CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA

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Panama City (Panama), 14 – 25 November 2022

MARINE ORNAMENTAL FISH TRADE IN THE U.K.

1. This information document is submitted by the Centre for Environment, Fisheries and Aquaculture Science (Cefas), United Kingdom of Great Britain and Northern Ireland in relation to agenda item 80.*

2. This document provides species-level information on the UK's trade in marine ornamental fishes from a sample of import shipment documents across the years 2018 and 2019.

Background

At its eighteenth meeting (CoP18, Geneva), the Conference of the Parties adopted Decisions 18.296 to 18.298 on marine ornamental fishes. Descision18.296, directed the Secretariat to convene a technical workshop to consider the conservation priorities and management needs related to the trade in non-CITES listed marine ornamental fishes worldwide with a particular focus on data from importing and exporting countries.

Species-level information on traded marine ornamental fishes has historically been challenging to compile, and best available data are generated through analysis of shipment documents, notably the United States of America's import records and commercial invoices which list species, volumes, and values (Rhyne et al 2012; Rhyne et al., 2017). To support the implementation of Decision 18.296, UNEP-WCMC developed a questionnaire to gather data from stakeholders, including the species and volumes of species of marine ornamental fishes in global trade.

At the time of UNEP-WCMCs request, data on UKs trade in marine ornamental fishes at species resolution were not easily accessible. In response, the Centre for Environment, Fisheries and Aquaculture Science (Cefas) on behalf of the Department for Environment, Food and Rural Affairs (Defra) obtained a sample of 168 consignment documents from shipments imported into the UK in 2018 and 2019 (see methods section below for details of samples analysed). This data provide a species-level characterization of the UK's contribution to trade. A summary of the main findings is presented.

Overview of marine taxa in trade

Of the 168 marine consignments analysed, 135 (80%) contained finfish (class Actinopterygii, Figure 1). Stony corals (order Scleractinia), which are all listed under CITES Appendix II, appeared in only 15 consignments (10%). Species which were neither finfish nor stony corals, designated as "others", were

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* *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat (or the United Nations Environment Programme) concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*

present in 137 (82%) consignments. This “others” classification was largely made up of invertebrates, such as gastropods, decapods and anemones.

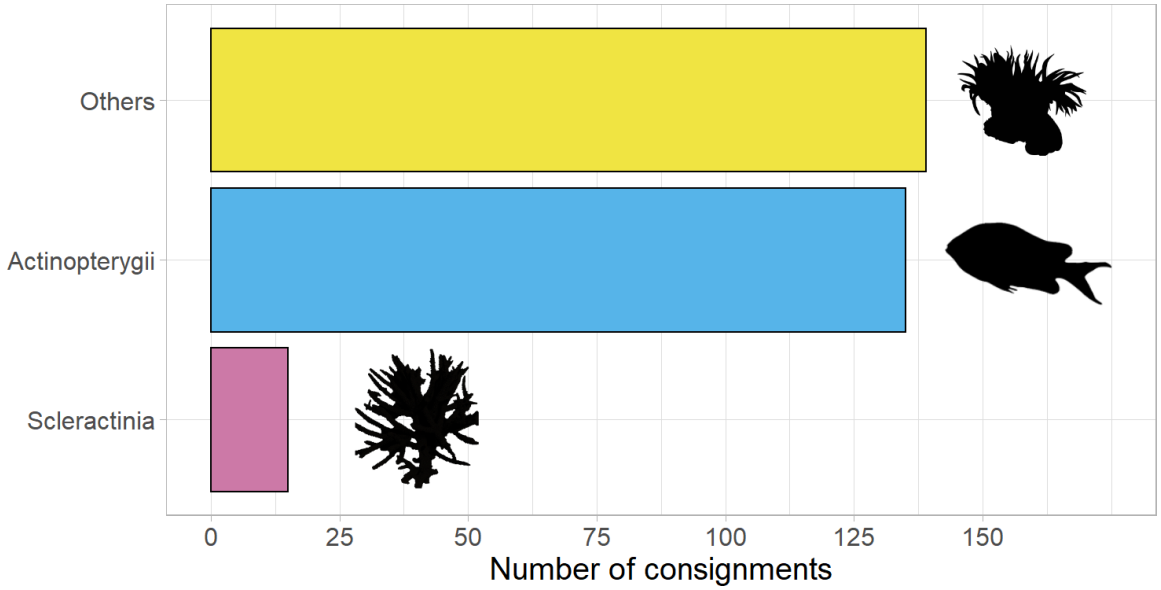

Figure 1: Number of consignments containing broad taxonomic groups from 168 consignments across 2018 and 2019. Blue = finfish (class Actinopterygii), pink = stony corals (order Scleractinia), and yellow = others.

Indonesia was the greatest exporter of marine ornamentals to the UK by number of individuals. Indonesia exported both the greatest number of individuals of finfish and individuals in the “others” category (Figure 2). Other notable exporters of marine finfish to UK were the Philippines, Thailand, Fiji, and the Maldives (Figure 2). Australia was by far the greatest exporter of stony corals to the UK, although it should be noted that there were self-imposed export restrictions in place in Indonesia at the time which meant that there was no international export of stony corals by Indonesia between 2018 and early 2020 (Figure 2).

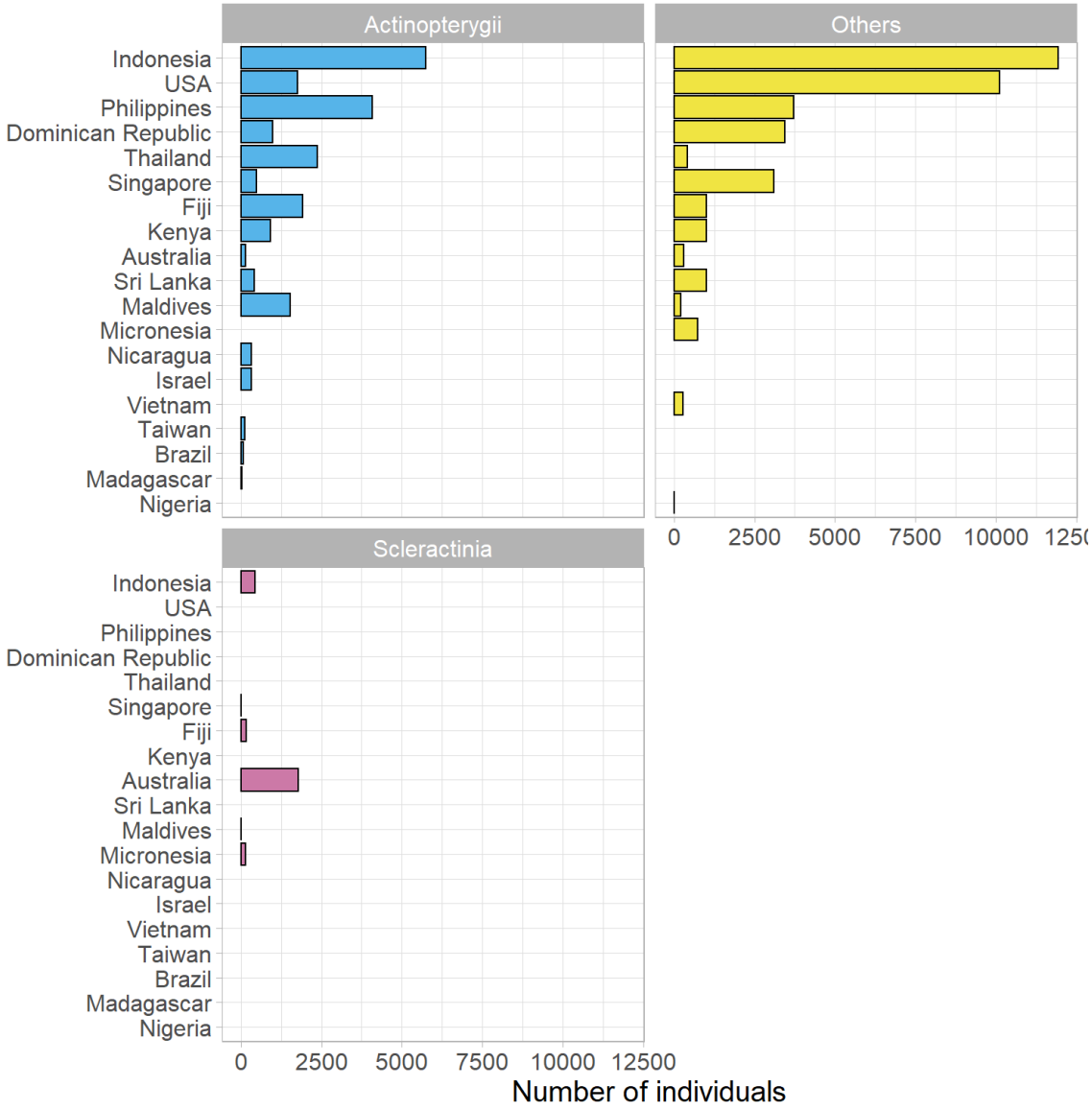

Figure 2: Number of individuals imported from different countries from 168 consignments across 2018 and 2019. Groups are Actinopterygii (finfish, blue), Scleractinia (stony corals, pink) and Others (yellow).

Marine Ornamental Fishes

135 consignments contained marine finfish, within which were 738 species of finfish (class Actinopterygii) belonging to 235 genera and 56 families. Of these families, twelve had 1000 or more individuals recorded from the imports (Figure3). Pomacentridae (damselfishes and clownfishes) were by far the most common family, with > 21,000 individuals imported (Figure 3). The top two species, *Chromis viridis* (blue-green chromis) and *Amphiprion ocellaris* (common clownfish) are both pomacentrids, and comprised 15.6% of trade by number of individuals, combined (Table 1).

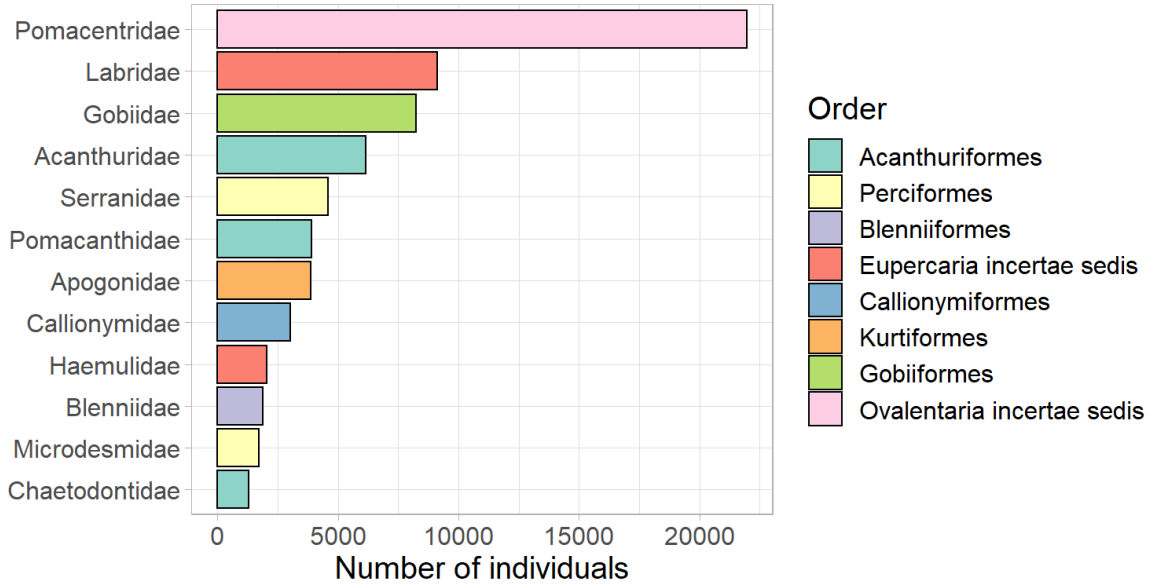

Figure 3: Marine finfish families with over 1,000 individuals imported from 135 consignments across 2018 and 2019, coloured by order.

Table 1: Species comprising 50% of trade in marine finfish (class Actinopterygii) by number of individuals imported from 135 consignments across 2018 and 2019.

Species	**Family**	**Number of individuals**	**Cumulative number**	**Cumulative percentage**
Chromis viridis	Pomacentridae	7669	7669	10.1
Amphiprion ocellaris	Pomacentridae	4130	11799	15.6
Pterapogon kauderni	Apogonidae	2291	14090	18.6
Anisotremus spp.	Haemulidae	2000	16090	21.3
Chrysiptera parasema	Pomacentridae	1877	17967	23.7
Synchiropus splendidus	Callionymidae	1710	19677	26.0
Valenciennea puellaris	Gobiidae	1528	21205	28.0
Pseudanthias squamipinnis	Serranidae	1398	22603	29.9
Labroides dimidiatus	Labridae	1306	23909	31.6
Anthias spp.	Serranidae	1252	25161	33.3
Valenciennea strigata	Gobiidae	1241	26402	34.9
Zebrasoma flavescens	Acanthuridae	1214	27616	36.5
Nemateleotris magnifica	Microdesmidae	1052	28668	37.9
Paracanthurus hepatus	Acanthuridae	872	29540	39.0

Species	Family	Number of individuals	Cumulative number	Cumulative percentage
Gramma loreto	Grammatidae	849	30389	40.2
Chrysiptera hemicyanea	Pomacentridae	831	31220	41.3
Valenciennea sexguttata	Gobiidae	824	32044	42.3
Macropharyngodon bipartitus	Labridae	822	32866	43.4
Centropyge bispinosa	Pomacanthidae	762	33628	44.4
Siganus vulpinus	Siganidae	728	34356	45.4
Pseudocheilinus hexataenia	Labridae	700	35056	46.3
Chrysiptera springeri	Pomacentridae	655	35711	47.2
Dascyllus trimaculatus	Pomacentridae	623	36334	48.0
Halichoeres chrysus	Labridae	615	36949	48.8
Chrysiptera cyanea	Pomacentridae	598	37547	49.6

Only 3 consignments indicated that they included fish which were captive-bred. The species documented as captive-bred were clownfishes (*Amphiprion spp*. and *Premnas bicelatus*), *Pseudochromis* spp. and neon gobies (*Elactinus spp*.) (Table 1). The greatest number of individuals of a species labelled as captive-bred, was 422 for the common clownfish (*Amphiprion ocellaris*). However, this comprised only 10% of all common clownfish imported.

Table 2: Cultured species, including number of individuals marked as captive bred from 135 consignments across 2018 and 2019.

Species	Family	Number of individuals
Amphiprion ocellaris	Pomacentridae	422
Amphiprion percula	Pomacentridae	46
Elacatinus macrodon	Gobiidae	32
Pseudochromis fridmani	Pseudochromidae	24
Pseudochromis aldabraensis	Pseudochromidae	23
Elacatinus puncticulatus	Gobiidae	18
Amphiprion clarkii	Pomacentridae	14

Premnas biaculeatus	Pomacentridae	14
Elacatinus oceanops	Gobiidae	12
Amphiprion frenatus	Pomacentridae	6

Conservation status of marine ornamental fish in trade

Most (n = 529) marine finfish species imported into UK were listed as Least Concern (LC) by the IUCN.

Table 3: Number of species by IUCN listing. EN = Endangered, VU = Vulnerable, NT = Near Threatened, LC = Least Concern, DD = Data Deficient, NA = No IUCN listing assigned.

IUCN listing	**Number of species**
EN	1
VU	6
NT	3
LC	529
DD	24
NA	175

Only one species was listed as endangered (EN), the Banggai cardinalfish (*Pterapogon kauderni*). Of the 2,291 Banggai cardinalfish individuals imported, most (n = 2215, 97%) came from Thailand and Indonesia, with a small number (n = 75, 3%) originating from Sri Lanka (Figure 4). As they are endemic to Banggai Islands, Indonesia, *Pterapogon kauderni* originating from Sri Lanka and Thailand are likely to be captive-bred, though this was not stated on the import documentation.

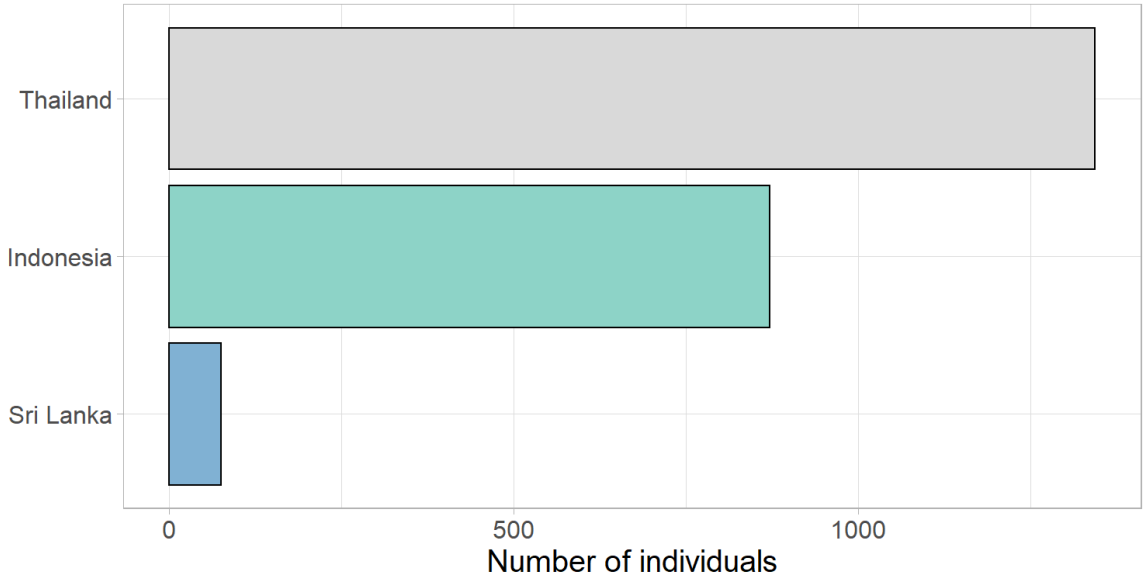

Figure 4: Number of individuals of endangered Banggai cardinalfish (*Pterapogon kauderni*) from 135 consignments across 2018 and 2019, by country of origin.

Six species were listed as Vulnerable (VU) (Figure 5). These were the tiger tail seahorse (*Hippocampus comes*), which originated entirely from Sri Lanka; the harlequin filefish (*Oxymonacanthus longirostris*), originating largely from Fiji (n = 55, 75%); the ternate damselfish (*Amblyglyphidodon ternatensis*) from the Philippines (n = 6); black wrasse (*Halichoeres adustus*), mostly from Indonesia (n = 7) but also from the Maldives (n = 2); the masked goby (*Coryphopterus personatus*) from the Dominican Republic (n = 3), and the half-black mimic surgeonfish (*Acanthurus chronixis*) from the Philippines (n = 3) and Indonesia (n = 2) (Figure 5).

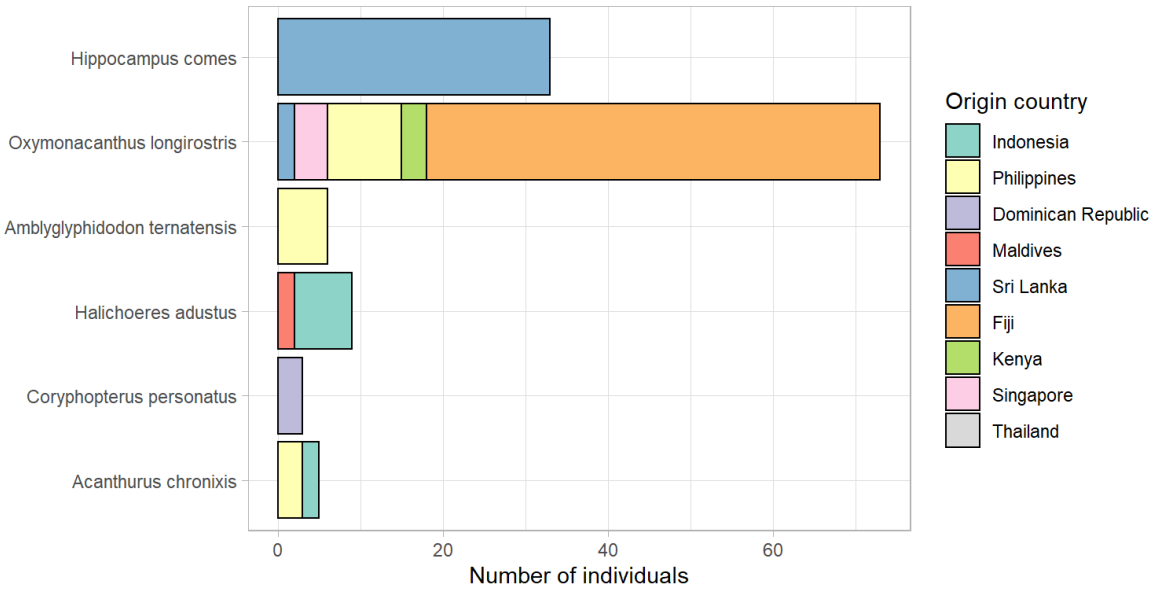

Figure 5: Number of individuals of vulnerable marine finfish species imported into the UK from 135 consignments across 2018 and 2019, coloured by country of origin.

Methods

A sample of paper copies of shipment documents for “ornamental aquatics” consignments imported into the UK in the years 2018 and 2019 were obtained from London Heathrow Airport, the UK’s largest Border Control Post (BCP). Shipment document packs, including health certificates, invoices, packing lists and a CITES permit if required, were scanned and species-level information from the packing lists/invoices manually digitized. One

hundred and sixty-eight (168) consignments (records) of marine species were digitized, 141 records from 2019 and 27 from 2018. While the sample used in the study does not enable an estimation of the total volume of trade imported into the UK, it does illustrate general trends which are representative of what the UK is importing.

Species names were validated using the worrms and taxize packages for R (version 4.1.2). Where necessary, species names were also validated manually using the World Register of Marine Species (WoRMS). Taxonomic ranks and aquatic ecosystems were also validated using the worrms package. IUCN listings were acquired using the rredlist package.

Marine species were defined as inhabiting strictly marine environments (i.e. not brackish waters). Finfish were defined as those belonging to the class Actinopterygii.

Selected Publications

Rhyne, A.L., Tlusty, M.F., Schofield, P.J., Kaufman, L.E.S., Morris Jr, J.A. and Bruckner, A.W., 2012. Revealing the appetite of the marine aquarium fish trade: the volume and biodiversity of fish imported into the United States. PloS one, 7(5), p.e35808.

Rhyne, A.L., Tlusty, M.F., Szczebak, J.T. and Holmberg, R.J., 2017. Expanding our understanding of the trade in marine aquarium animals. PeerJ, 5, p.e2949.

Contact

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