

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

Biodiversity survey for Banc d'Arguin National Park

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



Credit: Cheikh Fall.

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 Banc d'Arguin National Park in May 2023. A total of 20 samples were collected at 1 locations in the park covering different habitats: PNBA (Figure 1). Up to 1,500 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, 21 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 21 samples that were analyzed covering all locations that were sampled in the World Heritage site.

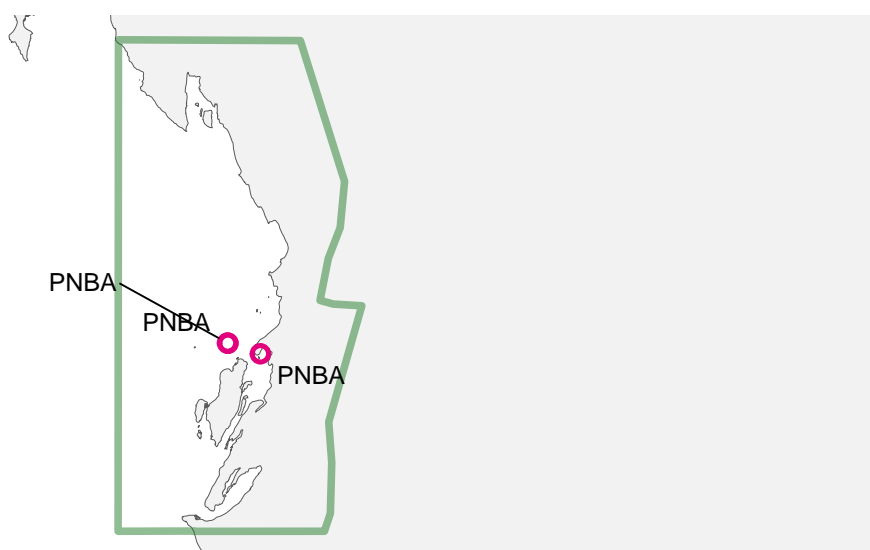


Figure 1: Map of the sampling locations.

DNA sequencing

Sequencing of the DNA from 21 samples resulted in over 68 million sequence reads, from which we collected 21,495 unique sequences or ASVs (Tables 1 and 2).

| reads | asvs |
|----------|-------|
| 68680588 | 21495 |

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

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 257 species, including 119 fish species, 2 mammalian species, and 2 turtle species (Table 3). Species from other groups, such as algae, molluscs, cnidarians, crustaceans, and worms, were also detected (Figures 2 and 3). This number of species detected represents about 44% of the 532 species known from Banc d'Arguin National Park in the OBIS database. Of the 257 species detected, 174 are not among the species

| locality | materialSampleID | sampleSize | reads | asvs | species |
|----------|------------------|------------|---------|------|---------|
| PNBA | EE0256 | 1500 | 2442075 | 6622 | 126 |
| PNBA | EE0257 | 1500 | 3160391 | 8825 | 146 |
| PNBA | EE0258 | 1500 | 4348517 | 4594 | 113 |
| PNBA | EE0259 | 1500 | 3325472 | 8957 | 130 |
| PNBA | EE0260 | 1500 | 2744720 | 6682 | 126 |
| PNBA | EE0261 | 1500 | 2793104 | 5716 | 106 |
| PNBA | EE0262 | 1500 | 2623651 | 8080 | 142 |
| PNBA | EE0263 | 1500 | 1657943 | 7999 | 131 |
| PNBA | EE0264 | 1500 | 1022090 | 6120 | 93 |
| PNBA | EE0266 | 1500 | 2230473 | 7856 | 143 |
| PNBA | EE0267 | 1500 | 2416572 | 7507 | 118 |
| PNBA | EE0268 | 1500 | 3922385 | 7282 | 137 |
| PNBA | EE0269 | 1440 | 1117308 | 1912 | 42 |
| PNBA | EE0280 | 1500 | 4632682 | 5737 | 132 |
| PNBA | EE0281 | 1500 | 4587706 | 5172 | 107 |
| PNBA | EE0282 | 1500 | 3575363 | 6494 | 130 |
| PNBA | EE0283 | 1500 | 3572982 | 5798 | 115 |
| PNBA | EE0284 | 1500 | 3030638 | 6317 | 95 |
| PNBA | EE0296 | 1500 | 6074460 | 2629 | 77 |
| PNBA | EE0299 | 1500 | 4575027 | 5586 | 116 |
| PNBA | EE0302 | 1500 | 4818835 | 6986 | 135 |

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

previously reported from Banc d'Arguin National Park to the UNESCO OBIS database. 14 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 | 119 | 273 | 0.44 |
| mammals | 2 | 5 | 0.40 |
| turtles | 1 | 2 | 0.50 |

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 | 4 | 7 | 0.57 |
| EN | 2 | 10 | 0.20 |
| VU | 8 | 21 | 0.38 |

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

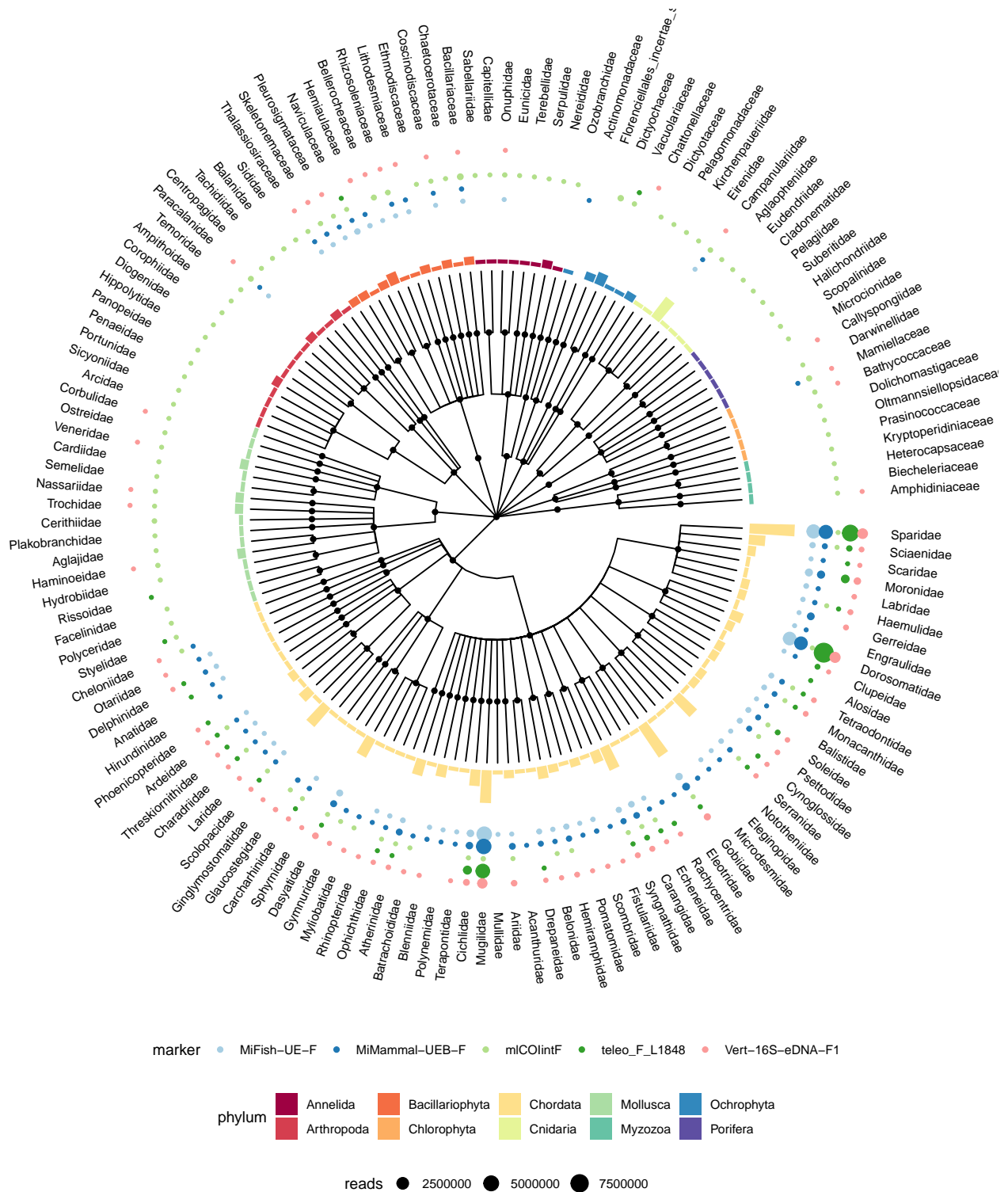


Figure 2: Number of DNA reads (bubbles) and species detected (bars) by family.

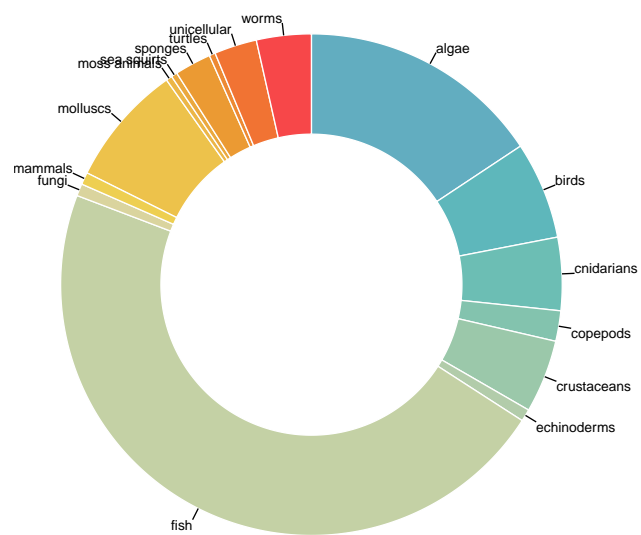


Figure 3: Distribution of detected species across groups.

| phylum | class | species | group | category | new | vernacular |
|-----------------|-------------------|----------------------------|--------------|----------|-----|--|
| Amoebozoa | Discosea | Neoparamoeba aestuarina | unicellular | | yes | |
| Annelida | Clitellata | Ozobranchus branchiatus | worms | | yes | |
| Annelida | Polychaeta | Capitella capitata | worms | | yes | gallery worm |
| Annelida | Polychaeta | Diopatra neapolitana | worms | | yes | |
| Annelida | Polychaeta | Hydroides elegans | worms | | | |
| Annelida | Polychaeta | Lygdamis muratus | worms | | yes | |
| Annelida | Polychaeta | Marphysa sanguinea | worms | | yes | red rock worm |
| Annelida | Polychaeta | Neanthes fucata | worms | | yes | |
| Annelida | Polychaeta | Platynereis dumerilii | worms | | yes | comb-toothed nereid |
| Annelida | Polychaeta | Terebella lapidaria | worms | | yes | |
| Arthropoda | Branchiopoda | Penilia avirostris | crustaceans | | yes | |
| Arthropoda | Copepoda | Euterpina acutifrons | copepods | | yes | |
| Arthropoda | Copepoda | Isias clavipes | copepods | | yes | |
| Arthropoda | Copepoda | Paracalanus indicus | copepods | | yes | |
| Arthropoda | Copepoda | Paracalanus quasimodo | copepods | | yes | |
| Arthropoda | Copepoda | Temora turbinata | copepods | | yes | |
| Arthropoda | Malacostraca | Ampithoe longimana | crustaceans | | yes | |
| Arthropoda | Malacostraca | Callinectes marginatus | crustaceans | | yes | |
| Arthropoda | Malacostraca | Diogenes arguinensis | crustaceans | | yes | |
| Arthropoda | Malacostraca | Hippolyte leptocerus | crustaceans | | yes | |
| Arthropoda | Malacostraca | Latreutes fucorum | crustaceans | | yes | slender Sargassum shrimp, crevette des Sargasses |
| Arthropoda | Malacostraca | Monocorophium acherusicum | crustaceans | | yes | |
| Arthropoda | Malacostraca | Panopeus africanus | crustaceans | | | |
| Arthropoda | Malacostraca | Penaeus notialis | crustaceans | | | southern pink shrimp, crevette rose du Sud |
| Arthropoda | Malacostraca | Sicyonia carinata | crustaceans | | | |
| Arthropoda | Thecostraca | Amphibalanus amphitrite | crustaceans | | yes | |
| Arthropoda | Thecostraca | Balanus trigonus | crustaceans | | yes | |
| Ascomycota | Dothideomycetes | Cladosporium herbarum | fungi | | yes | |
| Ascomycota | Eurotiomycetes | Aspergillus versicolor | fungi | | yes | |
| Bacillariophyta | Bacillariophyceae | Belleriochea polymorpha | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Chaetoceros socialis | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Coscinodiscus granii | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Coscinodiscus wailesii | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Cylindrotheca closterium | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Ethmodiscus punctiger | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Eucampia striata | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Eucampia zodiacus | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Hemiaulus sinensis | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Lithodesmioides polymorpha | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Lithodesmium undulatum | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Navicula minima | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Navicula ramosissima | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Pleurosigma strigosum | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Pseudo-nitzschia cuspidata | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Skeletonema menzeli | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Skeletonema pseudocostatum | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Sundstroemia setigera | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Thalassiosira profunda | algae | | yes | |
| Bacillariophyta | Bacillariophyceae | Thalassiosira rotula | algae | | yes | |
| Bryozoa | Gymnolaemata | Bugula neritina | moss animals | | yes | Common bugula, Brown bryozoan, bugule brune |

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| phylum | class | species | group | category | new | vernacular |
|-------------|---------------------|---------------------------|-------------|----------|-----|---|
| Cercozoa | Chlorarachnea | Bigelowiella natans | unicellular | | yes | |
| Cercozoa | Chlorarachnea | Chlorarachnion reptans | unicellular | | yes | |
| Chlorophyta | Mamiellophyceae | Bathycoccus prasinos | algae | | yes | |
| Chlorophyta | Mamiellophyceae | Dolichomastix tenuilepis | algae | | yes | |
| Chlorophyta | Mamiellophyceae | Micromonas pusilla | algae | | yes | |
| Chlorophyta | Pyramimonadophyceae | Prasinoderma coloniale | algae | | yes | |
| Chlorophyta | Ulvophyceae | Oltmannsiellopsis viridis | algae | | yes | |
| Chordata | Ascidiacea | Botrylloides niger | sea squirts | | | Black synascidia , Synascidie noire |
| Chordata | Aves | Anas platyrhynchos | birds | LC | yes | mallard, canard colvert |
| Chordata | Aves | Ardea cinerea | birds | LC | yes | |
| Chordata | Aves | Arenaria interpres | birds | LC | | ruddy turnstone, tournepierre à collier |
| Chordata | Aves | Calidris alpina | birds | LC | | dunlin, bécasseau variable |
| Chordata | Aves | Calidris canutus | birds | NT | | red knot, bécasseau maubèche |
| Chordata | Aves | Calidris minuta | birds | LC | | little stint, bécasseau minute |
| Chordata | Aves | Charadrius semipalmatus | birds | LC | yes | semipalmated plover, pluvier semipalmé |
| Chordata | Aves | Egretta garzetta | birds | LC | | little egret, aigrette garzette |
| Chordata | Aves | Haematopus ostralegus | birds | NT | | Eurasian oyster catcher, huîtrier pie |
| Chordata | Aves | Hirundo rustica | birds | LC | yes | |
| Chordata | Aves | Hydroprogne caspia | birds | LC | | Caspian tern |
| Chordata | Aves | Limosa lapponica | birds | NT | | bar-tailed godwit, barge rousse |
| Chordata | Aves | Phoenicopterus ruber | birds | LC | | greater flamingo, flamant des Caraïbes |
| Chordata | Aves | Platalea leucorodia | birds | LC | | Eurasian spoonbill, spatule blanche |
| Chordata | Aves | Pluvialis squatarola | birds | LC | | grey plover, pluvier argenté |
| Chordata | Aves | Tringa totanus | birds | LC | | redshank, chevalier gambette |
| Chordata | Elasmobranchii | Aetomylaeus bovinus | fish | CR | | |
| Chordata | Elasmobranchii | Dasyatis chrysonota | fish | NT | yes | |
| Chordata | Elasmobranchii | Dasyatis tortonesei | fish | DD | yes | |
| Chordata | Elasmobranchii | Ginglymostoma cirratum | fish | VU | | nurse shark, requin nourrice |
| Chordata | Elasmobranchii | Glaucostegus cemiculus | fish | CR | | |
| Chordata | Elasmobranchii | Gymnura altavela | fish | EN | | spiny butterfly ray |
| Chordata | Elasmobranchii | Hypanus americanus | fish | NT | yes | |
| Chordata | Elasmobranchii | Hypanus rudis | fish | CR | | |
| Chordata | Elasmobranchii | Rhinoptera bonasus | fish | VU | yes | cownose ray |
| Chordata | Elasmobranchii | Rhizoprionodon acutus | fish | VU | | milk shark |
| Chordata | Elasmobranchii | Sphyrna lewini | fish | CR | yes | scalloped hammerhead |
| Chordata | Elasmobranchii | Taeniurops grabatus | fish | NT | | |
| Chordata | Mammalia | Otaria byronia | mammals | LC | yes | South American sea lion |
| Chordata | Mammalia | Tursiops truncatus | mammals | LC | | bottlenose dolphin, grand dauphin |
| Chordata | Teleostei | Acanthurus triostegus | fish | LC | yes | convict surgeonfish |
| Chordata | Teleostei | Aldrichetta forsteri | fish | LC | yes | |
| Chordata | Teleostei | Atherina boyeri | fish | LC | | big-scale sand-smelt, joel |
| Chordata | Teleostei | Atherina hepsetus | fish | | yes | Mediterranean sand smelt, siouclet |
| Chordata | Teleostei | Atherina presbyter | fish | LC | | sand smelt, athérine |
| Chordata | Teleostei | Atherinomorus lacunosus | fish | LC | yes | robust silverside |
| Chordata | Teleostei | Bathygobius casamancus | fish | LC | yes | |
| Chordata | Teleostei | Bathygobius fuscus | fish | LC | yes | dusky frill-goby |
| Chordata | Teleostei | Belone belone | fish | LC | yes | sea needle, aiguille |
| Chordata | Teleostei | Caranx hippos | fish | LC | | common jack, carangue crevalle |
| Chordata | Teleostei | Caranx latus | fish | LC | yes | horse-eye jack |
| Chordata | Teleostei | Caranx rhonchus | fish | LC | | false scad, comète coussut |

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| phylum | class | species | group | category | new | vernacular |
|----------|-----------|-----------------------------|-------|----------|-----|--|
| Chordata | Teleostei | Caranx senegalus | fish | LC | yes | |
| Chordata | Teleostei | Carlarius latiscutatus | fish | LC | | |
| Chordata | Teleostei | Carlarius parkii | fish | LC | | |
| Chordata | Teleostei | Cephalopholis nigri | fish | LC | yes | |
| Chordata | Teleostei | Chelon auratus | fish | LC | | |
| Chordata | Teleostei | Chelon dumerili | fish | DD | | |
| Chordata | Teleostei | Chelon richardsonii | fish | | yes | |
| Chordata | Teleostei | Chloroscombrus chrysurus | fish | LC | | Atlantic bumper |
| Chordata | Teleostei | Chlorurus sordidus | fish | LC | yes | |
| Chordata | Teleostei | Clupea harengus | fish | LC | yes | herring, hareng de l'Atlantique |
| Chordata | Teleostei | Coptodon guineensis | fish | LC | | |
| Chordata | Teleostei | Coptodon zillii | fish | LC | yes | |
| Chordata | Teleostei | Cynoglossus senegalensis | fish | NT | | Senegalese tonguesole, sole-langue sénégalaise |
| Chordata | Teleostei | Dalophis imberbis | fish | LC | yes | |
| Chordata | Teleostei | Dicentrarchus punctatus | fish | LC | | spotted sea-bass, bar moucheté |
| Chordata | Teleostei | Diplodus bellottii | fish | LC | | |
| Chordata | Teleostei | Diplodus holbrookii | fish | LC | yes | spottail pinfish |
| Chordata | Teleostei | Diplodus kotschy | fish | | yes | |
| Chordata | Teleostei | Diplodus puntazzo | fish | LC | yes | sharp snout bream, sar à museau pointu |
| Chordata | Teleostei | Diplodus sargus | fish | LC | | white seabream, sar commun du Maroc |
| Chordata | Teleostei | Diplodus vulgaris | fish | LC | | two banded sea bream, sar à tête noire |
| Chordata | Teleostei | Drepane africana | fish | LC | yes | |
| Chordata | Teleostei | Echeneis naucrates | fish | LC | | sharksucker |
| Chordata | Teleostei | Eleginops maclovinus | fish | | yes | |
| Chordata | Teleostei | Engraulis ringens | fish | LC | yes | anchoveta |
| Chordata | Teleostei | Ephippion guttifer | fish | LC | | |
| Chordata | Teleostei | Epinephelus aeneus | fish | NT | | white grouper, mérou blanc |
| Chordata | Teleostei | Epinephelus marginatus | fish | | | dark grouper, mérou noir |
| Chordata | Teleostei | Ethmalosa fimbriata | fish | LC | | Bonga shad |
| Chordata | Teleostei | Eucinostomus melanopterus | fish | LC | | flagfin mojarra |
| Chordata | Teleostei | Eviota afelei | fish | LC | yes | Afele's fringefin goby |
| Chordata | Teleostei | Fistularia tabacaria | fish | LC | | bluespotted cometfish |
| Chordata | Teleostei | Gerres japonicus | fish | | yes | |
| Chordata | Teleostei | Gobius niger | fish | LC | | black goby, gobie noir |
| Chordata | Teleostei | Gobius paganellus | fish | LC | yes | rock goby, gobie paganel |
| Chordata | Teleostei | Halobatrachus didactylus | fish | LC | | |
| Chordata | Teleostei | Harengula humeralis | fish | LC | yes | pilchard |
| Chordata | Teleostei | Hemiramphus balao | fish | LC | yes | balao |
| Chordata | Teleostei | Hemiramphus brasiliensis | fish | LC | | ballyhoo halfbeak |
| Chordata | Teleostei | Heterotilapia buettikoferi | fish | LC | yes | |
| Chordata | Teleostei | Hippocampus kuda | fish | VU | yes | spotted seahorse |
| Chordata | Teleostei | Hypleurochilus aequipinnis | fish | LC | yes | |
| Chordata | Teleostei | Hypseleotris cyprinoides | fish | DD | yes | |
| Chordata | Teleostei | Lithognathus mormyrus | fish | LC | | striped seabream, marbre |
| Chordata | Teleostei | Megalaspis cordyla | fish | LC | yes | torpedo scad |
| Chordata | Teleostei | Melichthys vidua | fish | LC | yes | pinktail triggerfish |
| Chordata | Teleostei | Microdesmus longipinnis | fish | LC | yes | pink wormfish |
| Chordata | Teleostei | Mugil bananensis | fish | LC | yes | |
| Chordata | Teleostei | Mugil capurrii | fish | LC | | |
| Chordata | Teleostei | Mulloidichthys vanicolensis | fish | LC | yes | yellowfin goatfish |

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| phylum | class | species | group | category | new | vernacular |
|----------|-----------|---------------------------|------------|----------|-----|--|
| Chordata | Teleostei | Mycteroperca rubra | fish | LC | | comb grouper, badèche rouge |
| Chordata | Teleostei | Neochelon falcipinnis | fish | DD | | |
| Chordata | Teleostei | Nicholsina usta | fish | LC | | emerald parrotfish |
| Chordata | Teleostei | Omobranchus loxozonus | fish | LC | yes | |
| Chordata | Teleostei | Pagellus bogaraveo | fish | NT | yes | blackspot seabream, daurade rose |
| Chordata | Teleostei | Pagrus caeruleostictus | fish | LC | | bluespotted seabream, pagre à points bleus |
| Chordata | Teleostei | Parablennius yatabei | fish | LC | yes | |
| Chordata | Teleostei | Patagonotothen ramsayi | fish | DD | yes | cod icefish |
| Chordata | Teleostei | Pelates quadrilineatus | fish | | yes | fourlined terapon |
| Chordata | Teleostei | Planiliza macrolepis | fish | LC | yes | |
| Chordata | Teleostei | Pogonias cromis | fish | LC | yes | blackdrum |
| Chordata | Teleostei | Polydactylus plebeius | fish | | yes | striped threadfin, barbure rayé |
| Chordata | Teleostei | Pomadasys incisus | fish | LC | | |
| Chordata | Teleostei | Pomadasys perotaei | fish | LC | | |
| Chordata | Teleostei | Pomatomus saltatrix | fish | VU | | blue fish, tassergal |
| Chordata | Teleostei | Pomatoschistus microps | fish | LC | | common goby, gobie buhotte |
| Chordata | Teleostei | Porogobius schlegelii | fish | LC | yes | |
| Chordata | Teleostei | Psettodes bennettii | fish | DD | | |
| Chordata | Teleostei | Psettodes erumei | fish | DD | yes | Indian spiny turbot |
| Chordata | Teleostei | Pseudotolithus senegallus | fish | VU | | |
| Chordata | Teleostei | Pseudotolithus typus | fish | LC | yes | |
| Chordata | Teleostei | Rachycentron canadum | fish | LC | yes | cobia, mafou |
| Chordata | Teleostei | Sardina pilchardus | fish | LC | yes | European pilchard, sardine commune |
| Chordata | Teleostei | Sardinella maderensis | fish | VU | | shortbody sardine, grande allache |
| Chordata | Teleostei | Sarotherodon melanotheron | fish | LC | | blackchin tilapia |
| Chordata | Teleostei | Sciaena umbra | fish | NT | | brown meagre, maigre |
| Chordata | Teleostei | Scomberomorus concolor | fish | VU | yes | Gulf sierra |
| Chordata | Teleostei | Scomberomorus tritor | fish | LC | | |
| Chordata | Teleostei | Serranus cabrilla | fish | LC | | comber, serran chevrette |
| Chordata | Teleostei | Serranus scriba | fish | LC | | painted comber, serran écriture |
| Chordata | Teleostei | Solea senegalensis | fish | DD | | Senegal sole, Sole du Sénégal |
| Chordata | Teleostei | Solea solea | fish | DD | | Dover sole, sole |
| Chordata | Teleostei | Sparus aurata | fish | LC | | gilthead, dorade royale |
| Chordata | Teleostei | Sphoeroides spengleri | fish | LC | | bandtail puffer |
| Chordata | Teleostei | Spondylisoma cantharus | fish | LC | | Black Sea-bream, brème de mer |
| Chordata | Teleostei | Sprattus sprattus | fish | LC | yes | European sprat, sprat |
| Chordata | Teleostei | Stephanolepis hispida | fish | | | |
| Chordata | Teleostei | Stephanolepis setifer | fish | LC | yes | pygmy filefish |
| Chordata | Teleostei | Sufflogobius bibarbatus | fish | LC | yes | |
| Chordata | Teleostei | Symphodus bailloni | fish | LC | | |
| Chordata | Teleostei | Syngnathus acus | fish | LC | yes | greater pipefish, syngnathe aiguille |
| Chordata | Teleostei | Syngnathus typhle | fish | LC | | deep-snouted pipefish, siphonostome |
| Chordata | Teleostei | Tylosurus acus | fish | LC | | agujon needlefish |
| Chordata | Teleostei | Tylosurus crocodilus | fish | LC | yes | houndfish |
| Chordata | Teleostei | Yongeichthys criniger | fish | | yes | |
| Chordata | | Chelonia mydas | turtles | EN | | green turtle, tortue verte |
| Cnidaria | Hydrozoa | Aglaophenia pluma | cnidarians | | | podded hydroid |
| Cnidaria | Hydrozoa | Campanularia hincksii | cnidarians | | yes | |
| Cnidaria | Hydrozoa | Cladonema radiatum | cnidarians | | yes | aquarium medusa |
| Cnidaria | Hydrozoa | Clytia gracilis | cnidarians | | yes | |

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| phylum | class | species | group | category | new | vernacular |
|---------------|-------------------|--------------------------------------|-------------|----------|-----|---------------------------------------|
| Cnidaria | Hydrozoa | Clytia noliiformis | cnidarians | | yes | |
| Cnidaria | Hydrozoa | Eudendrium capillare | cnidarians | | yes | |
| Cnidaria | Hydrozoa | Eutima gracilis | cnidarians | | yes | |
| Cnidaria | Hydrozoa | Kirchenpaueria pinnata | cnidarians | | yes | fine feather-hydroid |
| Cnidaria | Hydrozoa | Laomedea angulata | cnidarians | | yes | sea grass sea fir |
| Cnidaria | Hydrozoa | Obelia bidentata | cnidarians | | yes | doubletoothed hydroid |
| Cnidaria | Hydrozoa | Obelia dichotoma | cnidarians | | | sea thread hydroid |
| Cnidaria | Scyphozoa | Chrysaora africana | cnidarians | | yes | |
| Cryptophyta | Cryptophyceae | Hemiarma marina | | | yes | |
| Echinodermata | Asteroidea | Astropecten africanus | echinoderms | | yes | |
| Echinodermata | Ophiuroidea | Amphipholis squamata | echinoderms | | yes | dwarf brittle star |
| Entoprocta | | Pedicellina cernua | | | yes | |
| Haptophyta | Coccolithophyceae | Emiliania huxleyi | algae | | yes | |
| Haptophyta | Coccolithophyceae | Gephyrocapsa oceanica | algae | | yes | |
| Mollusca | Bivalvia | Abra alba | molluscs | | yes | white furrow shell, syndesmye blanche |
| Mollusca | Bivalvia | Callista chione | molluscs | | yes | brown callista, vernis |
| Mollusca | Bivalvia | Ostrea stentina | molluscs | | yes | |
| Mollusca | Bivalvia | Parvicardium exiguum | molluscs | | yes | little cockle |
| Mollusca | Bivalvia | Polititapes aureus | molluscs | | yes | golden carpet shell, palourde jaune |
| Mollusca | Bivalvia | Senilia senilis | molluscs | | | |
| Mollusca | Bivalvia | Varicorbula gibba | molluscs | | yes | European clam |
| Mollusca | Gastropoda | Bittium reticulatum | molluscs | | yes | needle whelk |
| Mollusca | Gastropoda | Camachoaglaja africana | molluscs | | yes | |
| Mollusca | Gastropoda | Cingula trifasciata | molluscs | | yes | |
| Mollusca | Gastropoda | Cratena peregrina | molluscs | | yes | |
| Mollusca | Gastropoda | Elysia canguzua | molluscs | | yes | |
| Mollusca | Gastropoda | Haminoea orbignyana | molluscs | | yes | |
| Mollusca | Gastropoda | Haminoea orteai | molluscs | | yes | |
| Mollusca | Gastropoda | Jujubinus striatus | molluscs | | yes | grooved top-shell |
| Mollusca | Gastropoda | Peringia ulvae | molluscs | | yes | common mudflat snail |
| Mollusca | Gastropoda | Polycera aurantiomarginata | molluscs | | yes | |
| Mollusca | Gastropoda | Steromphala umbilicaris | molluscs | | yes | |
| Mollusca | Gastropoda | Tritia nitida | molluscs | | yes | |
| Mollusca | Gastropoda | Tritia varicosa | molluscs | | yes | |
| Myxozoa | Dinophyceae | Amphidinium massartii | unicellular | | yes | |
| Myxozoa | Dinophyceae | Biecheleria cincta | unicellular | | yes | |
| Myxozoa | Dinophyceae | Durinskia dybowskii | unicellular | | yes | |
| Myxozoa | Dinophyceae | Heterocapsa rotundata | unicellular | | yes | |
| Ochrophyta | Dictyochophyceae | Octactis octonaria | algae | | yes | |
| Ochrophyta | Dictyochophyceae | Pseudochattonella farcimen | algae | | yes | |
| Ochrophyta | Dictyochophyceae | Pseudopedinella elastica | algae | | yes | |
| Ochrophyta | Dictyochophyceae | Vicicitus globosus | algae | | yes | |
| Ochrophyta | Pelagophyceae | Aureococcus anophagefferens | algae | | yes | |
| Ochrophyta | Pelagophyceae | Pelagomonas calceolata | algae | | yes | |
| Ochrophyta | Phaeophyceae | Canistrocarpus cervicornis | algae | | | |
| Ochrophyta | Raphidophyceae | Chattonella marina | algae | | yes | |
| Ochrophyta | Raphidophyceae | Chattonella subsalsa | algae | | yes | |
| Ochrophyta | Raphidophyceae | Fibrocapsa japonica | algae | | yes | |
| Ochrophyta | Raphidophyceae | Heterosigma akashiwo | algae | | yes | |
| Porifera | Demospongiae | Calyspongia (Cladochalina) plicifera | sponges | | yes | |

Continued on next page

| phylum | class | species | group | category | new | vernacular |
|------------|-----------------|--|---------|----------|-----|--------------------------|
| Porifera | Demospongiae | Chelonaplysilla delicata | sponges | | yes | |
| Porifera | Demospongiae | Clathria (Clathria) prolifera | sponges | | yes | |
| Porifera | Demospongiae | Halichondria (Halichondria) bowerbanki | sponges | | yes | Bowerbank's halichondria |
| Porifera | Demospongiae | Scopalina canariensis | sponges | | yes | |
| Porifera | Demospongiae | Terpios gelatinosus | sponges | | yes | |
| Rhodophyta | Florideophyceae | Amphiroa beauvoisii | algae | | | |
| Rhodophyta | Florideophyceae | Hypnea cornuta | algae | | yes | |