An updated, illustrated inventory of the marine fishes of the US Virgin Islands

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Abstract

The US Virgin Islands (USVI) include St. John and St. Thomas on the Puerto Rican Platform (PRP) and St. Croix, isolated by 2000 m deep water 45 km south of that platform. Previous inventories of the marine fishes of these islands include a comprehensive 2014 checklist of the fishes of St. Croix and a list of the fishes of the PRP produced in 2000. The latter list noted the locations of many records of the plateau’s fishes, allowing the construction of a combined inventory for St. John and St. Thomas. Those two islands are treated here as a single faunal unit because they are only 3.5 km apart on a shared shallow shelf with various islets and reefs in between. Here we provide updated information on those two USVI (St. Croix and St. John-Thomas) marine fish faunas. The additions to the St. Croix and St. John-Thomas inventories presented here are based on a combination of information from the two sources indicated above, more recent publications dealing with those faunas, a review of location records on various online sources of biogeographic data, and voucher photographs taken of fishes in the field by authors of this paper and other citizen scientists. This assessment increased the known fauna of St. Croix by 7.5% to 585 species. The inventory for St. John-Thomas increased by 39.9% from 401 species on the 2000 PRP list to 561 with the inclusion of records from other sources. On-site mtDNA (COI) barcodes are available for approximately one-third of the species of the St. John-Thomas fauna, but for only one species collected at St. Croix. A set of underwater photographs of 372 species (34 of them representing the sole record of a species) from St. John-Thomas and of 11 shallow-water species added to the St. Croix fauna is included. These represent occurrence vouchers and also are intended to facilitate future work that builds on the present compendium.
Keywords
Biodiversity, checklist, citizen science, DNA-barcode, photographic voucher, SCUBA survey

Introduction

The United States Virgin Islands (USVI) comprise a US territory adjacent to Puerto Rico, in the northeast Caribbean, that includes three large, inhabited islands, St. John, St. Thomas and St. Croix, and approximately 50 smaller islands and cays around them. The former two are situated only 3.5 km apart, in the center of the Puerto Rico Plateau (PRP), which has an area approximately twice the 9,100 km$^2$ of Puerto Rico Island and extends ~150 km eastwards from Puerto Rico. St. Croix is located south of St. John and St. Thomas, on its own insular platform, which is separated by 45 km of deep water from the southern edge of the PRP.

The fish fauna of St. Croix was comprehensively reviewed by Smith-Vaniz and Jelks (2014), who built upon an older list by Clavijo et al. (1980), using their own extensive collections of shallow fishes of the Buck Island Reef National Monument on the northern side of St. Croix (Smith-Vaniz et al. 2006), and a review of literature and examination of specimens of fishes collected at St. Croix that are lodged in various museums. In 2000, George Dennis produced an extensive (244 page; 500+ sources cited) U.S. Geological Survey report based on collections and observational records for marine and brackish-water fish from Puerto Rico, St. John and St. Thomas, and other islands on the PRP. Although never formally published in a scientific journal, and no longer available through the USGS source cited by Dennis et al. (2004), that compendium is available online (Dennis 2000).

Here we add new information to update the 2014 list for St. Croix and assemble an inventory for St. John and St. Thomas that includes and expands on data for those two islands contained in Dennis (2000). We extracted the additional information from museum records in online sources of biogeographic data, publications produced since Dennis (2000), digital images of live fishes obtained at the USVI, plus our recent collections and mtDNA barcode records obtained from the database BOLD. The great majority of the species in this compendium are marine, plus we include a small number of species found in fresh to brackish waters.

Materials and methods

Study sites

St. Croix is a 215 km$^2$ island in the northeast corner of the Caribbean. It is isolated by ~45 km of deep water from the Puerto Rican Platform (PRP). Other islands of the Lesser Antilles chain lie within ~150 km to the east and southeast of St. Croix. The surrounding
shallow (above ~ 150 m depth) shelf of St. Croix, extending almost 20 km eastward, has approximately the same area as the island. In addition to exposed and sheltered coral reefs and soft bottoms, the island has extensive areas of seagrasses and mangroves.

St. John (area 50 km²) and St. Thomas (area 83 km²) are situated in the center of the shallow (to ~ 150 m deep) tongue of the PRP that extends 150 km eastwards from Puerto Rico. St. Thomas is closest to and 64 km from the main island of Puerto Rico. St. John and St. Thomas are separated from each other by only 3.5 km of water shallower than 20 m deep, with scattered islets and shallow reefs in between them. They have a similar range of habitats as St. Croix, with large areas of both sheltered and deeper shelf-edge coral reefs, rocky shores, seagrass beds and mangroves. Due to their proximity and similarity of habitats we treat them here as a single unit (hereafter St. John-Thomas). The shallow PRP associated with St. John-Thomas extends ~ 25 km north and ~ 15 km south of those islands and covers an area of ~ 2,100 km² (Rohmann et al. 2005).

Suppl. material 2: File S1 shows the bathymetry of bottom habitats on the above-150 m shelves of the USVI. The shelf area of the St. John-Thomas EEZ is not only much larger than that of St. Croix but also differs from the latter in containing a much greater diversity of areas of different depths. There are large expanses, in both absolute and relative terms, of habitat between 40–60 m deep to the north of St. Thomas and to the south of both islands. In contrast, most of the smaller shelf of St. Croix is shallower than 20 m deep.

Data sources

We reviewed and cited only publications from which we extracted information relating to the USVI fishes that were published after those cited by Dennis (2000) for St. John-Thomas, and after that by Smith-Vaniz and Jelks (2014) for St. Croix, plus a few earlier publications that contained additional relevant information.

Smith-Vaniz and Jelks (2014) published a comprehensive, annotated checklist of 544 fishes known from St. Croix. That checklist was based, in large part, on the yield of fishes from 106 rotenone stations obtained by Smith-Vaniz et al. (2006) and by later workers to document the shallow cryptobenthic fauna. That 2014 list identified questionable records, a few of which, as we show, have turned out to be valid. Smith-Vaniz and Jelks (2014). That checklist also excluded deep-water fishes not found above 200 m as well as Exocoetids and Myctophids. For completeness we have included any such species recorded by other sources among the additions noted here. We used the 2014 list of valid species and reviewed fishes listed by other surveys: a SCUBA study of the shallower parts (30–50 m depth) of a mesophotic coral ecosystem at the eastern end of the shelf (Garcia-Sais et al. 2014); two JSL submersible dives off St. Croix to 30–600 m (Nelson and Appeldoorn (1985); and two ROV dives off St. Croix at depths greater than 800 m (Quattrini et al. 2017). In addition, we reviewed the records of fish species from St. Croix available from various online sources: the aggregators GBIF (https://www.gbif.org/), FishNet2 (http://www.fishnet2.net/), iDigBio (https://www.idigbio.org/portal), OBIS (https://obis.org/) and Vertnet (http://vertnet.org/), and the American...
Museum of Natural History (AMNH; https://www.amnh.org/research/vertebrate-zoology/ichthyology). Those searches were made within a quadrat with latitudinal limits of 17.62°N to 17.85°N, and longitudinal limits of -64.4°W to -65.0°W, encompassing St. Croix and all of its platform. The sources of St. Croix records produced by those online searches were evaluated and museum records within the known geographic range of various species were accepted. Evaluation of individual records is necessary because aggregator information includes significant numbers of erroneous records.

Finally, the list includes shallow-reef fishes photographed by authors AME and CJE during a month spent at the island from 19 December 2020 to 13 January 2021. Suppl. material 3: File S2A presents a list, with georeferenced locations, of the 11 dive sites at which they together made 25 dives (total 47 hours duration per person) during that period (see also Fig. 1B and Suppl. material 4: File S3, a Google Earth © KMZ file that shows, for each of those sites, its location and georeferenced coordinates, and the number of dives and total dive time spent at that site). These photographs document a few species not previously recorded at the island, plus several not accepted by Smith-Vaniz and Jelks (2014) due to a lack of reliable information.

For St. John-Thomas we extracted a list of 401 species listed at those islands by Dennis (2000) and reviewed various publications dealing with fish records at and near those islands that were subsequently produced. Finally, we also used the same online data sources as for St. Croix (see above) to obtain records of fishes from the part of the Exclusive Economic Zone of the USVI that includes St. John-Thomas and extends between the northern and southern edges of the PRP. That irregularly shaped EEZ was obtained from Marineregions.org, which provides a standard set of global maps of EEZs (https://www.marineregions.org/eezsearch.php).

CJE and AME spent six months between 3 November 2020 and 29 May 2021 diving at both islands and photographing fishes to obtain voucher images of as many members of those islands’ marine fish fauna as possible. File S2A presents a list, with georeferenced locations, of their dive sites at St. John (37) and St. Thomas (12), at which they made 113 joint dives (involving multiple dives at some sites) totaling 221 hours per person and 37 dives totaling 37 hours per person, respectively. Fig. 1A is a map with those 49 dive sites at St. John-Thomas indicated and File S2 provides additional information. Fig. 1A (and see File S2B) also indicates the location of sites from other sources at which additional species not recorded by CJE and AME were documented photographically by other divers.

Reef-associated bony fishes of the USVI

Greater Caribbean (GC) reef systems have reef-fish faunas that are dominated by members of typical, shallow-reef families of bony fishes extending down to depths of ~ 250–300 m (Baldwin et al. 2018). Here we focus on species belonging to those families, which have traditionally been viewed as reef fishes. We classed species living entirely or largely below 40 m depth as belonging to the deep-reef subset. Species classed here as shallow include both species restricted to depths shallower than 40 m
Figure 1. A dive sites generating fish-occurrence data at St. John and St. Thomas islands. Dive sites of CJE and AME are indicated by red symbols, and of other sources of voucher photographs by blue symbols. Note that some close-proximity sites are indicated by a single symbol. Symbols at the northern and southern edges of Fig. 1A are representative only, as their latitudes are outside the area of the map B dive sites of CJE and AME generating data at St. Croix. See Suppl. material 3: File S2A, B and Suppl. material 4: File S3 for further information. Base map in both cases: NOAA Chart 25641.

and those with depth ranges that extend above and below that level. These reef-associated fishes include not only benthic and demersal species found on hard-reef substrata, but also pelagic fishes that facultatively associate with reefs and benthic and demersal species that live on soft bottoms within and immediately around the fringes of reefs. Benthic species (e.g., eels, flatfishes) are restricted to life on and in different types of substrata, while demersal species (e.g., snappers and grunts) use both substratum habitats and the water column. Cryptobenthic species are visually cryptic and typically small. We followed Brandl et al. (2018) in classifying families dominated by small cryptobenthic coral-reef species as Core Coral Reef Fish families (CCRFs).

We also evaluate the ecological and zoogeographic composition of the two USVI fish faunas (St. Croix and St. John-Thomas) compared to the complete checklist of the regional fauna of reef-associated bony fishes, which includes 992 species in 342 genera and
84 families (Robertson and Tornabene 2021). These aspects of the fauna of the USVI are also compared with results from another recent comprehensive survey of the fish fauna of nearby Sint Eustatius, which is 170 km from St. Croix (Robertson et al. 2020).

**mtDNA-barcode coverage of fishes collected in the USVI and Puerto Rico**

Relatively few small marine locations have been comprehensively sampled for fish DNA barcoding, i.e., tissues sequenced for the mtDNA COI marker as a standard for identifying fishes, as compiled in the Barcode of Life Database, BOLD (Ward et al. 2009). Notably, BOLD not only includes a wide variety of projects, most of which are publicly available, but also regularly harvests all available COI sequences from GenBank. In contrast, GenBank does not harvest from BOLD, and BOLD sequences are generally submitted to GenBank only by request. As a result, only a fraction (~ 15% for GC fishes) of COI sequences on BOLD also are present on GenBank, despite its widespread use as the sole source for barcoding studies. BOLD further differs from GenBank by applying quality control to sequences and taxon identifications as data is entered, including sequences harvested from GenBank. It also has post-hoc quality control via a tagging and comment option on individual records. BOLD also includes a large number of private sequences, which can be assessed to a limited degree (with some metadata removed) via the BIN portal, which compiles all records, public and private, within a lineage, assigns a code, and presents some statistics, especially variance and nearest neighbor distances, as well as countries of origin.

The BOLD BIN code is a key advance enabling the compilation and comparison of mtDNA barcoding lists, since it supplies an independent identifier for a monophyletic genetic lineage, which is not the same as a species name. BOLD creates **BINs** (Barcode Index Numbers) by clustering barcode sequences algorithmically. The BIN often represents a particular species, but there are many exceptions to the “one-species, one BIN” concept: either multiple BINs per species, indicating genetically divergent populations within species (usually allopatric, but not always), a subset of which are putative new cryptic species awaiting morphological confirmation; or shared BINs by two or more species that retain shared or closely related haplotypes due to a short time since speciation, to incomplete lineage sorting, or to a small degree of hybridization.

Our broad assessment suggests that BOLD has a BIN that can be assigned (with widely varying degrees of confidence) to ~ 900 species of shallow-dwelling, reef-associated bony fishes from the GC. A list of sequences obtained in a particular area is obtained from BOLD by using a vector map in its search engine. The resulting list is from public projects (including all GenBank COI sequences), as well as whichever private projects the user has permission to access (often granted by an email request to the source of the sequence). In our case, we have been given access to all of the larger private projects in the region and barcodes for the vast majority (~ 90%) of sequence records in BOLD that could be evaluated in their respective BINs. The list of records from the geographic-area search on BOLD are individual sequences with metadata (including GenBank number if a sequence has one) and photographs of specimens (when available), together with a link to the BIN code to which it belongs. The species name originally submitted for
each is preserved, and the accuracy of the assignment can be assessed by examining the
BIN to which it belongs, which has details on the various names applied to sequences in
the BIN and by whom and where they were obtained. Accuracy assessments are critical,
especially for more obscure species, since a “majority rules” decision is often inaccurate
due to multiple identifications by inexperienced contributors, the tendency to repeat
the species-level identification made by others as a shortcut, and the practice of assign-
ing species-level names to submitted records that are from eggs, larvae, isolated tissue, or
fish-market specimens. GenBank records are harvested by BOLD with whatever name
is assigned in GenBank, often a preliminary one from submission, rather than the one
later corrected or published in the subsequent literature.

Results

The island faunas

St. Croix: The checklist of Smith-Vaniz and Jelks (2014) included 544 species from
280 genera in 94 families. We obtained records of 41 species (belonging to 39 genera
and 35 families; see Table 1) that were not included on that checklist, an increase of
7.5% in the number of species. Those new records included 19 deep-living species,
six of them (11.1% of all deep species at St. Croix) resulting solely from observations
by the JSL submersible (Nelson and Appeldoorn 1985; García-Sais et al. 2014) and
an ROV (Remotely Operated Vehicle; Quattrini et al. 2017). It should be noted that
almost all of that group belong to very deep taxa specifically excluded by Smith-Vaniz
and Jelks (2014) from their list, which was focused primarily on shallower fishes. The
remaining 22 species are shallow-water, reef-associated fishes. Ten of the latter group
were photographed by AME and CJE (Table 1; Suppl. material 1: Plate S1). These ad-
ditions include three species (Eucinostomus melanopterus, Coryphopterus glaucofrenum
and Opistognathus macrognathus) that Smith-Vaniz and Jelks (2014) referred to but did
not include in their checklist due to lack of confirmed records. Records of two mobulid
rays consisted of identified photographs/videos provided by Mantatrust.org (https://
www.mantatrust.org/) that were inspected by DRR. The list (Table 1, which includes
source information) also includes records from museum collections that provide online
data directly or indirectly through aggregators, which were included if consistent with
the known geographic range of each of those species.

St. John-Thomas: Table 2 presents a list of species recorded from those islands togeth-
er with the source(s) of each record (images, publications, DNA barcodes, or online muse-
um records) and which species have a voucher image in the supplementary plates (Suppl.
material 1: Plates S2–S18). In addition, for uncommon species (those encountered by
AME, CJE, LR, or third-party photographers at three or fewer dive sites) the names of the
sites at which those uncommon species were found are included, to aid future investiga-
tions. Dennis (2000) also included information on species that were collected using the
ichthyocide Rotenone (see Table 2). Smith-Vaniz and Jelks (2014) list for St. Croix also
included some species recorded at these St. John-Thomas as a result of collections using
Table 1. Species of fishes added to the St. Croix checklist of fishes of Smith-Vaniz and Jelks (2014).

| Scientific name       | Common name             | Deep Image plate | Literature source | Online source |
|-----------------------|-------------------------|-------------------|-------------------|---------------|
| **Antennariidae**     | *Fowlerichthys ocellatus* (Bloch & Schneider, 1801) | Ocellated Frogfish |                   | TNHCI         |
| **Bathygadidae**      | *Gadomus arcuatus* (Goode & Bean, 1886) | Doublethread Grenadier | yes | 6 |
| **Blenniidae**        | *Hypleurochilus pseudoequipinnis* Bath, 1994 | Oyster Blenny |                   | S1            |
| **Bramidae**          | *Euuegista brevorti* (Poey, 1860) | Tropical Pomfret | yes | FlMNH |
| **Chaenopsidae**      | *Emblemariopsis leptocirris* Stephens, 1970 | Fine-cirrus Blenny |                   | S1            |
| **Chimaeridae**       | *Chimaera cubana* Howell Rivero, 1936 | Cuban Chimaera | yes | 1 |
| **Etmoptderidae**     | *Etmopterus hillianus* (Poey, 1861) | Caribbean Lantern Shark | yes | FlMNH |
| **Exocoetidae**       | *Cheilopogon melanurus* (Valenciennes, 1847) | Atlantic Flyingfish |                   | CF            |
|                       | *Cypselurus comatus* (Mitchill, 1815) | Clearwing Flyingfish |                   | CF            |
| **Gempylidae**        | *Lepidocybium flavobrunneum* (Smith, 1843) | Escolar | yes | NOAA |
|                       | *Neisarchus nasutus* Johnson, 1862 | Black Gemfish | yes | NMNH |
| **Gerreidae**         | *Eucinostomus melanopterus* (Bleeker, 1863) | Flagfin Mojarra | S1 | 5,7* |
| **Gobiesocidae**      | *Acyrtus lanthanum* Conway, Baldwin & White, 2014 | Orange-spotted Clingfish |                   | FlMNH |
| **Gobiidae**          | *Coryphopterus glaucofraenum* Gill, 1863 | Bridled Goby | S1 | 2,5,7* |
|                       | *Coryphopterus kuna* Victor, 2007 | Kuna Goby | S1 | 2,5,7* |
|                       | *Osyrichthys stigmatophius* (Mead & Böhlke, 1958) | Spotfin Goby | S1 | NOAA |
| **Kyphosidae**        | *Kyphosus cinerascens* (Forsskål, 1775) | Topsail Seachub | S1 | 2,5,7* |
| **Macrouridae**       | *Nezumia aequalis* (Günther, 1878) | Atlantic Blacktip Grenadier | yes | 6 |
| **Malakichthyidae**   | *Verilus pseudomicrolepis* (Schultz, 1940) | False-smallscale Bass | yes | CAS |
| **Mobulidae**         | *Mobula cf birostris* | Giant Manta | 4 | 6 |
|                       | *Mobula tarapacana* (Philippi, 1892) | Sicklefin Devil Ray | 4 | 6 |
| **Muraenidae**        | *Gymnathorax nigromarginatus* (Girard, 1858) | Blackedge Moray |                   | CAS            |
| **Nemichthyidae**     | *Nemichthys carvoirostris* (Strömman, 1896) | Spottedbelly Snake Eel | yes | 6 |
| **Neoscopelidae**     | *Neoscopelus microchir* Matsubara, 1943 | Shortfin Blackchin | yes | 6 |
| **Ophichthidae**      | *Myrophis punctatus* Lütken, 1852 | Speckled Worm Eel |                   | MCZ            |
| **Ophidiidae**        | *Monomitoops agassizii* (Goode & Bean, 1896) | Threespine Cusk-eel | yes | MCZ |


that ichthyocide. Two ROV dives of Quatrini et al. (2017) and four dives (including one to only 50 m depth on the PRP a little to the north of St. Thomas) by the JSL submersible at St. John-Thomas (Nelson and Appeldoorn 1985; Garcia-Sais 2005) yielded 75 species records. Of those 19 were of deep-living species, with 14 (28%) representing sole-source records of the 50 deep-living fishes currently known to occur at St. John-Thomas.
### Table 2. Checklist of the fishes of St. John-Thomas islands.

| Scientific name | Common name | Image | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|-----------------|-------------|-------|-------------------|---------------|----------------------|-------------|-----|
| **Acanthuridae** |             |       |                   |               |                      |             |     |
| *Acanthurus chirurgus* (Bloch, 1787) | Doctorfish | S2 | 2,4,8 | 1 | 1 |             |     |
| *Acanthurus coeruleus* Bloch & Schneider, 1801 | Blue Tang | S2 | 2,4,5,8 | 1 | 1 | YES |     |
| *Acanthurus tricus* Poey, 1860 | Northern Ocean Surgeonfish | S2 | 2,4,5,8 | 1 | 1 | YES |     |
| **Achinidae** |             |       |                   |               |                      |             |     |
| *Gymnarchus nudus* Kaup, 1858 | Flabby Sole | S2 | 2,11 | 1 | SJ5, SJ18, SJ25 | YES |     |
| **Aetobatidae** |             |       |                   |               |                      |             |     |
| *Aetobatus narinari* (Euphrasen, 1790) | Spotted Eagle Ray | S2 | 2 | 1 |             |             |     |
| **Albulidae** |             |       |                   |               |                      |             |     |
| *Albula goreensis* Valenciennes, 1847 | Senegalese Bonefish | NOAA-BOLD | | | | YES |     |
| *Albula vulpes* (Linnaeus, 1758) | Bonefish | 2,4 | 1 | | | YES |     |
| **Anguillidae** |             |       |                   |               |                      |             |     |
| *Anguilla rostrata* (Lesueur, 1817) | American Eel | 6 | 1 | | | |     |
| **Antennariidae** |             |       |                   |               |                      |             |     |
| *Antennarius multiocellatus* (Valenciennes, 1837) | Longlure Frogfish | S2 | 2 | 1 | | |     |
| *Antennarius pauciradiatus* Schultz, 1957 | Dwarf Frogfish | 2 | 1 | | | |     |
| *Histrio histrio* (Linnaeus, 1758) | Sargassumfish | S2 | 12 | O22 | | |     |
| **Apogonidae** |             |       |                   |               |                      |             |     |
| *Apogon aurolineatus* (Mowbray, 1927) | Bridle Cardinalfish | S2 | 2,4 | 1 | YES | |     |
| *Apogon binotatus* (Poey, 1867) | Barred Cardinalfish | S2 | 2,4 | 1 | 1 | |     |
| *Apogon lachneri* Böhlke, 1959 | Whitestar Cardinalfish | S2 | 2,4 | 1 | SJ2 | 1 |     |
| *Apogon maculatus* (Poey, 1860) | Flamefish | S2 | 2,4 | 1 | YES | |     |
| *Apogon phenax* Böhlke & Randall, 1968 | Mimic Cardinalfish | S2 | 2,11 | 1 | | |     |
| *Apogon planifrons* Longley & Hildebrand, 1940 | Pale Cardinalfish | S2 | 2 | 1 | | |     |
| *Apogon pseudocaculatus* Longley, 1932 | Twospot Cardinalfish | S2 | 2,4 | 1 | | |     |
| *Apogon quadrisquamatus* Longley, 1934 | Sawcheek Cardinalfish | S2 | 2,4 | 1 | SJ22, SJ25 | YES |     |
| *Apogon rohini* Böhlke & Randall, 1968 | Roughlip Cardinalfish | | 2 | -1 | | |     |
| *Apogon tourniendi* (Breder, 1927) | Belted Cardinalfish | S2 | 2,4 | 1 | YES | |     |
| *Astrapogon punctulatus* (Poey, 1867) | Blackfin Cardinalfish | S2 | 2 | 1 | YES | |     |
| *Astrapogon stellaris* (Cope, 1867) | Conchfish | S2 | 2,4 | 1 | SJ5, SJ13 | YES |     |
| *Paroncheilus affinis* (Poey, 1875) | Bigtooth Cardinalfish | S2 | 2,4 | 1 | | |     |
| Scientific name                           | Common name               | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA       |
|-------------------------------------------|---------------------------|-------------|-------------------|---------------|----------------------|-------------|-----------|
| Phaeoptyx conklini (Silvester, 1915)      | Freckled Cardinalfish     | S2          | 2                 | 1             | 1                    | YES         |           |
| Phaeoptyx pigmentaria (Poey, 1860)       | Dusky Cardinalfish        | S2          | 2                 | 1             | 1                    | YES         |           |
| Phaeoptyx xenus (Böhlke & Randall, 1968) | Sponge Cardinalfish       | S2          | 2                 | 1             | 1                    | YES         |           |
| Zapagon evermanni (Jordan & Snyder, 1904) | Odscale Cardinalfish      | S2          |                   | SJ22          |                      | YES         |           |
| Atherinidae                               |                           |             |                   |               |                      |             |           |
| Atherina harringtonensis Goode, 1877      | Reef Silverside           | S2          | 2                 | 1             | 1                    | YES         |           |
| Atherinomorus stipes (Müller & Trochel, 1848) | Hardhead Silverside       | S2, 2, 6    | 1                 |               |                      |             |           |
| Aulostomidae                              |                           |             |                   |               |                      |             |           |
| Aulostomus maculatus Valenciennes, 1841   | Atlantic Trumpetfish      | S2          | 2, 4, 1           | 1             |                      |             |           |
| Balistidae                                |                           |             |                   |               |                      |             |           |
| Balistes capriscus Gmelin, 1789           | Gray Triggerfish          | S3          | 2                 | 1             | 1                    | YES         |           |
| Balistes vetula Linnaeus, 1758            | Queen Triggerfish         | S3          | 2, 4, 5, 8        | 1             |                      |             |           |
| Canthusderrmis sufflamen (Mitchill, 1815) | Ocean Triggerfish         | S3          | 2                 | 1             | SJ33                 |             |           |
| Melichthys niger (Bloch, 1786)            | Black Durgon              | S3          | 2                 | 1             | SJ33                 |             |           |
| Xanthichthys ringens (Linnaeus, 1758)     | Sargassum Triggerfish     | S3          | 2                 | 5             | SJ33                 |             |           |
| Belonidae                                 |                           |             |                   |               |                      |             |           |
| Ableines hians (Valenciennes, 1846)       | Barred Needlefish         | S3          |                   |               |                      |             |           |
| Platycleone argulus argulus (Lesueur, 1821) | Keeltail Needlefish      | S3          | 2                 | 1             |                      |             |           |
| Strongylopsa timacu (Walbaum, 1792)       | Timucú                    | S3          | 2, 6              | 1             |                      |             |           |
| Tylosurus acu (Lacepède, 1803)            | Atlantic Agujón           | S3          |                   | FIMNH, MCZ    |                      |             |           |
| Tylosurus crocodylus (Pérón & Lesueur, 1821) | Houndfish                | S3          | 2                 | 1             |                      |             |           |
| Blenniidae                                |                           |             |                   |               |                      |             |           |
| Entomacrodus nigricans Gill, 1859         | Pearl Blenny              | S3          | 2                 | 1             | 1                    | YES         |           |
| Hypoleurochilus pseudoaequippinnis Bath, 1994 | Oyster Blenny             | S3          | 2, 11             | 1             |                      | YES         |           |
| Hypoleurochilus springeri Randall, 1966   | Orangespotted Blenny      | S3          | 2                 | 1             |                      |             |           |
| Hypooblennius invemar Smith-Vaniz & Acero P, 1980 | Tessellated Blenny    | S3          | 11                | 1             | ST11                 | YES         |           |
| Ophioblennius macularei (Silvester, 1915) | Redlip Blenny             | S3          | 2                 | 4             | 1                    | YES         |           |
| Parablennius namacorens (Poey, 1876)      | Seaweed Blenny            | S3          | 2                 | 4             | 1                    | YES         |           |
| Scartella cristata (Linnaeus, 1758)       | Molly Miller              | S3          | 2                 | 4             | 1                    | YES         |           |
| Bothidae                                  |                           |             |                   |               |                      |             |           |
| Bothus lunatus (Linnaeus, 1758)           | Peacock Flounder          | S3          | 2                 | 4             | 1                    | YES         |           |
| Bothus maculiferus (Poey, 1860)           | Mottled Flounder          | S3          |                   | SJ3, SJ5, SJ28 |                      |             |           |
| Scientific name                      | Common name             | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|--------------------------------------|-------------------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| *Bothus ocellatus* (Agassiz, 1831)   | Eyed Flounder           | S3          | 2,4               | 1             |                      |             |     |
| *Bothus robinsi* Topp & Hoff, 1972   | Twospot Flounder        |             | 2,3               |               |                      |             |     |

**Bythitidae**

| Scientific name                      | Common name             | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|--------------------------------------|-------------------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| *Calamopteryx goslinei* Böhlke & Cohen, 1966 | Longarm Brotula         | 2           |                   | -1            |                      |             |     |
| *Grammonus cladei* (de la Torre y Huerta, 1930) | Reef-cave Brotula      | 2, 1        |                   | -1            |                      |             |     |
| *Petrox sanguineus* (Meek & Hildebrand, 1928) | Redfin Brotula          | 2, 1        |                   | -1            |                      |             |     |

**Callionymidae**

| Scientific name                      | Common name             | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|--------------------------------------|-------------------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| *Callionymus bairdi* Jordan, 1888    | Lancer Dragonet         | S3          | 2,4               | 1             |                      | YES         |     |
| *Chalinops pauciradiatus* (Gill, 1865) | Spotted Dragonet       | S3          | 2                 | 1             | SJ28, SJ3, SJ5       | YES         |     |

**Carangidae**

| Scientific name                      | Common name             | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|--------------------------------------|-------------------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| *Alectis ciliaris* (Bloch, 1787)     | African Pompano         | S4          | 2                 | 1             | ST1, SJ13            |             |     |
| *Caranx barholomaei* Cuvier, 1833    | Yellow Jack             | S4          | 2, 4              | 1             |                      |             |     |
| *Caranx cryos* (Mitchill, 1815)      | Blue Runner             | S4          | 2, 4              | 1             |                      |             |     |
| *Caranx hippos* (Linnaeus, 1766)     | Crevalle Jack           | S4          |                   | SJ29          |                      |             |     |
| *Caranx latus* Agassiz, 1831         | Horse-eye Jack          | S4          | 2, 6              | 1             |                      |             |     |
| *Caranx lugubris* Poey, 1860         | Black Jack              | S4          | 2, 4, 5, 8        | 1             | SJ33                 |             |     |
| *Caranx ruber* (Bloch, 1793)         | Bar Jack                | S4          | 2, 4, 8           | 1             |                      |             |     |
| *Chloroscombrus chrysaerus* (Linnaeus, 1766) | Atlantic Bumper      | 2           |                   |               |                      |             |     |
| *Decapterus macarellus* (Cuviers, 1833) | Mackerel Scad          | S4          | 2                 | 1             |                      |             |     |
| *Decapterus punctatus* (Cuvier, 1829) | Round Scad              | S4          | 2                 | 1             |                      |             |     |
| *Decapterus tabbi* Berry, 1968       | Redtail Scad            | S4          |                   | SJ11          |                      |             |     |
| *Elagatis bipinnulata* (Quoy & Gaimard, 1825) | Rainbow Runner        | S4          | 2                 | 1             | SJ33                 |             |     |
| *Oligoplites saurus saurus* (Bloch & Schneider, 1801) | Leatherjack          | 2           |                   |               |                      |             |     |
| *Selar crumenophthalmus* (Bloch, 1793) | Bigeye Scad             | S4          | 2                 | 1             | SJ13                 |             |     |
| *Selene brownii* (Cuvier, 1816)      | Caribbean Moonfish      | 2           |                   |               |                      |             |     |
| *Selene vomer* (Linnaeus, 1758)      | Lookdown                | FIMNH       |                   |               |                      |             |     |
| *Seriola dumerili* (Risso, 1810)     | Greater Amberjack      | 2, 5        |                   |               |                      |             |     |
| *Seriola rivoliana* Valenciennes, 1833 | Almaco Jack            | S4          | 2                 | 1             | SJ16, SJ23           |             |     |
| *Trachinotus falcatus* (Linnaeus, 1758) | Permit                 | S4          | 2                 | 1             | SJ22, SJ23           |             |     |
| *Trachinotus goodei* Jordan & Evermann, 1896 | Palometa               | S4          | 2, 4              | 1             | SJ23, SJ15           |             |     |

**Carcharhinidae**

| Scientific name                      | Common name             | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|--------------------------------------|-------------------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| *Carcharhinus acronotus* (Poey, 1860) | Blacknose Shark        | S4          | 1, 2, 10          | 1             | SJ35, SJ27, ST7      |             |     |
| *Carcharhinus falciformis* (Müller & Henle, 1839) | Silky Shark            | S4          |                   | 1, O1         |                      |             |     |
| *Carcharhinus galapagensis* (Snodgrass & Heller, 1905) | Galapagos Shark        | 2           |                   |               |                      |             |     |
| *Carcharhinus limbatus* (Müller & Henle, 1839) | Blacktip Shark         | 1, 2        |                   | 1             |                      |             |     |
| Scientific name                                      | Common name          | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|-----------------------------------------------------|----------------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| *Carcharhinus longimanus* (Poey, 1861)              | Oceanic Whitetip Shark |             |                   |               |                      |             |     |
| *Carcharhinus perezi* (Poey, 1876)                  | Reef Shark           | S4          | 2,10              | 1             | SJ13                 |             |     |
| *Carcharhinus plumbeus* (Nardo, 1827)               | Sandbar Shark        |             |                   |               |                      |             |     |
| *Negaprion brevirostris* (Poey, 1868)               | Lemon Shark          | S4          | 1,2,6,10          | 1             | SJ12, O2              |             |     |
| *Rhizoprionodon porosus* (Poey, 1861)              | Caribbean Sharpnose Shark |             | 1,2,10            | 1             |                      |             |     |
| **Centrophoridae**                                  | **Centrophorus syato** (Rafinesque, 1810) |             |                   |               |                      |             |     |
| *Centropomus ensiferus* Poey, 1860                  | Swordspine Snook     | 6           | 1                 |               |                      |             |     |
| *Centropomus undecimalis* Bloch, 1792               | Common Snook         | S4          | 2,6               | 1             |                      |             |     |
| **Chaenopsidae**                                    | **Acanthemblemaria aspensis** (Longley, 1927) | Roughhead Blenny | S5 | 2 | 1 | ST3 | YES |
| *Acanthemblemaria maria* Böhlke, 1961              | Secretary Blenny     | S5          | 4                 | 1             |                      |             |     |
| *Acanthemblemaria spinosa* Metzelaar, 1919         | Spinyhead Blenny     | S5          | 2,4               | 1             | 1                    | YES         |     |
| *Chaeonops limbaughi* Robins & Randall, 1965       | Yellowface Pikeblenny | S5          | 2,4               | 1             |                      | YES         |     |
| *Chaeonops ocellata* Poey, 1865                     | Bluethroat Pikeblenny | 2,4 | 1 | | | | |
| *Coralliozetus cardonae* Evermann & Marsh, 1899    | Twinhorn Blenny      | S5          | 11                | 1             |                      | YES         |     |
| *Emblemaria pandionis* Evermann & Marsh, 1900      | Sailfin Blenny       | S5          | 2,4               | 1             |                      | YES         |     |
| *Emblemaria vitta* Williams, 2002                   | Ribbon Blenny        | S5          | 2,3               | 1             | ST6                  | YES         |     |
| *Emblemariopsis bahamensis* Stephens, 1961         | Blackhead Blenny     | S5          |                   | 1             |                      | YES         |     |
| *Emblemariopsis carib* Victor, 2010                 | Carib Blenny         | S5          | 2                 | 1             | -1                   | YES         |     |
| *Emblemariopsis leptocirrus* Stephens, 1970        | Fine-cirrus Blenny   | S5          | 2,11              | -1            |                      | YES         |     |
| *Emblemariopsis ruetzleri* Tyler & Tyler, 1997     | Ruetzler's Blenny    |             |                   |               |                      | YES         |     |
| *Lucayablennius zingaro* (Böhlke, 1957)            | Arrow Blenny         | S5          |                   |               |                      |             |     |
| **Chaetodontidae**                                  | **Chaetodon capistratus** Linnaeus, 1758 | Foureye Butterflyfish | S5 | 2,4,5,8 | 1 | 1 | YES |
| *Chaetodon ocellatus* Bloch, 1787                   | Spotfin Butterflyfish | S5          | 2,4               | 1             |                      |             |     |
| *Chaetodon sedentarius* Poey, 1860                  | Reef Butterflyfish   | S5          | 2,4,5,8           | 1             |                      |             |     |
| *Chaetodon striatus* Linnaeus, 1758                 | Banded Butterflyfish | S5          | 2,4               | 1             |                      |             |     |
| *Prognathodes aculeatus* (Poey, 1860)              | Longnout Butterflyfish | S5          | 2,5,8            | 1             |                      |             |     |
| *Prognathodes guyanensis* (Durand, 1960)           | Guyana Butterflyfish |             | 2,5,8,11          |               |                      |             |     |
| Scientific name                  | Common name                | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|----------------------------------|----------------------------|-------------|-------------------|--------------|----------------------|-------------|-----|
| **Chaunacidae**                  |                            |             |                   |              |                      |             |     |
| Chaunax pixtus Fowler, 1946      | Uniform Gaper              | 5           |                   |              |                      |             |     |
| Chaunax suttkusi Caruso, 1989    | Pale-cavity Gaper          |             |                   |              |                      |             |     |
| **Chlophylidae**                 |                            |             |                   |              |                      |             |     |
| Chlororhines sueniotoi Lütken, 1852 | Seagrass Eel               | 2           |                   | 1            |                      |             |     |
| Kaupichthys hyoproroides (Strömman, 1896) | False Moray              | 2           |                   | 1            |                      |             |     |
| Kaupichthys nuchalis Böhlke, 1967 | Collared Eel               | 2,11        |                   | 1            |                      |             |     |
| **Chlorophthalmidae**            |                            |             |                   |              |                      |             |     |
| Parapelis truculenta (Goode & Bean, 1896) | Longnose Greeneye         | 5           |                   |              |                      |             |     |
| **Cichlidae**                    |                            |             |                   |              |                      |             |     |
| Oreochromis mossascicus (Peters, 1852) | Mozambique Tilapia         | 6           |                   | 1            |                      |             |     |
| **Cirrhitidae**                  |                            |             |                   |              |                      |             |     |
| Amblycirrhitus pinos (Mowbray, 1927) | Redspotted Hawkfish        | S5          | 2,4               | 1            |                      |             |     |
| **Clupeidae**                    |                            |             |                   |              |                      |             |     |
| Harengula clupeola (Cuvier, 1829) | False Pilchard             | 2           |                   | 1            |                      |             | YES|
| Harengula humeralis (Cuvier, 1829) | Redear Sardine             | S5          | 2,1               | 1            | SJ28, SJ13           |             |     |
| Harengula jaguana Poey, 1865     | Scaled Sardine             |             |                   |              |                      |             |     |
| Opithomonas olimnus (Lesueur, 1818) | Atlantic Thread Herring   |             |                   |              |                      |             |     |
| **Congridae**                    |                            |             |                   |              |                      |             |     |
| Ariosoma balearicum (Deleroche, 1809) | Bandtooth Conger           | 2           |                   |              |                      |             |     |
| Conger triporiceps Kanazawa, 1958 | Manytooth Conger           | 4           |                   | 1            |                      |             |     |
| Heteroconger longissimus Günther, 1870 | Brown Garden Eel          | S5          | 2,4               | 1            |                      |             |     |
| Xenomystax bidentatus (Reid, 1940) | Rabbit Conger              |             |                   |              |                      |             |     |
| **Coryphaenidae**                |                            |             |                   |              |                      |             |     |
| Coryphaena equiselis Linnaeus, 1758 | Pompano Dolphinfish       |             |                   |              |                      |             | ROM|
| Coryphaena hippurus Linnaeus, 1758 | Dolphinfish                | S5          | 2                 | 1            |                      |             |     |
| **Cynoglossidae**                |                            |             |                   |              |                      |             |     |
| Symphurus antarctus Robins & Randall, 1965 | Caribbean Tonguefish     | 2           |                   | 1            |                      |             |     |
| **Dactylopteridae**              |                            |             |                   |              |                      |             |     |
| Dactylopterus volitans (Linnaeus, 1758) | Flying Gurnard            | S5          | 4                 | 1            |                      |             | YES|
| **Dactylocopidae**               |                            |             |                   |              |                      |             |     |
| Dactylopterus comptus Dawson, 1982 | Ornamented Stargazer      | 2,11        |                   | 1            |                      |             |     |
| Dactylopterus crosotus Starks, 1913 | Bigeye Stargazer          |             |                   |              |                      |             |     |
| Dactylopterus poeyi Gill, 1861   | Shortchin Stargazer       |             |                   |              |                      |             |     |
| Dactylopterus tridigitatus Gill, 1859 | Sand Stargazer            | S5          | 2                 | 1            |                      |             |     |
| Gillettus greyr Kanazawa, 1952   | Arrow Stargazer           | 2           |                   | -1           |                      |             |     |
| Gillettus uranidea Böhlke, 1968  | Warteye Stargazer         | 2           |                   | -1           |                      |             |     |
| Scientific name                                                                 | Common name                  | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide DNA |
|--------------------------------------------------------------------------------|------------------------------|-------------|-------------------|---------------|----------------------|-----------------|
| *Platygillellus rubrocinctus* (Longley, 1934)                                  | Saddle Stargazer             |             |                   |               |                      |                 |
| **Dasyatidae**                                                                 |                              |             |                   |               |                      |                 |
| *Hypanus americanus* (Hildebrand & Schroeder, 1928)                           | Southern Stingray            | S5          | 1,2,4,10          | 1             |                      |                 |
| **Diodontidae**                                                                |                              |             |                   |               |                      |                 |
| *Chilomycterus antennis* (Cuvier, 1816)                                        | Bridled Burrfish             | S5          | 2,4               | 1             | SJ18                 |                 |
| *Chilomycterus antillus* Jordan & Rutter, 1897                                 | Web Burrfish                 | 2           | 1                 |               |                      |                 |
| *Diodon holocanthus* Linnaeus, 1758                                            | Balloonfish                  | S5          | 2,4               | 1             | SJ11, SJ13           | -1              |
| *Diodon hystrix* Linnaeus, 1758                                                | Porcupinefish                | S5          | 2,4               | 1             |                      | 1               |
| **Echeneidae**                                                                 |                              |             |                   |               |                      |                 |
| *Echeneis naucrates* Linnaeus, 1758                                            | Sharksucker                  | S6          | 2,4               | 1             | SJ19, SJ23           | YES             |
| *Echeneis neucratoides* Zaview, 1879                                           | Whitefin Sharksucker         | S6          |                   | 1             |                      |                 |
| *Remora remora* (Linnaeus, 1758)                                              | The Remora                   | S6          | 1                 | O3            |                      | YES             |
| **Eleotridae**                                                                 |                              |             |                   |               |                      |                 |
| *Dormitator maculatus* (Bloch, 1792)                                           | Fat Sleeper                  | S6          | 6                 | 1             | SJ10                 |                 |
| *Eleotris perniger* (Cope, 1871)                                              | Smallscaled Spinycheek Sleeper | S6          | 6                 | 1             | SJ10                 |                 |
| *Ernolus smaragdus* (Valenciennes, 1837)                                       | Emerald Sleeper              |             | 6                 | 1             |                      |                 |
| *Gobionomus dormitor* Lacepède, 1800                                           | Bigmouth Sleeper             | S6          |                   | 1             |                      |                 |
| **Elopidae**                                                                   |                              |             |                   |               |                      |                 |
| *Elops smithi* McBride, Rocha, Ruiz-Carus & Bowen, 2010                        | Malacho                      | 2,6         |                   |               |                      | YES             |
| **Engraulidae**                                                                |                              |             |                   |               |                      |                 |
| *Anchoa lyolepis* (Evermann & Marsh, 1900)                                     | Dusky Anchovy                | 2           | 1                 |               |                      | YES             |
| **Ephippidae**                                                                 |                              |             |                   |               |                      |                 |
| *Chaetodipterus faber* (Broussonet, 1782)                                      | Atlantic Spadefish           | S6          | 2,4               | 1             | SJ18, ST2            |                 |
| **Epigonidae**                                                                 |                              |             |                   |               |                      |                 |
| *Epigonus pandionis* (Goode & Bean, 1881)                                      | Caudal-ring Deepwater Cardinalfish | CAS         |                   |               |                      |                 |
| **Exocoetidae**                                                                |                              |             |                   |               |                      |                 |
| *Cheilopogon exilienus* (Linnaeus, 1771)                                       | Bandwing Flyingfish          |             | 2                 | 1             |                      |                 |
| *Exocoetus obtuusorinis* Günther, 1866                                          | Oceanic Two-wing Flyingfish  | S6          |                   |               |                      | MCZ             |
| *Hirundichthys affinis* (Günther, 1866)                                        | Fourwing Flyingfish          | S6          |                   |               |                      |                 |
| *Hirundichthys speculiger* (Valenciennes, 1847)                                | Mirrorwing Flyingfish        | S6          |                   |               |                      |                 |
| *Prognichthys occidentalis* Parin, 1999                                         | Bluntnose Flyingfish         | S6          |                   |               |                      | YES             |
| **Fistulariidae**                                                              |                              |             |                   |               |                      |                 |
| *Fistularia tabacaria* Linnaeus, 1758                                           | Bluespotted Cornetfish       | S6          | 2                 | O4            |                      |                 |
| Scientific name                                      | Common name         | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|-----------------------------------------------------|---------------------|-------------|------------------|---------------|----------------------|-------------|-----|
| **Galeocerdonidae**                                  |                     |             |                  |               |                      |             |     |
| Galeocerdo cuvier (Peron & Lesueur, 1822)           | Tiger Shark         | 10          |                  |               |                      |             |     |
| **Gempylidae**                                      |                     |             |                  |               |                      |             |     |
| Epinnula magistralis Poey, 1854                      | Domine              | 5           | 1                |               |                      |             |     |
| **Gerreidae**                                       |                     |             |                  |               |                      |             |     |
| Eucinostomus argenteus Baird & Girard, 1855        | Sportin Mojarra     | 2           | 1                |               |                      |             |     |
| Eucinostomus gula (Quoy & Gaimard, 1824)           | Silver Jenny        | S6          | 4,6              | SJ18, SJ13, SJ3 |                     |             |     |
| Eucinostomus harengulus Goode & Bean, 1879         | Tidewater Mojarra   | S6          | 1                | SJ28          |                      |             |     |
| Eucinostomus banana (Nichols, 1912)                 | Bigeye Mojarra      |             |                  |               |                      |             |     |
| Eucinostomus jonesii (Günther, 1879)               | Slender Mojarra     | S6          | 4,6              | SJ28          |                      |             |     |
| Eucinostomus lefroyi (Goode, 1874)                 | Mortled Mojarra     | S6          | 4                | SJ28, SJ21    |                      |             |     |
| Eucinostomus melanopterus (Bleeker, 1863)          | Flagfin Mojarra     | S6          | 1                | SJ28          |                      |             |     |
| Eucinotomus brasiliensis (Cuvier, 1830)            | Brazilian Mojarra   |             |                  |               |                      |             |     |
| Gerres cinereus (Walbaum, 1792)                    | Yellowfin Mojarra   | S6          | 2,4,6            | 1             |                      |             |     |
| **Ginglomostomatidae**                              |                     |             |                  |               |                      |             |     |
| Ginglomostoma cirratum (Bonnaterre, 1788)          | Nurse Shark         | S6          | 1,2,4,10         | 1             |                      |             |     |
| **Gobiesocidae**                                    |                     |             |                  |               |                      |             |     |
| Acyrtops ampicirrus Briggs, 1955                   | Flarenosril         | 2           |                  |               |                      |             |     |
| Acyrtops beryllino (Hildebrand & Ginsburg, 1927)   | Emerald Clingfish   | 2           | 1                |               |                      |             |     |
| Acyrtus artius Briggs, 1955                        | Papillate Clingfish | 2           |                  |               |                      |             |     |
| Acyrtus rubiginous (Poey, 1868)                    | Red Clingfish       | S6          | 1                | SJ23, SJ13, SJ5 |                      | YES         |     |
| Arcos nudus (Linnaeus, 1758)                        | Padded Clingfish    | S6          | 2                | SJ23          | 1                    |             |     |
| Gobiesox nigripinnis (Peters, 1859)                | Dark-finned Clingfish | S6      | 2                | SJ29          |                      |             |     |
| Gobiesox punctulatus (Poey, 1876)                  | Stippled Clingfish  | S6          | 2                | 1             | YES                  |             |     |
| Tomicodon cryptus Williams & Tyler, 2003           | Cryptic Clingfish   | S6          |                  |               |                      | YES         |     |
| Tomicodon faciatus (Peters, 1859)                  | Barred Clingfish    | 2           | 1                |               |                      |             |     |
| Tomicodon leurodisca Williams & Tyler, 2003        | Smooth-sucker Clingfish | 11  | 1                |               |                      |             |     |
| Tomicodon reitzae Briggs, 2001                     | Accidental Clingfish | S6          |                  |               |                      | YES         |     |
| Tomicodon rhabdotus Smith-Vaniz, 1969              | Antillean Clingfish | S6          |                  |               | O24                  |             |     |
| Tomicodon rupestris (Poey, 1860)                   | Barred Clingfish    | 11          | 1                |               |                      |             |     |
| **Gobiidae**                                        |                     |             |                  |               |                      |             |     |
| Awaous banana (Valenciennes, 1837)                 | River Goby          | S7          | 1                | SJ10          |                      | YES         |     |
| Barbulifer ceuthobius (Jordan & Gilbert, 1884)     | Bearded Goby        | 2           | 1                |               |                      | YES         |     |
| Bathygobius antilliensis Tornabene, Baldwin & Pezold, 2010 | Antilles Frillfin | S7          |                  | SJ36          |                      | YES         |     |
| Scientific name                                      | Common name       | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|------------------------------------------------------|-------------------|-------------|-------------------|---------------|----------------------|-------------|------|
| Bathygobius curacao (Metzelaar, 1919)                | Notchtongue Goby  | 11          | 1                 | FIMNH         |                      | YES         |      |
| Bathygobius lacertus (Poey, 1860)                   | Checkerboard Frillfin | S7          | SJ21, SJ19        |               |                      | YES         |      |
| Bathygobius mystacium Ginsburg, 1947                | Island Frillfin   | S7          |                  |               |                      | YES         |      |
| Bathygobius sororator (Valenciennes, 1837)          | Frillfin Goby     | 2,6,11      | 1                 |               |                      | YES         |      |
| Bollmannia boqueronensis Evermann & Marsh, 1899     | White-eye Goby    | S7          | 4                 | SJ19          |                      | YES         |      |
| Cerdale floridana Longley, 1934                     | Pugjaw Wormfish   | S7          | 2                 | SJ23          | 1                    |             |      |
| Coryphopterus alloides Böhlke & Robins, 1960        | Barfin Goby       | 2           | 1                 |               |                      | -1          |      |
| Coryphopterus dierus Böhlke & Robins, 1960          | Colon Goby        | S7          | 2,4               | 1             | YES                  |             |      |
| Coryphopterus eidoson Böhlke & Robins, 1960         | Pallid Goby       | S7          | 2,4               | 1             | YES                  |             |      |
| Coryphopterus glaucofraenum Gill, 1863              | Bridled Goby      | S7          | 2,4               | 1             | YES                  |             |      |
| Coryphopterus hyalinus Böhlke & Robins, 1962        | Glass Goby        | S7          | 2                 | 1             | -1                   | YES         |      |
| Coryphopterus kuna Victor, 2007                     | Kuna Goby         | S7          |                  | SJ5, SJ12     |                      |             |      |
| Coryphopterus liperns Böhlke & Robins, 1962         | Peppermint Goby   | S7          | 2,4               | ST6           |                      | YES         |      |
| Coryphopterus personatus (Jordan & Thompson, 1905)  | Masked Goby       | S7          | 2                 | 1             | YES                  |             |      |
| Coryphopterus thrux Böhlke & Robins, 1960           | Bartail Goby      | 2           | 1                 | 1             | YES                  |             |      |
| Coryphopterus tortuga (Jordan, 1904)                | Sand Goby         | S7          |                  | 1             | YES                  |             |      |
| Coryphopterus venezuelae Cervigón, 1966              | Venezuela Goby    | S7          |                  | 1             | YES                  |             |      |
| Ctenogobius boleom (Jordan & Gilbert, 1882)         | Darter Goby       | S7          | 6                 | SJ28          |                      | YES         |      |
| Ctenogobius saepepaleu (Gilbert & Randall, 1968)    | Dash Goby         | S7          | 2,4               | 1             | YES                  |             |      |
| Ctenogobius smaragdus (Valenciennes, 1837)          | Emerald Goby      |             |                   |               |                      |             |      |
| Ctenogobius stigmatus (Goode & Bean, 1882)          | Spottail Goby     | S7          |                  | SJ28          |                      | YES         |      |
| Elacatinus chanceri (Beebe & Hollister, 1933)       | Shortstripe Goby  | S7          | 2,4               | 1             | YES                  |             |      |
| Elacatinus evelineae (Böhlke & Robins, 1968)        | Sharknose Goby    | S7          | 2,4               | 1             | YES                  |             |      |
| Elacatinus prochilos (Böhlke & Robins, 1968)        | Broadstripe Goby  | S7          |                  | 1             | YES                  |             |      |
| Evorthodus lyricus (Girard, 1858)                   | Lyre Goby         |             | 6                 | 1             |                      |             |      |
| Ginsburgellus novemlineatus (Fowler, 1950)          | Ninelined Goby    | S7          | 1                 | SJ23, SJ5     |                      | YES         |      |
| Gnatolepis thompsoni Jordan, 1904                   | Goldspot Goby     | S7          | 2,4               | 1             | YES                  |             |      |
| Gobionellus oceanicus (Pallas, 1770)                | Highfin Goby      | S7          | 1                 | SJ28          |                      |             |      |
| Gobiosoma groenoeni (Robins, 1964)                  | Rocker Goby       | S7          | 4                 | 1             |                      |             |      |
| Scientific name                          | Common name                | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide DNA |
|-----------------------------------------|----------------------------|-------------|-------------------|---------------|-----------------------|-----------------|
| Lophogobius cyprinoides (Pallas, 1770)  | Crested Goby               | S8          | 6                 | 1             | SJ28                  | YES             |
| Lythrypnus elasson Böhlke & Robins, 1960 | Dwarf Goby                 | S8          | 2                 | AMNH          | ST5                   | 1               |
| Lythrypnus minimus Garzón-Ferreira & Acero E, 1988 | Pygmy Goby               | S8          |                   |               |                       | YES             |
| Lythrypnus neiosites Böhlke & Robins, 1960 | Island Goby               | S8          | 2                 | 1             | SJ34                  | 1               |
| Lythrypnus spilus Böhlke & Robins, 1960 | Bluegold Goby              | S8          |                   |               | ST3                   | YES             |
| Microgobius carri Fowler, 1945          | Seminole Goby              | S8          | 2,4               | 1             | SJ19, SJ25             | YES             |
| Microgobius signatus Poey, 1876         | Signal Goby                | S8          | 1                 |               | SJ28, SJ22, SJ3       | YES             |
| Nes longus (Nichols, 1914)              | Orangespotted Goby         | S8          | 4                 | 1             | SJ5, SJ19, SJ28       | YES             |
| Ocyurichthys stignalophius (Mead & Böhlke, 1958) | Spotfin Goby              | S8          | 4                 | 1             |                       |                 |
| Palatogobius paradoxus Gilbert, 1971    | Mauve Goby                 | S8          | 2,11              | 1             |                       |                 |
| Priolepis hippoliti (Metzelaar, 1922)   | Ruzy Goby                  | S8          | 2,4               | 1             |                       | 1               |
| Psilotris celtica Böhlke, 1963          | Highspine Goby             | S8          | 2                 | 1             |                       |                 |
| Ptereleotris helenae (Randall, 1968)    | Hovering Goby              | S8          | 2,4               | 1             |                       |                 |
| Risor ruber (Rosén, 1911)               | Tusked Goby                | S8          | 2                 | 1             |                       | YES             |
| Sicydium plumieri (Bloch, 1786)         | Sirajo Goby                | S8          | 6                 | 1             | SJ10                  | YES             |
| Sicydium punctatum Perugia, 1896        | Spotted Algae-eating Goby  | S8          | 1                 |               | SJ10                  |                 |
| Tigrigobius dilepis (Robins & Böhlke, 1964) | Orangesided Goby        | S8          | 4                 | 1             |                       |                 |
| Tigrigobius multifasciatus (Steindachner, 1876) | Greenbanded Goby       | S8          | 2                 | 1             |                       | YES             |
| Tigrigobius pallens (Ginsburg, 1939)    | Semiclari Goby             | S8          |                   |               | SJ23                  |                 |
| Tigrigobius saurus (Robins, 1960)       | Leopard Goby               | S8          | 2                 | 1             |                       | YES             |
| Grammatidae                             |                            |             |                   |               |                       |                 |
| Gramma linki Starck & Colin, 1978       | Yellowcheek Basslet        |             |                   |               |                       |                 |
| Gramma loreto Poey, 1868                | Fairy Basslet              | S8          | 2,4               | 1             |                       | YES             |
| Haemulidae                              |                            |             |                   |               |                       |                 |
| Anisotremus surinamensis (Bloch, 1791)  | Black Margate              | S9          | 2,4,5,8           | 1             |                       | YES             |
| Anisotremus virginicus (Linnaeus, 1758) | Porkfish                   | S9          | 2,5,6,8           | 1             |                       | YES             |
| Brachygenys chrysargyrea (Günther, 1859) | Smallmouth Grunt           | S9          | 2,4               | 1             |                       | YES             |
| Emmelichthys atlanticus Schultz, 1945   | Bonnetmouth                | S9          | 2                 |               | ST8                   |                 |
| Haemulon album Cuvier, 1830             | Margate                    | S9          | 2,4               | 1             | SJ7                   |                 |
| Haemulon aurolineatue Cuvier, 1830      | Tomtate                    | S9          | 2,4,5,8           | 1             |                       | YES             |
| Haemulon carbonarium Poey, 1860         | Caesar Grunt               | S9          | 2,4               | 1             |                       | YES             |
| Haemulon flavolineatue (Desmarest, 1823) | French Grunt               | S9          | 2,4,5,8           | 1             |                       | YES             |
| Haemulon macrostoma Günther, 1859       | Spanish Grunt              | S9          | 2,4               | 1             | O5                    | YES             |
| Haemulon melanurum (Linnaeus, 1758)     | Cottonwick                 | S9          | 2                 | 1             |                       | YES             |
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|-----------------|-------------|-------------|-------------------|---------------|----------------------|------------|-----|
| Haemulon parra  | Sailors Choice | S9         | 2,4               | 1             | SJ1, SJ21            | YES        |     |
| Haemulon plumieri | White Grunt | S9         | 2,4               | 1             |                      |            | YES |
| Haemulon sciurus | Bluestriped Grunt | S9       | 2,4,5             | 1             |                      | YES        |     |
| Haemulon striatum | Striped Grunt | S9        | 2,4               | 1             | ST6, ST8, ST2        | YES        |     |
| Haemulon vitatum | Boga        | S9         | 2,4               | 1             |                      | YES        |     |
| Hemiramphidae   |             |             |                   |               |                      |            |     |
| Euleptorhamphus velox | Flying Halfbeak | MCZ       |                   |               |                      |            |     |
| Hemiramphus balao | Balao       | S9         | 2                 | 1             |                      |            |     |
| Hemiramphus brasiliensis | Atlantic Silverstripe Halfbeak | S9         | 2,4,5             | 1             |                      | YES        |     |
| Hyporhamphus unifasciatus (Ranzani, 1841) | Atlantic Sixgill Shark | FLMNH |                   |               |                      |            |     |
| Hexanchidae     |             |             |                   |               |                      |            |     |
| Hexanchus perlo (Bonnaterre, 1788) | Sharpnose Sevengill Shark | FLMNH |                   |               |                      |            |     |
| Hexanchus vitula | Spring & Waller, 1969 | Atlantic Sixgill Shark | FLMNH |                   |                      |            |     |
| Holocentridae   |             |             |                   |               |                      |            |     |
| Holocentrus ascensionis (Osbeck, 1765) | Squirrelfish | S9         | 2,4,5,8           | 1             |                      | YES        |     |
| Holocentrus rufus (Walbaum, 1792) | Longspine Squirrelfish | S9        | 2,4,5,8           | 1             |                      |            |     |
| Myripristis jacobus Cuvier, 1829 | Blackbar Soldierfish | S9         | 2,4,5,8           | 1             |                      |            |     |
| Neoniphon coruscum (Poey, 1860) | Reef Squirrelfish | S9         | 2,4,5,8           | 1             |                      | YES        |     |
| Neoniphon marianus (Cuvier, 1829) | Longjaw Squirrelfish | S9         | 2,4,5,8           | 1             |                      |            |     |
| Neoniphon vexillarium (Poey, 1860) | Dusky Squirrelfish | S9         | 2,4               | 1             |                      |            |     |
| Ostichthys trachypona (Günther, 1859) | Bigeye Soldierfish | S9         | 2,5,8             | 1             |                      |            |     |
| Plectropyropis retrospinis (Guichenot, 1853) | Cardinal Soldierfish | S9         | 2,5,8             | 1             | SJ9, SJ22, ST3       |            |     |
| Sargocentron bullisi (Woods, 1955) | Deepwater Squirrelfish | S9         | 2,11              | 1             |                      |            |     |
| Ipnopidae       |             |             |                   |               |                      |            |     |
| Bathypterois bigelowi Mead, 1958 | Spottail Tripodfish | CAS      |                   |               |                      |            |     |
| Bathypterois phenax Parr, 1928 | Blackfin Spiderfish | CAS      |                   |               |                      |            |     |
| Bathypterois viridensis (Roule, 1916) | Twobanded Tripodfish | CAS      |                   |               |                      |            |     |
| Ipnops murrayi Günther, 1878 | Grideye Fish | CAS      |                   |               |                      |            |     |
| Istiophoridae   |             |             |                   |               |                      |            |     |
| Istiophorus platypterus (Shaw, 1792) | Sailfish | S9         | 2                 |             |                      |            |     |
| Kajikia albida (Poey, 1860) | White Marlin | S9         | 2                 |             |                      |            |     |
| Makaira nigricans Lacepède, 1802 | Blue Marlin | S9         | 2                 |             |                      | YES        |     |
| Tetraopterus pfluegeri Robins & de Sylva, 1963 | Longbill Spearfish | S9         | 2                 |             |                      |            |     |
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|----------------|-------------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| **Kyphosidae** |
| Kyphosus cinerascens (Forsskål, 1775) | Topsail Seachub | S10         |                   |               |                      |             |     |
| Kyphosus sectatrix (Linnaeus, 1758) | Bermuda Chub     | S10         | 2,4               | 1             |                      |             |     |
| Kyphosus vaigiensis (Quoy & Gaimard, 1825) | Yellow Chub     | S10         |                   | 1             |                      |             |     |
| **Labridae** |
| **Labrinae** |
| Bodianus rufus (Linnaeus, 1758) | Spanish Hogfish  | S10         | 2,4,5,8           | 1             |                      | YES         |     |
| Clepticus parrae (Bloch & Schneider, 1801) | Creole Wrasse   | S10         | 2,4,5,8           | 1             |                      | YES         |     |
| Decodon puellaris (Poey, 1860) | Red Hogfish     |             | 2                 | 1             |                      |             |     |
| Donatonotus megalalepis Günther, 1862 | Dwarf Wrasse    |             | 2                 | 1             |                      |             |     |
| Halichoeres biovittatus (Bloch, 1791) | Slippery Dick   | S10         | 2,4               | 1             |                      |             | 1   |
| Halichoeres caudalis (Poey, 1860) | Painted Wrasse  |             |                   |               |                      |             | NOAA|
| Halichoeres cyanoccephalus (Bloch, 1791) | Yellowcheek Wrasse |             | 2                 | 1             |                      |             |     |
| Halichoeres garnoti (Valenciennes, 1839) | Yellowhead Wrasse | S10         | 2,4               | 1             |                      | YES         |     |
| Halichoeres maculipinna (Müller & Troeschel, 1848) | Clown Wrasse    | S10         | 2,4               | 1             |                      |             |     |
| Halichoeres pictus (Poey, 1860) | Rainbow Wrasse  | S10         | 2,4               | 1             |                      |             |     |
| Halichoeres poeyi (Steindachner, 1867) | Blackear Wrasse | S10         | 2,4               | 1             |                      |             |     |
| Halichoeres rutilatus (Linnaeus, 1758) | Puddingwife     | S10         | 2,4               | 1             |                      | YES         |     |
| Lachnolaimus maximus (Walbaum, 1792) | Hogfish         | S10         | 2,4,5,8           | 1             |                      |             |     |
| Thalassoma bifasciatum (Bloch, 1791) | Bluehead        | S10         | 2,4               | 1             |                      |             |     |
| Xyrichtys martiniensis Valenciennes, 1840 | Rosy Razorfish | S10         | 2,4               | 1             |                      |             |     |
| Xyrichtys novacula (Linnaeus, 1758) | Pearly Razorfish | S10         | 2,4               | 1             |                      | YES         |     |
| Xyrichtys splendens Castelnau, 1855 | Green Razorfish | S10         | 2,4               | 1             |                      |             |     |
| **Scarinae** |
| Cryptotomus roseus Cope, 1871 | Bluelip Parrotfish | S10         | 2,4               | 1             |                      | YES         |     |
| Scarus coelestinus Valenciennes, 1840 | Midnight Parrotfish | S10         | 2                 | 1             | O6                   |             |     |
| Scarus coeruleus (Edwards, 1771) | Blue Parrotfish  |             | 2,4               | 1             |                      |             |     |
| Scarus guacamatia Cuvier, 1829 | Rainbow Parrotfish | S10         | 2,4               | 1             | SJ28, SJ33, O2       |             |     |
| Scarus iersi (Bloch, 1789) | Striped Parrotfish | S10         | 2,4               | 1             |                      | YES         |     |
| Scarus tenuopterus Lesson, 1829 | Princess Parrotfish | S10         | 2,4,5,8           | 1             |                      | YES         |     |
| Scarus vetula Bloch & Schneider, 1801 | Queen Parrotfish | S10         | 2,4               | 1             |                      | YES         |     |
| Sparisoma atumarium (Poey, 1861) | Greenblotch Parrotfish | S11         | 2,4               | 1             |                      |             |     |
| Sparisoma aurometerum (Valenciennes, 1840) | Redband Parrotfish | S11         | 2,4,5,8           | 1             |                      | YES         |     |
| Sparisoma chrysopterum (Bloch & Schneider, 1801) | Redtail Parrotfish | S11         | 2,4               | 1             |                      | YES         |     |
| Sparisoma radiata (Valenciennes, 1840) | Bucktooth Parrotfish | S11         | 2,4               | 1             |                      | YES         |     |
| Sparisoma rubripinne (Valenciennes, 1840) | Yellowtail Parrotfish | S11         | 2,4               | 1             |                      | YES         |     |
| Scientific name                              | Common name         | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|---------------------------------------------|---------------------|-------------|-------------------|---------------|---------------------|-------------|-----|
| *Sparisoma viride* (Bonnaterre, 1788)       | Stoplight Parrotfish| S11         | 2,4,5,8           | 1             |                     | 1           | YES |
| **Labrisomidae**                            |                     |             |                   |               |                     |             |     |
| *Brockius albigenys* (Beebe & Tee-Van, 1928)| Whitecheek Blenny   | S11         | DNA               |               | Berry Bay, St. John | YES         |     |
| *Brockius nigrincinctus* (Howell Rivero, 1936) | Spotcheek Blenny    | S11         | 1                 |               | SJ21                | YES         |     |
| *Gobiodon cuniculus* (Poey, 1868)           | Puffcheek Blenny    | S11         | 2                 | 1             |                     | YES         |     |
| *Gobiodon filamentosus* (Springer, 1960)    | Quillfin Blenny     | S11         | 3,11              | 1             | O7                  | YES         |     |
| *Gobiodon gobiob* (Valenciennes, 1836)      | Palehead Blenny     | S11         | 2                 | 1             |                     | 1           | YES |
| *Gobiodon guppy* (Norman, 1922)             | Mimic Blenny        | S11         | 2                 | 1             | -1                  | YES         |     |
| *Gobiodon haitiensis* (Beebe & Tee-Van, 1928) | Longfin Blenny      | S11         | 2                 | 1             | SJ12                | 1           | YES |
| *Labrisomus cricota* Sazima, Gasparini & Moura, 2002 | Mock Blenny         | S11         |                   |               |                     |             |     |
| *Labrisomus nuchipinnis* (Quoy & Gaimard, 1824) | Hairy Blenny       | S11         | 2,4               | 1             |                     | 1           | YES |
| *Malacocentrus aurolineatus* Smith, 1957    | Goldline Blenny     | S11         | 2,4               | 1             |                     | 1           | YES |
| *Malacocentrus boehlkei* Springer, 1959     | Diamond Blenny      | S11         | 2,4               | 1             |                     | 1           | YES |
| *Malacocentrus erdmanni* Smith, 1867        | Imitator Blenny     | S11         |                   |               | SJ23                | YES         |     |
| *Malacocentrus gilli* (Steindachner, 1867)  | Dusky Blenny        | S11         | 2,4               | 1             |                     | YES         |     |
| *Malacocentrus macropus* (Poey, 1868)       | Rosy Blenny         | S11         | 2,4               | 1             |                     | YES         |     |
| *Malacocentrus triangulatus* Springer, 1959 | Saddled Blenny      | S11         | 2,4               | 1             |                     | 1           | YES |
| *Malacocentrus versicolor* (Poey, 1876)     | Barfin Blenny       | S11         | 2,4               | 1             | SJ23, SJ12          | YES         |     |
| *Nemachilus atlectos* Böhlke & Springer, 1975 | Threadfin Blenny    |             |                   |               |                     |             |     |
| *Paracanthus barbatu* Springer, 1955        | Goatee Blenny       |             |                   |               |                     |             |     |
| *Paracanthus cingulatus* (Evermann & Marsh, 1899) | Coral Blenny       |             |                   |               |                     |             |     |
| *Paracanthus faciatus* Steindachner, 1876  | Banded Blenny       | S11         | 2                 |               | SJ12                |             |     |
| *Paracanthus nigripinnis* Steindachner, 1867 | Blackfin Blenny     | S11         | 2                 | 1             | SJ12                | YES         |     |
| *Starksia culebrae* (Evermann & Marsh, 1899) | Culebra Blenny      | S11         | 2                 | 1             | ST2, SJ13           | YES         |     |
| *Starksia hassi* Klauswitz, 1958            | Ringed Blenny       | S11         | 2,11              | 1             | SJ24                | 1           |     |
| *Starksia lepicoelia* Böhlke & Springer, 1961 | Blackcheek Blenny  |             |                   |               |                     | 1           |     |
| *Starksia nanodes* Böhlke & Springer, 1961 | Dwarf Blenny        |             |                   |               |                     | 1           |     |
| *Starksia williamsi* Baldwin & Castillo, 2011 | Williams's Blenny  | S11         |                   |               | SJ2, SJ13           | YES         |     |
| *Stathmonotus gymnoderms* Springer, 1955    | Naked Blenny        |             |                   |               |                     | 2           |     |
| *Stathmonotus stahli* (Evermann & Marsh, 1899) | Southern Blenny    |             |                   |               |                     | 2           |     |
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| **Latilidae**                      |                       |             |                   |               |                      |             |      |
| Latilus cyanops Poey, 1866          | Blackline Tilefish    | 2           |                   |               |                      |             |      |
| **Lobotidae**                      |                       |             |                   |               |                      |             |      |
| Lobotes surinamensis (Bloch, 1790) | Atlantic Tripletail   | S11         | 2                 | 1             | O18                  |             |      |
| **Lutjanidae**                     |                       |             |                   |               |                      |             |      |
| Apsilus dentatus Guichenot, 1853   | Black Snapper         | 2           |                   |               |                      |             |      |
| Eelis oculatus (Valenciennes, 1828)| Queen Snapper         | S12         | 2,5,8             |               |                      |             |      |
| Latianus analis (Cuvier, 1828)     | Mutton Snapper        | S12         | 2,4,5,8           | 1             |                      | YES         |      |
| Latianus apodus (Walbaum, 1792)    | Schoolmaster          | S12         | 2,4,5,6,8         | 1             |                      | YES         |      |
| Latianus buccanella (Cuvier, 1828) | Blackfin Snapper      | S12         | 2,5,8             | 1             |                      | YES         |      |
| Latianus cyanopterus (Cuvier, 1828)| Cudera Snapper        | S12         | 2,4               | 1             |                      | YES         |      |
| Latianus griseus (Linnaeus, 1758)  | Gray Snapper          | S12         | 2,4,6             | 1             |                      | YES         |      |
| Latianus jocu (Bloch & Schneider, 1801) | Dog Snapper         | S12         | 2,4,5,8           | 1             |                      | YES         |      |
| Latianus mahogoni (Cuvier, 1828)   | Mahogany Snapper      | S12         | 2,4               | 1             |                      | YES         |      |
| Latianus purpureus (Poey, 1866)    | Caribbean Red Snapper | 2           | 1                 |               |                      |             |      |
| Latianus synagris (Linnaeus, 1758) | Lane Snapper          | S12         | 2,4               | 1             |                      | YES         |      |
| Latianus vivianus (Cuvier, 1828)   | Silk Snapper          | S12         | 2,5,8             | 1             |                      | YES         |      |
| Ocyurus chrysurus (Bloch, 1791)    | Yellowtail Snapper    | S12         | 2,4               | 1             |                      | YES         |      |
| Priatopomoides macrocephalus (Müller & Troeschel, 1848) | Cardinal Snapper | 2           |                   |               |                      |             |      |
| Rhomboplites aurorubens (Cuvier, 1829) | Vermilion Snapper    | S12         | 2                 | SJ20          |                      |             |      |
| **Malacanthidae**                  |                       |             |                   |               |                      |             |      |
| Malacanthus plumieri (Bloch, 1786) | Sand Tilefish         | S12         | 2,4,5,8           | 1             |                      |             |      |
| **Megalopidae**                    |                       |             |                   |               |                      |             |      |
| Megalops atlanticus Valenciennes, 1847 | Tarpon              | S12         | 2,6               | 1             |                      |             |      |
| **Mobulidae**                      |                       |             |                   |               |                      |             |      |
| Mobula birostris (Walbaum, 1792)   | Giant Manta           | S12         | 2                 |               |                      |             |      |
| Mobula cf birostris                | Caribbean Manta       | S12         |                   | SJ12          |                      |             |      |
| **Monacanthidae**                  |                       |             |                   |               |                      |             |      |
| Aluterus monoceros (Linnaeus, 1758) | Unicorn Filefish      | S12         |                   | O23           |                      |             |      |
| Aluterus schoepfi (Walbaum, 1792)  | Orange Filefish       | S12         | 1                 | SJ34          |                      |             |      |
| Aluterus scriptus (Osbeck, 1765)   | Scrwelled Filefish    | S12         | 4                 | 1             |                      |             |      |
| Cantherhines macrocerus (Hollard, 1853) | Whitespotted Filefish | S12         | 2                 | 1             |                      | YES         |      |
| Cantherhines pullus (Ranzani, 1842)| Orangespotted Filefish| S12         | 2,4               | 1             |                      | YES         |      |
| Monacanthus ciliatus (Mitchill, 1818) | Fringed Filefish     | S12         | 2,4               | 1             |                      | YES         |      |
| Monacanthus tuckeri Bean, 1906     | Slender Filefish      | S12         | 2,4               | 1             |                      |             |      |
| Stephanolepis hispida (Linnaeus, 1766) | Planehead Filefish  |             |                   | FIMNH         |                      |             |      |
| Stephanolepis setifer (Bennett, 1831) | Pygmy Filefish       | 2           |                   |               |                      |             |      |
| **Moringuidae**                    |                       |             |                   |               |                      |             |      |
| Moringua edwardsii (Jordan & Bollman, 1889) | Spaghetti Eel      | 2           | 1                 | -1            |                      |             |      |
| Scientific name                                      | Common name       | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|------------------------------------------------------|-------------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| Mugilidae                                            |                   |             |                   |               |                      |             |     |
| *Dajaus monticola* (Bancroft, 1834)                  | Mountain Mullet   | S13         | 6                 | 1             | SJ10                 |             |     |
| *Magil curema* Valenciennes, 1836                    | White Mullet      | S13         | 2.6               |               | SJ21                 | YES         |     |
| *Magil rubricula* Harrison, Nirschio, Oliveira, Ron & Gaviria, 2007 | Redeye Mullet     | S13         | DNA               |               |                      | YES         |     |
| *Magil trichodon* Poey, 1875                        | Fantail Mullet    | ROM         |                   |               |                      |             |     |
| Mullidae                                             |                   |             |                   |               |                      |             |     |
| *Mallolichthys martinius* (Cuvier, 1829)             | Yellow Goatfish   | S13         | 2,4,6             | 1             |                      | 1 YES       |     |
| *Pseudupeneus maculatus* (Bloch, 1793)               | Sported Goatfish  | S13         | 2,4,5,8           | 1             |                      | 1 YES       |     |
| Muraenidae                                           |                   |             |                   |               |                      |             |     |
| *Echidna catenata* (Bloch, 1795)                     | Chain Moray       | S13         | 2,4               | 1             | SJ21, SJ10           | 1 YES       |     |
| *Enchelycore carybrava* Böhlke & Böhlke, 1976       | Chestnut Moray    | S13         | 2                 | 1             | SJ5                  | 1 YES       |     |
| *Enchelycore nigricans* (Bonnaterrre, 1788)          | Viper Moray       | S13         | 2                 | 1             | SJ9                  | 1 YES       |     |
| *Gymnothorax discus* Poey, 1867                      | Saddled Moray     | S13         | 2                 | 1             |                      | ANSP        |     |
| *Gymnothorax fuscus* Ranzani, 1839                   | Green Moray       | S13         | 2,4               | 1             |                      | 1 YES       |     |
| *Gymnothorax madersonis* (Johnson, 1862)             | Sharktooth Moray  | S13         | 2                 | 1             |                      |             |     |
| *Gymnothorax miliaris* (Kaup, 1856)                  | Goldentail Moray  | S13         | 2,4               | 1             |                      | 1 YES       |     |
| *Gymnothorax moringa* (Cuvier, 1829)                 | Spotted Moray     | S13         | 2,4               | 1             |                      | 1 YES       |     |
| *Gymnothorax vicinus* (Castelnau, 1855)              | Purplemouth Moray | S13         | 2,4               | 1             |                      | 1 YES       |     |
| *Uropterygius macularius* (Lesueur, 1825)            | Marbled Moray     | S13         | 2                 | 1             |                      | 1 YES       |     |
| Myctophidae                                          |                   |             |                   |               |                      |             |     |
| *Centrobranchus nigrocellatus* (Günther, 1873)        | Roundnose Lanternfish | ROM         |                   |               |                      |             |     |
| Neoscopelidae                                        |                   |             |                   |               |                      |             |     |
| *Neoscopelus macrolepidotus* Johnson, 1863           | Largescale Blackchin | CAS         |                   |               |                      |             |     |
|Nomeidae                                              |                   |             |                   |               |                      |             |     |
| *Pteres cyanophrys* Valenciennes, 1833               | Freckled Driftfish | S13         | 2                 | 1             |                      |             |     |
| Ogocephalidae                                        |                   |             |                   |               |                      |             |     |
| *Ogocephalus nasutus* (Cuvier, 1829)                 | Shortnose Batfish | S13         | 2                 | 1             |                      |             |     |
| *Ogocephalus pumilus* Bradbury, 1980                 | Dwarf Batfish     | S13         | 2                 | 1             |                      | CAS         |     |
| Ophichthidae                                         |                   |             |                   |               |                      |             |     |
| *Ablia egmontis* (Jordan, 1884)                      | Key Worm Eel      | S13         | 2                 | 1             |                      |             |     |
| *Aprognathodon platycentris* Böhlke, 1967            | Stripe Eel        | S13         | 2                 | 1             |                      |             |     |
| *Callochelys guineensis* (Osório, 1893)              | Shorttail Snake Eel | S13         | 2                 | 1             |                      | SJ13        |     |
| *Echiophis intertinctus* (Richardson, 1848)          | Spotted Spoonnose Eel | FlMNH       |                   |               |                      |             |     |
| *Ichthyapus ophioneus* (Evermann & Marsh, 1900)      | Surf Eel          | S13         | 2                 |               |                      |             |     |
| *Myrichthys breviceps* (Richardson, 1848)            | Sharpnose Eel     | S13         | 2                 |               |                      | SJ13        |     |
| Scientific name | Common name | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|-----------------|-------------|-------------|------------------|-------------|---------------------|-------------|-----|
| Myrichthys ocellatus (Lesueur, 1825) | Goldspotted Eel | S13 | 2 | 1 | YES |
| Myrophis anterodorsalis McCosker, Böhle & Böhle, 1989 | Longfin Worm Eel | | | | |
| Myrophis platyrhynchus Breder, 1927 | Broadnose Worm Eel | | | | |
| Myrophis punctatus Lütken, 1852 | Speckled Worm Eel | | | | |
| Myrophis anterodorsalis McCosker, Böhle & Böhle, 1989 | Atlantic Bearded Brotula | S13 | 2 | 1 | -1 |
| Lepophidium pheromystax Robins, 1960 | Upsilon Cusk-eel | | | | |
| Luciobrotula corethronecyt* Cohen, 1964 | Broomnose Cusk-eel | | | | |
| Ophidion bolbrooki Putnam, 1874 | Bank Cusk-eel | S13 | 2,3,11 | 1 | -1 |
| Parophidion schmidti (Woods & Kanazawa, 1951) | Dusky Cusk-eel | | | | |
| Xyelacyba myersi* Cohen, 1961 | Gargoyle Cusk-eel | S13 | | 1 | |
| Opistognathidae | Swordtail Jawfish | S13 | 4 | 1 | YES |
| Lonchopisthus micrognathus (Poey, 1860) | | | | | |
| Opistognathus aurifrons (Jordan & Thompson, 1905) | Yellowhead Jawfish | S13 | 2,4 | 1 | YES |
| Opistognathus macrognathus Poey, 1860 | Banded Jawfish | S13 | 2,4,11 | 1 | YES |
| Opistognathus maxillosus Poey, 1860 | Mortled Jawfish | S13 | 2 | 1 | YES |
| Opistognathus whitehursti (Longley, 1927) | Dusky Jawfish | S13 | 1 | | |
| Ostraciidae | Honeycomb Cowfish | S13 | 2 | 1 | |
| Acanthostracion polygonium Poey, 1876 | | | | | |
| Acanthostracion quadricornis (Linnaeus, 1758) | Scrawled Cowfish | S13 | 2 | 1 | |
| Laterophrys bicaudalis (Linnaeus, 1758) | Sported Trunkfish | S13 | 2,4 | 1 | |
| Laterophrys trigonus (Linnaeus, 1758) | Trunkfish | S13 | 2,4 | 1 | |
| Laterophrys triqueter (Linnaeus, 1758) | Smooth Trunkfish | S13 | 2,4 | 1 | |
| Paralichthyidae | Horned Whiff | FMNH | | | |
| Citharichthys cornutus (Günther, 1880) | | | | | |
| Citharichthys uhlri Jordan, 1889 | Voodoo Whiff | S14 | 2 | 1 | YES |
| Cyclopsetta fimbriata (Goode & Bean, 1885) | Spotfin Flounder | | | | |
| Syacium micrurum Ranzani, 1842 | Channel Flounder | | | | |
| Parazenidae | Red Dory | | | | |
| Cyrtopsis rosea (Lowe, 1843) | | | | | |
| Pempheridae | Glassy Sweeper | S14 | 2,4 | 1 | YES |
| Pempheris schomburkii Müller & Troschel, 1848 | | | | | |
| Scientific name                                      | Common name      | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|-----------------------------------------------------|------------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| **Poeciliidae**                                     |                  |             |                   |               |                      |             |     |
| Poecilia reticulata Peters, 1859                    | Guppy            | S14         | 1                 | SJ10          |                      |             |     |
| **Polymixiidae**                                    |                  |             |                   |               |                      |             |     |
| Polymixia lutea Günther, 1859                       | Beardsfish       |             |                   |               |                      |             |     |
| Polymixia nobilis Lowe, 1836                        | Noble Beardsfish | 5,8         |                   |               |                      |             |     |
| **Polynemidae**                                     |                  |             |                   |               |                      |             |     |
| Polydactylus virginicus (Linnaeus, 1758)            | Barbu            |             |                   |               |                      |             |     |
| **Pomacanthidae**                                   |                  |             |                   |               |                      |             |     |
| Centropyge argi Woods & Kanazawa, 1951              | Cherubfish       | S14         | 2,4,5,8           | 1             | O21                  |             |     |
| Holacanthus ciliaris (Linnaeus, 1758)               | Queen Angelfish  | S14         | 2,4              | 1             |                      | 1           | YES |
| Holacanthus tricolor (Bloch, 1795)                  | Rock Beauty      | S14         | 2,4,5,8          | 1             |                      | 1           |     |
| Pomacanthus arcuatus (Linnaeus, 1758)               | Gray Angelfish   | S14         | 2,4,5,8          | 1             |                      |             |     |
| Pomacanthus paru (Bloch, 1878)                      | French Angelfish | S14         | 2,4,5            | 1             |                      |             |     |
| **Pomacentridae**                                   |                  |             |                   |               |                      |             |     |
| Abudefduf saxatilis (Linnaeus, 1758)                | Sergeant Major   | S14         | 2,4,6            | 1             |                      | 1           | YES |
| Abudefduf taurus (Müller & Troeschel, 1848)         | Night Sergeant   | S14         | 2,4              | 1             |                      |             |     |
| Azurina cyanea (Poey, 1860)                         | Blue Chromis     | S14         | 2,4,8            | 1             |                      | 1           | YES |
| Azurina multilineata (Guichenot, 1853)              | Brown Chromis    | S14         | 2,4,5,8          | 1             |                      | 1           | YES |
| Chromis insolata (Cuvier, 1830)                     | Sunshinefish     | S14         | 2,5,8            | 1             | O20                  |             |     |
| Microspathodon chrysurus (Cuvier, 1830)             | Yellowtail       | S14         | 2,4,5            | 1             |                      |             |     |
| Stegastes adustus (Troschel, 1865)                  | Dusky Damselfish | S14         | 2,4,6            | 1             |                      |             |     |
| Stegastes diencaeus (Jordan & Rutter, 1897)         | Longfin Damselfish| S14    | 2,4              | 1             |                      |             | YES |
| Stegastes leucocinctus (Müller & Troeschel, 1848)   | Beaugregory      | S14         | 2,4              | 1             |                      |             | YES |
| Stegastes partitus (Poey, 1868)                     | Bicolor Damselfish| S14     | 2,4,5,8          | 1             |                      |             | YES |
| Stegastes planifrons (Cuvier, 1830)                 | Threespot Damselfish| S14 | 2,4              | 1             |                      |             | YES |
| Stegastes xanthurus (Poey, 1860)                    | Cocoa Damselfish | S14         | 2,4              | 1             |                      |             | YES |
| **Priacanthidae**                                   |                  |             |                   |               |                      |             |     |
| Heteropriacanthus cruentatus (Lacepède, 1801)       | Glasseye Snapper | S15         | 2,4              | 1             |                      |             | YES |
| Priacanthus arenatus Cuvier, 1829                   | Bigeye           | S15         | 2                | 1             | SJ24                 |             |     |
| Pristigenys ala (Gill, 1862)                        | Short Bigeye     | S15         | 2                | 1             |                      |             |     |
| **Rachycentridae**                                  |                  |             |                   |               |                      |             |     |
| Rachycentron canadum (Linnaeus, 1766)               | Cobia            | S15         | 2                | 1             | ST3                  |             |     |
| **Rhinocodontidae**                                 |                  |             |                   |               |                      |             |     |
| Rhinodon typus Smith, 1828                         | Whale Shark      | S15         | 2                | 1             |                      |             |     |
| **Rivulidae**                                       |                  |             |                   |               |                      |             |     |
| Kryptolebias marmoratus (Poey, 1880)                | Mangrove Rivulus | 6           | 1                |               |                      |             |     |
| Scientific name                          | Common name       | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA  |
|-----------------------------------------|-------------------|-------------|-------------------|---------------|----------------------|-------------|------|
| **Sciaenidae**                          |                   |             |                   |               |                      |             |      |
| *Corvula batabana* (Poey, 1860)         | Blue Croaker      | S11, S12    |                   |               |                      |             |      |
| *Eques lanceolatus* (Linnaeus, 1758)    | Jackknife-fish    | S15         | 2                 | 1             | SJ30                 |             |      |
| *Eques punctatus* Bloch & Schneider, 1801 | Spotted Drum     | S15         | 2                 | 1             |                      |             |      |
| *Odontocion dentex* (Cuvier, 1830)     | Reef Croaker      | S15         | 2                 | 1             |                      |             |      |
| *Pareques acuminatus* (Bloch & Schneider, 1801) | High-hat      | S15         | 2                 | 1             | YES                  |             |      |
| *Umbrina coroides* Cuvier, 1830       | Sand Drum         |             | 2                 | 1             |                      |             |      |
| **Scomberesocidae**                     |                   |             |                   |               |                      |             |      |
| *Scomberesox saurus* (Walbaum, 1792)   | Atlantic Saury    |             |                   |               |                      | KU          |      |
| **Scombridae**                          |                   |             |                   |               |                      |             |      |
| *Acanthocybium solandri* (Cuvier, 1832) | Wahoo             | S15         | 2                 |               |                      |             |      |
| *Euthynus alletteratus* (Rafinesque, 1810) | Little Tunny    | S15         | 2                 | 1             |                      | YES         |      |
| *Katsuwoon pelamis* (Linnaeus, 1758)   | Skipjack Tuna     | S15         | 2                 |               |                      |             |      |
| *Scomberomorus brasiliensis* Collette, Russo & Zavala-Camin, 1978 | Serra          |             |                   |               |                      |             |      |
| *Scomberomorus cavalla* (Cuvier, 1829)  | King Mackerel     | S15         | 2                 |               | SJ4, ST6             |             |      |
| *Scomberomorus regalis* (Bloch, 1793)  | Cero              | S15         | 2                 | 1             |                      |             |      |
| *Thunnus albacares* (Bonnaterre, 1788) | Yellowfin Tuna    | S15         | 2                 |               |                      |             |      |
| *Thunnus atlanticus* (Lesson, 1831)    | Blackfin Tuna     | S15         | 2                 | 1             |                      |             |      |
| **Scorpaenidae**                        |                   |             |                   |               |                      |             |      |
| *Pontinus castor* Poey, 1860            | Longsnout Scorpionfish |             |                   |               |                      |             |      |
| *Pterois volitans* (Linnaeus, 1758)    | Red Lionfish      | S15         | 2                 |               |                      | YES         |      |
| *Scorpaena alblifimbria* Evermann & Marsh, 1900 | Coral          | S15         | 2                 | 1             | O8                   |             |      |
| *Scorpaena bergii* Evermann & Marsh, 1900 | Goosehead Scorpionfish |             |                   |               |                      | FLMNH       |      |
| *Scorpaena brasiliensis* Cuvier, 1829  | Barbfish          | S15         | 2                 |               |                      |             |      |
| *Scorpaena calcanata* Goode & Bean, 1882 | Smoothhead Scorpionfish |             |                   |               |                      |             |      |
| *Scorpaena grandicornis* Cuvier, 1829  | Plumed Scorpionfish | S15         | 2                 | 1             |                      |             |      |
| *Scorpaena inermis* Cuvier, 1829       | Mushroom Scorpionfish | S15         | 2                 | 1             | SJ5                  |             |      |
| *Scorpaena plumieri* Bloch, 1789       | Spotted Scorpionfish | S15         | 2                 | 1             |                      |             |      |
| *Scorpaenodes caribbaeus* Meek & Hildebrand, 1928 | Reef Scorpionfish | S15         | 2                 | 1             | SJ34, SJ23, SJ13     |             |      |
| **Serranidae**                          |                   |             |                   |               |                      |             |      |
| *Alphies afer* (Bloch, 1793)           | Mutton Hamlet     | S16         | 2                 | 1             | SJ23                 |             |      |
| *Bullisichthys caribbaeus* Rivas, 1971 | Pugnose Bass      | S16         | 2                 |               |                      |             |      |
| *Cephalopholis cruentata* (Lacepède, 1802) | Graysby          | S16         | 2,4               | 1             | YES                  |             |      |
| *Cephalopholis fulva* (Linnaeus, 1758) | Coney             | S16         | 2,4               | 1             |                      |             |      |
| *Diplectrum bivittatum* (Valenciennes, 1828) | Dwarf Sand Perch | S16         | 2                 | 1             | YES                  |             |      |
| *Diplectrum formosum* (Linnaeus, 1766)  | Sand Perch        | S16         | 2                 |               |                      |             |      |
| Scientific name | Common name | Image | Literature source | Online source | Uncommon | Ichthyocide | DNA |
|-----------------|-------------|-------|-------------------|---------------|----------|-------------|-----|
| *Epinephelus adscensionis* (Osbeck, 1765) | Rock Hind | S16 | 2, 4 | 1 | SJ22, SJ15 | 1 |
| *Epinephelus guttatus* (Linnaeus, 1758) | Red Hind | S16 | 2, 4, 5, 8 | 1 | | |
| *Epinephelus inasjana* (Lichtenstein, 1822) | Atlantic Goliath Grouper | S16 | 2 | | | |
| *Epinephelus morio* (Valenciennes, 1828) | Red Grouper | S16 | 2 | 1 | | |
| *Epinephelus striatus* (Bloch, 1792) | Nassau Grouper | S16 | 2, 4, 5, 8 | 1 | | YES |
| *Hyplectrus abernani* Poey, 1868 | Yellowbelly Hamlet | S16 | 2, 4, 5, 8 | 1 | | |
| *Hyplectrus chlorurus* (Cuvier, 1828) | Yellowtail Hamlet | S16 | 2, 4, 5, 8 | 1 | | |
| *Hyplectrus guttatus* (Poey, 1852) | Shy Hamlet | S16 | 2, 4 | 1 | SJ19, ST6 | |
| *Hyplectrus nigricans* (Poey, 1852) | Black Hamlet | S16 | 2, 4 | 1 | 1 | |
| *Hyplectrus puella* (Cuvier, 1828) | Barred Hamlet | S16 | 2, 4 | 1 | | |
| *Hyplectrus unicolor* (Walbaum, 1792) | Butter Hamlet | S16 | 2, 4 | 1 | | |
| *Hyporthodus mystacinus* (Poey, 1852) | Misty Grouper | S16 | 2, 4 | | | 2, 8 |
| *Liopropoma mowbrayi* Woods & Kanazawa, 1951 | Cave Basslet | S16 | 2, 4 | | | 2, 5 |
| *Liopropoma rubre* Poey, 1861 | Peppermint Basslet | S16 | 2, 4 | 1 | SJ1, SJ9, SJ13 | 1 |
| *Mycteroperca acutirostris* (Valenciennes, 1828) | Western Comb Grouper | S16 | 2 | 1 | | |
| *Mycteroperca bonaci* (Poey, 1860) | Black Grouper | S17 | 2, 4 | 1 | SJ33, O9, O10 | YES |
| *Mycteroperca interstitialis* (Poey, 1860) | Yellowmouth Grouper | S17 | 2, 4, 5 | 1 | SJ7 | YES |
| *Mycteroperca tigris* (Valenciennes, 1833) | Tiger Grouper | S17 | 2, 4, 5, 8 | 1 | O11, O12, O13 | YES |
| *Mycteroperca venenosa* (Linnaeus, 1758) | Yellowfin Grouper | S17 | 2, 4, 5, 8 | 1 | 1 | YES |
| *Panarthias fucifer* (Valenciennes, 1828) | Atlantic Creolefish | S17 | 2, 4, 5, 8 | 1 | SJ33 | YES |
| *Pronotogrammus martinicensis* (Guichenot, 1868) | Roughtongue Bass | S17 | 2, 4, 5 | 1 | SJ32, SJ12, SJ22 | YES |
| *Ripticus bistrispinus* (Mitchill, 1818) | Freckled Soapfish | S17 | 2, 4, 5 | 1 | SJ32, SJ12, SJ22 | YES |
| *Ripticus carpenteri* Baldwin & Weigt, 2012 | Greater Soapfish | S17 | 2, 4, 5 | 1 | SJ32, SJ12, SJ22 | YES |
| *Ripticus saponaceus* (Bloch & Schneider, 1801) | Greater Soapfish | S17 | 2, 4, 5 | 1 | SJ32, SJ12, SJ22 | YES |
| *Ripticus subbifrenatus* Gill, 1861 | Spotted Soapfish | S17 | 2, 4, 5 | 1 | SJ32, SJ12, SJ22 | YES |
| *Serranus annulatus* (Günther, 1880) | Orangeback Bass | S17 | 2, 4, 5 | 1 | SJ32, SJ12, SJ22 | YES |
| *Serranus baldovini* (Evermann & Marsh, 1899) | Lantern Bass | S17 | 2, 4, 5 | 1 | SJ32, SJ12, SJ22 | YES |
| *Serranus lucipercus* Poey, 1852 | Crosshatch Bass | S17 | 2, 4, 5 | 1 | SJ32, SJ12, SJ22 | YES |
| *Serranus phoebe* Poey, 1851 | Tattler | S17 | 2, 4, 5 | 1 | SJ32, SJ12, SJ22 | YES |
| *Serranus tabacarius* (Cuvier, 1829) | Tobaccofish | S17 | 2, 4, 5 | 1 | SJ32, SJ12, SJ22 | YES |
| *Serranus tigrinus* (Bloch, 1790) | Harlequin Bass | S17 | 2, 4, 5 | 1 | SJ32, SJ12, SJ22 | YES |
| Scientific name                                      | Common name          | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|------------------------------------------------------|----------------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| **Sparidae**                                         |                      |             |                   |               |                      |             |     |
| Archosargus rhomboidalalis (Linnaeus, 1758)           | Sea Bream            | S17         | 2,8               | 1             | SJ13, SJ3            |             |     |
| Calamus bajonado (Bloch & Schneider, 1801)           | Jolthead Porgy       | S17         | 2                 | 1             |                      |             |     |
| Calamus calamus (Valenciennes, 1830)                 | Saucereye Porgy      | S17         | 2,4               | 1             |                      |             |     |
| Calamus penna (Valenciennes, 1830)                   | Sheepshead Porgy     | S17         | 2,4               | 1             |                      |             |     |
| Calamus pennatula Guichenot, 1868                    | Pluma Porgy          | S17         | 2,4               | 1             |                      |             |     |
| Calamus proridens Jordan & Gilbert, 1884             | Littlehead Porgy     | CMN         |                   |               |                      |             |     |
| Diplodus caudimacula (Poey, 1860)                    | Silver Porgy         | S17         | 2,4,11            | 1             | ST6                  |             |     |
| **Sphyraenidae**                                     |                      |             |                   |               |                      |             |     |
| Sphyraena barracuda (Edwards, 1771)                  | Great Barracuda      | S17         | 2,4,5,6,8         | 1             | YES                  |             |     |
| Sphyraena borealis DeKay, 1842                       | Sennet               | S17         | 2                 | 1             | SJ13, SJ12, SJ21     |             |     |
| **Sphyrnidae**                                       |                      |             |                   |               |                      |             |     |
| Sphyrna lewini (Griffith & Smith, 1834)              | Scalloped Hammerhead| 10          | 1                 |               |                      |             |     |
| Sphyrna mokarran (Rüppell, 1837)                     | Great Hammerhead     | 10          |                   |               |                      |             |     |
| **Spratelloididae**                                  |                      |             |                   |               |                      |             |     |
| Jenkinius lamprotaenia (Gosse, 1851)                 | Dwarf Herring        | 2           | 6                 | 1             | YES                  |             |     |
| Jenkinius parvula Cervigón & Velazquez, 1978         | Shortstriped Herring | 2           |                   |               |                      |             |     |
| Jenkinius tolfert Jordan & Gilbert, 1884             | Shortband Herring    | 2           |                   |               |                      |             |     |
| **Squalidae**                                        |                      |             |                   |               |                      |             |     |
| Squalus cubensis Howell Rivero, 1936                 | Cuban Dogfish        | FlMNH       |                   |               |                      |             |     |
| **Sternopythidae**                                   |                      |             |                   |               |                      |             |     |
| Sonoda puscilampa Grey, 1960                         | Deepsea Hatchetfish  | NMNH        |                   |               |                      |             |     |
| **Stomiidae**                                        |                      |             |                   |               |                      |             |     |
| Astronesthes similus Parr, 1927                      | Similar Snaggletooth| NMNH        |                   |               |                      |             |     |
| **Syngnathidae**                                     |                      |             |                   |               |                      |             |     |
| Amphiprionus dendiricus (Barbour, 1905)              | Pipehorse            | S18         |                   |               |                      | SJ12        |     |
| Bryx dunckeri (Metzelaar, 1919)                      | Pugnose Pipefish     | S18         | 2                 | 1             | SJ13                 | 1           | YES |
| Cosmocampus brachycephalus (Poey, 1868)              | Crested Pipefish     | 2           |                   |               |                      | 1           |     |
| Cosmocampus elaeom (Poey, 1868)                      | Shortfin Pipefish    | S18         | 2,4               | 1             | SJ19                 |             |     |
| Cosmocampus profundus (Herald, 1965)                 | Deepwater Pipefish   | 2           |                   |               |                      |             |     |
| Halicampus crinitus (Jenyns, 1842)                   | Banded Pipefish      | S18         |                   |               | SJ34, SJ13, SJ22     |             |     |
| Hippocampus erectus Perry, 1810                      | Lined Seahorse       | 11          | 1                 |               | YES                  |             |     |
| Hippocampus reidi Ginsburg, 1933                     | Longsnout Seahorse   | S18         | 4                 | 1             | SJ19                 |             | YES |
| Microphis lineatus (Kaup, 1856)                      | Opposum Pipefish     | S18         |                   |               | O23                  |             |     |
| Pseudophallus mindii (Meek & Hildebrand, 1923)       | Freshwater Pipefish  | 11          |                   |               |                      |             |     |
| Scientific name | Common name | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|----------------|-------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| Syngnathus caribbaeus Dawson, 1979 | Caribbean Pipefish | S18 | 2 | SJ21 |
| Syngnathus daswnoni (Herald, 1969) | Antillean Pipefish | | 2,4,11 | 1 |
| Syngnathus pelagicus Linnaeus, 1758 | Sargassum Pipefish | | | ROM |

**Synodontidae**

| Scientific name | Common name | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|----------------|-------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| Saurida brasiliensis Norman, 1935 | Largascal Lizardfish | | 2 | |
| Saurida suspicio Breder, 1927 | Doubtful Lizardfish | S18 | 2 | 1 | SJ5, SJ13 | YES |
| Synodus foetens (Linnaeus, 1766) | Inshore Lizardfish | S18 | 2 | 1 | SJ5, SJ13 | 1 | YES |
| Synodus intermedius (Spix & Agassiz, 1829) | Sand Diver | S18 | 2,4 | 1 | |
| Synodus poeyi Jordan, 1887 | Offshore Lizardfish | | 2 | |
| Synodus synodus (Linnaeus, 1758) | Red Lizardfish | S18 | 2 | 1 | SJ11, SJ21 | 1 |

**Tetraodontidae**

| Scientific name | Common name | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|----------------|-------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| Canthigaster rostrata (Bloch, 1786) | Sharpnose Puffer | S18 | 2,4,5,8 | 1 | |
| Sphoeroides spengleri (Bloch, 1785) | Bandtail Puffer | S18 | 2,4 | 1 | YES |
| Sphoeroides testudineus (Linnaeus, 1758) | Checkered Puffer | S18 | 2,4,6 | 1 | O15 | 1 |

**Triakidae**

| Scientific name | Common name | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|----------------|-------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| Mustelus canis (Mitchill, 1815) | Smooth Dogfish | | | FLMNH |
| Pterostomus longispina Goode & Bean, 1886 | Widehead Armored Searobin | | | CAS |

**Tripterygiidae**

| Scientific name | Common name | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|----------------|-------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| Enneanectes altivelis Rosenblatt, 1960 | Lofty Triplefin | S18 | 2 | 1 | |
| Enneanectes atrorus Rosenblatt, 1960 | Blackedge Triplefin | S18 | 2,11 | 1 | |
| Enneanectes boehlkei Rosenblatt, 1960 | Roughhead Triplefin | S18 | 2 | 1 | -1 | YES |
| Enneanectes jordani (Evermann & Marsh, 1899) | Mimic Triplefin | S18 | 2 | 1 | SJ21 |
| Enneanectes matador Victor, 2013 | Matador Triplefin | S18 | 2 | 1 | |

**Xiphiidae**

| Scientific name | Common name | Image Plate | Literature source | Online source | Uncommon (site code) | Ichthyocide | DNA |
|----------------|-------------|-------------|-------------------|---------------|----------------------|-------------|-----|
| Xiphias gladius Linnaeus, 1758 | Swordfish | S18 |

**Notes:** Image voucher – supplementary plate number is given; photographer name is imbedded in each image. Literature source – 1 DeAngelis et al. (2008); 2 Dennis (2000); 3 Dennis et al. (2004); 4 Friedlander et al. (2013); 5 Garcia-Sais (2005); 6 Loftus (2003); 7 Mantatrust.org pers. comm. to DRR; 8 Nelson and Appledorn (1985); 9 Quatrinni et al. (2017); 10 Recksiek et al. (2006), 11 Smith-Vaniz and Jelks (2014); 12 Rogers et al. (2010). Online source – 1 indicates that an aggregator source exists, with the source named whenever it represents the sole voucher: AMNH (American Museum of Natural History); NOAA (National Oceanographic and Atmospheric Administration); BOLD (Barcode of Life); FLMNH (Florida Museum of Natural History); MCZ (Museum of Comparative Zoology); NMNH (National Museum of Natural History); ANSP (Academy of Natural Sciences of Philadelphia); CAS (California Academy of Sciences); ROM (Royal Ontario Museum); KUBI (University of Kansas Biodiversity Institute); CMN (Canadian Museum of Nature). Uncommon – species seen at 3 or less named sites by CJE and AME (see Suppl material 3: File S2a, b (for site codes) and Suppl. material 4: File S3). Ichthyocide – species collected by this method as noted in Dennis (2000); parentheses indicate ichthyocide was the only collection method noted by Dennis (2000). Gobiidae – we follow Thacker (2009) in including Cerdale and Ptereleotris among the Gobiidae. Hypoplectrus – we follow Puebla et al. (2022) in treating H. maculifera as a synonym of H. aberrans.
Dennis (2000) listed 401 species from 216 genera and 79 families from those two islands (Table 2). We found records of an additional 159 species, producing an increase of 39.7% in the number of species, 37.0% in the number of genera and 36.7% in the number of families known from there (Table 3). The additions include 34 species for which the only source is a voucher image, 50 species recorded in post-2000 publications, and 49 species recorded only by online sources of museum (and other) data (Table 3). Of the 561 in Table 2, 24.6% were uncommon. Although 30.1% were collected using rotenone, species accounts by Dennis (2000) mentioned no other collecting method for only 10.4% of that subgroup of species. The 561 include three non-natives to the area (Oreochromis niloticus, Poecilia reticulata and Pterois volitans), 11 freshwater/estuarine species (Anguilla rostratus, Dormitator maculatus, Eleotris perniger, Gobiomorus dormitor, Awaous banana, Sicydium plumieri, Sicydium punctatum, Dajaus monticola, Microphis lineatus and Pseudophallus mindii) and 547 marine species native to the GC.

Table 3. Fishes from St. John-Thomas recorded by different sources.

| Types of fish taxa recorded               | Species | Genera | Families |
|------------------------------------------|---------|--------|----------|
| Total from all sources                   | 561     | 296    | 108      |
| From Literature sources                 | 451     | 251    | 89       |
| Dennis 2000 All                          | 401     | 216    | 79       |
| Sole source is Dennis 2000              | 164     | 126    | 55       |
| Sources other than Dennis 2000          | 50      | 44     | 25       |
| From Online sources                     | 453     | 253    | 97       |
| Online sources only                      | 50      | 46     | 42       |
| From Images                              | 371     | 20     | 73       |
| Images only                              | 34      | 29     | 20       |
| Deep species                             | 49      | 44     | 33       |
| Recorded by Dennis 2000                  | 19      | 18     | 13       |
| Uncommon shallow species                 | 138     | 104    | 45       |
| Ichthyocide Collection                   | 173     | 99     | 45       |
| Ichthyocide only                         | 18      | 15     | 11       |
| mtDNA BARCODES                           |         |        |          |
| Species                                  |         |        |          |
| St. John-Thomas                          | 156     | 93     | 41       |
| Sole record is from barcode data         | 1       | 1      | 1        |
| Puerto Rico                              | 90      | 50     | 25       |
| St. John-Thomas but not Puerto Rico      | 113     | 61     | 24       |
| Puerto Rico but not St. John-Thomas      | 47      | 18     | 8        |
| St. Croix                                | 1       | 1      | 1        |
| British Virgin Islands                   | 3       | 2      | 1        |
| All sites combined                       | 207     | 112    | 49       |

Notes: Data sources (literature, online sources, images) are listed in Table 2. Deep species are those exclusively or typically found below 40 m depth. Uncommon shallow species are those found at 1–3 sites by CJE, AME, LR, and third-party photographers as indicated in Table 2. Ichthyocide collection: recorded as being collected with rotenone by a source cited by Dennis (2000). Ichthyocide only: the only collection method listed for a species from St. John-Thomas by Dennis (2000). DNA barcodes: (see Suppl. material 7: File S6). The single DNA Barcoded species collected at St. Croix (see Suppl. material 7: File S6) is not known from St. John-Thomas. The St. John-Thomas species count includes four identified only to genus. DNA barcode data for Pterois volitans are not included in this table.
The species richness of the USVI marine fauna (i.e., the combined St. John-Thomas plus St. Croix faunas) was 15–20\% greater than that of either of the two insular faunas (Table 4). Those two faunas had slightly higher relative rates of richness of genera and families than of species. The larger size of the USVI fauna of species derives from ~ 1/5 of species in each insular fauna not being present in the other, with lower proportions of genera and families also being recorded only at one of the two islands. Relative faunal richness at all three taxonomic levels and the relative abundance of taxa present at only one island were ~ 5\% higher at St. Croix than St. John-Thomas. In both island faunas the relative representation of species, genera, and families in the entire USVI fauna was substantially greater among shallow species than deep species. The deep fauna was much smaller than the shallow fauna at each island and there was much less overlap in occurrence of species, genera, and families between the two insular deep faunas than between their shallow faunas (Table 4).
We compared the ecotypic structure of the St. John-Thomas and St. Croix faunas of reef-associated fishes with that of the GC fauna (see Robertson and Tornabene 2021). Both St. Croix and St. John-Thomas have faunas that are almost half the size of the total regional
fauna, with the listed St. John-Thomas fauna being ~ 5% smaller than that of St. Croix (Table 5). Compared to the GC fauna both islands have slightly higher percentages of pelagic species, distinctly higher percentages of demersal species, and correspondingly lower percentages of benthic, cryptobenthic, small cryptobenthic, and CCRF species. These differences for non-pelagic types apply to each entire USVI fauna, and to both shallow- and deep-reef subgroups of those faunas. Both USVI sites also have markedly lower relative abundances (~ 1/3) of deep-reef species than the regional fauna. The relative abundances of different ecotypes are remarkably similar at both islands, except for the presence of a few deep cryptobenthic and CCRF species detected only at St. John-Thomas.

Zoogeographic structure of the USVI faunas (Table 6)

The zoogeographic structures of the faunas of the two USVI sites and nearby Sint Eustatius are quite similar (Table 6). Species that are endemic to the Greater Caribbean and, in a few cases, surrounding areas are the largest group in all three faunas, with West Atlantic species also found in Brazil being the second largest by a small margin in each case. The two smallest groups in each case are Trans-Atlantic and Atlantic & Indo-Pacific. The ranks of those four groups are the same in all three faunas, a measure of their strong similarities.

mtDNA-Barcode Coverage (Tables 2, 3; Suppl. material 7: File S6)

Table 2 indicates which members of the St. John-Thomas fauna have mtDNA-barcode sequences on the BOLD database derived from specimens collected at that site. Table 3 presents a summary of taxa that have sequences obtained from St. John-Thomas, Puerto Rico, the British Virgin Islands and St. Croix, singly and in combination. File S6 provides technical information about those barcode data for the various species.

We obtained local DNA-barcodes for 156 fish species in 156 BINs from St. John-Thomas, with one additional from St. Croix, and three additional species from around the British Virgin Islands (total 160 species). Of these, two are only from GenBank records harvested by BOLD, and 10 are added from specimens collected in offshore larval plankton tows described in Lamkin et al. (2009). We obtained 91 species records (including one non-native, *Pterois volitans*) for Puerto Rico, 44 of them shared with the Virgin Islands. Of the 91, 27 are added from Harms-Tuohy et al. (2016), 14 from GenBank records harvested by BOLD, and seven from other sources, including the University of Kansas (UKFBJ), Smithsonian (Bermingham/Lessios; BSMUA & BSOPA), the Guy Harvey Research Institute (Hanner et al. 2011; EBFSF), and the Museum and Art Gallery of the Northern Territory (GOBY) in Australia.

The available DNA-barcode sequence records from specimens collected at St. John-Thomas represent coverage of 27.8% of the species, 31.4% of the genera and 38% of the families of fishes known from that site. Barcode records represent the sole source of information on the presence of one species known from those islands and are also available for another four species currently identifiable only to genus. Distinctly fewer species have been barcoded from fish taken at Puerto Rico, and there are almost no
such data available from either St. Croix or the British Virgin Islands. Barcode records from Puerto Rico and the British Virgin Islands exist for 52 species occurring in St. John-Thomas but not sequenced from there, bringing the total PRP DNA-barcoded species to 36.5% of St. John-Thomas fauna. All but seven of the 200 barcoded species are reef-associated bony fishes. The vast majority (98.5%) of barcoded species are shallow forms. Deep-living species are especially under-represented among the barcoded forms: only three of 51 such species have barcode data (File S6).

Discussion

St. Croix

The species records we have added increased the size of that island’s fauna by 7.5%. Almost a third of the additions arise from voucher photographs of shallow-reef species photographed by CJE and AME (and provided by Mantatrust.org). Those include several not accepted by Smith-Vaniz and Jelks (2014) due to inadequate information available at that time. Cryptobenthic fishes, which, by definition, are generally difficult to observe, are a major component of Greater Caribbean reef-fish faunas, including that of St. Croix. Such species comprised all but one of those added by CJE and AME. The exception, *Kyphosus cinerascens*, may have been misidentified previously, since the taxonomic status and global distributions of members of the genus were only comprehensively reviewed by Knudsen and Clements (2016), after Smith-Vaniz and Jelks (2014) published their checklist. Almost half the additions were deep-living species, one third of which were recorded only by submersible or ROV, with the remainder coming from online and literature records.

The process of obtaining location records is an ongoing one for online aggregators, which have vastly increased the amounts of data they host during the last half decade. Although the aggregators offer such information, and are involved in collaborative data sharing, such sharing is sufficiently incomplete that it is necessary to examine records from multiple aggregators to obtain a comprehensive picture of all the data available for any particular site. Even “old” data becomes newly available on the aggregators from time to time and needs to be included in faunal inventories of well-studied sites. The increase in faunal size, although not large in percentage terms, demonstrates the utility of citizen-science efforts to provide photographic vouchers, of reviews of submersible and ROV studies of deep-living fishes, and of periodic evaluations of information available online from aggregators.

St. John-Thomas

Although the 401 species list for this site extracted from Dennis (2000) was substantial (74% the size of Smith-Vaniz and Jelks (2014) count for St. Croix), our use of the same methods as those that produced an increase in the St. Croix fauna produced a much larger increase in the St. John-Thomas fauna: 40% vs. 7.5% for St. Croix. Dennis (2000) was
the sole source for 29% of species recorded in our expanded list of the St. John-Thomas fauna. Records from additional sources brought the size of the St. John-Thomas fauna to within 5% of the size of the St. Croix fauna. Citizen-scientists’ photographic records accounted for 22% of the new additions and data only available from online databases for 33%, while other literature sources provided the sole records for 32% of the additional species. Multiple types of sources accounted for the remaining 13% of new records.

The size, and taxonomic- and ecotypic structure of the two USVI marine faunas

Both insular marine faunas are over 80% the size of the combined USVI fauna in terms of species richness. Species found at only one of the two islands represent ~ 20% of each fauna. For shallow species the size of each insular fauna is 85–90% that of the combined fauna, with correspondingly lower rates of occurrence at only one island. Two factors may contribute to these differences between the island faunas: variation in ecological conditions between the islands and inadequate sampling. The possibility of differing ecological conditions seems small as both islands have the same range of large-scale habitat types, although those vary in abundance between the islands. The shelf area of St. John-Thomas is close to 10 times the size of the St. Croix shelf, yet the former has the smaller known fauna. At both islands the great majority of sampling has occurred in quite shallow water, very often close to shore in the case of St John-Thomas. Shelf habitats likely are under-sampled at both islands, strongly so at St. John-Thomas, where there are large areas of habitat between 40–60 m depth some distance from the islands on both the northern and southern parts of the PRP. At St. Croix most shallow sampling has occurred in and near the Buck Island Reef National Monument, rather than spread around different parts of the platform and different sides of the island. Hence both insular faunas likely are larger than indicated here, particularly in the case of St. John-Thomas.

Review of the two USVI marine species lists show that species not shared between the two islands are distributed through many genera and families (Suppl. material 5: File S4; Table 4). None are endemic to either USVI island and single-island endemics are rare amongst the Greater Caribbean fauna and limited to highly isolated islands such as Cayman. Most species in that region have geographic ranges much larger than the USVIs. The larger size of the St. Croix fauna, particularly of cryptobenthic species can be attributed to a greater effort to find such species. This was done using rotenone during two intensive sampling campaigns that occurred ~ 40 y after rotenone sampling at St. John-Thomas, plus some subsequent minor efforts in the shallow part of a Buck Island Reef National Monument that, in its entirety constitutes ~ 1/3 of the St. Croix insular platform: 46% (262) of the native marine species known from St. Croix are shallow species collected using rotenone (Smith-Vaniz and Jelks 2014), vs. 31.7% (173) of such species from St. John-Thomas. Later sampling by Pittman et al. (2008) at the same small, shallow St. Croix site as studied by Smith-Vaniz et al. (2006) added 10.9% more species to the tally of the first two series of collections. Smith-Vaniz and Jelks (2014) produced a list of 41 species from 22 families that, at that time, were known from St. John-Thomas but not St. Croix. Since then, five of the 35 shallow species on that table have been added to the St. Croix fauna (Table 1 here), together with two others that were listed as unconfirmed
by those authors. Photographic sampling of shallow reef fishes at St. John-Thomas by CJE, AME and other citizen scientists, by itself increased the size of the fauna registered by Dennis (2000) by 8.5%. Finally, the species composition of local reef-fish faunas can change substantially through time at intensively sampled sites, for varying reasons (e.g., see changes registered by Starck et al. 2017 over a 50y period), highlighting the utility of temporally dispersed sampling. With further sampling many shallow species currently known from only one of the USVI should be expected to be found at the other, in which case the shallow faunas of each island would be 10–15% larger than the current figures.

The deep-species fauna represents only 13.1% of the entire (shallow plus deep) USVI fauna and deep species exhibit much lower rates of faunal overlap between the two islands than occurs among shallow species. The two islands have experienced low rates of exploration of deep habitats, particularly deep reefs, by submersibles and ROVs, which were limited to observational studies. The few ROV (Quattrini et al. 2017) and submersible dives (Nelson and Appeldoorn 1985; Garcia-Sais 2005) were the sole source of only 11.1% and 28% of records of deep fishes at St. Croix and St. John-Thomas, respectively. The edges of the insular platforms of the two USVIs are < 50 km apart and the suite of deep species involved have ranges much larger than the area occupied by the USVI. Low levels of sampling can account for the small size of both USVI deep faunas, particularly the deep-reef component, and to the low level of overlap between the deep faunas of the two islands.

At both USVI sites the deep-reef species represent only 4.2–5% of the entire local reef-fish fauna, i.e., ~ 1/3 of the percentage for the GC regional fauna (Robertson et al. 2022). In contrast, when intensive submersible collecting and observations have been aimed specifically at assessing the diversity of deep-reef fish faunas, such as has occurred at other Caribbean islands (Curacao, Roatan and Sint Eustatius), the inventory of deep-reef species at individual islands has increased ~ 9 fold, with such species representing 16% of the entire (shallow plus deep) reef-fish fauna at the most intensively sampled island (Robertson et al. 2022), i.e., more than three times the level at each USVI. Similar sampling at both USVI undoubtedly will increase the absolute and relative sizes of their deep-reef faunas. Smith-Vaniz and Jelks (2014) concluded that there was no indication at the time of their study that the St. Croix fauna had reached asymptotic size. The additions reported here and patterns of variation in faunal composition between the two islands support that view for St. John-Thomas as well as St. Croix.

Reef-associated bony fishes comprised 84% and 91%, respectively, of the faunas of St. John-Thomas and St. Croix, and the St. John-Thomas reef-fish fauna was 94.3% the size of the equivalent fauna of St. Croix. The ecotypic structure of those two USVI reef-fish faunas was very similar, with both differing from the broad structure of the GC regional fauna by having larger proportions of pelagic and demersal species that are readily visible to observers and correspondingly smaller proportions of cryptic species. Similarities in the zoogeographic structures and sizes of the two USVI faunas support the view that both can be considered to be sampled with a similar level of efficiency, at least in terms of their shallow faunas.
mtDNA-barcode coverage

In terms of the availability of DNA-barcodes for marine fishes, the Greater Caribbean currently is the most well-sampled large marine biogeographic region in the tropics, with ~90% of the shore-fishes barcoded and up to 95% of the shallow reef-associated species (Victor et al. 2015). However, several specific locations account for the vast majority of sequences. Those include Florida, Yucatan (Mexico), Belize, Panama, and Curacao; with species lists published for Yucatan by Valdez-Moreno et al. (2010) and lists for additional locations in Weigt et al. (2012). The Puerto Rican Plateau has been only lightly sampled, with information derived mostly from older collections by author BV at St. John-Thomas and Puerto Rico, and from a set of lionfish stomach contents from La Parguera in Puerto Rico sequenced by Harms-Tuohy et al. (2016). The latter identified 39 species from 16 families. A few additional sequences come from open-ocean sampling for larvae around the USVI, by Lamkin et al. (2009). The older collections from St. Thomas and Puerto Rico were collected by BV for recruitment and otolith studies as well as some taxonomic reviews (e.g., the genera Coryphopterus and Emblemariopsis). The recent additions of 19 species from St. John were collected by CJE and AME mainly for DNA confirmation of the species identification of diagnostic underwater photographs that serve as vouchers here, mostly of cryptobenthic fishes. No collections at St. John-Thomas or elsewhere on the PRP that provided DNA barcodes were expressly made for assembling an inventory of fish species- hence the absence of some of the most abundant and widespread shallow reef fishes in the barcode list presented here (e.g., the Bluehead Wrasse, Thalassoma bifasciatum).

We cannot directly compare barcode coverage of fishes at St. John-Thomas with that at other intensively barcoded locations noted above because neither the number of barcoded species nor the local species inventory have been comparably evaluated at any of those sites. The results of the present assessment of DNA-barcode coverage for the USVI and the remainder of the PRP highlight the usefulness of the DNA-barcode database for ancillary projects. Accumulating sequences for unrelated purposes, such as taxonomic reviews, stomach-content studies, larval or e-DNA surveys (environmental DNA, where water is sampled for dissolved DNA sequences), augments the general DNA-barcode coverage for specific biogeographic regions and helps confirm species identifications for faunal surveys.

Permits

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**Supplementary material 1**

**Plates S1–S18**
Authors: D. Ross Robertson, Carlos J. Estapé, Allison M. Estapé, Lee Richter, Ernesto Peña, Benjamin Victor
Data type: images (jpg, images in ZIP arhiv)
Explanation note: Fishes of St. Croix (Plate S1), fishes of St. John-Thomas (Plates S2–S18).
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Link: https://doi.org/10.3897/zookeys.1103.83795.suppl1

**Supplementary material 2**

**File S1**
Authors: D. Ross Robertson, Carlos J. Estapé, Allison M. Estapé, Lee Richter, Ernesto Peña, Benjamin Victor
Data type: image (jpg file)
Explanation note: Bathymetry of the US Virgin Islands.
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Link: https://doi.org/10.3897/zookeys.1103.83795.suppl2
Supplementary material 3

File S2
Authors: D. Ross Robertson, Carlos J. Estapé, Allison M. Estapé, Lee Richter, Ernesto Peña, Benjamin Victor
Data type: GPS data (excel file)
Explanation note: File S2A: Georeferencing coordinates and site codes for dive sites of authors Carlos and Allison Estapé at St John, St Thomas and St. Croix during 2021. File S2B: Georeferencing coordinates and site codes for dive sites used by non-author photographers at St John-Thomas. File S2C: Names and emails of third party Citizen Scientists who provided voucher images of various St John-Thomas fishes.
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Link: https://doi.org/10.3897/zookeys.1103.83795.suppl3

Supplementary material 4

File S3
Authors: D. Ross Robertson, Carlos J. Estapé, Allison M. Estapé, Lee Richter, Ernesto Peña, Benjamin Victor
Data type: GPS data (kmz. file)
Explanation note: KMZ file of USVI dive sites.
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Link: https://doi.org/10.3897/zookeys.1103.83795.suppl4
Supplementary material 5

File S4
Authors: D. Ross Robertson, Carlos J. Estapé, Allison M. Estapé, Lee Richter, Ernesto Peña, Benjamin Victor
Data type: occurrences (excel file)
Explanation note: File S4. Native marine fish faunas of St. John-Thomas and St. Croix.
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Link: https://doi.org/10.3897/zookeys.1103.83795.suppl5

Supplementary material 6

File S5
Authors: D. Ross Robertson, Carlos J. Estapé, Allison M. Estapé, Lee Richter, Ernesto Peña, Benjamin Victor
Data type: occurrences (excel file)
Explanation note: Ecological Characteristics of Reef-Associated Bony Fishes from St John-Thomas. See Methods of paper for details.
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Link: https://doi.org/10.3897/zookeys.1103.83795.suppl6
Supplementary material 7

File S6
Authors: D. Ross Robertson, Carlos J. Estapé, Allison M. Estapé, Lee Richter, Ernesto Peña, Benjamin Victor
Data type: genomic (excel file)
Explanation note: File S6: mtDNA-Barcode information for fishes from islands on the Puerto Rico Platform (St John-Thomas, Puerto Rico and the British Virgin Islands) and St. Croix. For coding of differently colored highlighting see bottom of table. For explanations of "Reef Associated" and "Deep" see main text.
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