



North Pacific Fisheries Commission

NPFC-2020-SSC BFME01-IP01

## Comments on compiled bycatch species list for the Emperor Seamounts (ESM)

by

Koichi Hoshino<sup>1</sup> and Kota Sawada<sup>2</sup>

<sup>1</sup>Seikai National Fisheries Research Institute,  
Japan Fisheries Research and Education Agency, Japan

<sup>2</sup>Oceanic Ecosystem Group, National Research Institute of Far Seas Fisheries,  
Japan Fisheries Research and Education Agency, Japan

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### This paper may be cited in the following manner:

Hoshino, K. and Sawada, K. 2020. Comments on compiled bycatch species list for the Emperor Seamounts (ESM). NPFC-2020-SSC BFME01-IP01. 25 pp.

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<sup>1</sup>Seikai National Fisheries Research Institute,  
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<sup>2</sup>Oceanic Ecosystem Group, National Research Institute of Far Seas Fisheries,  
Japan Fisheries Research and Education Agency, Japan

## Background

As a part of the intersessional work to develop a compiled list of bycatch species, we conducted a literature survey on the taxonomy and biogeography of the species included in the tentative list, especially for the Emperor Seamounts area, to evaluate the validity and summarized the result into comments. Although the comments were primarily written just for the use in the intersessional working group and some of them do not make sense outside the original context, we believe that the comments will be a useful source of information to study the fauna in the Emperor Seamounts. Therefore, we submit the comments as an Information Paper, in order to keep a record and to be easily cited in future studies.

Note that some species for which “suspension from the list” was suggested in the comments were indeed kept in the appendix of the compiled list, as a result of a discussion in the intersessional working group.

## Acknowledgements

This research was conducted as a part the project on the evaluation of status of fishery resources by the Fisheries Agency of Japan and submitted under the approval by this Agency.

## COMMENTS ON COMPILED BYCATCH SPECIES LIST FOR THE EMPEROR SEAMOUNTS (ESM)

HOSHNO Kouichi Seikai National Fisheries Research Institute, Japan.  
SAWADA Kota National Research Institute of Far Seas Fisheries, Japan

### **Familial & ordinal classification of fishes.**

Discrepancy of fish taxonomy between Japanese and Korean lists is mostly derived from the usage of different classification systems. Japanese list adopted the system by Nelson et al. (2016) *Fishes of the World* 5<sup>th</sup> edition. In this system, former Perciformes is divided into several orders, such as Scombriformes. We believe this is the best available option, because it is the latest version of the standard textbook, used globally and incorporating recent progress in fish systematics, although we would like to hear the opinions from other members.

### **Species list of fishes**

To extract the species in the list that need reconsideration quickly, Mundy (2005) was mainly referred. In this reference, fish species that have been taken from 200-nmi EEZ of Hawaiian Archipelago and related areas including the Emperor Seamounts (abbreviated as ESM hereafter) are reviewed. If the species is not listed in Mundy (2005), a question may be casted to the record in the present list. More detailed geographic information for each of such species (except those verified by the specimens deposited in the collection of SNFR = Seikai National Fisheries Research Institute) were made referring to the original taxonomic and zoogeographic articles, identification guides of FAO, and Nakabo ed. (2013). In the last reference (*Fishes of Japan with pictorial keys to the species*, 3rd ed.), the distribution of each species known from Japan is well reviewed, facilitating our considerations.

In the current version of the list, if the record is not identified to species, just “?” is put to the column of “Species.” However, I recommend expressing such case as, generic name plus “sp.” (e.g., *Squalus* sp.). If the identification remains familial level (viz. genus is not identified), family name plus “sp.” (e.g., Macrouridae sp.) should be used.

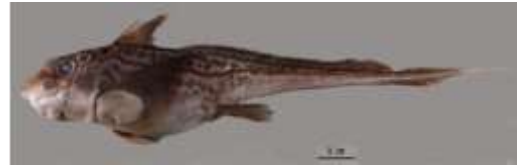
If the species is not verified by the deposited specimens and not supported by the record of Mundy (2005), it is suggested that “verification is needed.” In that case, the specimens or fine pictures as voucher are needed support the occurrence of that species. If the species is highly unlikely in EMS (e.g., by shallow coastal habitat, or endemism to the southern hemisphere), the suggested action is “move to Appendix.”

In the list, the line darkened by dark gray are those should be deleted (e.g., by incorrect familial placement); those darkened by light gray are suggested to “move to Appendix.” The number at the top of scientific name of species (e.g., L. 10) corresponds to the line number of the record in the

Excel file.

(L. 4) *Chimaera phantasma*

(Comment) Not listed in Mundy (2005). Its reported distribution is western Pacific from Japan, Korea, China, Taiwan and Philippine (Compagno, 1999: 1536; Nakabo, Yagishita & Yamaguchi, 2013: 146). The present record may represent *Chimaera owstoni* (**Fig. 1**).



**Fig 1. *Chimaera owstoni*.**

(Suggested action) Verification is needed.

(L. 5) *Chimaera* sp.

(Comment) This record represent an unidentified specimen (SNFR 20673).

(Suggested action) Remain as *Chimaera* sp. until the specimen is identified, although difficulty is anticipated by its small size (ca. 10 cm).

(L. 7) *Hydrolagus novaezealandiae*

(Comment) Not in Mundy (2005). This species, dark ghostshark, is known to be endemic to New Zealand (Kemper, Ebert & Didier, 2015: 48; Finucci & Kyne 2018). The present record may represent *Chimaera owstoni* (**Fig. 1**).

(Suggested action) Move to Appendix 1.

(L. 11) *Trachipterus ishikawae* (in the order Lamniformes)

(Comment) Ordinal misplacement. This species is not a shark, but a teleostean fish of the order Lampriformes. This species is already listed in the correct position.

(Suggested action) Delete this line.

(L. 16) *Hemitriakis leucoperiptera*

(Comment) Not in Mundy (2005). This species, whitefin topeshark, is known to be endemic to Philippines (Compagno & Niem, 1998: 1302; Compagno 2006) and occurs in shallow coastal waters down to 48 m depth (Compagno 1984).

(Suggested action) Move to Appendix 1.

(L. 20) *Etmopterus lucifer*

(Comment) This record may represent *Etmopterus lailae* (see the comment in *Etmopterus* sp.).

(Suggested action) May be retained in the list but note the possibility that identification changes.

(L. 21) *Etmopterus princeps*

(Comment) Not in Mundy (2005). This species is reported from Japan, Kyushu-Palau Ridge, North Atlantic, European coasts, New Caledonia (Hatooka, Yagishita and Yamaguchi, 2013: 184; Compagno, 2016). The listed record may represent *Centroscyllium excelsum* (Fig. 2).



Fig. 2. *Centroscyllium excelsum*.

(Suggested action) Verification is needed.

(L. 22) *Etmopterus* sp.

(Comment) Originally, the specimens deposited in SNFR were identified as *Etmopterus lucifer* Jordan & Snyder, 1912. However, the description of a new species *Etmopterus lailae* Ebert, Papastamotiou, Kajiura & Wetherbee, 2017 from the Emperor Seamounts urged us to reidentify the specimens. They partly agreed with the character of *E. lucifer*, and partly to those of *L. lailae*. The problem is that the distinction of *E. lucifer* and *E. lailae* is not well established, because only three type specimens are known for the latter species. Until the distinction of the two species becomes clear based on more specimens of *E. lailae*, we suspend the specific identification of these specimens.

(Suggested action) Retain in the list as *Etmopterus* sp.

(L. 24) *Etmopterus lucifer* (in the family Dalatiidae)

(Comment) Familial misplacement. This species is already listed in the correct position, the family Etmopteridae.

(Suggested action) Delete this line.

(L. 26) *Squalus* sp.

(Comment) This record is based on the deposited specimens (SNFR) not identified to species, but probably represent *S. mitsukurii*

(Suggested action) Delete this line, after identifying the specimens as *S. mitsukurii*.

(L. 35) *Uropterygius concolor*

(Comment) Not listed in Mundy (2005). This moray eel species inhabits mangrove swamps / brackish waters (McCosker et al., 1984; Hatooka, 2013a: 244), and thus is not likely to be caught in the seamounts. It might be possible if the report represents leptocephali (i.e. pelagic larvae).

(Suggested action) Move to Appendix 1.

(L. 38) *Saurenchelys fierasfer*

(Comment) Not listed in Mundy (2005). This species is considered as a junior synonym of *S. cancrivora*, which is distributed in Japan, Chinese coast of East & South China Seas, Hainan Island, Indian Ocean, and Aden Bay (Klausewitz & Zajonz, 2000; Hatooka, 2013b: 292, 1809).

(Suggested action) Remain in the list as *S. cancrivora*, but verification is needed

(L. 39) *Gnathophis* sp.

(Comment) This record is from the specimens (deposited in SNFR), which are considered to represent an undescribed species. It is not clear whether this species is conspecific to *Gnathophis* of Mundy (2005: 142), citing the unpublished Ph.D. thesis (Struhsaker, 1973).

(Suggested action) Remain as *Gnathophis* sp.

(L. 40) *Ariosoma shiroanago*

(Comment) Not listed in Mundy (2005). This species is reported from Japan, continental shelf of East China Sea, Korean Peninsula (Hatooka, 2013c: 280).

(Suggested action) Verification is needed.

(L. 41) *Rhynchocymba nystromi*

(Comment) Listed in Mundy (2005: 141) as *Gnathophis nystromi nystromi*. However, it is considered as a junior synonym of *Gnathophis heterognathus* (Karmovskaya, 2004: S17). The generic name *Rhynchocymba* is considered a synonym of *Gnathophis* (Blache et al., 1973).

(Suggested action) Replace the name with *Gnathophis heterognathus*.

(L. 42) Congridae sp.

(Comment) This record is based on the specimen (SNFR 13898), which was not identified to generic level.

(Suggested action) Remain as Congridae sp. until identified to genus or species (difficulty is anticipated).

(L. 46) *Bathylychnops exilis*

(Comment) This record is based on the deposited specimens (SNFR 13699-13701), but it was captured by mid-trawl survey by a research vessel. This species was included in the original list (Sawada et al. 2019) by error.

(Suggested action) Delete this species because it has not been found from bycatch of commercial fisheries in ESM.

(L. 47) *Leuroglossus schmidtii*

(Comment) This record is based on the deposited specimen (SNFR 13695), but it was captured by mid-trawl survey by a research vessel. This species was included in the original list (Sawada et al. 2019) by error.

(Suggested action) Delete this species because it has not been found from bycatch of commercial fisheries in ESM.

(L. 49) *Maurolicus muelleri*

(Comment) According to Mundy (2005: 169), previous records of *M. muelleri* from ESM are misidentification of *Maurolicus imperatorius*. The genus *Maurolicus* was once thought to be monotypic, represented by one species *M. muelleri* (e.g., Grey, 1964: 226). However, in the revisional study of this genus 15 valid species were recognized, and *M. muelleri* appeared to occur only in the eastern North Atlantic (Parin & Kobylansky, 1996). The present record from ESM is likely to represent *M. imperatorius* or *M. japonicus*. The occurrence of the latter species from ESM is suggested to be the passive transfer in Kuroshio waters (Savinykh & Baytalyuk, 2010).

(Suggested action) Move to Appendix 1.

(L. 51) *Polyipnus stereope*

(Comment) Not listed in Mundy (2005). This species is restricted to the seas around Japan: East China Sea, Suruga Bay and Sagami Bay (Harold, 1994: 527).

(Suggested action) Verification is needed.

(L. 55) *Tactostoma macropus*

(Comment) This record is based on the deposited specimens (SNFR 13689, 13690), but they were captured by mid-trawl survey by a research vessel. This species was included in the original list (Sawada et al. 2019) by error.

(Suggested action) Delete this species because it has not been found from bycatch of commercial fisheries in ESM.

(L. 59) *Paraulopus oblongus*

(Comment) Although this species is recorded from the Hancock Seamounts (Humphreys et al., 1984), Mundy (2005: 194) casted a question to this record and noted that verification was needed. The range of this species is described as Tosa Bay (Japan), South China Sea and southern Indonesia (Sato & Nakabo, 2003: 175). The present record may represent *Paraulopus filamentosus* (**Fig. 3**).

(Suggested action) Verification is needed.



**Fig. 3.** *Paraulopus filamentosus*.

(L. 61) *Chlorophthalmus* sp.

(Comment) Recently, *Chlorophthalmus imperator* Fujiwara, Wada & Motomura, 2019 was newly described based on the specimens from ESM.

(Suggested action) Replace the name with *Chlorophthalmus imperator*.

(L. 65) *Diaphus watasei*

(Comment) Not listed in Mundy (2005). The range of this species is Japan, Taiwan, Sulu Sea, Timor Sea, Australia and western Indian Ocean (Nakabo & Kai, 2013a: 466).

(Suggested action) Reidentification of the specimens (SNFR 10530, 10531).

(L. 67) *Lampanyctus jordani*

(Comment) This record is based on the deposited specimens (SNFR 13687, 16532) caught by R/V.

(Suggested action) Delete this line.

(L. 78) *Allocyttus verrucosus*

(Comment) Recent study by us (Hoshino et al. in prep.) demonstrated that all the obtained specimens of oreo from ESM represent *Allocyttus folletti*, and all the records of *Allocyttus verrucosus* (accompanied by morphological data or pictures) from eastern North Pacific (e.g., Abe & Hotta, 1962; Kobayashi et al., 1968) are misidentification of *Allocyttus folletti*, supporting the discussion of James et al. (1988: 318).

(Suggested action) Verification is needed.

(L. 90) *Physiculus japonicus*

(Comment) Mundy (2005: 260) casted a question about the previous records of this species from Hawaiian Archipelago and ESM, noting the possibility of more recently described species in the genus, because Paulin (1989) recorded this species only from Japanese waters. This record may represent *P. cynodon*, which is most abundant in the genus in ESM.

(Suggested action) Verification is needed.

(L. 91) *Physiculus* sp.

(Comment) This record is based on the identification by a Japanese observer and may represent *Physiculus cynodon*. However, because the specimen is not preserved, this record is not verifiable.

(Suggested action) Delete this record, because it is likely to represent the other reported congener, especially *P. cynodon*.

(L. 92) *Coryphaenoides longifilis* (in the family Moridae)

(Comment) Incorrect familial placement. Correctly, this species belongs to the family Macrouridae, and already listed in the correct position.

(Suggested action) Delete this line.

(L. 93) *Laemonema longipes*



(Comment) This record is based on the deposited specimens (SNFR 13691-13694) captured by mid-trawl survey by a research vessel. This species was included in the original list (Sawada et al. 2019) by error.

(Suggested action) Delete this species because it has not been found from bycatch of commercial fisheries in ESM.

(L. 94) *Laemonema filodorsale*

(Comment) Mundy (2005: 258) placed this name under the synonymy of *Laemonema robustum* following Meléndez and Markle (1997).

(Suggested action) Replace the name with *Laemonema robustum*.

(L. 101) *Coelorinchus smithi*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as, Japan, Philippines, South China Sea, Borneo, Arafura Sea, Timor Sea of Java, and Australia (Iwamoto & Williams, 1999: 163; Nakabo & Kai, 2013b: 510).

(Suggested action) Verification is needed.

(L. 103) *Coelorinchus japonicus*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as Japan, southern coast of Korean Peninsula and Taiwan (Iwamoto & Williams, 1999: 163; Nakabo & Kai, 2013b: 510).

(Suggested action) Verification is needed.

(L. 104) *Coelorinchus macrochir*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as Japan, Korean Peninsula, southwestern Okhotsk Sea (Iwamoto, 1990: 171; Nakabo & Kai, 2013b: 505).

(Suggested action) Verification is needed.

(L. 106) *Coelorinchus gilberti*

(Comment) This species is not listed in Mundy (2005) but recorded from the ESM by Iwamoto & Okamoto (2015: 377).

(Suggested action) Remain this species in the list.

(L. 108) *Nezumia condylura*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as southern Japan, Okinawa Trough and Taiwan (Iwamoto, 1990: 269; Nakabo & Kai, 2013b: 501).

(Suggested action) Verification is needed.

(L. 111) *Lucigadus* sp.

(Comment) The deposited specimens in SNFR were identified as *Lucigadus borealis* Iwamoto & Okamoto, 2015.

(Suggested action) Replace the name with *Lucigadus borealis*.

(L. 112) Macrouridae sp.

(Comment) This record is based on the identification by a Japanese observer. Probably the fish could not be identified to generic and specific level, because it is difficult to identify the macrourid fishes due to their high diversity and similarities among closely related species. However, because the specimen is not preserved, this record is not verifiable.

(Suggested action) Delete this line, because of its unverifiability.

(L. 113) *Coryphaenoides acrolepis*

(Comment) This species is not listed in Mundy (2005) but recorded from the ESM by Iwamoto & Okamoto (2015: 377).

(Suggested action) Remain this species in the list.

(L. 114) *Coryphaenoides cinereus*

(Comment) This species is not listed in Mundy (2005) but recorded from the ESM by Iwamoto & Okamoto (2015: 377).

(Suggested action) Remain this species in the list.

(L. 116) *Albatrossia pectoralis*

(Comment) This species is not listed in Mundy (2005) but recorded from the ESM by Iwamoto & Okamoto (2015: 377).

(Suggested action) Remain this species in the list.

(L. 120) *Hoplostethus japonicus*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as southern Japan and Okinawa Trough (Kotlyar, 1986: 121; Hayashi, 2013: 593). The present record may represent *Hoplostethus crassispinus* (Fig. 4).

(Suggested action) Verification is needed.



Fig. 4. *Hoplostethus crassispinus*.

(L. 121) *Hoplostethus intermedius*

(Comment) Not listed in Mundy (2005). This species is considered to endemic to the south coast of Australia and New Zealand (Kotlyar, 1986: 112; Gomon, 2008a: 424).

(Suggested action) Move to Appendix 1.

(L. 126) *Neobythites sivicolus*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as Japan, Taiwan, Korean Peninsula and Chinese coast of East China Sea (Nielsen et al., 1999: 82; Nielsen, 2002: 77; Nakabo & Kai, 2013c: 523). The specific name is correctly “*silvicola*” (Nakabo & Kai, 2013c: 1878).

(Suggested action) Verification is needed.

(L. 127) *Fiordichthys* sp.

(Comment) This record is from the specimens (SNFR 10899, 13560, 19514 and 19654) thought to represent an undescribed species.

(Suggested action) Remain as *Fiordichthys* sp.

(L. 128) *Diplacanthopoma* sp.

(Comment) This record is from the specimen (SNFR 18095) thought to represent an undescribed species. It is not clear if *Diplacanthopoma* sp. of Mundy (2005: 247) citing Gosline (1954) is conspecific to the present specimen.

(Suggested action) Remain as *Diplacanthopoma* sp.

(L. 133) *Decapterus* sp.

(Comment) This record is from the specimen (SNFR 18096) unidentified to the specific level.

(Suggested action) Remain as *Decapterus* sp. until the specimen is identified.

(L. 136) *Microstomus achne*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as Japan, Korean Peninsula, Yellow Sea, East China Sea, Gulf of P-Hai (Sakamoto, 1984: 353; Nakabo & Doiuchi, 2013a: 1676). The present record probably represents *Microstomus shuntovi* (**Fig. 5**).

(Suggested action) Verification is needed.



**Fig. 5.** *Microstomus shuntovi*.

(L. 137) *Microstomus* sp.

(Comment) This record is based on the identification by a Japanese observer, and probably represent *Microstomus shuntovi*, which is the only species of the genus known from ESM.

(Suggested action) Delete this record, because it probably represents *M. shuntovi* (**Fig. 5**).

(L. 138) *Hippoglossoides elassodon*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as Hokkaido of Japan, Kuril Islands, Chukchi Sea, Bering Sea, Aleutians Islands, Gulf of Alaska, south to northern California (Sakamoto, 1984: 336; Nakabo & Doiuchi, 2013a: 1679).

(Suggested action) Verification is needed.

(L. 139) *Chascanopsetta micrognatha*

(Comment) Not listed in Mundy (2005). This species is known only from Kyushu Palau Ridge (Amaoka & Yamamoto, 1984; Nakabo & Doiuchi, 2013b: 1662, 2227). The present record is likely to represent *Chascanopsetta prorigera* (**Fig. 6**).

(Suggested action) Verification is needed.



**Fig. 6.** *Chascanopsetta prorigera*.

(L. 141) *Chascanopsetta* sp.

(Comment) This record is based on the identification by a Japanese observer, and probably represents *Chascanopsetta prorigera*, which is abundant in ESM. I have seen many specimens of *C. prorigera* from the ESM but have never seen a specimen of its congeners.

(Suggested action) Delete this line, because this record probably represents *C. prorigera* (**Fig. 6**).

(L. 143) *Arnoglossus scapha*

(Comment) Not listed in Mundy (2005). This species is thought to endemic to New Zealand (Munore, 2015: 1676). The present record may represent *Arnoglossus debilis*.

(Suggested action) Move to Appendix 1.

(L. 144) *Symphurus* sp.

(Comment) This record is from the specimens (SNFR 20676), which is thought to represent an undescribed species.

(Suggested action) Remain as *Symphurus* sp.

(L. 149) *Phoetorepus* sp.

(Comment) This record is based on the identification by a Japanese observer, and probably represents *Phoetorepus kinmeiensis* or *P. kanmuensis*, which are common in ESM.

(Suggested action) Delete this line, because this record probably represents either of those species.

(L. 157) *Benthodesmus elongatus*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as southern hemisphere (Nakamura & Parin, 1993: 74). The present record is based on the specimens (SNFR

20662 and 20663) provisionally identified as this species, but reidentification would be needed.  
(Suggested action) Reidentification of the specimens is needed.

(L. 161) Trichiuridae sp.

(Comment) This record is based on the report by a Japanese observer, and may represent *Benthodesmus pacificus* or *P. Lepidopus calcar*, which are common in ESM. However, because the specimen is not preserved, this record is not verifiable.

(Suggested action) Delete this line, because of its unverifiability.

(L. 171) *Parapercis phenax*

(Comment) Not listed in Mundy (2005). This species is endemic to Kyushu-Palau Ridge, resembles *P. roseoviridis* but is discriminated from the latter by characters including less lateral line scales (54-57 vs. 60-64) (Randall & Yamakawa, 2006). The present record is likely to represent *P. roseoviridis* (Fig. 7).



Fig. 7. *Parapercis roseoviridis*.

(Suggested action) Verification is needed.

(L. 172) *Parapercis multifasciata*

(Comment) Not listed in Mundy (2005). Cantwell (1964: 251) placed *Parapercis roseoviridis* in the synonym of *P. multifasciata*, but Randall (1984) demonstrated that the former is distinct from the latter. The distribution of *P. multifasciata* is described as Japan, Korean Peninsula and Taiwan (Shimada, 2013a: 1264). The present record may represent *P. roseoviridis* (Fig. 7).

(Suggested action) Verification is needed.

(L. 173) *Parapercis* sp.

(Comment) This record is based on the report by a Japanese observer. It is most likely to represent *Parapercis roseoviridis*.

(Suggested action) Delete this record, because it probably represents *Parapercis roseoviridis* (Fig. 7).

(L. 175) *Bembrops curvatura*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as eastern Indian and western Pacific oceans, from off Japan to Indonesia and northwestern Australia (Das & Nelson, 1996: 24-26; Thompson & Suttkus, 2003: 288).

(Suggested action) Verification is needed.

(L. 176) *Bembrops* sp.

(Comment) This record is based on the specimens (e.g., SNFR 10677) of which we were not able to identify to the specific level.

(Suggested action) Remain as *Bembrops* sp., until identified to species (difficulty is anticipated).

(L. 177) *Decodon pacificus*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as Japan and Taiwan (Shimada, 2013b: 1093, 2047).

(Suggested action) Verification is needed.

(L. 178) *Bodianus* sp.

(Comment) This record is based on the specimen (SNFR 13466, 13656 and 17928) that seemed to represent an undescribed species.

(Suggested action) Remain as *Bodianus* sp.

(L. 186) *Epinephelus akaara*

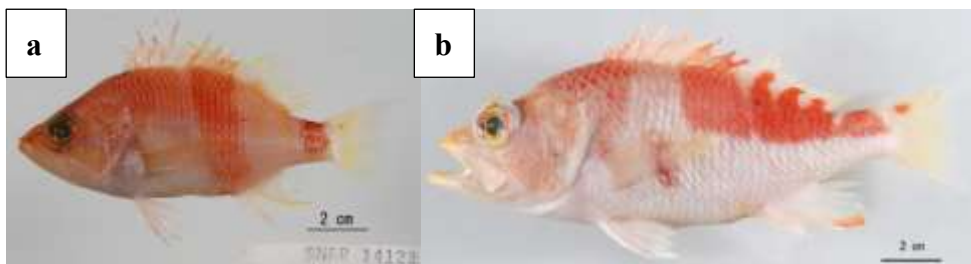
(Comment) Not listed in Mundy (2005). The distribution of this species is described as Japan, Korea, coast of China and Taiwan (Randall & Heemstra, 1991: 92; Heemstra & Randall, 1993: 106), and the depth of occurrence is noted as 5-25 m (Senou, 2013: 788). Because the fishing grounds of ESM are much deeper, it is not likely that the present species occurs in this region.

(Suggested action) Move to Appendix 1.

(L. 187) *Plectranthias kelloggi azumanus*

(Comment) Not listed in Mundy (2005). *P. k. azumanus* (**Fig. 8a**) is the subspecies from Japan, Kyushu Palau Ridge, Korean Peninsula and Taiwan (Senou, 2013: 764) and can be distinguished from *P. k. kelloggi* (**Fig. 8b**) by a broad red bar running from the last four dorsal spines extending beyond the midlateral line to near the ventral contour (vs. a much shorter solid red block, ending just above the midlateral line) (Randall, 1984: 145-147). In the specimens from ESM, one of the authors (KH) has seen many, many individuals of *P. k. kelloggi*, but have never seen ones of *P. k. azumanus*.

(Suggested action) Verification is needed.



**Fig. 8.** *Plectranthias kelloggi azumanus* (a) and *P. k. kelloggi* (b).

(L. 196) *Platyberyx macropus*

(Comment) This record is based on the specimen (SNFR 13679) captured by mid-trawl survey by a research vessel. This species was included in the original list (Sawada et al. 2019) by error.

(Suggested action) Delete this species, because it has not been found from bycatch of commercial fisheries in ESM.

(L. 199) *Etelis oculatus*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as tropical western Atlantic Ocean from Bermuda and North Carolina southward through the Caribbean to Brazil (Allen, 1985: 28).

(Suggested action) Move to Appendix 1.

(L. 203) *Helicolenus hilgendorfi*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as Japan, Korea and Taiwan (Nakabo & Kai, 2013d: 668). The present record may represent *H. avius* or *H. fedorovi*.

(Suggested action) Verification is needed.

(L. 206) *Sebastes polyspinus*

(Comment) Not listed in Mundy (2005). This is one of the northerly distributed species among the fishes of *Sebastes* in North Pacific: from extreme northern British Columbia around the northern Pacific rim to eastern Kamchatka and the northern Kuril Islands and eastern Bering Sea (Clausen & Heifetz, 2002).

(Suggested action) Verification is needed.

(L. 207) *Sebastes (sic) tertius*

(Comment) The generic name should be *Sebastiscus*. Not listed in Mundy (2005). The distribution of this species is described as Japan, Taiwan, Hong Kong and Java (Nakabo & Kai, 2013d: 670), but recently Morishita & Motomura (2013) demonstrated that the population from Indonesia and southern Taiwan represent a different species, and newly described a species *Sebastiscus vibrantus*.

(Suggested action) Verification is needed.

(L. 208) *Sebastes aleutianus*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as Aleutian Islands and southeastern Bering Sea to California (Orr & Hawkins, 2008).

(Suggested action) Verification is needed.

(L. 209) *Sebastes alutus*

(Comment) Not listed in Mundy (2005). This species is common throughout the Bering Sea and Aleutians, with a range that extends to the Commander Island, Sea of Okhotsk, Japan, to central Baja California (Pietsch & Orr, 2015: 30).

(Suggested action) Verification is needed.

(L. 213) *Setarches longimanus*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as, from Andaman Islands to Philippines, north to southern Japan and south to northern Australia and New Caledonia (Poss, 1999: 2348). The present record is based on the specimens (SNFR 13517, 13518) provisionally identified as “*S. longimanus?*”

(Suggested action) List as *Setarches longimanus?* until the specimens are identified.

(L. 216) Scorpaenidae sp.

(Comment) This record is based on the specimen (SNFR 17153) that was not identified to the generic level. However, from the picture of this specimen, it looks like *Helicolenus avius* or *H. fedorovi*.

(Suggested action) Remain as Scorpaenidae sp. until identified. We will identify the specimen as soon as possible and report the result.

(L. 218) *Scalicus serrulatus*

(Comment) Not listed in Mundy (2005), but Kawai (2019) includes ESM as part of distribution of this species.

(Suggested action) Retain this species in the list, but re-identification of specimens deposited in SNFR is needed.

(L. 219) *Satyrichthys engyceros*

(Comment) This species was moved from the genus *Satyrichthys* to *Scalicus* by Kawai (2008). This species is already listed as *Scalicus engyceros* in the same list above.

(Suggested action) Delete this line.

(L. 221) *Pristedion* (in the column of “Genus”)

(Comment) Incorrect spelling.

(Suggested action) Correct to *Peristedion*.

(L. 221) *Peristedion* sp.

(Comment) This record is listed neither “JPN discarded catch” nor “JPN bycatch observer.”

(Suggested action) Delete this record.



(L. 226) *Anoplopoma fimbriata*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as Japan, Yellow Sea, Bering Sea, Aleutian Islands, south to Baja California (Allen & Smith, 1988: 61; Nakabo & Kai, 2013e: 1152; Pietsch & Orr, 2015: 36).

(Suggested action) Verification is needed.

(L. 227) *Marukawichthys ambulator*

(Comment) Not listed in Mundy (2005). This species is known only from deep waters around Japan (Yabe, 1983: 18). The present record may represent

*Marukawichthys pacificus* (Fig. 9) endemic to ESM.

(Suggested action) Verification is needed.



Fig. 9. *Marukawichthys pacificus*.

(L. 229) *Crystallichthys matsushinae* (sic)

(Comment) The specific name is correctly *matsushimae*. Not listed in Mundy (2005). The distribution of this species is described as Japan Sea, Tatar Strait, southern Okhotsk Sea, Pacific off Hokkaido and northern Honshu (Kido, 1988: 190).

(Suggested action) Verification is needed.

(L. 230) *Platycephalus indicus*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as, from eastern Mediterranean, Red Sea, to South Africa, northern Indian Ocean, to Indonesia, Korea, southern Japan, Philippines, northern and eastern Australia; depth to 30 m, usually less.

Considering its habitat (shallow water), it is unlikely that this species occurs in the fish ground of ESM (usually deeper than 250 m).

(Suggested action) Move to Appendix 1.

(L. 231) *Platycephalus richardsoni*

(Comment) Not listed in Mundy (2005). This species is thought to endemic to the southeastern Australia (Gomon, 2008b: 520; Imamura, 2015: 183).

(Suggested action) Move to Appendix 1.

(L. 232) *Lepidotrigla microptera*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as Japan to East China and Yellow-Po seas (Richards, 1992: 63).

(Suggested action) Move to Appendix 1.

(L. 234) *Emmelichthys* sp.

(Comment) This record is likely to represent *E. struhsakeri* (Fig. 10), which is common in EMS.  
(Suggested action) Delete this record, because it is thought to represent that species.



Fig. 10. *Emmelichthys struhsakeri*.

(L. 237) *Grammatonotus* sp.

(Comment) This record is based on the identification by a Japanese observer, and probably represents *Grammatonotus laysanus*, which is abundant in ESM.

(Suggested action) Delete this line, because probably represent *G. laysanus* (Fig. 11).



Fig. 11. *Grammatonotus laysanus*.

(L. 242) *Antigonia* sp.

(Comment) This record is based on the specimens (e.g., SNFR 10510) that was not identified to the specific level. These specimens were later identified as *Antigonia capros*.

(Suggested action) Delete this line.

(L. 244) *Lophiodes (sic) litulon*

(Comment) Generic name is correctly *Lophius* (Caruso, 1983). Not listed in Mundy (2005). The distribution of this species is described as Japan, Po-Hai and Yellow seas, northern East China Sea, coast of Korean Peninsula, Cheju Island, and coast of Kanton, China (Caruso, 1983; Yamada & Yagishita, 2013: 534).

(Suggested action) Verification is needed.

(L. 245) *Lophiodes miacanthus*

(Comment) The type locality of this species is Oahu Island (Gilbert, 1905). The distributional range includes ESM (Mundy, 2005: 262). However, careful identification is needed to distinguish this species from *Lophiodes bruchius*, which resembles the present species and occurring generally in the same areas. These two species are distinguished by the pigmentation of esca and illicium, viz unpigmented esca and dark pigmented illicium in *L. miacanthus*, versus pigmented esca and pale illicium in *L. bruchius* (Caruso, 1981: 525).

(Suggested action) Remain this species in the list, but reidentification of the specimens, if preserved, may be needed.

(L. 246) *Chaunax abei*

(Comment) Not listed in Mundy (2005). The distribution of this species is described as Japan, southern coast of Korean Peninsula and Taiwan. The present record may represent *Chaunax umbrinus* (Fig. 12).

(Suggested action) Verification is needed.



Fig. 12. *Chaunax umbrinus*.

(L. 248) *Chaunax fimbriatus*

(Comment) Mundy (2005: 266) included southern ESM and

Hawaiian Islands as part of distributional range of this species, but also noted that “The identifies of *Chaunax* specimens from the Hawaiian Ridge must be considered provisional until the genus is revised.” Ho & Last (2013: 444) noted that “*Chaunax fimbriatus* is commonly collected from Japan and Taiwan but has not been reliably reported from outside this part of the western North Pacific.” and “Record of this species from Hawaii ... are most likely invalid and need to be checked.” The present record may represent *Chaunax umbrinus* (Fig. 12) again.

(Suggested action) Verification is needed.

(L. 250) *Malthopsis* sp.

(Comment) This record is based on the specimens (SNFR 17734, 17929, 18098) that were not identified to the specific level.

(Suggested action) Remain as *Malthopsis* sp. until identified.

(L. 253) Himantrophidae sp.

(Comment) This record is based on the specimen (SNFR 21104) that was not identified to the generic level.

(Suggested action) Remain as Himantrophidae sp. until identified.

(L. 255) *Ceratias uranoscopus*.

(Comment) This record is based on the specimen (SNFR 21542) provisionally identified as *C. uranoscopus* when registered in the collection. However, close examination of the specimen revealed that its esca (fleshy structure at the tip of illicium), which provides a key character for specific identification, was damaged. Accordingly, the identification remains generic.

(Suggested action) Change to *Ceratias* sp.

(L. 301) *Buccinum* sp.

(Comment) *Buccinum* is a gastropod genus (whelk), not Cephalopoda.

(Suggested action) Create “Mollusca / Gastropoda” section and move this line there.

(L. 304) *Chaceon affinis*

(Comment) Although the geryonid crab in ESM was identified as *Geryon affinis* by Sakai (1978), Manning (1992) considered it as a distinct species and described a new species *Chaceon imperialis*. As far as we know, current *C. affinis* has not been found from ESM.

(Suggested action) Suspension from the list until verified by voucher.

(L. 306) *Geryon* sp.

(Comment) Since the separation of *Chaceon* from *Geryon*, *Geryon* crabs are only known from Atlantic (Manning & Holthuis 1989).

(Suggested action) Suspension from the list until verified by voucher.

(L. 328) *Lepas fascicularis*

(Comment) Although Charles Darwin (1852) placed this buoy barnacle in genus *Lepas*, currently it is common to classify this species as *Dosima fascicularis* (see Young 1990).

(Suggested action) Correct to *Dosima fascicularis*.

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