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CHECKLIST OF SHORE AND EPIPELAGIC FISHES OF EASTER ISLAND, WITH TWELVE NEW RECORDS

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ABSTRACT

A historical resume is given for the ichthyological research at Easter Island, followed by a list of the 162 species of shore and epipelagic fishes presently known for the island. Twelve are new records, and six are new species, the descriptions of which are in press (except one in preparation). Of the total fish fauna of the island, 28 species are epipelagic, and 129 species are shore fishes (occurring in less than 200 m). Twenty-eight shore-fish species are currently known only from Easter Island, thus a percentage of endemism of 21.7%, second within the Indo-Pacific region only to 25% for the Hawaiian Islands. Twelve species appear to be only strays to the island. It is expected that more such waifs will be recorded in the future.

Key words: Fishes, Easter Island, Checklist, New records.

RESUMEN

Listado sistemático de los peces costeros y epipelágicos de la Isla de Pascua, con doce nuevos registros. Se presenta un resumen sobre la historia de la investigación ictiológica en la Isla de Pascua, seguido de un listado taxonómico de las 162 especies de peces costeras y epipelágicas conocidas actualmente para la isla. De ellas, doce son nuevos registros, seis son nuevas especies y cuyas descripciones se encuentran en prensa (excepto una de ellas que está en preparación). Del total de la fauna de peces de la isla, 28 especies son epipelágicas, y 129 son especies costeras (viven a menos de 200 m de profundidad). Veintidós especies costeras se conocen sólo para la Isla de Pascua, de esta manera; el porcentaje de endemismo que alcanza un 21,7 % sería el segundo más alto dentro de la región Indo-Pacífica en comparación con el 25 % de las Islas Hawaianas. Doce especies parecen ser sólo avistamientos en la isla. Se espera que ellos sean registrados en el futuro.

Palabras clave: Peces, Isla de Pascua, Listado sistemático, Nuevos registros.

INTRODUCTION

Easter Island, also known by the Polynesian name Rapa Nui and the Spanish name Isla de Pascua, lies in the southeastern Pacific Ocean at 27°9'S, 109°26'W. It is the most isolated inhabited island in the Pacific. Apart from the satellite islet Sala-y-Gómez, the nearest islands are the Pitcairn Islands, nearly 2000 km to the west, and the Juan Fernández Islands, 2,600 km to the east. The island was discovered on Easter Sunday in 1722 by the Dutch explorer Jacob Roggeveen. Early scientific interest centered on the Polynesian inhabitants and their colossal stone statues (Fischer, 1993).

Only 162 species of fishes are presently known from Easter Island, of which 28 are epipelagic. The fish fauna of the island is very impoverished compared to the rest of the Indo-Pacific region. The primary reason is its extreme isolation from other shoal areas from which colonizing species might originate. Also, it is the most distant of the islands of Oceania from the Indo-Malayan region, the richest faunal province of the world. Other factors are the island's relative youth (2.5 million years), its small size, few aquatic habitats, and its subtropical location. Summer sea surface temperatures are usually 22-24°C, and

winter lows generally 17.5°C, with one record to 15.7°C (DiSalvo *et al.*, 1988). A protracted period of cool sea temperature could result in the local extinction of tropical species, whereas extended warm sea temperature might exterminate the more subtropical species. In 1969 there were extensive meadows of the brown alga *Sargassum* and very little coral. Two herbivorous fishes were common in the algal beds, *Girella nebulosa* and *Leptoscarus vaigiensis*. In 1985 there was surprisingly little *Sargassum*, much more coral, and the two herbivorous fishes were not seen (Randall, 1998).

Kendall and Radcliffe (1912) were the first to report fishes from Easter Island. They listed 22 species collected by the U.S. Fish Commission steamer «Albatross». The specimens were deposited in the Museum of Comparative Zoology of Harvard University. Two fishes were described as new, *Kuhlia nutabunda* and *Girella nebulosa*. Regan (1913) had a report in press on 11 species collected by Professor Fuentes at the island in 1911 when he saw Kendall and Radcliffe's publication. Nine of his 11 species had already been recorded. He revised his manuscript but described five species as new: *Acanthistius fuscus*, *Labrichthys fuentesi* (now in *Pseudolabrus*), *Bathystethus orientale*, *Anampses pulcher* (now regarded as *A. caeruleopunctatus*), and *Pseudomonacanthus paschalis* (currently classified in *Thamnaconus*). Kendall and Radcliffe had listed the first three of these as known species. Fuentes (1914) provided a Spanish translation of Regan's paper. Rendahl (1921) reported 15 species of fishes from Easter Island collected by K. Bäckström of the Swedish Pacific Expedition, 1916-17, including the new records *Platybelone argalus platyura*, *Bothus mancus*, and *Diodon holocanthus*. Three species were described as new: *Gymnothorax obscurirostris* (a synonym of *G. porphyreus*), *Ostracion paschae* (now identified as *Lactoria diaphana*), and *Pseudolabrus semifasciatus*. Fowler (1933) determined that the goatfish from Easter Island that Kendall and Radcliffe had identified as *Pseudupeneus multifasciatus* represents a new species that he renamed *Pseudupeneus orientalis*, now in the genus *Parupeneus*. Wilhelm and Hulot (1957) wrote briefly on the fishing and fishes of Easter Island. Their provisional list of fishes included *Engraulis* sp., *Gymnothorax*, *Scombresox*, *Hyporhamphus*, *Cypselurus*, *Brotula* sp., *Aulostomus* sp., a cirrhitid, *Priacanthus* sp., *Chelmo* sp., and *Tetrodon*.

In 1958 a collection of Easter Island fishes was made in Anakena Bay, Easter Island by Ramsey Parks and the crew of the ketch *Chiriqui*. These specimens are now housed in the Natural History Museum of Los Angeles County.

De Buen (1959) recorded *Mola ramsayi* from Easter Island. In 1961 he described new species of fishes from Chile which included two moray eels from Easter Island, *Gymnothorax nasuta* and *G. dentex*, the latter a synonym of *G. eurostus*. Parin (1961) recorded the flyingfish *Cypselurus pitcairnensis* from Easter Island and described the subspecies *Cheilopogon agoo rapanouiensis* from near the island. Parin (in Carpenter and Niem 1999) treated *rapanouiensis* as a species. De Buen (1963) produced a descriptive catalog of 40 Easter Island fishes with simple drawings of 32 species. He described as new *Holocentrum wilhelmi*, *Xanthichthys surcatus* (*X. lineopunctatus* of Kendall and Radcliffe, now a synonym of *X. mento*), *Amanses rapanui* (now in the genus *Cantherhines*), and a new subspecies, *Cirripectes variolosus patuki* (the *Alticus variolosus* of Kendall and Radcliffe, now *C. alboapicalis*). He identified the *Brotula* sp. of Wilhelm and Hulot as *B. multibarbata*, their *Scombresox* as *Belone platyura* (now *Platybelone argalus platyura*), their *Hyporhamphus* as *H. phurcatus* (now *H. acutus acutus*, as shown by Collette, 1974), their *Priacanthus* sp. as *Priacanthus cruentatus* (now in *Heteropriacanthus*), their *Chelmo* as *Forcipiger longirostris* (later reidentified as *F. flavissimus*), and their *Tetrodon* as *Ovoides meleagris* (now in *Arothron*). He corrected the *Teuthis umbra* of Kendall and Radcliffe and later authors to *Acanthurus leucopareius*.

In a revision of the filefish genera *Cantherhines* and *Amanses*, Randall (1964) described *C. tiki* from Easter Island before becoming aware of *C. rapanui* (de Buen), the senior synonym (de Buen's 1963 paper was overlooked by the *Zoological Record*).

During the Canadian Medical Expedition to Easter Island in 1964-65, a collection of 79 species fishes was made by Ian E. Efford and Jack A. Mathias of the Institute of Fisheries of the University of British Columbia. These specimens have not been reported as a collection but are curated at the museum

of the University.

Springer (1967) revised the blenny genus *Entomacrodus*. Among his new species is the endemic Easter Island *E. chapmani*, previously identified as *Alticus striatus* or *Salarias arenatus*.

The first author, Gerald R. Allen, and Bruce B. Baker, M.D. spent a month collecting fishes at Easter Island in 1969 with support of the National Geographic Society. The specimens were deposited at the Bishop Museum in Honolulu. In a popular account of the expedition, Randall (1970) mentioned that the gray reef shark *Carcharhinus amblyrhynchos* was known from the Canadian collection (now realized as a probable misidentification of *C. galapagensis*). A single individual of the surgeonfish *Acanthurus triostegus* was sighted but not collected (three specimens were obtained in 1986). The field identification of a razorfish as *Hemipteronotus woodi* is in error; this is now known to be an undescribed species of *Xyrichtys*. The identification of a holocentrid as *Ostichthys japonicus* was later shown to be *Pristilepis oligolepis*.

Ten publications from 1970-1975 included descriptions of new fishes from Easter Island, based mainly on specimens from the 1958, 1964-65, and 1969 collections. Allen (1970) described *Antennarius moai* (now *A. coccineus*) and *A. randalli*. Greenfield and Hensley (1970) described the pomacentrids *Chromis randalli* and *Chrysiptera rapanui*. Eschmeyer and Allen (1971) named *Scorpaena orgila*, *S. pascuensis* (now in *Sebastapistes*), and *Scorpaenodes englerti*. In a revision of the labrid genus *Anampses*, Randall (1972) described *A. femininus* from Easter Island and other South Pacific islands. Herald and Randall (1972) described *Syngnathus caldwelli* from Easter Island and Pitcairn. Dawson (1985) regarded this as a synonym of *Cosmocampus howensis* (Whitley); however, he noted that specimens from Easter Island have a higher average total number of rings (trunk rings + tail rings). Lavenberg and Yañez (1972) described *Cirrhitus wilhelmi* (now placed in the genus *Itycirrhitus* Randall) from a single specimen. Kami (1973) named *Pristipomoides* (*Parapristipomoides*) *squamimaxillaris* from Easter Island and Rapa (*Parapristipomoides* since elevated to a genus). Randall and Caldwell (1973) described *Chaetodon litus* and *Centropyge hotumatua*, the latter also known from the Pitcairn Islands, Rapa, and the Austral Islands. In a revision of the genus *Myripristis*, Greenfield (1974) described *M. tiki* from Easter Island, the Pitcairn Islands, and Rapa. McAllister and Randall (1975) described the centrolophid fish *Schedophilus labyrinthicus* (now *Seriolella labyrinthica*) from Easter Island and Rapa. Randall and McCosker (1975) reviewed the 11 eels from Easter Island, one of which, *Gymnothorax bathyphilus*, was described as new, and seven were listed as new records.

Yañez-Arancibia (1975) published on the zoogeography of the ichthyofauna of Easter Island. His list of fishes included the exocoetid *Cypselurus spilonopterus*, but with no supporting data; however, two specimens collected by the the first and second authors in 1986, 273 and 293 mm SL, confirm the presence of this flyingfish at the island. Yañez-Arancibia also recorded and illustrated the serranid *Scopularia rubra* (de Buen), type locality Juan Fernández Island, from one 149-mm specimen housed at the Museo Zoología de la Universidad de Concepción. Allen and Randall (1990) corrected the identification to *Hypoplectrodes semicinctus* (Valenciennes) and noted that there have been no further records of the species from Easter Island.

Randall (1976) reviewed the ichthyological research of Easter Island. He wrote that 99 of the 109 species of fishes from the island are shore fishes, adding that 27 appear to be restricted to the island, thus a percentage of endemism of 27,3. As will be noted below, additional collections from Easter Island and other southern subtropical islands of the South Pacific have lowered this percentage. Randall (1983) reviewed the subgenus *Goniistius* (now a genus) in what is now the family Latridae and described a new species, *G. plessisi*, from Easter Island and Rapa. Randall and Cea Egaña (1984) recorded the Rapanui names for 115 species of Easter Island fishes, nine only by generic name. They listed 14 other species for which they were unable to obtain local names. Three of these, *Zanclus cornutus*, *Acanthurus triostegus*, and *Naso unicornis*, were based on sight records. Mention was made of the low correspondence of the Rapanui fish names to those of any island group of Eastern Polynesia. This is more easily understood when one realizes that the Rapanui language has developed in isolation for at least 1.200 years. The

Rapanui fish names seem closest to those of the Marquesas Islands. Five names are unique to this archipelago and Easter Island, and 13 general Polynesian fish names are shared by both. Clark and Fricke (1985) described the dragonet *Synchiropus randalli* from Easter Island, and Fraser and Randall (1986) described *Apogon chalcius* (now placed in *Ostorhinchus*, following Bergman, 2004). DiSalvo *et al.* (1988) listed 33 new records of fishes for Easter Island, 14 only by generic name. Their *Trimma* sp. is now identified as *T. unisquamis* (Gosline, 1959) and their *Gnatholepis* as a new subspecies, *G. cauerensis pascuensis* Randall and Greenfield, 2001. Seven of the remaining 12 unidentified species have been described as new: *Priacanthus nasca* Starnes, 1988; *Rexea antefurcata* Parin, 1989; *Canthigaster cyanetron* Randall and Cea, 1989; *Engyprosopon regani* Hensley and Suzumoto, 1990; *Plectranthias parini* Anderson and Randall, 1991; *Ophidion exul* Robins, 1991; and *Pseudogramma australis* Randall and Baldwin, 1997. Randall and Cea (1984) included the flyingfish *Cypselurus pitcairnensis* Nichols and Breder in their checklist of Easter Island fishes. Parin (1996 and pers. comm.) reidentified Easter Island specimens as *C. simus* (Valenciennes).

García (2000) published an attractive booklet on the marine environments and marine life of Easter Island. Included are 31 underwater color photographs of the fishes from the island.

An asterisk (*) before a fish name in the following checklist designates a new record of the species for Easter Island. Bold capital letters after each species indicate its distribution pattern from our present knowledge: P is for pelagic; C is for cosmopolitan in warm seas (though some are absent from the eastern Pacific); D is for deeper than 200 m; I-P is for tropical Indo-Pacific; S is for southern subtropical; AT is for antitropical or antiequatorial; EP is for eastern Pacific, and E is for species endemic to Easter Island.

CHECKLIST OF THE SHORE AND EPIPELAGIC FISHES

SQUALIDAE (Dogfish sharks)
- *Isistius brasiliensis* (Quoy and Gaimard, 1824) **P**
- *Squalus blainvillei* (Risso, 1827) **C**

RHINCODONTIDAE (Whaleshark family)
- *Rhincodon typus* Smith, 1829 **P**

LAMNIDAE (Mackerel sharks)
- *Carcharodon carcharias* (Linnaeus, 1758) **C**
- *Isurus oxyrinchus* Rafinesque, 1809 **P**

ALOPIDAE (Thresher sharks)
- *Alopias vulpinus* (Bonnaterre, 1788) **P**

CARCHARINIDAE (Requiem sharks)
- *Carcharhinus galapagensis* (Snodgrass and Heller, 1905) **C**
- *Galeocerdo cuvier* (Péron and Lesueur, 1822) **C**
- *Prionace glauca* (Linnaeus, 1758) **P**

SPHYRNIDAE (Hammerhead sharks)
- *Sphyrna* sp. **I-P**

MYLIOBATIDAE (Eagle rays)
- *Aetobatis narinari* (Euphrasen, 1790) **C**

ENGRAULIDAE (Anchovies)
- **Engraulis ringens* Jenyns, 1842 **EP**

SYNODONTIDAE (Lizard fishes)
- *Synodus capricornis* Cressey and Randall, 1978 **AT**
- **Synodus doaki* Russell and Cressey, 1979 **I-P**

ANTENNARIIDAE (Frogfishes)
- *Antennarius coccineus* (Lesson, 1831) **I-P**

Antennarius randalli Allen, 1970 **I-P**
CONGRIDAE (Conger eels)
Conger cinereus Rüppell, 1830 **I-P**
OPHICHTHIDAE (Snake eels)
Apterichtus n. sp. McCosker and Randall, in press **S**
Ichthyapus acutirostris* Brisout de Barneville, 1847 **AT
Schizmorhynchus labialis (Seale, 1917) **I-P**
MORINGUIDAE (Spaghetti eels)
Moringua ferruginea Bliss, 1883 **I-P**
MURAENIDAE (Moray eels)
Anarchias seychellensis Smith, 1962 **I-P**
Enchelycore ramosus (Griffin, 1926) **S**
Gymnothorax australicola Lavenberg, 1992 **I-P**
Gymnothorax bathyphilus Randall and McCosker, 1975 **D**
Gymnothorax eurostus (Abbott, 1860) **AT**
Gymnothorax nasuta de Buen, 1961 **S**
Gymnothorax porphyreus (Guichenot, 1848) **S**
LAMPRIDIDAE (Opahs)
Lampris guttatus (Brünnich, 1788) **P**
OPHIDIIDAE (Brotulas and cusk eels)
Brotula multibarbata Temminck and Schlegel, 1846 **I-P**
Ophidion exul Robins, 1991 **I-P**
BELONIDAE (Needlefishes)
Platybelone argalus platyura (Bennett, 1832) **I-P**
HEMIRAMPHIDAE (Halfbeaks)
Hyporhamphus acutus acutus (Günther, 1872) **I-P**
Euleptorhamphus viridis (van Hasselt, 1823) **P**
EXOCOETIDAE (Flyingfishes)
Cheilopogon rapanouiensis Parin, 1961 **P**
Cheilopogon spilonotopterus (Bleeker, 1866) **P**
Cypselurus simus (Valenciennes, 1846) **P**
Exocoetus obtusirostris Günther, 1866 **P**
FISTULARIIDAE (Cornetfishes)
Fistularia commersonii Rüppell, 1838 **I-P**
AULOSTOMIDAE (Trumpetfishes)
Aulostomus chinensis (Linnaeus, 1766) **I-P**
SYNGNATHIDAE (Pipefishes)
Cosmocampus howensis (Whitley, 1948) **S**
HOLOCENTRIDAE (Squirrelfishes)
Myripristis tiki Greenfield, 1974 **S**
Plectrypops lima (Valenciennes 1831) **I-P**
Pristilepis oligolepis (Whitley, 1941) **AT**
Sargocentron punctatissimum (Cuvier, 1829) **I-P**
Sargocentron wilhelmi (de Buen, 1963) **E**
SCORPAENIDAE (Scorpionfishes)
Rhinopias cea Randall and DiSalvo, 1997 **E**
Scorpaena orgila Eschmeyer and Allen, 1971 **E**
Scorpaenodes englerti Eschmeyer and Allen, 1971 **E**
Sebastapistes pascuensis (Eschmeyer and Allen, 1971) **E**

TRIGLIDAE (Searobins)
Pterygotrigla picta* (Günther, 1880) **I-P
POLYPRIONIDAE (Wreckfishes)
Polyprion oxygeneios (Forster in Bloch and Schneider, 1801) **D**
SERRANIDAE (Groupers and allies)
Acanthistius fuscus Regan, 1913 **E**
Caprodon longimanus (Günther, 1859) **I-P**
Hypoplectrodes semicinctus (Valenciennes, 1833) **EP**
Plectranthias parini Anderson and Randall, 1991 **D**
Pseudogramma australis Randall and Baldwin, 1997 **E**
Trachypoma macracanthus Günther, 1859 **S**
CIRRHITIDAE (Hawkfishes)
Itycirrhitus wilhelmi (Lavenberg and Yañez, 1972) **S**
LATRIDAE (Morwongs)
Goniistius plessisi (Randall, 1983) **S**
PRIACANTHIDAE (Bigeyes)
Cookeolus japonicus (Valenciennes, 1829) **C**
Heteropriacanthus cruentatus (Lacepède, 1801) **C**
Priacanthus nasca Starnes, 1988 **E**
APOGONIDAE (Cardinalfishes)
Apogon n. sp. 1 Greenfield and Randall, MS **E**
Apogon n. sp. 2 Greenfield and Randall, MS **E**
Ostorhinchus chalcius (Fraser and Randall, 1986) **E**
KUHLIIDAE (Flagtails)
Kuhlia nutabunda Kendall and Radcliffe, 1912 **E**
ECHENEIDAE (Remoras)
Echeneis naucrates Linnaeus, 1758 **C**
Remora remora (Linnaeus, 1758) **P**
CARANGIDAE (Jacks)
Carangoides dasson (Jordan and Snyder, 1907) **AT**
Caranx lugubris Poey, 1860 **C**
Caranx sexfasciatus* Quoy and Gaimard, 1825 **I-P
Elagatis bipinnulata (Quoy and Gaimard, 1825) **C**
Decapterus muroadsi (Temminck and Schlegel, 1844) **AT**
Gnathanodon speciosus* (Forsskål, 1775) **I-P
Naucrates ductor (Linnaeus, 1758) **P**
Pseudocaranx dentex (Bloch and Schneider, 1801) **AT**
Seriola lalandi Valenciennes, 1833 **AT**
CORYPHAENIDAE (Dolphins)
Coryphaena equiselis* Linnaeus, 1758 **P
Coryphaena hippurus Linnaeus, 1758 **P**
EMMELICHTYIDAE (Rovers)
Emmelichthys karnellai Heemstra and Randall, 1977 **AT**
Erythrocles scintillans (Jordan and Thompson, 1912) **AT**
LUTJANIDAE (Snappers)
Etelis carbunculus Cuvier, 1828 **I-P**
Parapristipomoides squamimaxillaris (Kami, 1973) **S**
MULLIDAE (Goatfishes)
Mulloidichthys flavolineatus* (Lacepède, 1801) **I-P

Mulloidichthys vanicolensis (Valenciennes, 1831) **I-P**
Parupeneus orientalis (Fowler, 1933) **E**
GIRELLIDAE (Nibblers)
Girella nebulosa Kendall and Radcliffe, 1912 **E**
KYPHOSIDAE (Rudderfishes)
Kyphosus pacificus Sakai and Nakabo, 2004 **I-P**
SCORPIDIDAE (Halfmoons)
Bathystethus orientale Regan, 1913 **S**
CHAETODONTIDAE (Butterflyyfishes)
Amphichaetodon melbae Burgess and Caldwell, 1978 **EP**
Chaetodon flavirostris* Günther, 1873 **S
Chaetodon litus Randall and Caldwell, 1973 **E**
Chaetodon mertensii Cuvier, 1831 **I-P**
Chaetodon pelewensis Kner, 1868 **I-P**
Chaetodon smithi Randall, 1975 **S**
Chaetodon unimaculatus Bloch, 1787 **I-P**
Forcipiger flavissimus Jordan and McGregor, 1898 **I-P**
Hemitaurichthys multispinosus* Randall, 1975 **S
POMACANTHIDAE (Angelfishes)
Centropyge flavissimus (Cuvier, 1831) **I-P**
Centropyge hotumatua Randall and Caldwell, 1973 **S**
PENTACEROTIDAE (Armorheads)
Pentaceros decacanthus Günther, 1859 **D**
POMACENTRIDAE (Damselfishes)
Chromis randalli Greenfield and Hensley, 1970 **E**
Chrysiptera rapanui (Greenfield and Hensley, 1970) **S**
Stegastes fasciolatus (Ogilby, 1889) **S**
LABRIDAE (Wrasses)
Anampses caeruleopunctatus Rüppell, 1829 **I-P**
Anampses femininus Randall, 1972 **S**
Bodianus unimaculatus (Günther, 1862) **S**
Cheilio inermis (Forsskål, 1775) **I-P**
Coris debueni Randall, 1999 **E**
Pseudolabrus fuentesi (Regan, 1913) **S**
Pseudolabrus semifasciatus (Rendahl, 1921) **E**
Thalassoma lutescens (Lay and Bennett, 1839) **I-P**
Thalassoma purpureum (Forsskål, 1775) **I-P**
Xyrichtys n. sp. (Randall, in press) **E**
SCARIDAE (Parrotfishes)
Leptoscarus vaigiensis (Quoy and Gaimard, 1824) **I-P**
CREEDIIDAE (Sandburrowers)
Crystallodytes pauciradiatus Nelson and Randall, 1985 **E**
BLENNIIDAE (Blennies)
Cirripectes alboapicalis (Ogilby, 1899) **S**
Entomacrodus chapmani Springer, 1967 **E**
CALLIONYMIDAE (Dragonets)
Synchiropus randalli Clark and Fricke, 1985 **E**
GOBIIDAE (Gobies)
Gnatholepis cauerensis pascuensis Randall and Greenfield, 2001 **E**

Kelloggella oligolepis (Jenkins, 1903) **AT**
N. gen., n. sp. (Randall, in press) **E**
Priolepis n. sp. (Larson and Hoese, in prep.) **S**
Trimma unisquamis (Gosline, 1959) **AT**
ZANCLIDAE (Moorish idol family)
Zanclus cornutus (Linnaeus, 1758) **I-P**
ACANTHURIDAE (Surgeonfishes)
Acanthurus leucopareius (Jenkins, 1903) **AT**
Acanthurus triostegus (Linnaeus, 1758) **I-P**
Naso unicornis (Forsskål, 1775) **I-P**
SPHYRAENIDAE (Barracudas)
Sphyraena helleri Jenkins, 1901 **I-P**
GEMPYLIDAE (Snake mackerels)
Gempylus serpens* Cuvier, 1829 **P
Promethichthys prometheus (Cuvier, 1832) **P**
Rexea antefurcata Parin, 1989 **P**
Ruvettus pretiosus Cocco, 1833 **C**
SCOMBRIDAE (Mackerels and tunas)
Acanthocybium solandri (Cuvier, 1832) **P**
Katsuwonus pelamis (Linnaeus, 1758) **P**
Thunnus alalunga (Bonnaterre, 1788) **P**
Thunnus albacares (Bonnaterre, 1788) **P**
Thunnus obesus (Lowe, 1839) **P**
ISTIOPHORIDAE (Billfishes)
Istiophorus platypterus (Shaw and Nodder, 1792) **P**
Makaira mazara* (Jordan and Snyder, 1901) **P
XIPHIIDAE (Swordfishes family)
Xiphias gladius Linnaeus, 1758 **P**
CENTROLOPHIDAE (Medusafishes)
Seriolella labyrinthica (McAllister and Randall, 1975) **D**
BOTHIDAE (Lefteye flounders)
Bothus mancus Broussonet, 1782 **I-P**
Engyprosopon arenicola Jordan and Evermann, 1904 **AT**
Engyprosopon regani Hensley and Suzumoto, 1990 **E**
SOLEIDAE (Soles)
Aseraggodes bahamondei Randall and Meléndez, 1987 **S**
BALISTIDAE (Triggerfishes)
Xanthichthys mento (Jordan and Gilbert, 1882) **AT**
MONACANTHIDAE (Filefishes)
Aluterus monoceros (Linnaeus, 1758) **C**
Aluterus scriptus (Osbeck, 1765) **C**
Cantherhines dumerilii (Hollard, 1854) **I-P**
Cantherhines rapanui (de Buen, 1963) **E**
Thamnaconus paschalis (Regan, 1913) **E**
OSTRACIIDAE (Boxfishes)
Lactoria fornasini (Bianconi, 1846) **I-P**
Lactoria diaphanus (Bloch and Schneider, 1801) **AT**
TETRAODONTIDAE (Puffers)
Arothron meleagris (Bloch and Schneider, 1801) **I-P**

Canthigaster cyanetron Randall and Cea Egaña, 1989 **E**
Sphoeroides pachygaster (Müller and Troschel, 1848) **P**
DIODONTIDAE (Porcupinefishes and burrfishes)
Chilomycterus reticulatus Linnaeus, 1758 **C**
Diodon holocanthus Linnaeus, 1758 **C**
Diodon hystrix Linnaeus, 1758 **C**
MOLIDAE (Molas)
Mola ramsayi (Giglioli, 1883) **P**

DOCUMENTATION OF EASTER ISLAND FISHES NOT IDENTIFIED TO THE SPECIES LEVEL IN THE LIST GIVEN ABOVE

Sphyrna sp. The second author observed an individual of this genus underwater at Easter Island. A hammerhead shark is known to the Rapanui people as Mango Hamara (the second word is of Tahitian origin). It could be any of the three Pacific species, but is most likely *S. lewini* (Griffith and Smith).

Apterichtus sp. Two lots of this undescribed species of ophichthid eel were collected at Easter Island, one in 1969 and one in 1985. The specimens, as well as ones from Pitcairn and Rapa, were tentatively identified as *A. flavicaudus* (Snyder), type locality Hawaiian Islands. The description by McCosker and Randall is in press in Zootaxa. The species is also reported from the Kermadec Islands. It has been collected by ichthyocide and dredge from 12-100 m.

Apogon spp. Two new species of this genus are being described by David W. Greenfield and Randall (in press, Proceedings of the California Academy of Sciences). Apogon sp. 1 was misidentified as *Apogon coccineus* Rüppell by Randall and Cea Egaña (1984). It is a member of the *Apogon coccineus* complex (Greenfield, 2001), but it differs notably in having two rows of scales between the lateral line and base of the third dorsal spine. There are 16 type specimens from 25.4-41.3 mm SL. *Apogon* sp. 2 was misidentified as *Apogon talboti* Smith by DiSalvo *et al.* (1988). Although resembling *talboti*, it is more closely related to *A. posterofasciatus* Allen and Randall and *A. deetsie* Randall , with which it shares two supraneural (predorsal) bones, a narrow crenulated membranous flap ventrally on the preopercle, and 12 pectoral rays. It is represented by a single specimen, 101.5 mm SL, collected from a cave in 39 m.

Xyrichtys sp. This razorfish was identified as *Novaculichthys woodi* Jenkins by Randall and Cea (1984), but recent study revealed that it is an undescribed species of the genus *Xyrichtys*, presently known only from Easter Island in 50-250 m (Randall, in press, *Raffles Bull. Zool.*). It is represented by four specimens, 194-206 mm SL, collected by hook and line from 50-250 m. It differs from *woodi* in its deeper body, shorter pelvic fins, and overall red color.

Gobiid: This new genus and species is being described by the first author from 33 specimens, 8.1-27.7 mm SL, collected at Easter Island from tidepools to 40 m. First considered as a species of *Hetereleotris* because of the closure of the first gill slit by membrane. It is distinct from all species of this genus by the reduction of the sensory papillae of the cheek, and in having 14 branched caudal rays, 20-21 pectoral rays, first and second dorsal spines prolonged in adult males, and the fifth pelvic ray slender and unbranched, about two-thirds to three-fourths length of fourth ray.

Priolepis sp. Specimens of this undescribed gobiid fish, first collected in 1969, have long been on loan to Douglass F. Hoese of the Australian Museum. A description is being prepared by Helen K. Larson and Hoese. The *Eviota* sp. listed by DiSalvo *et al.* (1988) proved to be the young of this species.

DOCUMENTATION OF NEW RECORDS

Engraulis ringens Jenyns, 1842. Recorded by Wilhelm and Hulot (1957) and de Buen (1963) as *Engraulis* sp. (de Buen provided a sketch). The specimen, MZUC 2896, 16 cm SL, was deposited in the

Museo de Zoología de la Universidad de Concepción. It was later identified to species by the third author. The second author observed schools of this anchovy at the island. Once he saw some cast upon the shore by storm waves. This species was not seen by the first author during his three visits to Easter Island.

Synodus doaki Russell and Cressey, 1979. This species was misidentified by Randall and Cea Egaña (1984) as *Synodus lacertinus* Gilbert, an eastern Pacific species ranging from the Gulf of California to Peru. The following specimens were collected at Easter Island: BPBM 6561, 114 mm SL; BPBM 31052, 226 mm SL; BPBM 39163, 117 mm SL; and BPBM 39232, 6: 130.5-253 mm SL. BPBM 31052 was taken by hook and line by Easter Island fisherman Roberto Ika in 150 fathoms (275 m); the remaining specimens were collected in 10-18 m. The species is otherwise known from New Zealand (type locality), Norfolk Island, Lord Howe Island, southern Great Barrier Reef, Hawaiian Islands, Japan, and Kenya. Meristic data of Easter Island fish: dorsal rays 14-15; anal rays 9-10 (mostly 9); pectoral rays 13-14 (mostly 13); lateral-line scales 59-60 (mostly 60), and vertebrae 59 (six counts).

Ichthyapus acutirostris Brisout de Barneville, 1847. This snake eel was first identified by Randall and McCosker (1975) as *I. vulturis* (Weber and de Beaufort); however, they noted that the vertebral counts of nine Easter Island specimens are 130-134, compared to 117-127 for other localities. The species was reidentified as *I. vulturis* by McCosker and Randall (in press).

Pterygotrigla picta (Günther, 1880). Two specimens were caught by hook and line from a depth of about 200 m off Vinapu by Petero Hito. A color painting was made of one of the fish by the second author. It was deposited at the Museo Nacional de Historia Natural in Santiago, Chile. (MNHNC P 7235, 310 mm SL). William J. Richards confirmed the identification. The species is known from Chile (type locality Juan Fernandez Island) to New Zealand and southern Australia at depths of 120-450 m (Gomon *et al.*, 1994). Parin (1991) listed it from the Nazca and Sala-y-Gómez submarine ridges.

Coryphaena equiselis Linnaeus, 1758. BPBM 39413, one juvenile specimen, 70.5 mm SL, obtained from a fisherman on 19 February 1986. Dorsal rays 52; anal rays 26; vertebrae 33; tooth patch on the tongue large and subquadrangular.

Caranx sexfasciatus (Quoy and Gaimard, 1825). The second author photographed an adult of this species underwater at Easter Island on April 1990. The photograph is on file at the Bishop Museum.

Gnathanodon speciosus (Forsskål, 1775). Michel Garcia collected an adult at Motu Kao Kao in March, 1994. The second author made a sketch of this unmistakable carangid fish.

Mulloidichthys flavolineatus (Lacepède, 1801). The second author also made a drawing of this species from underwater observation in March, noting the blackish spot within the lateral yellow stripe on the body. This fish was very conspicuous in an aggregation of *M. vanicolensis* in which it was seen.

Chaetodon flavirostris Günther,1873. The second author photographed a specimen of this distinctive chaetodontid fish, 15 cm total length in April 1990. The photograph is on file at the Bishop Museum.

Hemitaurichthys multispinosus Randall, 1975. Three specimens of this drab butterflyfish were collected, one by the second author, one by Michel Garcia, and one by Pablo Avila. All were taken in 20-25 m, and all were found swimming with an aggregation of *Acanthurus leucopareius*. One specimen (MNHNC P 7234, 185 mm SL) has been deposited in the Museo Nacional de Historia Natural.

Gempylus serpens Cuvier. BPBM 39400, 3: 206-276 mm SL, collected by night fishing by Easter Island fisherman Roberto Ika on 17 February 1986.

Makaira mazara (Jordan and Snyder, 1901). The second author observed the landing of a very large individual of this species, noting that the pectoral fins were not rigidly lateral. According to the distribution maps of Nakamura (1985), *Makaira indica* should also be expected at the island, as well as two species of *Tetrapterus*.

DISCUSSION

The fish fauna of Easter Island consists of seven components: pelagic, cosmopolitan (nonpelagic),

tropical Pacific, southern subtropical, eastern Pacific, antitropical, and endemic. Twenty-eight fishes are pelagic, hence 17.3% of the species. Of the remaining 134 benthic or bottom-oriented species, the following four were caught at depths greater than 200 m at Easter Island (hence not considered as shore fishes): *Polyprion oxygeneios, Plectranthias parini, Pentaceros decacanthus*, and *Seriolella labyrinthica*. Sixteen species of the shore fishes (12.4% of the 129 species) are cosmopolitan in tropical to subtropical seas (at least in the Indo-Pacific and Atlantic). Forty-two of the shore fishes (32.5%) are broadly distributed in the tropical Pacific; 32 of these also range into the Indian Ocean. Three Easter Island shore fishes (2.3%) are eastern Pacific in origin: *Engraulis ringens* from Peru and Chile , *Hypoplectrodes semicinctus* [type locality, Juan Fernández Island; one specimen reported from Easter Island that Allen and Randall (1990) regarded as a stray or a locality error], and *Amphichaetodon melbae*, otherwise known from San Felix and San Ambrosio Islands, and Juan Fernández Archipelago, Chile (Meléndez and Villalba 1992). *Gymnothorax porphyreus*, also with a type locality of Juan Fernández Island, is distributed in the Southern Hemisphere to Australia; it is contained in the next category. Twenty-three shore fishes (17.8%) are southern subtropical species that range from Easter Island at least to the Pitcairn Islands (some such as *Enchelysore ramosus* and *Anampses femininus* extend their distribution to southeastern Australia). Sixteen shore fishes (12.4%) are antitropical or antiequatorial in their distribution. Twenty-eight species (21.7%) are endemic to Easter Island. This is the second highest level of endemism for shore fishes within the Indo-Pacific region (25% for the Hawaiian Islands).

DiSalvo *et al.* (1988) recorded the relative abundance of the common Easter Island fishes. The two species of fishes most often found in high tidepools were the blenny *Entomacrodus chapmani* and the goby *Kelloggella oligolepis*. In the lower tidepools the most common fishes were *Thalassoma purpureum, Coris debueni, Pseudolabrus fuentesi, Cirripectes alboapicalis*, «*Hetereleotris*» sp. (now being described as a new genus and species), *Apogon* sp. 1, *Sargocentron punctatissimum, Anarchias seychellensis, Gymnothorax eurostus, G. panamensis* (now *G. australicola*), and *Moringua ferruginea*. The last eight are cryptic and were rarely seen. Juveniles of several other species were often encountered in tidepools.

The most common fishes in the depth range of 12-40 m, where cover was adequate, were *Coris debueni, Chrysiptera rapanui, Chaetodon litus, Pseudolabrus fuentesi, Apogon* sp., *Acanthurus leucopareius, Stegastes fasciolatus, Chromis randalli, Kyphosus pacificus, Xanthichthys mento, Itycirrhitus wilhelmi, Cirripectes alboapicalis, Priolepis* sp., «*Hetereleotris*» sp., *Myripristis tiki*, and *Sargocentron wilhelmi*..

Species of fishes observed at 55 to 60 m were *Gymnothorax porphyreus, Aulostomus chinensis, Myripristis tiki, Sargocentron wilhelmi, Centropyge hotumatua, Scorpaena orgila, Cheilodactylus plessisi, Chaetodon litus, C. mertensii, Forcipiger flavissimus, Chrysiptera rapanui, Pseudolabrus fuentesi*, and *P. semifasciatus*, All of these also frequented shallow water except *P. semifasciatus* which is normally found in more than 40 m.

Some shore species of fishes are unusual in the broad range of depth at which they were found at Easter Island. Noteworthy are the damselfish *Chrysiptera rapanui* and the new genus and species of goby which occur from tidepools to at least 40 m. With only three pomacentrid fishes and five gobiids at the island, competition is lacking within these families that might otherwise restrict these species to narrower depth zones.

A thermocline marked a faunal break at 50 to 60 m, as indicated by such invertebrates as antipatharians (black corals). The butterflyfish *Amphichaetodon melbae* was collected off Motu Iti in 60 m by the author; it was the only individual observed. As mentioned, this species was previously known from the cool sea of Isla San Félix, San Ambrosio and Juan Fernández Archipielago.

Our knowledge of fishes below 60 m was limited to what local fishermen caught by hook and line, such as *Caprodon longimanus, Parapristipomoides squamimaxillaris, Etelis carbunculus*, and *Carangoides dasson*.

Parin (1991) listed 173 benthic species of fishes from the Nazca and Sala y Gómez submarine

ridges. All except 28 were collected from more than 200 m, and all of the 28 except three carangids from more than 150 m. Although Easter Island was not given as a specific locality for any of these species by Parin, most of these fishes probably occur in the deeper water off the island.

The authors viewed motion-picture footage taken underwater by Henri Garcia at Sala-y-Gómez, a low islet 415 km to the east, inhabited only by numerous seabirds. Large shoals of *Pseudocaranx dentex* were present; also numerous were *Caranx lugubris*, *Chaetodon litus*, and *Kyphosus pacificus*. One individual of *Aulostomus chinensis* was seen in the film. No individuals of *Acanthurus leucopareius* were observed, but Garcia mentioned that it is present but not common. He remarked that the shark *Carcharhinus galapagensis* was much more common at Sala-y-Gómez than at Easter Island.

The following species of shore fishes from the above checklist are probably not represented by a breeding population at Easter Island because only one individual of each was seen or collected (except for *Acanthurus triostegus*, of which three juveniles were collected): *Hypoplectrodes semicinctus*, *Gnathanodon speciosus*, *Mulloidichthys flavolineatus*, *Amphichaetodon melbae*, *Chaetodon flavirostris*, *C. mertensii*, *C. pelewensis*, *C. smithi*, *C. unimaculatus*, *Zanclus cornutus*, *Acanthurus triostegus*, and *Naso unicornis*. The five butterflyfishes of the genus *Chaetodon* might be suspected as aquarium releases if they were reported from a locality such as the Hawaiian Islands. However, during our visits to Easter Island, we were not aware of any importation of marine aquarium fishes. The record of the Moorish Idol (*Zanclus cornutus*) is based on a single large adult observed by the first author and John L. Earle at Motu Iti. It was too wary to be collected.

With time, more strays of shore fishes can be expected at Easter Island that will represent new records. These, of course, will reduce the percentage of endemism for the island. The same will be true, of course, if Easter Island's endemic fishes are found elsewhere.

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