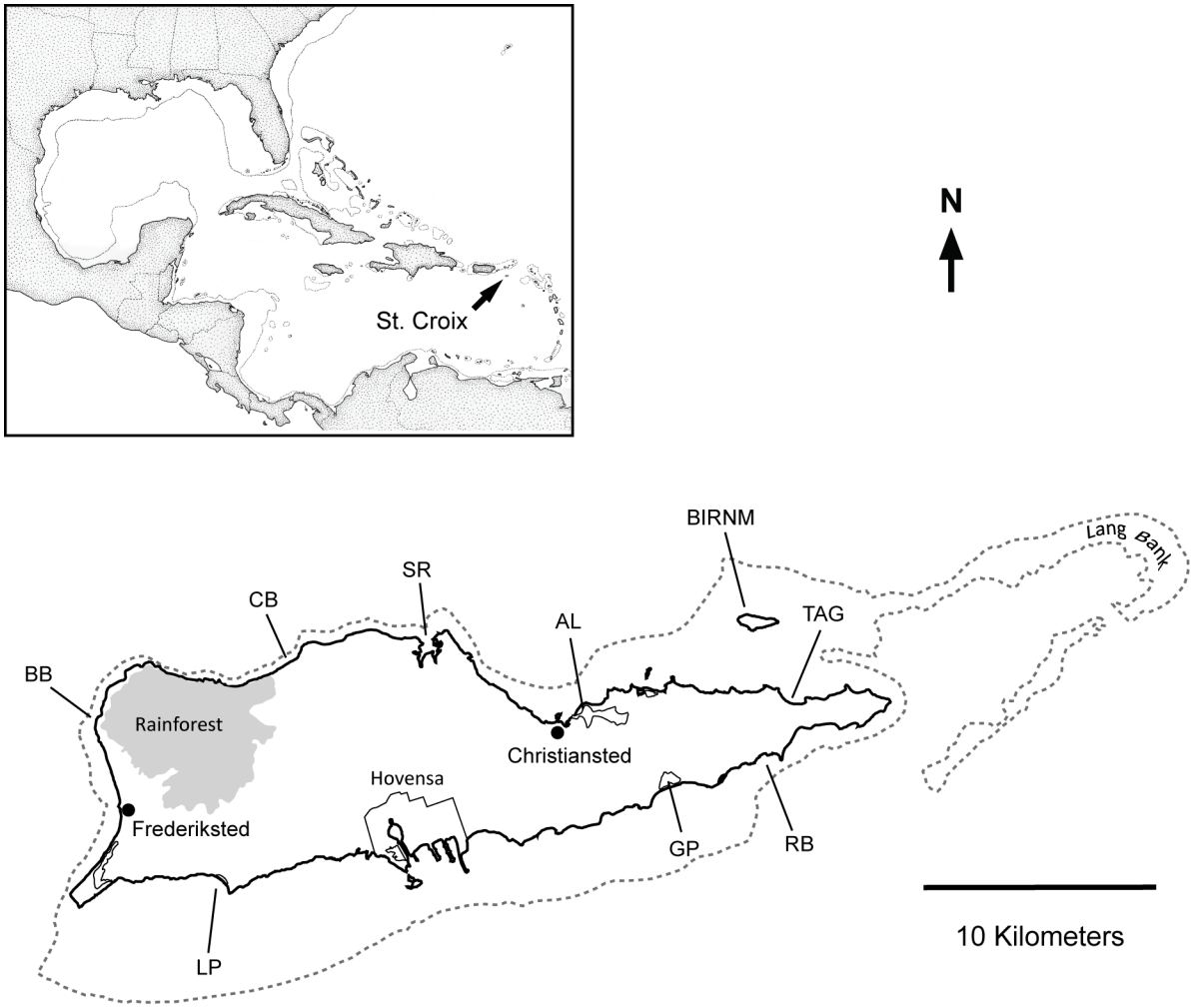

FIGURE 2. Locations of selected St. Croix landmarks: Butler Bay (BB), Cane Bay (CB), Salt River Bay (SR), Altona Lagoon (AL), Buck Island Reef National Monument (BIRNM), Tague Bay (TAG), Rod Bay (RB), Great Pond (GP), Long Point Bay (LP); dotted line indicates 200 m depth contour.

St. Croix is a relatively low island (highest elevation 332 m) with large tracts of second-growth tropical forest on the elevated western part and a large, flat coastal plain in the central part of the island. By the early nineteenth century most of the original forest cover had been cleared for plantations, thus decreasing the ability of the hillsides to capture and retain moisture from passing clouds. The island receives relatively low amounts of rainfall with an average of 102 cm (40 inches) per year in the west and 76 cm (30 inches) per year on its eastern half (Mac *et al.*, 1998). The wet season is from June to November. Average mid-island temperature is 26°C, varying only 3°C to 5°C seasonally (Mac *et al.*, 1998). Ocean currents are from the east and derived from general ocean circulation driven by easterly trade winds (Johns *et al.*, 2002). The tidal range is very low (< 0.4 m), as is generally true for Caribbean islands (Kinder *et al.*, 1985). The water mass surrounding St. Croix is a little below the oceanic average in salinity (34–35 ppt) and periodically nutrient-rich due to migrating anticyclonic rings from the Amazon and Orinoco Rivers (Hu *et al.*, 2004). These anticyclonic rings may be important in reef fish dispersal or retention (Harlan *et al.*, 2002).

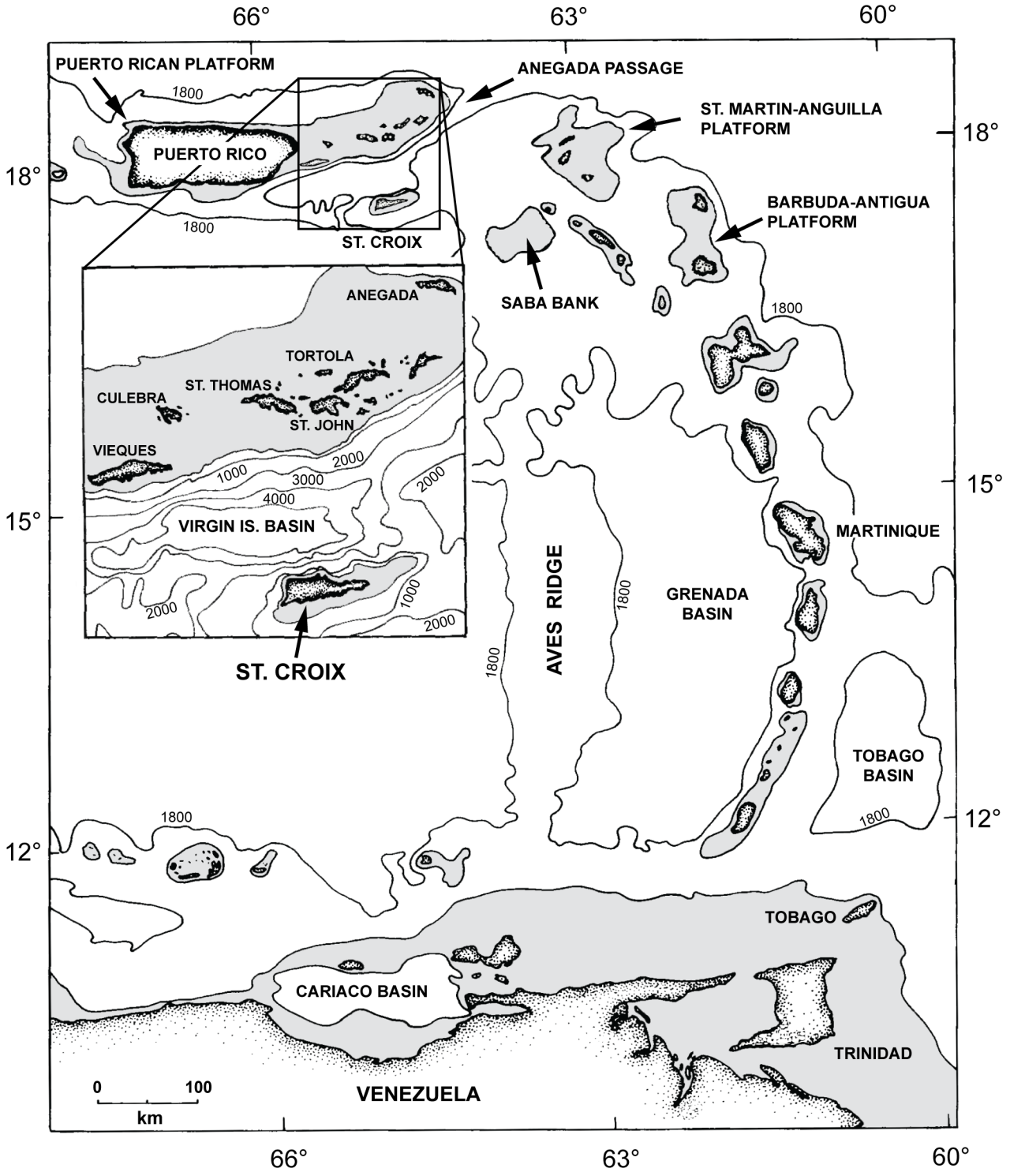

FIGURE 3. Map of Puerto Rico-Lesser Antilles island arc of the Caribbean (modified from Lidz, 1988), showing the position of St. Croix, U.S. Virgin Islands and nearby islands and platforms. Bathymetric contours in meters; shaded areas indicate 200 m depth.

Sea-level has risen about 120 m in the last 18,000 years (Fairbanks, 1989) resulting in a shift from escarpment-dominated habitats to fringing reefs and shallow banks, thus increasing the extent of shallow-water habitat and perhaps expanding Caribbean reef fish abundance and diversity. St. Croix has a wide range of marine habitats from shelf escarpment, submerged and emergent reefs, grassbeds, mangroves, and rocky shores, including a recently discovered intertidal sabellariid reef (McCarthy *et al.*, 2008). Habitat types have been classified based on digital benthic maps (Kendall *et al.*, 2001) and a recent description can be found in Rogers *et al.* (2008). Most marine

fishes have pelagic larval phases and recruitment is generally from upcurrent sources. Genetic studies in the Caribbean have found well-mixed reef fish populations, suggesting the level of isolation of St. Croix is not a barrier to recruitment from other Lesser Antilles islands (Shulman and Bermingham, 1995). In addition, it has been hypothesized that local recruitment may occur from down-current eddies (Harlan *et al.*, 2002), and studies in St. Croix have confirmed this hypothesis (Swearer *et al.*, 1999). The nearest island upcurrent sources (Saba Bank and St. Martin/Anguilla) are projected to be within a 2-month transport envelope for larvae (Roberts, 1997). Although some reef fish, such as grouper (*Epinephelus* spp.), are known to migrate long distances (Bolden, 2000), no inter-island migration of reef fish has been found or is expected based on the lack of a shallow-water connection to other islands (Nemeth *et al.*, 2007). Heavy fishing pressure has caused the decline of many economically important species (Rogers and Beets, 2001) and reef fishes throughout the Caribbean appear to be in decline (Paddack *et al.*, 2009). Grace-McCaskey (2012) provides a detailed and insightful examination of commercial fisheries and resource management issues in St. Croix.

The largest mangrove estuary system in the U. S. Virgin Islands, Krause Lagoon, consisted of more than 2.8 km^2 (700 acres) of wetlands but was mostly destroyed in the 1960s with development of the Hovensa petrolem industrial complex (see Fig. 2). Only three prominent fringing mangrove (Red Mangrove, *Rhizophora mangle*) systems remain on St. Croix: Salt River, Altona Lagoon and Great Pond. Approximately half of the mangrove and associated saline wetlands have been degraded or destroyed during the last 40–50 years; about 4.4 km^2 (1082 acres) of saline wetlands remain on St. Croix, of which 2.3 km^2 (566 acres) are salt ponds (McNair *et al*., 2006).

Inland habitats of St. Croix have also been heavily affected by human activities for over three centuries. George A. Seaman, the islands' only wildlife biologist from 1949 to 1969, provided a particularly graphic account of the human-induced changes that have occurred on St. Croix. He noted (Seaman, 1989:8) that early 15th century reports indicate the presence on the island of three rivers and 16 "guts," the latter formed between steep ridges cut and drained by intermittently flooded channels. According to Seaman, as late as 1918 there were still some perennially running streams on St. Croix, and Lower Love and Bethlehem guts were really small rivers. Of particular interest were two guts, Concordia and Fairplain; both were cool perennial streams before the surrounding old-growth forest was cleared and the water table impacted by groundwater pumping and rapid runoff. Presently the lower sections of all St. Croix guts are dry except during extended periods of heavy rain. As discussed by Keith (2003), the survival of amphidromus gobies such as *Sicydium*, whose life cycles are adapted to conditions associated with extreme climatic and hydrological variation, depends on management and conservation policies that protect the unimpeded flow and habitat of upstream reaches of even intermittent rivers or streams.

Biodiversity and zoogeography

In this study we treat 544 fish species representing 280 genera in 94 families from St. Croix. The Gobiidae (gobies, 47 species), Serranidae (groupers and sea basses, 41), Labridae (wrasses and parrotfishes, 31) and Labrisomidae (scaly blennies, 27) are the most species-rich families, followed by the Carangidae (jacks, 19), Apogonidae (cardinalfishes, 17) and the Haemulidae (grunts) and Lutjanidae (snappers), with 16 and 15 species, respectively. Six families are each represented by 10–14 species, 22 families by 5–9 species, 33 families by 2–4 species and 25 families have single species. Considering its small size, St. Croix has a relatively large and diverse fish fauna comparable to that of the Bahama Islands (including the Turks and Caicos) which occupy a much larger area of 260,000 km^2. Notable exceptions to this diversity are families that are most abundant on shallow continental shelves with large estuarine ecosystems: the flatfishes (Bothidae, Paralichthyidae, and Cynoglossidae) and the drums (Sciaenidae). The composition of selected families of St. Croix fishes with other areas is compared in Table 1. In many ways this is like the proverbial comparison of "apples and oranges" because of diffences in geological histories, area, geographic proximity, seasonal temperatue extremes, etc. Although species richness varies greatly among these localities, both in terms of total numbers and relative contributions of certain families, the table shows that the majority of St. Croix fishes have broad Caribbean distributions. Saba Bank in the adjacent Netherland Antilles is excluded from the table because it has not had sufficient collecting effort to allow a meaningful comparison with St. Croix, but a recent summary (Williams *et al.*, 2010) indicates that the ichthyofaunas are probably quite similar.

TABLE 1. Comparison of total number of established species and number of species shared with St. Croix (in parentheses) for selected families from various localities: St. Croix (STX), Puerto Rico Platform (PRP), Bahamas (BA), Florida Keys (FL) and Bermuda (BD); data for PRP based mostly on Dennis (2000).

Localities	STX	PRP	BA	FL	BD
Gobioids (gobies, sleepers and wormfishes)	54	69 (46)	57 (38)	48 (22)	22 (18)
Serranidae (groupers and sea basses)	41	53 (39)	46 (35)	61 (33)	33 (26)
Labridae (wrasses and parrotfishes)	31	32 (31)	29 (29)	32 (31)	29 (26)
Labrisomidae (scaly blennies)	27	32 (27)	30 (26)	20 (17)	2 (1)
Carangidae (jacks)	19	22 (19)	17 (16)	23 (17)	23 (18)
Apogonidae (cardinalfishes)	17	19 (17)	21 (16)	17 (15)	12 (11)
Haemulidae (grunts)	16	19 (16)	14 (14)	14 (13)	9 (8)
Lutjanidae (snappers)	15	16 (15)	12 (12)	14 (13)	11 (10)
Pomacentridae (damselfishes)	14	14 (14)	14 (14)	14 (14)	11 (10)
Chaenopsidae (tube blennies)	13	19 (13)	19 (9)	11 (7)	1 (0)
Muraenidae (morays)	13	14 (12)	13 (12)	12 (9)	14 (10)
Ophichthidae (snake eels)	11	18 (8)	15 (9)	17 (10)	12 (8)
Syngnathidae (pipefishes)	11	15 (10)	16 (8)	16 (7)	11 (5)
Gobiesocidae (clingfishes)	9	10 (7)	11 (4)	3 (1)	0
Dactyloscopidae (sand stargazers)	8	9 (7)	11 (7)	5 (3)	2 (2)
Scorpaenidae (scorpionfishes)	8	13 (8)	12 (7)	16 (6)	6 (4)
Holocentridae (squirrelfishes)	8	11 (8)	9 (8)	7 (6)	8 (7)
Gerreidae (mojarras)	8	12 (8)	7 (7)	9 (8)	7 (7)
Sciaenidae (drums)	7	18 (7)	4 (4)	16 (3)	2 (1)
Total	330	415 (313)	357 (275)	355 (235)	215 (173)

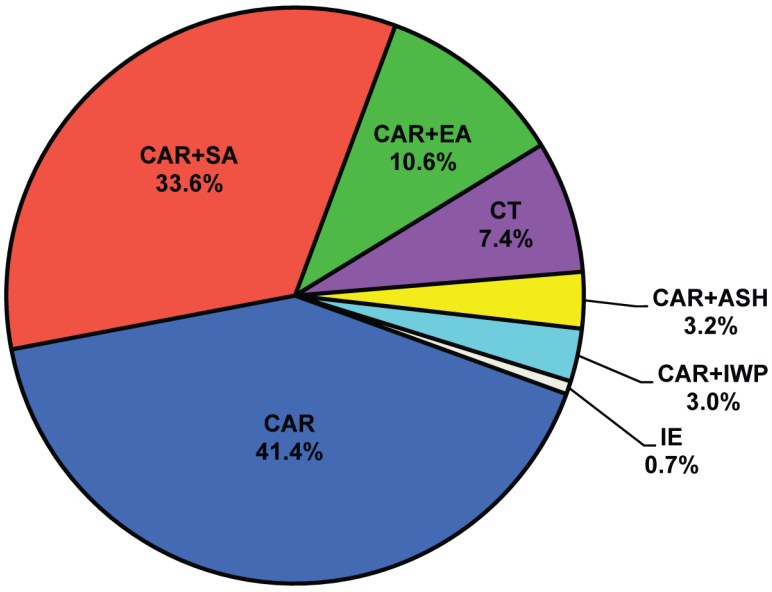

FIGURE 4. Distributional summary, as percentages, for 538 species of St. Croix fishes. **CAR** = Caribbean only (includes species with distributions extending to northern South America but not south of Amazon River outflow); **CAR + SA** = Caribbean + southeastern South America (includes only SA species with distributions that extend south of Amazon River outflow); **CAR + ASH** = Caribbean + Ascension or Saint Helena; **CAR + EA** = Caribbean + eastern Atlantic; **CAR + IWP** = Caribbean + Indo-West Pacific; **CT** = circumtropical; **IE** = introduced and established. Excluded from the figure are two species with **CAR** + Eastern Pacific (but absent from IWP) distributions and non-established introduced freshwater fishes.

The distributions of St. Croix fishes on a much broader scale are summarized in Fig. 4. The proportion of St. Croix fishes restricted to the western Atlantic Ocean is approximately 75% (404 species) with an additional 10.6 % (57 species) that are limited to both sides of the Atlantic Ocean. More than half (54.5 % -220 species) of the western Atlantic-restricted species also have limited latitudinal ranges and do not occur on both sides of the Amazon River outflow; this freshwater discharge functions as a soft biogeographical barrier between northeastern and southeastern South America (Floeter *et al.*, 2008). No fish species are known to be endemic to St. Croix, clearly indicating that the deep basin and distance (approximately 55 km) between it and the Puerto Rico Platform do not function as effective barriers. More than 40 species recorded from the northern Virgin Islands (St. Thomas or St. John) are unknown from St. Croix (Table 2). This apparent discrepancy may be due to a combination of uneven collecting effort and habitat differences, including the extensive shallow shelf of the platform, rather than to geographic isolation (Fig. 3). The magnitude of the disparity would be much greater if the richer ichthyofauna of Puerto Rico had been compared with that of St. Croix.

TABLE 2. Fish species reliably recorded from the northern Virgin Islands as adults but undocumented from St. Croix.

Family	Species	Documentation
Chlopsidae		
	Kaupichthys nuchalis Böhlke 1967	UF 208309 (1) St. John
Ophichthidae		
	Echiophis intertinctus (Richardson 1848)	USNM 9656 (1), St. Thomas
	Myrophis punctatus Lütken 1851	ANSP 124024 (1) St. Thomas [Ident. D. G. Smith]
Ophidiidae		
	Ophidion holbrookii Putnam 1874	UF 209081 (1) St. John, in 49 m
Rivulidae		
	Kryptolebias marmoratus (Poey 1880)	UF 168515 (6); 168522 (6); UF 168529 (7) St. John
Holocentridae		
	Sargocentron bullisi (Woods 1955)	UF 138396 (1), UF 207103 (5) St. Thomas
Syngnathidae		
	Hippocampus erectus Poey 1810	UF 178786 (1) St. Thomas
	Pseudophallus mindii (Meek and Hildebrand 1923)	USNM 108413 (1) 18°39′30″N, 64°51′30″W
	Syngnathus dawsoni (Herald 1969)	USNM 203148 (1) holotype and USNM 178046 (1) St. John
Serranidae		
	Bullisichthys caribbeaus Rivas, 1971	Garca Sais (2005:94) submersible off St. John
	Diplectrum bivittatum (Valenciennes 1828)	UF 207110 (1) St. Thomas
	Hyporthodus flavolimbatus (Poey 1865)	Appeldoorn et al (1992:24) catch statistics, St. John and St. Thomas
	Serraniculus pumilio Ginsburg 1952	UF 178788 (1) St. Thomas
	Serranus annularis (Günther 1880)	UF 207794 (1) St. John
Opistognathidae		
	Opistognathus macrognathus Poey 1860	ANSP 169689 (1) St. John
Apogonidae		
	Apogon phenax Böhlke and Randall 1968	FMNH 83595 BVI; UPR 1440 (7) St. John
Gerridae		
	Eugerres brasilianus Poey 1880	Loftus (2003) St. John
Sparidae		
	Diplodus argenteus (Valenciennes 1830)	UF 205330 (1), UF 207149 (1) St. John
Sciaenidae		
	Corvula batabana (Poey 1860)	UF 209153 (1) St. John

.....continued on the next page

TABLE 2. (Continued)

Family	Species	Documentation
Dactyloscopidae		
	Dactyloscopus comptus Dawson 1982	UF 2014317 (1) St. John
Scorpaenidae		
	Scorpaena albifimbria Evermann and Marsh 1900	UF 208200 (1) St. John
	Scorpaena brasiliensis Cuvier *in* Cuv. & Val. 1829	UF 206053 (1) St. John
	Scorpaena calcarata Goode and Bean 1882	UF 207428 (2) 18°35′N, 65°03′W, in 77 m.
Tripterygiidae		
	Enneanectes atrorus Rosenblatt 1960	UF 214915 (1) St. John
Labrisomidae		
	Labrisomus filamentosus Springer 1960	ANSP 144386 (1) St. John
	Nemaclinus atelestos Böhlke and Springer 1975	FMNH 64814 (1) 18°15′N, 64°49′W, in 48 m.
	Paraclinus barbatus Springer 1955	USNM 309820 (4) St. Thomas
	Starksia hassi Klausewitz 1958	AMNH 33563 (1), AMNH 225180 (2) St. John
Chaenopsidae		
	Coralliozetus cardonae Evermann and Marsh 1899	UF 203770 (2), UF 214975 (2) St. John
	Emblemaria vitta Williams 2002	UF 208311 (1) St. John
	Emblemariopsis leptocirris Stephens 1970	UPR 1640 (2) paratypes, St. John
Blenniidae		
	Hypleurochilus pseudoaequipinnis Bath 1994	UF 178784 (1) St. Thomas
	Hypsoblennius invemar Smith-Vaniz and Acero-P 1980	UF 178787 (1) St. Thomas
Gobiidae		
	Bathygobius curacao (Metzelaar 1991)	USNM 93747 (1) St. Thomas
	Bathygobius soporator (Valenciennes *in* Cuv. & Val. 1837)	UF 168525 (3) St. John
	Ctenogobius smaragdus Valenciennes *in* Cuv. & Val. 1837	USNM 78150 (1) St. Thomas
	Palatogobius paradoxus Gilbert 1971	ANSP 109182 (1) Holotype, St. John
Gobiesocidae		
	Tomicodon leurodiscus Williams and Tyler 2003	UF 203774 (1) St. John
	Tomicodon rupestris (Poey 1860)	UF 205157 (1) St. John
Chaetodontidae		
	Prognathodes guyanensis (Durand 1960)[1]	Garca Sais (2005:Table 94) submersible off St. John
Achiridae		
	Gymnachirus nudus Kaup 1858	UF 206750 (1) St. John

[1] Listed as *Chaetodon* [= *Prognathodes*] *aya* (Jordan), a continental species that closely resembles *P. guyanensis*.

Except for the eleotrid *Guavina guavina*, all of the native fishes known from inland waters of St. Croix also occur on St. John in the northern Virgin Islands. One species of Rivulidae recorded from St. John (Loftus, 2003), the Mangrove Rivulus, *Kryptolebias marmoratus* (Poey) is unknown from St. Croix but its apparent absence could be a collecting artifact. Davis *et al.* (1990) noted that "standard fish collecting techniques are simply ineffective in the capture of this species." *Kryptolebias marmoratus* inhabits mangrove ecosystems, is capable of prolonged aestivation in leaf litter, and often occupies burrows of the land crab *Cardisoma guanhumi*. This rivulus possibly occurs in association with St. Croix salt ponds, which have not been adequately sampled. Alternatively, the geological history of St. Croix combined with a deep-water basin separating the island from the shallow Puerto Rican Platform would make surface dispersal the only, but unlikely, route for colonization.

The few native inland fishes of St. Croix consist primarily of euryhaline gobies and sleepers, except for four amphidromous gobies of the genus *Sicydium*, which spend part of their early life cycle at sea. These species also require freshwater streams to reproduce and thus they are potentially the most threatened by human pertubations. Aside from our limited recent efforts, we are unaware of any comprehensive survey of the freshwater habitats of the island. Nine freshwater fishes are known or reported to have been introduced (Table 3). Six of these were probably first introduced in private ponds, primarily for recreational purposes, including two cichlids (Cichlidae), one freshwater catfish (Ictaluridae) and at least three sunfishes (Centrarchidae). Only three non-native species are currently known to be established on St. Croix: Mozambique Tilapia, *Oreochromis mossambicus*, and two species of *Poecilia* (livebearers). Reports of the Mosquitofish, *Gambusia* sp. from St. Croix (Clavijo *et al.*, 1980:9) likely are based on misidentifications of small females of *Poecilia reticulata* or *P. mexicana* (see general comments for Poeciliidae).

TABLE 3. Non-native inland fishes known or reported from St. Croix; only those with an asterisk are known to be established in the wild.

Family	Species	common name
Cyprinidae		
	Carassius auratus (Linnaeus 1758)	Goldfish
Ictaluridae		
	Ictalurus punctatus (Rafinesque 1818)	Channel Catfish
Poeciliidae		
	**Poecilia mexicana* Steindachner	Shortfin Molly
	**Poecilia reticulata* Peters 1859	Guppy
Centrachidae		
	Lepomis macrochirus Rafinesque 1819	Bluegill
	Lepomis microlophus (Günther 1859)	Redear Sunfish
	Micropterus salmoides (Lacepède 1802)	Largemouth Bass
Cichlidae		
	Cichla ocellaris Bloch and Schneider 1801	Butterfly Peacock Bass
	**Oreochromis mossambicus* (Peters 1852)	Mozambique Tilapia

Historical perspective

In much of the historical literature the island was called Santa Cruz (Holy Cross), the name given to it by Christopher Columbus on his 14 November 1493 landing during his second voyage to the New World. At that time its only inhabitants were the fierce Carib Indians who originally came from the Guiana/Orinoco region of South America. Following a policy of relentless Spanish military conflicts, by 1625 St. Croix was devoid of all its original inhabitants. In the following years, seven flags flew over the island as control of St. Croix shifted from one sovereign power to the next, the major ones being Spanish, English, Dutch and French. The Danish West Indies Company purchased the island from the French Crown in 1733, which led to a long period of growth and wealth. This prosperity also provided increased opportunity to explore the natural history of St. Croix, including its ichthyofauna. As a consequence of this interest, a large number of historically important fish specimens (now deposited in the ZMUC) were obtained from various commercial collectors and sent to Denmark. The names of the two largest population centers, Christiansted and Frederiksted, reflect the era of Danish colonization (1733–1917) when St. Croix was one of the wealthiest islands in the West Indies and an important center of trade with Europe. The islands' affluence was primarily the result of slave labor used in the cultivation of sugar cane, with sugar exports totaling 46 million pounds in 1812 (Dookham, 1994), and production of rum. By 1803 the population had reached 30,000, of which 26,500 were slaves (Willocks, 1995). Slavery was abolished in the Danish colonies on 3 July 1848 following a sharp decline in sugar cane profitability due to competition from sugar beets and an increasing number of slave revolts. In 1917 the Danish West Indies islands of St. Croix, St. John, St. Thomas, and several small off-lying cays (now collectively known as the U. S. Virgin Islands) were purchased from the Danish government by the United States for military reasons. Today St. Croix remains a U. S. Territory with a resident population of about 50,000. Hovensa, located on the south coast, was the leading industry on the island for 40 years and the largest single oil refinery in the Western Hemisphere (refinery operations ceased in 2012). Many tourists are also attracted to the island for deepsea fishing and to snorkel or scuba dive at Buck Island Reef National Monument, Cane Bay and Frederiksted Pier.

One of the early reports on fishes from St. Croix was Edward D. Cope's (1871) "Contribution to the ichthyology of the Lesser Antilles." He recorded 72 nominal species from St. Croix, obtained by Dr. R. E. Griffith (59 species consisting mostly of dried and mounted skins) or by "Capt. Thos. Davidson of the navy" (28 species preserved in alcohol). These specimens are deposited at the Academy of Natural Sciences of Philadelphia, but most of the dried specimens have been lost or discarded. Fowler (1919) re-examined Cope's St. Croix specimens, assigning revised scientific names to some of them. He listed 78 species from the same collections; specimens of the six additional species apparently had been overlooked by Cope. In the following species synonymies we include all of Cope's scientific names and, for comparison, the names used by Fowler even when they agree with those adopted by Cope. Most of the names they used can be reliably assigned and for a few (in cases where the original specimens could not be found) our allocations are based on prevailing usage during that era. Most of the fishes Cope reported are common and none constitute the only record of a species from St. Croix. The one new species he described, *Rhinoberyx chryseus* Cope, was subsequently recognized as juveniles of the Blackbar Soldierfish, *Myripristis jacobus* Cuvier.

Beatty (1944:179) provided a one-page first account of the "fresh water" fishes of St. Croix. Most of the 16 species he listed are marine species with wide salinity tolerances that frequently occur in brackish water that sometimes may be found far upstream from river mouths. The five gobies he recorded were the best represented group of such species. One species he did not record was the Mosquitofish, *Gambusia* sp., which Clavijo *et al.* (1980) apparently erroneously reported from St. Croix (see Poeciliidae account). Because Beatty's list includes important early records of inland occurrences, we reference all of these species in our accounts using his scientific names, even when they differ from current usage. Under the Gobiidae he inadvertently (a likely proofing error) listed *Ucides cordatus* Linnaeus, a species of mangrove crab (Ocypodidae), which Clavijo *et al.* (1980) also questionably included in the Gobiidae. The only non-native species Beatty mentioned was the Guppy, *Poecilia reticulata* Peters (as *Lebistes reticulatus*) which was reported as "common in all streams and reservoirs." He noted that "of the numerous small streams that seam the island from the highlands to the seacoast only a few of them, under normal conditions, maintain running water throughout the year." Beatty was curious about the ecological significance of this phenomenon and for the Mountain Mullet, *Agonostomus monticola*, remarked: "never abundant ... It would be of interest to explain how streams that have become dust beds and may remain in that condition for as many as three successive years can become populated with minute larval fish about three months after inundation by heavy rainfall."

Fowler (1951) published on another small collection of about 40 fish species, obtained by T. H. Lineaweaver III in the spring of 1950 from six localities in the vicinity of Christiansted. Most of these specimens (deposited at ANSP) are small juveniles of common species, and consequently we have made no attempt to confirm the identifications of most of them.

As discussed in the introduction, the only modern attempt to record the entire ichthyofauna of St. Croix is the checklist of Clavijo *et al.* (1980), which we frequently reference throughout the text. Their publication is the second edition of an earlier checklist by Ogden *et al.* (1975) with the same title. A number of papers and technical reports mentioned here in chronological order have focused primarily on habitat utilization or fisheries data but also include lists of species. In the various species accounts we generally cite these works only if they provide important records of occurrence for uncommon or inadequately documented species.

Shulman *et al.* (1983) studied recruitment of juvenile reef fishes at three sets of small artifical reefs (10 reefs in each set) placed in a grid pattern on the sand/seagrass floor of Salt River Canyon in 16–20 m near the site of the former NOAA, National Underwater Laboratory "Hydrolab." In a table they listed 43 species (in 21 families) that colonized those reefs and denoted the number of reefs occupied by each species. The Serranidae (seabasses) was best represented with five species followed by the Apogonidae (cardinalfishes) with four species. Of particular interest was the occurrence of *Diplectrum* sp. at eight reefs (see remarks for *D. formosum*). Also working from the Hydrolab, Kaufman and Ebersole (1984) reported the results of 16 censuses in 15–18 m at two adjacent walls of Salt River Canyon. They recorded 108 species and summarized them at each site by trophic, coloration and defense categories and the number of individuals observed. Workman *et al.* (1985) studied the effectiveness of midwater fish attraction devices (FADs) deployed at Salt River Canyon, including composition, abundance and behavior of 20 attracted species.

Robblee and Zieman (1984) studied diel variation of fishes present in *Thalassia*-dominated seagrass habitat of Tague Bay. They conducted day/night comparisons of the fish fauna from 1976–1979 at three representative sites

based on a total of 78 stations. A total of 60 species was recorded, including four species not collected at their standard sample sites. There are no other published records for two species they recorded: *Jenkinsia majua* (see remarks for *J. lamprotaenia*) and *Apogon aurolineatus* (the occurrence of this cardinalfish at St. Croix might be expected and there are other unconfirmed sight records).

The submersible Seward Johnson Sea-Link II conducted surveys of "West" and "Northeast" St. Croix during 1985 and made important observations of habitat utilization by deep-reef fishes, which were listed in summary tables by García Sais (2005).

In a reef-fish stock assessment technical report (Appledoorn *et al.*, 1992), catch statistics were reported, for years 1985−1990, based on one St. Croix fish house and usually from the same pot fisherman. Included was the first and only published record of the Burro Grunt, *Pomadasys crocro*, from St. Croix. In a recreational fisheries habitat assessment, Tobias *et al.* (1996) attempted to determine the distribution and extent of red-mangrove nursery habitat from aerial photographs. In the same publication, the species composition and abundance of recreationally important fish species occurring in mangrove fringe habitat at Salt River Bay and Altona Lagoon were reported based on visual transects and baited fish traps during 1991–1993. At Salt River 40 species were obtained from traps and 48 detected in visual surveys versus 22 and 25 species, respectively, at Altoon Lagoon. The gerreids *Gerres cinereus* and *Eucinostomus jonesii* were abundant in both locations, while the baitfishes *Anchoa lyolepis* and *Harengula humeralis* were in high abundance in visual transects in Altona Lagoon but not observed at Salt River.

In the third and enlarged edition of the classic "Caribbean Reef Fishes," Randall (1996) provided an identification guide for 327 species, with photographs of many species accompanying the text. The majority of the species included in the book occur at both St. John and St. Croix. Some of his photographs (referenced in the checklist) were taken in St. Croix and serve as additional occurrence documentation. His photograph of the Bandtail Searobin, *Prionotus ophryas*, is the only confirmed record of the species from St. Croix.

Mateo and Tobias (2001) reported 86 species observed in 120 visual transects repeated at three locations in the Tague bank-barrier reef system on the northeast coast. Adams and Ebersole (2002) investigated fish utilization of St. Croix lagoon and back reef habitats as nursery areas at six sites on the east end of St. Croix. They recorded 97 species, with 92 on the back-reef and 78 in the lagoon. Subsequently, Mateo and Tobias (2004) extended their visual-survey sites to include three embayments in backreef lagoons on the southeastern coast of St. Croix, listing 68 species. In both studies, Mateo and Tobias listed the flatfish, *Paralichthys tropicus* Ginsburg based on sightings of four individuals. This continental species is known only from the southern Caribbean (Munroe, 2003). Their sightings were almost certainly based on misidentifications of the superficially similar *Syacium papillosum*, a paralichthyid relatively common in St. Croix.

Toller (2002) conducted stationary visual censuses at seven reef sites from October 2001 to September 2002 and compared spring and fall patterns of habitat utilization for each location. He recorded 85 species. The rarest species observed was the Yellowcheek Wrasse, *Halichoeres cyanocephalus* represented by two individuals at Lang Bank. In a very limited study of fishery-independent data for the years 1993/4 and 2002, Whiteman (2005) examined the catch composition of 38 species obtained by traps and hook and line for 15 sample dates. The most interesting species recorded, in small quantities, were *Aluterus schoepfii* and *Gymnothorax ocellatus* (see remarks under account for this moray).

Toller (2007) gave a detailed description of the habitat of the Frederiksted reef system and summarized cross-shelf distribution patterns of fishes. Four distinct habitat zones were recognized and eight replicates were made within each habitat zone for a total of 32 surveys at 27 sites. All of the censuses (roving diver surveys) were conducted between January and March 2005 during which 176 fish taxa were observed. Total species richness of the Frederiksted Reef System (FRS) is comparable to that reported for Salt River, which has a greater variety of habitats, including mangroves and seagrass beds (absent from the FRS).

In the summer of 2001, we used the ichthyocide rotenone to sample 58 reef and nearshore stations at Buck Island Reef National Monument (BIRNM). The samples included 55 families and approximately 229 species of fishes, including many previously unreported from St. Croix (Smith-Vaniz *et al.*, 2006). Species-accumulation curves did not reach an asymptote, indicating that more rotenone surveys would be required to adequately sample fish diversity. Richard E. Spieler and students from Nova Southeastern University returned in 2005 and used rotenone at 48 additional stations recording a total of 170 species (our identifications), including 25 species not collected in 2001. All of these specimens are deposited in the Florida Museum of Natural History (UF). A total of 254 species have now been collected with rotenone at BIRNM, after adjustment for revised identifications of

several of the 2001 species records. This number does not include 36 additional species observed at BIRNM by National Oceanic and Atmospheric Administration (NOAA) divers but not collected. Most of these additional visual census records are of highly mobile fishes which rotenone is not effective in sampling. Visual surveys were also conducted by NOAA divers from 2001-2011 in a stratified-random design across multiple habitat types at St. Croix, including BIRNM (NOAA, 2012). A total of 215 reef fishes were identified to species in these 2,123 surveys.

Recent scientific collecting in St. Croix has been limited to four efforts, including the two discussed above at BIRNM in 2001 and 2005. The authors also spent 10 days each in April 2011 and January 2012 surveying poorly sampled habitats, including limited use of rotenone. Those two trips resulted in important new distributional records and discovery of eight species previously unrecorded from St. Croix.

TABLE 4. Nominal species originally decribed (in chronological order) from or in the vicinity of St. Croix and their current status.

Original names, authors, dates	Page	Figure	Current Status
Callyodon iseri Bloch 1789	245	none	*Scarus iseri* (Bloch 1789)
Scarus croicensis Bloch 1790	27	Pl. 221	*Scarus croicensis* Bloch 1790
Sparus abildgaardi Bloch 1791	22	Pl. 259	*Sparisoma chrysopterum* (Bloch & Schneider 1801)
Anthias formosus Bloch 1792	122	none	*Haemulon sciurus* Shaw 1803
Scarus insulaesanctaecrucis Bloch & Schneider 1801	285	none	*Scarus iseri* Bloch 1789
Hemiramphus richardi Valenciennes *in* Cuv. & Val. 1847	26	none	*Hyporhampus unifasciatus* (Ranzani 1841)
Chilorhinus suensonii Lüken 1852	16	Pl. 1, Fig. 1	*Chilorhinus suensonii* Lüken 1852
Scarus melanotis Bleeker 1862	126	none	*Sparisoma viride* (Bonnaterre 1788)
Rhinoberyx chryseus Cope 1871	464	Fig. 2	*Myripristis jacobus* Cuvier 1829
Apogonichthys melampodus Blosser 1909	296	none	*Astrapogon stellatus* (Cope 1867)
Bodianus stellatus Blosser 1909	297	Pl. 10	*Cephalopholis cruentata* (Lacepède 1802)
Holocanthus lunatus Blosser 1909	299	Pl. 12, Fig. 1	*Holacanthus ciliaris* (Linnaeus 1758)
Spheroides asterias Blosser 1909	300	Pl. 12, Fig. 2	*Canthigaster rostrata* (Bloch 1786)
Psilotris alepis Ginsburg 1953	22	none	*Psilotris alepis* Ginsburg 1953
Acyrtops amplicirrus Briggs 1955	74	Fig. 94	*Acyrtops amplicirrus* Briggs 1955
Flagelloserranus danae Kotthaus 1970	20	Fig. 15	*Liopropoma* sp. The juvenile of some previously described species, probably *L. rubre* Poey 1861.
Tomicodon briggsi Williams and Tyler 2003	8	Fig. 8	*Tomicodon briggsi* Williams and Tyler 2003

Format of Annotated Checklist

Family classification and sequence of accounts are given in phylogenetic order mostly following Nelson (2006). Genera and species are alphabetical within each family. A standard format for each species account is used and includes the following:

(1) Scientific names, authors and dates of publication for each species follow Eschmeyer (2013) unless otherwise noted. The use of "cf" before a species name indicates that the specimens are similar to that species, but may possibly represent an undescribed species. To conserve space, we usually do not give complete references for new species descriptions, except for the 17 nominal species first described from St. Croix (see Table 4). Complete references for described species are readily available in Eschmeyer (2013).

(2) An asterisk preceding a scientific name indicates a species not listed by Clavijo *et al.* (1980).

(3) The common name used for each species is that given in the latest edition of the American Fisheries

Society common names list (Page *et al.*, 2013) or Böhlke and Chaplin (1968); a few alternative local St. Croix names are also given in parentheses. If no common name was available, we sometimes coined one. We also follow Page *et al.* (2013) in capitalization of the first letter of each word of a common name.

(4) Species synonymies are very selective and apply only to those specifically noting St. Croix records or specimen listings. To save space, we usually do not repeat names recorded by Clavijo *et al.* (1980) that are nomenclaturally current. Names used in the original checklist that are not nomenclaturally current or that presumably were misapplied (due to misidentification) are given together with their modern equivalents in the individual species accounts.

(5) "Justification" is the rationale for the species listing. In most cases we have accepted species listed by Clavijo *et al.* (1980) that lack independent verification as reliable records but discuss those where voucher specimens are needed for positive identification. If the justification is based on voucher specimens from St. Croix, we first cite the collection abbreviation of the institutional depositories. When a vouchered species is documented by only a few collections, we usually give the catalog number followed, in parentheses, by the number of specimens. In the case of historically important or uncommon species, we sometimes also give specimen lengths, in mm as either SL (standard length), FL (fork length), BL (body length, measured from posterior margin of opercle to caudal base), or TL (total length). For the majority of species only UF voucher specimens exist and for those based on collections from Buck Island Reef National Monument we give, in parentheses, the total number of BIRNM stations at which the species was collected. This provides a rough indication of the frequency of occurrence of some of the cryptic species.

For some species we include records based on visual observations made by Reef Environmental Education Foundation volunteers (REEF, 2010). We have been selective in accepting species occurrence records based solely on REEF data because of the unreliability of visual identifications for certain species. In most cases we include such records only if the species has been reliably documented from one of the other Virgin Islands, or we give reasons under "Remarks" for acceptance of the records. From January 1993 to August 2010 REEF conducted 1,037 non-point roving surveys at 69 separate sites in St. Croix. REEF data, given in parentheses, are recorded as two numbers. The first is the number of observations of a species made by REEF-rated "expert observers", and the second number indicates observations made by "novice observers."

(6) "Distribution" lists general localities as an indication of the extralimital ranges of St. Croix fishes. For many species we cite one or more references as the major (but not exclusive) source(s) of information for species ranges; for others we have relied primarily on on-line museum database distributional records, with questionable records or identifications mostly confirmed by us (UF has the largest and most extensive collection of Caribbean reef fishes). We also used more specific references for certain localities including Smith-Vaniz *et al.* (1999) and Smith-Vaniz and Collette (2013) for Bermuda; McEachran and Fechhelm (1998, 2005) for the Gulf of Mexico; Böhlke and Chaplin (1968, second edition) for the Bahamas; and Claro *et al.* (2001) for Cuba. Abbreviated general-occurrence localities are defined as follows:

BA = Bahama Islands, including Turks and Caicos.
BD = Bermuda. All species reliably documented from Bermuda are included; an asterisk indicates those considered to be waifs (species without locally reproducing populations) or occurrence based only on historical records.
EA = Eastern Atlantic. (The mid-Atlantic islands of Ascension and St. Helena are listed separately.)
EP = Eastern Pacific.
FL = Florida Keys (Key Largo to Dry Tortugas).
GA = Greater Antilles, including Cuba, Hispanola, Puerto Rico, Jamaica and Cayman Is.
GOM = Gulf of Mexico, excluding the Florida Keys.
IWP = Indo-West Pacific, including the Indian Ocean.
LA = Lesser Antilles, comprising the island chain south of the British Virgin Islands to Grenada but not including Trinidad and Tobago and islands offshore of Venezuela and Colombia, which we categorize as part of the northern South America (nSA) ichthyofauna.
nSA = Northern South America, the region north of Amazon River mouth including Trinidad and Tobago and islands off coasts of Venezuela and Colombia.
sSA = Southern South America, the region south of the Amazon River mouth.
VI = Virgin Islands, exclusive of St. Croix which for zoogeographic purposes is treated separately.

WA = Western Atlantic. (Selected WA localities are given in parentheses in each species' distributional summary).
WC = Western Caribbean, the region from the northeastern tip of the Yucatán Peninsula to Colombia, including off shore islands.

(7) "Remarks" includes notes on taxonomy, distribution, habitats, relative abundance, literature references, etc.

Annotated checklist
Asterisk indicates species not recorded by Clavijo *et al.* (1980).

GINGLYMOSTOMATIDAE—nurse sharks (1 species)

Ginglymostoma cirratum (Bonnaterre 1788)—Nurse Shark
Justification: On-line photographs available (Pittman *et al.*, 2008); REEF (13/24).
Distribution: WA (BD, BA, FL, GOM, GA, VI, LA, WC, nSA, sSA).
Remarks: Beatty (1944:178) stated "frequently seen in slightly brackish waters of Fairplain Stream a quarter mile from its entrance into the sea."

TRIAKIDAE—hound sharks (1 species)

Mustelus caninus insularis Heemstra 1997—Caribbean Smooth Dogfish (Smooth Hound)
Justification: UF 183038 (1, 730 mm TL), Long Point, south shore, 190 m, Aug. 1982; listed as *Mustelus caninus* and "rare" by Clavijo *et al.* (1980:4).
Distribution: Heemstra (1997) WA (BD, BA, GA, VI, LA).
Remarks: This is the only species of *Mustelus* known from Caribbean islands. Heemstra (1997) recognized two allopatric subspecies of *Mustelus caninus* with the nominal subspecies *M. caninus caninus* (Mitchill 1815) mostly restricted to shallow continental waters; *M. caninus insularis* is found only on deep slopes (137-808 m) with rugged rocky bottoms at insular localities. Although these two taxa are virtually identical externally, they exhibit no overlap in numbers of monospondylic or precaudal vertebra.

CARCHARHINIDAE—requiem sharks (9 species)

No voucher specimens are available for the seven species reported from St. Croix by Clavijo *et al.* (1980), and two others are herein added to the list. All of these sharks are broadly distributed, would have been relatively common, at least historically, and their occurrence in St. Croix would be expected. It is now illegal to take any shark found in St. Croix waters. Castro (2011) gives an excellent essay on the importance of shark conservation and what is required to end the irrational utilization practices and greed of the past. We do not include *Carcharhinus galapagensis* in the checklist, although there is one verified record for St. Thomas involving a fatal attack (Randall, 1963); it is likely that historically *C. galapagensis* also occurred in St. Croix. Accurate identification of some species of *Carcharhinus* can be difficult and we recommend the use of Compagno (1984b) or Castro (2011).

****Carcharhinus acronotus*** (Poey 1860)—Blacknose Shark
Justification: ZMUC P.690 (1, 903 mm TL), St. Croix, Sept., 1845; specimen identification and morphometric data (Garrick, 1982:68).
Distribution: Compagno (1984) WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Carcharhinus falciformis (Müller and Henle 1839)—Silky Shark
Justification: Listed as "occasional" by Clavijo *et al.* (1980:4).
Distribution: Compagno (1984b), circumtropical, WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA, IWP, EA.

Carcharhinus leucas (Müller and Henle 1839)—Bull Shark

Justification: Listed as "occasional" by Clavijo *et al.* (1980:4).

Distribution: Compagno (1984b), circumtropical, WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA, IWP, EP.

Carcharhinus limbatus (Müller and Henle 1839)—Blacktip Shark

Justification: Listed as infrequent hook & line bycatch (Whiteman, 2005:25) and as "occasional" by Clavijo *et al.* (1980:4).

Distribution: Compagno (1984b), circumtropical, WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA, IWP, EP.

Carcharhinus longimanus (Poey 1861)—Oceanic Whitetip Shark

Justification: Listed as "occasional" by Clavijo *et al.* (1980:4).

Distribution: Circumtropical, Compagno (1984b) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), St. Helena, EA, IWP, EP.

Carcharhinus perezii (Poey 1867)—Reef Shark

Listed as *Carcharhinus springeri* and "common" by Clavijo *et al.* (1980:4).

Justification: See above general comments.

Distribution: Compagno (1984b) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Galeocerdo cuvier (Peron and Lesueur 1822)—Tiger Shark

Justification: Photograph of a large freshly caught St. Croix fish seen by us, and listed as "common" by Clavijo *et al.* (1980:4).

Distribution: Circumtropical, Compagno (1984b) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA, IWP, EP.

Negaprion brevirostris (Poey 1868)—Lemon Shark

Justification: Listed as "occasional" by Clavijo *et al.* (1980:4).

Distribution: Compagno (1984b) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA, EP.

****Rhizoprionodon porosus*** (Poey 1861)—Caribbean Sharpnose Shark

Justification: Although Clavijo *et al.* (1980) did not list this species, it undoubtedly occurs in St. Croix. Randall (1968, fig. 4) documented it from St. John.

Distribution: Compagno (1984b) WA (BA, GA, VI, LA, WC, nSA, sSA).

Remarks: Campagno (1984b) stated that *R. porosus* is found close inshore on insular shelves of the Caribbean and is one of the commonest inshore sharks.

SPHYRNIDAE—hammerhead sharks (2 species)

****Sphyrna lewini*** (Griffith and Smith 1834)—Scalloped Hammerhead

Justification: Listed as part of Bigeye Scad by-catch (Tobias, 1991:91).

Distribution: Circumtropical, Compagno (1984b) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA, IWP, EP.

Sphyrna mokarran (Rüppell 1837)—Great Hammerhead

Justification: Listed as "occasional" by Clavijo *et al.* (1980:4); common Caribbean species often occurring inshore and around coral reefs.

Distribution: Circumtropical, Compagno (1984b) WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA, IWP, EP.

Remarks: An article in a local newspaper, dated 3 April 1982, included a photograph of a huge Great Hammerhead caught off Sandy Point that weighted 795 kg (1,753 lbs) and had a total length of 4.4 m (14 ft 6 in).

HEXANCHIDAE—cow sharks (1 species)

Hexanchus nakamurai Teng 1962—Bigeye Sixgill Shark

Justification: Listed as *Hexanchus griseus* (junior synonym of *H. nakamurai* according to Eschmeyer, 2013), and as "occasional" by Clavijo *et al.* (1980:4).

Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA), EA, IWP.

Remarks: This shark occurs as deep as 600 m but may occasionally come to the surface at night in the tropics (Compagno, 1984a) and has been taken in the Florida Keys in 129–139 m.

DASYATIDAE—whiptail stingrays (1 species)

Dasyatis americana Hildebrand and Schroeder 1928—Southern Stingray

Justification: ZMUC P.08125 (1, disc width 238 mm), St. Croix, 1896; observed in Tague Bay (Mateo and Tobias, 2001:213); on-line photographs available (Pittman *et al.*, 2008); many sight records in addition to REEF (61/96).

Distribution: WA (FL, GOM, BA, GA, VI, WC, nSA, sSA), EA.

MYLIOBATIDAE—eagle rays (2 species)

Aetobatus narinari (Euphrasen 1790)—Spotted Eagle Ray

Justification: ZMUC P.08719 (1), St. Croix, Feb., 1906; our own observations in addition to REEF (15/20).

Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA).

Remarks: Beatty (1944:178) noted "small specimens are often seen in the slightly brackish waters of Fairplain Stream."

This species has been considered to have a circumtropical distribution but recent studies using mitochondrial and nuclear sequence data have shown that this species is a complex of at least 2 or 3 species (White *et al.*, 2010). The species apparently is absent from the Indo-West Pacific and preliminary data suggest that eastern Atlantic and eastern Pacific members of the Aetobat*us narinari* complex are also probably a different species.

Manta birostris—Caribbean Manta (Manta Ray)

Justification: Many visual records, and listed as "occasional" by Clavijo *et al.* (1980:5).

Distribution: Circumtropical, Marshall *et al.* (2009) WA (BD, FL, GOM, BA, GOM, GA, VI, LA, WC, nSA, sSA), EA, IWP, EP.

Remarks: Marshall *et al.* (2009) present data and color photographs indicating that a second previously unrecognized and putative new *Manta* species occurs in and appears to be endemic to the Atlantic Ocean and Caribbean. In some areas of the northern Atlantic, including the Bahamas, it occurs together with the circumtropical *Manta birostris* (Walbaum) but only the "new" species apparently occurs around islands of the Lesser Antilles. Images of mantas from St. Croix look like typical *M. birostris*. Additional research is required to clarify the taxonomic status of the variant *Manta* sp. and better determine its ecology and precise distribution. If this manta proves to be a distinct species, the name *Manta giorna* Lesueur 1824 will probably be used for it.

ELOPIDAE—tenpounders (ladyfishes) (1 species)

Elops smithi McBride, Rocha, Ruiz-Carus and Bowen 2010—Southern Ladyfish

Listed as *Elops saurus* Linnaeus by Fowler (1951:25) and as "common" by Clavijo *et al.* (1980:5).

Justification: ANSP 73294 (2) and ANSP 80628 (2), all ANSP specimens based on leptocephali; ZMUC P.17906 (1, 273 mm SL), St. Croix, Jan. 1842.

Distribution: McBride and Horodysky (2004) and McBride *et al.* (2010) WA (BD*, BA, GA, VI, LA, WC, nSA, sSA).

Remarks: Only one species of ladyfish, *Elops saurus* Linnaeus, was thought to occur in the western Atlantic Ocean until Smith (1989e) showed that leptocephali from the area had a bimodal distribution of myomere counts, indicating the existence of two distinct morphs. He identified the low-count morph (68–72 preanal and 74–78 total myomeres) as *Elops* sp. and the high-count morph (76–80 preanal and 79–86 total myomeres) as *E. saurus*. Although both species are virtually identical externally, they differ in number of vertebrae and, except in areas of sympatry, in counts of lateral-line scales (102–118 in *E. smithi* versus 119–128 in *E. saurus*), have distinct mitochondrial DNA sequences and mostly allopatric distributions (McBride *et al.*, 2010). *Elops smithi* is distributed throughout the Bahamas, Caribbean Sea and northern coast of South America, whereas *E. saurus* has a more northern distribution occurring in the Gulf of Mexico and off the east coast of the United States.

MEGALOPIDAE—tarpons (1 species)

Megalops atlanticus Valenciennes *in* Cuv. & Val. 1847—Tarpon

Justification: ZMUC P.17908-17911 (4, 107–172 mm SL), Frederiksted, Jan. 1906; one specimen caught and released by us at Salt River; on-line photographs available (Pittman *et al.*, 2008).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA.

Remarks: Beatty (1944:178) stated "large specimens [of *Tarpon atlanticus*] enter the slightly brackish waters of Fairplain Stream."

ALBULIDAE—bonefishes (1 species)

Albula vulpes (Linnaeus 1758)—Bonefish

Justification: ZMUC P.17905 (1, 210 mm SL), Frederiksted, 1906; ZMUC P.17907 (1, 465 mm SL), St. Croix, Sept. 1845.

Remarks: Beatty (1944:178) noted occurrence "in Southgate Pond; water brackish."

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

ANGUILLIDAE—freshwater eels (1 species)

Anguilla rostrata (Lesueur 1817)—American Eel

Justification: UF 183031 (1, 1120 mm TL), freshwater pond, Lower Love Estate, October 1972; USNM 106638 (1, 260 mm TL), Fairplain Stream, H. A. Beatty, 1937; additional St. Croix specimens [not examined] at ZMUC.

Distribution: Smith (1989a) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: Under the name *Anguilla bostonensis*, Beatty (1944:178) stated "during the winter months the larval eel, which is about two inches in length, can be seen migrating upstream in Fairplain, Concordia and Caledonia streams." In a chapter titled "The Night of the Eel," Seaman (1973) described his excitement as a boy when fishing for eels at Castle Burk pool.

This catadromous and mostly nocturnal eel has a remarkable life history, see Smith (1989a) for a detailed description. It spends the majority of its adult life in fresh water as a "yellow eel," which can last 4–20 years. At the end of that stage it stops feeding and begins an irreversible transformation (more pronounced in males) that leads to sexual maturation. It then moves out to sea and migrates to an imprecisely known area south of Bermuda where spawning occurs.

MORINGUIDAE—spaghetti eels (1 species)

Moringua edwardsi (Jordan and Bollman 1889)—Spaghetti Eel

Justification: UF (BIRNM, 55).

Distribution: Smith (1989b) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, Atol Rocas and Trindade Island).

CHLOPSIDAE—false eels (3 species)

Chilorhinus suensonii Lütken 1852—Seagrass Eel
Listed as *Chilorhinus suensonii* by Cope (1871:482) and Fowler (1919:144).
Justification: UF (BIRNM, 7).
Distribution: Smith (1989c) WA (BA, FL, GA, VI, LA, WC, nSA, sSA).
Remarks: First described from St. Croix as the new species *Chilorhinus suensonii* (see Table 4).

****Kaupichthys hyoproroides*** (Strömman 1896)—False Moray
Justification: UF (BIRNM, 34).
Distribution: Smith (1989c) WA (BD, FL, BA, GA, VI, LA, WC, nSA, sSA), IWP.

****Kaupichthys nuchalis*** Böhlke 1967—Collared Eel
Justification: UF 183028 (2, 52–71.4 mm TL), SSW of Butler Bay.
Distribution: Smith (1989c) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

MURAENIDAE—morays (13 species)

****Anarchias similis*** (Lea 1913)—Pygmy Moray
Justification: UF 159060 (1, 67 mm TL), BIRNM.
Distribution: Böhlke *et al.* (1989): WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA.

Echidna catenata (Bloch 1795)—Chain Moray
Justification: UF (BIRNM, 8); REEF (8/14).
Distribution: Böhlke *et al.* (1989): WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension Island.

Enchelycore carychroa Böhlke and Böhlke 1976—Chestnut Moray
Justification: UF (BIRNM, 36).
Distribution: Böhlke *et al.* (1989): WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena, EA.

Enchelycore nigricans (Bonnaterre 1788)—Viper Moray
Justification: UF (BIRNM, 36).
Distribution: Böhlke *et al.* (1989): WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension, EA.

****Gymnothorax conspersus*** Poey 1867—Saddled Moray
Listed as *Gymnothorax* "new species" by Clavijo *et al.* (1980:6).
Justification: ANSP 136093 (1, 1095 mm TL) and ANSP 137565 (1, 725 mm TL), near Frederiksted in 183–213 m [identified by E. B. Böhlke]; ZMUC P.313605 (1, 935 mm TL), Christiansted, 1906.
Distribution: Böhlke *et al.* (1989) WA (North Carolina, BA, GA, VI, LA, nSA, sSA).
Remarks: A deep-water moray with most collections made by trawl in depths below 200 m, but a few specimens taken in 50–200 m (Böhlke *et al.* (1989:163).

Gymnothorax funebris Ranzani 1839—Green Moray
Justification: UF (BIRNM, 2); REEF (28/61).
Distribution: Böhlke *et al.* (1989): WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Gymnothorax maderensis (Johnson 1862)—Sharktooth Moray

Justification: SIO 76–205 (1, 775 mm TL), Lang Bank; specimen listed in Böhlke *et al.* (1989:154).

Distribution: Böhlke *et al.* (1989): WA (North Carolina, BD, GA, VI), EA.

Remarks: This rarely collected moray has been recorded from depths of 148–274 m in the western Atlantic and 85–200 m in the eastern Atlantic.

Gymnothorax miliaris (Kaup 1856)—Goldentail Moray

Listed as *Muraena miliaris* and "occasional" by Clavijo *et al.* (1980:6).

Justification: UF (BIRNM, 7); REEF (57/61).

Distribution: Böhlke *et al.* (1989): WA (BD, FL, BA, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena, EA

Gymnothorax moringa (Cuvier 1829)—Spotted Moray

Justification: UF (BIRNM, 35); REEF (55/107).

Distribution: Böhlke *et al.* (1989): WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena.

Gymnothorax ocellatus (Agasssiz 1831)—Ocellated Moray

Justification: Whiteman (2005:21 and 24) listed as hook & line bycatch based on one specimen of "*Gymnothorax ocella* [sic], Ocellated moray," from the northeast end of St. Croix including Lang Bank.

Distribution: Böhlke *et al.* (1989): WA (GA, VI, LA, WC, nSA, sSA)

Remarks: Voucher specimens are required to confirm the above species record, which could have been based on G. *conspersus*. We provisionally accept the identification because there are confirmed records of *G. ocellatus* from the northern Virgin Islands. Böhlke *et al.* (1989:175) stated that this "is the most common moray taken by trawl in the Caribbean ... in depths commonly ranging from 15–90 m." They also reported that a few specimens were taken by hook and line. All of the St. Croix hook and line fish listed by Whiteman (2005) are relatively shallow-water species, which agrees with the depth range of *Gymnothorax ocellatus* in contrast to the much deeper depths (>200 m) commonly recorded for *G. conspersus*.

Gymnothorax vicinus (Castelnau 1855)—Purplemouth Moray

Justification: UF (BIRNM, 23); REEF (6/15).

Distribution: Böhlke *et al.* (1989): WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension, EA.

Monopenchelys acuta (Parr 1930)—Redface Moray

Justification: UF 164649 (1, 102 mm TL), BIRNM.

Distribution: Böhlke *et al.* (1989): WA (BA, GA, LA, WC, nSA), Ascension, IWP.

Uropterygius macularius (Lesueur 1825)—Marbled Moray

Listed as *Uropterygius diopus* and "occasional" by Clavijo *et al.* (1980:6).

Justification: UF (BIRNM, 16); UF 183048 (7, 144–220 mm TL), Coakley bay.

Distribution: Böhlke *et al.* (1989): WA (BD, FL, BA, GA, VI, LA, WC, nSA, sSA), Ascension Island.

OPHICHTHIDAE—snake eels (11 species)

Ahlia egmontis (Jordan 1884)—Key Worm Eel

Justification: UF (BIRNM, 32).

Distribution: McCosker *et al.* (1989) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Aprognathodon platyventris Breder 1927—Stripe Eel

Justification: UF (BIRNM, 11).

Distribution: McCosker *et al.* (1989) WA (FL, BA, GA, VI, LA, WC, nSA).

Apterichtus ansp Böhlke 1968—Academy Eel
Justification: UF 164770 (1, 213 mm TL), BIRNM.
Distribution: McCosker *et al.* (1989) WA (BD, FL, BA, LA, sSA).

Callechelys bilinearis Kanazawa 1952—Twostripe Snake Eel
Justification: ZMUC P.3210 (1, 395 mm TL), Christiansted, Feb. 1906.
Distribution: McCosker *et al.* (1989) WA (BD, BA, GA, LA, WC, nSA, sSA), Ascension and St. Helena.

Caralophia loxochila Böhlke 1955—Slantlip Eel
Justification: UF (BIRNM, 3).
Distribution: McCosker *et al.* (1989) WA (FL, GOM, BA, GA, LA, WC, nSA, sSA).

Echiophis punctifer (Kaup 1860)—Stippled Spoon-nose Eel
Justification: ANSP 150012 (1, 874 mm TL), Sandy Point, Aug. 1981 [identified by J. McCosker].
Distribution: McCosker *et al.* (1989) WA (FL, GOM, GA, WC, nSA, sSA), EA.
Remarks: McCosker *et al.* (1989:364) listed the locality of the above specimen only as "the Virgin Islands." Although this stout ophichthid has a wide but spotty Caribbean distribution, this is the only known record of the eel from St. Croix or elsewhere in the Virgin Islands.

Ichthyapus ophioneus (Evermann and Marsh 1900)—Surf Eel
Justification: UF (BIRNM, 6).
Distribution: McCosker *et al.* (1989) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena.

Myrichthys breviceps (Richardson 1884)—Sharptail Eel
Listed as *Myrichthys acuminatus* and "common" by Clavijo *et al.* (1980:6).
Justification: UF (BIRNM, 2); UF 183226 (3, 145–218 mm TL), Rod Bay; on-line photographs available (Pittman *et al.*, 2008); REEF (5/16).
Distribution: McCosker *et al.* (1989) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Myrichthys ocellatus (Lesueur 1825)—Goldspotted Eel
Listed as *Myrichthys oculatus* and "common" by Clavijo *et al.* (1980:6).
Justification: UF (BIRNM, 7) and UF 183185 (3, 167–365 mm TL), Rod Bay; on-line photographs available (Pittman *et al.*, 2008).
Distribution: McCosker *et al.* (1989) WA (BD, FL, BA, GA, VI, LA, WC, nSA, sSA).

Myrophis platyrhynchus Breder 1927—Broadnose Worm Eel
Justification: UF (BIRNM, 4); MCZ 43238 (3).
Distribution: McCosker *et al.* (1989) WA (BD, BA, GA, VI, LA, WC, nSA, sSA).

Ophichthus ophis (Linnaeus 1758)—Spotted Snake Eel
Justification: We accept the Clavijo *et al.* (1980:6) listing of "occasional" for this large and distinctively spotted species, which occurs in relatively shallow water (1–10 m); recorded from Tague Bay (Mateo and Tobias, 2001:214); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:74).
Distribution: McCosker *et al.* (1989) WA (BD, FL, GOM, GA, VI, LA, WC, nSA, sSA), EA.

CONGRIDAE—conger eels (5 species)

Ariosoma balearicum (Delaroche 1809)—Bandtooth Conger
Listed as *Ariosoma impressa* and "common" by Clavijo *et al.* (1980:6).

Justification: See above.
Distribution: Smith (1989d) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA.

Conger esculentus Poey 1861)—Antillean Conger
Justification: UF 183040 (3, 900–1098 mm TL), WNW of BIRNM; SIO 76–209 (2, 767–1196 mm TL), Frederiksted Roadsted [identified by H. J. Walker]; listed as "rare" by Clavijo *et al.* (1980:6).
Distribution: Smith (1989d) WA (BD, GA, nSA).

Conger triporiceps Kanazawa 1958—Manytooth Conger
Listed as *Conger* sp. and "rare" by Clavijo *et al.* (1980:6).
Justification: UF 159802 (1, 143 mm TL), BIRNM.
Distribution: Smith (1989d) WA (BD, FL, GOM, BA, GA, LA, WC, nSA, sSA).

Heteroconger longissimus Günther 1870)—Brown Garden Eel
Listed as *Nystactichthys halis* and "common" by Clavijo *et al.* (1980:6).
Justification: UF 164878 (6, 318–367 mm TL) and UF 164884 (3, 282–322 mm TL), BIRNM, 2; observed during Frederiksted reef system censuses (Toller, 2007:49) and by us off Frederiksted Pier in Jan. 2012; online photographs available (Pittman *et al.*, 2008); REEF (71/101).
Distribution: Smith (1989d) and Tyler and Luckhurst (1994) WA (BD, FL, BA, GA, VI, LA, WC), EA.

****Paraconger caudilimbatus*** (Poey 1867)—Margintail Conger
Justification: UF 165139 (1, 231 mm TL), BIRNM.
Distribution: Smith (1989d) WA (BD, FL, GOM, BA, GA, nSA, sSA), EA.

ENGRAULIDAE—anchovies (2 species)

****Anchoa cayorum*** (Fowler 1906)—Key Anchovy
Justification: UF (BIRNM, 2); recorded from Tague Bay (Robblee and Zieman, 1984:342).
Distribution: WA (FL, BA, GA, LA, WC, nSA).

****Anchoa lamprotaenia*** Hildebrand 1943—Bigeye Anchovy (Hogmouth Fry)
Questionably listed as *Anchoa choerostoma* [= Bermuda endemic] and "occasional" by Clavijo *et al.* (1980:7).
Justification: UF 185215 (10, 45–56 mm SL), Tague Bay; MCZ 65011 (35), Tague Bay; UF 180997 (1, 41.6 mm SL), Long Point Bay; ZMUC P.183846-59 (14, 52–57 mm SL) St. Croix, 1845; recorded from Tague Bay (Robblee and Zieman, 1984:342).
Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

Anchoa lyolepis (Evermann and Marsh 1900)—Dusky Anchovy (Sharknose fry)
Justification: Listed as "common" by Clavijo *et al.* (1980:7); observed in Yellowcliff Bay (Mateo and Tobias, 2001:213); abundant in Altoon Lagoon (Tobias *et al.*, 1996:24).
Distribution: WA (FL, GOM, GA, VI, LA, WC, nSA, sSA).
Remarks: Voucher specimens should be obtained to confirm the above records. The species is broadly distributed and a St. Croix distribution would be expected.

CLUPEIDAE—herrings (5 species)

Harengula clupeola (Cuvier 1829)—False Pilchard
Justification: UF 181025 (9, 40–55 mm SL), Altona Lagoon; UF 182924 (18, 73–82), Triton Bay; ZMUC P.183844 (1, 95 mm SL), St. Croix, Aug. 1831.
Distribution: Whitehead (1985) WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).
Remarks: Clavijo *et al.* (1980) did not record *H. jaguana* Poey from St. Croix although *H. clupeola* was listed

"as very common." These two species are very similar differing primarily in the shape of the basihyal and basibranchial toothplates and in modal number of lower gill rakers (Whitehead, 1985). *Harengula jaguana* exhibits considerable geographic variation and more systematic research on this species (and *H. clupeola*) is needed to conclusively determine the taxonomic status of *H. jaguana* (Munroe and Nizinski 2002:821).

Harengula humeralis (Cuvier 1829)—Atlantic Pilchard

Listed as *Clupea humeralis* by Cope (1871:483), and as *H. pensacolae* by Fowler (1919:144).

Justification: UF 180995 (20, 49–83 mm SL), Altona Lagoon; UF 183078 (6, 88–106 mm SL), Great Pond Bay; ZMUC P.183842 (1, 106 mm SL), Sept. 1845; ZMUC P.183843 (1); ZMUC P.18344 (1), St. Croix, Aug. 1831; abundant in Altoon Lagoon (Tobias *et al.*, 1996:24).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Jenkinsia lamprotaenia (Grosse 1851)—Dwarf Herring

Justification: UF (BIRNM, 15); UF 180957 (100, 34–54 mm SL), Frederiksted Pier; recorded from Tague Bay (Robblee and Zieman, 1984:338).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: In addition to the very abundant *Jenkinsia lamprotaenia*, Robblee and Zieman (1984:342) also reported four individuals of *J. majua* Whitehead from Tague Bay. We question the the accuracy of the identification because species of *Jenkinsia* are difficult to identify and the best character purported by Whitehead (1963) to distinguish these two species is absence of premaxillary dentition in *J. majua*. Dentition is difficult to observe in small specimens of *Jenkinsia*; many specimen lots identified as *Jenkinsia majua* in the UF collection have minute premaxillary dentition which apparently was overlooked.

****Opisthonema oglinum*** (Lesueur 1818)—Atlantic Thread Herring

Justification: UF 180906 (5, 121–139 mm SL), Salt River; ANSP 22343 (1); FMNH 89607 (2); reported from Great Pond (Tobias, 2001).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

****Sardinella aurita*** Valenciennes *in* Cuv. & Val. 1847—Spanish Sardine

Justification: UF 160072 (2, 20–21 mm SL), BIRNM.

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, sNA, sSA), EA.

ICTALURIDAE—North American catfishes (1 species)

****Ictalurus punctatus*** (Rafinesque 1818)—Channel Catfish

Justification: UF 183037 (1, 360 mm SL) freshwater pond at Lower Love Estate, July 1977.

Distribution: Widely introduced freshwater species, native to North America

SYNODONTIDAE—lizardfishes (4 species)

****Saurida normani*** Longley 1935—Shortjaw Lizardfish

Justification: UF 183042 (1, 350 mm SL) and UF 183377 (1, 270 mm SL), both Lang Bank.

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: This is a relatively deep-water lizardfish but is included here because it has been reported to occur in depths as shallow as 40 m (McEachran and Fechhelm, 1998).

Synodus intermedius (Spix and Agassiz 1829)—Sand Diver

Listed as *Synodus intermedius* by Fowler (1919:144).

Justification: UF (BIRNM, 7); UF 183085 (2, 93–124 mm SL), Coakley Bay; observed during Frederiksted reef system censuses (Toller, 2007:49); on-line photographs available (Pittman *et al.*, 2008); REEF (130/190).

Distribution: Frable *et al.* (2013) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Synodus saurus (Linnaeus 1758)—Bluestripe Lizardfish
Justification: Listed as "common" by Clavijo *et al.* (1980:7); negligibly present in back-reef visual censuses (Adams and Ebersole (2002:223); REEF (3/8).
Distribution: WA (FL, BA, LA, WC, nSA, sSA), EA.

Synodus synodus (Linnaeus 1758)—Red Lizardfish, Fig. 5A
Justification: UF (BIRNM, 44); recorded from Tague Bay (Robblee and Zieman, 1984:338).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension, EA.

POLYMIXIIDAE—beardfishes (1 species)

Polymixia lowei Güther 1859)—Beardfish
Justification: UF 182989 (1, 166 mm SL) and SIO 76–205 (5), both collections from Lang Bank; listed as "rare" by Clavijo *et al.* (1980:9).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).
Remarks: A deep-water species that has also been taken as shallow as 24 m.

CARAPIDAE—pearlfishes (1 species)

****Carapus bermudensis*** (Jones 1874)—Pearlfish
Justification: ZMUC P.771709 (1, 157 mm SL), St. Croix, Oct. 1829.
Distribution: Tyler *et al.* (1992) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).
Remarks: The Pearlfish is an obligate inquiline within the body cavity of sea cucumbers (Markle and Olney, 1990) and in shallow water its preferred host is *Actinopyga agassizi* but it has also been reported from six other holothurian genera listed in Tyler *et al.* (1992). The paucity of records of the pearlfish from St. Croix is most likely a collecting artifact owing to its inquiline behavior.

OPHIDIIDAE—cusk-eels (5 species)

Brotula barbata (Bloch and Schneider 1801)—Atlantic Bearded Brotula
Justification: UF 183041 (1, 515 mm SL) S. of Frederiksted, 244 m; SIO 76–206 (1, 360 mm TL), 244 m and SIO 76–209 (1, 550 mm TL), 274 m, Frederiksted Roadsted, 17°42.5'N, 64°53.7'W [identified by H. J. Walker]; listed as "rare" by Clavijo *et al.* (1980:8).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, nSA), EA.
Remarks: *Brotula barbata* occurs on continental/insular shelves to 650 m but is included here because it has been collected from a fish trap off Puerto Rico in 85–90 m (Bunkley-Williams and Williams, 2004).

****Ophidion lagochila*** (Böhlke and Robins 1959)—Harelip Cusk-eel, Fig. 5B
Justification: UF 159941 (1, 32 mm SL), BIRNM.
Distribution: WA (BD, BA, GA, LA).

****Otophidium dormitator*** Böhlke and Robins 1959—Sleeper Cusk-eel, Fig. 5C
Justification: UF (BIRNM, 7).
Distribution: FL, GOM, BA, WC, nSA, sSA).

****Parophidion schmidti*** (Woods and Kanazawa 1951)—Dusky Cusk-eel, Fig. 5D
Justification: UF (BIRNM, 4).

Distribution: WA (BD, FL, BA, GA, VI, LA, WC, nSA).

Petrotyx sanguineus (Meek and Hildebrand 1928)—Redfin Brotula, Fig. 5E
Justification: UF (BIRNM, 7).
Distribution: WA (FL, BA, GA, VI, WC, nSA).

BYTHITIDAE—viviparous brotulas (6 species)

Alionematichthys minyomma (Sedor and Cohen 1987)—Small-eye Brotula
Justification: UF (BIRNM, 3) [identified by P. Møller].
Distribution: Møller *et al.* (2004) WA (GA, LA, WC, nSA).
Remarks: In their recent review of American Dinematichthyini, Møller *et al.* (2004) considered this brotula to be a species of *Dinematichthys* but we follow Møller and Schwarzhans (2008) who subsequently reassigned it to their new genus *Alionematichthys*.

Ogilbia jeffwilliamsi Møller, Schwarzhans and Nielsen 2005—Williams' Brotula
Justification: UF (BIRNM, 34) [identified by P. Møller].
Distribution: Møller *et al.* (2005) WA (GA, LA, WC, nSA).

Ogibia suarezae Møller, Schwarzhans and Nielsen 2005—Shy Brotula
Justification: UF (BIRNM, 14) [identified by P. Møller].
Distribution: Møller *et al.* (2005) WA (FL, BA, GA, LA, WC).

Ogilbichthys kakuki Møller, Schwarzhans and Nielsen 2004—Kakuki's Brotula
Justification: UF (BIRNM, 9) [identified by P. Møller].
Distribution: Møller *et al.* (2004) WA (BA, GA)

Ogilbichthys longimanus Møller, Schwarzhans and Nielsen 2004—Longhand Brotula
Justification: UF 148689 (1, 46 mm SL), BIRNM [identified by P. Møller].
Distribution: Møller *et al.* (2004) WA (BA, GA, WC).

Stygnobrotula latebricola Böhlke 1957—Black Brotula
Justification: Listed as "occasional" by Clavijo *et al.* (1980:8). Although no voucher specimens are available, we provisionally accept this record, in part, because there are unconfirmed sight records for St. Croix.
Distribution: WA (FL, BA, GA, nSA, sSA).
Remarks: Voucher specimens are needed to confirm the St. Croix occurrence of this species.

ANTENNARIIDAE—frogfishes (4 species)

Antennarius multiocellatus (Valenciennes *in* Cuv. & Val. 1837)—Longlure Frogfish, Fig. 6A
Listed as *Antennarius multiocellatus* by Cope (1871:480) and Fowler (1919:145).
Justification: UF (BIRNM, 10); ANSP (1, 80 mm SL); REEF (6/14).
Distribution: Pietsch and Grobecker (1987) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA), Ascension, EA.

Antennarius pauciradiatus Schultz 1957—Dwarf Frogfish, Fig. 6B
Justification: UF (BIRNM, 19).
Distribution: Pietsch and Grobecker (1987) WA (BD*, FL, BA, GA, VI, WC, nSA).

Antennarius scaber (Cuvier 1817)—Striated Frogfish
Justification: FMNH 90998 (1); ZMUC P.9213 (1) and ZMUC P.9216–17 (2).

Distribution: Pietsch and Grobecker (1987), in part, WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).
Remarks: Pietsch and Grobecker (1987) consider *A. striatus* (Shaw and Nodder) to be a broadly distributed species although the combination of a bifid esca and 11 or 12 pectoral-fin rays apparently distinguishes western Atlantic specimens from other populations. Molecular data (Arnold and Pietsch, 2012) also suggest that *A. striatus*, as currently recognized, may be a species complex. The oldest available name for the western Atlantic population is *A. scaber*.

Histrio histrio (Linnaeus 1758)—Sargassumfish
Listed as both *Antennarius inops* and *Histrio histrio* by Clavijo *et al.* (1980:8).
Justification: UF 180971 (13, 11–41 mm SL), from sargassum off Bethlehelm Middle Works; ZMUC P.922755 (1, 56 mm SL), St. Croix, 1847.
Distribution: Pietsch and Grobecker (1987) WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA), EA, IWP.

OGCOCEPHALIDAE—batfishes (2 species)

Ogcocephalus nasutus (Cuvier, 1829)—Shortnose Batfish (Redbellied Batfish)
Justification: UF 183017 (1, 175 mm SL), Sandy Point, May 1977; FMNH 53947 (1) [identified by M. G. Bradbury], USNM 116432 (1); ZMUC P.922756–57 (2), Frederiksted, Jan. 1906; listed as occasional by Clavijo *et al.* (1980:8); St. Croix photograph (Randall, 1996:51).
Distribution: Bradbury (1980) WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

***Ogcocephalus* sp.**—"Polka-dot Batfish"
Listed as *Ogcocephalus radiatus* (Mitchill) and "rare" by Clavijo *et al.* (1980:8).
Remarks: The name *O. radiatus* has been uncritically applied to several species but, in the absence of type specimens, Bradbury (1980) considered this nominal species to be unidentifiable. Voucher specimens are required to determine the identification of this species.

MUGILIDAE—mullets (7 species)

Agonostomus monticola (Bancroft 1834)—Mountain Mullet (Gut Mullet), Fig. 6C
Justification: UF 180903 (1), UF 180953 (6) and UF 181041 (5); FMNH 52799 (2); ZMUC P.71471–72 (2, 153–180 mm SL), St. Croix, Jan. 1896 and ZMUC P.701 (1, 150 mm SL), St. Croix, 1906.
Distribution: WA (FL, GOM, GA,VI, LA,WC).
Remarks: In his list of freshwater species Beatty (1944:178) commented on the interesting life cycle of this amphidromus species; see quote in "Historical Perspective."

****Mugil cephalus*** Linnaeus 1758—Striped Mullet
Justification: UF 182872 (1, 87 mm SL), Manning Bay Lagoon.
Distribution: Circumtropical, Gilbert (1993) and Whitfield *et al.* (2012) WA (FL, GOM, nSA, sSA) EA, IWP, EP.

Mugil curema Valenciennes *in* Cuv. & Val. 1836—White Mullet
Listed as *Mugil brasiliensis* by Cope (1871:481) and as *M. curema* by Fowler (1919:144).
Justification: UF 180890 (1, 242 mm SL), Salt River and UF 180899 (8, 25–68 mm SL), Frederiksted; ZMUC P.71464–70 (7, 60–120 mm SL), Christiansted, Jan. 1906; listed as "common" by Clavijo *et al.* (1980:23).
Distribution: WA (BD, FL, GOM, BA, GA,VI, LA,WC, nSA, sSA), EA, EP.
Remarks: Beatty (1944:178) stated "enters fresh water streams."

****Mugil curvidens*** Valenciennes *in* Cuv. & Val. 1836—Dwarf Mullet
Justification: UF 160120 (1, 34.8 mm SL), BIRNM; UF 182863 (7, 50–52 mm SL) and UF 183001 (2, 62–132

mm SL), both Manning Bay Lagoon.
Distribution: Harrison *et al.* (2007): WA (BD, BA, nSA, sSA) Ascension Island.

Mugil liza Valenciennes *in* Cuv. & Val. 1836—Liza
Justification: Listed as "occasional" by Clavijo *et al.* (1980:23).
Distribution: WA (BD, FL, GOM, BA, GA, WC, nSA, sSA).
Remarks: Voucher specimens are needed to confirm the occurrence of *M. liza* in St. Croix. Harrison *et al.* (2007) and Menezes *et al.* (2010) give characters to separate *M. cephalus* and *M. liza*, but these two species are very difficult to distinguish. Beatty (1944:178) stated *Mugil brasiliensis* (currently considered a synonym of *M. liza*) "enters fresh water streams," but he may have misapplied the name.

****Mugil rubrioculus*** Harrison, Nirchio, Oliveira, Ron & Gaviria 2007—Redeye Mullet, Fig. 6D
Justification: UF 183045 (5, 50–160 SL), Molasses Pier and UF 183048 (2, 38–86 mm SL), Great Pond Bay.
Distribution: Harrison *et al.* (2007): WA (FL, LA, WC, nSA).
Remarks: The precise Caribbean distribution of this recently described mullet (Harrison *et al.*, 2007) is uncertain owing to its similarity to *M. curema*. These two species can be distinguished (characters of *M. rubrioculus* given first with those of *M. curema* in parentheses) as follows: in life, iris reddish-orange (absent or indistinct), base of pectoral fin with small dark spot on dorsal part of base (dark spot extending vertically down most of fin base), anal fin pale (fin dark); scales on flanks usually lack minute, overlying secondary scales (flanks usually with secondary scales). Both species have the second dorsal and anal fins densely covered with scales and the anal fin of adults have three spines (first spine very short) and nine segmented rays (two spines and 10 rays in young, ca. 50 mm SL or smaller). Adults of the other St. Croix *Mugil* species also differ in having only eight anal-fin rays.

Mugil trichodon Poey 1875—Fantail Mullet
Justification: Listed as "occasional" by Clavijo *et al.* (1980:23).
Distribution: WA (BD, FL, GOM, BA, GA, WC, nSA).
Remarks: Voucher specimens are needed to confirm the occurrence of this species in St. Croix.

ATHERINIDAE—Old World silversides (2 species)

Atherinomorus stipes (Müller and Troschel in Schomburgk 1848)—Broadhead Silverside, Fig. 6E
Justification: UF (BIRNM, 10) and UF 180968 (13, 32–49 mm SL), Altona Lagoon; ANSP 73293 (5); observed during Frederiksted reef system censuses (Toller, 2007:49).
Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

Hypoatherina harringtonensis (Goode 1877)—Reef Silverside
Listed as *Allanetta harringtonensis* and recorded as "common" by Clavijo *et al.* (1980:9).
Justification: USNM 332901 (7), Christiansted Harbor; recorded from Tague Bay (Robblee and Zieman, 1984:338).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

EXOCOETIDAE—flyingfishes

The only flyingfish Clavijo *et al.* (1980) listed from St. Croix was *Cheilopogon heterurus* (Rafinesque 1810), as *Cypselurus heterurus*. This is certainly a misidentification, probably of *Cheilopogon melanurus* (Valenciennes 1847), based on current knowledge of the distribution of *C. heterurus* (see Parin and Belyanina, 2000). Most species of flyingfishes are epipelagic and oceanic, although adults of a few species may occasionally occur inshore. At least 11 species of flyingfishes have distributions including both the Greater and Lesser Antilles (Parin, 2002). Because no voucher specimens are available from St. Croix, we exclude the family from this checklist.

HEMIRAMPHIDAE—halfbeaks (3 species)

Hemiramphus balao Lesueur 1821—Balao

Justification: St. Croix photograph of school identified as *H. balao* (Randall, 1996:61).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA.

Remarks: Voucher specimens are needed to confirm the St. Croix occurrence of this widely distributed Caribbean species.

Hemiramphus brasiliensis (Linnaeus 1758)—Ballyhoo

Listed as *Hemirhamphus pleii* by Cope (1871:481) and *Hemiramphus brasiliensis* by Fowler (1919:144).

Justification: UF 149513 (1, 247 mm BL), BIRNM; listed as "common" by Clavijo *et al.* (1980:8); observed at Salt River Canyon (Workman *et al.*, 1984:381) and during Frederiksted reef system censuses (Toller, 2007:49).

Distribution: WA (FL, GOM, BA, GA, VI, WC, LA, nSA, sSA), EA.

****Hyporhamphus unifasciatus*** (Ranzani 1841)—Atlantic Silverstripe Halfbeak

Justification: ANSP 73295 (1) [identified by B. B. Collette]; MCZ 57865 (9) [identified by B. B. Collette]; MNHN B-1072 (1) [lectotype of *H. richardi*.]; ZMUC P. 342678 (1), ZMUC P. 342679 (1).

Distribution: Banford and Collette (1993) WA (FL, GOM, GA, VI, LA, WC, nSA, sSA).

Remarks: First described from St. Croix as the new species *Hemiramphus richardi* (see Table 4). Records of this species from Bermuda are based on misidentifications of *Hyporhampus collettei*, a recently described endemic (Banford, 2010).

BELONIDAE—needlefishes (5 species)

Ablennes hians (Valenciennes *in* Cuv. & Val. 1846)—Flat Needlefish

Justification: Listed as "occasional" by Clavijo *et al.* (1980:8); observed during Frederiksted reef system censuses (Toller, 2007:49); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:71); REEF (4/18).

Distribution: Circumtropical, WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA, IWP, EP.

****Platybelone argalus*** (Lesueur 1821)—Keeltail Needlefish

Justification: Observed during Frederiksted reef system censuses (Toller, 2007:49); REEF (3/15).

Distribution: Circumtropical, WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena, EA, IWP, EP).

Strongylura timucu (Walbaum 1792)—Timucu

Justification: UF 183082 (3, 79–86 mm BL), Great Pond Bay; ANSP 73292 (2) and ANSP 80622 (1).

Distribution: Collette (1968) WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

****Tylosurus acus acus*** (Lacepède 1803)—Atlantic Agujón

Justification: UF 180956 (1, 190 mm BL), Frederiksted Pier; ZMUC P.342680 (1, 625 mm BL), St. Croix, Sept. 1845.

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Remarks: *Tylosurus acus* occurs in all tropical seas except the eastern Pacific with four currently recognized subspecies; only the subspecies *Tylosurus acus acus* (Lacepède) occurs in the western Atlantic.

Tylosurus crocodilus (Péon and Lesueur 1821)—Houndfish (Gar)

Justification: MCZ 57864 (2, 155-258 BL), Tague Bay [identified by B. B. Collette]; listed as "common" by Clavijo *et al.* (1980:8); REEF (14/6).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension, EA, IWP.

POECILIIDAE—livebearers (2 species)

Clavio *et al.* (1980:9) reported Mosquitofish, as *Gambusia* spp*.,* as "common" and indicated that specimens were housed at the Bureau of Fish and Wildlife (BFW), St. Croix. One original BFW specimen lot (now UF 183002), collected from Caledonia Gut on 12 Aug 1980 and originally identified as *Gambusia*, was based on a misidentification of *Poecilia mexicana* (see below). This misidentification, the fact that Beatty (1944) did not record *Gambusia,* and our lack of observations or collections of Mosquitofish from suitable habitats in 2011-2012 despite considerable effort, strongly suggests that reports of this fish on St. Croix are attributable to misidentifications of juvenile *Poecilia*.

Poecilia mexicana Steindachner 1863—Shortfin Molly, Fig. 7A–B

Listed both as Mosquitofish, *Gambusia* sp. (see above) and Molly, *Poecilia* sp. by Clavio *et al.* (1980:9) and recorded as "introduced."

Justification: UF 181004 (3, 64–70 mm SL), Salt River; UF 181028 (7, 17–47 mm SL), unnamed stream at East End road; UF 180998 (4, 29–55 mm SL), Concordia/Mahogany Gut; UF 180999 (5, 27–35 mm SL) and UF 183002 (6, 16–34), Caledonia Gut; UF 183129 (21, 8–41 mm SL), Southgate Pond.

Distribution: Introduced freshwater species native to Atlantic coast from Texas to Costa Rica.

Remarks: Identification of this species is based on the distinguishing characters given in Schultz and Miller (1971) and Poeser (2003).

Poecilia reticulata Peters 1859—Guppy, Fig. 7C–D

Justification: UF 180978 (44, 12–27 mm SL) and UF 180980 (45, 12–33 mm SL) Mahogany Gut; UF 183252 (10, 21–27 mm SL), Creque Dam Gut.

Distribution: Widely introduced freshwater species and very common in aquarium trade; native to northern South America, Netherland Antilles, Venezueland Islands, Trinidad, Windward (Barbados) and Leeward (St. Thomas and Antigua) islands (Rosen and Bailey, 1963).

Remarks: Beatty (1944) reported the guppy as "common in all streams and reservoirs," perhaps an exaggeration as it certainly does not occur in all St. Croix streams currently.

ANOMALOPIDAE—flashlight fishes (1 species)

Kryptophanaron alfredi Silvester and Fowler 1926—Caribbean Flashlight Fish, Fig. 7E

Justification: ANSP 144324 (2, 70.5–96 mm SL), Salt River Canyon, 18–20 m, Sept., 1978.

Distribution: Colin *et al.* (1979) WA (BA, GA, WC, nSA).

Remarks: During daylight hours *Kryptophanaron alfredi* occurs in rugged, steep-profile habitats unsuitable for trawling and at depths too deep for Scuba diving. Although the species ascends to relatively shallow depths at night to feed, the timing and duration of the upward movement is strongly influenced by the moon phase and cloud cover. The blue-green bioluminescent lights of blinking flashlight fishes can be detected underwater from a distance of 10-15 m. The species is very sensitive to strong illumination and rapidly seeks cover when dive lights are turned on. Collection of flashlight fishes requires night dives, with dive lights turned off, closely approaching an individual and only then blinding it with a strong light so that it can be dip-netted (Colin *et al.*, 1979).

The unique light source of flashlight fishes is a subocular luminous organ containing symbiotic luminescent bacteria. The bacteria continuously emit light and "turning off" the light is accomplished by partial downward rotation of the light organ and simultanously flipping a black membraneous shutter upward in front of it. Johnson and Rosenblatt (1988) describe the complex anatomical mechanisms associated with organ rotation and shutter blinks in flashlight fishes.

HOLOCENTRIDAE—squirrelfishes (8 species)

Flammeo marinus (Cuvier 1829)—Longjaw Squirrelfish

Justification: UF (BIRNM, 11); observed during Frederiksted reef system censuses (Toller, 2007:49); REEF

(273/226).

Distribution: WA (FL, GOM, BA, GA, VI, WC, nSA).

Remarks: We follow Dornburg *et al.* (2012) and Eschmeyer (2013) in assigning this species to *Flammeo* Jordan and Evermann instead of *Neoniphon* Castelnau.

Holocentrus adscensionis (Osbeck 1765)—Squirrelfish

Listed as *Holocentrum longipinne* by Cope (1871:465) and *Holocentrus adscensionis* by Fowler (1919:144).

Justification: UF (BIRNM, 6); St. Croix photograph (Randall, 1996:70); observed during Frederiksted reef system censuses (Toller, 2007:49); REEF (149/239).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena, EA.

Holocentrus rufus (Walbaum 1792)—Longspine Squirrelfish

Justification: UF (BIRNM, 21); observed during Frederiksted reef system censuses (Toller, 2007:49); REEF (366/341).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Myripristis jacobus Cuvier 1829—Blackbar Soldierfish

Juveniles described as the new species *Rhinoberyx chryseus* (see Table 4) and adults listed as *Myripristis jacobus* by Cope (1871:464, 465).

Justification: UF (BIRNM, 13); St. Croix photograph (Randall, 1996:69); observed during Frederiksted reef system censuses (Toller, 2007:49); REEF (380/423).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena, EA.

Plectrypops retrospinis (Guichenot 1853)—Cardinal Soldierfish, Fig. 7F

Justification: UF (BIRNM, 15); observed during Frederiksted reef system censuses (Toller, 2007:49); REEF (8/1).

Distribution: WA (BD, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Sargocentron coruscum (Poey 1860)—Reef Squirrelfish

Listed as *Adioryx coruscus* and "common" by Clavijo *et al.* (1980:9).

Justification: UF (BIRNM, 14); observed during Frederiksted reef system censuses (Toller, 2007:49); REEF (17/34).

Distribution: WA (BD, FL, BA, GA, VI, LA, WC, nSA).

Sargocentron poco (Woods 1955)—Saddle Squirrelfish

Listed as *Adioryx poco* and "common" by Clavijo *et al.* (1980:9).

Justification: UF 159664 (1, 87 mm SL), BIRNM.

Distribution: WA (BD, GOM, BA, GA, VI, WC).

Sargocentron vexillarium (Poey 1860)—Dusky Squirrelfish

Listed as *Adioryx vexillarius* and "common" by Clavijo *et al.* (1980:9).

Justification: UF (BIRNM, 18); observed during Frederiksted reef system censuses (Toller, 2007:49); REEF (119/101).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

CAPROIDAE—boarfishes (1 species)

Antigonia capros Lowe 1843—Deepbody Boarfish

Justification: UF 182987 (3, 97–128 mm SL), Lang Bank, 90 m, June 2010; SIO 76–207 (1), Frederiksted Roadsted, 17º42.5'N, 64º35.7'W.

Distribution: WA (BD, GOM, BA, GA, LA, WC, nSA), EA, IWP.

Remarks: A deep-water species with adults occurring near the bottom in about 65–350 m.

SYNGNATHIDAE—pipefishes and seahorses (11 species)

Acentronura dendritica (Barbour 1905)—Pipehorse, Fig. 8A

Justification: UF (BIRNM, 3); recorded from Tague Bay (Robblee and Zieman, 1984:338).

Distribution: Dawson (1982b) WA (BD, FL, GOM, BA, GA, WC, nSA, sSA).

Remarks: Dawson (1982b) assigned this species to the genus *Amphelikturus* Parr but subsequently (Dawson, 1985) treated *Amphelikturus* as a subgenus of *Acentronura* Kaup.

Anarchopterus tectus (Dawson 1978)—Insular Pipefish

Justification: Listed as *Micrognathus tectus* and "occasional in grassbeds" by Clavijo *et al.* (1980:10); there are also confirmed records from the northern Lesser Antilles.

Distribution: Dawson (1982b) WA (FL, BA, GA, LA, WC, nSA, sSA).

Remarks: Voucher specimens are needed to confirm the identification and occurrence of this pipefish at St. Croix.

Bryx dunckeri (Metzelaar 1919)—Pugnose Pipefish, Fig. 8D

Listed as *Syngnathus dunckeri* and "occasional" by Clavijo *et al.* (1980:11).

Justification: UF (BIRNM, 14); ZMUC P.391076–91 (16, 37–55 mm SL), Frederiksted, 1922; recorded from Tague Bay (Robblee and Zieman, 1984:338).

Distribution: Dawson (1982b) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Bryx randalli (Herald 1965)—Ocellated Pipefish

Justification: UF (BIRNM, 5).

Distribution: Dawson (1982b) WA (GA, LA, WC, nSA).

Cosmocampus albirostris (Kaup 1856)—Whitenose Pipefish

Justification: REEF (2/0). This species is unlikely to be confused with any another species of pipefish, and the observers were positive of the identification.

Distribution: Dawson (1982b) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Cosmocampus brachycephalus (Poey 1868)—Crested Pipefish

Listed as *Hippichthys brachycephalus* by Fowler (1951:25).

Justification: UF 180905 (1, 86 mm SL), Long Point Bay; ANSP 73287 (1); listed as "occasional' by Clavijo *et al.* (1980:10).

Distribution: Dawson (1982b) WA (BD*, FL, BA, GA, VI, LA, WC, nSA, sSA).

Cosmocampus elucens (Poey 1868)—Shortfin Pipefish

Justification: UF 164662 (1, 108 mm SL), UF 164664 (2, 93–105 mm SL) and (BIRNM, 2); recorded, as *Syngnathus elucens*, from Tague Bay (Robblee and Zieman, 1984:338).

Distribution: Dawson (1982b) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Halicampus crinitus (Jenyns 1842)—Banded Pipefish (Harlequin Pipefish), Fig. 8B

Listed as *Micrognathus ensenadae* and "occasional" by Clavijo *et al.* (1980:10).

Justification: UF (BIRNM, 8).

Distribution: Dawson (1982b) WA (BD, FL, BA, GA, VI, LA, WC, nSA, sSA).

Hippocampus reidi Ginsburg 1933—Longsnout Seahorse, Fig. 8C

Listed as *Hippocampus punctulatus* by Fowler (1919:144).

Justification: UF 183051 (1, 130 mm TL), SSW of Butler Bay; ANSP 820 (1); TCWC 6184.01 (1); ZMUC P.391074-75 (2); St. Croix photograph (Randall, 1996:66); REEF (18/34).

Distribution: Vari (1982) WA (BD, FL, BA, GA, VI, LA, WC, nSA, sSA).

Microphis brachyurus lineatus (Kaup 1856)—Opossum Pipefish

Listed as *Oostethus brachyurus lineatus* and "rare" by Clavijo *et al.* (1980:10).

Justification: MCZ 43183 (1), Christiansted, 1957; USNM 106632 (3), Fairplain Stream, 1937 [identification by C. E. Dawson].

Distribution: Dawson (1982b) WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Remarks: Under the name *Doryrhamphus lineatus* Beatty (1944:178) stated "taken in Fairplain Stream, below bridge." Dawson (1985) recognized four subspecies of *Microphis brachyurus* (Bleeker), two in the Indo-West Pacific and two in the Atlantic; only the subspecies *Microphis brachyurus lineatus* occurs in the western Atlantic. The Opossum Pipefish breeds in both estuarine and freshwater. Adults are usually found in low salinity or freshwater areas.

Syngnathus caribbaeus Dawson 1979—Caribbean Pipefish, Fig. 8E

Justification: UF 182935 (1, 122 mm SL), Triton Bay; UF 180904 (5, 53–117 mm SL), Long Point Bay; UF 181021 (1, 97 mm SL), Salt River; UF 183057 (5, 84.5–143 mm SL), Altona Lagoon; listed as "occasional" by Clavijo *et al.* (1980:11).

Distribution: Dawson (1982b) WA (GA, VI, LA, WC, nSA).

AULOSTOMIDAE—trumpetfishes (1 species)

Aulostomus maculatus Valenciennes 1837—Atlantic Trumpetfish

Listed as *Aulostoma coloratum* by Cope (1871:480) and as *Aulostomus maculatus* by Fowler (1919:144).

Justification: UF (BIRNM, 10); St. Croix photograph (Randall, 1996:65); REEF (299/407).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

FISTULARIIDAE—cornetfishes (1 species)

Fistularia tabacaria Linnaeus 1758—Bluespotted Cornetfish

Justification: UF 183062 (1, 89.5 mm SL), Altona Lagoon; FMNH 52840 (1); observed during Frederiksted reef system censuses (Toller, 2007:49); REEF (5/6).

Distribution: Fritzsche (1976) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

DACTYLOPTERIDAE—flying gurnards (1 species)

Dactylopterus volitans (Linnaeus 1758)—Flying Gurnard

Justification: UF 183039 (2, 298–305 mm SL); FMNH 89590 (1); FMNH 89593 (1); ZMUC P.821995 (1); ZMUC P. 821996 (1); St. Croix photograph (Randall, 1996:80); REEF (6/11).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), St. Helena, EA.

SCORPAENIDAE—scorpionfishes (8 species)

****Pontinus castor*** Poey 1860—Longsnout Scorpionfish

Justification: We examined a color photograph of a 227 mm SL specimen caught on a vertical longline in 228–238 m by Jens Skon at 17.4564'N, 64.3677'W, on 2 Feb. 2005 [identification confirmed by W. N. Eschmeyer].

Distribution: Eschmeyer (1969) WA (BD, FL, GOM, BA, GA, VI, LA, nSA).

Remarks: Reported from depths of 73–283 m (Eschmeyer, 1969) so we include the species in this checklist.

Pontinus rathbuni Goode and Bean 1896—Highfin Scorpionfish

Listed as *Pontinus macrolepis* and "rare" by Clavijo *et al.* (1980:29).

Justification: SIO 76–205 (1, 210 mm SL), Lang Bank [identification confirmed by W. N. Eschmeyer].

Distribution: Eschmeyer (1969) WA (North Carolina, FL, GOM, GA, WC, nSA, sSA).

Pterois volitans (Linnaeus 1758).—Red Lionfish (Lionfish)

Justification: UF 183076 (1, 120 mm SL), SSW Butler Bay; UF 183068 (2, 70–138 mm SL) Molasses Pier.

Distribution: Schofield (2010) and Betancur-R, *et al.*, (2011) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA), IWP.

Remarks: This Indo-Pacific species is believed to be the first non-native marine fish to become established in the northwestern Atlantic and Caribbean Sea (Whitfield *et al.*, 2002; Schofield, 2010). The first reports of lionfish from the U. S. Virgin Islands were from two sites off the north shore of St. Croix in June 2008. Lionfish are now established throughout the Virgin Islands and have been taken inside the boundaries of Buck Island Reef National Monument (Schofield, 2010) and at many other sites around St. Croix (William Coles, pers. com.). Lionfish densities have expanded rapidly at several localities and these predators are capable of drastically reducing recruitment of juvenile fishes on small patch reefs (Albins and Hixon, 2008). The speed with which lionfishes have spread throughout the western Atlantic Ocean is unprecedented (Schofield, 2010; Betancur-R, *et al.*, 2011) and many countries and Caribbean islands, including St. Croix, are involved in efforts to control their numbers. One reason eradication efforts are unlikely to be successful is because lionfish have been observed at depths of 300 m, well beyond the limits of practical scuba diving.

Scorpaena bergii Evermann and Marsh 1900—Goosehead Scorpionfish

Justification: UF 164872 (1, 42 mm SL) and UF 164891 (1, 34 mm SL), (BIRNM, 2); ZMUC P.791504 (1, 49 mm SL), St. Croix, 1875; recorded from Tague Bay (Robblee and Zieman, 1984:339).

Distribution: Eschmeyer (1965, 1969) WA (FL, GA, VI, LA, WC, nSA).

Scorpaena grandicornis Cuvier 1829—Plumed Scorpionfish

Listed as *Scorpaena grandicornis* by Cope (1871:472) and Fowler (1919:145).

Justification: UF 182313 (4, 35–39 mm SL), off Great Salt Pond; ZMUC P.791500 (1, 77 mm SL), St. Croix, 1906; ZMUC P.1791503 (1, 101 mm SL), St. Croix, 1875.

Distribution: Eschmeyer (1969) WA (BD*, FL, BA, GA, VI, LA, WC, nSA, sSA).

Scorpaena inermis Cuvier 1829—Mushroom Scorpionfish

Justification: UF (BIRNM, 16); recorded from Tague Bay (Robblee and Zieman, 1984:339).

Distribution: Eschmeyer (1965, 1969) WA (FL, BA, GA, VI, LA, WC, nSA).

Scorpaena plumieri Bloch 1789—Spotted Scorpionfish, Fig. 8F

Listed as *Scorpaena albofasciata* by Flower (1951:27).

Justification: UF (BIRNM, 12); UF 183276 (3, 85–150 mm SL) and UF 183280 (1, 220 mm SL), both Coakley Bay; ANSP 73289 (1); ZMUC P.791501 (1, 123 mm SL); ZMUC P.1791502 (1, 63 mm SL), St. Croix, 1875; St. Croix photograph (Randall, 1996:76); on-line photographs available (Pittman *et al.*, 2008); REEF (54/74).

Distribution: Eschmeyer (1965, 1969) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena.

Scorpaenodes caribbaeus Meek and Hildebrand 1928—Reef Scorpionfish

Justification: UF (BIRNM, 23).

Distribution: WA (BD, FL, BA, GA, VI, LA, WC, nSA, sSA).

TRIGLIDAE—searobins (1 species)

Prionotus ophryas Jordan and Swain 1885—Bandtail Searobin, Fig. 9A

Justification: St. Croix color photograph (Randall, 1996:82), here reproduced with permission; Clavijo *et al.*

(1980:30) presumably identified this species as *Prionotus* sp., listing it as rare and occuring in 1–15 meters.
Distribution: Ginsburg (1950) WA (FL, GOM, BA, GA, VI, LA, WC, nSA).
Remarks: The best references for identification of western Atlantic species of *Prionotus* are Ginsburg (1950) and Russell *et al.* (1992).

CENTROPOMIDAE—snooks (2 species)

Centropomus ensiferus Poey 1860)—Swordspine Snook, Fig. 9B
Justification: UF 180893 (2, 127–295 mm SL), Salt River, Sugar Bay.
Distribution: WA (FL, GA, VI, WC, nSA, sSA).

Centropomus undecimalis (Bloch 1792)—Common Snook, Fig. 9C
Justification: UF 180887 (1, 209 mm SL), Salt River, Sugar Bay; ZMUC P.47421–22 (2), Frederiksted, Jan. 1906.
Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).
Remarks: Beatty (1944:178) stated for this species "common in the waters of Fairplain Stream."

SERRANIDAE—groupers and sea basses (41 species)

We do not follow Smith and Craig (2007), Craig *et al.* (2011) and Page *et al.* (2013) in classifying the groupers in a separate family Epinephelidae because the most recent molecular evidence supports a monophyletic Serranidae with groupers included (C.C. Baldwin and G. D. Johnson, pers. comm).

Alphestes afer (Bloch 1793)—Mutton Hamlet
Listed as *Alphestes chloropterus* by Fowler (1919:144).
Justification: Listed as "occasional" by Clavijo *et al.* (1980:11); observed in Tague Bay (Mateo and Tobias, 2001:214); on-line photograph available (Pittman *et al.*, 2008).
Distribution: Smith (1971) WA (BD, FL, BA, GA, VI, LA, WC, nSA, sSA), EA.

Cephalopholis cruentata (Lacepéde 1802)—Graysby
Listed as *Serranus coronatus* by Cope (1871:466), and as *Petrometopon cruentatum* by Fowler (1919:144) and Clavijo *et al.* (1980:12).
Justification: UF (BIRNM, 30); REEF (398/418).
Distribution: Smith (1971) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).
Remarks: Described from St. Croix as new species *Bodianus stellatus* (see Table 4).

Cephalopholis fulva (Linnaeus 1758)—Coney
Listed as *Serranus ouatalibi* by Cope (1871:466) and as *Cephalopholis fulva* by Fowler (1919:144).
Justification: UF (BIRNM, 15); REEF (405/409).
Distribution: Smith (1971) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Dermatolepis inermis (Valenciennes *in* Cuv. & Val. 1833)—Marbled Grouper
Justification: FMNH 89600 (1) "St. Croix," before Sept. 1911 [identification confirmed by P. Willink].
Distribution: Smith (1971) and Heemstra and Randal (1993) WA (FL, GOM, BA, GA, LA, WC, nSA, sSA).

Diplectrum formosum (Linnaeus 1766)—Sand Perch
Justification: REEF 4/0.
Distribution: Bortone (1977) WA (FL, GOM, BA, GA, VI, WC, nSA, sSA).
Remarks: Shulman *et al.* (1983:1510) recorded juveniles of *Diplectrum* sp., probably this species, colonizing

small artifical reefs at Salt River Canyon. In his revision of the genus, Bortone (1977) reported one collection of *D. formosum* from "W. of Anegada Island," and we have examined a 165 mm SL specimen (ZMUC P.43771) from St. Thomas. In contrast, *D. bivittatum* (Valenciennes) is widely distributed in the northern Virgin Islands and we have examined one collection from St. Thomas (UF 207110), and the University of Puerto Rico collection (UPR) has additional holdings of the species from the British Virgin Is., St. John and St. Thomas. We assume that REEF observations of *Diplectrum formosum* (see above) are correctly identified because the color patterns of these two species are very different. In the absence of voucher specimens or good photographic documentation, identification of this species is provisional.

Epinephelus adscensionis (Osbeck 1765)—Rock Hind

Justification: Listed as "common" by Clavijo *et al.* (1980:11); catch statistics (Appeldoorn *et al.*, 1992:24); (REEF (17/51).

Distribution: Smith (1971) and Heemstra and Randall (1993) WA (BD, FL, GOM, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena, EA.

Epinephelus guttatus (Linnaeus 1758)—Red Hind

Justification: UF (BIRNM, 7); ZMUC P.43774 (1, 295 mm SL), Christiansted, 1906; St. Croix photograph (Randall, 1996:88); on-line photographs available (Pittman *et al.*, 2008); REEF (102/158).

Distribution: Smith (1971) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Epinephelus itajara (Lichtenstein 1822)—Goliath Grouper (Jewfish)

Justification: Listed as "occasional" by Clavijo *et al.* (1980:11); one individual observed at Salt River Canyon (Kaufman and Ebersole (1984:258).

Distribution: Smith (1971) and Heemstra and Randall (1993) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA.

Remarks: Randall (1968:89) includes a photograph of a 340-pound fish caught at St. John. Since 1990 it has been illegal to harvest this grouper in U. S. waters. The Goliath Grouper shows no signs of recovery except in Florida and is currently listed as Critically Endangered (Sadovy de Mitcheson *et al.*, 2013). Records of this species from the eastern Pacific are based on misidentifications of the closely related *Epinephelus quinquefasciatus* Bocourt (Craig *et al.*, 2008).

Epinephelus morio (Valenciennes 1828)—Red Grouper

Justification: Occasional landings reported by St. Croix fisherman (Brownell and Rainey, 1971:52) and listed as "occasional" by Clavijo *et al.* (1980:11); REEF (1/4).

Distribution: WA (BD, FL, GOM, GA, VI, LA, WC, nSA, sSA).

Epinephelus striatus (Bloch 1792)—Nassau Grouper

Listed as *Epinephalus striatus* by Cope (1871:466) and Fowler (1919:144).

Justification: ZMUC P.43775 (1, 175 mm SL) St. Croix, July 1863; listed as "common" by Clavijo *et al.* (1980:11); catch statistics (Appeldoorn *et al.*, 1992:24); on-line photographs available (Pittman *et al.*, 2008); REEF (20/29).

Distribution: Smith (1971) and Heemstra and Randal (1993) WA (BD, FL, GOM, GA, VI, LA, WC, nSA, sSA).

Gonioplectrus hispanus (Cuvier *in* Cuv. & Val. 1828)—Spanish Flag

Justification: AMNH 20856 (1, 197 mm SL); SIO 76–205 (1, 192 mm SL), Lang Bank.

Distribution: Bullock and Smith (1991) WA (FL, GOM, GA, LA, WC, nSA, sSA).

Remarks: We examined a color image of a 215 mm SL specimen (not retained) of this beautiful grouper caught in deep water NE of Horse Reef.

Hypoplectrus aberrans Poey 1868—Yellowbelly Hamlet

Justification: Listed as "common" by Clavijo *et al.* (1980:11); REEF (1/3).

Distribution: Aguilar-Perera and González-Salas (2009) WA (BA, GA, VI, LA, WC, nSA).

Hypoplectrus chlorurus (Cuvier *in* Cuv. & Val. 1828)—Yellowtail Hamlet

Listed as *Plectropoma chlorurum* by Cope (1871:466).

Justification: UF (BIRNM, 2); spawning observed (Lobel and Neudecker, 1985:80); observed during Frederiksted reef system censuses (Toller, 2007:49); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:73); color photograph of St. Croix fish (Lobel, 2011:fig. 11); REEF (147/109).

Distribution: Aguilar-Perera and González-Salas (2009) WA (GOM, BA, GA, VI, LA, WC, nSA).

Hypoplectrus guttavarius (Poey 1851)—Shy Hamlet

Listed as *Plectropoma guttavarium* by Cope (1871:466) and *Hypoplectrus unicolor guttavarius* by Fowler (1951:144).

Justification: UF 206972 (1), BIRNM; spawning studied (Lobel and Neudecker, 1985); observed in East and West Wall censuses (Toller, 2002: Appendix 1); observed during Frederiksted reef system censuses (Toller, 2007:49); REEF (32/44).

Distribution: Aguilar-Perera and González-Salas (2009) WA (FL, BA, GA, VI, LA, WC, nSA).

****Hypoplectrus indigo*** (Poey, 1851)—Indigo Hamlet

Justification: Observed in Tague Bay (Mateo and Tobias, 2001:214); observed during Frederiksted reef system censuses (Toller, 2007:49); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:73); REEF (5/5).

Distribution: Aguilar-Perera and González-Salas (2009) WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

Hypoplectrus nigricans (Poey 1852)—Black Hamlet

Justification: Listed as "common" by Clavijo *et al.* (1980:11); spawning observed (Lobel and Neudecker, 1985:80); observed during Frederiksted reef system censuses (Toller, 2007:49); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:73); REEF (32/26).

Distribution: Aguilar-Perera and González-Salas (2009) WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

Hypoplectrus puella (Cuvier *in* Cuv. & Val. 1828)—Barred Hamlet

Justification: UF (BIRNM, 3); spawning observed (Lobel and Neudecker, 1985:80); observed during Frederiksted reef system censuses (Toller, 2007:49); on-line photographs available (Pittman *et al.*, 2008); REEF (106/119).

Distribution: Aguilar-Perera and González-Salas (2009) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Hypoplectrus unicolor (Walbaum 1792)—Butter Hamlet

Listed as *Hypoplectrus unicolor* by Fowler (1919:144).

Justification: UF 206971 (1); ANSP 13293 (1); spawning observed (Lobel and Neudecker, 1985:80); observed during Frederiksted reef system censuses (Toller, 2007:49); on-line photograph available (Pittman *et al.*, 2008); REEF (110/113).

Distribution: Aguilar-Perera and González-Salas (2009) WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

Hyporthodus mystacinus (Poey 1852)—Misty Grouper (Johnpow)

Justification: Listed as *Epinephelus mystacinus* and "occasional" by Clavijo *et al.* (1980:11); catch statistics (Appeldoorn *et al.*, 1992:24).

Distribution: Smith (1971) and Heemstra and Randall (1993) WA (BD, FL, GOM, BD, GA, VI, LA, WC, nSA, sSA).

Remarks: We follow Craig and Hastings (2007) and Craig *et al.* (2011) in assiging this grouper to the genus *Hyporthodus* Gill rather than its traditional placement in *Epinephelus* Bloch.

Liopropoma carmabi (Randall 1963)—Candy Basslet

Justification: Listed as "occasional" by Clavijo *et al.* (1980:12); REEF (3/3).

Distribution: WA (BA, GA, LA, WC, nSA, sSA).

Liopropoma mowbrayi Woods and Kanazawa 1951—Cave Basslet

Justification: Listed as "occasional" by Clavijo *et al.* (1980:11); submersible observations in 40–200 m (García Sais, 2005:94); REEF (1/0).

Distribution: WA (BD, FL, BA, GA, VI, WC, nSA).

Liopropoma rubre Poey 1861—Peppermint Basslet

Justification: UF (BIRNM, 3); REEF (91/46).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: Kotthaus (1970:20) described *Flagelloserranus danae* as a new genus and species from the vicinity of St. Croix (17°43'N, 64°56'W) where it was collected by trawl in 35 m. Like another Indo-Pacific species of *Flagelloserranus* described in the same paper, Randall and Taylor (1988) determined that the 14.2 mm SL holotype (ZMUC P.43208) is based on the postlarva of *Liopropoma* sp. Although species identification of the tiny holotype may be impossible, we provisionally identify it as *Liopropoma rubre* because it is by far the most common species of *Liopropoma* known from St. Croix.

****Mycteroperca acutirostris*** (Valenciennes *in* Cuv. & Val. 1828)—Western Comb Grouper

Listed as *Trisotropis undulosus* by Cope (1871:465) and as *Mycteroperca ruber* by Fowler (1919:144); Smith (1971:206) was less certain that these two synonymies apply to *Mycteroperca acutirostris*.

Justification: Clavijo *et al.* (1980) did not record this species and although there are no extant museum voucher specimens from St. Croix, the species has been reliably recorded from the northern Virgin Islands and St. Martin in the Leeward Islands.

Distribution: Heemstra and Randall (1993) WA (GOM, GA, VI, LA, WC, nSA, sSA).

Remarks: Randall and Heemstra (1993:262) discuss past taxonomic confusion associated with the name *Mycteroperca rubra* (Bloch), which is based on an eastern Atlantic species. All literature references to "*M. rubra*" (or *ruber*) from the western Atlantic actually apply to the closely related *M. acutirostris*. A color photograph of a small specimen (as *M. rubra*) from St. John is given in Randall (1968:67) and Randall (1996:91) gives a color photograph of an adult from Bonaire. Voucher specimens or photographs are needed to confirm the St. Croix occurrence of this grouper.

****Mycteroperca bonaci*** (Poey 1860)—Black Grouper

Justification: Unmistakable photographic image in "Scuba Bob Klemow's Nekton St. Croix 2009" under King's Cross slide series http://www.scubadadreefpix.com/sc/pier.htm [30 May 2013].

Distribution: Heemstra and Randal (1993) WA (BD, FL, GOM, GA, VI, LA, WC, nSA, sSA).

Mycteroperca interstitalis (Poey 1860)—Yellowmouth Grouper

Justification: Listed as "occasional" by Clavijo *et al.* (1980:12); REEF (1/1).

Distribution: Smith (1971) and Heemstra and Randall (1993) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Mycteroperca tigris (Valenciennes *in* Cuv. & Val. 1833)—Tiger Grouper

Justification: Listed as "common" by Clavijo *et al.* (1980:12); catch statistics (Appeldoorn *et al.*, 1992:24); observed by us at BIRNM; observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:73); REEF (10/35).

Distribution: Smith (1971) and Heemstra and Randal (1993) WA (BA, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Mycteroperca venenosa (Linnaeus 1758)—Yellowfin Grouper

Justification: UF 206749 (1, 520 mm SL), obtained from St. Croix fisherman, Aug. 1960 (specimen can not be located but catalog ledger includes color notes taken by J. E. Randall that confirm the identification); catch statistics (Appeldoorn *et al.*, 1992:25); REEF (6/8).

Distribution: Smith (1971) and Heemstra and Randal (1993) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Paranthias furcifer (Valenciennes *in* Cuv. & Val. 1828)—Atlantic Creolefish

Listed as *Brachryhinus creolus* by Cope (1871:465), and as *Paranthias furcifer* by Fowler (1919:144) and Clavijo *et al.* (1980:12).

Justification: ZMUC P.43772–73 (2, 165–180 mm SL), Christiansted, 1906; listed as "occasional" by Clavijo *et al.* (1980); REEF (71/82).

Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA), Ascension, EA.

Remarks: In a recent molecular phylogeny of groupers, Craig and Hastings (2007) indicated that *Paranthias furcifer* and the eastern Pacific *P. colonus* (Valenciennes) are both nested within *Cephalopholis*. In a subsequent major publication on groupers of the world, Craig *et al.* (2011) retained the traditional *Paranthias furcifer* classification, "pending additional study." Unlike other *Cephalopholis*, the two species of *Paranthias* typically feed in the water column above the reef. Their reduced dentition, relatively small mouth and forked tail are adaptions associated with planktonic feeding that has occurred independently in other families of fishes with similar trophic ecology.

Parasphyraenops incisus (Colin 1978)—Bantam Bass

Listed as *Serranus incisus* by Clavijo *et al.* (1980:12).

Justification: Listed as "rare" by Clavijo *et al.* (1980) with voucher specimens [identified by P. L. Colin] in UPR collection; REEF (9/0).

Distribution: WA (North Carolina, BA, GA, nSA).

Remarks: We follow Johnson and Smith-Vaniz (1987) in assigning this species to *Parasphyraenops* Bean. In addition to St. Croix, this diminutive planktivore (maximum size 55 mm SL) is known from Mona Island and Jamaica (Colin, 1978), off North Carolina, the Bahamas and Turks and Caicos (Quattrini *et al.*, 2004) and Venezuela.

Pseudogramma gregoryi (Breder 1927)—Reef Bass, Fig. 9D

Justification: UF (BIRNM, 18).

Distribution: Randall and Baldwin (1997) WA (BD, FL, BA, GA, LA, WC, nSA), Ascension Island.

Rypticus bistrispinus (Mitchill 1818)—Freckled Soapfish

Justification: Listed as "occasional" by Clavijo *et al.* (1980:13); REEF (16/29).

Distribution: Guimarães (1999) WA (BD*, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Remarks: Voucher specimens are needed to unequivocally substantiate the occurrence of this small species of soapfish at St. Croix.

Rypticus carpenteri Baldwin and Weigt 2012—Slope Soapfish, Fig. 10A

Justification: UF (BIRNM, 13) [identified by Carole Baldwin]; UF 183074 (9, 36–62.5 mm SL), SSW of Butler Bay.

Distribution: Baldwin and Weight (2012) WA (BD, FL, BA, GA, LA, WC, nSA).

Remarks: This recently described species can be easily confused with *Rypticus subbifrenatus*. According to Baldwin and Weight (2012), *R. carpenteri* differs in having the pectoral fin, outer portions of the soft dorsal, caudal and anal fins pale yellow to yellow (versus fins tan, straw colored or brown, and the same or darker than background trunk coloration); interorbital region usually with pair of dark spots at posterior end set slightly apart from orbital rim (interorbital region usually with two pairs of dark spots, one set on or abutting orbital rim and the other pair close behind and sometimes joined to form a stripe; and caudal fin usually with at least a few, sometimes tiny spots (caudal fin usually without spots but one or two spots sometimes present on base of fin).

Rypticus saponaceus (Bloch and Schneider 1801)—Greater Soapfish

Listed as *Rhypticus* [sic] *saponaceus* by Cope (1871:467) and as *Rypticus saponaceus* by Fowler (1919:144).

Justification: UF (BIRNM, 9); REEF (80/121).

Distribution: Guimarães (1999) WA (BD, FL, BA, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena, EA.

Rypticus subbifrenatus Gill 1927—Spotted Soapfish, Fig. 10B
Justification: UF (BIRNM, 4) [identified by Carole Baldwin].
Distribution: Baldwin and Weight (2012) WA (FL, BA, GA, VI, LA, WC, nSA, sSA), EA.

Schultzea beta (Hildebrand 1940)—School Bass
Justification: Listed as "common" by Clavijo *et al.* (1980:12); REEF (5/0).
Distribution: WA (FL, GOM, BA, GA, VI, LA,WC, nSA).

Serranus baldwini (Evermann and Marsh 1899)—Lantern Bass
Justification: UF (BIRNM, 10); observed during Frederiksted reef system censuses (Toller, 2007:49); on-line photographs available (Pittman *et al.*, 2008); REEF (49/26).
Distribution: WA (FL, BA, GA, VI, LA, WC, nSA, sSA).

Serranus chionaraia Robins and Starck 1961—Snow Bass
Justification: ANSP 144373 (1, 42.8 mm SL), N. of Frederiksted, 34 m, March 1977.
Distribution: WA (FL, GA, LA, WC, nSA).

Serranus luciopercanus Poey 1852—Crosshatch Bass
Justification: USNM 289633 (1, 130 mm SL), shelf edge NW of BIRNM, Oct. 1970; one specimen caught on on shelf edge of St. Croix, NW of Buck Island in 73 m (Brownell and Rainey, 1971:54).
Distribution: WA (BA, GA, LA, WC, nSA).

Serranus tabacarius (Cuvier *in* Cuv. & Val. 1829)—Tobaccofish
Justification: UF (BIRNM, 3); observed during Frederiksted reef system censuses (Toller, 2007:49); on-line photographs available (Pittman *et al.*, 2008); REEF (140/153).
Distribution: WA (BD*, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Serranus tigrinus (Bloch 1790)—Harlequin Bass, Fig. 10C
Justification: UF (BIRNM, 10); observed during Frederiksted reef system censuses (Toller, 2007:49); on-line photographs available (Pittman *et al.*, 2008); REEF (390/403).
Distribution: WA (BD*, FL, GOM, BA, GA, VI, LA, WC, nSA).

Serranus tortugarum Longley 1935—Chalk Bass
Justification: UF 183138 (1, 18.6 mm SL), SSW of Butler Bay; listed as "occasional" by Clavijo *et al.* (1980:13); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:73); REEF (4/2).
Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

GRAMMATIDAE—basslets (2 species)

Gramma linki Stark and Colin 1978—Yellowcheek Basslet
Justification: ANSP 144645 (1, 35 mm SL), Cane Bay, 55 m, March 1977.
Distribution: WA (BA, GA, VI, WC).

Gramma loreto Poey 1868—Fairy Basslet
Justification: UF (BIRNM, 21); REEF (375/433).
Distribution: Böhlke and Randall (1963) WA (FL, BA, GA, VI, LA, WC, nSA).

OPISTOGNATHIDAE—jawfishes (4 species)

Opistognathus aurifrons (Jordan and Thompson 1905)—Yellowhead Jawfish
Justification: UF 158566 (2, 29.4–35.4 mm SL), BIRNM; UF 183029 (1, 47.5 mm SL), Frederiksted Pier;

ANSP 138139 (1); REEF (114/85).
Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

Opistognathus gilberti Böhlke 1967—Yellow Jawfish
Justification: ANSP 138136 (1, 35.5 mm SL), Cane Bay, 42 m, May 1977.
Distribution: WA (BA, GA, VI, LA, WC).

Opistognathus maxillosus Poey 1860)—Mottled Jawfish, Fig. 10D
Justification: UF (BIRNM, 6); UF 183104 (1, 68.5 mm SL), Coakley Bay; UF 231167 (4, 40–62 mm SL), Tague Bay; listed as "common" by Clavijo (1980:24).
Distribution: Smith-Vaniz (1997) WA (FL, BA, GA, VI, LA, WC, nSA).
Remarks: Undocumented visual reports (REEF) of *Opistognathus magrognathus* Poey from St. Croix are assumed to have been based on misidentifications of *O. maxillosus*.

****Opistognathus whitehursti*** (Longley 1927)—Dusky Jawfish, Fig. 10E
Justification: UF 158565 (1, 10.6 mm SL) and UF 160639 (1, 53 mm SL), (BIRNM, 2); UF 183105 (2, 42.7–46.4 mm SL), Coakley Bay; recorded from Tague Bay (Robblee and Zieman, 1984:339).
Distribution: Smith-Vaniz (1997) WA (FL, BA, GA, VI, LA, WC, SA).

CENTRARCHIDAE—sunfishes (3 species)

Lepomis macrochirus Rafinesque 1819—Bluegill
Justification: Listed as "common" by Clavijo (1980:13).
Distribution: Widely introduced freshwater species, native to North America.

Lepomis microlophus (Günther 1859)—Redear Sunfish (Shellcracker)
Justification: UF 183035 (2, 145–173 mm SL), freshwater pond at Lower Love Estate, July 1977; listed as "occasional" by Clavijo (1980:13).
Distribution: Widely introduced freshwater species, native to North America.

Micropterus salmoides (Lacepède 1802)—Largemouth Bass
Justification: UF 183035 (1, 268 mm SL), freshwater pond at Lower Love Estate, July 1977; listed as "rare" by Clavijo (1980:13).
Distribution: Widely introduced freshwater species, native to North America.

PRIACANTHIDAE—bigeyes (4 species)

****Cookeolus japonicus*** (Cuvier 8219)—Bulleye
Justification: We examined a color photograph of adult caught on a vertical longline in 240–300 m off Baron's Bluff, July 2005 (see remarks).
Distribution: Circumtropical, Starnes (1988) WA (BD, BA, GA, WC, nSA, sSA), St. Helena, IWP, EA.

Remarks: Reported to be relatively common in 165–260 m; *Cookeolus japonicus* also has been taken as shallow as 60 m (Starnes, 1988) and thus is included here.

Heteropriacanthus cruentatus (Lacepéde 1801)—Glasseye Snapper
Listed as *Priacanthus macrophthalmus* by Cope (1871:468) and as *P. cruentatus* by Clavijo *et al.* (1980:14).
Justification: UF (BIRNM, 5); UF 182991 (1, 185 mm SL), Butler Bay; St. Croix photograph (Randall, 1996:117); observed during Frederiksted reef system censuses (Toller, 2007:49); on-line photographs available (Pittman *et al.*, 2008); REEF (180/200).

Distribution: Circumtropical, Starnes (1988) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena, EA, IWP, EP.

Priacanthus arenatus Cuvier *in* Cuv. & Val. 1829—Bigeye
Listed as *Priacanthus arenatus* by Fowler (1919:144).
Justification: Listed as "common" by Clavijo *et al.* (1980:13); observed during Frederiksted reef system (Toller, 2007:49); REEF (2/6).
Distribution: Starnes (1988) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA.

Pristigenys alta (Gill 1862)—Short Bigeye
Justification: Listed as "rare" by Clavijo *et al.* (1980:14).
Distribution: Starnes (1988) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

APOGONIDAE—cardinalfishes (17 species)

Apogon affinis (Poey 1875)—Bigtooth Cardinalfish, Fig. 11A
Listed as *Cheilodipterus affinis* and "occasional" by Clavijo *et al.*, (1980:14).
Justification: UF 159357 (1, 36 mm SL), BIRNM; REEF (2/0).
Distribution: WA (BD*, FL, GOM, BA, GA, VI, WC, nSA), EA.

****Apogon aurolineatus*** (Mowbray *in* Breder 1927)—Bridle Cardinalfish
Justification: Recorded from Tague Bay (Robblee and Zieman, 1984:342); REEF (6/2).
Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA).
Remarks: Although not listed by Clavijo *et al.* (1980), we tentatively accept the above records as reliable because the species has a broad Caribbean distribution and there are confirmed collections from St. John, St. Thomas and Tortola. Voucher specimens are needed to confirm the occurrence of this cardinalfish in St. Croix.

Apogon binotatus (Poey 1867)—Barred Cardinalfish
Justification: UF (BIRNM, 28); observed during Frederiksted reef system censuses (Toller, 2007:49); REEF (126/70).
Distribution: WA (FL, BA, GA, VI, LA, WC, LA, nSA).

Apogon lachneri Böhlke 1959—Whitestar Cardinalfish, Fig. 11B
Justification: UF (BIRNM, 6); REEF (58/14).
Distribution: WA (FL, BA, GA, VI, LA, WC, nSA).

Apogon maculatus (Poey 1860)—Flamefish
Justification: UF (BIRNM, 51); observed during Frederiksted reef system censuses (Toller, 2007:49); St. Croix photograph (Randall, 1996:121); REEF (92/58).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

****Apogon pillionatus*** Böhlke and Randall 1968—Broadsaddle Cardinalfish
Justification: UF (BIRNM, 6); REEF (3/0).
Distribution: Böhlke and Randall (1968) WA (FL, BA, GA, VI, LA, WC, nSA).

Apogon planifrons Longley and Hildebrand 1940—Pale Cardinalfish
Justification: UF (BIRNM, 10); REEF (10/5).
Distribution: Böhlke and Randall (1968) WA (BD, FL, BA, GA, VI, LA, WC, nSA, sSA).

****Apogon pseudomaculatus*** Longley 1932—Twospot Cardinalfish
Justification: Clavijo *et al.* (1980) did not record this species from St. Croix and we did not collect it. This

cardinalfish has a very distinctive color pattern and because misidentification would be unlikely we accept the following visual records: REEF (16/6).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Apogon quadrisquamatus Longley 1934—Sawcheek Cardinalfish, Fig. 11C
Justification: UF (BIRNM, 21); UF 183141 (1, 27.8 mm SL), SSW Butler Bay.
Distribution: WA (FL, GOM, BA, GA, VI, WC, nSA, sSA).

****Apogon robinsi*** Böhlke and Randall 1968—Roughlip Cardinalfish
Justification: Observed at Salt River Canyon (Bortone *et al.*, 1986:7); REEF (2/0).
Distribution: WA (BD*, BA, GA, VI, LA, WC, nSA).
Remarks: Voucher specimens are required to confirm the identification and independently substantiate the above occurrence records; sight records of this species could have been misidentifications.

Apogon townsendi (Breder 1927)—Belted Cardinalfish
Justification: UF (BIRNM, 44); St. Croix photograph (Randall, 1996:126); REEF (123/65).
Distribution: WA (BD, FL, BA, GA, VI, LA, WC, nSA).

****Astrapogon alutus*** (Jordan and Gilbert 1882)—Bronze Cardinalfish
Justification: Listed as "rare" by Clavijo *et al.* (1980:14).
Distribution: WA (FL, GOM, BA, GA, LA, WC, nSA).
Remarks: Voucher specimens are required to confirm the identification and better document the St. Croix occurrence record. We accept the prior listing as reliable because Clavijo *et al.* recorded the other two species of *Astrapogon* as "occasional."

Astrapogon puncticulatus (Poey 1867)—Blackfin Cardinalfish, Fig. 11D
Justification: UF (BIRNM, 45).
Distribution: WA (BD, GOM, FL, BA, GA, VI, LA, WC, nSA, sSA).

Astrapogon stellatus (Cope 1867)—Conchfish, Fig. 11E
Justification: UF 180910 (1) and UF 181014 (1), both from off Long Reef and taken from conch shells; ANSP 80581 (1); ZMUC P.44321–22 (2, 35–45), St. Croix, Jan. 1872.
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).
Remarks: First described from St. Croix as the new species *Apogonichthys melampodus* (see Table 4).

Phaeoptyx conklini (Silvester 1915)—Freckled Cardinalfish
Justification: UF (BIRNM, 49).
Distribution: WA (BD*, FL, BA, GA, VI, LA, WC, nSA).

Phaeoptyx pigmentaria (Poey 1860)—Dusky Cardinalfish
Justification: UF (BIRNM, 42).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension, EA.

Phaeoptyx xenus (Böhlke and Randall 1968)—Sponge Cardinalfish
Justification: Listed as "occasional" by Clavijo *et al.* (1980:14); REEF (61/4).
Distribution: Böhlke and Randall (1968) WA (FL, GOM, BA, GA, VI, LA, WC, nSA).
Remarks: Voucher specimens are required to confirm the occurrence of this cardinalfish in St. Croix.

MALACANTHIDAE—tilefishes (2 species)

****Caulolatilus williamsi*** Dooley and Berry 1977—Yellowbar Tilefish
Justification: SIO 76–205 (1), Lang Bank [identification confirmed by H. J. Walker]; two specimens (not

saved) caught off St. Croix in depths between 126–180 m were also reported in Dooley and Berry's (1977) original description of the species; listed as *Caulolatilus cyanops* Poey, and as "rare" by Clavijo *et al.* (1980:15) based on a misidentification of the SIO specimen.
Distribution: WA (Cay Sal Bank, Mona Island, and St. Croix), but almost certainly more widely distributed.

Malacanthus plumieri (Bloch 1786)—Sand Tilefish
Listed as *Malacanthus plumieri* by Cope (1871:464).
Justification: FMNH 52813 (1); ZMUC P.45559 (1, 400 mm SL), St. Croix, Sept. 1848; ZMUC P.45560 (1, 385 mm SL), St. Croix, June 1846; St. Croix photograph (Randall, 1996:129); observed during Frederiksted reef system censuses (Toller, 2007:49); on-line photographs available (Pittman *et al.*, 2008); REEF (179/181).
Distribution: Dooley (1978) WA (BD, FL, GOM, BA, GA, VI, LA, WC, SA), Ascension.

CARANGIDAE—jacks (19 species)

Alectis ciliaris (Bloch 1778)—African Pompano
Justification: Listed as "occasional" by Clavijo *et al.* (1980:15); observed at Salt River Canyon (Workman *et al.*, 1984:381); on-line photograph available (Pittman *et al.*, 2008); REEF (2/0).
Distribution: Circumtropical, WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA), EA, IWP, EP.

Caranx bartholomaei Cuvier *in* Cuv. & Val. 1833—Yellow Jack
Justification: UF 180972 (2); UF 182875 (1); ZMUC P.461595 (1, 101 mm FL), Christiansted, 1906; listed as "common" by Clavijo *et al.* (1980:15); catch statistics (Appeldoorn *et al.*, 1992:25); caught in fish traps in Altona Lagoon (Tobias *et al.*, 1996: Table 10); REEF (6/13).
Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA), EA.

Caranx crysos (Mitchill 1815)—Blue Runner, Fig. 12A
Justification: UF 183277 (1, 173 mm FL), Frederiksted Pier; ZMUC P.461603 (1, 138 mm FL), Christiansted, 1906; listed as "common" by Clavijo *et al.* (1980:15); catch statistics (Appeldoorn *et al.*, 1992:25); on-line photographs available (Pittman *et al.*, 2008); REEF (34/26).
Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA), Ascension and St. Helena, EA.

Caranx hippos (Linnaeus 1766)—Crevalle Jack, Fig. 12B
Listed as *Caranx hippus* [sic] by Cope (1871:472) and Fowler (1919:144).
Justification: UF 180892 (3, 220–240 mm FL), Salt River; listed as "occasional" by Clavijo *et al.* (1980:15); observed in Salt River Canyon (Arneson, 1979:4).
Distribution: Smith-Vaniz and Carpenter (2007) WA (BD*, FL, GOM, BA, GA, VI, WC, nSA, sSA), EA.

Caranx latus Agassiz 1831—Horse-eye Jack
Justification: UF 180908 (3, 97–128 mm FL), Salt River; UF 1830701 (1, 137 mm FL), Rod Bay; FMNH 52804 (2); ZMUC P.461602 (1); catch statistics (Appeldoorn *et al.*, 1992:25); REEF (48/78).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension, EA.

Caranx lugubris Poey 1860—Black Jack
Justification: Listed as "occasional" by Clavijo *et al.* (1980:15); observed at Frederiksted fish market by G. D. Dennis (pers. comm.); catch statistics (Appeldoorn *et al.*, 1992:25); REEF (2/2).
Distribution: Circumtropical, WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena, EA, IWP, EP.

Caranx ruber (Bloch 1793)—Bar Jack
Listed as *Selar ruber* by Cope (1871:472) and as *Caranx ruber* by Fowler (1919:144).
Justification: UF 183281 (14, 150–174 mm FL), Frederiksted Pier; FMNH 52805 (2); ZMUC P.461651 (1, 416 mm FL), St. Croix, Sept. 1844; catch statistics (Appeldoorn *et al.*, 1992:25); on-line photographs available

(Pittman *et al.*, 2008); REEF (336/407).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), St. Helena.
Remarks: Described from St. Croix as new species *Scomber ruber* (see Table 4).

Chloroscombrus chrysurus (Linnaeus 1766)—Atlantic Bumper, Fig. 12C
Justification: ZMUC P.461594 (1, 245 mm FL, dry mount), St. Croix, 21 Dec. 1842; REEF (3/0).
Distribution: WA (BD*, FL, GOM, GA, VI, LA, WC, nSA, sSA), EA.

Decapterus macarellus (Cuvier *in* Cuv. & Val. 1833)—Mackerel Scad [Sea Robin]
Justification: UF 160672 (1, 210 mm FL), BIRNM; UF 181009 (10, 157–188 mm FL), Frederiksted fish market; FMNH 52806 (2); predominent pelagic species at Salt River Canyon (Workman *et al.*, 1984:381, 384); observed during Frederiksted reef system censuses (Toller, 2007:49); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:71); REEF (69/31).
Distribution: Circumtropical, WA (BD, FL, BA, GA, VI, LA, WC, nSA, sSA), St. Helena, EA, IWP, EP.

Decapterus punctatus (Cuvier 1829)—Round Scad
Justification: ANSP 169407 (2), Frederiksted, July 1957.
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), St. Helena, EA.

Decapterus tabl Berry 1967—Redtail Scad
Justification: color photograph (see remarks); REEF 4/3.
Distribution: Smith-Vaniz (2003) WA (BD, FL, GOM, nSA), Ascension and St. Helena, IWP; probably more widely distributed in Caribbean Sea.
Remarks: Lad Akin (pers. comm.) who is familar with this scad in Florida, especially its red caudal fin, reported seeing *Decapterus tabl* at St. Croix in 2013. A color photograph in Grace-McCaskey (2012, Fig. 12) of a fresh *Decapterus* in the left hand of a commercial fisher selling his catch at La Reine fish market, St. Croix, also appears to be *D. tabl*. Unfortunately, the image of the fish is very small in the photograph but there is no mistaking its red caudal fin. Voucher specimens or better photographs are needed to unequivocally document the St. Croix occurrence of this carangid.

Elagatis bipinnulata (Quoy and Gaimard 1825)—Rainbow Runner
Justification: UF 180973 (2); listed as "occasional" by Clavijo *et al.* (1980:16); REEF (2/1).
Distribution: Circumtropical, WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), St. Helena, EA, IWP, EP.

Selar crumenophthalmus (Bloch 1793)—Bigeye Scad (Jackfish)
Listed as *Selar crumenophthalmus* by Fowler (1919:144).
Justification: ANSP 11283 (4); ZMUC P.461659 (1, 187 mm FL), St. Croix, Sept. 1844; ZMUC P.4623–24 (2, 160–170 mm FL), St. Croix, 1896; seasonal abundance in St. Croix shelf waters (Tobias, 1991:82); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:71).
Distribution: Circumtropical, WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), St. Helena, EA, IWP, EP.

Selene brownii Cuvier 1831)—Full Moonfish, Fig. 12D
Listed as *Vomer setapinnis* by Cope (1871:472) and *Vomer spixii* by Fowler (1919:144).
Justification: ZMUC P.461 (1, 101 mm FL), St. Croix, 1896; ZMUC P.461591 (1, 165 mm FL), St. Croix Sept. 1848; ZMUC P.461592 (1, 185 mm FL), St. Croix, no date; ZMUC P.461667 (1, 155 mm FL), Christiansted, 1906.
Distribution: WA (GA, VI, LA, WC, nSA, sSA).
Remarks: *Selene brownii* is superficially very similar to *S. setapinnis* (Mitchill), but differs in having a more rounded head profile in adults and fewer total gill rakers (usually 31–34 versus 34–44).

Selene vomer (Linnaeus 1758)—Lookdown
Justification: FMNH 90999 (1); MCZ 65049 (1); ZMUC P.461649 (1, 250 mm FL), St. Croix, no date; ZMUC

P.461650 (1, 165 mm FL), St. Croix, Jan. 1846.
Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Seriola dumerili (Risso 1810)—Greater Amberjack
Justification: Listed as "occasional" by Clavijo *et al.* (1980:16); caught on Lang Bank (W. Tobias, pers. comm. to Jed Brown, 27 Aug. 2012).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA, IWP.

Seriola rivoliana Valenciennes *in* Cuv. & Val. 1833—Almaco Jack
Justification: Listed as "occasional" by Clavijo *et al.* (1980:16); we also have seen a color photograph of an angler caught St. Croix fish; REEF (2/3).
Distribution: Circumtropical, WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA, IWP, EP.

Trachinotus falcatus (Linnaeus 1758)—Permit
Listed as *Trachynotus rhomboides* by Cope (1871:472) and as *Trachinotus falcatus* by Fowler (1919:144).
Justification: UF 183071 (1, 103 mm FL) and UF 183088 (1, 84.5 mm FL), both Rod Bay; ANSP 149253 (1); MCZ 65047 (1); ZMUC P.461660 (1); ZMUC P.461665 (1), St. Croix, Sept. 1845.
Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Trachinotus goodei Jordan and Evermann 1896—Palometa
Listed as *Trachynotus* [sic] *glaucus* by Cope (1871:472) and as *Trachinotus glaucus* by Fowler (1919:144).
Justification: UF (BIRNM, 4); ZMUC P.461661–63 (3, 76–145 mm FL); ZMUC P.461664 (1, 180 mm FL), St. Croix, April 1848.
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

RACHYCENTRIDAE—cobias (1 species)

Rachycentron canadum (Linnaeus 1766)—Cobia
Justification: Listed as "rare" by Clavijo *et al.* (1980:15).
Distribution: WA (BD*, FL, GOM, BA, GA, VI, WC, nSA, sSA).
Remarks: Cobia apparently occur in St. Croix only as very rare waifs. William Tobias, who has worked as a fishery biologist in St. Croix for over 30 years, has never seen a locally caught Cobia, although there are reports of them from St. Thomas (Tobias, pers. comm. to Jed Brown, 27 Aug., 2012). Bunkley-Williams and Williams (2006) discuss the rarity of insular Caribbean records of Cobia, including Puerto Rico.

CORYPHAENIDAE—dolphinfishes (2 species)

Coryphaena equiselis Linnaeus 1758—Pompano Dolphinfish
Justification: See remarks; listed as "occasional" by Clavijo *et al.* (1980:16).
Distribution: Circumtropical, Gibbs and Collette (1959) WA (BD, FL, GOM, BA, GA, WC, nSA, sSA), St. Helena, EA, IWP, EP.
Remarks: Epipelagic in tropical and subtropical seas worldwide, but precise western Atlantic range unknown because of past confusion with *Coryphaena hippurus*.

Coryphaena hippurus Linnaeus 1758—Dolphinfish (Mahi Mahi)
Justification: Dolphinfish (widely marketed as Mahi Mahi) is a priority pelagic fish caught by St. Croix anglers.
Distribution: Circumtropical, Gibbs and Collette (1959) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA, IWP, EP.

ECHENEIDAE—remoras (4 species)

Although no voucher specimens are available for any species of remora, and two listed below have not previously been recorded from St. Croix, this is likely a collecting artifact. All four species have commensal or mutualistic relationships associated with removal of parasitic copepods from host species (see remarks) that are relatively common around St. Croix, and *E. naucrates* is a frequently sighted inshore remora associated with a wide variety of coral-reef fishes.

Echeneis naucrates Linnaeus 1758—Sharksucker

Justification: Relatively common species with several photographs available from St. Croix; REEF (5/10).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension, St. Helena, EA, IWP.

****Remora brachyptera*** (Lowe 1839)—Spearfish Remora

Justification: Usually found on body or inside gill chamber of billfishes and sharks (O'Toole, 2002:618) that occur off St. Croix.

Distribution: Circumtropical, WA (FL, GOM, GA, nSA, sSA), EA, IWP, EP.

****Remora osteochir*** (Cuvier 1829)—Marlinsucker

Justification: This remora has a mutualistic relationship with billfishes (O'Toole, 2002:618) that occur off St. Croix.

Distribution: Circumtropical, WA (BD, FL, GOM, BA, GA, WC, nSA, sSA), St. Helena, EA, IWP, EP.

Remora remora (Linnaeus 1758)—Remora

Justification: Listed as "occasional" by Clavijo *et al.* (1980:15); this remora has a mutualistic relationship, primarily with sharks (O'Toole, 2002:618); (REEF (6/3).

Distribution: Circumtropical, WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), St. Helena, EA, IWP, EP.

Remarks: Several on-line photographs of fish identified as *R. remora* from St. Croix, including those of Pittman *et al.* (2008), are actually based on misidentifications of unusually large individuals of *Echeneis naucrates*.

LUTJANIDAE—snappers (15 species)

Apsilus dentatus Guichenot 1853—Black Snapper (Black silk)

Listed as *Lutjanus arnillus* by Cope (1871:470) and as *Apsilus dentatus* by Fowler (1919:144).

Justification: Listed as "occasional" by Clavijo *et al.* (1980:16); caught in traps on Lang Bank (Brownell and Rainey, 1971:59); caught on deep-water vertical set lines (Appeldoorn *et al.*, 1992:6).

Distribution: WA (BA, GA, VI, LA,WC, nSA).

Etelis oculatus (Valenciennes 1832)—Queen Snapper

Justification: ZMUC P.47423 (1, 195 mm SL), Frederiksted, 1906; listed as "occasional" by Clavijo *et al.* (1980:16); catch statistics (Appeldoorn *et al.*, 1992:25).

Distribution: WA (BD, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Lutjanus analis (Cuvier *in* Cuv. & Val. 1828)—Mutton Snapper

Justification: ZMUC P.47425 (1, 115 mm SL), St. Croix, Sept. 1845; ZMUC P.47426 (1, 160 mm SL), St. Croix, July 1863; listed catch statistics (Appeldoorn *et al.*, 1992:25); caught in fish traps in Salt River (Tobias *et al.*, 1996:Table 1); St. Croix photograph (Randall, 1996:159); observed during Frederiksted reef system censuses (Toller, 2007:50); on-line photographs available (Pittman *et al.*, 2008); REEF (55/95).

Distribution: WA (BD, FL, BA, GA, VI, LA, WC, nSA, sSA).

Lutjanus apodus (Walbaum 1792)—Schoolmaster

Justification: UF 180961 (9, 25–94 mm SL), Salt River; UF 183278 (4, 100–165 mm SL), Rod Bay; ZMUC P. 47428–29 (2, 123–225 mm SL), St. Croix, Sept. 1845; ZMUC P.47430 (1, 105 mm SL) St. Croix, July 1863; catch statistics (Appeldoorn *et al.*, 1992:25); caught in fish traps in Salt River and Altona Lagoon (Tobias *et al.*, 1996: Tables 1 & 10); observed during Frederiksted reef system censuses (Toller, 2007:50); on-line photographs available (Pittman *et al.*, 2008); REEF (274/299).

Distribution: WA (BD, FL, BA, GA, VI, LA, WC, nSA), EA.

Remarks: Moura and Lindeman (2007) have determined that literature reports of this species from southeastern Brazil are based on misidentifications of the Brazilian endemic *Lutjanus alexandrei* Moura and Lindeman.

Lutjanus buccanella (Cuvier *in* Cuv. & Val. 1828)—Blackfin Snapper

Justification: UF 182975 (19, 32–48 mm SL), Frederiksted Pier; ZMUC P.47431-33 (3, 100–187 mm SL), Frederiksted, 1906; catch statistics (Appeldoorn *et al.*, 1992:25); St. Croix photograph (Randall, 1996:161); on-line photograph available (Pittman *et al.*, 2008); REEF (10/1).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Lutjanus campechanus (Poey 1860)—Red Snapper

Listed as *Lutjanus purpureus* and "rare" by Clavijo *et al.* (1980:17).

Justification: UF 183006 (1, 139 SL), Butler Bay; three specimens of "*Lutjanus purpureus*," identification confirmed by L. R. Rivas, caught in 64–73 m W. off Sandy Point (Brownell and Rainey (1971:64).

Distribution: Rivas (1966) WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Remarks: *Lutjanus campechanus* and *L. purpureus* (Poey) have generally been considered to be closely related, essentially allopatric species (Anderson, 2003) or subspecies but a genetic study (Gomes *et al.* 2012) suggests that there is only a single species of red snapper. This change in taxonomic rank or species concept has been adopted by Eschmeyer (2013).

Lutjanus cyanopterus (Cuvier *in* Cuv. & Val. 1828)—Cubera Snapper

Justification: USNM 198837 (2); listed as part of Bigeye Scad by-catch (Tobias, 1991:91); observed in Salt River Canyon (Arneson, 1979:4); catch statistics (Appeldoorn *et al.*, 1992:26); REEF (10/1).

Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA).

Lutjanus griseus (Linnaeus 1758)—Gray Snapper

Listed as *Lutjanus griseus* by Cope (1871:470) and Fowler (1919:144).

Justification: ZMUC P.47434–38 (4, 108–113 mm SL) St. Croix, Sept. 1845; caught in fish traps in Salt River and Altona Lagoon (Tobias *et al.*, 1996: Tables 1 & 10); observed during Frederiksted reef system censuses (Toller, 2007:50); on-line photograph available (Pittman *et al.*, 2008); REEF (18/41).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA.

Remarks: Moura and Lindeman (2007) have determined that literature reports of this species from southeastern Brazil are based on misidentifications of the Brazilian endemic *Lutjanus alexandrei*.

Lutjanus jocu (Bloch and Schneider 1801)—Dog Snapper

Justification: UF 182994 (1, 135 mm SL), Manning Bay Lagoon; listed as "common" by Clavijo *et al.* (1980:17); observed in Salt River Canyon (Arneson, 1979:4); catch statistics (Appeldoorn *et al.*, 1992:26); caught in fish traps in Salt River and Altona Lagoon (Tobias *et al.*, 1996: Tables 1 & 10); submersible observations in 60-120 m (García Sais, 2005:93); REEF (5/9).

Distribution: WA (BD, FL, BA, GA, VI, WC, nSA, sSA), Ascension Island.

Lutjanus mahogoni (Cuvier *in* Cuv. & Val. 1828)—Mahogany Snapper

Justification: UF (BIRNM, 6); observed during Frederiksted reef system censuses (Toller, 2007:50); on-line photograph available (Pittman *et al.*, 2008); REEF (359/361).

Distribution: WA (FL, BA, GA, VI, LA, WC, nSA).

Lutjanus synagris (Linnaeus 1758)—Lane Snapper

Justification: ZMUC P.47439 (1, 125 mm SL), St. Croix, Sept. 1845; ZMUC P.47440–44 (5, 112–155 mm SL); caught in fish traps in Altona Lagoon (Tobias *et al.*, 1996:Table 10); St. Croix photograph (Randall, 1996:165); observed during Frederiksted reef system censuses (Toller, 2007:50); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:73); REEF (34/39).

Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA).

Lutjanus vivanus (Cuvier *in* Cuv. & Val. 1828)—Silk Snapper

Listed as *Lutjanus vivanus* by Cope (1871:468) and Fowler (1919:144).

Justification: Listed as "common" by Clavijo *et al.* (1980:17); catch statistics (Appeldoorn *et al.*, 1992:26).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Ocyurus chrysurus (Bloch 1791)—Yellowtail Snapper

Listed as *Ocyurus chrysurus* by Cope (1871:468) and Fowler (1919:144).

Justification: UF (BIRNM, 2); UF 182874 (4, 54–77 mm SL), Frederkisted Pier; FMNH 52812 (3); ZMUC P.47445 (1, 240 mm SL) St. Croix, Sept. 1845; St. Croix photograph (Randall, 1996:166); observed during Frederiksted reef system censuses (Toller, 2007:50); on-line photographs available (Pittman *et al.*, 2008); REEF (286/388).

Distribution: WA (BD, BA, GA, VI, LA, WC, nSA, sSA), EA.

Pristipomoides macrophthalmus (Müller and Troschel *in* Schomburgk 1848)—Cardinal Snapper

Justification: ZMUC P.47424 (1, 210 mm SL) Frederiksted, 1906; listed as "common" by Clavijo *et al.* (1980:17).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: *Pristipomoides aquilonaris* (Good and Bean) and *P. macrophthalmus* are very similar morphologically and co-occur in the Greater Antilles and probably other islands of the Antilles; see Anderson (1966) for distinguishing characters of both species.

Rhomboplites aurorubens (Cuvier *in* Cuv. & Val. 1829)—Vermilion Snapper

Justification: Listed as "occasional" by Clavijo *et al.* (1980:17); catch statistics (Appeldoorn *et al.*, 1992:26).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

LOBOTIDAE—tripletails (1 species)

Lobotes surinamensis (Bloch 1790)—Atlantic Tripletail

Justification: UF 180976 (1); listed as "occasional" by Clavijo *et al.* (1980:17).

Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA), EA, IWP.

GERREIDAE—mojarras (8 species)

****Diapterus auratus*** Ranzani 1842—Irish Pompano, Fig. 13A

Justification: UF 180902 (2, 50–57.5 mm SL), Salt River; UF 182925 (3, 94–114 mm SL), Triton Bay; observed during Frederiksted reef-system censuses (Toller, 2007:49).

Remarks: Tobias (2001) reported *Diapterus olisthostomus* (Goode and Bean, 1882), a synonym of *D. auratus* (see Deckert and Greenfield, 1987), from Great Pond.

Distribution: WA (FL, GOM, GA, VI, LA, WC, nSA, sSA).

Eucinostomus argenteus Baird and Girard 1855—Spotfin Mojarra

Justification: Listed as "common" by Clavijo *et al.* (1980:17); caught in fish traps in Altona Lagoon (Tobias *et al.*, 1996: Table 10); observed during Frederiksted reef-system censuses (Toller, 2007:49).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Eucinostomus gula (Quoy and Gaimard 1824)—Silver Jenny

Listed as *Gerres gula* by Cope (1871:461) and as *Eucinostomus gula* by Fowler (1919:144).

Justification: UF 180907 (1, 52 mm SL), Salt River; listed as "common" by Clavijo *et al.* (1980:17).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

****Eucinostomus harengulus*** Goode and Bean 1879—Tidewater Mojarra, Fig. 13B

Justification: UF (BIRNM 1); UF 182923 (3, 57–58 mm SL), Triton Bay; UF 183146 (5, 36–65 mm SL), Great Pond Bay; UF 183172 (5, 42–63 mm SL), Molasses Pier; ANSP 9222 (1, 52 mm SL) and ANSP 80626 (1) [identified by R. E. Matheson]; ZMUC P. 48386 (1, 120 mm SL), Frederiksted, Jan. 1906.

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

****Eucinostomus havana*** (Nichols 1912)—Bigeye Mojarra, Fig. 13C

Justification: UF 183091 (1, 94 mm SL), Rod Bay.

Distribution: WA (BD, FL, BA, GA, VI, LA, WC, nSA, sSA).

****Eucinostomus jonesii*** (Günther 1879)—Slender Mojarra

Listed as *Eucinostomus pseudogula* (Fowler, 1930:646).

Justification: UF 183159 (2, 52–55 mm SL), Altona Lagoon; FMNH 52818 (10); MCZ 65014 (4); abundant in fish traps in Salt River and Altona Lagoon (Tobias *et al.*, 1996: Tables 1 & 10); observed in back-reef and lagoon censuses (Adams and Ebersole, 2002:223).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Eucinostomus lefroyi Goode1874)—Mottled Mojarra

Justification: UF 181039 (4, 22–38 mm SL), Salt River; UF 183003 (6, 11–34 mm SL), Manning Bay Lagoon; ANSP 73286 (4) and ANSP 80621 (8); listed as "occasional" by Clavijo *et al.* (1980:18); observed during Frederiksted reef-system censuses (Toller, 2007:49).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Gerres cinereus (Walbaum 1792)—Yellowfin Mojarra, Fig. 13D

Listed as *Eucinostomus cinereus* by Clavijo *et al.* (1980:18)

Justification: UF 183090 (7, 41–75 mm SL), Great Pond Bay; UF 183176 (3, 108–145 mm SL), Altona Lagoon; ZMUC P.48418 (1, 133 mm SL), St. Croix, Sept. 1916; ZMUC P.48419–35 (17, 50–61 mm SL), St. Croix, Oct. 1917; abundant in fish traps in Salt River and Altona Lagoon (Tobias *et al.*, 1996: Tables 1 & 10); observed in back-reef and lagoon censuses (Adams and Ebersole, 2002:223); observed during Frederiksted reef-system censuses (Toller, 2007:49); REEF (115/148).

Distribution: WA (BD, FL, GOM, BA, GA,VI, LA, WC, nSA, sSA).

HAEMULIDAE—grunts (16 species)

Anisotremus surinamensis (Bloch 1791)—Black Margate

Justification: Listed as "occasional" by Clavijo *et al.* (1980:18); observed during Frederiksted reef-system censuses (Toller, 2007:50); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:72); REEF (43/50).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Anisotremus virginicus (Linnaeus 1758)—Porkfish

Listed as *Anisotremus virginicus* by Cope (1871:470) and Fowler (1919:144).

Justification: UF 183004 (2, 55–134 mm SL); ANSP 11546 (1, 185 mm SL); ZMUC P.48447 (1, 111 mm SL) St. Croix, 1882; observed during Frederiksted reef-system censuses (Toller, 2007:50); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:72); REEF (16/31).

Distribution: WA (FL, GOM, BA, GA, VI, WC, nSA, sSA).

Emmelichthyops atlanticus Schultz 1945—Bonnetmouth

Justification: Observed at Salt River Canyon (Bortone *et al.*, 1986:7); REEF (6/1).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: *Emmelichthyops* has traditionally been recognized as one of two monotypic genera, together with *Inermia*, comprising the family Inermiidae which collectively are commonly referred to as bonnetmouths. Characters shared by both genera such as highly protrusible jaw systems are modifications associated with planktivory and not a reflection of common ancestory. Following Sanciangco *et al.* (2011), *E. atlanticus*, together with *Inermia* (see following account of *Haemulon vittatum*), are both assigned to the family Haemulidae based on a molecular phylogeny using mitochondrial and nuclear genes. The family Inermiidae is no longer recognized. Voucher specimens are needed due to possible misidentification with *Haemulon vittatum.*

Haemulon album Cuvier *in* Cuv. & Val. 1830—Margate

Justification: Catch statistics (Appeldoorn *et al.*, 1992:26); on-line photographs available (Pittman *et al.*, 2008); REEF (8/17).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA and Fernando de Noronha).

Haemulon aurolineatum Cuvier *in* Cuv. & Val. 1830—Tomtate

Justification: UF 182996 (1, 161 mm SL), Butler Bay; listed as "common" by Clavijo *et al.* (1980:18); caught in fish traps in Salt River (Tobias *et al.*, 1996:Table 1); St. Croix photograph (Randall, 1996:171); observed during Frederiksted reef-system censuses (Toller, 2007:50); on-line photograph available (Pittman *et al.*, 2008); REEF (93/103).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Haemulon carbonarium Poey 1860—Caesar Grunt

Justification: UF 182984 (39 mm SL), Manning Bay Lagoon; listed as "occasional" by Clavijo *et al.* (1980:18); catch statistics (Appeldoorn *et al.*, 1992:27); caught in fish traps in Salt River (Tobias *et al.*, 1996: Table 1); observed during Frederiksted reef-system censuses (Toller, 2007:50); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:72); REEF (258/203).

Distribution: WA (BD, FL, BA, GA, VI, LA, CW, nSA).

Haemulon chrysargyreum Günther 1859—Smallmouth Grunt

Justification: UF 182967 (1, 148 mm SL), Butler Bay; listed as "common" by Clavijo *et al.* (1980:18); caught in fish traps in Salt River (Tobias *et al.*, 1996:Table 1); observed during Frederiksted reef-system censuses (Toller, 2007:50); on-line photograph available (Pittman *et al.*, 2008); REEF (275/247).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, Atoll Rocas and Fernando de Noronha).

Haemulon flavolineatum (Desmarest 1832)—French Grunt

Listed as *Haemulum xanthopterum* by Cope (1871:471) and as *Haemulon flavolineatum* by Fowler (1919:144).

Justification: UF (BIRNM, 20); ZMUC P.48449 (1, 135 mm SL) St. Croix, Sept. 1845; ZMUC P.48450 (1, 155 mm SL) St. Croix, Oct. 1863; St. Croix photograph (Randall, 1996:167); observed during Frederiksted reef-system censuses (Toller, 2007:50); on-line photographs available (Pittman *et al.*, 2008); REEF (433/526).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Haemulon macrostomum Günther 1859—Spanish Grunt

Justification: Listed as "occasional" by Clavijo *et al.* (1980:18); catch statistics (Appeldoorn *et al.*, 1992:27); caught in fish traps in Salt River and Altona Lagoon(Tobias *et al.*, 1996: Tables 1 & 10); observed during Frederiksted reef-system censuses (Toller, 2007:50); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:72); REEF (19/63).

Distribution: WA (BD*, FL, GOM, BA, GA, VI, LA, WC, nSA).

Haemulon melanurum (Linnaeus 1758)—Cottonwick

Listed as *Haemulum melanurum* by Cope (1871:471) and as *Haemulon melanurum* by Fowler (1919:144).

Justification: UF 160119 (1, 63.5 mm SL), BIRNM; ZMUC P.48442 (1, 200 mm SL), St. Croix, Sept. 1845; catch statistics (Appeldoorn *et al.*, 1992:27); observed during Frederiksted reef-system censuses (Toller, 2007:50); on-line photographs available (Pittman *et al.*, 2008); REEF (8/16).

Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA).

Haemulon parra (Desmarest 1832)—Sailors Choice

Justification: UF 182970 (1, 176 mm SL), Frederiksted Harbor; UF 182312 (4, 43–68 mm SL); ZMUC P.48443 (1, 198 mm SL), St. Croix, Nov., 1842; caught in fish traps in Salt River (Tobias *et al.*, 1996: Table 1); observed during Frederiksted reef-system censuses (Toller, 2007:50); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:72); REEF (12/33).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Haemulon plumierii (Lacepéde 1801)—White Grunt

Listed as *Haemulum formosum* by Cope (1871:470) and as *Haemulon plumieri* by Fowler (1919:144).

Justification: UF (BIRNM, 5); ZMUC P.48451–52 (2, 135–175 mm SL) St. Croix, Oct. 1863; catch statistics (Appeldoorn *et al.*, 1992:27); caught in fish traps in Salt River (Tobias *et al.*, 1996:Table 1); observed during Frederiksted reef-system censuses (Toller, 2007:50); on-line photographs available (Pittman *et al.*, 2008); REEF (258/203).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Haemulon sciurus (Shaw 1803)—Bluestriped Grunt

Listed as *Haemulum elegans* by Cope (1871:471) and as *H. sciurus* by Fowler (1919:144).

Justification: UF 182976 (1, 146 mm SL), Frederiksted Harbor; ZMUC P.48445–46 (23, 131–193 mm SL), St. Croix, Sept. 1842; catch statistics (Appeldoorn *et al.*, 1992:27); caught in fish traps in Salt River and Altona Lagoon(Tobias *et al.*, 1996: Tables 1 & 10); observed during Frederiksted reef-system censuses (Toller, 2007:50); on-line photographs available (Pittman *et al.*, 2008); REEF (288/310).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: Described from St. Croix as new species *Anthias formosus* (see Table 4).

****Haemulon striatum*** (Linnaeus 1758)—Striped Grunt

Listed as *Haemulon quadrilineatum* by Cope (1871:471) and as *Bathystoma striatum* by Fowler (1919:144).

Justification: ZMUC P.48437–38 (2, 145–148 mm SL); ZMUC P.48439 (1, 140 mm SL), St. Croix, April 1847; ZMUC P.48440–41 (2, 115–133 mm SL), St. Croix, Sept. 1844; observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:72); REEF (2/7).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Haemulon vittatum (Poey 1960)—Boga

Listed as *Inermia vittata* and "common" by Clavijo *et al.* (1980:16).

Justification: UF 159763 (11, 16.5–30.5 mm SL), BIRNM; observed, as *Inermia vittata*, at Salt River Canyon (Bortone *et al.* 1986:8) and during Frederiksted reef-system censuses (Toller, 2007:50); on-line photographs available (Pittman *et al.*, 2008); REEF (34/22).

Distribution: WA (BD, North Carolina, FL, BA, GA, VI, WC, nSA).

Remarks: Until recently *Inermia vittat*a, together with *Emmelichthyops atlanticus* Schultz, was placed in a separate family Inermiidae. A recent study (Rocha *et al.*, 2008) based on molecular sequence data utilizing four genes conclusively supports placement of the Boga within the genus *Haemulon*.

****Pomadasys crocro*** (Cuvier 1830)—Burro Grunt

Justification: Catch statistics for 1990 (Appeldoorn *et al.*, 1992:27).

Distribution: WA (FL, GOM, GA, LA, WC, nSA, sSA).

Remarks: This species typically occurs in brackish-water habitats. Voucher specimens or high quality photographs should be obtained to confirm and document the occurrence record.

INERMIIDAE—bonnetmouths (see Haemulidae)

SPARIDAE—porgies (4 species)

Archosargus rhomboidalis (Linnaeus 1758)—Sea Bream, Fig. 13E

Justification: UF 182922 (1, 172 mm SL), Triton Bay; listed as "occasional" by Clavijo *et al.* (1980:18); caught in fish traps in Salt River and Altona Lagoon (Tobias *et al.*, 1996: Tables 1 & 10); caught in fish traps in Salt River Bay (Adams and Tobias, 1999:27).

Distribution: WA (FL, GOM, GA, VI, WC, nSA, sSA).

Calamus bajonado (Bloch and Schneider 1801)—Jolthead Porgy

Justification: Listed as "occasional" by Clavijo *et al.* (1980:18); catch statistics (Appeldoorn *et al.*, 1992:27); observed in Eagle Ray census (Toller, 2002: Appendix 2E); REEF (5/5).

Distribution: Randall and Caldwell (1966) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Calamus penna (Valenciennes *in* Cuv. & Val. 1830)—Sheepshead Porgy

Justification: UF 183015 (1, 194 mm SL), Butler Bay; UF 183073 (2, 77–78 mm SL), Great Pond Bay.

Distribution: Randall and Caldwell (1966) WA (FL, GOM, BA, GA, VI, WC, nSA, sSA).

Calamus pennatula Guichenot 1868—Pluma porgy

Listed as *Chrysophrys calamus* Cope (1871:470) and as *Calamus calamus* by Fowler (1919:144); these records are based on specimens that could not be found at ANSP and the synonymies are based on our redeterminations of Cope and Fowler specimens, originally identified as *C. calamus*, from non-St. Croix localities.

Justification: Listed as "occasional" by Clavijo *et al.* (1980:19).

Distribution: Randall and Caldwell (1966) WA (BA, GA, VI, LA, CW, nSA, sSA).

Remarks: Clavijo *et al.* (1980) did not record the Saucereye Porgy, *Calamus calamus* (Valenciennes 1830), but listed as "occasional" the same three *Calamus* species we accept as being present in St. Croix. Presumably they would have been familiar with the important Randall and Caldwell (1966) review of *Calamus* and have based their identifications on specimens obtained from fishers rather than on underwater sightings. There are a number of diver census records of *C. calamus* from St. Croix, but we doubt the accuracy of these identifications as there are few or no sightings of other *Calamus* species.

POLYNEMIDAE—threadfins (2 species)

Polydactylus oligodon (Günther 1860)—Littlescale Threadfin

Justification: Listed as "occasional" by Clavijo *et al.* (1980:24).

Distribution: Randall (1966a) WA (FL, BA, GA, VI, WC, nSA).

Remarks: *Polydactylus oligodon* is very similar superficially to *P. virginicus* but differs in having more lateral-line scales 67–73 (vs. 54–63) and anal-fin rays 13–15 (mean =14), vs. 12–14 (mean =13). Randall (1966) noted differences in pigmentation and shape of the posterior margin of the maxilla between *Polydactylus oligodon* and *P. virginicus* but Feltes (2002:1581) found too much variation in these characters to clearly distinguish the two species. Voucher specimens are needed to confirm the occurrence of this species in St. Croix.

Polydactylus virginicus (Linnaeus 1758)—Barbu

Justification: UF 180888 (1, 210 mm SL), Salt River, Sugar Bay; FMNH 89594 (1); ZMUC P.7221–22 (2), Great Pond, Feb. 1906.

Distribution: Randall (1966) WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

SCIAENIDAE—drums (7 species)

Corvula sanctaeluciae Jordan 1889—Striped Croaker, Fig. 14A

Listed as *Bairdiella sanctaeluciae* and "occasional" by Clavijo *et al.* (1980:19).

Justification: UF 180911 (1, 36 mm SL), Long Point Bay; Yntema (1972) first reported this species from St. Croix based on a trap-sampling survey in Manning Bay Lagoon.

Distribution: WA (FL, GOM, GA, LA, WC, nSA).

Remarks: Allocation of this species to the genus *Corvula* follows Chao (2003), who stated that this species is common over muddy and sandy bottom throughout the Antilles.

Equetus lanceolatus (Linnaeus 1758)—Jackknife-fish

Listed as *Eques lanceolatus* by Cope (1871:471) and as *Equetus lanceolatus* by Fowler (1919:144).

Justification: UF 183010 (1, 154 mm SL), Frederiksted Harbor; ANSP 11562 (1, 135 mm SL); FMNH 89589 (1); St. Croix photograph of juvenile (Randall, 1996:191); on-line photographs available (Pittman *et al.*, 2008); REEF (5/15).

Distribution: WA (BD*, FL, GOM, BA, GA, VI, WC, nSA, sSA).

Equetus punctatus (Bloch and Schneider 1801)—Spotted Drum, Fig. 14B

Listed as *Eques punctatus* by Cope (1871:471) and Fowler (1919:144).

Justification: UF 160684 (1, 194 mm SL), BIRNM; caught in fish traps in Salt River (Tobias *et al.*, 1996: Table 1); observed during Frederiksted reef-system censuses (Toller, 2007:50); on-line photographs available and observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:74); REEF (124/136).

Distribution: WA (FL, GOM, BA, GA, VI, WC, nSA, sSA).

****Micropogonias furnieri*** (Desmarest 1823)—Whitemouth Croaker, Fig. 14C

Justification: UF 180891 (1, 355 mm SL), Salt River, Sugar Bay.

Distribution: WA (FL, GA, LA, WC, nSA, sSA).

Odontoscion dentex (Cuvier *in* Cuv. & Val. 1830)—Reef Croaker

Justification: UF 182974 (7, 57–94 mm SL), Long Point; listed as "common" by Clavijo *et al.* (1980:19); small juveniles colonizing artifical reefs (Shulman *et al.*, 1983:1510); caught in fish traps in Salt River (Tobias *et al.*, 1996: Table 1); observed during Frederiksted reef-system censuses (Toller, 2007:50); REEF (15/1).

Distribution: WA (FL, GOM, GA, VI, LA, WC, nSA, sSA).

Pareques acuminatus (Bloch and Schneider 1801)—High-hat

Listed as *Eques acuminatus* by Cope (1871:471) and Fowler (1919:144).

Justification: UF (BIRNM,7); ANSP 11566 (1, 136 mm SL); ZMUC P.49694 (1), Christiansted, March 1906; caught in fish traps in Salt River (Tobias *et al.*, 1996: Table 1); observed during Frederiksted reef-system censuses (Toller, 2007:50); on-line photographs available (Pittman *et al.*, 2008); REEF (36/47).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

****Umbrina coroides*** Cuvier *in* Cuv. & Val. 1830—Sand Drum, Fig. 14D

Justification: We examined photographs of a 170 mm SL specimen collected by Wes Toller with a pole spear at Dorsch Beach, near Sandy Point on 10 Feb. 2007; this species was also observed during Frederiksted reef-system censuses (Toller, 2007:50).

Distribution: Gilbert (1966) WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

MULLIDAE—goatfishes (2 species)

Mulloidichthys martinicus (Cuvier *in* Cuv. & Val. 1829)—Yellow Goatfish.

Justification: UF 183011 (1, 171 mm SL), Butler Bay; UF 183089 (1, 93 mm SL), Great Pond Bay; FMNH

7363 (1) and FMNH 52803 (4); St. Croix photograph (Randall, 1996:194); REEF (370/390).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena, EA.

Pseudupeneus maculatus (Bloch 1793)—Spotted Goatfish
Listed as *Upeneus maculatus* by Cope (1871:471) and Fowler (1919:144).
Justification: UF (BIRNM, 4); FMNH 89597 (1); REEF (318/338).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

PEMPHERIDAE—sweepers (1 species)

Pempheris schomburgkii Müller and Troschel *in* Schomburgk 1848—Glassy Sweeper
Justification: UF 160087 (21, 26–59 mm SL), BIRNM; UF 180985 (1, 117 mm SL), Frederiksted Pier; observed during Frederiksted reef-system censuses (Toller, 2007:50); REEF (29/29).
Distribution: WA (BD, FL, BA, GA, VI, LA, WC, nSA, sSA).

KYPHOSIDAE—sea chubs (3 species)

While this monograph was in press, Sakai & Nakabo's (2014) review of Atlantic *Kyphosus* was published. Their nomenclature, used herein, differs substantially from that adopted by Knudsen and Clements (2013). Reconciling the two opposing classifications will require additional study.

Kyphosus bigibbus (Lacepéde 1801)—Darkfin Chub
Justification: ZMUC jour. (62 mm SL) [identified by Knudsen and Clements (2013:23)].
Distribution: Knudsen and Clements (2013) WA (BD, LA, WC, sSA), EA, IWP.
Remarks: *Kyphosus bigibbus* differs from *K. sectatrix* primarily in having fewer total gill rakers 19–22 (versus 22–25) and more vertebrae 10+16 (versus 10+15).

Kyphosus sectatrix (Linnaeus 1758)—Bermuda Chub
Justification: UF 181027 (1); ZMUC P.51124 (1), St. Croix, March, 1851; observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:73); we observed schools of Bermuda Chub around riprap near the shore at Frederiksted Pier in January 2012.
Distribution: Circumtropical, Knudsen and Clements (2013) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA), Ascension and St. Helena, EA, IWP, EP.
Remarks: Sakai and Nakabo (2014) regard *K. sectatrix* as a *nomina dubia* (unavailable name) and, according to their study, the above specimens would be identified as *K. atlanticus* Sakai and Nakabo.

Kyphosus vaigiensis (Quoy and Gaimard 1825)—Yellow Chub
Justification: UF 180974 (1, 40 mm SL), Bethlehem Middle Works.
Distribution: Circumtropical, Knudsen and Clements (2013) WA (BD, FL, GOM, BA, GA, WC, sSA), Ascension and St. Helena, EA, IWP, EP.
Remarks: This species was previously identified as *Kyphosus incisor* (Cuvier 1831) and considered to be restricted to the Atlantic Ocean. Knudsen and Clements (2013) have concluded that it actually occurs in both the Atlantic and Indo-Pacific regions and was first described from Indonesia. *Kyphosus vaigiensis* differs from the other two St. Croix species of *Kyphosus* in having more segmented dorsal-fin rays 13–14 (versus 11–12) and anal-fin rays 12–14 (versus 10–12, usually 11). In life, adults have distinct brassy stripes (versus pale yellow in *K. sectatrix*). Following Sakai and Nakabo (2014), the above specimen would retain the name *K. incisor*.

CICHLIDAE—cichlids (2 species)

Oreochromis mossambicus (Peters 1852)—Mozambique Tilapia, Figs. 14E-F

Listed as *Sarotherodon mossambica* and as "introduced, occasional" by Clavijo *et al.* (1980:20); reported from Great Pond (Tobias, 2001).

Justification: UF 182973 (1, 175 mm SL), freshwater pond at Lower Love Estate, July 1977; UF 182981 (4, 51–63 mm SL), South Gate Pond, Aug. 1980; UF 182882 (8, 32–44 mm SL), Oct. 1980 and UF 180970 (36, 24–66 mm SL), May 2011, both Westend Saltpond, S. of Frederiksted; UF 183059 (5, 33–40 mm SL), Mahogany Gut, Jan. 2012; UF 183279 (9, 26–151 mm SL), Creque Dam Gut, Jan. 2012.

Distribution: A highly salt-tolerant freshwater species native to Africa but widely introduced for aquaculture, including St. John (Loftus, 2003), Puerto Rico and Florida.

Remarks: The first record of Mozambique Tilapia at St. Croix is July 1977 (see above). By 1980 this tilapia had been collected at three other localities and is now firmly established throughout the island. This species attains a size that makes it a sought-after food fish, thus tempting local fishers to introduce it more widely. Unfortunately, it is capable of successfully competing with other freshwater fishes, possibly resulting in their elimination at some localities. This mouthbrooding species has negatively impacted many tropical aquatic ecosystems due to its agressive, omnivorous feeding habits and precocious breeding behavior (Lobel, 1980; Costa-Pierce, 2003).

Cichla ocellaris Bloch and Schneider 1801—Butterfly Peacock Bass (Peacock Bass)

Justification: Listed as "introduced, occasional" by Clavijo *et al.* (1980:20).

Distribution: Widely introduced freshwater species, including southern Florida and Puerto Rico; native to South America.

Remarks: The Peacock Bass was probably originally introduced to one or more private ponds. We doubt that the species is established on St. Croix.

CHAETODONTIDAE—butterflyfishes (5 species)

Chaetodon capistratus Linnaeus 1758—Foureye Butterflyfish

Listed as *Sarothrodus capistratus* by Cope (1871:474) and as *Chaetodon capistratus* by Fowler (1919:145).

Justification: UF (BIRNM, 21); ZMUC P.52491–92 (2), St. Croix, June 1846; REEF (420/518).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Chaetodon ocellatus Bloch 1778.—Spotfin Butterflyfish

Listed as *Sarothrodus bimaculatus* by Cope (1871:474) and as *Chaetodon ocellatus* by Fowler (1919:145).

Justification: ANSP 12289 (1) [identified by W. E. Burgess]; observed in Yellowcliff Bay (Mateo and Tobias, 2001:213); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:71); REEF (39/60).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA,WC, nSA, sSA).

Chaetodon sedentarius Poey 1860—Reef Butterflyfish

Listed as *Chaetodon sedentarius* by Fowler (1919:145).

Justification: UF 182978 (1, 102 mm SL), Butler Bay; ZMUC P.52493 (1, 94 mm SL), St. Croix, July 1863; REEF (14/22).

Distribution: WA (BD, FL, GOM, BA, GA,VI, LA, WC, nSA, sSA).

Chaetodon striatus Linnaeus 1758—Banded Butterflyfish

Listed as *Sarothrodus striatus* by Cope (1871:474) and as *Chaetodon striatus* by Fowler (1919:145).

Justification: UF (BIRNM, 2); UF 183186 (7, 82–106 mm SL), Ham's Bay; ANSP 12303 (4); ZMUC P.52494 (1, 100 mm SL), July 1863; observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:71); REEF (354/387).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Prognathodes aculeatus (Poey 1860)—Longsnout Butterflyfish

Justification: AMNH 88374 (2); mating system of this species studied at St. Croix (Neudecker and Lobel, 1982); St. Croix photograph (Randall, 1996:215); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:71); REEF (205/228).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

POMACANTHIDAE—angelfishes (5 species)

Centropyge argi Woods and Kanazawa 1951—Cherubfish

Justification: ANSP 143844 (1, 37.4 mm SL), N. of Frederiksted, 37 m, March 1977; REEF (1/1).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Holacanthus ciliaris (Linnaeus 1758)—Queen Angelfish

Listed as *Holacanthus ciliaris* by Cope (1871:474) and as *Angelichthys ciliaris* by Fowler (1919:145).

Justification: UF (BIRNM, 5); St. Croix photograph (Randall, 1996:217); REEF (93/126).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Remarks: First described from St. Croix as the new species *Holocanthus* [sic] *lunatus* (see Table 4).

Holacanthus tricolor (Bloch 1795)—Rock Beauty

Listed as *Holacanthus tricolor* by Cope (1871:474) and Fowler (1919:145).

Justification: UF (BIRNM, 4); REEF (283/343).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Pomacanthus arcuatus (Linnaeus 1758)—Gray Angelfish

Listed as *Pomacentrus quinquecinctus* by Cope (1871:474) and *Pomacanthus arcuatus* by Fowler (1919:145).

Justification: ZMUC P.52495 (1, 215 mm SL), St. Croix, Oct. 1831; ZMUC P.52496 (1, 255 mm SL), St. Croix, Sept. 1845; St. Croix photographs (Randall, 1996:220, 221); REEF (45/81).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Pomacanthus paru (Bloch 1787)—French Angelfish

Justification: UF (BIRNM, 3); UF 182968 (1, 78 mm SL), Frederiksted Pier; ZMUC P.52497-98 (2, 85–109 mm SL), St. Croix, Sept. 1845; St. Croix photograph (Randall, 1996:222); REEF (122/201).

Distribution: WA (FL, GOM, BA, GA, VI, LA,WC, nSA, sSA).

CIRRHITIDAE—hawkfishes (1 species)

Amblycirrhitus pinos **(Mowbray** 1927*)*—Redspotted Hawkfish, Fig. 15A

Justification: UF (BIRNM, 12); observed during Frederiksted reef-system censuses (Toller, 2007:49); REEF (196/140).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA), St. Helena.

POMACENTRIDAE—damselfishes (14 species)

Abudefduf saxatilis (Linnaeus 1758)—Sergeant Major

Listed as *Glyphidodon saxatilis* by Cope (1871:461) and as *Abudefduf marginatus* by Fowler (1919:144).

Justification: UF (BIRNM, 5); REEF (403/502).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA,WC, nSA, sSA), Ascension and St. Helena, EA.

Abudefduf taurus (Müller and Troschel in Schomburgk 1848)—Night Sergeant

Justification: UF (BIRNM, 2); UF 183007 (1, 121 mm SL), Frederiksted Pier; REEF (18/23).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA), EA.

Chromis cyanea (Poey 1860)—Blue Chromis
Justification: UF (BIRNM, 21); REEF (411/492).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

****Chromis enchrysura*** Jordan and Gilbert 1882—Yellowtail Reeffish
Justification: Submersible observations in 40–150 m (García Sais, 2005:94); REEF (0/2).
Distribution: Emery and Smith-Vaniz (1982) WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA, St. Paul's Rocks).

Chromis insolata (Cuvier *in* Cuv. & Val. 1830)—Sunshinefish
Justification: UF 182860 (1, 28.5 mm SL), Butler Bay; depth-gradient preferences at Salt River Canyon (Johnson, 1980); submersible observations in 40–210 m (García Sais, 2005:93); REEF (40/26).
Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA).

Chromis multilineata (Guichenot 1853)—Brown Chromis
Justification: UF (BIRNM, 6); REEF (410/448).
Distribution: WA (BD*, FL, GOM, BA, GA, VI, LA,WC, nSA, sSA), Ascension and St. Helena, EA.

Chromis scotti Emery 1968—Purple Reeffish
Justification: ANSP 144613 (1, 43.6 mm SL), Cane Bay, 55 m, March 1977; REEF (1/1).
Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA).

Microspathodon chrysurus (Cuvier *in* Cuv. & Val. 1830)—Yellowtail Damselfish
Listed as *Microspathodon chrysurus* by Cope (1871:461) and Fowler (1919:144).
Justification: UF (BIRNM, 7); St. Croix photograph (Randall, 1996:230); REEF (366/434).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA, Trinidade Island).

Stegastes adustus (Troschel in Müller 1865)—Dusky Damselfish
Listed as *Eupomacentrus dorsopunicans* (Poey) and "very common" by Clavijo *et al.* (1980:21).
Justification: UF (BIRNM, 24); REEF (181/244).
Distribution: WA (BD*, FL, BA, GA, VI, LA,WC, nSA).

Stegastes diencaeus (Jordan and Rutter 1897)—Longfin Damselfish
Listed as *Eupomacentrus mellis* (Emery and Burgess) and "occasional" by Clavijo *et al.* (1980:21).
Justification: UF (BIRNM, 25); REEF (342/276).
Distribution: WA (BA, GA, VI, LA, WC, nSA).

Stegastes leucostictus (Müller and Troschel *in* Schomburgk 1848)—Beaugregory
Listed as *Pomacentrus leucostictus* by Cope (1871:461) and Fowler (1919:144), and as *Eupomacentrus leucostictus* by Clavijo *et al.* (1980:21).
Justification: UF (BIRNM, 38); REEF (237/295).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Stegastes partitus (Poey 1868)—Bicolor Damselfish
Listed as *Eupomacentrus partitus* and "common" by Claijo *et al.* (1980:21).
Justification: UF (BIRNM, 47); St. Croix photograph (Randall, 1996:235); REEF (410/493).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Stegastes planifrons (Cuvier *in* Cuv. & Val. 1830)—Threespot Damselfish
Listed as *Eupomacentrus planifrons* and "common" by Clavijo *et al.* (1980:21).
Justification: UF (BIRNM, 20); REEF (292/278).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Stegastes xanthurus (Poey 1860)—Cocoa Damselfish

Listed as *Eupomacentrus variabilis* and "occasional" by Clavijo *et al.* (1980:21).

Justification: UF (BIRNM, 21); REEF (143/143).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: *Stegastes xanthurus* was described from Cuba and has generally been considered to be a synonym of S. *variabilis* (Castelnau 1855), which was described from Brazil. Brazilian populations are genetically distinct (Robertson and Van Tassel, 2012) and can also be distinguished by color pattern (R. Robertson, pers. comm.); hence we use the earliest name available for the Caribbean species. The status of the Bermuda population is uncertain. This change in scientific names is similar to the situation with the surgeonfish, *Acanthurus tractus*.

LABRIDAE—wrasses and parrotfishes (31 species)

Remarks: Parrotfishes have traditionally been recognized as a distinct family, the Scaridae. A phylogenetic analysis (Westneat and Alfaro, 2005) has revealed that the parrotfishes are nested within a monophyletic Labridae, and this classification has been followed by others (*e.g.*, Choat *et al.*, 2012; Page *et al.*, 2013).

Bodianus pulchellus (Poey 1860)—Spotfin Hogfish

Justification: Listed as "occasional" by Clavijo *et al.* (1980:21); REEF (1/0).

Distribution: WA (BD, FL, GOM, BA, GA, WC, nSA, sSA).

Remarks: Feddern (1963) described ontogenetic color-pattern changes and distinguishing characters of *Bodianus pulchellus* and *B. rufus* and noted that lack of distributional records for *B. pulchellus* (from the northern Virgin Is. and Lesser Antilles) may be a collecting artifact due to its avoidance of shallow water and preference for rocky habitats.

Bodianus rufus (Linnaeus 1758)—Spanish Hogfish

Listed as *Cossyphus rufus* by Cope (1871:463) and as *Bodianus rufus* by Fowler (1919:145).

Justification: UF (BIRNM, 2); ZMUC P.58193 (1, 183 mm SL), St. Croix, 1862; ZMUC P.58194 (1, 214 mm SL), St. Croix, Dec. 1843; on-line photographs available (Pittman *et al.*, 2008); REEF (365/408).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Clepticus parrae (Bloch and Schneider 1801)—Creole Wrasse

Listed as *Clepticus genizarra* by Cope (1871:463) and as *Clepticus parrae* by Fowler (1919:145).

Justification: UF (BIRNM, 3); ZMUC P.58192 (1, 185 mm SL); REEF (355/344).

Distribution: WA (FL, GOM, BA, GA, VI, LA,WC, nSA).

Cryptotomus roseus Cope 1871—Bluelip Parrotfish

Justification: UF (BIRNM, 12); REEF (30/10).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension Island.

****Decodon puellaris*** (Poey 1860)—Red Hogfish

Listed as *Decodon puellaris* by Fowler (1919:145).

Justification: ZMUC P.58195 (1, dry mount), St. Croix, 21 Nov. 1842 [identification confirmed by Martin F. Gomon].

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Remarks: The single specimen Fowler (1919) reported from St. Croix could not be located to confirm the identification. *Decodon puellaris* is a deep-water species (18–275 m) that is seldom seen by divers but has a broad western Atlantic distribution (Gomon, 1974).

Doratonotus megalepis Günther 1862)—Dwarf Wrasse

Justification: UF (BIRNM, 13); recorded from Tague Bay (Robblee and Zieman, 1984:338).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA,WC, nSA, sSA), EA.

Halichoeres bivittatus (Bloch 1791)—Slippery Dick

Justification: UF (BIRNM, 51); REEF (196/209).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA,WC, nSA, sSA).

****Halichoeres cyanocephalus*** (Bloch 1791)—Yellowcheek Wrasse

Justification: Negligibly present in back-reef visual censuses (Adams and Ebersole, 2002:224); observed in Lang Bank censuses (Toller, 2002: appendix 2A); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:73); REEF (11/3).

Distribution: WA (FL, GA,VI, LA, WC, nSA).

Remarks: Clavijo *et al.* (1980) did not list this species but we examined an unmistakable color photograph of a large terminal male *H. cyanocephalus* caught in 12 m off Scotch Bank, NW of Christiansted, on 30 March 2006. Reports of this species from southern Brazil are based on misidentifications of *H. dimidiatus* (Agassiz), see Rocha (2004).

Halichoeres garnoti (Valenciennes *in* Cuv. & Val. 1839)—Yellowhead Wrasse

Listed as *Platyglossus ruptus* by Cope (1871:464) and as *Halichoeres garnoti* by Fowler (1919:144).

Justification: UF (BIRNM, 45); REEF (414/441).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Halichoeres maculipinna (Müller and Troschel *in* Schomburgk 1848)—Clown Wrasse

Justification: UF (BIRNM, 20); REEF (301/169).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA,WC, nSA).

Remarks: Reports of this species from southern Brazil are based on misidentifications of *H. penrosei* Starks (see Rocha 2004).

Halichoeres pictus (Poey 1860)—Painted wrasse

Justification: UF (BIRNM, 3); REEF (113/16).

Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA).

Halichoeres poeyi (Steindachner 1867)—Blackear Wrasse

Listed as *Halichoeres poeyi* by Fowler (1919:144).

Justification: UF (BIRNM, 12); REEF (23/1).

Distribution: WA (BD*, FL, GOM, BA, GA, VI, LA,WC, nSA, sSA).

Halichoeres radiatus (Linnaeus 1758)—Puddingwife Wrasse

Listed as *Platyglossus crotaphus* and *Platyglossus cyanostigma* by Cope (1871:463 & 464), and as *Halichoeres radiatus* by Fowler (1919:144).

Justification: UF (BIRNM, 12); REEF (220/154).

Distribution: Rocha and Rosa (2001) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, Fernando de Noronha, Atol das Rocas, St. Paul's Rocks).

Remarks: Reports of this species from the southern Brazilian continental shelf and Trindade Island are based on the superficially similar *H. brasiliensis* (Bloch), see Rocha and Rosa (2001).

Lachnolaimus maximus (Walbaum 1792)—Hogfish

Justification: FMNH 59299 (1), St. Croix, Aug. 1908; listed as "rare" by Claijo *et al.* (1980:22); catch statistics (Appeldoorn *et al.*, 1992:28); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:73); REEF (9/21).

Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA).

Nicholsina usta (Valenciennes *in* Cuv. & Val. 1840)—Emerald Parrotfish (Red Eye Parrotfish)

Justification: UF 165332 (1, 13.2 mm SL), BIRNM; listed as "occasional" by Clavijo *et al.* (1980:22); caught in fish traps in Salt River (Tobias *et al.*, 1996: Table 1); REEF (10/0).

Distribution: WA (BD*, FL, GOM, BA, GA, VI, WC, nSA, sSA).

Remarks: This species is replaced in the eastern Atlantic by *Nicholsina colletti* Schultz 1968, which was originally described as a subspecies of *Nicholsina usta*, but is highly divergent genetically (Robertson *et al.*, 2006).

Scarus coelestinus Valenciennes *in* Cuv. & Val. 1840—Midnight Parrotfish

Justification: Listed as "occasional" by Claijo *et al.* (1980:22); St. Croix photograph (Randall, 1996:273); REEF (0/10).

Distribution: WA (BD, FL, BA, GA, VI, LA, WC, nSA).

Scarus coeruleus (Bloch 1786)—Blue Parrotfish

Justification: ZMUC P.5966 (1, 192 mm SL), St. Croix, Dec., 1848; ZMUC P.5967 (1), St. Croix, Dec. 1846; ZMUC P.5968 (1, 219 mm SL), St. Croix, Oct., 1844; REEF (1/10).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: Clavijo *et al.* (1980:22) listed this parrotfish as “occasional.” Kojis and Quinn (2010:303) reported that the abundance of Blue Parrotfish appears to have greatly declined in the past 20 years.

Scarus guacamaia Cuvier 1829—Rainbow Parrotfish.

Justification: Listed as "occasional" by Clavijo *et al.* (1980:22); observed at Salt River Canyon (Workman *et al.*, 1984:381; Bortone *et al.*, 1986:9); St. Croix photograph (Randall, 1996:260); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:74); REEF (17/25).

Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA).

Scarus iseri (Bloch 1789)—Striped Parrotfish

Listed as *Scarus sanctaecrucis* and *Scarus diadema* by Cope (1871:461), as *Callyodon diadema and C. croicensis* by Fowler (1919:145), and *Scarus iserti* by Clavijo *et al.* (1980:23).

Justification: UF (BIRNM, 22); St. Croix photograph (Randall, 1996:277); REEF (346/321).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: First described from St. Croix as new species *Callyodon iseri*, *Scarus croicensis* and *Scarus Insulae St. crucis* [sic] (see Table 4).

Scarus taeniopterus Desmarest *in* Bory de Saint-Vincent 1831—Princess Parrotfish

Listed as *Scarus taeniopterus* by Cope (1871:461) and as *Callyodon taeniopterus* by Fowler (1919:145).

Justification: UF (BIRNM, 20); observed during Frederiksted reef-system censuses (Toller, 2007:51); REEF (391/426).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Scarus vetula (Bloch and Schneider 1801)—Queen Parrotfish

Justification: UF (BIRNM, 2); observed during Frederiksted reef-system censuses (Toller, 2007:51); St. Croix photograph (Randall, 1996:261); on-line photographs available (Pittman *et al.*, 2008); REEF (141/161).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Sparisoma atomarium (Poey 1861)—Greenblotch Parrotfish

Justification: UF (BIRNM, 18); observed during Frederiksted reef-system censuses (Toller, 2007:51); REEF (63/15).

Distribution: WA (BD, FL, GOM, BA, GA,VI, LA,WC, nSA).

Sparisoma aurofrenatum (Valenciennes *in* Cuv. & Val. 1840)—Redband Parrotfish

Listed as *Scarus aurofrenatus* by Cope (1871:461) and as *Sparisoma aurofrenatum* by Fowler (1919:144).

Justification: UF (BIRNM, 41); observed during Frederiksted reef-system censuses (Toller, 2007:51); REEF (425/422).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Sparisoma chrysopterum (Bloch and Schneider 1801)—Redtail Parrotfish

Listed as *Sparus chrysopterus and S. abildgaardi* by Cope (1871:462) and as *Sparisoma abildgaardi* and *S. flavescens* by Fowler (1919:145).

Justification: UF (BIRNM, 20); ZMUC P.597 (1, 152 mm SL); ZMUC P.5964–65 (2, 192–219 mm SL), St. Croix, Sept. 1845; observed during Frederiksted reef-system censuses (Toller, 2007:51); REEF (170/136).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: First described from St. Croix as the new species *Sparus abilgaardi* (see Table 4).

Sparisoma radians (Valenciennes *in* Cuv. & Val. 1840)—Bucktooth Parrotfish, Fig. 15B

Justification: UF (BIRNM, 13); UF 182929 (62 mm SL), Salt River; observed during Frederiksted reef-system censuses (Toller, 2007:51); REEF (14/5).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Sparisoma rubripinne (Valenciennes *in* Cuv. & Val. 1840)—Yellowtail Parrotfish

Listed as *Scarus rubripinnis* by Cope (1871:462) and as *Sparisoma rubripinne* by Fowler (1919:145).

Justification: UF (BIRNM, 19); observed during Frederiksted reef-system censuses (Toller, 2007:51); REEF (194/181).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Sparisoma viride (Bonnaterre 1788)—Stoplight Parrotfish

Listed as *Scarus psittacus* by Cope (1871:461).

Justification: UF (BIRNM, 43); St. Croix photograph (Randall, 1996:272); observed during Frederiksted reef-system censuses (Toller, 2007:51); REEF (385/474).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: First described from St. Croix as the new species *Scarus melanotis* (see Table 4).

Thalassoma bifasciatum (Bloch 1791)—Bluehead

Listed as *Chlorichthys bifasciatus* by Fowler (1991:144).

Justification: UF (BIRNM, 70); REEF (429/506).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA,WC, nSA).

Xyrichtys martinicensis Valenciennes *in* Cuv. & Val. 1840—Rosy Razorfish

Listed as *Hemipteronotus martinicensis* by Clavijo *et al.* (1980:22).

Justification: UF (BIRNM, 4); observed during Frederiksted reef-system censuses (Toller, 2007:50); St. Croix photograph (Randall, 1996:256); on-line photographs available (Pittman *et al.*, 2008); REEF (27/42).

Distribution: WA (BD, FL, GOM, BA, GA,VI, LA, WC, nSA, sSA).

****Xyrichtys novacula*** (Linnaeus 1758)—Pearly Razorfish

Justification: UF (BIRNM, 7); on-line photographs available (Pittman *et al.*, 2008); REEF (4/8).

Distribution: WA (BD, FL, GOM, BA, GA,VI, LA, WC, nSA), EA.

Xyrichtys splendens Castelnau, 1855—Green Razorfish

Listed as *Hemipteronotus splendens* by Clavijo *et al.* (1980:22).

Justification: UF (BIRNM, 8); observed during Frederiksted reef-system censuses (Toller, 2007:50); St. Croix photograph (Randall, 1996:259); on-line photographs available (Pittman *et al.*, 2008); REEF (52/54).

Distribution: WA (BD, FL, BA, GA, VI, WC, nSA, sSA).

TRIPTERYGIIDAE—triplefin blennies (4 species)

****Enneanectes altivelis*** Rosenblatt 1960—Lofty Triplefin

Justification: UF (BIRNM, 52).

Distribution: Greenfield and Johnson (1981) WA (FL, BA, GA, VI, LA, WC, nSA, sSA).

Enneanectes boehlkei Rosenblatt 1960—Roughhead Triplefin
Justification: UF (BIRNM, 32).
Distribution: Greenfield and Johnson (1981) WA (FL, BA, GA, VI, LA, WC, nSA).

****Enneanectes pectoralis*** (Fowler 1941)—Redeye Triplefin
Justification: UF (BIRNM, 16); ZMUC P.766795–96 (2, 23–25 mm SL) and ZMUC P.766979–808 (12, 12–26 mm SL), St. Croix, Sept. 1916.
Distribution: Greenfield and Johnson (1981) WA (FL, BA, GA, VI, LA, WC, nSA).

****Enneanectes matador*** Victor 2013—Matador Triplefin
Justification: UF 183137 (1, 20.7 mm SL), Grass Point; UF 184841 (3, 16–17 mm SL), UF 164454 (1, 14.4 mm SL), UF 164465 (3, 12.4–18.6 mm SL) and UF 164467 (2, 15.5–16 mm SL), (BIRNM, 4).
Distribution: Victor (2013) WA (VI, LA, WC, nSA), perhaps more widely distributed.
Remarks: This recently described species (Victor, 2013) was previously confused with *E. boehlkei*; both species have the belly and pectoral-fin base naked, and preorbital flange spiny but *E. matador* differs in lacking dark caudal-fin bands or dark patches on base of membranes of second dorsal fin.

DACTYLOSCOPIDAE—sand stargazers (8 species)

****Dactyloscopus crossotus*** Starks 1913—Bigeye Stargazer
Justification: UF 183166 (1, 25.7 mm SL), Rod Bay.
Distribution: Dawson (1982a) WA (FL, BA, GA, LA, nSA, sSA).

****Dactyloscopus poeyi*** Gill 1861—Shortchin Stargazer
Justification: UF 160084 (1, 18.5 mm SL) and UF 160085 (1, 25 mm SL), (BIRNM, 2).
Distribution: Dawson (1982a) WA (BA, GA, VI, LA, WC, nSA).

Dactyloscopus tridigitatus Gill 1859—Sand Stargazer
Justification: UF (BIRNM, 10).
Distribution: Dawson (1982a) WA (BD*, FL, BA, GA, VI, LA, WC, nSA, sSA).

Gillellus greyae Kanazawa 1952—Arrow Stargazer
Justification: UF (BIRNM, 14).
Distribution: Dawson (1982a) WA (BD*, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

****Gillellus jacksoni*** Dawson 1982a—Jackson Stargazer
Justification: UF 165201 (6, 23.5–27 mm SL), BIRNM.
Distribution: Dawson (1982a) WA (VI, LA, nSA).

****Gillellus uranidea*** Böhlke 1968—Warteye Stargazer
Justification: UF (BIRNM, 22).
Distribution: Dawson (1982a) WA (FL, BA, GA, VI, LA, WC).

****Leurochilus acon*** Böhlke 1968—Smoothlip Stargazer
Justification: UF 165044 (1, 15.5 mm SL), BIRNM.
Distribution: Dawson (1982a) WA (BA, GA, VI, LA).

****Platygillellus rubrocinctus*** (Longley 1934)—Saddle Stargazer
Justification: UF (BIRNM, 32).
Distribution: Dawson (1982a) WA (FL, BA, GA, VI, LA, WC, nSA).

LABRISOMIDAE—scaly blennies (27 species)

Labrisomus albigenys Beebe and Tee-Van 1928—Whitecheek Blenny, Fig. 15C
Justification: UF (BIRNM, 3).
Distribution: Greenfield and Johnson (1981) WA (FL, GOM, BA, GA, LA, WC).

Labrisomus bucciferus Poey 1868—Puffcheek Blenny
Justification: UF (BIRNM, 21); ZMUC P.76256 (1, 69 mm SL) Christiansted, 1906.
Distribution: Greenfield and Johnson (1981) WA (FL, BA, GA, VI, LA, WC, nSA).

Labrisomus* cf. *cricota Sazima *et al.* 2002—Mock Blenny, Fig. 15D
Justification: UF 158968 (1, 75.6 mm SL), BIRNM; UF 181016 (1, 70.5 mm SL), N. of Frederiksted.
Distribution: (FL, LA, WC, nSA, sSA).
Remarks: The above specimens agree with the original description of *Larbrisomus cricota* from the coast of southern Brazil (Sazima *et al.*, 2002) in having the first and second dorsal-fin spines longer than the third spine, dark body bands extending to the distal margin of the dorsal fin, and no dark spot between dorsal-fin spines 2-3. Males also have a wide pale rim outlining the dark opercular spot, versus a thin white rim in typical *L. nuchipinnis* males. St. Croix specimens and most others from the Caribbean that are assumed to be conspecific differ from *L. cricota* in having supraorbital cirri that are distinctly shorter than the eye diameter (versus about equal the eye diameter). Based on COI sequence data there appear to be three genetic lineages (with species-level divergence) in the Caribbean *L. nuchipinnis* complex (C. Baldwin and B. Victor, pers. comm.), but what scientific names should be used for these taxa is not fully resolved.

Labrisomus gobio (Valenciennes 1863)—Palehead Blenny, Fig. 15E
Justification: UF (BIRNM, 39); observed during Frederiksted reef-system censuses (Toller, 2007:51).
Distribution: Greenfield and Johnson (1981) WA (FL, BA, GA, VI, LA, WC, nSA).

Labrisomus guppyi (Norman 1922)—Mimic Blenny, Fig. 16A
Justification: UF (BIRNM, 40).
Distribution: Greenfield and Johnson (1981) WA (FL, BA, GA, VI, LA, WC, nSA).

Labrisomus haitiensis Beebe and Tee-Van 1928—Longfin Blenny
Justification: UF (BIRNM, 60).
Distribution: Greenfield and Johnson (1981) WA (FL, BA, GA, VI, LA, WC, nSA).

Labrisomus nigricinctus Howell Rivero 1936—Spotcheek Blenny
Justification: UF (BIRNM, 18).
Distribution: Greenfield and Johnson (1981) WA (FL, BA, GA, VI, LA, WC, nSA).

Labrisomus nuchipinnis (Quoy and Gaimard 1824)—Hairy Blenny
Listed as *Labrisomus nuchipinnis* by Fowler (1919:145).
Justification: UF (BIRNM, 12); UF 181016 (1), N. of Frederiksted; UF 183181 (3), Rod Bay; UF 183182 (5), Great Pond Bay; observed during Frederiksted reef-system censuses (Toller, 2007:51).
Distribution: Greenfield and Johnson (1981), Sazima *et al.* (2002) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Malacoctenus aurolineatus Smith 1957—Goldline Blenny, Fig. 16B
Justification: UF (BIRNM, 13); observed during Frederiksted reef-system censuses (Toller, 2007:51).
Distribution: WA (FL, BA, GA, VI, LA, WC, nSA).

Malacoctenus boehlkei Springer 1959—Diamond Blenny, Fig. 16C
Justification: UF (BIRNM, 8).
Distribution: Greenfield and Johnson (1981) WA (FL, BA, GA, VI, LA, WC).

Malacoctenus erdmani Smith 1957—Imitator Blenny

Justification: UF (BIRNM, 19).

Distribution: Greenfield and Johnson (1981) WA (BA, GA, VI, LA, WC).

Malacoctenus gilli (Steindachner 1867)—Dusky Blenny, Fig. 16D

Justification: UF (BIRNM, 13); observed during Frederiksted reef-system censuses (Toller, 2007:51).

Distribution: Greenfield and Johnson (1981) WA (BA, GA, VI, LA, WC, nSA).

Malacoctenus macropus (Poey 1868)—Rosy Blenny

Justification: UF (BIRNM, 39); recorded from Tague Bay (Robblee and Zieman, 1984:339); observed during Frederiksted reef-system censuses (Toller, 2007:51).

Distribution: Greenfield and Johnson (1981) WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

Malacoctenus triangulatus Springer 1959—Saddle Blenny

Justification: UF (BIRNM, 45); observed during Frederiksted reef-system censuses (Toller, 2007:51).

Distribution: Springer and Gomon (1975) WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

****Malacoctenus versicolor*** (Poey 1876)—Barfin Blenny

Justification: UF (BIRNM, 4).

Distribution: Springer (1959) WA (BA, GA, VI, LA, WC, nSA).

****Paraclinus cingulatus*** (Evermann and Marsh 1899)—Coral Blenny, Fig. 16E

Justification: UF (BIRNM, 12).

Distribution: WA (FL, BA, GA, VI, LA, WC).

Paraclinus fasciatus (Stendachner 1876)—Banded Blenny, Fig. 16F

Justification: UF 183290 (1, 19 mm SL), Coakley Bay, East Point; ZMUC 44 (2) "St. Croix" [cited in Springer (1955:440)]; listed as "occasional" by Clavijo *et al.* (1980:26); recorded from Tague Bay (Robblee and Zieman, 1984:339).

Distribution: Greenfield and Johnson (1981): WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: Although *Paraclinus fasciatus* and *P. nigripinnis* differ in a numer of substantial characters (most notably, opercular spine shape and number of segmented pelvic-fin rays), they have very similar color patterns and can be easily misidentified. It is surprising that we collected only a single individual of *P. fasciatus* (see above) in contrast to the very adundant *P. nigripinnis*, which included a total of 405 specimens collected at 27 stations, with individuals per station ranging from 1 to 64.

****Paraclinus grandicomis*** (Rosén 1911)—Horned Blenny, Fig. 16G

Justification: UF (BIRNM, 4).

Distribution: Springer (1955) WA (FL, BA, GA, LA, WC, nSA).

Paraclinus nigripinnis (Steindachner 1876)—Blackfin Blenny, Fig. 16H

Justification: UF (BIRNM, 19); plus 8 additional UF lots not from BIRNM.

Distribution: Greenfield and Johnson (1981) WA (BD*, FL, BA, GA, VI, LA, WC, nSA, sSA).

Starksia atlantica Longley 1934—Smootheye Blenny

Justification: UF (BIRNM, 33).

Distribution: WA (BA, GA, VI).

Remarks: Baldwin *et al.* (2011) have shown that the *Starksia atlantica* species complex includes at least five distinct genetic lineages: Bahamas/Turks and Caicos, Curacao, Saba Bank, western Caribbean (Belize and Honduras) and Panama. Specimens from St. Croix agree best with *S. atlantica* (type locality: Andros Island, Bahamas) in having a horseshoe-shaped blotch of pigment on the cheek and trunk blotches arranged in two or three horizontal tiers with narrow pale margins, but genetic data are needed to better confirm their taxonomic placement.

Starksia culebrae (Evermann and Marsh 1899)—Culebra Blenny, Fig. 16I
Justification: UF (BIRNM, 24).
Distribution: Greenfield (1979) WA (GA, VI, LA).

Starksia elongata Gilbert 1971—Elongate Blenny, Fig. 16J
Justification: UF (BIRNM, 14).
Distribution: WA (BA, WC, nSA).

Starksia greenfieldi Baldwin and Castillo *in* Baldwin *et al.* (2011)—Greenfield's Blenny, Fig. 17A
Justification: UF 183288 (2, 17.0 mm SL), Spring Bay.
Distribution: WA (GA, LA, nSA), probably more widely distributed.
Remarks: Baldwin *et al.* (2011) have shown that the *Starksia sluiteri* species complex includes at least three allopatric species. The barcode DNA sequence (COI mtDNA) obtained from one of the two St. Croix specimens is almost identical to the sequences of type material of *S. greenfieldi* collected from Tobago and distant from *S. sluiteri* sequences from Curacao (B. Victor, pers. comm.). The respective ranges of *S. sluiteri* and *S. greenfieldi* are unclear, with museum records of *sluiteri*-complex specimens from Navassa and Puerto Rico through the Lesser Antilles, Venezuela, and Bonaire.

Starksia melasma Williams and Mounts 2003—Blackspot Blenny
Justification: UF (BIRNM, 5).
Distribution: Williams and Mounts (2003) WA (GA, LA).
Remarks: This species is known only from Desecheo Island off Puerto Rico, Saba Bank and St. Croix.

Starksia* cf. *nanodes Böhlke and Springer 1961—Dwarf Blenny, Fig. 17B
Justification: UF 122117 (1, 14.8 mm SL), BIRNM; UF 183143 (4, 9.0–15.8 mm SL), SSW of Butler Bay; Listed as "occasional" by Clavijo *et al.* (1980:25).
Distribution: Extralimital distribution unknown (see remarks), but presumed to be a Caribbean endemic.
Remarks: Baldwin *et al.* (2011) did not provide a redescription of *Starksia nanodes* because no genetic data were available for specimens from the Bahamas type locality. Data presented in their neighbor-joining tree indicates that the species, as currently recognized, is actually a broadly distributed species complex consisting of several undescribed and allopatric species. Until a revision of the *S. nanodes* complex is available, the only thing that can be said about the above specimens is that they are members of that species complex.

Starksia smithvanizi Williams and Mounts 2003—Brokenbar Blenny, Fig. 17C
Listed as *Starksia fasciata* and "occasional" by Clavijo *et al.* (1980:25).
Justification: UF (BIRNM, 12).
Distribution: Williams and Mounts (2003) WA (GA, LA).
Remarks: This recently described species was previously confused with *Starksia fasciata* (Longley), which is known only from the Bahamas and Cuba (Williams and Mounts, 2003) but probably is more widely distributed.

Starksia williamsi Baldwin and Castillo *in* Baldwin *et al.*, 2011—False Blackcheek Blenny, Fig. 17D
Justification: UF (BIRNM, 60).
Distribution: WA (GA, VI, LA).
Remarks: The *Starksia lepicoelia* species complex includes at least four allopatric species. Baldwin *et al.* (2011:47) noted that the color patterns of St. Croix material seemed to agree best with *S. lepicoelia* but additional investigation, including genetic analysis, was needed. Color pattern differences between *S. lepicoelia* specimens from the Bahamas and Turks and Caicos and *S. williamsi* (described only from Saba Bank) are subtle, and the same authors stated that modal counts of total dorsal-fin elements and anal-fin soft rays of St. Croix specimens agree best with *S. williamsi*. After the Baldwin *et al.* (2011) revision was published, B. Victor (pers. comm.) obtained DNA barcode sequences from a larval *Starksia* from St. Thomas (UF 184972)

identical to the sequence of type material of *S. williamsi*. On that basis we assign the St. Croix specimens to *S. williamsi*.

CHAENOPSIDAE—tube blennies (13 species)

Acanthemblemaria aspera (Longley 1927)—Roughhead Blenny, Fig. 17E-F
Justification: UF (BIRNM, 28).
Distribution: Smith-Vaniz and Palacio (1974) WA (FL, BA, GA, VI, LA, WC, nSA).

Acanthemblemaria maria Böhlke 1961—Secretary Blenny
Justification: UF (BIRNM, 4).
Distribution: Smith-Vaniz and Palacio (1974) WA (BA, GA, LA, WC, nSA).
Remarks: In a study of habitat partitioning conducted at North Side on the northwest corner of St. Croix, Clark (1994) reported marked zonation between the hole-dwelling species *Acanthemblemaria maria* and *A. spinosa*, with the former most abundant in 2–3 m on low-relief pavement bottoms.

Acanthemblemaria spinosa Metzelaar 1991—Spinyhead Blenny, Figs. 17G
Justification: UF (BIRNM, 12); observed during Frederiksted reef-system censuses (Toller, 2007:51).
Distribution: Smith-Vaniz and Palacio (1974) WA (BA, GA, VI, LA, WC, nSA).

Chaenopsis limbaughi Robins and Randall 1965—Yellowface Pikeblenny
Justification: UF (BIRNM, 12).
Distribution: WA (FL, BA, GA, VI, LA, WC, nSA).
Remarks: The Bluethroat Pikeblenny, *Chaenopsis ocellata* Poey, was not listed by Clavijo *et al.* (1980) but has been reported in visual censuses by REEF and NOAA divers. Voucher specimens or unequivocal photographic documentation are required to confirm these records. Only *Chaenopsis* males with their spinous dorsal fins fully erect can be distinguished visually from *C. limbaughi*. All male specimens of *C. limbaugh* from St. Croix and elsewhere that we examined have a black spot completely encircled by a narrow white ring centered between dorsal-fin spines 1–2; in contrast, *C. ocellata* has a more elongate ocellus that lacks a complete white ring and touches the first spine rather than being centered between the two spines. Popular identification guides (e.g., Humann and DeLoach, 2002) used by divers to distinguish these two species do not emphasize this difference and can lead to misidentifications.

Emblemaria pandionis Evermann and March 1900—Sailfin Blenny, Fig. 17H
Justification: UF (BIRNM, 7); observed during Frederiksted reef-system censuses (Toller, 2007:51); REEF (25/15).
Distribution: Greenfield and Johnson (1981) WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

Emblemariopsis bahamensis Stephens 1961—Blackhead Blenny
Justification: UF (BIRNM, 21).
Distribution: WA (BA, GA, VI, LA, WC, nSA).

Emblemariopsis* cf. *bottomei Stephens 1961—Bottome's Blenny
Justification: UF 160686 (1, 15.4 mm SL), BIRNM [identified by B. C. Victor].
Distribution: WA (GA, LA).
Remarks: The type locality of *Emblemariopsis bottomei* is Los Roques Archipelago, Venezuela. The specimen from St. Croix was examined by B. C. Victor who considers it to be an undescribed species closely related to *E. bottomei*.

Emblemariopsis carib Victor 2010—Caribbean Flagfin Blenny

Justification: UF (BIRNM, 13), including UF 159071 (3, 14.3–16.6 mm SL) and UF 159075 (14, 14.0–17.8 mm SL) [latter two lots identified by B. C. Victor].

Distribution: Victor (2010) WA (GA, VI). Probably more widely distributed but morphologically similar specimens from other Caribbean localities lack genetic confirmation.

Remarks: Victor (2010) stated that specimens from St. Croix, Haiti, Dominican Republic, Saba and elsewhere outside the Greater Antilles and the Puerto Rican Plateau have meristic values and morphology similar to *E. carib* (type locality St. Thomas, Virgin Is. and with confirmed specimens also from Puerto Rico). Because DNA barcode (COI) sequence data were unavailable for specimens from those localities, Victor identified them as *Emblemariopsis* cf. *carib*. This conservative taxonomic decision may be appropriate for some localities, but given the close fauna relationship of St. Croix and St. Thomas, we apply the unrestricted species epithet. This species is very similar morphologically to the Brazilian *E. signifera* (Ginsburg) and Puerto Rican *E. arawak* Victor but has fewer total dorsal-fin elements (typically 31, modal XX, 11) and segmented anal-fin rays (typically 20), and different DNA barcode sequences.

Emblemariopsis ruetzleri Tyler and Tyler 1997—Ruetzler's Blenny

Justification: UF 159061 (1, 17.5 mm SL), UF 159062 (2, 14.9–16.5 mm SL) and UF 164691 (1, 15.6 mm SL), BIRNM, 3 [identifications confirmed by J. C. Tyler].

Distribution: WA (GA, VI, WC).

Remarks: Originally known only from Belize, this species also has been reported from Puerto Rico and St. Thomas (Victor, 2010:22).

Lucayablennius zingaro (Böhlke 1957)—Arrow Blenny

Justification: UF 164903 (1, 25 mm SL), BIRNM; observed at Salt River Canyon (Kaufman and Ebersole, 1984:258) and Bortone *et al.* (1986:8); REEF (31/26).

Distribution: WA (BA, GA, VI, WC, nSA).

Remarks: Clavijo *et al.* (1980:25) reported this distinctive species as common. It was collected at only one BIRNM station (in 32.6 m), because most stations were too shallow or in the wrong habitat. Greenfield (1972) and Colin and Gomon (1973) described the ecology and unusual swimming and feeding behavior of this attractive small blenny.

Stathmonotus gymnodermis Springer 1955—Naked Blenny

Justification: UF (BIRNM, 11); USNM 163325 (1).

Distribution: Hastings and Springer (1994) WA (BA, GA, VI, LA, WC, nSA).

Stathmonotus hemphillii Bean 1885—Blackbelly Blenny

Justification: USNM 38775 (6), St. Croix, A. H. Ruse [identified by V. G. Springer]; listed as "occasional" by Clavijo *et al.* (1980:25).

Distribution: Hastings and Springer (1994) WA (FL, BA, GA, WC).

Remarks: Precise locality and date of collection of the USNM specimens are unknown, but they were probably obtained no later than 1875 (see "Remarks" for *Tomicodon briggsi*).

Stathmonotus stahli (Evermann and Marsh 1899)—Eelgrass Blenny

Justification: UF (BIRNM, 43).

Distribution: Hastings and Springer (1994) WA (GA, VI, LA, nSA).

Remarks: *Stathmonotus tekla* Nichols, was recognized as a subspecies of *S. stahli* by Hastings and Springer, 1994) but recently elevated to full species rank (Hastings and Springer, 2009). This change in classification of recognized species of *Stathmonotus* alters previous concepts of the distribution of *S. stahli*. This diminutive species (≤ 24 mm SL) occurred in all lagoon (12) and backreef (6) samples at BIRNM and had the highest mean density (4.73 m^2) of all fishes in the latter habitat (Smith-Vaniz *et al.*, 2006).

BLENNIIDAE—combtooth blennies (6 species)

Entomacrodus nigricans Gill 1859—Pearl Blenny

Justification: UF (BIRNM, 21); observed during Frederiksted reef-system censuses (Toller, 2007:51); REEF (12/0).

Distribution: WA (BD, FL, BA, GA, VI, LA, WC, nSA).

Hypleurochilus springeri Randall 1966—Orangespotted Blenny

Justification: UF 160024 (1, 14 mm SL), BIRNM; listed as "common" by Clavijo *et al.* (1980:26).

Distribution: Randall (1966b) WA (FL, BA, GA, VI, LA, WC, nSA).

Hypsoblennius exstochilus Böhlke 1959—Longhorn Blenny

Justification: UF (BIRNM, 2); UF 182862 (1, 42 mm SL), Spratt Hole; ANSP 131514 (1), Coakley Bay.

Distribution: Smith-Vaniz (1980) WA (BA, GA).

Remarks: Clark (1994:401) noted that at North Side, St. Croix, this blenny co-occurs with *Acanthemblemaria maria* in a turbulent zone characterized by abundant fleshy algae and the rock-boring urchin, *Echinometra lucunter*.

O*phioblennius macclurei* Silvester 1915—Redlip Blenny, Fig. 17I

Listed as *Ophioblennius atlanticus* by Clavijo *et al.* (1980:26).

Justification: UF (BIRNM, 20); observed during Frederiksted reef-system censuses (Toller, 2007:51); REEF (171/133).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: Previously recognized as a subspecies of the eastern Atlantic *Ophioblennius atlanticus* (Valenciennes), Muss *et al.* (2001) and Hastings and Springer (2009) give reasons for elevation to full species rank.

****Parablennius marmoreus*** (Poey 1876)—Seaweed Blenny

Justification: See Remarks; observed in northeastern St. Croix censuses (Pittman *et al.*, 2008: Table C1); REEF (6/0).

Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA).

Remarks: Clavijo *et al.* (1980) did not record the species and there are no voucher specimens from St. Croix. We include it because there are visual records (unconfirmed) for St. Croix, and voucher specimens are available from St. John, St. Thomas and elsewhere in the northern Virgin Islands. Although broadly distributed, this blenny is reported to be generally uncommon in the West Indies (Randall, 1996).

****Scartella cristata*** (Linnaeus 1758)—Molly Miller, Fig. 17J

Justification: UF (BIRNM, 4); UF 183094 (1, 35.5 mm SL), Rod Bay; observed during Frederiksted reef-system censuses (Toller, 2007:51).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

GOBIESOCIDAE—clingfishes (9 species)

****Acyrtops amplicirrus*** Briggs 1955—Flarenostril Clingfish, Fig. 18A

Justification: UF 182111 (9, 14–17.8 mm SL), Spring Bay; UF 183112 (1, 19.4 mm SL), Salt River Bay; ZMUC P.9079 (holotype) and ZMUC P.9080–90 (11, paratypes), all from St. Croix (see Remarks).

Distribution: Johnson and Greenfield (1983) WA (GA, VI, LA, WC, nSA), possibly more widely distributed.

Remarks: Briggs (1955:74) and Nielsen (1974:85) erroneously gave the locality for the holotype and paratypes of *Acyrtops amplicirrus* as St. Thomas. According to an old unbound ZMUC collection register, all these fish were purchased from specimen dealer "Meng" who recorded them as obtained 21 Sept. 1916 from near Christiansted, 2 km off the coast (Tammes Menne, pers. com., March 2011).

These diminutive (< 20 mm SL) clingfishes are known only from *Thalassia* beds in less than 2 m depth. Their beautiful green coloration closely matches clean *Thalassia* blades on which they cling, making them perfectly camouflaged. Johnson and Greenfield (1983) give a detailed comparison of *Acyrtops amplicirrus* and the closely related *A. beryllinus* (Hildebrand and Ginsburg). They found slight but consistent differences between the two species but noted the need for a synoptic study of the "Emerald Clingfish" from throughout its range.

Acyrtus artius Briggs 1955—Papillate Clingfish

Justification: UF (BIRNM, 8).

Distribution: WA (BA, GA, VI, LA, WC, nSA, sSA, Atoll Rocas and Trindade Island).

Acyrtus rubiginosus (Poey 1868)—Red Clingfish, Fig. 18B

Listed as *Arcos rubiginosus* and "common" by Clavijo *et al.* (1980:7).

Justification: UF (BIRNM, 13).

Distribution: WA (BA, GA, VI, LA, WC).

Arcos nudus (Linnaeus 1758) —Padded Clingfish

Listed as *Arcos macrophthalmus* (Günther) and "common" by Clavijo *et al.* (1980:7).

Justification: Although no voucher specimens from St. Croix are known, we accept the Clavijo *et al.* (1980) listing of this species because there are confirmed records from St. John (UF), St. Thomas (ANSP) and Guana (ANSP).

Distribution: WA (BA, GA, VI, LA, nSA).

Remarks: We follow Fernholm and Wheeler (1983) and Eschmeyer (2013) in recognizing *Cyclopterus nudus* Linnaeus as a senior synonym of *Arcos macrophthalmus* (Günther 1861).

****Gobiesox nigripinnis*** (Peters 1860)—Blackfin Clingfish, Fig. 18C

Justification: UF (BIRNM, 5).

Distribution: WA (GA, VI, LA, nSA).

****Gobiesox punctulatus*** (Poey 1875)—Stippled Clingfish

Justification: UF (BIRNM, 8).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

****Tomicodon briggsi*** Williams and Tyler 2003—Broadhead Clingfish

Justification: USNM 360612 (holotype, 16 mm SL) and USNM 365845 (4, 15–17.3 mm SL).

Distribution: Williams and Tyler (2003) WA (LA, WC).

Remarks: In their description of this new species, Williams and Tyler (2003) reported one collection from St. Croix obtained by A. H. Ruse, including the holotype and four paratypes (see above). Precise locality data and date of collection are unknown but the specimens were assigned a Smithsonian catalog number in 1875. The known depth range of this clingfish is 0–12 m.

****Tomicodon fasciatus*** (Peters 1859)—Barred Clingfish

Justification: USNM 15382 (6, 16.2–31.2 mm SL) and USNM 15431 (2, 20.9–23.4 mm SL), both "St. Croix, A. H. Ruse."

Distribution: Williams and Tyler (2003) WA (WC, nSA).

Remarks: Williams and Tyler (2003:12) redescribed this clingfish and discussed the original description publication date. The two USNM collections, like *Tomicodon briggsi*, were obtained by A. H. Ruse, lack precise locality data and were probably collected during the same time period. This clingfish is otherwise known only from northern Venezuela and Panama.

****Tomicodon reitzae*** Briggs 2001—Accidental Clingfish

Justification: UF 118551 (13, 19.4–30 mm SL) and UF 149220 (2, 20.4–22.8 mm SL), BIRNM 2; UF 183113 (1, 28.9 mm SL), Rod Bay.

Distribution: Williams and Tyler (2003) WA (BA, GA, LA, WC, nSA).

Remarks: Williams and Tyler (2003) redescribed this clingfish which has one of the widest distributions of any of the eight currently recognized Caribbean species of *Tomicodon*.

CALLIONYMIDAE—dragonets (3 species)

Diplogrammus pauciradiatus (Gill 1865)—Spotted Dragonet

Justification: UF 164608 (1, 7.1 mm SL), BIRNM.

Distribution: Davis (1966) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Foetorepus agassizii (Goode and Bean 1888)—Spotfin Dragonet

Justification: USNM 47640 (4), paratypes of *Callionymus himantophorus* Goode and Bean (1896:296), a junior synonym of *F. agassizii*, from "Blake station 333, trawled in 210 m off Santa Cruz" in January 1879.

Distribution: Nakabo and Hartel (1999) WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

Remark: Some authors, following Fricke (1981), assign this dragonet to the genus *Sychiropus*. One of the deeper dwelling species in the family, *Foetorepus agassizii* has been trawled in 90–600 m.

Paradiplogrammus bairdi (Jordan 1888)—Lancer Dragonet, Fig. 18D

Listed as *Callionymus bairdi* by Clavijo *et al.* (1980:26).

Justification: UF (BIRNM, 16); recorded, as *Callionymus bairdi*, from Tague Bay (Robblee and Zieman, 1984:339); on-line photographs available (Pittman *et al.*, 2008); REEF (23/6).

Distribution: Davis (1966) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA), Ascension and St. Helena, EA.

ELEOTRIDAE—sleepers (5 species)

Dormitator maculatus (Bloch 1792)—Fat Sleeper, Fig. 18E

Justification: UF 180901 (2); UF 181006 (1); UF 181011 (2); UF 181026 (7); USNM 129635 (4, 14–18 mm SL); ZMUC P.784203 (1, 135 mm SL), St. Croix, Sept. 1845; ZMUC P. 784204 (1, 111 mm SL), St. Croix, Oct., 1851; ZMUC P.784205–06 (2, 69–78 mm SL), St. Croix, Oct. 1851.

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Remarks: Beatty (1944:178) reported this species present in Shoys Marsh and Fairplain Stream. This sleeper is found primarily in freshwater but also occurs in brackish mangrove areas.

Eleotris perniger (Cope 1871)—Smallscaled Spinycheek Sleeper (Mudfish), Fig. 18F

Listed as *Eleotris pisonis* by Clavijo *et al.* (1980:26).

Justification: UF 180900 (1); UF 181005 (9); UF 181022 (8); UF 181010 (1); CAS 66645 (1); FMNH 52841 (1); USNM 106629 (1, 91 mm SL) Fairplain Stream, 1937.

Distribution: Pezold and Cage (2002) WA (BD, BA, GA, VI, LA, WC, nSA, SA [Trinidad Island only]).

Remarks: Mostly found in coastal freshwaters, *A. perniger* also occurs in tidal creeks and is common throughout the Antilles (Pezold and Gage 2002). Records of *E. pisonis* (Gmelin) from St. Croix are based on misidentifications of this continental species (Brazil to Orinoco delta).

Erotelis smaragdus (Valenciennes *in* Cuv. & Val. 1837)—Flathead Sleeper

Justification: Listed as "occasional" by Clavijo *et al.* (1980:26).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Remarks: This sleeper is found in coastal marine waters but also enters brackish and freshwater.

Gobiomorus dormitor Lacepéde 1800—Bigmouth Sleeper, Figs. 18G-H

Justification: UF 183032 (1, 285 mm SL), Lower Love Estate; UF 180986 (1, 93 mm SL) and UF 181008 (1, 40 mm SL), Salt River; USNM 106634 (1, 54 mm SL), Altona stream, 1937; ZMUC P.78207 (1, 144 mm SL),

St. Croix, 1844, ZMUC P.784208 (1, 32 mm SL), St. Croix, Sept. 1845, ZMUC P.78566–599 (34, 19–28 mm SL), St. Croix, Jan. 1896.

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: Under the name *Philypnus dormitor* Beatty (1944:178) stated "taken in Altona, Concordia and Fairplain streams." This euryhaline sleeper typically is found in flowing freshwater. Evermann and Marsh (1902) stated that it is "one of the most important fresh-water food fishes in Puerto Rico and elsewhere in the West Indies."

Guavina guavina (Valenciennes 1837)—Guavina, Fig. 18I

Justification: ZMUC P.784213 (1, 201 mm SL), "St. Croix, 1845".

Distribution: WA (FL, GA, WC, nSA, sSA).

Remarks: *Guavina guavina* may be the only St. Croix fish that has been locally extirpated. This large sleeper, which attains about 35 cm total length, is common in Cuba. It occurs in freshwater habitats with access to the sea and in brackish to hypersaline water (McEachran and Fechhelm, 2005). It is unlikely that the St. Croix record based on the above historical specimen could be attributable to a locality mix-up (Jørgen Nielson, pers. com.). Many specimens in the Copenhagen collection (ZMUC) have specific St. Croix localities, while others purchased from natural history specimen dealers have only "Dutch West Indies" listed as the locality. Specimen lots with that general locality almost certainly came from St. Croix, St. John or St. Thomas (all possessions of Denmark from 1733–1917). *Guavina guavina* has not been collected from the northern Virgin Islands and no historical specimens in the ZMUC collection are known exclusively from Cuba or South America.

GOBIIDAE—gobies (47 species)

Awaous banana (Valenciennes *in* Cuv. & Val. 1837)—River Goby, Figs. 18J, 19A

Listed as *Awaous tajasica* and "occasional" by Clavijo *et al.* (1980:26).

Justification UF 181007 (1, 36 mm SL), Salt River; USNM 106628 (1, 170 mm SL) Fairplain Stream, 1937; USNM 106636 (1, 190 mm SL) Concordia Stream, 1937; ZMUC P.784323–24 (2) Jolly Hill Gut, Jan. 1906; ZMUC P.784802 (1, 194 mm SL) St. Croix, Nov. 1845; we also examined a color photograph of very large individual caught (not retained) at Southgate Pond in a wire trap on 15 Nov. 2010.

Distribution: Watson (1996) WA (FL, GOM, GA, VI, LA, WC, nSA), EP.

Remarks: Beatty (1944:178) reported this species, as *Awaous tajasica*, from Fairplain and Concordia streams. Records of *A. tajasica* Lichtenstein (a Brazilian species) from St. Croix are based on misidentifications (Watson, 1996). *Awaous banana* is usually encountered in freshwater but is occasionally taken in brackish water.

Barbulifer antennatus Böhlke and Robins 1968—Barbulifer

Justification: UF (BIRNM, 5); UF 183140 (1, 16.2 mm SL), Rod Bay.

Distribution: WA (BA, GA, LA, WC, nSA).

Bathygobius antilliensis Tornabene, Baldwin and Pezold 2010—Antilles Frillfin, Fig. 19B

Justification: UF (BIRNM, 6) [identified by Carole Baldwin]; TCWC 10516.01 (3); ZMUC P. 7841214 (1, 65 mm SL), St. Croix, Sept., 1845, ZMUC P.784215 (1, 69 mm SL), St. Croix, Nov. 1843, ZMUC P. 78416–19 (4, 63–66 mm SL), Christiansted, Jan., 1906, ZMUC P. 78420–22 (3, 48–69 mm SL), St. Croix, Jan. 1906.

Distribution: Tornabene *et al.* (2010) WA (BD, FL, BA, GA, VI, LA, WC, nSA and Rocas Atoll, Brazil).

Remarks: This recently described species appears to be the most common species of *Bathygobius* inhabiting St. Croix tidepools.

Bathygobius lacertus (Poey 1860)—Spotted Frillfin, Fig. 19C

Justification: UF 180958 (1); UF 180959 (3); UF 180962 (12); UF 181035 (1); UF 183917 (1); UF 183130 (5); 183132 (3); UF 183136 (5) [most lots identified by Luke Tornabene].

Distribution: Tornabene *et al.* (2010) WA (BD, FL, BA, GA, VI, WC, nSA).

Bathygobius mystacium Ginsburg 1947—Island Frillfin, Fig. 19D

Listed as *Bathygobius soporator* by Smith-Vaniz *et al.* (2006).

Justification: UF 158448 (1) and UF 158454 (1, 54 mm SL), BIRNM 2; UF 183127 (1) and UF 183131 (1) both Spring Bay; UF 183133 (3), Rod Bay [most lots identified by Luke Tornabene].

Distribution: Tornabene *et al.* (2010) WA (FL, BA, GA, WC, nSA, sSA).

Remarks: In addition to *Bathygobius mystacium*, Clavijo *et al.* (1980) also listed *Bathygobius curacao* (Metzelaar) and *B. soporator* (Valenciennes) as "occasional" but in the absence of any collections of the latter two species we consider these records to have been based on misidentifications. Prior to the review of *Bathygobius* by Tornabene *et al.* (2010) misidentification of Atlantic species of *Bathygobius* was very common.

Chriolepis* cf. *fischeri

Justification: UF 164707 (1, 12 mm SL), BIRNM.

Distribution: Extralimital distribution unknown (see remarks) but undoubtedly a Caribbean endemic.

Remarks: Hastings and Bortone (1981) and Hastings and Findley (2013) discuss western Atlantic seven-spined gobies that have been variously assigned to *Chriolepis* Gilbert or *Varicus* Robins and Böhlke. The above specimen is in good condition and appears to be an undescribed species. This diminutive specimen has some of its pelvic fin rays branched; strongly depressed head, like *C. fisheri* Herre; lacks head pores; dorsal fin VII, 10; anal fin I, 9; vertebrae 11+16; first two anal pterygiophores anterior to first haemal spine; bilobed tongue; and body apparently naked (some scales near base of caudal fin perhaps missing).

Coryphopterus alloides Böhlke and Robins 1968—Barfin Goby

Justification: UF 164725 (1, 21.0 mm SL); BIRNM; Listed as "occasional" by Clavijo *et al.* (1980:26).

Distribution: WA (FL, BA, GA, VI, WC).

Coryphopterus dicrus Böhlke and Robins 1968—Colon Goby, Fig. 19E

Justification: UF (BIRNM, 40).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Coryphopterus eidolon Böhlke and Robins 1968—Pallid Goby

Justification: UF (BIRNM, 10).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Coryphopterus hyalinus Böhlke and Robins 1962—Glass Goby

Justification: UF (BIRNM, 4).

Distribution: WA (BD, FL, BA, GA, WC, nSA).

Coryphopterus lipernes Böhlke and Robins 1962—Peppermint Goby

Justification: UF (BIRNM, 3); AMNH 225031 (1); AMNH 225034 (1); observed during Frederiksted reef-system censuses (Toller, 2007:51).

Distribution: WA (FL, BA, GA,VI, WC, nSA).

Coryphopterus personatus (Jordan and Thompson 1905)—Masked Goby

Justification: UF (BIRNM, 17).

Distribution: WA (BD, FL, BA, GA, VI, LA, WC, nSA).

Coryphopterus thrix Böhlke and Robins 1962—Bartail Goby

Justification: UF (BIRNM, 18).

Distribution: WA (FL, GOM, BA, GA, VI, WC, nSA, sSA).

Coryphopterus tortugae (Jordan 1904)—Sand Goby, Figs. 19F-G

Listed as *Coryphopterus glaucofraenum* and "common" by Clavijo (1980:26) and Smith-Vaniz *et al.* (2006).

Justification: UF (BIRNM, 51); UF 180983 (3, 16–32 mm SL), Christiansted Harbor, Long Reef; UF 183269 (13, 16–32 mm SL), Spring Bay; UF 183585 (1, 24 mm SL), Butler Bay.

Distribution: WA (BD, FL, BA, GA, VI, LA, WC, nSA).

Remarks: Clavijo *et al.* (1980) recorded *Coryphopterus glaucofraenum* as "common" as did Smith-Vaniz *et al.* (2006:40). The latter authors noted that all their material from Buck Island Reef National Monument had the pigmentation characteristics of *C. tortugae*, which they and many previous authors had considered to be a junior synonym. Garzón-Ferreira & Acero (1990) resurrected *Coryphopterus tortugae* from synonymy with *C. glaucofraenum* based on color pattern of preserved specimens, and Victor (2008) was able to distinguish them using CO1 sequence data. More recently (Baldwin *et al.* (2010) used both fresh color pattern and molecular characters to differentiate these two species plus *C. venezuelae* (= *C. bol* of Victor). *Coryphopterus tortugae* is a more insular or offshore species while *C. glaucofraeum* typically occurs in inshore inhabits, and they are rarely taken together in the same collection. Both species (and *C. venezuelae*) can be easily misidentified without reference to Baldwin *et al.* (2010). Adults of *Coryphopterus glaucofaeum* typically have the dark marking above the opercle with two peaks (usually a single triangle in *C. tortugae*) and the body with a lower row of large, distinctive X-shaped markings (mostly vertically elongate making in *C. tortugae*). There are no confirmed records of *C. glaucofraeum* from St. Croix.

Coryphopterus venezuelae Cervigón 1966.—Venezuela Goby, Figs. 19H-I

Justification: UF 180994 (1, 39.8 mm SL), Frederiksted Pier; UF 183247 (7, 21–35 mm SL), Coakley Bay; UF 183581 (1, 35 mm SL) Christiansted Harbor, Long Reef.

Distribution: Victor (2008) and Baldwin *et al.* (2010) WA (BA, GA, VI, WC, nSA).

Remarks: See above remarks for *C. tortugae*. *Coryphopterus venezuelae* differs from *C. tortugae* (and *C. glaucofraenum*) most notably in having a dark spot or blotch (orange-yellow in life) ventrally on the pectoral-fin base. We follow Baldwin *et al.* (2010) in treating *Coryphopterus bol* Victor as a synonym of *C. venezuelae*.

Ctenogobius boleosoma (Jordan & Gilbert 1882)—Darter Goby

Possibly listed as *Gobionellus* spp. by Clavijo *et al.* (1980:27).

Justification: UF 181003 (1, 21 mm SL), Salt River Bay; UF 183118 (4, 22–29 mm SL), Great Pond Bay; USNM 106633 (1, 61 mm SL), Fairplain Stream, 1937 [identified by F. Pezold].

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Ctenogobius saepepallens (Gilbert and Randall 1968)—Dash Goby, Fig. 20A

Justification: UF (BIRNM, 5); UF 183171 (5, 16–21 mm SL), Spring Bay; observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:72).

Distribution: Gilbert and Randall (1968) WA (FL, BA, GA, VI, LA, WC, nSA, sSA).

Remarks: This goby lives in burrows with snapping shrimp.

Elacatinus chancei (Beebe and Hollister 193l)—Shortstripe Goby, Fig. 20B

Listed as *Gobiosoma chancei* and "common" by Clavijo *et al.* (1980:27).

Justification: UF 149189 (3), BIRNM; UF 230711 (1) and UF 230712 (4), both Cane Bay; observed during Frederiksted reef-system censuses (Toller, 2007:51); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:72).

Distribution: Colin (2010) WA (BA, GA, VI, LA, nSA).

Elacatinus evelynae Böhlke and Robins 1968—Sharknose Goby, Fig. 20C

Listed as *Gobiosoma evelynae* and "common" by Clavijo *et al.* (1980:27).

Justification: UF (BIRNM, 42); St. Croix photograph (Randall, 1996:309); observed during Frederiksted reef-system censuses (Toller, 2007:51).

Distribution: Colin (2010) WA (BA, GA, VI, LA, WC, nSA).

Remarks: Colin (2010:41) documented three color morphs of *E. evelynae*, each with little overlap in distributions. The St. Croix "yellow-blue" morph has the widest distribution of the three morphs.

Elacatinus prochilos (Böhlke and Robins 1968)—Broadstripe Goby

Listed as *Gobiosoma prochilos* and "common" by Clavijo *et al.* (1980:27).

Justification: UF (BIRNM, 31); observed, as *G. prochilos*, during Frederiksted reef-system censuses (Toller, 2007:51).

Distribution: Colin (2010) WA (GA, VI, LA, WC).

Elacatinus tenox (Böhlke and Robins 1968)—Slaty Goby

Listed as *Gobiosoma tenox* and "occasional" by Clavijo *et al.* (1980:27).

Justification: One individual observed at Salt River Canyon (Kaufman and Ebersole, 1984:260); Colin (2010:47) also collected this species from St. Croix (off Butler Bay) but the voucher specimens were lost in the mail (Colin, pers. com.).

Distribution: Colin (2010) WA (GA, LA).

Remarks: Based on known distribution, this species probably also occurs elsewhere in the Virgin Islands although not yet recorded. *Elacatinus tenox* is a relatively deep-dwelling species (27–70 m), and according to Colin (2010) occurs exclusively with the sponge *Neofibularia nolitangere* (Duchassaing and Michelotti).

Evorthodus lyricus (Girard 1858)—Lyre Goby, Fig. 20D

Justification: UF 180909 (2, 34–48 mm SL), Mahogany Gut; UF 183022 (5, 31.7–45.8 mm SL), unnamed stream at East End Road; USNM 106630 (5, 26–48 mm SL), Caledonia, 1937; USNM 106633 (1, 59 mm SL), Fairplain Stream, 1937.

Distribution: WA (FL, GOM, GA, VI, LA, WC, nSA, sSA).

Remarks: Beatty (1944:178) reported this species from Caledonia and Fairplain streams. This goby is usually found in backwater lagoons and bays but has also been reported from freshwater streams.

Ginsburgellus novemlineatus (Fowler 1950)—Ninelined Goby, Fig. 20E

Justification: UF (BIRNM, 12); observed during Frederiksted reef system censuses (Toller, 2007:51).

Distribution: WA (BA, GA, LA, WC, nSA).

Gnatholepis cauerensis (Bleeker 1853)—Goldspot Goby, Fig. 20 F

Listed as *Gnatholepis thompsoni* and "very common" by Clavijo *et al.* (1980:27).

Justification: UF (BIRNM, 66); observed, as *G. thompsoni*, during Frederiksted reef system censuses (Toller, 2007:51); REEF (245/122).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension, St. Helena, EA, IWP.

Remarks: In a study of mitochondrial DNA variation in populations of *Gnatholepis*, Rocha *et al.* (2005) presented data indicating that a single species had colonized the Atlantic from the Indian Ocean during the late Pleistocene. Subsequently, Randall and Greenfield (2007) redescribed *Gobius cauerensis* Bleeker, 1853, discussed why the name used by Rocha *et al.* (op. cit.) was incorrect and concluded that *Gnatholepis cauerensis* (Bleeker) is a senior synonym of *G. thompsoni* Jordan, 1904. In their recent revision of the genus *Gnatholepis*, Larson and Buckle (2012) treat *Gnatholepis thompsoni* and *G. cauerensis* as allopatric sister-species. We acknowledge the thoroughness of their revision, but disagree with their choice of nomenclature, which seems to have been strongly biased by geography. Larson and Buckle also seem to have ignored the fact that Rocha *et al.* (2005) showed that the Atlantic population has been genetically isolated relatively recently (approximately 145,000 years) from its Indo-Pacific relatives.

Gobionellus oceanicus (Pallas 1770)—Highfin Goby

Justification: UF 182868 (1, 102 mm SL) and UF 234154 (1, 134 mm SL), both Altona Lagoon.

Distribution: WA (North Carolina, FL, GOM, GA, VI, LA, WC, nSA, sSA).

Remarks: This euryhaline species inhabits bays, tidal streams, muddy inshore and offshore bottoms. Pezold (2004:294) reported that when the tide is out and the bottom exposed "the gobies remain in water-filled burrows they have excavated in the mud."

Lophogobius cyprinoides (Pallas 1770)—Crested Goby, Fig. 20G
Justification: UF 182930 (18, 17.8–38.3 mm SL) Salt River Bay; USNM 380507 (1), Christiansted.
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Lythrypnus crocodilus (Beebe and Tee-Van 1928)—Mahogany Goby, Fig. 20H
Justification: UF (BIRNM, 45).
Distribution: Greenfield (1988) WA (BA, GA, LA, WC, nSA, sSA).

Lythrypnus elasson Böhlke and Robins 1960—Dwarf Goby, Fig. 20I
Justification: UF (BIRNM, 9); UF 185650 (1), SSW Butler Bay.
Distribution: WA (FL, GOM, BA, GA, VI, WC, nSA).

Lythrypnus nesiotes Böhlke and Robins 1960—Island Goby, Fig. 20J
Justification: UF (BIRNM, 19).
Distribution: Greenfield (1988) WA (FL, GOM, BA, GA, VI, LA, WC, nSA).

Lythrypnus okapia Robins and Böhlke 1964—Okapi Goby
Justification: UF 160123 (1, 10.5 mm SL), BIRNM.
Distribution: WA (BD, BA, WC, nSA).

Microgobius carri Fowler 1945.—Seminole Goby
Justification: Observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:72); REEF (1/3).
Distribution: Birdsong (1981) WA (FL, GOM, GA, VI, LA, WC).
Remarks: Because both this species and *Microgobius signatus* Poey have been reliably documented from St. John, Virgin Islands. The species identification should be regarded as provisional until voucher specimens or unmistakable photographs become available.

Nes longus (Nichols 1914)—Orangespotted Goby, Fig. 21A
Justification: UF 160866 (2, 27–29 mm SL), BIRNM; listed as "common" by Clavijo *et al.* (1980:27); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:72); REEF (2/0).
Distribution: WA (BD, FL, GOM, BA, GA, LA, WC, nSA).

Priolepis hipoliti (Metzelaar 1922)—Rusty Goby
Listed as *Quisquilius hipoliti* and "common" Clavijo *et al.* (1980:28).
Justification: UF (BIRNM, 47); REEF (23/2).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Psilotris alepis Ginsburg 1953—Scaleless Goby
Listed as *Psilotropis* [sic] *alepis* and "rare" by Clavijo *et al.* (1980:27).
Justification: UF (BIRNM, 5); UF 183060 (1, 13.7 mm SL), Spring Bay.
Distribution: WA (BA, GA, WC, nSA).
Remarks: Described from St. Croix as the new species *Psilotris alepis* (see Table 4).

Psilotris boehlkei Greenfield 1993—Yellowspot Goby
Justification: UF 160122 (1, 24 mm SL), BIRNM.
Distribution: WA (LA).
Remarks: This species was previously known only from the type locality, St. Barthelemy in the Lesser Antilles (Greenfield, 1993) and Saba Bank Atoll (Williams *et al.*, 2010).

Psilotris celsus Böhlke 1963—Highspine Goby
Justification: UF 160124 (1, 22 mm SL), BIRNM.
Distribution: WA (BD, FL, BA, GA,VI, WC, nSA).

Pycnomma roosevelti Ginsburg, 1939—President Goby

Justification: UF (BIRNM, 25).

Distribution: WA (BA, GA, LA, WC).

Remarks: Williams *et al.* (2010:29) provided the first color photograph of this goby and stated that, although it had been previously taken at several scattered localities around the Caribbean, there are fewer than 10 specimens known. This certainly reflects a collecting artifact because the use of ichthyocides and fine mesh hand-nets are necessary to collect this diminutive goby. We recovered 62 specimens (9.8–18.4 mm SL) from 25 BIRNM stations.

Risor ruber (Rosén 1911)—Tusked Goby

Justification: UF (BIRNM, 12); REEF (80/9).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Sicydium buscki Evermann and Clark 1906, Fig. 21B

Justification: UF 180989 (5, 19.1–24.1 mm SL); UF 181001 (5, 30.7–35.6); UF 181002 (2, 30.1–31.6 mm SL); UF 181038 (1, 45.3 mm SL); UF 183289 (4, 20.8–40.0 mm SL); UF 183291 (2, 25.7–26.6 mm SL) [identifications by Ryan Chabarria].

Distribution: WA (GA, VI, LA, WC, nSA,).

Remarks: In his revision of *Sicydium* from the Dominican Republic, Watson (2000) provided detailed descriptions of four species. He emphasized the number, arrangement and morphology of upper teeth as important characters in diagnoses of sicydiine gobies. The same four species he reported from the Dominican Republic and Puerto Rico also occur on St. Croix in at least Caledonia and Mahogany guts. Life colors and preserved color patterns of the four St. Croix species can be highly variable.

Sicydium gilberti Watson 2000

Justification: UF 184440 (2, 21.5–22.0 mm SL); UF 184445 (1, 35.1 mm SL) [identifications by Ryan Chabarria].

Distribution: WA (GA, VI, LA, WC, nSA).

Sicydium plumieri (Bloch 1786), Fig. 21C

Justification: UF 184441 (1, 25.7 mm SL); UF 184444 (1, 31.5 mm SL) [identifications by Ryan Chabarria].

Distribution: WA (GA, VI, LA, WC, nSA).

Sicydium punctatum Perugia 1896, Fig. 21D

Justification: UF 183043 (2, 33.5–48.7 mm SL); UF 184437 (4, 23.1–26.6 mm SL); UF 184442 (3, 28.0–41.1 mm SL); UF 184443 (2,19.4–24.5); UF 184446 (1, 36.3 mm SL) [identifications by Ryan Chabarria].

Distribution: WA (GA, VI, LA, WC, nSA).

Tigrigobius dilepis (Robins and Böhlke 1964)—Orangeside Goby

Listed as *Gobiosoma dilepis* and "occasional" by Clavijo *et al.* (1980:27).

Justification: UF (BIRNM, 5); REEF (49/20).

Remarks: We follow Van Tassell (2011) and Eschmeyer (2013) in assigning this goby to the genus *Tigrigobius* Fowler rather than its traditional classification in *Gobiosoma* Girard or *Elacatinus* Jordan. In their paper on western Atlantic seven-spined gobies, Böhlke and Robins (1964) recognized *Tigrigobius* as a subgenus and included *T. dilepis* and the following four species in that subgenus.

Tigrigobius gemmatus (Ginsburg 1939)—Freckfin Goby, Fig. 21E

Justification: UF (BIRNM, 13).

Distribution: WA (BA, GA, LA, WC, nSA).

Remarks: See above discussion of generic name used for *Tigrigobius dilepis*.

Tigrigobius multifasciatus (Steindachner 1876)—Greenband Goby

Listed as *Gobiosoma multifasciatum* and "occasional" by Clavijo *et al.* (1980:27).

Justification: Observed during Frederiksted reef-system censuses (Toller, 2007:51); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:72); REEF (3/0).

Distribution: WA (BA, GA, VI, LA, WC, nSA).

Remarks: See above discussion of generic name used for *Tigrigobius dilepis*.

****Tigrigobius pallens*** (Ginsburg 1939)—Semiscaled Goby, Fig. 21F

Justification: UF (BIRNM, 34); REEF (16/4).

Distribution: WA (BA, GA, LA, WC, nSA).

Remarks: See above discussion of generic name used for *Tigrigobius dilepis*.

Tigrigobius saucrus (Robins 1960)—Leopard Goby

Listed as *Gobiosoma saucrum* by Clavijo *et al.* (1980:27).

Justification: UF (BIRNM, 2); UF 182885 (1, 9.0 mm SL), Tague Bay; AMNH 225032 (1); REEF (33/8).

Distribution: WA (BA, GA, VI, WC, nSA).

Remarks: See above discussion of generic name used for *Tigrigobius dilepis*.

MICRODESMIDAE—wormfishes and dartfishes (2 species)

****Cerdale floridana*** Longley 1934—Pugjaw Wormfish

Justification: UF (BIRNM, 5).

Distribution: Dawson (1974) WA (BD, FL, BA, GA, VI, LA, WC).

Ptereleotris helenae (Randall 1968)—Hovering Goby

Listed as *Ioglossus helenae* and "occasional" by Clavijo *et al.* (1980:27).

Justification: ANSP 144652 (1, 26.6 mm SL), N. of Frederiksted, 37 m, March 1977; AMNH 225039 (1, 26 mm SL); REEF (24/7).

Distribution: WA (BA, GA, VI, WC, nSA).

EPHIPPIDAE—spadefishes (1 species)

Chaetodipterus faber (Broussonet 1782)—Atlantic Spadefish

Justification: UF 160136 (1, 23 mm SL), BIRNM; ZMUC P.5114 (1, 108 mm SL), St. Croix, Feb. 1906; listed as "occasional" by Clavijo *et al.* (1980:9); REEF (6/19).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

ACANTHURIDAE—surgeonfishes (3 species)

Acanthurus chirurgus (Bloch 1778)—Doctorfish (Gizzard Doctor)

Listed as *Acanthurus chirurgus* by Cope (1871:474) and as *Hepatus caerulens* by Fowler (1919:145).

Justification: UF (BIRNM, 11); St. Croix photograph (Randall, 1996:321); REEF (165/231).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA.

Acanthurus coeruleus Bloch and Schneider 1801—Blue Tang (Blue Doctor)

Listed as *Acanthurus coeruleus* by Cope (1871:474) and as *Hepatus hepatus* by Fowler (1919:145).

Justification: UF (BIRNM, 15); REEF (433/529).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension Island.

Acanthurus tractus Poey 1860—Ocean Surgeon

Listed as *Acanthurus bahianus* Castelnau by Clavijo *et al.* (1980:28)

Justification: UF (BIRNM, 31); REEF (430/472).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).

Remarks: Until recently authors have followed Randall (1956) in treating *Acanthurus tractus* (described from Cuba) as a junior synonym of *A. bahianus* (described from Bahia, Brazil). Based on morphological (color of dorsal and caudal fins) and molecular evidence, Bernal and Rocha (2011) have determined that both are valid allopatric species. *Acanthurus tractus* occurs north of the Amazon River outflow and throughout the Caribbean while *A. bahianus* is present only south of the Amazon River barrier and at central Atlantic islands.

SPHYRAENIDAE—barracudas (2 species)

Sphyraena barracuda (Edwards 1771)—Great Barracuda

Justification: UF 160141 (1), BIRNM; UF 181043 (1); UF 180894 (1); observed during Frederiksted reef-system censuses (Toller, 2007:51); on-line photographs available (Pittman *et al.*, 2008); REEF (101/174).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA,WC, nSA, sSA), EA, IWP.

Sphyraena borealis DeKay 1842—Sennet

Listed as *Sphyraena picudilla* and "occasional" by Clavijo *et al.* (1980:24).

Justification: St. Croix photograph (Randall, 1996:132); observed, as *S. picudilla*, during Frederiksted reef system censuses (Toller, 2007:51); REEF (5/18).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA,WC, nSA).

Remarks: Smith-Vaniz *et al.* (1999:323) give reasons why they consider the Southern sennet, *Sphyraena picudilla* Poey, to be a junior synonym of *S. borealis*. This synomy was also adopted by Page *et al.* (2013).

GEMPYLIDAE—snake mackerels (3 species)

****Gempylus serpens*** Cuvier 1829—Snake Mackerel

Justification: ZMUC P73371 (1, 995 mm SL), St. Croix, Hartmann, 1882 [identification by Peter Møller].

Distribution: Circumtropical, Parin and Nakamura (2003a) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA, IWP, EP.

Promethichthys prometheus (Cuvier 1832)—Roudi Escolar (Rabbitfish)

Justification: SIO 74–158 (1, 268 mm SL), St. Croix, 17°44'N, 64°32'W; listed as rare by Clavijo *et al.* (1980:28).

Distribution: Parin and Nakamura (2003a) WA (BD, FL, GOM, BA, GA, LA, WC, nSA), EA, IWP.

Remarks: Rabbitfish are meso- and benthopelagic on insular shelves in 100–700 m but migrate near the surface to feed at night.

****Ruvettus pretiosus*** Cocco 1833)—Oilfish

Justification: Listed as rare by Clavijo *et al.* (1980:28).

Distribution: Circumtropical, Parin and Nakamura (2003a) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA), EA, IWP, EP.

Remarks: Oilfish are benthopelagic in 100–700 m and usually caught in 200–400 m (Nakamura and Parin, 2003).

TRICHIURIDAE—cutlassfishes (1 species)

Evoxymetopon taeniatus Gill 1863—Channel Scabbardfish

Justification: UF 226954 (1), off Frederiksted (tank specimen now lost); listed as "rare" by Clavijo *et al.* (1980:28).

Distribution: Parin and Nakamura (2003b) WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA), IWP.

Remarks: Benthopelagic in 100–700 m (Nakamura and Parin, 2003), but has been caught as shallow as 18 m with gill nets (Palacio-Barros *et al.* (2011).

SCOMBRIDAE—mackerels and tunas (10 species)

All of the below scombrids were listed as either "common" or "occasional" by Clavijo *et al.* (1980:28), except for *Scomberomorus maculatus* (see remarks for *S. regalis*) and the two new additions indicated by asterisks. Tunas and mackerels are primarilly oceanic fishes but, because St. Croix has a narrow shelf and all these species are fished commercially and landed in St. Croix, we include them here.

Acanthocybium solandri (Cuvier 1832)—Wahoo

Justification: See above general remarks.

Distribution: Circumtropical, WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), St. Helena, EA, IWP, EP.

Auxis* cf. *thazard (Lacepède 1800)—Frigate Mackerel

Justification: Based on underwater photograph taken at Frederisksted Pier of what is probably this species.

Distribution: Collette and Aadland (1964) WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), St. Helena, EA, IWP.

Remarks: Two morphologically very similar species of *Auxis*, which cannot be reliably distinguished solely from underwater color photographs (B. B. Collette, pers. com.), occur in the Caribbean: *A. thazard* (Lacepède 1800) and *A. rochel* (Risso 1810).

Euthynnus alletteratus (Rafinesque 1810)—Little Tunny

Justification: See above general remarks; listed in St. Croix FAD catches (Friedlander etal., 1994:598).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), St. Helena, EA.

Katsuwonus pelamis (Linnaeus 1758)—Skipjack Tuna

Justification: See above general remarks; listed in St. Croix FAD catches (Friedlander etal., 1994:598).

Distribution: Circumtropical, WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), St. Helena, EA, IWP, EP.

Scomber colias Gmelin 1789—Atlantic Chub Mackerel

Justification: ZMUC P.74243 (1, 245 mm SL).

Distribution: WA(BD, FL, GOM, GA, nSA, sSA).

Scomberomorous cavalla (Cuvier 1829)—King Mackerel

Justification: Listed as "common" by Clavijo *et al.* (1980:28); observed at Salt River Canyon (Workman *et al.*, 1984:381); listed in St. Croix FAD catches (Friedlander *et al.*, 1994:598).

Distribution: WA (BD*, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Scomberomorus regalis (Bloch 1793)—Cero

Listed in St. Croix FAD catches (Friedlander *et al.*, 1994:598); listed as *Scomberomorus maculatus* and "rare" by Clavijo *et al.* (1980:28), presumably a misidentification (see remarks).

Justification: ZMUC P.74244–46 (3, 96–137 mm SL); observed at Salt River Canyon (Workman *et al.*, 1984:381) and during Frederiksted reef-system censuses (Toller, 2007:51); REEF (67/74).

Distribution: Collette and Russo (1985) WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Remarks: Collette and Russo (1985) state that reports of Spanish Mackerel, *Scomberomorus maculatus*, from the West Indies (except northern Cuba) are based on misidentifications of *S. regalis*.

Thunnus alalunga (Bonnaterre 1788)—Albacore
Justification: See above general remarks.
Distribution: WA (BD, BA, GA, VI, LA, WC, nSA, sSA), St. Helena, EA, IWP.

Thunnus albacares (Bonnaterre 1788)—Yellowfin Tuna
Justification: See above general remarks.
Distribution: Circumtropical, WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), St. Helena, EA, IWP, EP.

Thunnus atlanticus (Lesson 1758)—Blackfin Tuna
Justification: See above general remarks; observed at Salt River Canyon (Workman *et al.*, 1984:384); listed in St. Croix FAD catches (Friedlander *et al.*, 1994:598).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

****Thunnus obesus*** (Lowe 1839)—Bigeye Tuna
Justification: See above general remarks; reported from St. Croix by Mather and Gibbs (1958).
Distribution: Circumtropical, WA (BD, FL, GOM, GA, LA, nSA), St. Helena, EA, IWP, EP.

XIPHIIDAE—swordfishes (1 species)

Xiphias gladius Linnaeus 1758—Swordfish
Justification: Listed as "occasional" by Clavijo *et al.* (1980:29).
Distribution: Circumtropical, WA (BD, FL, GOM, BA, VI, LA, WC, nSA, sSA), St. Helena, EA, IWP, EP.

ISTIOPHORIDAE—billfishes (4 species)

Billfishes are highly prized gamefishes and are sometimes fished commercially. Clavijo *et al.* (1980:29) listed the three of the following billfishes as "common" or "occasional," and although primarily oceanic we include them here.

Istiophorus platypterus (Shaw 1792)—Sailfish
Justification: See above general remarks.
Distribution: Circumtropical, WA (BD, FL, GOM, BA, VI, LA, WC, nSA, sSA), St. Helena, EA, IWP, EP.

Kajikia albida (Poey 1860)—White Marlin
Listed as *Tetrapturus albidus* and "occasional" by Clavijo *et al.* (1980:29).
Justification: See above general remarks.
Distribution: WA (BD, FL, GOM, BA, VI, LA, WC, nSA, sSA), St. Helena, EA.
Remarks: Collette *et al.* (2006) recommended several changes in nomenclature of billfishes based on a molecular phylogeny of the family. The white marlin, along with the Indo-Pacific striped marlin, was moved to the genus *Kajikia* Hirasaka and Nakamura so its name is now *Kajikia albida* (Poey).

Makaira nigricans Lacepéde 1802—Blue Marlin
Justification: See above general remarks.
Distribution: WA (BD, FL, GOM, BA, VI, LA, WC, nSA, sSA), St. Helena, EA.

Tetrapturus pfluegeri Robins and de Sylvia 1963—Longbill Spearfish
Justification: Listed as "rare" by Clavijo *et al.* (1980:29).
Distribution: WA (BD, FL, GOM, BA, VI, LA, WC, nSA, sSA), EA.

NOMEIDAE—driftfishes (1 species)

Nomeus gronovii (Gmelin 1789)—Man-of-war Fish

Justification: UF 47480 (1, 860 mm SL), south of St. Croix, in 73 m, July 1978; UF 182883 (6, 15–36 mm SL), Manning Bay Lagoon; listed as "occasional" by Clavijo *et al.* (1980:29).

Distribution: Circumtropical, WA (BD, FL, GOM, BD, BA, GA, WC, nSA), EA, IWP, EP.

BOTHIDAE—flatfishes (3 species)

Bothus lunatus (Linnaeus 1758)—Peacock Flounder

Listed as *Rhomboidichthys lunatus* by Cope (1871:480) and as *Platophrys lunulatus* by Fowler (11919:145).

Justification: UF (BIRNM, 2); AMNH 17410 (1); St. Croix photograph (Randall, 1996:205); REEF (110/146).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension, EA.

Bothus maculiferus (Poey 1860)—Maculated Flounder

Justification: UF (BIRNM, 3); listed as "occasional" by Clavijo (1980:30).

Distribution: WA (BD, BA, GA, WC, nSA, sSA).

Bothus ocellatus (Agassiz 1831)—Eyed Flounder, Fig. 21G

Justification: UF (BIRNM, 15); REEF (45/25).

Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

PARALICHTHYIDAE—sand flounders (2 species)

Citharichthys spilopterus Günther 1862—Bay Whiff, Fig. 21H

Justification: UF 182934 (1, 109 mm SL), Triton Bay.

Distribution: WA (FL, GOM, GA, WC, nSA, sSA).

Syacium papillosum (Linnaeus 1758)—Dusky Flounder, Fig. 21I

Justification: UF 181053 (1, 89 mm SL), off Bethlehem Middle Works; UF 183075 (1, 110 mm SL), Great Pond Bay; ZMUC P.856285–86 (2, 105–172 mm SL), St. Croix, 1896.

Distribution: Fraser (1971) and Murakami and Amaoka (1992) WA (BD, FL, GOM, BA, GA, LA, WC, nSA, sSA).

ACHIRIDAE—American soles (2 species)

Achirus lineatus (Linnaeus 1758)—Lined Sole

Justification: ZMUC P.8676 (1, 58 mm SL) Christiansted, Jan. 1906.

Distribution: WA (FL, GOM, GA, VI, WC, nSA, sSA).

Trinectes inscriptus (Gosse 1851)—Scrawled Sole, Fig. 21J

Justification: UF 182301 (1, 54 mm SL), Altona Lagoon; UF 182938 (4, 37–55 mm SL), Triton Bay; ANSP 80624 (1); ZMUC P.8683–96 (14, 19–60 mm SL) Christiansted, Sept. 1916; ZMUC P.8697 (1, 52 mm SL), Christiansted, 1906.

Distribution: WA (FL, BA, GA, VI, LA, WC, nSA).

CYNOGLOSSIDAE—tonguefishes (2 species)

Symphurus arawak Robins and Randall 1965—Caribbean Tonguefish

Justification: UF 160071 (1, 11.7 mm SL) and UF 164959 (1, 29.0 mm SL), BIRNM 2.
Distribution: Munroe (1998) WA (FL, BA, GA, VI, LA, WC, nSA).

Symphurus ommaspilus Böhlke 1961—Ocellated Tonguefish
Justification: UF 160073 (1, 49.5 mm SL), BIRNM.
Distribution: Munroe (1998) WA (BA, GA, LA, WC, nSA).

BALISTIDAE—triggerfishes (6 species)

Balistes capriscus Gmelin 1789—Gray Triggerfish
Justification: UF 180963 (2), off Bethlehem Middle Works; listed as negligible trap bycatch (Whiteman, 2005:23).
Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA), EA.

Balistes vetula Linnaeus 1758—Queen Triggerfish
Listed as *Balistes vetulus* by Cope (1871:478) and Fowler (1919:145).
Justification: ANSP 80114 (5); UF 183009 (1, 132 mm SL), Frederiksted Pier; St. Croix photograph (Randall, 1996:323); observed during Frederiksted reef-system censuses (Toller, 2007:51); on-line photographs available (Pittman *et al.*, 2008); catch statistics (Appeldoorn *et al.*, 1992:Table 4); REEF (46/32).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension, EA.

Canthidermis maculata (Bloch 1786)—Rough Triggerfish
Justification: USNM 380508 (1), Christiansted Harbor, Nov. 1999.
Distribution: Circumtropical, WA (BD, FL, GOM, BA, GA, VI, WC, nSA, sSA), St. Helena, EA, IWP, EP.
Remarks: Gill and Randall (1997) noted that this species only comes into shallow areas to breed, whereupon demersal eggs are laid in a large pit in sand or rubble areas.

Canthidermis sufflamen (Mitchill 1815)—Ocean Triggerfish
Justification: Nest guarding behavior in St. Croix described (Nellis, 1980); observed at Salt River Canyon (Workman *et al.*, 1984:381); catch statistics (Appeldoorn *et al.*, 1992:29); REEF (2/11).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena, EA.
Remarks: Like other species of *Canthidermis*, *C. sufflamen* is a pelagic or benthopelagic shelf species that comes near shore only to breed.

Melichthys niger (Bloch 1786)—Black Durgon
Listed as *Balistes piceus* by Cope (1871:478) and as *Melichthys piceus* by Fowler (1919:145).
Justification: Predominent pelagic species attracted to FADS at Salt River Canon (Workman *et al.*, 1984:381); catch statistics (Appeldoorn *et al.*, 1992:29); observed during Frederiksted reef-system censuses (Toller, 2007:51); on-line photographs available (Pittman *et al.*, 2008); REEF (342/382).
Distribution: Circumtropical, WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA, IWP, EP.

Xanthichthys ringens (Linnaeus 1758)—Sargassum Triggerfish
Listed as *Xanthichthys cicatricosus* by Cope (1871:478) and as *Xanthichthys ringens* by Fowler (1919:145).
Justification: ZMUC P.88328 (1, 163 mm SL). Submersible observations in 40–177 m (García Sais, 2005:93); REEF (2/1).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

MONOCANTHIDAE—filefishes (6 species)

Aluterus schoepfii (Walbaum 1792)—Orange Filefish

Justification: MCZ 52507 (1, 108 mm SL), St. Croix, Nov. 1976 [identification confirmed by K. Hartel]; listed as negligible trap bycatch (Whiteman, 2005:23).
Distribution: WA (BD*, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA.

Aluterus scriptus (Osbeck 1765)—Scrawled Filefish
Justification: Listed as "occasional" by Clavijo *et al.* (1980:30); observed at Jacks Bay and Salt River Canyon (Toller, 2002:25); observed during Frederiksted reef-system censuses (Toller, 2007:51); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:73); REEF (34/70).
Distribution: Circumtropical, WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena, EA, IWP, EP.

Cantherhines macrocerus (Hollard 1853)—Whitespotted Filefish
Justification: Listed as "occasional" by Clavijo *et al.* (1980:30); observed during Frederiksted reef-system censuses (Toller, 2007:51); on-line photographs available (Pittman *et al.*, 2008); REEF (74/96).
Distribution: WA (BD, FL, GOM, BA, GA, VI, WC, nSA).

Cantherhines pullus (Ranzani 1842)—Orangespotted Filefish (Tail-light Filefish)
Listed as *Monacanthus irroratus* by Cope (1871:476) and as *Cantherines pullus* by Fowler (1919:145).
Justification: UF (BIRNM 2); UF 183024 (1, 50 mm SL), Coakley Bay; UF 183067 (1, 80 mm SL), Rod Bay; ZMUC P.8815 (1, 120 mm SL), St. Croix, June 1892; ZMUC P.88335 (1, 134 mm SL), St. Croix, July 1863; St. Croix photograph (Randall, 1996:333); observed during Frederiksted reef-system censuses (Toller, 2007:51); on-line photographs available (Pittman *et al.*, 2008); REEF (270/249).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA.

Monacanthus ciliatus (Mitchill 1818)—Fringed Filefish
Justification: UF (BIRNM, 4); listed as "common" by Clavijo (1980:31).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Monacanthus tuckeri Bean 1906—Slender Filefish
Justification: UF (BIRNM, 32); ZMUC P.88334 (1, 49 mm SL) St. Croix, 1873; observed during Frederiksted reef-system censuses (Toller, 2007:51).
Distribution: WA (BD, FL, BA, GA, VI, LA, WC, nSA).

OSTRACIIDAE—boxfishes (5 species)

Acanthostracion polygonius Poey 1867—Honeycomb Cowfish
Listed as *Lactophrys polygonia* by Clavijo *et al.* (1980:31).
Justification: Listed as "occasional" by Clavijo *et al.* (1980:31); catch statistics (Appeldoorn *et al.*, 1992:29); observed during Frederiksted reef-system censuses (Toller, 2007:51); on-line photographs available (Pittman *et al.*, 2008); REEF (139/137).
Distribution: WA (BD, FL, BA, GA, VI, LA, WC, nSA, sSA).

Acanthostracion quadricornis (Linnaeus 1758)—Scrawled Cowfish
Listed as *Ostracium quadricorne* by Cope (1871:474), *Lactophrys tricornis* by Fowler (1919:145), and as *Lactophrys quadricornis* by Clavijo *et al.* (1980:31).
Justification: ZMUC P.88329 (1), St. Croix, July 1863; catch statistics (Appeldoorn *et al.*, 1992:30); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:74); REEF (16/37).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Lactophrys bicaudalis (Linnaeus 1758)—Spotted Trunkfish
Justification: UF 183014 (1, 155 mm SL), Butler Bay; catch statistics (Appeldoorn *et al.*, 1992:29); St. Croix

photograph (Randall, 1996:340); observed during Frederiksted reef-system censuses (Toller, 2007:51); on-line photographs available (Pittman *et al.*, 2008); REEF (127/153).
Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Lactophrys trigonus (Linnaeus 1758)—Trunkfish
Justification: ZMUC P.88330–31 (2); ZMUC P.88332 (1); catch statistics (Appeldoorn *et al.*, 1992:30); observed during Frederiksted reef-system censuses (Toller, 2007:51); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:74); REEF (5/7).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Lactophrys triqueter (Linnaeus 1758)—Smooth Trunkfish
Listed as *Ostracium triquetrum* by Cope (1871:474) and as *Lactophrys triqueter* by Fowler (1919:145).
Justification: ANSP 731 (1) [identified by J. C. Tyler]; ZMUC P.88332 (1); catch statistics (Appeldoorn *et al.*, 1992:30); St. Croix photograph (Randall, 1996:337); observed during Frederiksted reef-system censuses (Toller, 2007:51); on-line photographs available (Pittman *et al.*, 2008); REEF (226/337).
Distribution: WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

TETRAODONTIDAE—puffers (6 species)

Canthigaster rostrata (Bloch 1786)—Sharpnose Puffer
Justification: UF (BIRNM, 31); REEF (402/369).
Distribution: Moura and Castro (2002) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA).
Remarks: Originally described from St. Croix as the new species *Spheroides asterias* (see Table 4).

****Sphoeroides dorsalis*** Longley 1934—Marbled Puffer
Justification: ZMUC P.8913 (3, 24–29 mm SL), off Frederiksted, Nov. 1921.
Distribution: WA (FL, GOM, BA, GA, LA, WC, nSA, sSA).
Remarks: The above juvenile specimens were collected off Frederiksted at night with a dip-net. They have the diagnostic species character consisting of a single pair of dark lappets on the dorsum positioned midway between the eyes and dorsal-fin origin.

****Sphoeroides greeleyi*** Gilbert 1900—Green Puffer
Justification: UF 183046 (1, 53 mm SL), Rod Bay.
Distribution: Shipp (1974) WA (GA, LA, WC, nSA, sSA).

****Sphoeroides pachygaster*** (Müller and Troschel in Schomburgk 1848)—Blunthead Puffer
Justification: SIO 76–205 (1, 231 mm SL), Lang Bank [identification confirmed by H. J. Walker].
Distribution: Shipp (1974) WA (FL, GOM, WC, nSA, sSA), St. Helena, EA, IWP.

Sphoeroides spengleri (Bloch 1785)—Bandtail Puffer
Justification: UF 160118 (2, 29–45 mm SL), BIRNM; UF 183047 (1, 89 mm SL), Altona Lagoon; ZMUC P.89289 (1); observed at Salt River Canyon (Bortone *et al.* (1986:9); one specimen caught in fish trap in Salt River Bay (Adams and Tobias (1999:27); St. Croix photograph (Randall, 1996:343); observed during Frederiksted reef-system censuses (Toller, 2007:51); REEF (68/82).
Distribution: Shipp (1974) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), EA.

Sphoeroides testudineus (Linnaeus 1758)—Checkered Puffer
Justification: UF 180889 (1, 133 mm SL) and UF 180960 (3, 26–89 mm SL), both from Salt River; UF 183107 (2, 51–66 mm SL), Great Pond Bay; AMNH 26318 (5); common in fish traps in Salt River Bay (Adams and Tobias (1999:27); observed during Frederiksted reef-system censuses (Toller, 2007:51).
Distribution: Shipp (1974) WA (FL, BA, GA, VI, LA, WC, nSA, sSA).

DIODONTIDAE—porcupinefishes (4 species)

Chilomycterus antennatus (Cuvier 1816)—Bridled Burrfish

Justification: UF 183000 (1, 125 mm SL), Butler Bay; ZMUC P.89291 (1, 160 mm SL); listed from St. Croix (Günther, 1870:311); listed as "rare" by Clavijo *et al.* (1980:32); observed in northeastern St. Croix censuses (Pittman *et al.*, 2008:72); REEF (2/5).

Distribution: WA (FL, GOM, BA, GA, VI, LA, WC, nSA, sSA).

Chilomycterus antillarum Jordan and Rutter 1897—Web Burrfish

Justification: UF 183013 (1, 146 mm SL), Butler Bay; listed as "rare" by Clavijo *et al.* (1980:32); observed during Frederiksted reef-system censuses (Toller, 2007:51); REEF (2/4).

Distribution: WA (BD*, FL, BA, GA, VI, LA, WC, nSA, sSA).

Diodon holocanthus Linnaeus 1758—Ballonfish

Justification: UF 182861 (1, 125 mm SL), Butler Bay; FMNH 91000 (2); ZMUC P.89290 (1); observed during Frederiksted reef-system censuses (Toller, 2007:51); on-line photograph available (Pittman *et al.*, 2008); REEF (30/41).

Distribution: Leis (1978) circumtropical, WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension and St. Helena, EA, IWP, EP.

Diodon hystrix Linnaeus 1758—Porcupinefish

Justification: Listed as "common" by Clavijo *et al.*, 1980:32); listed from Great Pond Bay (Mateo and Tobias, 2004:330); observed during Frederiksted reef system censuses (Toller, 2007:51); on-line photographs available (Pittman *et al.*, 2008); REEF (67/130).

Distribution: Circumtropical, Leis (1978) WA (BD, FL, GOM, BA, GA, VI, LA, WC, nSA, sSA), Ascension, EA, IWP, EP.

Questionable records and misidentifications

The occurence of about a two dozen species based only on Clavijo *et al.* (1980) or visual sightings, and in the absence of voucher specimens or photographic confirmation, could have been based on misidentifications. Under "Remarks" in the species accounts of such species we usually indicate the need for better documentation to confirm the identification. These occurrence records are tentatively accepted as valid because most of those fishes are unlikely to be misidentified or have wide Caribbean distributions and have been collected in the northern Virgin Islands. Records we consider to have been based on misidentifications are listed below in alphabetical order by family, genus and species.

Antennariidae:

Fowlerichthys ocellatus (Bloch & Schneider). Reported as *Antennarius ocellatus* and "occasional" by Clavijo *et al.* This is a continental species with no confirmed museum specimens from Puerto Rico, the northern Virgin Islands or elsewhere in the Lesser Antilles. The few records in museum databases of non-continental occurrences of this species that we have investigated have all been based on misidentifications of *Antennarius multiocellatus* (Valenciennes).

Chaenopsidae:

Chaenopsis ocellata (Poey). See remarks for *Chaenopsis limbaughi* on page 70.

Clupeidae:

Jenkinsia majua Whitehead. See remarks for *Jenkinsia lamprotaenia* on page 27.

Gerreidae:

Eucinostomus melanopterus (Bleeker). The Flagfin Mojarra was reported as rare in northeastern St. Croix

censuses (Pittmann *et al.*, 2008:72). This is a mostly continental species and in the absence of voucher specimens or unequivocal photographic evidence, we consider the records to have been based on misidentifications.

Gobiidae:

Awaous tajasica (Lichtenstein). See remarks for *Awaous banana* on page 75.

Bathygobius curacao (Metzelaar). See remarks for *Bathygobius mystacium* on page 76.

Bathygobius soporator (Valenciennes). See remarks for *Bathygobius mystacium* on page 76.

Coryphopterus glaucofraenum Gill. See remarks for *Coryphopterus tortugae* on page 77.

Elacatinus genie Böhlke and Robins. In a study of cleaning behavior of *Elacatinus evelynae* and *E. prochilos* at Northstar Reef, St. Croix, White *et al.* (2007:88) mentioned that *E. genie* "was also present but rare at the study site." Toller (2007:51) also listed this goby from the Frederiksted reef system. Colin (2010) noted that the literature contains numerous misidentifications of *Elacantinus* species and, because he stated that *E. genie* was known positively only from the Bahamas, we consider the above records to be misidentifications.

Labrisomidae:

Starksia fasciata (Longley). See remarks for *Starksia smithvanizi* on page 69.

Malacanthidae:

Caulolatilus cyanops Poey. See remarks for *Caulolatilus williamsi* on page 47.

Ogcocephalidae:

Ogcocephalus radiatus (Mitchill). This species of batfish was listed by Clavijo (1980:8) as rare. The name has been uncritically applied to several species, but in the absence of type specimens and an insufficent original description, Bradbury (1980) considered this nominal species as unidentifiable.

Ophichthidae:

Ophichthus gomesii (Castelnau). The only record of this species from St. Croix is Kaup's (1856) original description of *Scytalophis magnioculis*, a junior synonym of *Ophichthus gomesii*. Kaup gave the type locality of his new species as St. Croix and Brazil. We doubt the reliability of Kaup's St. Croix listing because the only extant Kaup types (deposited at the Muséum National d'Histoire naturelle in Paris) are all from Brazil, and *O. gomesii* has an essentially continental distribution (McCosker *et al.* (1989).

Opistognathidae:

Opistognathus macrognathus Poey. See remarks for *Opistognathus maxillosus* on page 44.

Paralichthyidae:

Paralichthys tropicus Ginsburg. Mateo and Tobias (2004:330) listed this species in visual surveys. This record is almost certainly based on the superficially similar *Syacium papillosum*. *Paralichthys tropicus* is a continental species known only from the southern Caribbean.

Poeciliidae:

Gambusia sp. See general comments for Poeciliidae on page 33.

Scombridae:

Scomberomorus maculatus (Mitchill). See remarks for *Scomberomorus regalis* on page 84.

Sparidae:

Calamus calamus (Valenciennes). See remarks for *Calamus pennatula* on page 56.

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Addendum

While this monograph was in press a new species of gobiesocid, *Acyrtus lanthanum*, common name orange-spotted clingfish, was described by Conway, Baldwin and White (2014). This shallow-water species (0-5 m) was reported from the Bahamas, Turks and Caico, Tobago, and Belize. Most of the specimens from St. Croix that we had identified as *Acytrus artius* are based on misidentification of the new species (12 specimens from 5 BIRNM stations, while only 3 specimens, each from a different BIRNM station are actually *A. artius*). *Acyrtus lanthanum* differs from *A. artius* most notably in having papillae on the anterolateral margin of disc region C (papillae absent); a longer head 42–47 % SL (40–43%); subopercular spine large, grooved ventrally (small, circular in cross-section); skin medial to subopercle opaque and granular (undifferented); and branchiostegal membrane with lateral pocket between 6th branchiostegal ray and subopercle (without pocket).

Conway, K.W., Baldwin, C. & White, M.D. (2014) Cryptic diversity and venom glands in Western Atlantic clingfishes of the genus *Acyrtus* (Teleostei: Gobiesocidae). *PLOS ONE*, 9 (5), e97664. http://dx.doi:10.1371/journal.pone.00976664.

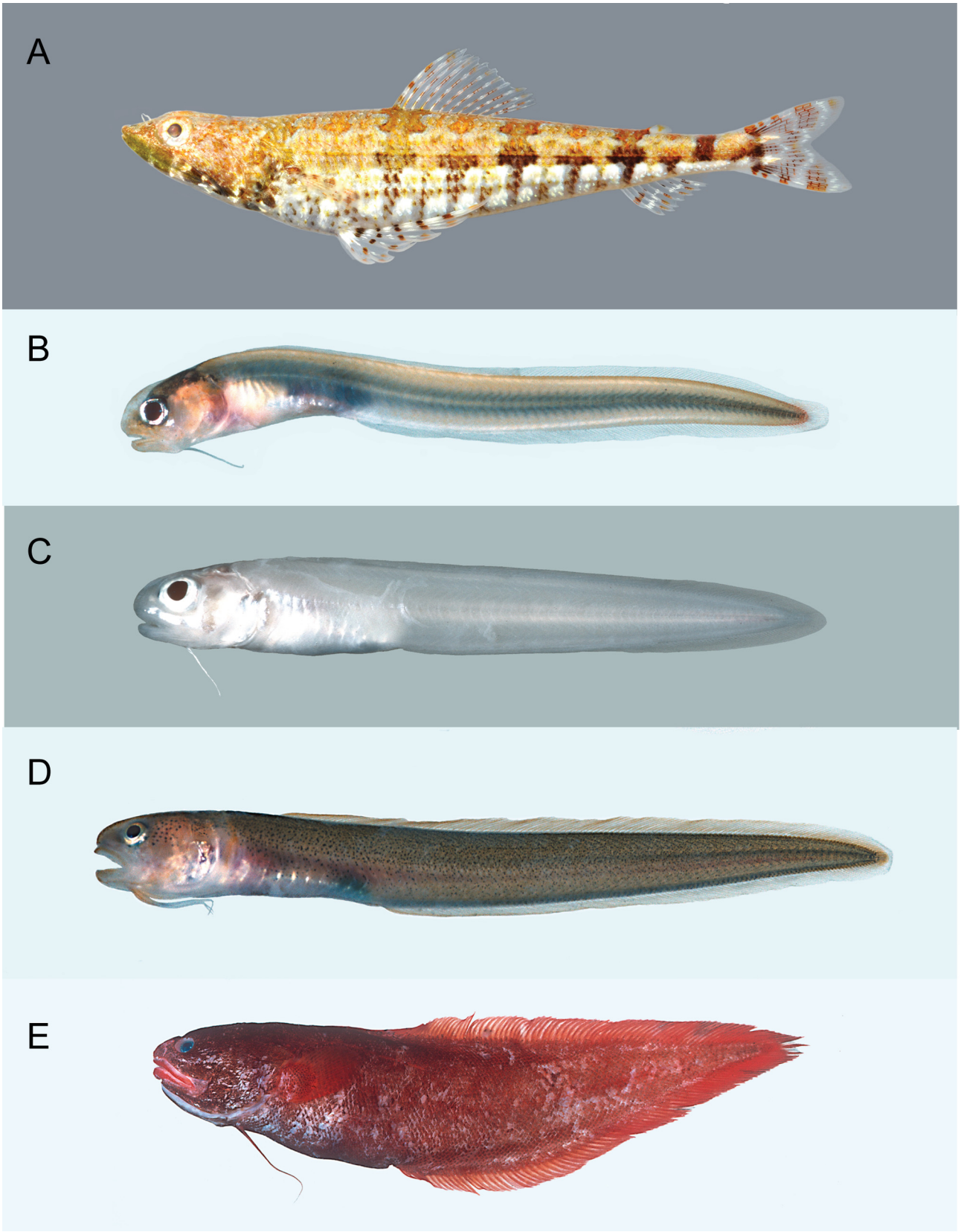

FIGURE 5. (A) *Synodus synodus*, UF 183061, 71.5 mm SL, H. L. Jelks; (B) *Ophidion lagochila*, UF 159941, 32 mm SL, L. A. Rocha; (C) *Otophidium dormitator*, UF 159949, UF 159949, 56.7 mm SL, L. A. Rocha; (D) *Parophidion schmidti*, UF 159944, 41 mm SL, L. A. Rocha; (E) *Petrotyx sanguineus*, UF 159947, 84 mm SL, L. A. Rocha.

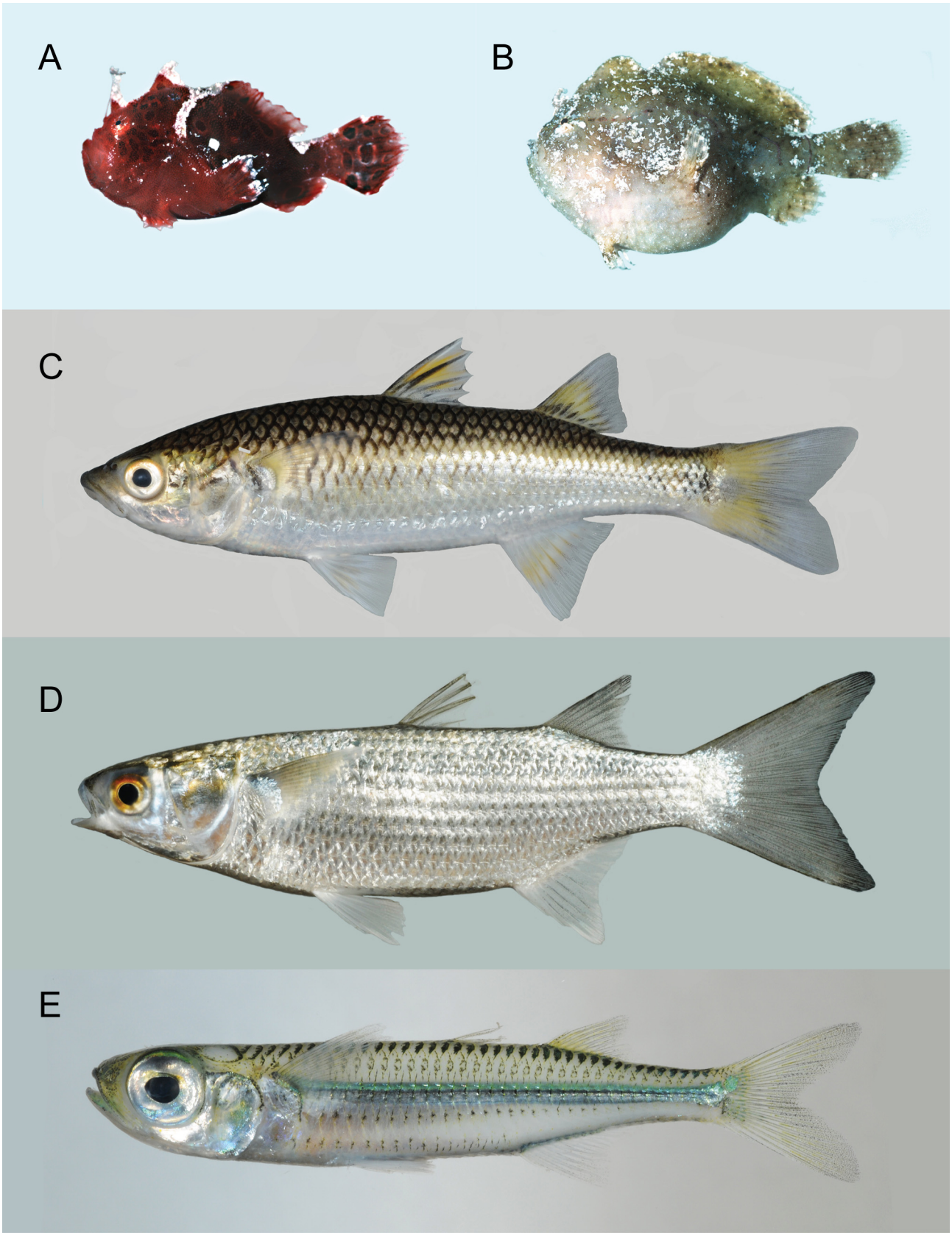

FIGURE 6. (A) *Antennarius multiocellatus*, UF 149669, 13.2 mm SL, L. A. Rocha; (B) *Antennarius pauciradiatus*, UF 149677, 27 mm SL, L. A. Rocha; (C) *Agonostomus monticola*, UF 180903, 86 mm SL, H. L. Jelks; (D) *Mugil rubrioculus*, UF 183045, 130 mm SL, H. L. Jelks; (E) *Atherinomorus stipes*, UF 180968, 46 mm SL, H. L. Jelks.

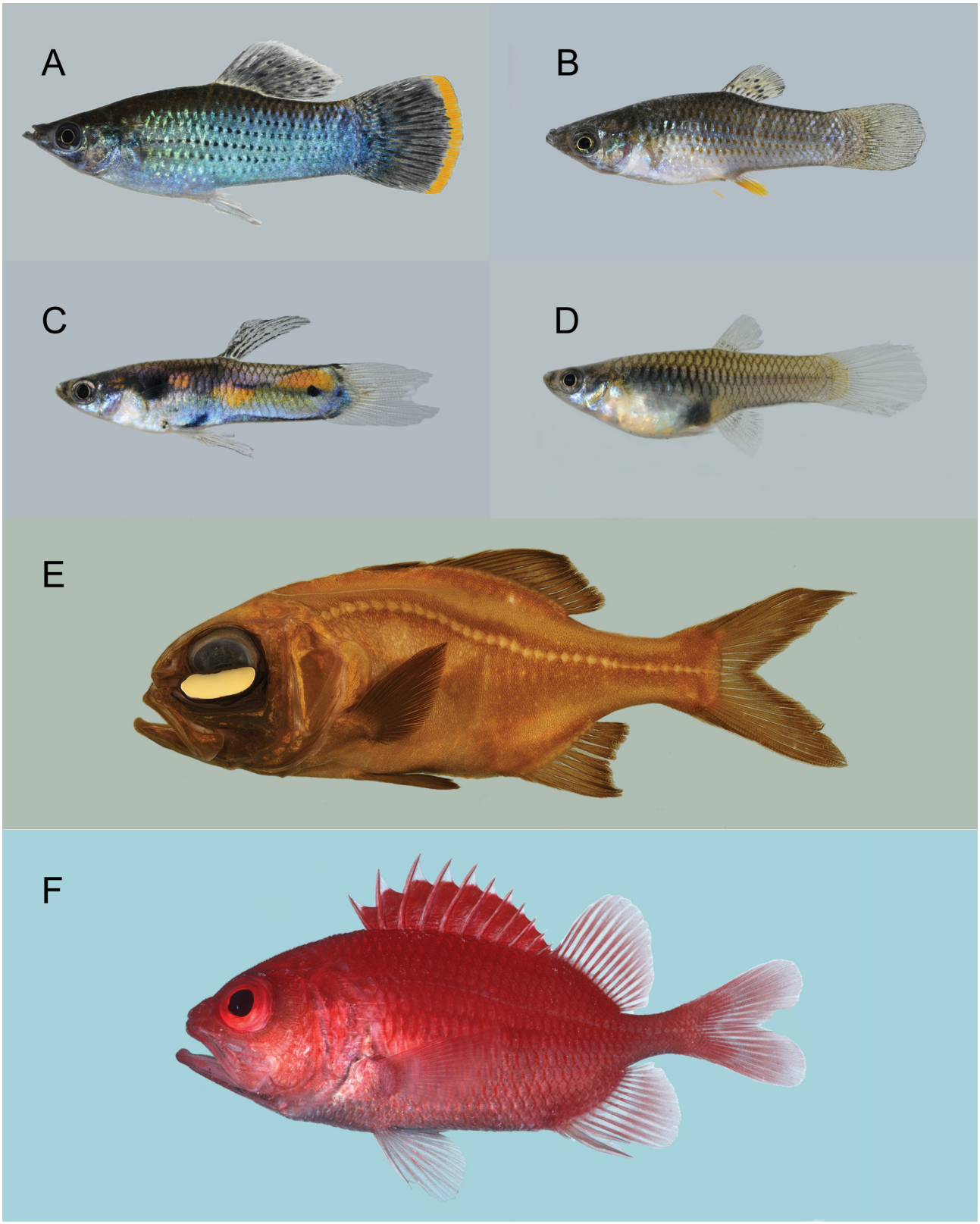

FIGURE 7. (A) *Poecilia mexicana*, UF 181028, 48 mm SL, male, H. L. Jelks; (B) *Poecilia mexicana*, UF 183129, 26.5 mm SL, female, H. L. Jelks; (C) *Poecilia reticulata*, UF 183030, 20 mm SL, male, H. L. Jelks; (D) *Poecilia reticulata*, UF 183030, 23 mm SL, female, H. L. Jelks; (E) *Krytopanoron alfredi*, ANSP 144324 (preserved), 70.5 mm SL, K. Luckenbill; (F) *Plectrypops retrospinus*, UF 159732, 64 mm SL, L. A. Rocha.

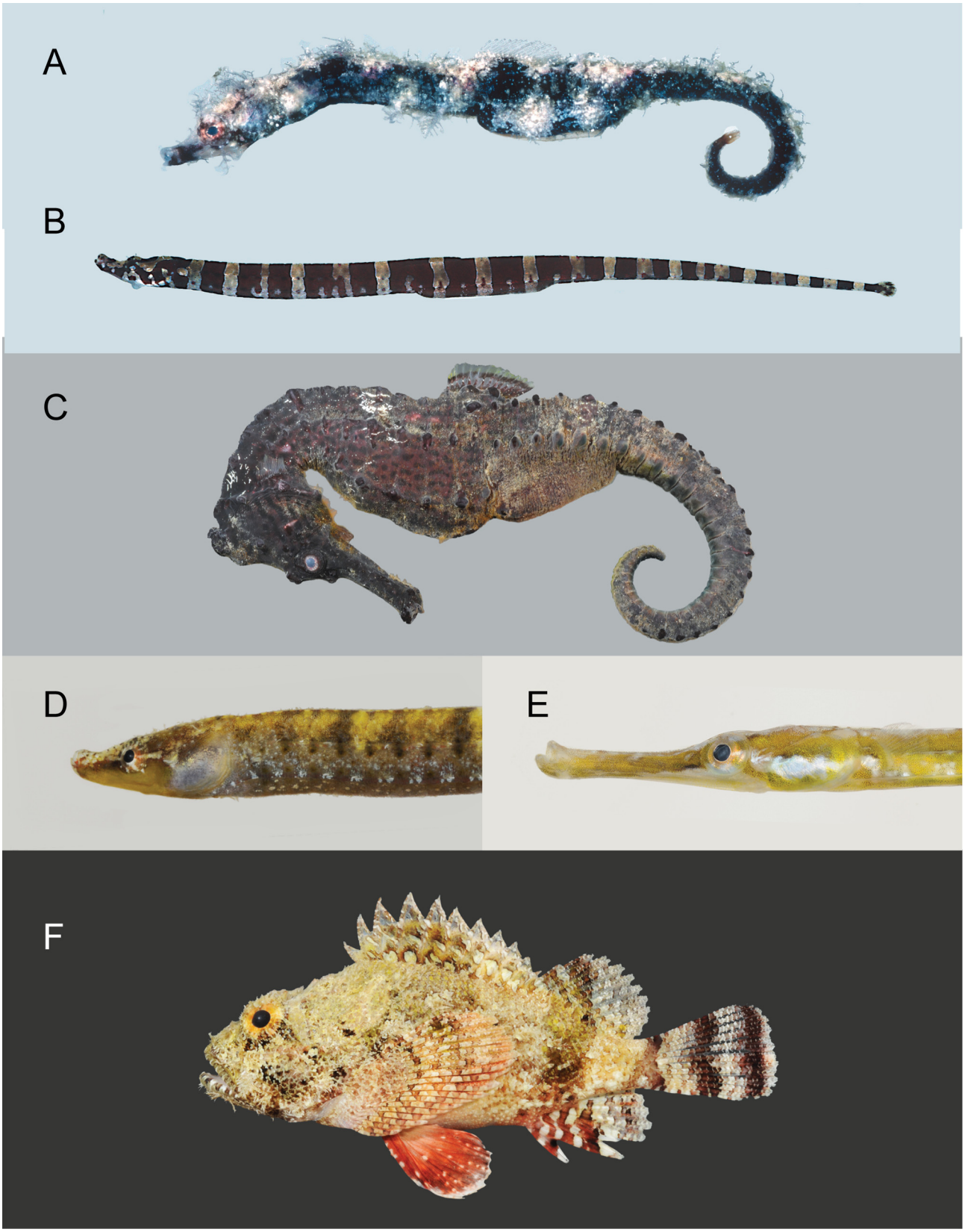

FIGURE 8. (A) *Acentronura dendritica*, UF 160164, 44 mm SL, L. A. Rocha; (B) *Halicampus crinitus*, UF 160020, 108 mm SL, L. A. Rocha; (C) *Hippocampus reidi*, UF 183051, 130 mm TL, H. L. Jelks; (D) *Bryx dunckeri*, UF 181037, 69.5 mm SL, H. L. Jelks; (E) *Sygnathus caribbaeus*, UF 181021, 96 mm SL, H. L. Jelks; (F) *Scorpaena plumieri*, UF 158483, 78 mm SL, H. L. Jelks.

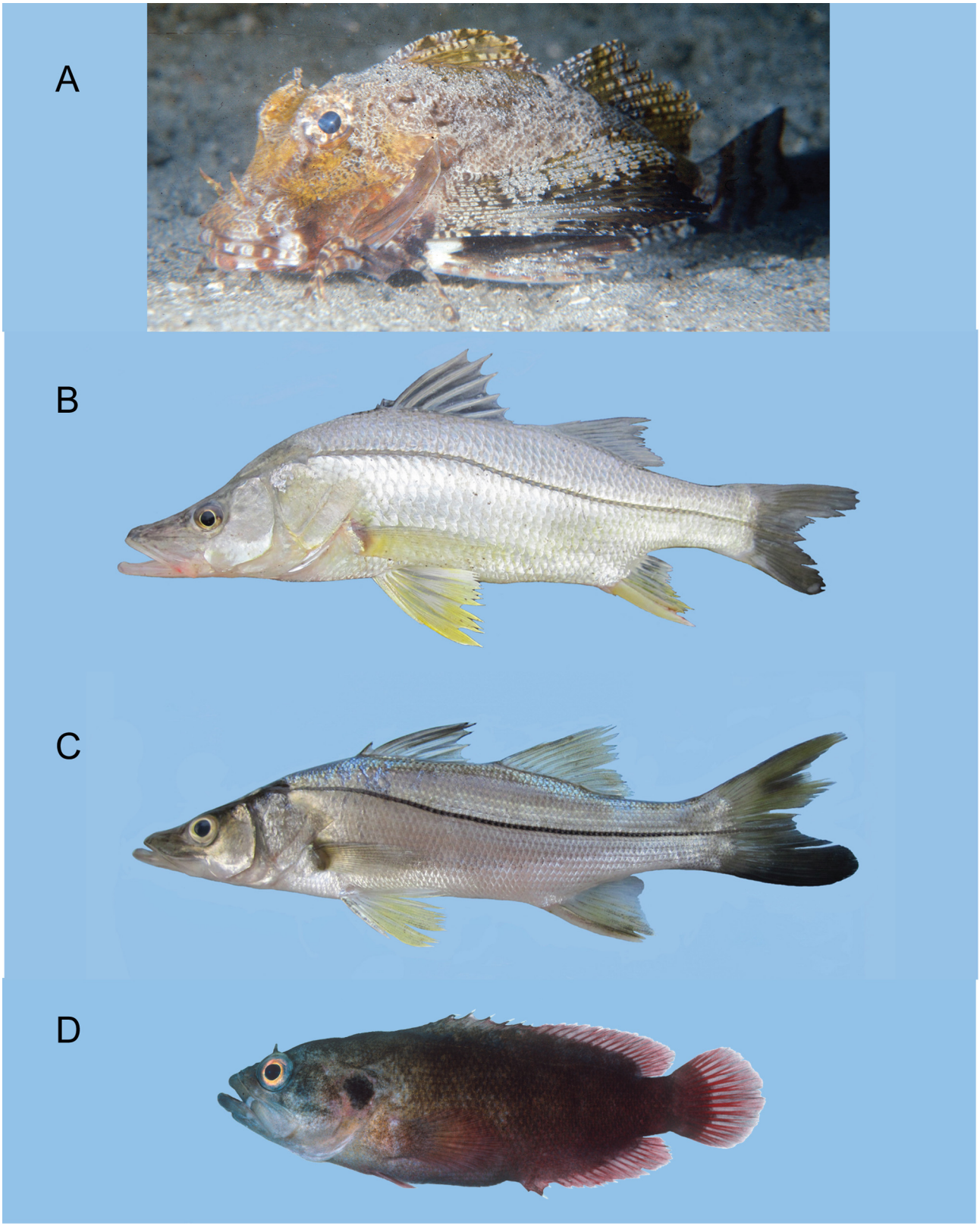

FIGURE 9. (A) *Prionotus ophryus*, after Randall (1969), St. Croix; (B) *Centropomus ensiferus*, UF 180893, 273 mm SL, H. L. Jelks; (C) *Centropomus undecimalis*, UF 180887, 209 mm SL, H. L. Jelks; (D) *Pseudogramma gregoryi*, UF 158265, 49 mm SL, L. A. Rocha.

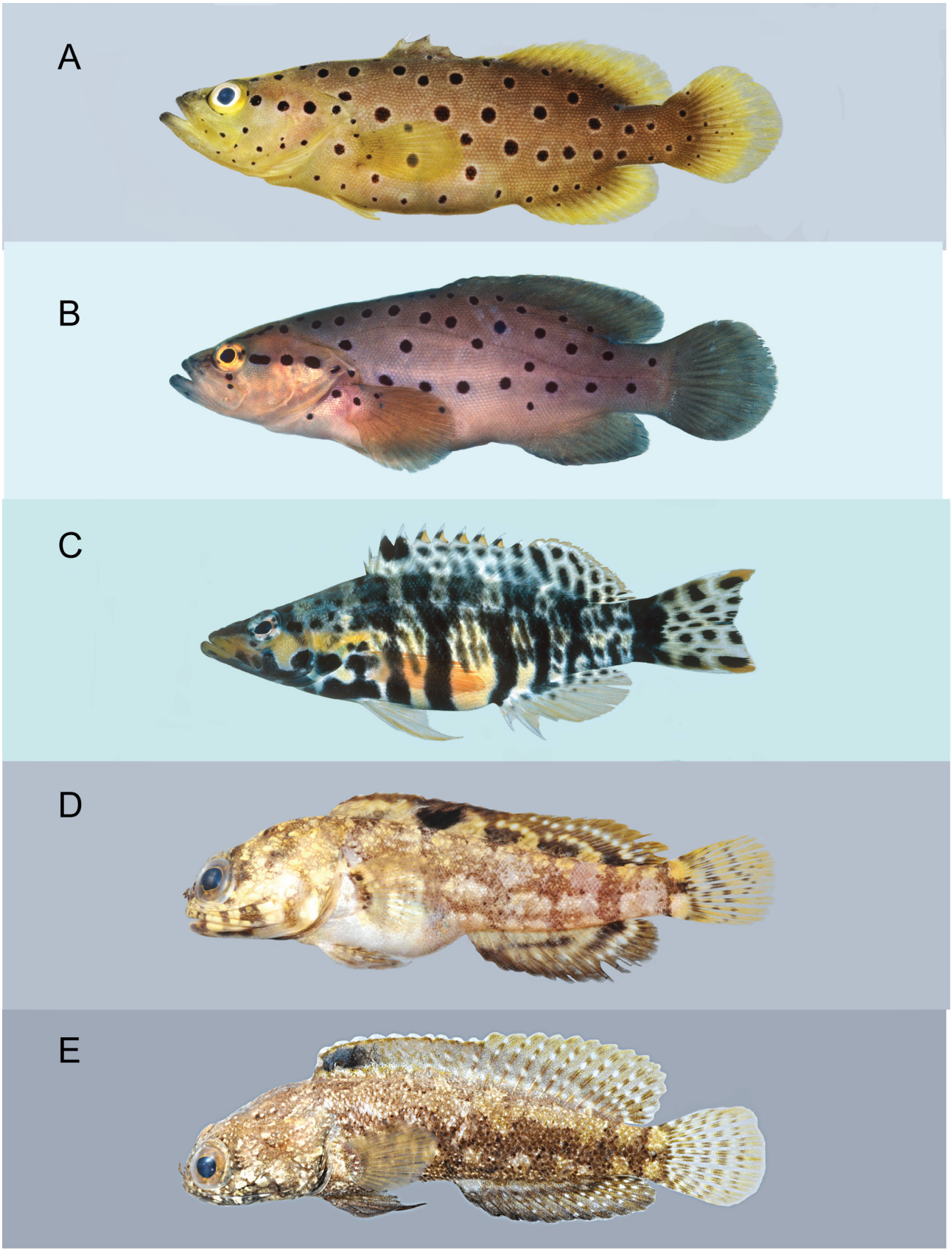

FIGURE 10. (A) *Rypticus carpenteri*, UF 183074 53 mm SL, H. L. Jelks; (B) *Rypticus subbifrenatus*, UF 158252, 58.5 mm SL, L. A. Rocha; (C) *Serranus tigrinus*, UF 158222, 72 mm SL, L. A. Rocha; (D) *Opistognathus maxillosus*, UF 183104, 68.5 mm SL, H. L. Jelks; (E) *Opistognathus whitehursti*, UF 183105, 43 mm SL, H. L. Jelks.

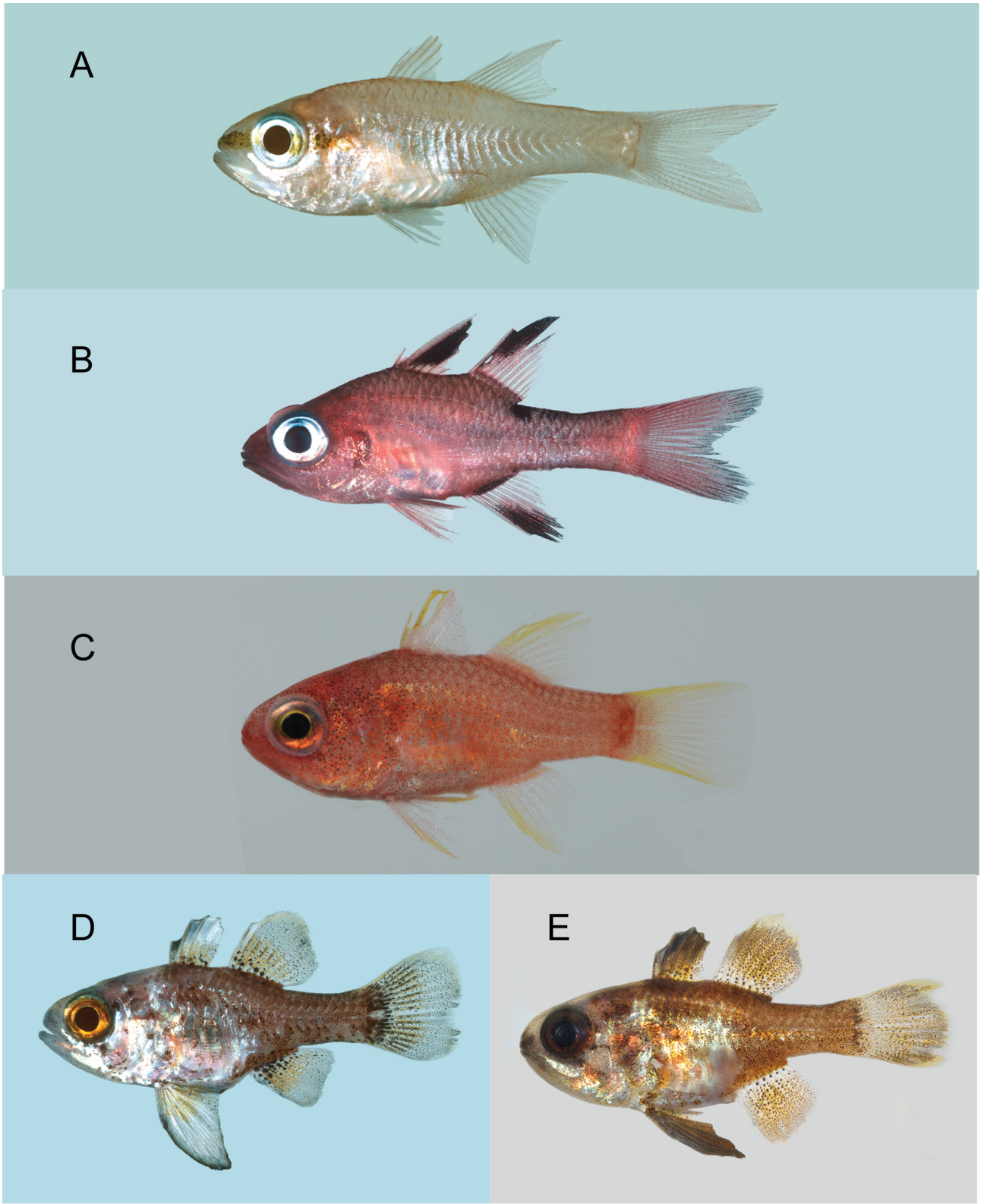

FIGURE 11. (A) *Apogon affinis*, UF 159357, 36 mm SL, L. A. Rocha; (B) *Apogon lachneri*, UF 159354, 28 mm SL, L. A. Rocha; (C) *Apogon quadrisqmatus*, UF 183141, 28 mm SL, H. L. Jelks; (D) *Astrapogon puncticulatus*, UF 160169, 40 mm SL, L. A. Rocha; (E) *Astrapogon stellatus*, UF 181014, 34 mm SL, H. L. Jelks.

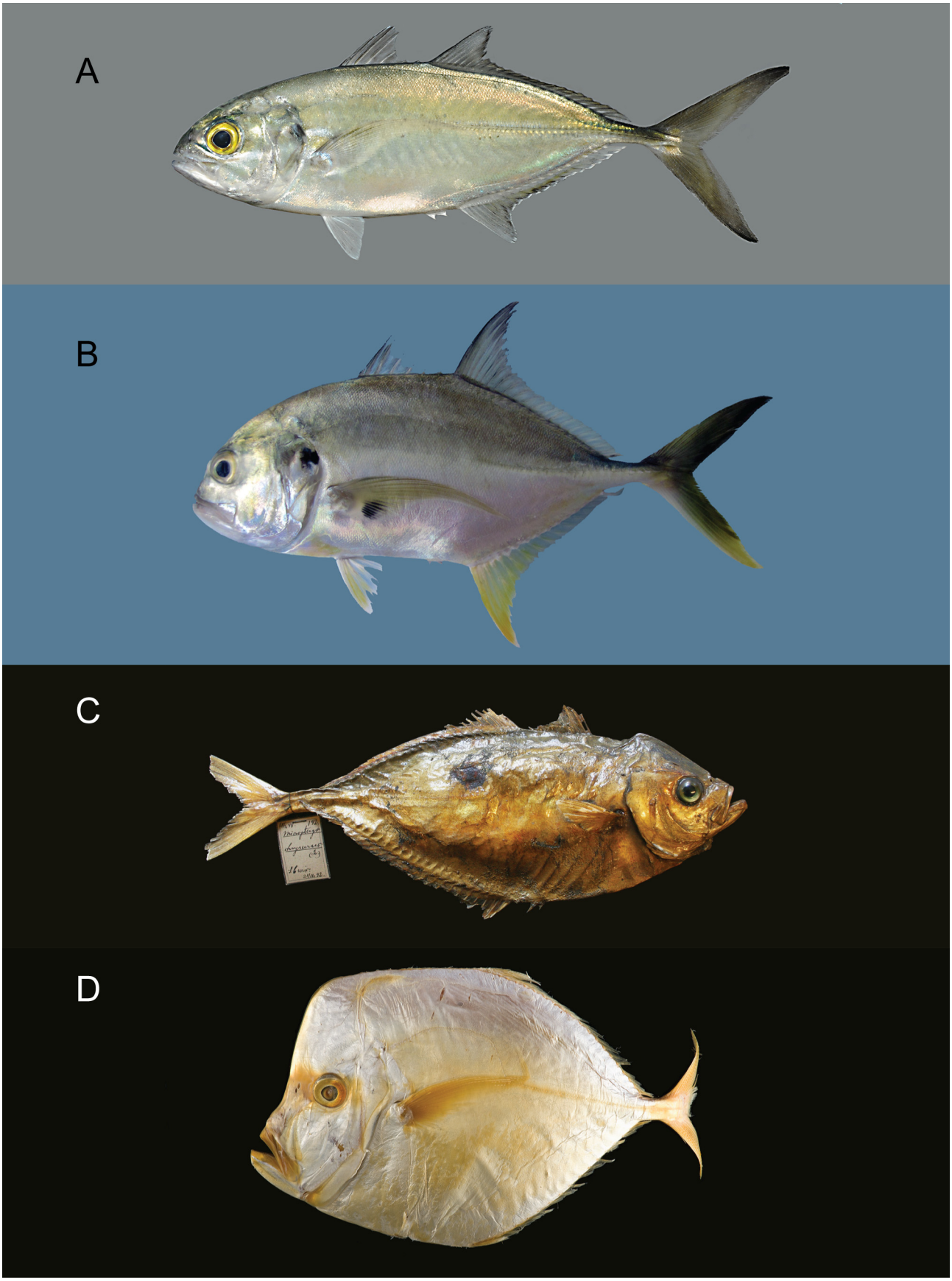

FIGURE 12. (A) *Caranx crysos*, UF 183277, 173 mm FL, H. L. Jelks; (B) *Caranx hippos*, UF 180892, 240 mm FL, H. L. Jelks; (C) *Chloroscombrus chrysurus*, ZMUC P.461594 (half-mount), 245 mm FL, courtesy ZMUC; (D) *Selene brownii*, ZMUC P.461591 (preserved), 165 mm FL, courtesy ZMUC.

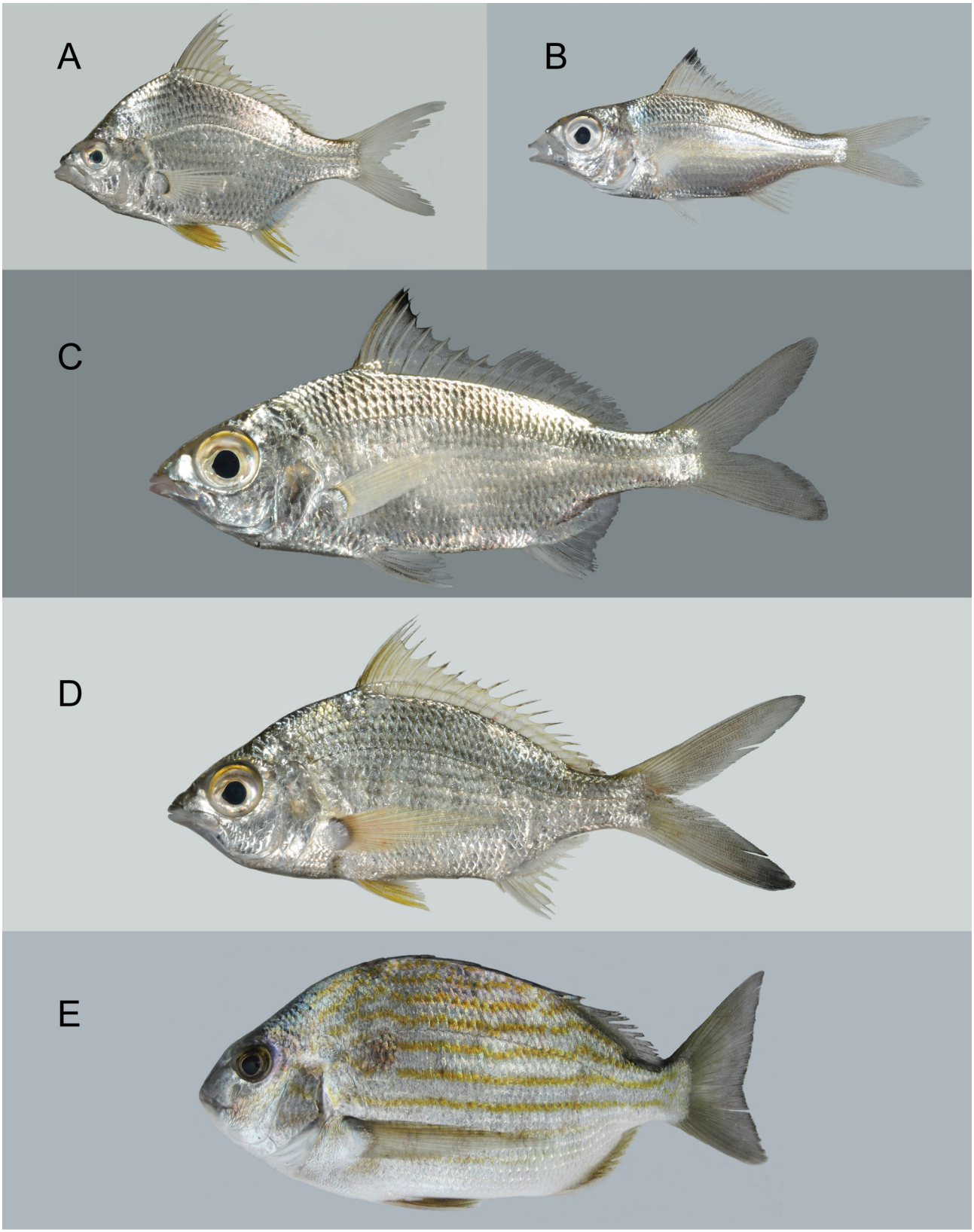

FIGURE 13. (A) *Diapterus auratus*, UF 182925, 110 mm SL, H. L. Jelks; (B) *Eucinostomus harengulus*, UF 180996, 55 mm SL, H. L. Jelks; (C) *Eucinostomus havana*, UF 183091, 94 mm SL, H. L. Jelks; (D) *Gerres cinerus*, UF 183176, 109 mm SL, H. L. Jelks; (E) *Archosargus rhomboidalis*, UF 182922, 172 mm SL, H. L. Jelks.

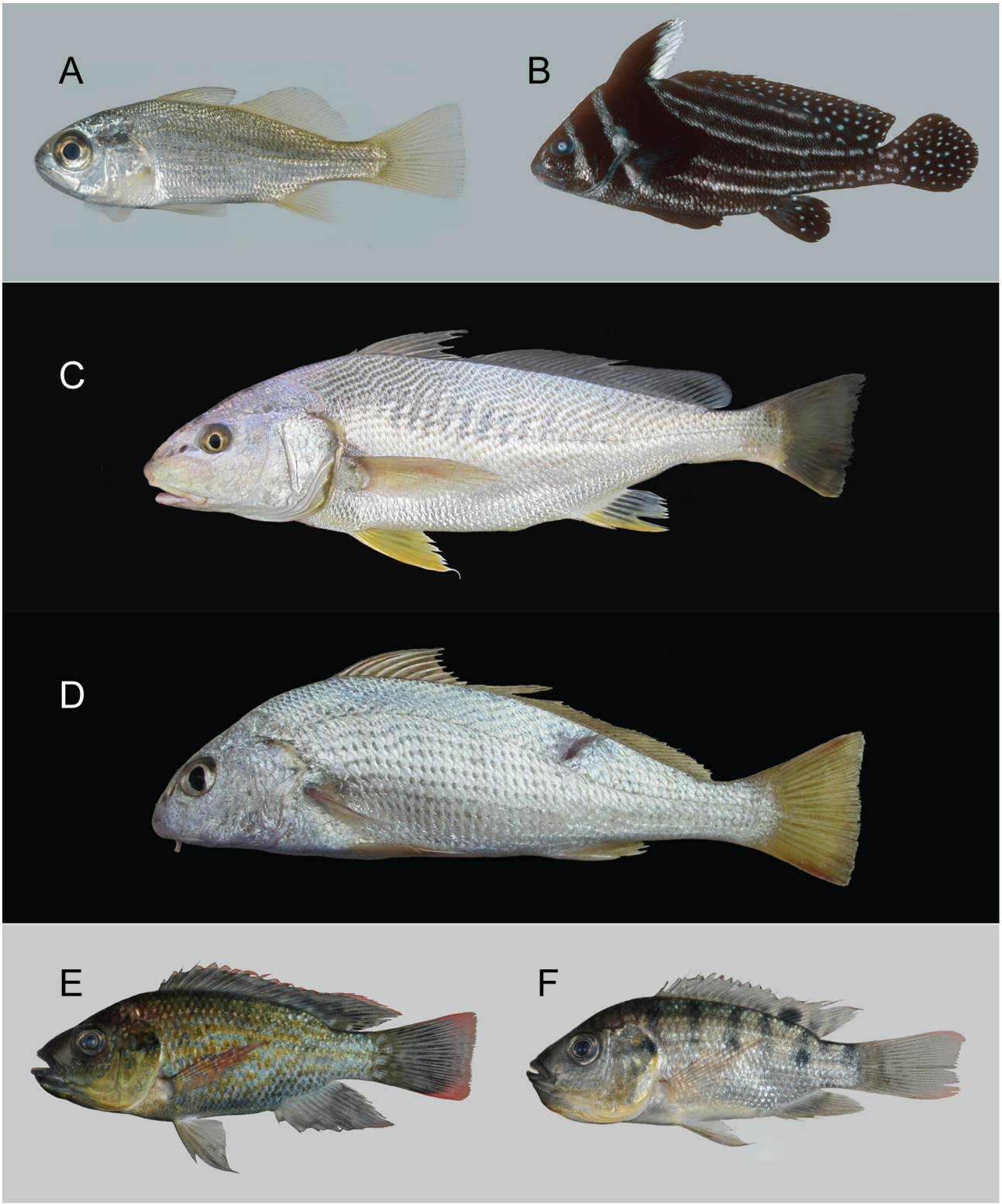

FIGURE 14. (A) *Corvula sanctaeluciae*, UF 180911, 36 mm SL, H. L. Jelks; (B) *Equetus punctatus*, UF 160684, 194 mm SL, L. A. Rocha; (C) *Micropogonias furnieri*, UF 180891, 355 mm SL, H. L. Jelks; (D) *Umbrina coroides*, W. Toller; (E) *Oreochromis mossambicus*, UF 180970, 66 mm SL, male, H. L. Jelks; (F) *Oreochromis mossambicus*, UF 180970, 47 mm SL, female, H. L. Jelks.

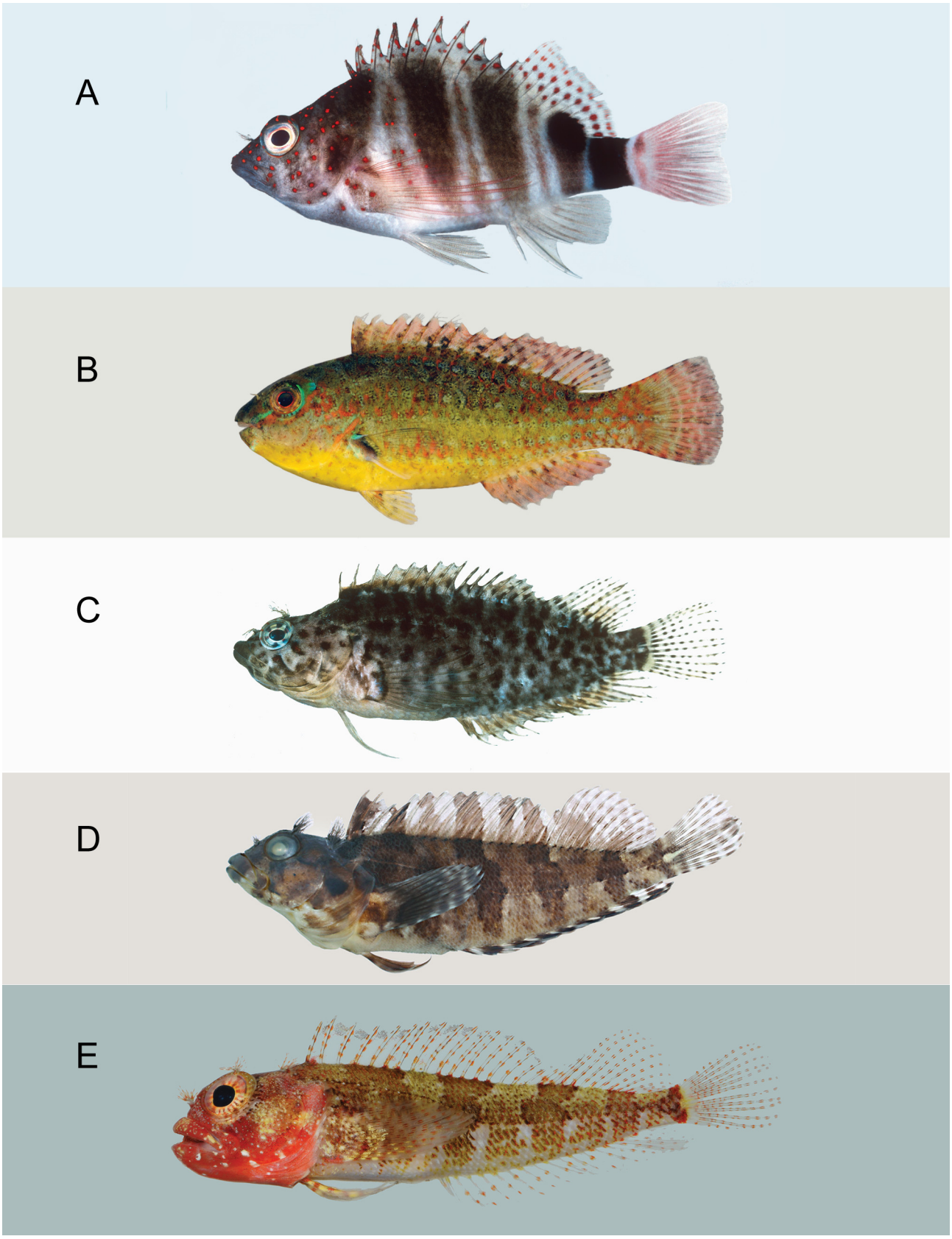

FIGURE 15. (A) *Amblycirrhitus pinos*, UF 158980, 46 mm SL, L. A. Rocha; (B) *Sparisoma radians*, UF 182929, 62 mm SL, H. L. Jelks; (C) *Labrisomus albigenys*, UF 159352, 49 mm SL, L. A. Rocha; (D) *Labrisomus* cf. *cricota*, UF 181016 (preserved), 70 mm SL, Z. S. Randall; (E) *Labrisomus gobio*, UF 183093, 42 mm SL, H. L. Jelks.

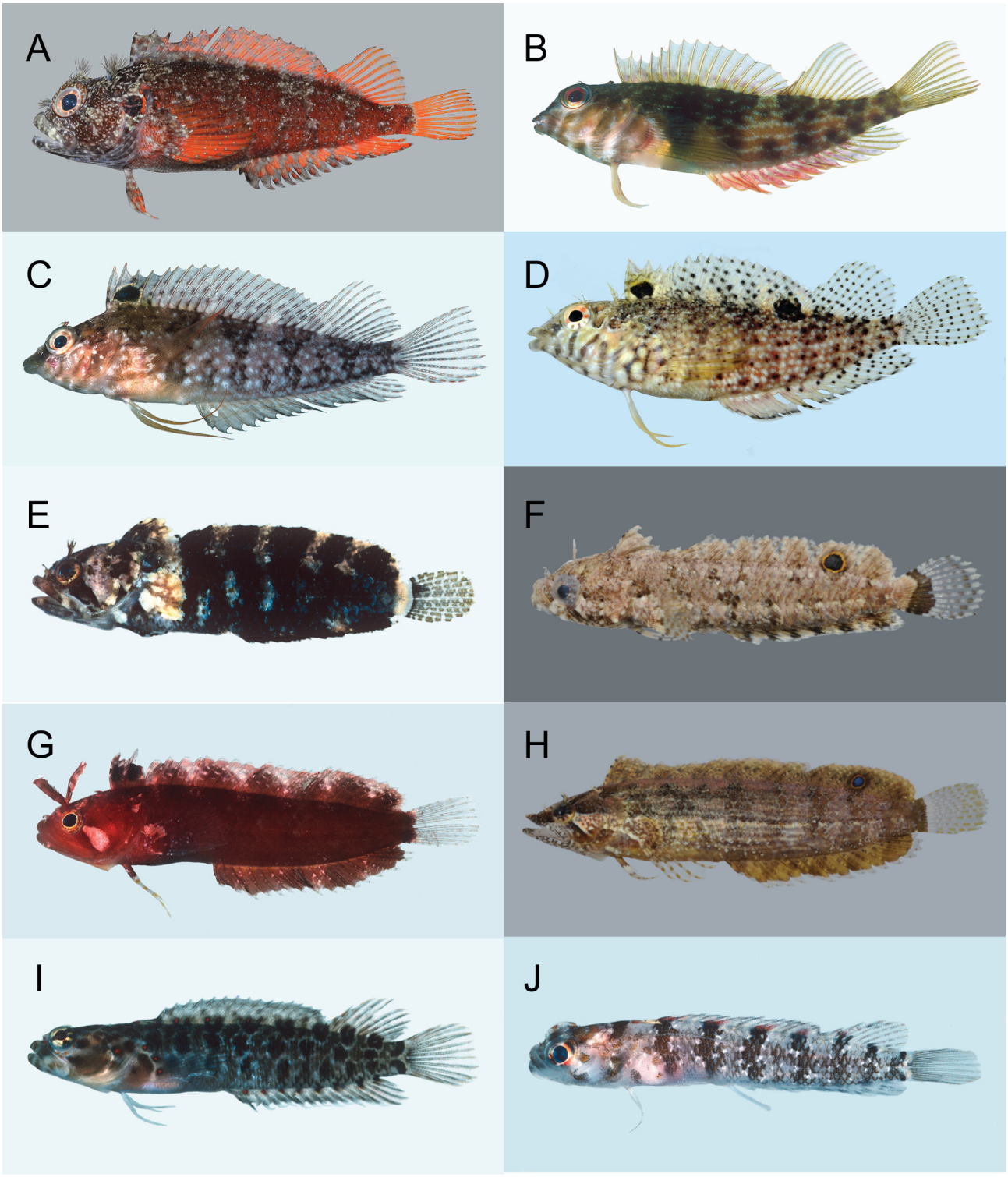

FIGURE 16. (A) *Labrisomus guppyi*, UF 183025, 56 mm SL, H. L. Jelks; (B) *Malacoctenus aurolineatus*, UF 149258, 32 mm SL, L. A. Rocha; (C) *Malacoctenus boehlkei*, UF 149253, 38 mm SL, L. A. Rocha; (D) *Malacoctenus gilli*, UF 183260, 34 mm SL, H. L. Jelks; (E) *Paraclinus cingulatus*, UF 158002, 19 mm SL, L. A. Rocha; (F) *Paraclinus fasciatus*, UF 183290, 19 mm SL, H. L. Jelks; (G) *Paraclinus grandicomis*, UF 158013, 24 mm SL, L. A. Rocha; (H) *Paraclinus nigripinnis*, UF 183927, 37 mm SL, H. L. Jelks; (I) *Starksia culebrae*, UF 158349, 29 mm SL, L. A. Rocha; (J) *Starksia elongata*, UF 158412, 22 mm SL, L. A. Rocha.

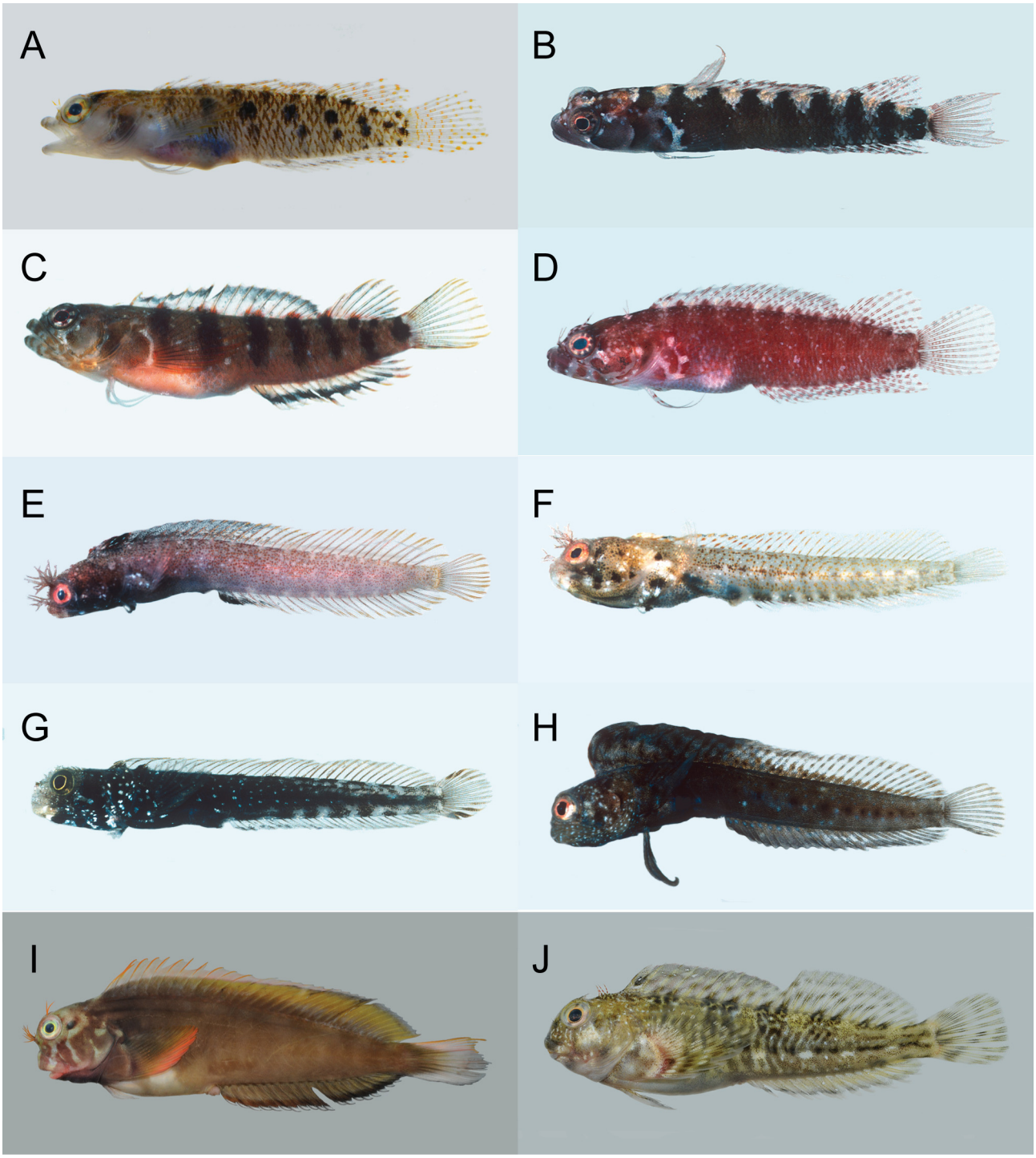

FIGURE 17. (A) *Starksia greenfieldi*, UF 183288, 17 mm SL, female, H. L. Jelks; (B) *Starksia* cf. *nanoides*, UF 122117, 15 mm SL, L. A. Rocha; (C) *Starksia smithvanizi*, UF 122117, 22 mm SL, L. A. Rocha; (D) *Starksia williamsi*, UF 149816, 23 mm SL, L. A. Rocha; (E) *Acacanthemblemaria aspera*, UF 158101, 23 mm SL, male, L. A. Rocha; (F) *Acanthemblemaria aspera*, UF 158099, 17 mm SL, female, L. A. Rocha; (G) *Acanthemblemaria spinosa*, UF 158116, 21 mm SL, male, L. A. Rocha; (H) *Emblemaria pandionis*, UF 158126, 33 mm SL, male, L. A. Rocha; (I) *Ophioblennius macclueri*, UF 183050, 64 mm SL, H. L. Jelks; (J) *Scartella cristata*, UF 183094, 36 mm SL, H. L. Jelks.

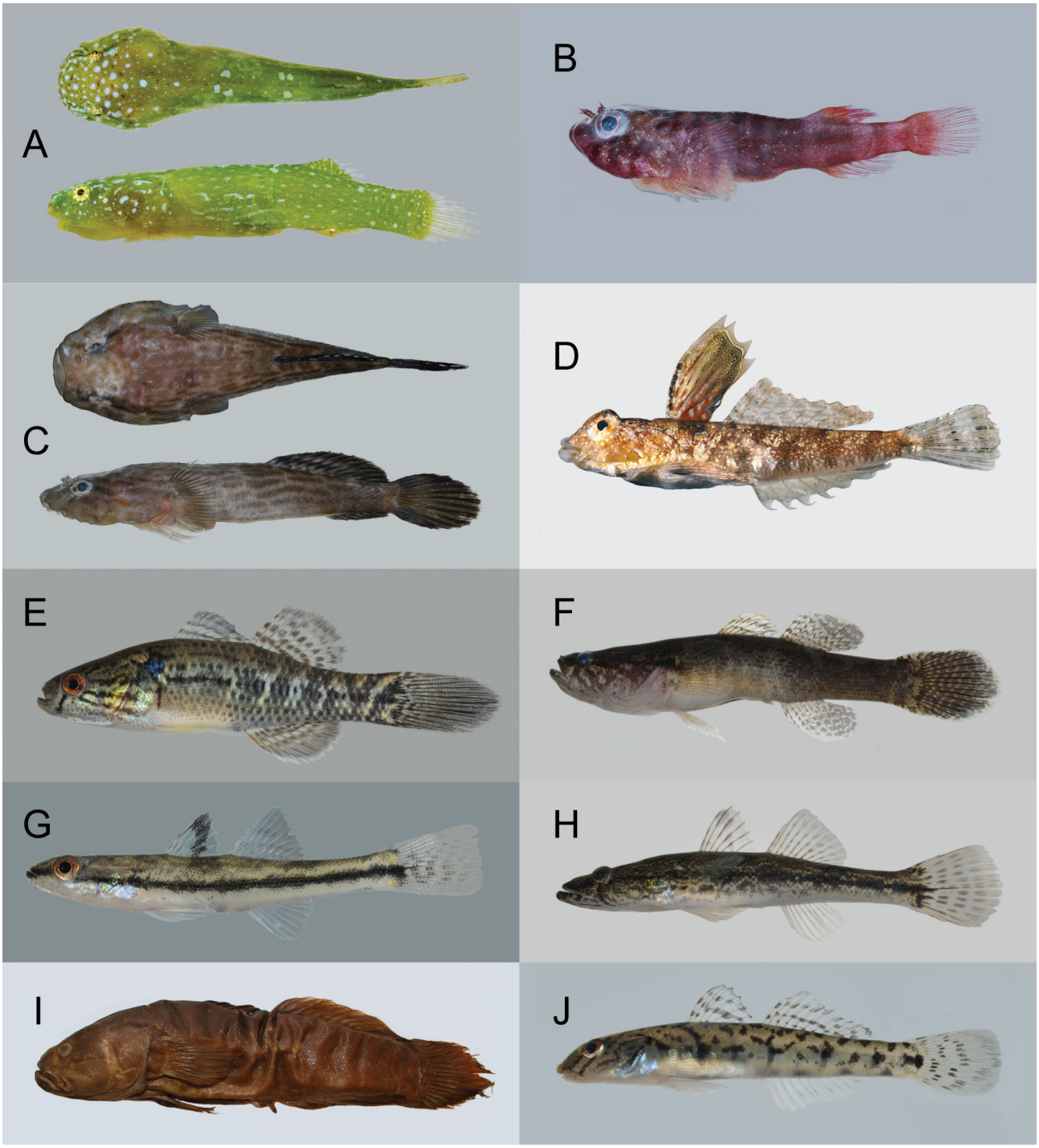

FIGURE 18. (A) *Acyrtops amplicirrus* (dorsal and lateral views), UF 183111, 16 mm SL, H. L. Jelks; (B) *Acyrtus rubiginosus*, UF 183216, 19 mm SL, H. L. Jelks; (C) *Gobiesox nigripinnis* (dorsal and lateral views), UF 183063, 32 mm SL, H. L. Jelks; (D) *Paradiplogrammus bairdi*, UF 149689, 27 mm SL, male, L. A. Rocha; (E); *Dormitator maculatus*, UF 181006, 47 mm SL, H. L. Jelks; (F) *Eleotris perniger*, UF 181005, 69 mm SL, H. L. Jelks; (G) *Gobiomorus dormitor*, UF 181008, 40 mm SL, H. L. Jelks; (H) *Gobiomorus dormitor*, UF 180986, 93 mm SL, H. L. Jelks; (I) *Guavina guavina*, ZMUC P.784213 (preserved), 210 mm SL, P. Møller; (J) *Awaous banana*, UF 180975, 36 mm SL, H. L. Jelks.

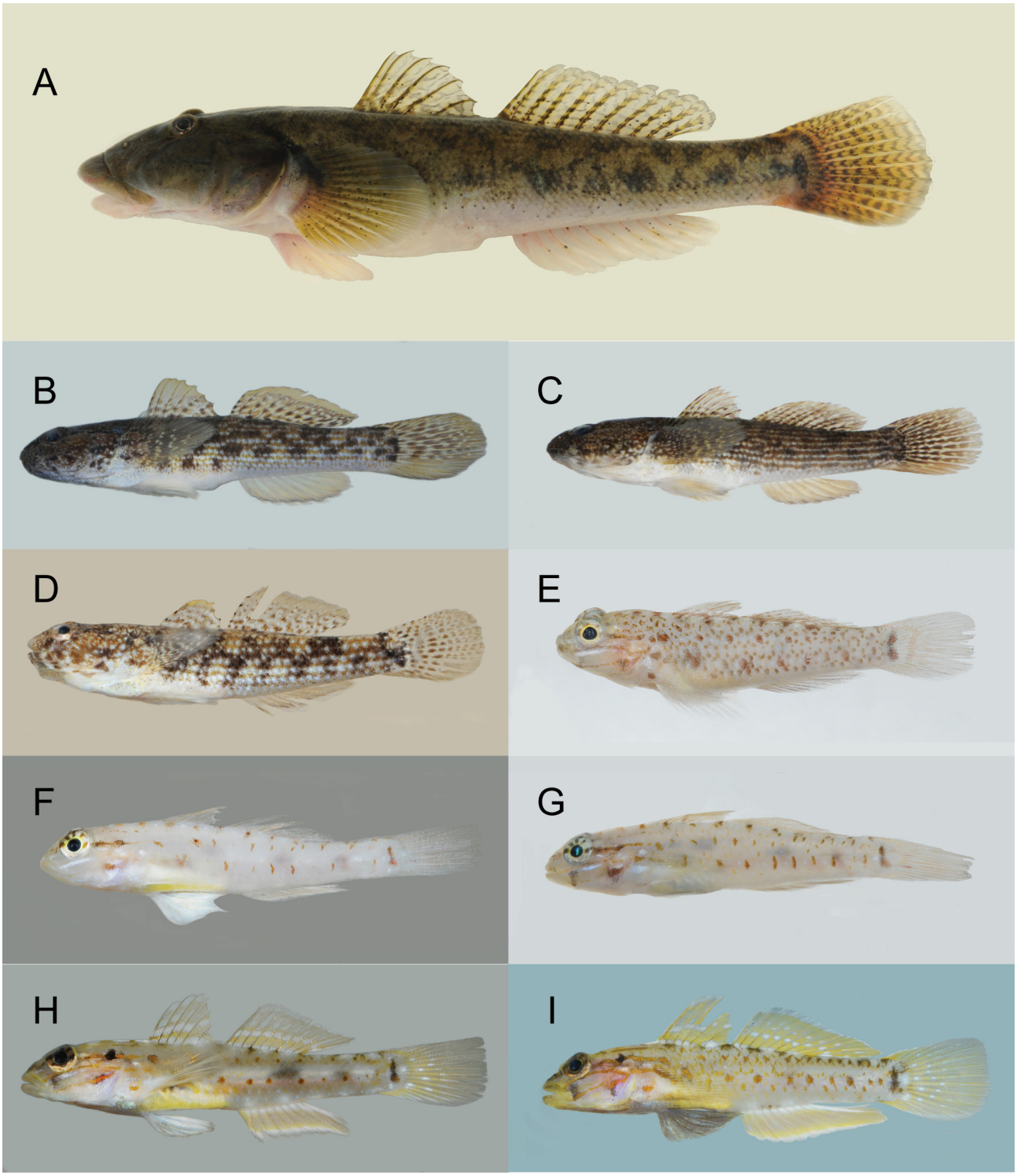

FIGURE 19. (A) *Awaous banana*, UF 183975, 172 mm SL, H. L. Jelks; (B) *Bathygobius antilliensis*, UF 180969, 50 mm SL, H. L. Jelks; (C) *Bathygobius lacertrus*, UF 183132, 58 mm SL, H. L. Jelks; (D) *Bathygobius mystacium*, UF 183127, 33 mm SL, H. L. Jelks; (E) *Coryphopterus dicrus*, UF 183099, 27 mm SL, H. L. Jelks; (F) *Coryphopterus tortugae*, UF 180983, 26 mm SL, H. L. Jelks; (G) *Coryphopterus tortugae*, UF 183269, 28 mm SL, H. L. Jelks; (H) *Coryphopterus venezuelae*, UF 1835581, 35 mm SL, H. L. Jelks; (I) *Coryphopterus venezuelae*, UF 180944, 40 mm SL, H. L. Jelks.

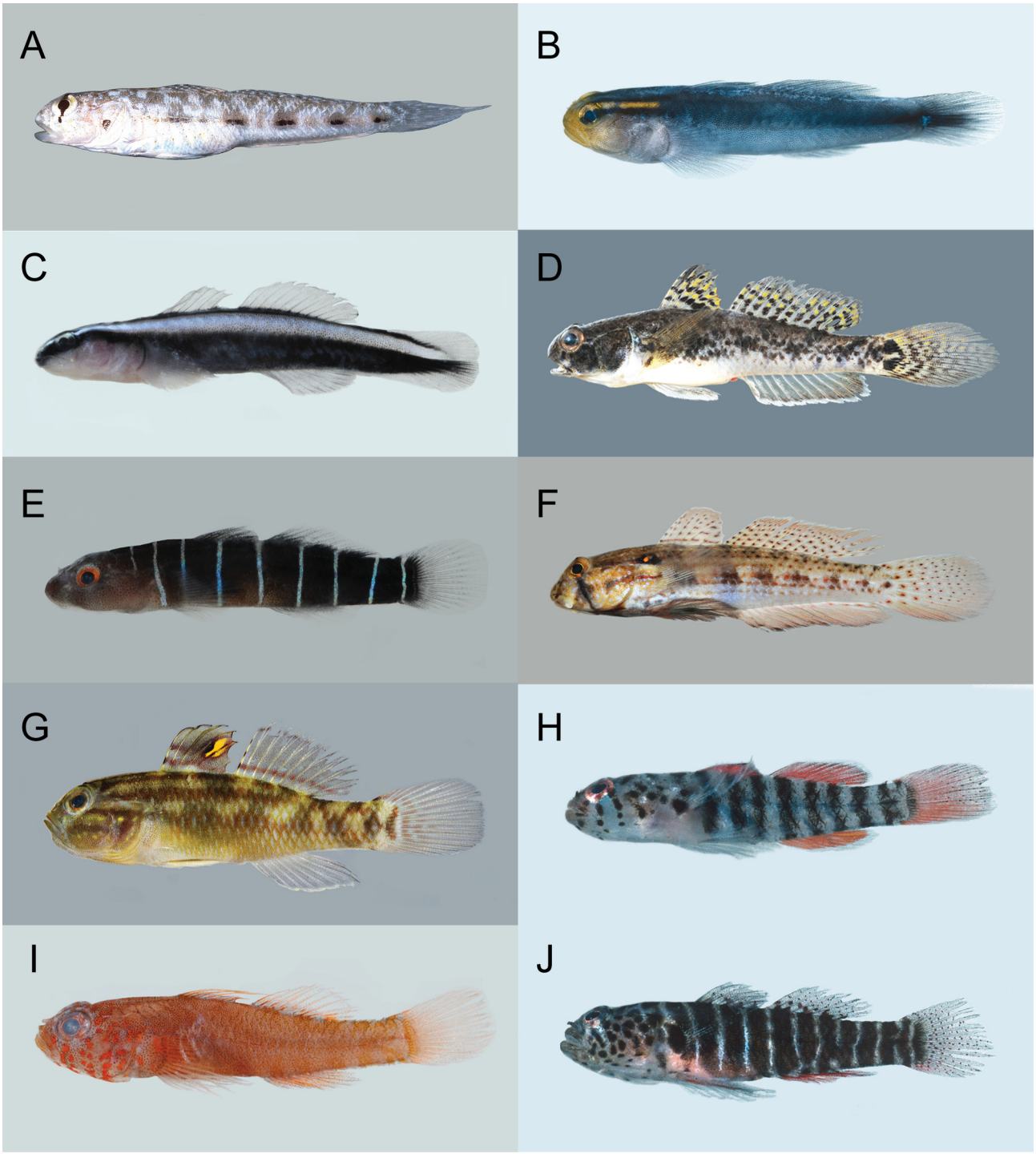

FIGURE 20. (A) *Ctenogobius saepepallus*, UF 158528, 26 mm SL, L. A. Rocha; (B) *Elacatinus chancei*, UF 149189, 33 mm SL, L. A. Rocha; (C) *Elacatinus evelynae*, UF 183263, 22 mm SL, H. L. Jelks; (D) *Evorthodus lyricus*, UF 183022, 41 mm SL, H. L. Jelks; (E), *Ginsburgellus novemlineatus*, UF 183119, 10 mm SL, H. L. Jelks; (F), *Gnatholepis cauerensis*, UF 181036, 29 mm SL, H. L. Jelks; (G), *Lophogobius cyprinoides*, UF 182930, 29 mm SL, H. L. Jelks; (H) *Lythrypnus crocodilus*, UF 149538, 13 mm SL, L. A. Rocha; (I) *Lythrypnus elasson*, UF 185650, 12 mm SL, H. L. Jelks; (J) *Lythrypnus nesiotes*, UF 149556, 13 mm SL, L. A. Rocha.

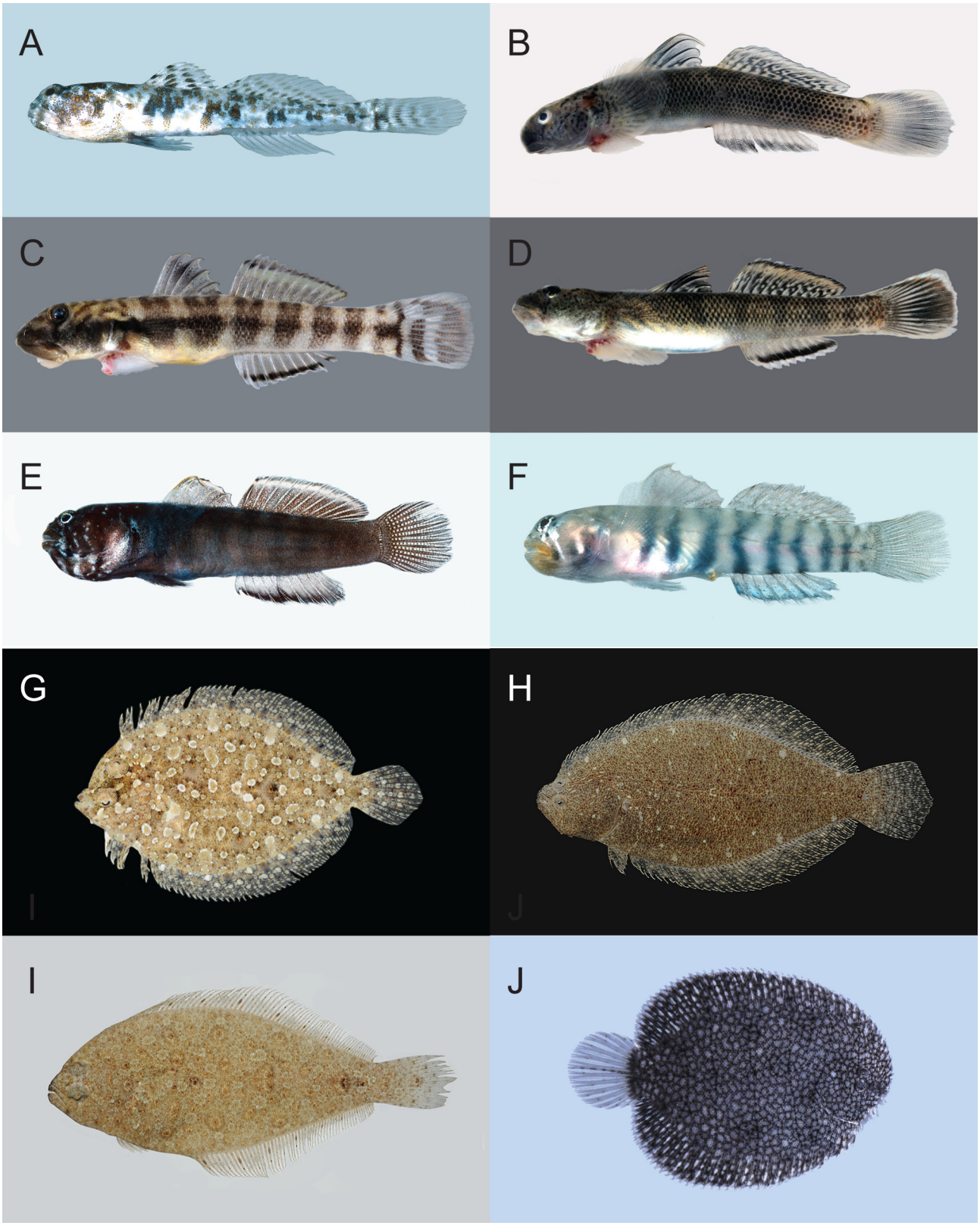

FIGURE 21. (A) *Nes longus*, UF 160866, 29 mm SL, L. A. Rocha; (B) *Sicydium buscki*, UF 181001, 36 mm SL, H. L. Jelks; (C) *Sicydium plumieri*, UF 183291, 33 mm SL, H. L. Jelks; (D) *Sicydium punctatum*, UF 183289, 44 mm SL, H. L. Jelks; (E) *Tigrigobius gemmatus*, UF 149565, 16 mm SL, L. A. Rocha; (F) *Tigrigobius pallens*, UF 149600, 16 mm SL, L. A. Rocha; (G) *Bothus ocellatus*, UF 182940, 46 mm SL, H. L. Jelks; (H) *Citharichthys spilopterus*, UF 182934, 109 mm SL, H. L. Jelks; (I) *Syacium papillosum*, UF 181053, 87 mm FL, H. L. Jelks; (J) *Trinectes inscriptus*, UF 182301, 54 mm SL, L. A. Rocha.