

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

Biodiversity survey for Tubbataha Reefs Natural Park

Interim Results
Not for public distribution



Credit: Asia Wy.

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 Tubbataha Reefs Natural Park in April 2023. A total of 20 samples were collected at 6 locations in the park covering different habitats: kook_south_atoll, new_bird_islet, north_east_malayan_reef, south_atoll_lagoon, south_park, and twreck_south_atoll (Figure 1). Up to 1,604 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. DNA from the 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.

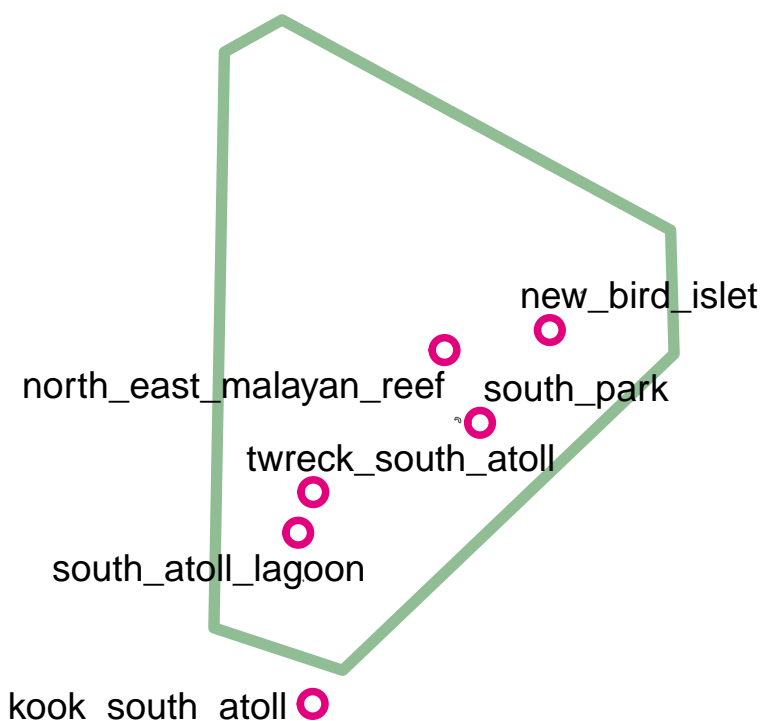


Figure 1: Map of the sampling locations.

DNA sequencing

Sequencing of the DNA from 20 samples resulted in over 32 million sequence reads, from which we collected 38,035 unique sequences or ASVs (Tables 1 and 2).

reads	asvs
32700685	38035

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

locality	materialSampleID	sampleSize	reads	asvs	species
Kook South Atoll	EE0099	1604	1115610	8355	211
Kook South Atoll	EE0432	1600	2391121	11214	263
New Bird Islet	EE0051	1185	1778949	9969	93
New Bird Islet	EE0053	1490	1805314	9882	85
New Bird Islet	EE0055	1189	1503137	9043	69
New Bird Islet	EE0059	1440	1608051	9430	105
North East Malayan Reef	EE0104	1550	1180355	5161	70
North East Malayan Reef	EE0118	1550	406073	1044	34
North East Malayan Reef	EE0439	1550	1826567	10219	222
North East Malayan Reef	EE0444	1545	2561453	9611	161
South Atoll lagoon	EE0048	1540	1619052	8310	48
South Atoll lagoon	EE0058	1540	1249092	7715	45
South Atoll lagoon	EE0112	1544	1471412	7670	51
South Atoll lagoon	EE0452	1550	2190479	8596	61
South Park	EE0109	1200	1786201	11556	265
South Park	EE0110	1140	992357	6996	112
South Park	EE0117	1060	1717168	9096	171
South Park	EE0438	1120	2494896	10566	269
T-wreck South atoll	EE0103	1541	794806	578	10
T-wreck South atoll	EE0125	1600	2208592	10571	263

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

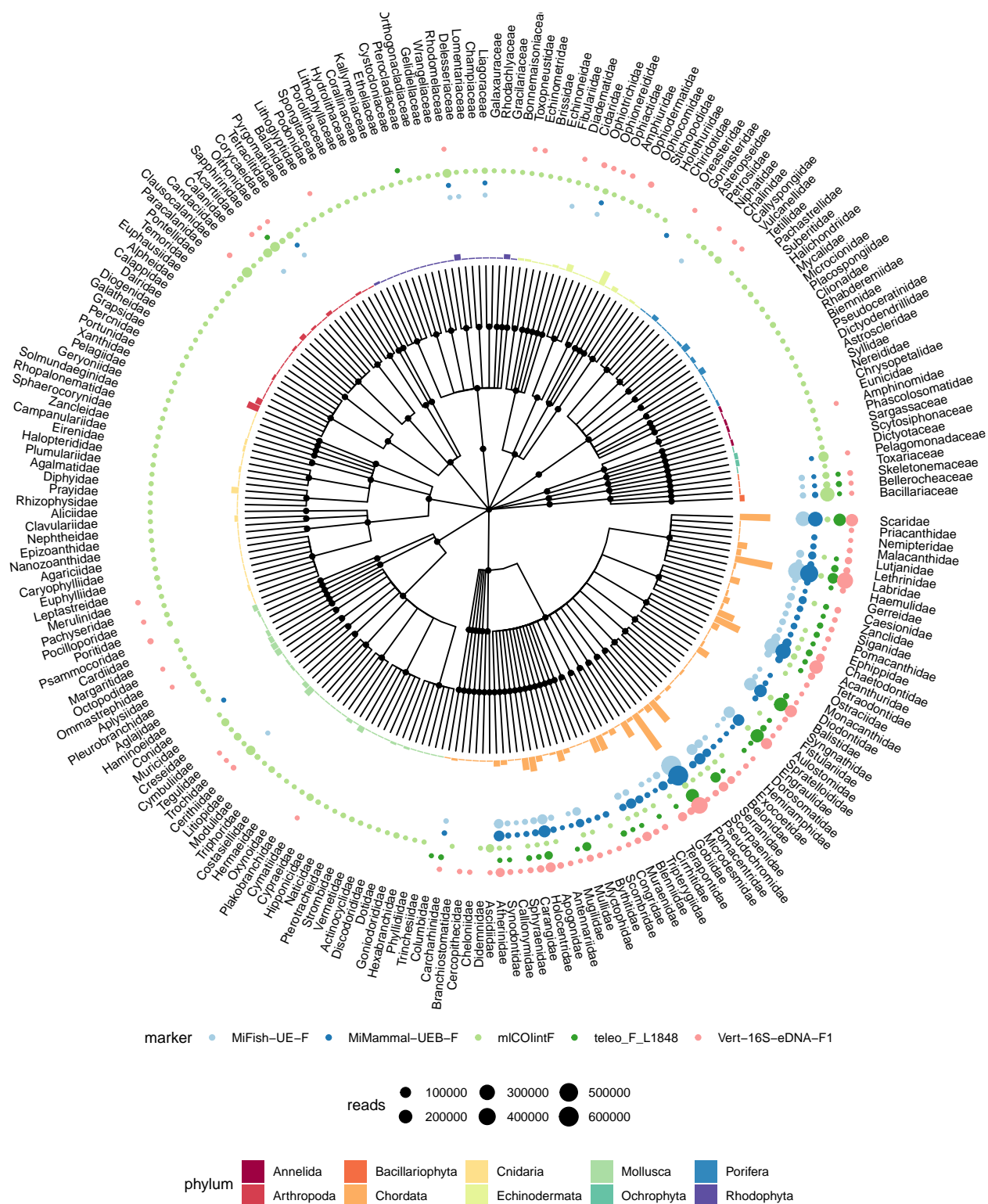
identification of 655 species, including 335 fish species, 1 mammalian species, and 1 turtle species (Table 3). Species from other groups, such as molluscs, algae, echinoderms, cnidarians, and sponges, were also detected (Figures 2 and 3). This number of species detected represents about 35% of the 1,079 species known from Tubbataha Reefs Natural Park in the OBIS database. Of the 655 species detected, 400 are not among the species previously reported from Tubbataha Reefs Natural Park to the UNESCO OBIS database. 8 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	335	936	0.36
mammals	1	17	0.06
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	1	5	0.20
EN	2	14	0.14
VU	5	26	0.19

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



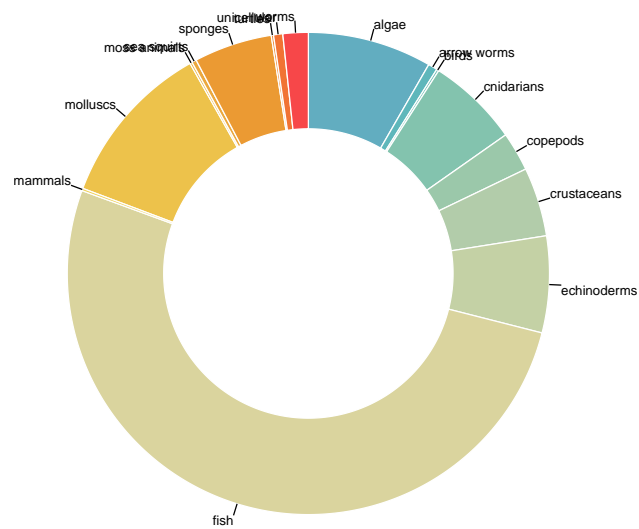


Figure 3: Distribution of detected species across groups.

phylum	class	species	group	category	new	vernacular
Annelida	Polychaeta	Bhawania goodei	worms		yes	
Annelida	Polychaeta	Chloeia flava	worms		yes	
Annelida	Polychaeta	Nereis denhamensis	worms		yes	
Annelida	Polychaeta	Nicidion samoae	worms		yes	
Annelida	Polychaeta	Palola viridis	worms		yes	Pacific palolo worm
Annelida	Polychaeta	Syllis ypsiloides	worms		yes	
Annelida	Polychaeta	Treptopale homalos	worms		yes	
Annelida	Polychaeta	Trypanosyllis luzonensis	worms		yes	
Annelida		Phascolosoma (Phascolosoma) pacificum	worms		yes	
Annelida		Phascolosoma (Phascolosoma) stephensoni	worms		yes	
Arthropoda	Branchiopoda	Pseudevadne tergestina	crustaceans		yes	
Arthropoda	Copepoda	Acartia (Acartia) negligens	copepods		yes	
Arthropoda	Copepoda	Calocalanus minutus	copepods		yes	
Arthropoda	Copepoda	Calocalanus plumulosus	copepods		yes	
Arthropoda	Copepoda	Candacia bradyi	copepods		yes	
Arthropoda	Copepoda	Candacia curta	copepods		yes	
Arthropoda	Copepoda	Canthocalanus pauper	copepods		yes	
Arthropoda	Copepoda	Clausocalanus furcatus	copepods		yes	
Arthropoda	Copepoda	Copilia hendorffi	copepods		yes	
Arthropoda	Copepoda	Copilia mirabilis	copepods		yes	
Arthropoda	Copepoda	Farranula gibbula	copepods		yes	
Arthropoda	Copepoda	Ivellopsis denticauda	copepods		yes	
Arthropoda	Copepoda	Oithona attenuata	copepods		yes	
Arthropoda	Copepoda	Paracalanus denudatus	copepods		yes	
Arthropoda	Copepoda	Paracalanus indicus	copepods		yes	
Arthropoda	Copepoda	Sapphirina stellata	copepods		yes	
Arthropoda	Copepoda	Temora discaudata	copepods		yes	
Arthropoda	Copepoda	Temora turbinata	copepods		yes	
Arthropoda	Malacostraca	Alpheus pacificus	crustaceans		yes	
Arthropoda	Malacostraca	Calappa hepatica	crustaceans		yes	smooth box crab
Arthropoda	Malacostraca	Cycloachelous granulatus	crustaceans		yes	
Arthropoda	Malacostraca	Cyclodius obscurus	crustaceans		yes	
Arthropoda	Malacostraca	Cyclodius unguatus	crustaceans		yes	
Arthropoda	Malacostraca	Daira perlata	crustaceans		yes	
Arthropoda	Malacostraca	Dardanus deformis	crustaceans		yes	pale anemone hermit
Arthropoda	Malacostraca	Dardanus lagopodes	crustaceans		yes	black-eyed hermit crab
Arthropoda	Malacostraca	Etisus anaglyptus	crustaceans		yes	
Arthropoda	Malacostraca	Etisus bifrontalis	crustaceans		yes	
Arthropoda	Malacostraca	Etisus demani	crustaceans		yes	
Arthropoda	Malacostraca	Galathea platycheles	crustaceans		yes	
Arthropoda	Malacostraca	Hansarsia gracilis	crustaceans		yes	
Arthropoda	Malacostraca	Liomera rugata	crustaceans		yes	corrugated liomera
Arthropoda	Malacostraca	Luniella pubescens	crustaceans		yes	
Arthropoda	Malacostraca	Pachygrapsus minutus	crustaceans		yes	
Arthropoda	Malacostraca	Paraxanthias notatus	crustaceans		yes	
Arthropoda	Malacostraca	Percnon guinotae	crustaceans		yes	
Arthropoda	Malacostraca	Pilodius pilumnoides	crustaceans		yes	
Arthropoda	Malacostraca	Thalamita admete	crustaceans		yes	
Arthropoda	Malacostraca	Thalamita gatavakensis	crustaceans		yes	
Arthropoda	Malacostraca	Thalamita seurati	crustaceans		yes	

Continued on next page

phylum	class	species	group	category	new	vernacular
Arthropoda	Malacostraca	Thalamita stephensoni	crustaceans		yes	
Arthropoda	Malacostraca	Zosimus aeneus	crustaceans		yes	
Arthropoda	Thecostraca	Amphibalanus zhujiangensis	crustaceans		yes	
Arthropoda	Thecostraca	Balanodytes habei	crustaceans		yes	
Arthropoda	Thecostraca	Megabalanus ajax	crustaceans		yes	
Arthropoda	Thecostraca	Savignium crenatum	crustaceans		yes	
Arthropoda	Thecostraca	Tetraclitella pilsbryi	crustaceans		yes	
Bacillariophyta	Bacillariophyceae	Bellerochea polymorpha	algae		yes	
Bacillariophyta	Bacillariophyceae	Cylindrotheca closterium	algae		yes	
Bacillariophyta	Bacillariophyceae	Pseudo-nitzschia cuspidata	algae		yes	
Bacillariophyta	Bacillariophyceae	Pseudo-nitzschia delicatissima	algae		yes	
Bacillariophyta	Bacillariophyceae	Pseudo-nitzschia sabit	algae		yes	
Bacillariophyta	Bacillariophyceae	Skeletonema menzelii	algae		yes	
Bacillariophyta	Bacillariophyceae	Toxarium undulatum	algae		yes	
Bryozoa	Gymnolaemata	Virididentula dentata	moss animals		yes	
Cercozoa	Chlorarachnea	Bigelowiella natans	unicellular		yes	
Chaetognatha	Sagittoidea	Aidanosagitta neglecta	arrow worms		yes	
Chaetognatha	Sagittoidea	Ferosagitta robusta	arrow worms		yes	
Chaetognatha	Sagittoidea	Flaccisagitta enflata	arrow worms		yes	
Chaetognatha	Sagittoidea	Zonosagitta pulchra	arrow worms		yes	
Chlorophyta	Mamiellophyceae	Micromonas pusilla	algae		yes	
Chlorophyta		Chloroparvula pacifica	algae		yes	
Chlorophyta		Chloropicon laureae	algae		yes	
Chlorophyta		Chloropicon mariensis	algae		yes	
Chlorophyta		Chloropicon primus	algae		yes	
Chlorophyta		Chloropicon roscoffensis	algae		yes	
Chlorophyta		Chloropicon sieburthii	algae		yes	
Chordata	Ascidacea	Ascidia ahodori	sea squirts		yes	
Chordata	Ascidacea	Didemnum cuculliferum	sea squirts		yes	
Chordata	Aves	Columba livia	birds	LC	yes	
Chordata	Elasmobranchii	Carcharhinus amblyrhynchos	fish	EN		grey reef shark
Chordata	Elasmobranchii	Triaenodon obesus	fish	VU		whitetip reef shark
Chordata	Leptocardii	Epigonichthys maldivensis			yes	
Chordata	Mammalia	Macaca mulatta	mammals	LC	yes	
Chordata	Teleostei	Abudefduf vaigiensis	fish	LC		Indo-Pacific sergeant
Chordata	Teleostei	Acanthurus auranticavus	fish	LC		
Chordata	Teleostei	Acanthurus lineatus	fish	LC		lined surgeonfish
Chordata	Teleostei	Acanthurus mata	fish	LC		blue-lined surgeonfish
Chordata	Teleostei	Acanthurus nigricauda	fish	LC		epaulette surgeonfish
Chordata	Teleostei	Acanthurus nigrofusus	fish	LC		brown surgeonfish
Chordata	Teleostei	Acanthurus olivaceus	fish	LC		
Chordata	Teleostei	Acanthurus thompsoni	fish	LC		Thompson's surgeonfish
Chordata	Teleostei	Acanthurus triostegus	fish	LC		convict surgeonfish
Chordata	Teleostei	Aethaloperca rogaa	fish			redmouth grouper
Chordata	Teleostei	Aluterus scriptus	fish	LC		scrawled filefish
Chordata	Teleostei	Amblycirrhitis bimacula	fish	LC		
Chordata	Teleostei	Amblygaster leiogaster	fish	LC	yes	smoothbelly sardinella
Chordata	Teleostei	Amblyglyphidodon leucogaster	fish	LC		whitebelly damselfish
Chordata	Teleostei	Antennatus tuberosus	fish	LC	yes	tuberculated frogfish
Chordata	Teleostei	Aprion virescens	fish	LC		green jobfish

Continued on next page

phylum	class	species	group	category	new	vernacular
Chordata	Teleostei	Arothron hispidus	fish	LC		bristly puffer
Chordata	Teleostei	Arothron mappa	fish	LC		map puffer
Chordata	Teleostei	Arothron meleagris	fish	LC		Guineafowl puffer
Chordata	Teleostei	Arothron nigropunctatus	fish	LC		blackspotted puffer
Chordata	Teleostei	Aspidontus taeniatus	fish	LC		mimic blenny
Chordata	Teleostei	Asterropteryx ensifera	fish	LC	yes	
Chordata	Teleostei	Asterropteryx semipunctata	fish	LC	yes	
Chordata	Teleostei	Atrosalarias holomelas	fish	LC	yes	
Chordata	Teleostei	Aulostomus chinensis	fish	LC		Chinese trumpetfish
Chordata	Teleostei	Azurina lepidolepis	fish	LC		
Chordata	Teleostei	Balistapus undulatus	fish	LC		orangestriped
Chordata	Teleostei	Balistoides viridescens	fish	LC		titan triggerfish
Chordata	Teleostei	Blenniella chrysospilos	fish	LC	yes	
Chordata	Teleostei	Bolbometopon muricatum	fish	VU		bumphead parrotfish
Chordata	Teleostei	Cabillus tongarevae	fish	LC	yes	
Chordata	Teleostei	Caesio caeruleaurea	fish	LC		blue and gold fusilier
Chordata	Teleostei	Caesio cuning	fish	LC		
Chordata	Teleostei	Caesio lunaris	fish	LC		lunar fusilier
Chordata	Teleostei	Caesio teres	fish	LC		yellow and blueback fusilier
Chordata	Teleostei	Calotomus carolinus	fish	LC		Carolines parrotfish
Chordata	Teleostei	Canthigaster bennetti	fish	LC		Bennett's sharpnose puffer
Chordata	Teleostei	Canthigaster valentini	fish	LC		Valentinni's sharpnose puffer
Chordata	Teleostei	Caracanthus maculatus	fish	LC	yes	spotted coral croucher
Chordata	Teleostei	Caracanthus unipinna	fish	LC	yes	pygmy coral croucher
Chordata	Teleostei	Carangoides ferdau	fish	LC		blue trevally
Chordata	Teleostei	Caranx ignobilis	fish	LC		giant trevally
Chordata	Teleostei	Caranx melampygus	fish	LC		bluefin trevally
Chordata	Teleostei	Caranx sexfasciatus	fish	LC		bigeye trevally
Chordata	Teleostei	Centropyge flavissima	fish	LC		
Chordata	Teleostei	Centropyge heraldi	fish	LC		
Chordata	Teleostei	Centropyge vrolikii	fish	LC		
Chordata	Teleostei	Cephalopholis argus	fish	LC		peacock grouper
Chordata	Teleostei	Cephalopholis leopardus	fish	LC		leopard hind
Chordata	Teleostei	Cephalopholis miniata	fish	LC		coral grouper
Chordata	Teleostei	Cephalopholis sexmaculata	fish	LC		sixspot grouper
Chordata	Teleostei	Cephalopholis sonnerati	fish	LC		tomato hind
Chordata	Teleostei	Cephalopholis spiloparaea	fish	LC		strawberry hind
Chordata	Teleostei	Cephalopholis urodeta	fish	LC		darkfin hind
Chordata	Teleostei	Cetoscarus bicolor	fish	LC		bicolour parrotfish
Chordata	Teleostei	Chaetodon auriga	fish	LC		threadfin butterflyfish
Chordata	Teleostei	Chaetodon baronessa	fish	LC		
Chordata	Teleostei	Chaetodon citrinellus	fish	LC		
Chordata	Teleostei	Chaetodon ephippium	fish	LC		
Chordata	Teleostei	Chaetodon kleinii	fish	LC		sunburst butterflyfish
Chordata	Teleostei	Chaetodon lunula	fish	LC		raccoon butterflyfish
Chordata	Teleostei	Chaetodon ornatissimus	fish	LC		
Chordata	Teleostei	Chaetodon rafflesii	fish	LC		
Chordata	Teleostei	Chaetodon trifascialis	fish	NT		chevron butterflyfish
Chordata	Teleostei	Chaetodon trifasciatus	fish	LC	yes	melon butterflyfish
Chordata	Teleostei	Chaetodon ulietensis	fish	LC		Pacific doublesaddle butterflyfish

Continued on next page

phylum	class	species	group	category	new	vernacular
Chordata	Teleostei	Chaetodon vagabundus	fish	LC		vagabond butterflyfish
Chordata	Teleostei	Cheilinus chlorourus	fish	LC		floral wrasse
Chordata	Teleostei	Cheilinus fasciatus	fish	LC		redbreasted wrasse
Chordata	Teleostei	Cheilinus oxycephalus	fish	LC		snooty wrasse
Chordata	Teleostei	Cheilinus trilobatus	fish	LC		tripletail wrasse
Chordata	Teleostei	Cheilinus undulatus	fish	EN		humphead wrasse
Chordata	Teleostei	Cheilopogon cyanopterus	fish	LC	yes	marginated flyingfish
Chordata	Teleostei	Chelon dumerili	fish	DD	yes	
Chordata	Teleostei	Chlorurus bleekeri	fish	LC		
Chordata	Teleostei	Chlorurus gibbus	fish	LC	yes	
Chordata	Teleostei	Chlorurus microrhinos	fish	LC		
Chordata	Teleostei	Chlorurus sordidus	fish	LC		
Chordata	Teleostei	Chromis analis	fish	LC		
Chordata	Teleostei	Chromis atripectoralis	fish	LC		black-axil chromis
Chordata	Teleostei	Chromis hangganan	fish		yes	
Chordata	Teleostei	Chromis opercularis	fish	LC		doublebar chromis
Chordata	Teleostei	Chromis ternatensis	fish	LC		ternate chromis
Chordata	Teleostei	Chromis viridis	fish	LC		blue-green damselfish
Chordata	Teleostei	Chromis xanthochira	fish	LC		
Chordata	Teleostei	Chromis xanthura	fish	LC		
Chordata	Teleostei	Chrysiptera biocellata	fish	LC		twinspot damselfish
Chordata	Teleostei	Chrysiptera brownriggii	fish	LC		
Chordata	Teleostei	Chrysiptera cyanea	fish	LC		
Chordata	Teleostei	Chrysiptera unimaculata	fish	LC		onespot damselfish
Chordata	Teleostei	Cirrhitichthys aprinus	fish	LC		spotted hawkfish
Chordata	Teleostei	Cirrhitichthys oxycephalus	fish	LC		pixy hawkfish
Chordata	Teleostei	Cirrhitus pinnulatus	fish	LC		stocky hawkfish
Chordata	Teleostei	Cirripectes castaneus	fish	LC		chestnut blenny
Chordata	Teleostei	Cirripectes polyzona	fish	LC	yes	barred blenny
Chordata	Teleostei	Cirripectes stigmaticus	fish	LC	yes	red-streaked blenny
Chordata	Teleostei	Conger cinereus	fish	LC	yes	mustache conger
Chordata	Teleostei	Ctenochaetus binotatus	fish	LC		twospot surgeonfish
Chordata	Teleostei	Ctenochaetus striatus	fish	LC		lined bristletooth
Chordata	Teleostei	Cymolutes praetextatus	fish	LC	yes	
Chordata	Teleostei	Dascyllus aruanus	fish	LC		banded dascyllus
Chordata	Teleostei	Dascyllus melanurus	fish	LC		
Chordata	Teleostei	Dascyllus reticulatus	fish	LC		reticulate dascyllus
Chordata	Teleostei	Dascyllus trimaculatus	fish	LC		domino
Chordata	Teleostei	Dasyscopelus asper	fish		yes	
Chordata	Teleostei	Dasyscopelus obtusirostris	fish		yes	
Chordata	Teleostei	Dasyscopelus spinosus	fish		yes	
Chordata	Teleostei	Decapterus macarellus	fish	LC	yes	mackerel scad
Chordata	Teleostei	Dinematichthys iluocoeteoides	fish	LC	yes	yellow pigmy brotula
Chordata	Teleostei	Diodon hystrix	fish	LC		spot-fin porcupinefish
Chordata	Teleostei	Diodon liturosus	fish			black-blotched porcupinefish
Chordata	Teleostei	Dischistodus chrysopoecilus	fish	LC		
Chordata	Teleostei	Dischistodus melanotus	fish	LC		
Chordata	Teleostei	Doboatherina aetholepis	fish		yes	
Chordata	Teleostei	Echidna nebulosa	fish	LC	yes	snowflake moray
Chordata	Teleostei	Elagatis bipinnulata	fish	LC		rainbow runner

Continued on next page

phylum	class	species	group	category	new	vernacular
Chordata	Teleostei	Enchelycore bayeri	fish	LC	yes	
Chordata	Teleostei	Encrasicholina heteroloba	fish	LC	yes	shorthead anchovy
Chordata	Teleostei	Enneapterygius tutuilae	fish	LC	yes	
Chordata	Teleostei	Entomacrodus thalassinus	fish	LC	yes	
Chordata	Teleostei	Epinephelus hexagonatus	fish	LC		starspotted grouper
Chordata	Teleostei	Epinephelus merra	fish	LC		honeycomb grouper
Chordata	Teleostei	Epinephelus ongus	fish	LC		white-streaked grouper
Chordata	Teleostei	Epinephelus polyphekadion	fish	VU		camouflage grouper
Chordata	Teleostei	Eucinostomus gula	fish	LC	yes	Jenny mojarra
Chordata	Teleostei	Eviota guttata	fish	LC		
Chordata	Teleostei	Eviota latifasciata	fish	LC		
Chordata	Teleostei	Eviota prasina	fish	LC	yes	green bubble goby
Chordata	Teleostei	Eviota zonura	fish	LC	yes	naked-headed goby
Chordata	Teleostei	Exallias brevis	fish	LC		shortbodied blenny
Chordata	Teleostei	Exyrias belissimus	fish	LC	yes	mud reef-goby
Chordata	Teleostei	Exyrias puntang	fish	LC	yes	
Chordata	Teleostei	Ferdauia orthogrammus	fish			
Chordata	Teleostei	Fistularia commersonii	fish	LC		cornetfish
Chordata	Teleostei	Gnathodentex aureolineatus	fish	LC		striped large-eye bream
Chordata	Teleostei	Gomphosus caeruleus	fish	LC		Red Sea bird wrasse
Chordata	Teleostei	Grammatorcynus bilineatus	fish	LC		
Chordata	Teleostei	Gymnothorax buroensis	fish	LC	yes	vagrant moray
Chordata	Teleostei	Gymnothorax chilospilus	fish	LC	yes	lipspot moray
Chordata	Teleostei	Gymnothorax fimbriatus	fish	LC	yes	fimbriated moray
Chordata	Teleostei	Gymnothorax flavimarginatus	fish	LC		yellowmargin moray
Chordata	Teleostei	Gymnothorax javanicus	fish	LC		giant moray
Chordata	Teleostei	Gymnothorax pictus	fish	LC	yes	
Chordata	Teleostei	Gymnothorax zonipectis	fish	LC	yes	
Chordata	Teleostei	Halichoeres argus	fish	LC		
Chordata	Teleostei	Halichoeres hortulanus	fish	LC		checkerboard wrasse
Chordata	Teleostei	Halichoeres margaritaceus	fish	LC		
Chordata	Teleostei	Halichoeres nebulosus	fish	LC		nebulous wrasse
Chordata	Teleostei	Halichoeres podostigma	fish	LC	yes	
Chordata	Teleostei	Halichoeres scapularis	fish	LC		zigzag wrasse
Chordata	Teleostei	Halichoeres trimaculatus	fish	LC		
Chordata	Teleostei	Helcogramma fuscipinna	fish	LC	yes	
Chordata	Teleostei	Hemigymnus melapterus	fish	LC		thicklip wrasse
Chordata	Teleostei	Heniochus chrysostomus	fish	LC		
Chordata	Teleostei	Heniochus singularius	fish	LC		
Chordata	Teleostei	Heteropriacanthus cruentatus	fish	LC	yes	glasseye snapper
Chordata	Teleostei	Hipposcarus longiceps	fish	LC		
Chordata	Teleostei	Hypoatherina celebesensis	fish		yes	
Chordata	Teleostei	Hypoatherina temminckii	fish		yes	Samoa silverside
Chordata	Teleostei	Hypoatherina tsurugae	fish		yes	
Chordata	Teleostei	Hyporhamphus affinis	fish		yes	tropical halfbeak
Chordata	Teleostei	Hyporhamphus dussumieri	fish		yes	Dussumier's halfbeak
Chordata	Teleostei	Labrichthys unilineatus	fish	LC		tubelip wrasse
Chordata	Teleostei	Labroides dimidiatus	fish	LC		cleaner wrasse
Chordata	Teleostei	Lethrinus olivaceus	fish	LC		longface emperor
Chordata	Teleostei	Lethrinus xanthurus	fish	LC		yellowlip emperor

Continued on next page

phylum	class	species	group	category	new	vernacular
Chordata	Teleostei	Lutjanus bohar	fish	LC		twinspot snapper
Chordata	Teleostei	Lutjanus decussatus	fish	LC		
Chordata	Teleostei	Lutjanus gibbus	fish	LC		humpback snapper
Chordata	Teleostei	Lutjanus quinquelineatus	fish	LC		
Chordata	Teleostei	Lutjanus rivulatus	fish	LC		blubberlip snapper
Chordata	Teleostei	Macolor niger	fish	LC		black and white snapper
Chordata	Teleostei	Macropharyngodon meleagris	fish	LC		
Chordata	Teleostei	Malacanthus latovittatus	fish			striped blanquillo
Chordata	Teleostei	Meiacanthus atrodorsalis	fish	LC		
Chordata	Teleostei	Melichthys niger	fish	LC		black durgon
Chordata	Teleostei	Melichthys vidua	fish	LC		pinktail triggerfish
Chordata	Teleostei	Monotaxis grandoculis	fish	LC		bigeye emperor
Chordata	Teleostei	Mulloidichthys flavolineatus	fish	LC		yellowstripe goatfish
Chordata	Teleostei	Mulloidichthys vanicolensis	fish	LC		yellowfin goatfish
Chordata	Teleostei	Myctophum nitidulum	fish	LC		lanternfish
Chordata	Teleostei	Myripristis adusta	fish	LC		shadowfin soldierfish
Chordata	Teleostei	Myripristis amaena	fish	LC		
Chordata	Teleostei	Myripristis berndti	fish	LC		blotcheye soldierfish
Chordata	Teleostei	Myripristis pralinia	fish	LC		scarlet soldierfish
Chordata	Teleostei	Myripristis violacea	fish	LC		
Chordata	Teleostei	Myripristis vittata	fish	LC		
Chordata	Teleostei	Nannosalarias nativitatis	fish	LC	yes	
Chordata	Teleostei	Naso brachycentron	fish	LC		humpback unicornfish
Chordata	Teleostei	Naso brevirostris	fish	LC		spotted unicornfish
Chordata	Teleostei	Naso hexacanthus	fish	LC		sleek unicornfish
Chordata	Teleostei	Naso lituratus	fish	LC		orangespine unicornfish
Chordata	Teleostei	Naso lopezi	fish	LC		
Chordata	Teleostei	Naso thynnoides	fish	LC		oneknife unicornfish
Chordata	Teleostei	Naso unicornis	fish	LC		bluespine unicornfish
Chordata	Teleostei	Naso vlamingii	fish	LC		bignose unicornfish
Chordata	Teleostei	Nectamia fusca	fish	LC	yes	
Chordata	Teleostei	Nectamia savayensis	fish	LC	yes	
Chordata	Teleostei	Nectamia similis	fish		yes	
Chordata	Teleostei	Neoniphon argenteus	fish	LC		
Chordata	Teleostei	Neoniphon sammara	fish	LC		sammara squirrelfish
Chordata	Teleostei	Neosynchiropus ocellatus	fish		yes	
Chordata	Teleostei	Novaculichthys taeniourus	fish	LC		rockmover wrasse
Chordata	Teleostei	Odonus niger	fish	LC		red-toothed triggerfish
Chordata	Teleostei	Ostracion cubicum	fish			
Chordata	Teleostei	Oxycheilinus bimaculatus	fish	LC		twospot wrasse
Chordata	Teleostei	Oxycheilinus celebicus	fish	LC		
Chordata	Teleostei	Oxycheilinus digramma	fish	LC		
Chordata	Teleostei	Oxyporhamphus micropterus	fish		yes	smallwing flyingfish
Chordata	Teleostei	Paracanthurus hepatus	fish	LC		palette surgeonfish
Chordata	Teleostei	Paracirrhites arcatus	fish	LC		arc-eye hawkfish
Chordata	Teleostei	Parascorpaena mcadamsi	fish	LC	yes	McAdam's scorpionfish
Chordata	Teleostei	Parupeneus barberinus	fish	LC		dash-and-dot goatfish
Chordata	Teleostei	Parupeneus ciliatus	fish	LC	yes	whitesaddle goatfish
Chordata	Teleostei	Parupeneus crassilabris	fish	LC		
Chordata	Teleostei	Parupeneus cyclostomus	fish	LC		yellowsaddle goatfish

Continued on next page

phylum	class	species	group	category	new	vernacular
Chordata	Teleostei	Parupeneus heptacanthus	fish	LC	yes	cinnabar goatfish, rouget-barbet cinnabare
Chordata	Teleostei	Parupeneus multifasciatus	fish	LC		
Chordata	Teleostei	Parupeneus pleurostigma	fish	LC		sidespot goatfish
Chordata	Teleostei	Pelates quadrilineatus	fish		yes	fourlined terapon
Chordata	Teleostei	Phoxocampus belcheri	fish	LC	yes	rock pipefish
Chordata	Teleostei	Plagiotremus tapeinosoma	fish	LC		scale-eating blenny
Chordata	Teleostei	Planiliza macrolepis	fish	LC	yes	
Chordata	Teleostei	Platax boersii	fish			
Chordata	Teleostei	Platax orbicularis	fish	LC		circular spadefish
Chordata	Teleostei	Plectorhinchus chaetodonoides	fish			
Chordata	Teleostei	Plectorhinchus lineatus	fish			
Chordata	Teleostei	Plectranthias fourmanoiri	fish	LC	yes	
Chordata	Teleostei	Plectroglyphidodon dickii	fish	NT		blackbar devil
Chordata	Teleostei	Plectroglyphidodon leucozonus	fish	LC		
Chordata	Teleostei	Plectropomus areolatus	fish	VU		
Chordata	Teleostei	Pomacanthus sexstriatus	fish	LC		
Chordata	Teleostei	Pomacentrus bankanensis	fish	LC		
Chordata	Teleostei	Pomacentrus chrysurus	fish	LC		whitetail damsel
Chordata	Teleostei	Pomacentrus coelestis	fish	LC		
Chordata	Teleostei	Pomacentrus moluccensis	fish	LC		
Chordata	Teleostei	Pomacentrus pavo	fish	LC		sapphire damsel
Chordata	Teleostei	Pomacentrus vaiuli	fish	LC		
Chordata	Teleostei	Priolepis semidoliata	fish	LC	yes	
Chordata	Teleostei	Pristiapogon exostigma	fish	LC	yes	
Chordata	Teleostei	Pseudanthias dispar	fish	LC		
Chordata	Teleostei	Pseudanthias huchtii	fish	LC		
Chordata	Teleostei	Pseudanthias lori	fish	LC		
Chordata	Teleostei	Pseudanthias pascalus	fish	LC		
Chordata	Teleostei	Pseudanthias smithvanizi	fish	LC		
Chordata	Teleostei	Pseudanthias squamipinnis	fish	LC		sea goldie
Chordata	Teleostei	Pseudobalistes flavimarginatus	fish	LC		yellowmargin triggerfish
Chordata	Teleostei	Pseudocheilinus hexataenia	fish	LC		sixstripe wrasse
Chordata	Teleostei	Pseudochromis fuscus	fish	LC		
Chordata	Teleostei	Pseudogramma polyacantha	fish	LC	yes	honeycomb podge
Chordata	Teleostei	Pseudoplesiops typus	fish	LC	yes	
Chordata	Teleostei	Ptereleotris evides	fish	LC		blackfin dartfish
Chordata	Teleostei	Ptereleotris hanae	fish	LC	yes	
Chordata	Teleostei	Ptereleotris zebra	fish	LC		Chinese zebra goby
Chordata	Teleostei	Pterocaesio marri	fish	LC		Marr's fusilier
Chordata	Teleostei	Pterocaesio pisang	fish	LC		banana fusilier
Chordata	Teleostei	Pterocaesio randalli	fish			
Chordata	Teleostei	Pterocaesio tile	fish	LC		dark-banded fusilier
Chordata	Teleostei	Pycnochromis amboinensis	fish			
Chordata	Teleostei	Pycnochromis dimidiatus	fish		yes	
Chordata	Teleostei	Pycnochromis margaritifer	fish	LC		
Chordata	Teleostei	Pycnochromis retrofasciatus	fish	LC		
Chordata	Teleostei	Pygoplites diacanthus	fish	LC		royal angelfish
Chordata	Teleostei	Rhabdoblennius nitidus	fish	LC	yes	
Chordata	Teleostei	Rhinecanthus aculeatus	fish	LC		white-banded triggerfish
Chordata	Teleostei	Rhinecanthus rectangulus	fish	LC		wedge-tail triggerfish

Continued on next page

phylum	class	species	group	category	new	vernacular
Chordata	Teleostei	Rhinecanthus verrucosus	fish	LC		
Chordata	Teleostei	Salarias fasciatus	fish	LC		jewelled blenny
Chordata	Teleostei	Sargocentron diadema	fish	LC		crown squirrelfish
Chordata	Teleostei	Sargocentron punctatissimum	fish	LC	yes	speckled squirrelfish
Chordata	Teleostei	Sargocentron spiniferum	fish	LC		sabre squirrelfish
Chordata	Teleostei	Sargocentron tiere	fish	LC		bluelined squirrelfish
Chordata	Teleostei	Scarus altipinnis	fish	LC		
Chordata	Teleostei	Scarus dimidiatus	fish	LC		
Chordata	Teleostei	Scarus flavipectoralis	fish	LC		
Chordata	Teleostei	Scarus forsteni	fish	LC		
Chordata	Teleostei	Scarus ghobban	fish	LC		bluechin parrotfish
Chordata	Teleostei	Scarus globiceps	fish	LC		globehead parrotfish
Chordata	Teleostei	Scarus hypselopterus	fish	NT		
Chordata	Teleostei	Scarus niger	fish	LC		dusky parrotfish
Chordata	Teleostei	Scarus oviceps	fish	LC		
Chordata	Teleostei	Scarus prasiognathos	fish	LC		
Chordata	Teleostei	Scarus psittacus	fish	LC		palenose parrotfish
Chordata	Teleostei	Scarus quoyi	fish	LC		
Chordata	Teleostei	Scarus rivulatus	fish	LC		
Chordata	Teleostei	Scarus rubroviolaceus	fish	LC		ember parrotfish
Chordata	Teleostei	Scarus schlegeli	fish	LC		
Chordata	Teleostei	Scarus spinus	fish	LC		
Chordata	Teleostei	Scarus tricolor	fish	LC		tricolour parrotfish
Chordata	Teleostei	Scolopsis margaritifera	fish	LC		
Chordata	Teleostei	Scomberoides lysan	fish	LC		doublespotted queenfish
Chordata	Teleostei	Scuticaria tigrina	fish	LC	yes	tiger reef eel
Chordata	Teleostei	Sebastapistes cyanostigma	fish	LC	yes	
Chordata	Teleostei	Sebastapistes fowleri	fish	LC	yes	
Chordata	Teleostei	Sebastapistes strongia	fish	LC	yes	barchin scorpionfish
Chordata	Teleostei	Siganus argenteus	fish	LC		forktail rabbitfish
Chordata	Teleostei	Siganus puellus	fish	LC		
Chordata	Teleostei	Siphamia jebbi	fish		yes	
Chordata	Teleostei	Sphyaena barracuda	fish	LC		great barracuda
Chordata	Teleostei	Spratelloides delicatulus	fish	LC		delicate round herring
Chordata	Teleostei	Spratelloides gracilis	fish	LC	yes	silverstriped round herring
Chordata	Teleostei	Stegastes lacrymatus	fish			
Chordata	Teleostei	Stegastes lividus	fish	LC		blunt snout gregory
Chordata	Teleostei	Stenatherina panatela	fish		yes	
Chordata	Teleostei	Stethojulis albobittata	fish	LC	yes	bluelined wrasse
Chordata	Teleostei	Stethojulis bandanensis	fish	LC		
Chordata	Teleostei	Stethojulis trilineata	fish	LC		threeline rainbowfish
Chordata	Teleostei	Strongylura incisa	fish			
Chordata	Teleostei	Sufflamen chrysopterum	fish	LC		
Chordata	Teleostei	Symphoricichthys spilurus	fish	LC		
Chordata	Teleostei	Synodus binotatus	fish	LC	yes	twospot lizardfish
Chordata	Teleostei	Synodus dermatogenys	fish	LC	yes	
Chordata	Teleostei	Synodus doaki	fish	LC	yes	
Chordata	Teleostei	Synodus variegatus	fish	LC		common lizardfish
Chordata	Teleostei	Thalassoma amblycephalum	fish	LC		bluntheaded wrasse
Chordata	Teleostei	Thalassoma hardwicke	fish	LC		

Continued on next page

phylum	class	species	group	category	new	vernacular
Chordata	Teleostei	Thalassoma janseni	fish	LC		
Chordata	Teleostei	Thalassoma lunare	fish	LC		moon wrasse
Chordata	Teleostei	Thalassoma quinquevittatum	fish	LC		
Chordata	Teleostei	Trachinotus bailloni	fish	LC	yes	smallspotted dart
Chordata	Teleostei	Trachinotus blochii	fish	LC		snubnose pompano
Chordata	Teleostei	Trimma macrophthalmum	fish	LC	yes	
Chordata	Teleostei	Tylosurus acus	fish	LC	yes	agujon needlefish
Chordata	Teleostei	Tylosurus crocodilus	fish	LC		houndfish
Chordata	Teleostei	Uropterygius fuscoguttatus	fish	LC	yes	
Chordata	Teleostei	Uropterygius xanthopterus	fish	LC	yes	freckleface reef-eel
Chordata	Teleostei	Valenciennesa sexguttata	fish	LC		sixspot goby
Chordata	Teleostei	Valenciennesa strigata	fish	LC		blueband goby
Chordata	Teleostei	Vanderhorstia ornatissima	fish	LC	yes	ornate prawn-goby
Chordata	Teleostei	Zanclus cornutus	fish	LC		Moorish idol
Chordata	Teleostei	Zebrasoma flavescens	fish	LC		yellow tang
Chordata	Teleostei	Zebrasoma scopas	fish	LC		twotone tang
Chordata	Teleostei	Zebrasoma velifer	fish			
Chordata		Eretmochelys imbricata	turtles	CR		hawksbill turtle, caret
Cnidaria	Anthozoa	Clavularia crassa	cnidarians	LC	yes	
Cnidaria	Anthozoa	Clavularia inflata	cnidarians		yes	
Cnidaria	Anthozoa	Epizoanthus illoricator	cnidarians		yes	
Cnidaria	Anthozoa	Euphyllia glabrescens	cnidarians	NT	yes	joker coral
Cnidaria	Anthozoa	Favites abdita	cnidarians	NT	yes	larger star coral
Cnidaria	Anthozoa	Hanabira yukibana	cnidarians		yes	
Cnidaria	Anthozoa	Leptastrea purpurea	cnidarians	LC	yes	crust coral
Cnidaria	Anthozoa	Nanozoanthus harenaceus	cnidarians		yes	
Cnidaria	Anthozoa	Neospongodes atlantica	cnidarians		yes	
Cnidaria	Anthozoa	Pachyseris speciosa	cnidarians	LC	yes	serpent coral
Cnidaria	Anthozoa	Pavona cactus	cnidarians	VU	yes	leaf coral
Cnidaria	Anthozoa	Phyllangia papuensis	cnidarians		yes	
Cnidaria	Anthozoa	Pocillopora acuta	cnidarians		yes	
Cnidaria	Anthozoa	Porites lutea	cnidarians	LC	yes	hump coral
Cnidaria	Anthozoa	Psammocora nierstraszi	cnidarians	LC	yes	
Cnidaria	Anthozoa	Stylophora pistillata	cnidarians	NT	yes	hood coral
Cnidaria	Anthozoa	Triactis producta	cnidarians		yes	crab anemone
Cnidaria	Hydrozoa	Amphicaryon ernesti	cnidarians		yes	
Cnidaria	Hydrozoa	Antennella secundaria	cnidarians		yes	
Cnidaria	Hydrozoa	Clytia gracilis	cnidarians		yes	
Cnidaria	Hydrozoa	Diphyes bojani	cnidarians		yes	
Cnidaria	Hydrozoa	Diphyes chamissonis	cnidarians		yes	
Cnidaria	Hydrozoa	Diphyes dispar	cnidarians		yes	
Cnidaria	Hydrozoa	Eirene hexanemalis	cnidarians		yes	
Cnidaria	Hydrozoa	Eudoxoides mitra	cnidarians		yes	
Cnidaria	Hydrozoa	Euphyllia pyramidata	cnidarians		yes	
Cnidaria	Hydrozoa	Halopteris alternata	cnidarians		yes	
Cnidaria	Hydrozoa	Lensia campanella	cnidarians		yes	
Cnidaria	Hydrozoa	Lensia conoidea	cnidarians		yes	
Cnidaria	Hydrozoa	Liriope tetraphylla	cnidarians		yes	
Cnidaria	Hydrozoa	Nanomia bijuga	cnidarians		yes	
Cnidaria	Hydrozoa	Plumularia setacea	cnidarians		yes	little seabristle

Continued on next page

phylum	class	species	group	category	new	vernacular
Cnidaria	Hydrozoa	Rhizophysa eysenhardtii	cnidarians		yes	
Cnidaria	Hydrozoa	Rhopalonema velatum	cnidarians		yes	veiled medusa
Cnidaria	Hydrozoa	Solmundella bitentaculata	cnidarians		yes	
Cnidaria	Hydrozoa	Sphaerocoryne bedoti	cnidarians		yes	
Cnidaria	Hydrozoa	Zanclea gallii	cnidarians		yes	
Cnidaria	Hydrozoa	Zanclea sango	cnidarians		yes	
Cnidaria	Scyphozoa	Pelagia panopyra	cnidarians		yes	
Cryptophyta	Cryptophyceae	Hemiarma marina			yes	
Ctenophora	Tentaculata	Ocyropsis maculata	cnidarians		yes	ocyroé tachée
Echinodermata	Asteroidea	Asteropsis carinifera	echinoderms		yes	
Echinodermata	Asteroidea	Culcita novaeguineae	echinoderms			cushion star
Echinodermata	Asteroidea	Fromia hemiopl	echinoderms		yes	
Echinodermata	Asteroidea	Fromia monilis	echinoderms		yes	
Echinodermata	Echinoidea	Echinometra mathaei	echinoderms		yes	rock-boring urchin
Echinodermata	Echinoidea	Echinostrephus molaris	echinoderms		yes	
Echinodermata	Echinoidea	Echinothrix calamaris	echinoderms		yes	banded sea urchin
Echinodermata	Echinoidea	Echinothrix diadema	echinoderms		yes	blue-black urchin
Echinodermata	Echinoidea	Eucidaris metularia	echinoderms		yes	
Echinodermata	Echinoidea	Fibularia coffea	echinoderms		yes	
Echinodermata	Echinoidea	Koehleraster abnormalis	echinoderms		yes	
Echinodermata	Echinoidea	Metalia nobilis	echinoderms		yes	
Echinodermata	Echinoidea	Pseudoboletia maculata	echinoderms		yes	
Echinodermata	Echinoidea	Toxopneustes pileolus	echinoderms		yes	
Echinodermata	Holothuroidea	Chiridota stuhlmanni	echinoderms		yes	
Echinodermata	Holothuroidea	Holothuria (Lessonothuria) lineata	echinoderms		yes	
Echinodermata	Holothuroidea	Holothuria (Stauropora) pervicax	echinoderms		yes	
Echinodermata	Holothuroidea	Holothuria (Thymiosycia) impatiens	echinoderms		yes	
Echinodermata	Holothuroidea	Labidodemas pertinax	echinoderms	LC	yes	
Echinodermata	Holothuroidea	Stichopus monotuberculatus	echinoderms	DD	yes	
Echinodermata	Ophiuroidea	Amphipholis squamata	echinoderms		yes	dwarf brittle star
Echinodermata	Ophiuroidea	Breviturma brevipes	echinoderms		yes	
Echinodermata	Ophiuroidea	Breviturma pica	echinoderms		yes	
Echinodermata	Ophiuroidea	Breviturma pusilla	echinoderms		yes	
Echinodermata	Ophiuroidea	Macrophiothrix demessa	echinoderms		yes	
Echinodermata	Ophiuroidea	Macrophiothrix koehleri	echinoderms		yes	
Echinodermata	Ophiuroidea	Macrophiothrix longipeda	echinoderms		yes	
Echinodermata	Ophiuroidea	Macrophiothrix lorioli	echinoderms		yes	
Echinodermata	Ophiuroidea	Macrophiothrix propinqua	echinoderms		yes	
Echinodermata	Ophiuroidea	Macrophiothrix robillardi	echinoderms		yes	
Echinodermata	Ophiuroidea	Ophiactis savignyi	echinoderms		yes	
Echinodermata	Ophiuroidea	Ophiarachnella stabilis	echinoderms		yes	
Echinodermata	Ophiuroidea	Ophiocoma anaglyptica	echinoderms		yes	
Echinodermata	Ophiuroidea	Ophiocoma cynthiae	echinoderms		yes	
Echinodermata	Ophiuroidea	Ophiocoma erinaceus	echinoderms		yes	
Echinodermata	Ophiuroidea	Ophiocoma schoenleinii	echinoderms		yes	
Echinodermata	Ophiuroidea	Ophiocoma scolopendrina	echinoderms		yes	
Echinodermata	Ophiuroidea	Ophiocomella ophiactoides	echinoderms		yes	
Echinodermata	Ophiuroidea	Ophiocomella sexradia	echinoderms		yes	
Echinodermata	Ophiuroidea	Ophiomastix annulosa	echinoderms		yes	
Echinodermata	Ophiuroidea	Ophiomastix asperula	echinoderms		yes	

Continued on next page

phylum	class	species	group	category	new	vernacular
Echinodermata	Ophiuroidea	Ophionereis porrecta	echinoderms		yes	
Haptophyta	Coccolithophyceae	Emiliania huxleyi	algae		yes	
Haptophyta	Coccolithophyceae	Gephyrocapsa oceanica	algae		yes	
Haptophyta	Coccolithophyceae	Phaeocystis globosa	algae		yes	
Hemichordata	Enteropneusta	Ptychodera flava			yes	Hawaiian acorn worm
Mollusca	Bivalvia	Hippopus hippopus	molluscs	LR/cd	yes	horses hoof
Mollusca	Bivalvia	Pinctada albina	molluscs		yes	
Mollusca	Bivalvia	Pinctada maculata	molluscs		yes	
Mollusca	Bivalvia	Tridacna crocea	molluscs	LR/lc		crocus giant clam
Mollusca	Bivalvia	Tridacna maxima	molluscs	LR/cd	yes	elongate clam
Mollusca	Bivalvia	Tridacna squamosa	molluscs	LR/cd	yes	giant clam
Mollusca	Cephalopoda	Octopus cyanea	molluscs	LC	yes	Cyane's octopus
Mollusca	Cephalopoda	Sthenoteuthis oualaniensis	molluscs	LC	yes	purpleback flying squid
Mollusca	Gastropoda	Actinocyclus verrucosus	molluscs		yes	
Mollusca	Gastropoda	Aplysia argus	molluscs		yes	
Mollusca	Gastropoda	Asteronotus mimeticus	molluscs		yes	
Mollusca	Gastropoda	Atys semistriatus	molluscs		yes	
Mollusca	Gastropoda	Berthellina delicata	molluscs		yes	
Mollusca	Gastropoda	Bittium glareosum	molluscs		yes	
Mollusca	Gastropoda	Biueve fulvipunctata	molluscs		yes	
Mollusca	Gastropoda	Boasia chierchiaie	molluscs		yes	
Mollusca	Gastropoda	Carminodoris grandiflora	molluscs		yes	
Mollusca	Gastropoda	Cerithium atomarginatum	molluscs		yes	
Mollusca	Gastropoda	Cerithium egenum	molluscs		yes	
Mollusca	Gastropoda	Cerithium nesioticum	molluscs		yes	
Mollusca	Gastropoda	Cerithium punctatum	molluscs		yes	
Mollusca	Gastropoda	Cerithium rostratum	molluscs		yes	
Mollusca	Gastropoda	Chelidonura electra	molluscs		yes	
Mollusca	Gastropoda	Chelidonura hirundinina	molluscs		yes	
Mollusca	Gastropoda	Chrysostoma paradoxum	molluscs		yes	
Mollusca	Gastropoda	Conomurex luhuanus	molluscs		yes	
Mollusca	Gastropoda	Conus miles	molluscs	LC	yes	soldier cone
Mollusca	Gastropoda	Corolla spectabilis	molluscs		yes	
Mollusca	Gastropoda	Costasiella kuroshimae	molluscs		yes	
Mollusca	Gastropoda	Creseis acicula	molluscs		yes	
Mollusca	Gastropoda	Diniatys dentifer	molluscs		yes	
Mollusca	Gastropoda	Dolabrifera dolabrifera	molluscs		yes	
Mollusca	Gastropoda	Doto ussi	molluscs		yes	
Mollusca	Gastropoda	Elysia mercieri	molluscs		yes	
Mollusca	Gastropoda	Elysia obtusa	molluscs		yes	
Mollusca	Gastropoda	Favartia ponderi	molluscs		yes	
Mollusca	Gastropoda	Firoloida desmarestia	molluscs		yes	
Mollusca	Gastropoda	Guttarium muricinum	molluscs		yes	
Mollusca	Gastropoda	Hexabanchus sanguineus	molluscs			Spanish dancer
Mollusca	Gastropoda	Indomodulus tectum	molluscs		yes	
Mollusca	Gastropoda	Lamprohaminoea cymbalum	molluscs		yes	
Mollusca	Gastropoda	Liloa mongii	molluscs		yes	
Mollusca	Gastropoda	Litiopa melanostoma	molluscs		yes	
Mollusca	Gastropoda	Luria isabella	molluscs			dirty-yellow cowrie
Mollusca	Gastropoda	Maculotriton seriale	molluscs		yes	

Continued on next page

phylum	class	species	group	category	new	vernacular
Mollusca	Gastropoda	Microtis tuberculata	molluscs		yes	
Mollusca	Gastropoda	Monetaria caputserpentis	molluscs		yes	serpent's head cowry
Mollusca	Gastropoda	Murphydoris puncticulata	molluscs		yes	
Mollusca	Gastropoda	Naria erosa	molluscs		yes	
Mollusca	Gastropoda	Naria helvola	molluscs		yes	
Mollusca	Gastropoda	Natica kawamurai	molluscs		yes	
Mollusca	Gastropoda	Odontoglossa guamensis	molluscs		yes	
Mollusca	Gastropoda	Oxynoe viridis	molluscs		yes	
Mollusca	Gastropoda	Palmadusta asellus	molluscs		yes	
Mollusca	Gastropoda	Petalochonchus keenae	molluscs		yes	
Mollusca	Gastropoda	Phanerophthalmus lentiginos	molluscs		yes	
Mollusca	Gastropoda	Phestilla subdiosa	molluscs		yes	
Mollusca	Gastropoda	Phyllidiopsis xishaensis	molluscs		yes	
Mollusca	Gastropoda	Pictorium koperbergi	molluscs		yes	
Mollusca	Gastropoda	Pleurobranchus albiguttatus	molluscs		yes	
Mollusca	Gastropoda	Pleurobranchus forskalii	molluscs		yes	Forskall's sidegill slug
Mollusca	Gastropoda	Pleurobranchus varians	molluscs		yes	
Mollusca	Gastropoda	Polybranchia orientalis	molluscs		yes	
Mollusca	Gastropoda	Rochia nilotica	molluscs		yes	
Mollusca	Gastropoda	Sabia conica	molluscs		yes	
Mollusca	Gastropoda	Stomatia phymotis	molluscs		yes	
Mollusca	Gastropoda	Stylocheilus striatus	molluscs		yes	
Mollusca	Gastropoda	Thuridilla livida	molluscs		yes	
Mollusca	Gastropoda	Thylacodes variabilis	molluscs		yes	
Mollusca	Gastropoda	Trochus maculatus	molluscs		yes	maculated top shell
Mollusca	Gastropoda	Tubulophilinopsis reticulata	molluscs		yes	
Mollusca	Gastropoda	Viriola incisa	molluscs		yes	
Myxozoa	Dinophyceae	Biecheleriopsis adriatica	unicellular		yes	
Myxozoa	Dinophyceae	Kryptoperidinium triquetrum	unicellular		yes	
Myxozoa	Dinophyceae	Protoceratium reticulatum	unicellular		yes	
Nemertea	Palaeonemertea	Balionemertes australiensis	worms		yes	
Ochrophyta	Pelagophyceae	Pelagomonas calceolata	algae		yes	
Ochrophyta	Phaeophyceae	Colpomenia sinuosa	algae		yes	
Ochrophyta	Phaeophyceae	Dictyota ceylanica	algae		yes	
Ochrophyta	Phaeophyceae	Dictyota friabilis	algae		yes	
Ochrophyta	Phaeophyceae	Dictyota mayae	algae		yes	
Ochrophyta	Phaeophyceae	Hydroclathrus tenuis	algae		yes	
Ochrophyta	Phaeophyceae	Rosenvingea intricata	algae		yes	
Ochrophyta	Phaeophyceae	Turbinaria conoides	algae		yes	
Platyhelminthes		Thysanozoon tentaculatum			yes	
Porifera	Demospongiae	Acanthotetilla celebensis	sponges		yes	
Porifera	Demospongiae	Amorpinopsis fenestrata	sponges		yes	
Porifera	Demospongiae	Astrosclera willeyana	sponges		yes	
Porifera	Demospongiae	Callyspongia (Cladochalina) plicifera	sponges		yes	
Porifera	Demospongiae	Ceratoporella nicholsoni	sponges		yes	
Porifera	Demospongiae	Chalinula molitba	sponges		yes	
Porifera	Demospongiae	Clathria (Clathria) unica	sponges		yes	
Porifera	Demospongiae	Clathria (Thalysias) curacaoensis	sponges		yes	
Porifera	Demospongiae	Clathria (Wilsonella) rugosa	sponges		yes	
Porifera	Demospongiae	Cliona chilensis	sponges		yes	

Continued on next page

phylum	class	species	group	category	new	vernacular
Porifera	Demospongiae	Cliona vermifera	sponges		yes	orange boring sponge
Porifera	Demospongiae	Cliothosa aurivillii	sponges		yes	
Porifera	Demospongiae	Cliothosa delitrix	sponges		yes	
Porifera	Demospongiae	Gelliodes wilsoni	sponges		yes	
Porifera	Demospongiae	Halichondria (Halichondria) bowerbanki	sponges		yes	Bowerbank's halichondria
Porifera	Demospongiae	Halichondria (Halichondria) panicea	sponges		yes	breadcrumb sponge
Porifera	Demospongiae	Haliclona (Gellius) amboinensis	sponges		yes	
Porifera	Demospongiae	Haliclona (Reniera) tubifera	sponges		yes	
Porifera	Demospongiae	Haliclona pigmentifera	sponges		yes	
Porifera	Demospongiae	Hymeniacidon chloris	sponges		yes	
Porifera	Demospongiae	Hymeniacidon flavia	sponges		yes	
Porifera	Demospongiae	Igernella notabilis	sponges		yes	
Porifera	Demospongiae	Mycale (Carmia) cecilia	sponges		yes	
Porifera	Demospongiae	Neofibularia hartmani	sponges		yes	
Porifera	Demospongiae	Nethea amygdaloides	sponges		yes	
Porifera	Demospongiae	Pione velans	sponges		yes	
Porifera	Demospongiae	Placospongia carinata	sponges		yes	
Porifera	Demospongiae	Poecillastra laminaris	sponges		yes	
Porifera	Demospongiae	Protosuberites mereui	sponges		yes	
Porifera	Demospongiae	Pseudoceratina purpurea	sponges		yes	
Porifera	Demospongiae	Rhabderemia sorokinae	sponges		yes	
Porifera	Demospongiae	Terpios hoshinota	sponges		yes	
Porifera	Demospongiae	Topsentia ophiraphidites	sponges		yes	
Porifera	Demospongiae	Xestospongia muta	sponges		yes	Caribbean barrel sponge
Rhodophyta	Florideophyceae	Acanthophora spicifera	algae		yes	
Rhodophyta	Florideophyceae	Anotrichium tenue	algae		yes	
Rhodophyta	Florideophyceae	Aphanta ligulata	algae		yes	
Rhodophyta	Florideophyceae	Asparagopsis taxiformis	algae		yes	
Rhodophyta	Florideophyceae	Ceratodictyon scoparium	algae		yes	
Rhodophyta	Florideophyceae	Chondrophyucus succisus	algae		yes	
Rhodophyta	Florideophyceae	Coelothrix irregularis	algae		yes	
Rhodophyta	Florideophyceae	Ethelia suluensis	algae		yes	
Rhodophyta	Florideophyceae	Galaxaura filamentosa	algae		yes	
Rhodophyta	Florideophyceae	Gelidiella acerosa	algae		yes	
Rhodophyta	Florideophyceae	Gracilaria fisheri	algae		yes	
Rhodophyta	Florideophyceae	Gracilaria salicornia	algae		yes	
Rhodophyta	Florideophyceae	Harveyolithon munitum	algae		yes	
Rhodophyta	Florideophyceae	Hydrolithon boergesenii	algae		yes	
Rhodophyta	Florideophyceae	Hydropuntia edulis	algae		yes	
Rhodophyta	Florideophyceae	Hydropuntia eucheumatoides	algae		yes	
Rhodophyta	Florideophyceae	Hypnea valentiae	algae		yes	
Rhodophyta	Florideophyceae	Jania adhaerens	algae		yes	
Rhodophyta	Florideophyceae	Laurencia dendroidea	algae		yes	
Rhodophyta	Florideophyceae	Laurencia obtusa	algae		yes	
Rhodophyta	Florideophyceae	Liagora ceranoides	algae		yes	
Rhodophyta	Florideophyceae	Lithophyllum prototypum	algae		yes	
Rhodophyta	Florideophyceae	Meredithia norfolkensis	algae		yes	
Rhodophyta	Florideophyceae	Neogoniolithon megalocystum	algae		yes	
Rhodophyta	Florideophyceae	Neogoniolithon trichotomum	algae		yes	
Rhodophyta	Florideophyceae	Palisada parvipapillata	algae		yes	

Continued on next page

phylum	class	species	group	category	new	vernacular
Rhodophyta	Florideophyceae	Pterocladia caerulescens	algae		yes	
Rhodophyta	Florideophyceae	Rhodachlya hawaiiiana	algae		yes	
Rhodophyta	Florideophyceae	Zellera tawallina	algae		yes	
Tracheophyta	Magnoliopsida	Musa acuminata		LC	yes	
Xenacoelomorpha		Convolutriloba longifissura			yes	