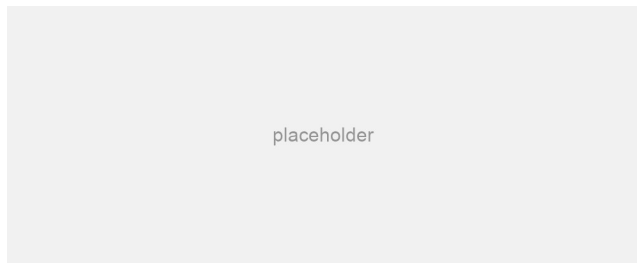


UNESCO environmental DNA (eDNA) Expeditions in marine World Heritage sites

Biodiversity survey for Archipiélago de Revillagigedo

Interim Results Based on 50% of Samples Analyzed
Not for public distribution



Credit: xxx

About eDNA Expeditions

UNESCO's eDNA Expeditions is a global, citizen science initiative that is conducted with the intention to measure marine biodiversity and predict the impact climate change on marine community composition across UNESCO World Heritage marine sites.

eDNA is a cost effective and minimally invasive method to measure biodiversity in any given area. Marine species continuously shed DNA into the water around them in the form of waste, mucus, or cells. By extracting this DNA from water samples, and subsequently multiplying and sequencing specific regions within these DNA strands, a wide variety of species can be detected without removing any organisms from their environment. The regions in the DNA targeted for sequencing are selected depending on the scope of the study: while some markers are suitable to obtain a broad overview of biodiversity across many groups of species, other markers are particularly suited to get high resolution insight for a more specific taxonomic group such as fish. The UNESCO eDNA Expeditions initiative combines a number of markers tailored for marine vertebrates (fish, mammals, and turtles). A general marker was added to also allow detection of species from other groups such as invertebrates, which can give a broader insight in the marine species diversity in a given area.

Between September 2022 and May 2023, UNESCO organized eDNA sampling campaigns in 21 marine World Heritage sites across 17 countries around the world. At every World Heritage site, about 20 samples were collected from different habitats. Over 250 young people participated in the local sampling expeditions. They were guided by local experts and park management staff, using protocols and eDNA sampling equipment provided by UNESCO.

Biodiversity inventories generated from the samples are being combined with existing species distribution data from public biodiversity databases such as the Ocean Biodiversity Information System (OBIS) in view of obtaining a comprehensive overview of marine life across marine World Heritage sites. Through the use of climate scenarios and species distribution models, an estimate will be made of the impact of climate change, in particular rising temperatures, on local biodiversity and its potential future distribution patterns.

More information about the initiative and a press kit are available on the UNESCO website: <https://www.unesco.org/en/edna-expeditions>.

Results

Sampling and sample processing

eDNA sampling was conducted in Archipiélago de Revillagigedo in April 2023. A total of 20 samples were collected at 4 locations in the park covering different habitats: “San Benedicto” “Las Cuevitas” “”, Isla Clarion, Punta Tosca, and Roca Partida (Figure 1). Up to 1,800 mL of seawater was filtered through filter cartridges containing a filter with a 0.8 µm pore size. After sampling, the filter cartridges were flushed with preservation liquid and shipped to UNESCO. From the 20 samples, 10 have now (December 2023) been processed. A second batch of samples will be processed by January 2024. DNA from these samples was extracted and amplified, and subsequently sent to the sequencing facility at KU Leuven in Belgium, a specialized university eDNA lab contracted by UNESCO for this work. PCR amplification was done using five primer pairs selected to capture as much biodiversity as possible in the target groups of the study: fish, mammals, and turtles. The results in this preliminary report are based on a first batch of 10 samples that were analyzed covering all locations that were sampled in the World Heritage site.

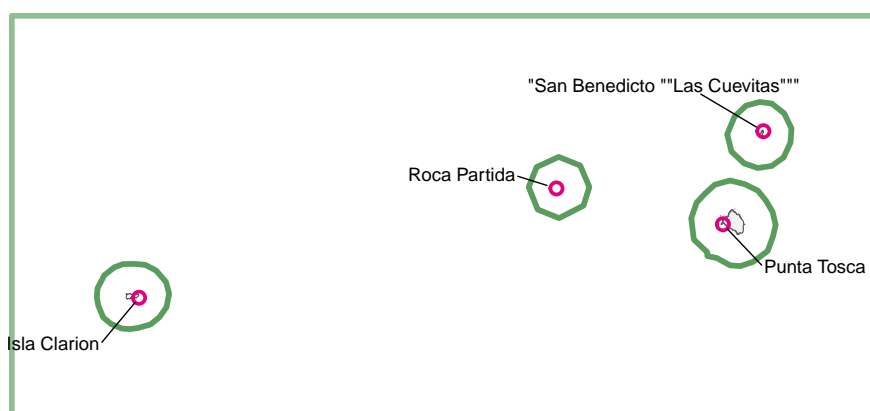


Figure 1: Map of the sampling locations.

DNA sequencing

Sequencing of the DNA from 10 samples resulted in over 10 million sequence reads (Table 2), from which we collected 16,950 unique sequences or ASVs.

| reads | asvs |
|----------|-------|
| 10687541 | 16950 |

Table 1: Reads, ASVs, and species across all samples.

| locality | materialSampleID | sampleSize | reads | asvs | species |
|----------------------------------|------------------|------------|---------|------|---------|
| "San Benedicto" "Las Cuevitas" " | EE0065 | 1740 | 876866 | 7798 | 159 |
| Isla Clarion | EE0098 | 1260 | 971563 | 7719 | 102 |
| Isla Clarion | EE0100 | 1620 | 975021 | 9099 | 92 |
| Isla Clarion | EE0106 | 1800 | 1597412 | 9739 | 157 |
| Isla Clarion | EE0129 | 1800 | 1130165 | 9468 | 147 |
| Punta Tosca | EE0060 | 1800 | 958908 | 8662 | 95 |
| Punta Tosca | EE0064 | 1500 | 855753 | 6252 | 95 |
| Punta Tosca | EE0111 | 1800 | 1745149 | 9559 | 107 |
| Roca Partida | EE0101 | 1800 | 965406 | 7634 | 46 |

Table 2: Reads, ASVs, and species by sample.

Species identification

The marker sequences obtained from sequencing were matched with sequence reference databases built using public data available from the National Center for Biotechnology Information (NCBI). This resulted in the identification of 286 species, including 137 fish species, 3 mammalian species, and 3 turtle species (Table 3). Species from other groups, such as algae, cnidarians, echinoderms, copepods, and crustaceans, were also detected (Figure 2). This number of species detected represents about 27% of the 1,592 species known from Archipiélago de Revillagigedo in the OBIS database. Of the 286 species detected, 145 are not among the species previously reported from Archipiélago de Revillagigedo to the UNESCO OBIS database. 13 of the detected species are listed as threatened on the IUCN Red List (Table 4).

A full list of species is added at the end of this report.

| group | eDNA species | total species | fraction |
|---------|--------------|---------------|----------|
| fish | 137.00 | 510.00 | 0.27 |
| mammals | 3.00 | 16.00 | 0.19 |
| turtles | 1.00 | 4.00 | 0.25 |

Table 3: Number of species in the three target groups, from the OBIS database and from eDNA sampling.

| category | eDNA species | total species | fraction |
|----------|--------------|---------------|----------|
| CR | 1 | 6 | 0.17 |
| EN | 5 | 15 | 0.33 |
| VU | 7 | 55 | 0.13 |

Table 4: Number of species by IUCN Red List category, from the OBIS database and from eDNA sampling.

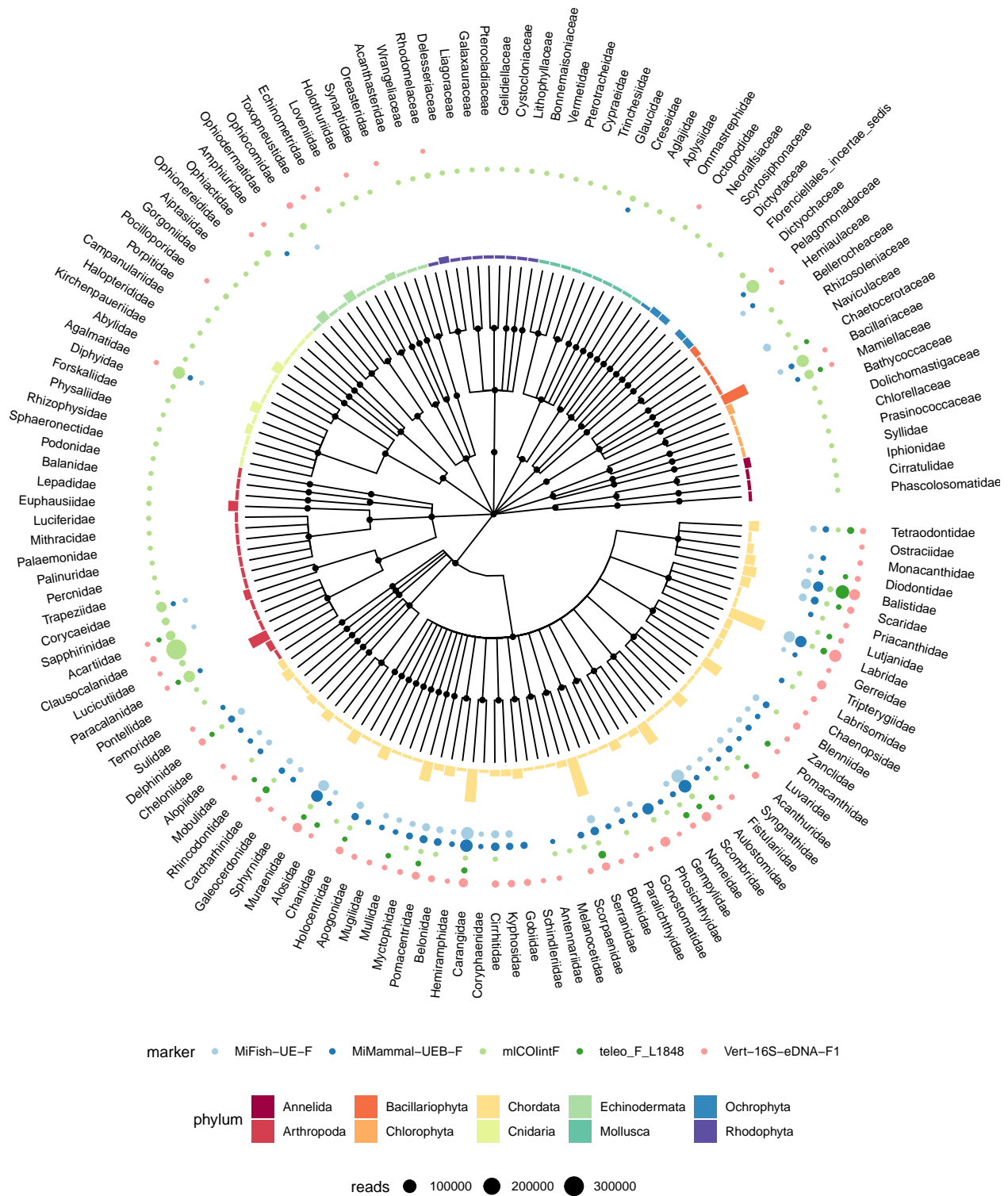


Figure 2: Number of DNA reads (bubbles) and species detected (bars) by family.

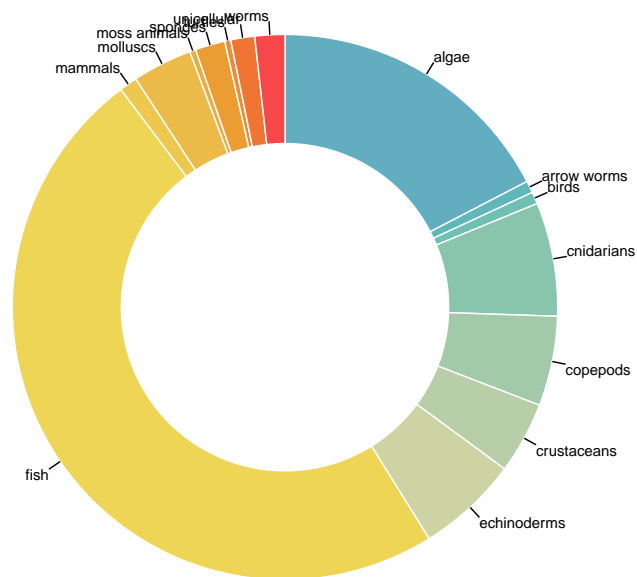


Figure 3: Distribution of detected species across groups.

| phylum | class | species | group | category | new | vernacular |
|-----------------|-------------------|---------------------------------------|--------------|----------|-----|---|
| Amoebozoa | Discosea | Neoparamoeba aestuarina | unicellular | | yes | |
| Annelida | Polychaeta | Eusyllis kupfferi | worms | | yes | |
| Annelida | Polychaeta | Iphione henshawi | worms | | yes | |
| Annelida | Polychaeta | Odontosyllis phosphorea | worms | | yes | |
| Annelida | Polychaeta | Timarete punctata | worms | | yes | |
| Annelida | | Phascolosoma (Phascolosoma) perlucens | worms | | yes | |
| Arthropoda | Branchiopoda | Pseudevadne tergestina | crustaceans | | yes | |
| Arthropoda | Copepoda | Acartia (Acartia) negligens | copepods | | yes | |
| Arthropoda | Copepoda | Acrocalanus gracilis | copepods | | yes | |
| Arthropoda | Copepoda | Calocalanus pavo | copepods | | yes | |
| Arthropoda | Copepoda | Calocalanus plumulosus | copepods | | yes | |
| Arthropoda | Copepoda | Calocalanus styliremis | copepods | | yes | |
| Arthropoda | Copepoda | Clausocalanus furcatus | copepods | | yes | |
| Arthropoda | Copepoda | Copilia mirabilis | copepods | | yes | |
| Arthropoda | Copepoda | Farranula gibbula | copepods | | yes | |
| Arthropoda | Copepoda | Labidocera detruncata | copepods | | yes | |
| Arthropoda | Copepoda | Lucicutia flavicornis | copepods | | yes | |
| Arthropoda | Copepoda | Mecynocera clausi | copepods | | yes | |
| Arthropoda | Copepoda | Paracalanus indicus | copepods | | yes | |
| Arthropoda | Copepoda | Pontellina plumata | copepods | | yes | |
| Arthropoda | Copepoda | Sapphirina stellata | copepods | | yes | |
| Arthropoda | Copepoda | Temora discaudata | copepods | | yes | |
| Arthropoda | Malacostraca | Brachycarpus biunguiculatus | crustaceans | | | twoclaw shrimp |
| Arthropoda | Malacostraca | Euphausia distinguenda | crustaceans | | yes | |
| Arthropoda | Malacostraca | Euphausia tenera | crustaceans | | yes | |
| Arthropoda | Malacostraca | Hansarsia gracilis | crustaceans | | yes | |
| Arthropoda | Malacostraca | Lucifer typus | crustaceans | | yes | standard lucifer prawn, gamba des monts sous-marins |
| Arthropoda | Malacostraca | Microphrys platysoma | crustaceans | | | |
| Arthropoda | Malacostraca | Panulirus penicillatus | crustaceans | LC | | pronghorn spiny lobster, grosses têtes |
| Arthropoda | Malacostraca | Percnon abbreviatum | crustaceans | | | |
| Arthropoda | Malacostraca | Trapezia bidentata | crustaceans | | | |
| Arthropoda | Thecostraca | Balanus trigonus | crustaceans | | yes | |
| Arthropoda | Thecostraca | Conchoderma virgatum | crustaceans | | yes | |
| Bacillariophyta | Bacillariophyceae | Bellerochea polymorpha | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Chaetoceros curvisetus | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Cylindrotheca closterium | algae | | | |
| Bacillariophyta | Bacillariophyceae | Eucampia striata | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Eucampia zodiacus | algae | | | |
| Bacillariophyta | Bacillariophyceae | Navicula minima | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Pseudo-nitzschia abrensis | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Pseudo-nitzschia caciantha | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Pseudo-nitzschia decipiens | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Pseudo-nitzschia lundholmiae | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Pseudo-nitzschia pseudodelicatissima | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Pseudo-nitzschia sabit | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Pseudo-nitzschia subpacifica | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Sundstroemia setigera | algae | | yes | |
| Bigyra | Bicoecia | Cafeteria roenbergensis | | | yes | |
| Bryozoa | Gymnolaemata | Bugula neritina | moss animals | | yes | Common bugula, Brown bryozoan, bugule brune |
| Cercozoa | Chlorarachnea | Bigelowiella natans | unicellular | | yes | |

Continued on next page

| phylum | class | species | group | category | new | vernacular |
|--------------|---------------------|-----------------------------|-------------|----------|-----|--|
| Cercozoa | Chlorarachnea | Chlorarachnion reptans | unicellular | | yes | |
| Chaetognatha | Sagittoidea | Flaccisagitta enflata | arrow worms | | yes | |
| Chaetognatha | Sagittoidea | Krohnitta subtilis | arrow worms | | yes | |
| Chlorophyta | Mamiellophyceae | Bathycoccus prasinus | algae | | yes | |
| Chlorophyta | Mamiellophyceae | Dolichomastix tenuilepis | algae | | yes | |
| Chlorophyta | Mamiellophyceae | Micromonas commoda | algae | | yes | |
| Chlorophyta | Mamiellophyceae | Micromonas pusilla | algae | | yes | |
| Chlorophyta | Pyramimonadophyceae | Prasinoderma coloniale | algae | | yes | |
| Chlorophyta | Trebouxiophyceae | Prototheca ciferrii | algae | | yes | |
| Chlorophyta | | Chloroparvula pacifica | algae | | yes | |
| Chlorophyta | | Chloropicon laureae | algae | | yes | |
| Chlorophyta | | Chloropicon primus | algae | | yes | |
| Chlorophyta | | Chloropicon roscoffensis | algae | | yes | |
| Chlorophyta | | Chloropicon sieburthii | algae | | yes | |
| Chordata | Aves | Sula dactylatra | birds | LC | | blue-faced booby, Fou masqué |
| Chordata | Aves | Sula sula | birds | LC | | red-footed booby, fou à pieds rouges |
| Chordata | Elasmobranchii | Alopias pelagicus | fish | EN | | thresher shark, renard pélagique |
| Chordata | Elasmobranchii | Carcharhinus albimarginatus | fish | VU | | silvertip shark |
| Chordata | Elasmobranchii | Carcharhinus falciformis | fish | VU | | silky shark |
| Chordata | Elasmobranchii | Galeocerdo cuvier | fish | NT | yes | tiger shark |
| Chordata | Elasmobranchii | Mobula birostris | fish | EN | yes | |
| Chordata | Elasmobranchii | Mobula thurstoni | fish | EN | yes | smoohtail mobula |
| Chordata | Elasmobranchii | Rhincodon typus | fish | EN | | whale shark, requin baleine |
| Chordata | Elasmobranchii | Sphyrna lewini | fish | CR | | scalloped hammerhead |
| Chordata | Elasmobranchii | Triaenodon obesus | fish | VU | | whitetip reef shark |
| Chordata | Mammalia | Pseudorca crassidens | mammals | NT | | false killer whale, faux-orque |
| Chordata | Mammalia | Stenella coeruleoalba | mammals | LC | | striped dolphin, dauphin bleu et blanc |
| Chordata | Mammalia | Tursiops truncatus | mammals | LC | | bottlenose dolphin, grand dauphin |
| Chordata | Teleostei | Abantennarius sanguineus | fish | | | |
| Chordata | Teleostei | Ablennes hians | fish | LC | | flat needlefish |
| Chordata | Teleostei | Acanthemblemaria aspera | fish | LC | yes | roughhead blenny |
| Chordata | Teleostei | Acanthocybium solandri | fish | LC | | wahoo |
| Chordata | Teleostei | Acanthurus nigricans | fish | LC | | backsurgeonfish |
| Chordata | Teleostei | Acanthurus triostegus | fish | LC | | convict surgeonfish |
| Chordata | Teleostei | Alphestes immaculatus | fish | LC | | Pacific mutton hamlet |
| Chordata | Teleostei | Aluterus monoceros | fish | LC | | unicorn leatherjacket |
| Chordata | Teleostei | Aluterus scriptus | fish | LC | | scrawled filefish |
| Chordata | Teleostei | Apogon guadalupensis | fish | LC | | Guadalupe cardinalfish |
| Chordata | Teleostei | Arothron meleagris | fish | LC | | Guinea fowl puffer |
| Chordata | Teleostei | Aulostomus chinensis | fish | LC | | Chinese trumpetfish |
| Chordata | Teleostei | Auxis thazard | fish | LC | | frigate tuna, auxide |
| Chordata | Teleostei | Axoclinus multicinctus | fish | VU | | multibarred triplefin |
| Chordata | Teleostei | Axoclinus storeyae | fish | LC | yes | |
| Chordata | Teleostei | Bodianus diplotaenia | fish | LC | | Mexican hogfish |
| Chordata | Teleostei | Bolinichthys longipes | fish | LC | | |
| Chordata | Teleostei | Bothus mancus | fish | LC | | tropical flounder |
| Chordata | Teleostei | Calotomus carolinus | fish | LC | | Caroline's parrotfish |
| Chordata | Teleostei | Canthigaster janthinoptera | fish | LC | yes | spotted puffer |
| Chordata | Teleostei | Caranx caballus | fish | LC | | green jack |
| Chordata | Teleostei | Caranx lugubris | fish | LC | | black jack |

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| phylum | class | species | group | category | new | vernacular |
|----------|-----------|------------------------------|-------|----------|-----|-------------------------------------|
| Chordata | Teleostei | Caranx melampygus | fish | LC | | bluefin trevally |
| Chordata | Teleostei | Caranx sexfasciatus | fish | LC | | bigeye trevally |
| Chordata | Teleostei | Cephalopholis cruentata | fish | LC | | graysby |
| Chordata | Teleostei | Cephalopholis microprion | fish | LC | yes | |
| Chordata | Teleostei | Cephalopholis panamensis | fish | LC | | Panama graysby |
| Chordata | Teleostei | Cephalopholis sexmaculata | fish | LC | yes | sixspot grouper |
| Chordata | Teleostei | Cephalopholis sonnerati | fish | LC | yes | tomato hind |
| Chordata | Teleostei | Chaenomugil proboscideus | fish | LC | | snouted mullet |
| Chordata | Teleostei | Chanos chanos | fish | LC | yes | milkfish, chano |
| Chordata | Teleostei | Chilomycterus reticulatus | fish | LC | | spotfin burrfish |
| Chordata | Teleostei | Chlorurus sordidus | fish | LC | yes | |
| Chordata | Teleostei | Cirrhitichthys oxycephalus | fish | LC | | pixy hawkfish |
| Chordata | Teleostei | Cirrhitus rivulatus | fish | LC | | giant hawkfish |
| Chordata | Teleostei | Coryphaena equiselis | fish | LC | | pompano dolphin |
| Chordata | Teleostei | Coryphopterus urospilus | fish | LC | | redlight goby |
| Chordata | Teleostei | Cubiceps pauciradiatus | fish | LC | | bigeye cigarfish |
| Chordata | Teleostei | Cubiceps whiteleggii | fish | | yes | |
| Chordata | Teleostei | Decapterus macarellus | fish | LC | | mackerel scad |
| Chordata | Teleostei | Decapterus macrosoma | fish | LC | yes | shortfin scad |
| Chordata | Teleostei | Diaphus splendidus | fish | LC | yes | |
| Chordata | Teleostei | Diodon holocanthus | fish | LC | | balloonfish |
| Chordata | Teleostei | Diodon liturosus | fish | | yes | black-blotched porcupinefish |
| Chordata | Teleostei | Diogenichthys laternatus | fish | LC | | Diogenes lanternfish |
| Chordata | Teleostei | Diplophos taenia | fish | LC | | Pacific portholefish |
| Chordata | Teleostei | Doryrhamphus excisus | fish | LC | | bluestripe pipefish |
| Chordata | Teleostei | Elagatis bipinnulata | fish | LC | | rainbow runner |
| Chordata | Teleostei | Entomacrodus caudofasciatus | fish | LC | yes | |
| Chordata | Teleostei | Entomacrodus chiostictus | fish | LC | | notchfin blenny |
| Chordata | Teleostei | Entomacrodus sealei | fish | LC | yes | |
| Chordata | Teleostei | Epinephelus clippertonensis | fish | LC | | |
| Chordata | Teleostei | Eucinostomus dowii | fish | LC | yes | Pacific spotfin mojarra |
| Chordata | Teleostei | Euthynnus affinis | fish | LC | | kawakawa, thonine orientale |
| Chordata | Teleostei | Fistularia commersonii | fish | LC | | cornetfish |
| Chordata | Teleostei | Gempylus serpens | fish | LC | | snake mackerel |
| Chordata | Teleostei | Gerres cinereus | fish | LC | yes | yellowfin mojarra |
| Chordata | Teleostei | Gymnomuraena zebra | fish | LC | | zebra moray |
| Chordata | Teleostei | Gymnothorax buroensis | fish | LC | yes | vagrant moray |
| Chordata | Teleostei | Halichoeres insularis | fish | VU | | Socorro wrasse |
| Chordata | Teleostei | Halichoeres melanotis | fish | LC | | golden wrasse |
| Chordata | Teleostei | Halichoeres nicholsi | fish | LC | | spinster wrasse |
| Chordata | Teleostei | Halichoeres notospilus | fish | LC | | banded wrasse |
| Chordata | Teleostei | Heteropriacanthus cruentatus | fish | LC | | glasseye snapper |
| Chordata | Teleostei | Holacanthus passer | fish | LC | | king angelfish |
| Chordata | Teleostei | Hygophum reinhardtii | fish | LC | | Reinhardt's lantern fish |
| Chordata | Teleostei | Hypsoblennius brevipinnis | fish | LC | yes | barnaclebill blenny |
| Chordata | Teleostei | Iniistius pavo | fish | LC | | peacock razorfish |
| Chordata | Teleostei | Katsuwonus pelamis | fish | LC | | skipjack tuna, bonite à ventre rayé |
| Chordata | Teleostei | Kyphosus pacificus | fish | | | |
| Chordata | Teleostei | Kyphosus vaigiensis | fish | LC | | brassy chub |
| Chordata | Teleostei | Labrisomus multiporosus | fish | LC | | porehead blenny |

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| phylum | class | species | group | category | new | vernacular |
|----------|-----------|-------------------------------|-------|----------|-----|--|
| Chordata | Teleostei | Labrisomus xanti | fish | LC | | largemouth blenny |
| Chordata | Teleostei | Lagocephalus lagocephalus | fish | LC | | oceanic puffer |
| Chordata | Teleostei | Lampanyctus parvicauda | fish | LC | | |
| Chordata | Teleostei | Lutjanus kasmira | fish | LC | yes | common bluestripe snapper |
| Chordata | Teleostei | Luvarus imperialis | fish | LC | | luvar, louvureau |
| Chordata | Teleostei | Lythrypnus dalli | fish | LC | yes | bluebanded goby |
| Chordata | Teleostei | Lythrypnus rhizophora | fish | DD | | spottedcheek goby |
| Chordata | Teleostei | Melanocetus johnsonii | fish | LC | yes | Humpback anglerfish |
| Chordata | Teleostei | Melichthys niger | fish | LC | | black durgon |
| Chordata | Teleostei | Microspathodon dorsalis | fish | LC | | giant damselfish |
| Chordata | Teleostei | Mulloidichthys vanicolensis | fish | LC | yes | yellowfin goatfish |
| Chordata | Teleostei | Myctophum aurolaternatum | fish | LC | | |
| Chordata | Teleostei | Myripristis berndti | fish | LC | | blotcheye soldierfish |
| Chordata | Teleostei | Myripristis leiognathus | fish | LC | | Panamic soldierfish |
| Chordata | Teleostei | Ophioblennius atlanticus | fish | LC | | |
| Chordata | Teleostei | Ophioblennius steindachneri | fish | LC | | Panamic fanged blenny |
| Chordata | Teleostei | Ostracion meleagris | fish | | | whitespotted boxfish |
| Chordata | Teleostei | Oxyporhamphus micropterus | fish | | | smallwing flyingfish |
| Chordata | Teleostei | Paralichthys californicus | fish | LC | yes | California halibut |
| Chordata | Teleostei | Paranthias colonus | fish | | | Pacific creolefish |
| Chordata | Teleostei | Plectrypops lima | fish | LC | | |
| Chordata | Teleostei | Prionurus laticlavus | fish | LC | | razor surgeonfish |
| Chordata | Teleostei | Prionurus punctatus | fish | LC | | yellowtail surgeonfish |
| Chordata | Teleostei | Pronotogrammus multifasciatus | fish | LC | | threadfin bass |
| Chordata | Teleostei | Pseudogramma thaumasia | fish | | | |
| Chordata | Teleostei | Rypticus saponaceus | fish | LC | yes | greater soapfish |
| Chordata | Teleostei | Sardinops sagax | fish | LC | | California pilchard, pilchard sudaméricain |
| Chordata | Teleostei | Sargocentron suborbitale | fish | | | |
| Chordata | Teleostei | Scarus rubroviolaceus | fish | LC | | ember parrotfish |
| Chordata | Teleostei | Schindleria praematura | fish | LC | | |
| Chordata | Teleostei | Scomber australasicus | fish | LC | | spotted chub mackerel |
| Chordata | Teleostei | Scomber japonicus | fish | LC | | Atlantic chub mackerel, maquereaux blanc |
| Chordata | Teleostei | Scorpaenodes evides | fish | LC | yes | |
| Chordata | Teleostei | Scorpaenodes xyris | fish | LC | | rainbow scorpionfish |
| Chordata | Teleostei | Scuticaria tigrina | fish | LC | | tiger reef eel |
| Chordata | Teleostei | Selar crumenophthalmus | fish | LC | | bigeye scad |
| Chordata | Teleostei | Seriola lalandi | fish | LC | | yellowtail, sérieole chicard |
| Chordata | Teleostei | Seriola rivoliana | fish | LC | | Almaco jack, sérieole limon |
| Chordata | Teleostei | Serranus aequidens | fish | LC | | deepwater serrano |
| Chordata | Teleostei | Stegastes beebei | fish | VU | yes | |
| Chordata | Teleostei | Stethojulis bandanensis | fish | LC | | |
| Chordata | Teleostei | Sufflamen verres | fish | LC | | orangeside triggerfish |
| Chordata | Teleostei | Thalassoma lucasanum | fish | LC | | Cortez rainbow wrasse |
| Chordata | Teleostei | Thalassoma lutescens | fish | LC | | |
| Chordata | Teleostei | Thalassoma purpureum | fish | LC | yes | surge wrasse |
| Chordata | Teleostei | Thalassoma robertsoni | fish | VU | yes | |
| Chordata | Teleostei | Thunnus alalunga | fish | LC | | albacore, thon blanc |
| Chordata | Teleostei | Tylosurus acus | fish | LC | | agujon needlefish |
| Chordata | Teleostei | Tylosurus crocodilus | fish | LC | yes | houndfish |
| Chordata | Teleostei | Uropterygius macrocephalus | fish | LC | | largehead moray |

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| phylum | class | species | group | category | new | vernacular |
|---------------|-------------------|-------------------------------------|-------------|----------|-----|--|
| Chordata | Teleostei | Vinciguerria lucetia | fish | LC | | |
| Chordata | Teleostei | Vinciguerria nimbaria | fish | LC | yes | oceanic lightfish |
| Chordata | Teleostei | Woodsia nonsuchae | fish | LC | yes | bigeye lightfish |
| Chordata | Teleostei | Xanthichthys mento | fish | LC | | redtail triggerfish |
| Chordata | Teleostei | Xanthichthys ringens | fish | LC | | Sargassum triggerfish |
| Chordata | Teleostei | Zanclus cornutus | fish | LC | | Moorish idol |
| Chordata | | Chelonia mydas | turtles | EN | | green turtle, tortue verte |
| Cnidaria | Anthozoa | Exaiptasia diaphana | cnidarians | | yes | |
| Cnidaria | Anthozoa | Pacifigorgia irene | cnidarians | | yes | |
| Cnidaria | Anthozoa | Pocillopora damicornis | cnidarians | LC | | cauliflower coral |
| Cnidaria | Hydrozoa | Abylopsis eschscholtzii | cnidarians | | yes | |
| Cnidaria | Hydrozoa | Agalma elegans | cnidarians | | yes | |
| Cnidaria | Hydrozoa | Athorybia rosacea | cnidarians | | yes | |
| Cnidaria | Hydrozoa | Clytia gracilis | cnidarians | | | |
| Cnidaria | Hydrozoa | Clytia linearis | cnidarians | | yes | |
| Cnidaria | Hydrozoa | Diphyes bojani | cnidarians | | yes | |
| Cnidaria | Hydrozoa | Forskalia edwardsii | cnidarians | | yes | |
| Cnidaria | Hydrozoa | Forskalia tholoides | cnidarians | | yes | |
| Cnidaria | Hydrozoa | Halopteris alternata | cnidarians | | | |
| Cnidaria | Hydrozoa | Kirchenpaueria halecioides | cnidarians | | yes | |
| Cnidaria | Hydrozoa | Nanomia bijuga | cnidarians | | yes | |
| Cnidaria | Hydrozoa | Obelia dichotoma | cnidarians | | | sea thread hydroid |
| Cnidaria | Hydrozoa | Physalia physalis | cnidarians | | yes | Portuguese man-of-war, galère portugaise |
| Cnidaria | Hydrozoa | Porpita porpita | cnidarians | | yes | blue button |
| Cnidaria | Hydrozoa | Rhizophysa filiformis | cnidarians | | yes | |
| Cnidaria | Hydrozoa | Sphaeroneustes koellikeri | cnidarians | | yes | |
| Cryptophyta | Cryptophyceae | Hemiarma marina | | | yes | |
| Echinodermata | Asteroidea | Acanthaster planci | echinoderms | | | crown-of-thorns |
| Echinodermata | Asteroidea | Pentaceraster cumingi | echinoderms | | | |
| Echinodermata | Echinoidea | Echinometra oblonga | echinoderms | | | |
| Echinodermata | Echinoidea | Lovenia cordiformis | echinoderms | | | |
| Echinodermata | Echinoidea | Tripteneustes gratilla | echinoderms | | yes | collector urchin |
| Echinodermata | Holothuroidea | Euapta lappa | echinoderms | | yes | |
| Echinodermata | Holothuroidea | Holothuria (Platyperona) difficilis | echinoderms | | | |
| Echinodermata | Holothuroidea | Holothuria (Stauropora) pervicax | echinoderms | | yes | |
| Echinodermata | Ophiuroidea | Amphipholis squamata | echinoderms | | yes | dwarf brittle star |
| Echinodermata | Ophiuroidea | Ophiactis picteti | echinoderms | | yes | |
| Echinodermata | Ophiuroidea | Ophiactis savignyi | echinoderms | | | |
| Echinodermata | Ophiuroidea | Ophiactis simplex | echinoderms | | yes | |
| Echinodermata | Ophiuroidea | Ophiocoma erinaceus | echinoderms | | yes | |
| Echinodermata | Ophiuroidea | Ophiocomella alexandri | echinoderms | | | |
| Echinodermata | Ophiuroidea | Ophiocomella sexradia | echinoderms | | | |
| Echinodermata | Ophiuroidea | Ophioderma panamense | echinoderms | | | |
| Echinodermata | Ophiuroidea | Ophionereis annulata | echinoderms | | | |
| Haptophyta | Coccolithophyceae | Chrysochromulina tobinii | algae | | yes | |
| Haptophyta | Coccolithophyceae | Emiliania huxleyi | algae | | yes | |
| Haptophyta | Coccolithophyceae | Phaeocystis globosa | algae | | yes | |
| Hemichordata | Enteropneusta | Ptychodera flava | | | yes | Hawaiian acorn worm |
| Mollusca | Cephalopoda | Octopus hubbsorum | molluscs | LC | | |
| Mollusca | Cephalopoda | Sthenoteuthis oualaniensis | molluscs | LC | | purpleback flying squid |

Continued on next page

| phylum | class | species | group | category | new | vernacular |
|------------|------------------|--|-------------|----------|-----|-----------------------------|
| Mollusca | Gastropoda | Creseis virgula | molluscs | | yes | |
| Mollusca | Gastropoda | Cupolaconcha meroclista | molluscs | | yes | |
| Mollusca | Gastropoda | Firoloida desmarestia | molluscs | | yes | |
| Mollusca | Gastropoda | Glaucus atlanticus | molluscs | | yes | sea swallow |
| Mollusca | Gastropoda | Naria albuginosa | molluscs | | | aubergine cowry |
| Mollusca | Gastropoda | Niparaya regiscorona | molluscs | | yes | |
| Mollusca | Gastropoda | Phestilla lugubris | molluscs | | yes | |
| Mollusca | Gastropoda | Stylocheilus rickettsi | molluscs | | yes | |
| Myzozoa | Dinophyceae | Karenia brevis | unicellular | | yes | |
| Ochrophyta | Dictyochophyceae | Dictyochophyceae | algae | | | |
| Ochrophyta | Dictyochophyceae | Pseudochattonella farcimen | algae | | yes | |
| Ochrophyta | Dictyochophyceae | Vicicitus globosus | algae | | yes | |
| Ochrophyta | Pelagophyceae | Aureococcus anophagefferens | algae | | yes | |
| Ochrophyta | Pelagophyceae | Pelagomonas calceolata | algae | | yes | |
| Ochrophyta | Phaeophyceae | Colpomenia sinuosa | algae | | yes | |
| Ochrophyta | Phaeophyceae | Dictyota flabellata | algae | | yes | |
| Ochrophyta | Phaeophyceae | Diplura simplex | algae | | yes | |
| Ochrophyta | Phaeophyceae | Lobophora obscura | algae | | yes | |
| Ochrophyta | Phaeophyceae | Neoralsia expansa | algae | | yes | |
| Porifera | Demospongiae | Chondrosia collectrix | sponges | | yes | |
| Porifera | Demospongiae | Cliona vermifera | sponges | | | orange boring sponge |
| Porifera | Demospongiae | Halichondria (Halichondria) bowerbanki | sponges | | yes | Bowerbank's halichondria |
| Porifera | Demospongiae | Pione vastifica | sponges | | yes | boring sponge, clione rouge |
| Porifera | Demospongiae | Thoosa purpurea | sponges | | | |
| Rhodophyta | Florideophyceae | Amphiroa foliacea | algae | | yes | |
| Rhodophyta | Florideophyceae | Asparagopsis taxiformis | algae | | | |
| Rhodophyta | Florideophyceae | Dasya caraibica | algae | | yes | |
| Rhodophyta | Florideophyceae | Galaxaura filamentosa | algae | | | |
| Rhodophyta | Florideophyceae | Ganonema farinosum | algae | | yes | |
| Rhodophyta | Florideophyceae | Gelidiella acerosa | algae | | | |
| Rhodophyta | Florideophyceae | Hypnea pannosa | algae | | | |
| Rhodophyta | Florideophyceae | Janczewskia hawaiiiana | algae | | yes | |
| Rhodophyta | Florideophyceae | Melanothamnus ramireziae | algae | | yes | |
| Rhodophyta | Florideophyceae | Monosporus indicus | algae | | yes | |
| Rhodophyta | Florideophyceae | Pterocladella capillacea | algae | | | |
| | | Amastigomonas debrynei | | | yes | |