

## Fishes of the Eastern Johor Strait

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**Abstract.** We record the presence of 435 fish species from the Eastern Johor Strait based on our fieldwork, a review of the existing literature, and an examination of photographs and museum specimens. Four species are recorded for the first time from the waters of Singapore: *Pseudorhombus elevatus* (Paralichthyidae), *Heteromycteris hartzfeldii* (Soleidae), *Nuclequula manusella* (Leiognathidae) and *Johnius carouna* (Sciaenidae).

**Key words.** Actinopterygii, Chondrichthyes, checklist, Singapore, Malaysia.

### INTRODUCTION

The Johor Strait (also known as the Straits of Johor and the Tebrau Straits) is the waterway dividing Singapore to the south and Peninsular Malaysia to the north. Approximately 50 km long, the Strait is bisected into a larger eastern and smaller western portion by the Johor-Singapore causeway since its construction in 1923. The Eastern Johor Strait (EJS) runs eastwards from the causeway (at 1°27'N 103°46'E) to the easternmost limit of the border between Singapore and Malaysia (at 1°20'N 104°6'E). The EJS is relatively shallow, with the central channel running only about 10–20 m deep in most places. The substrate of the EJS consists largely of unconsolidated sand and mud (Chia et al., 1988). Many rivers from Singapore (Sungai Api Api, Sungai Khatib, Sungai Punggol, Sungai Seletar, Sungai Serangoon, Sungai Simpang, and Sungai Tampines) and Malaysia (Sungai Baoh Besar, Sungai China, Sungai Kechil, Sungai Kim Kim, Sungai Kopok, Sungai Laloh, Sungai Lunchu, Sungai Masai, Sungai Perembi, Sungai Rekoh, Sungai Santi, Sungai Stulang, and Sungai Tebrau) debouch into the Strait, the most significant one being the Sungai Johor (Johor River). However, in recent years, many of the larger rivers in Singapore that once flowed into the EJS have been dammed to form reservoirs (Ng & Tan, 2013): Sungai Seletar in 1986, Sungai Punggol and Sungai Serangoon in 2011.

The diversity of marine and coastal habitats in the EJS comprised primarily of intertidal sand and mud flats, and

scattered patches of mangrove forests and seagrass beds, as well as isolated patch reefs; the subtidal habitats consist primarily of soft-bottom (sandy/muddy) habitats. The EJS has undergone significant anthropogenic disturbance: The Singapore Naval Base in Sembawang (after 1968 the Sembawang Shipyard) was constructed in 1923 (MacIntyre, 1979) and the Johor Port at Pasir Gudang in Malaysia was constructed in 1972–77 (Fong, 1984); in addition, extensive damming and land reclamation works had been carried out on the Singapore side.

The present study establishes an annotated checklist of the marine and brackish-water fishes of the EJS. This checklist was compiled primarily from material collected from the Singapore side of the EJS under several sampling projects. Most notable are the major collections from the Simpang surveys (by HHT) from 2003 to 2005, and the Comprehensive Marine Biodiversity Survey of Singapore from 2011 to 2012 (by HHN, HHT, WBL and PC). Because of the restricted geographical nature of this checklist, it should be considered provisional, especially since records from the Malaysian side of the EJS are largely deficient and the identities of the species recorded in the few inventories available (e.g., Chong & Sasekumar, 2002) cannot be verified.

### MATERIAL AND METHODS

This checklist was compiled largely from the results of faunistic surveys carried out in the Singapore side of the EJS over the last decade. We also used authenticated sighting reports for the last decade (2003–2012) based on specimens captured by anglers. The latter was obtained by searching local newspapers, internet fishing forums and blogs, identifying the fishes from photographs (we only applied this method to species that could be unambiguously identified), as well as verifying the sites of capture whenever possible. In cases of records for which no corresponding specimens were preserved, these records were verified by examination of photographs and/or specimens by one or more of the authors. Fishes were collected via the use of fish traps/bubu, beach seines, cast nets, tangle nets, gill nets and dip nets.

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The systematic arrangement of chondrichthyan orders follows Nelson (2006), while those of teleostean orders (or supraordinal groups) follows Betancur-R et al. (2013); the families, genera and species within each order (or supraordinal group) are listed alphabetically. We also followed Thacker's (2009) classification of the gobiiform (=gobioid) families. Nomenclature followed Allen & Erdmann (2012), Kottelat (2013), and Mabuchi et al. (2014).

We emphasise the availability of voucher specimens deposited at the Academy of Natural Sciences of Drexel University, Philadelphia (ANSP), California Academy of Sciences, San Francisco (CAS, CAS-SU), Louisiana State University Museum of Natural Science, Baton Rouge (LSUMZ) and the Zoological Reference Collection of the Lee Kong Chian Natural History Museum, Singapore (ZRC) in order to draw the attention of ichthyologists who may wish to examine these specimens.

## CHECKLIST

### ORECTOLOBIFORMES

#### Hemiscyllidae

*Chiloscyllium indicum* (Gmelin)

*Chiloscyllium indicum* – Lim & Low, 1998: 56 (off Pulau Tekong).  
Material examined: ZRC 39620, ZRC 50203, ZRC 50392, ZRC 52103.

*Chiloscyllium plagiosum* (Anonymous [Bennett])

*Chiloscyllium plagiosum* – Chua, 2007: 96 (Beting Bronok).  
Material examined: none.

Remarks: The record of this species from the EJS is based on a photograph of a live specimen (not preserved) from Beting Bronok in Chua (2007).

*Chiloscyllium punctatum* Müller & Henle

Material examined: ZRC 39621.

#### Ginglymostomatidae

*Nebrius ferrugineus* (Lesson)

Material examined: none.

Remarks: The record of this species from the EJS is based on photographs of a 2500 mm TL example that was caught and released at Changi SAF Yacht Club on 14 March 2009.

### CARCHARHINIFORMES

#### Carcharhinidae

*Carcharhinus leucas* (Müller & Henle)

Material examined: ZRC 54615.

*Carcharhinus sealei* (Pietschmann)

*Carcharhinus sealei* – Chim & Lim, 2014a: 47 (Johor Straits north of Pulau Tekong).

Material examined: none.

*Rhizoprionodon acutus* (Rüppell)

*Carcharias acutus* – Károli, 1882: 148 (Serangoon).

Material examined: none.

### Scyliorhinidae

*Atelomycterus marmoratus* (Anonymous [Bennett])

*Atelomycterus marmoratus* – Chim & Lim, 2014b: 54 (Johor Straits north of Pulau Tekong); Toh, 2014: 178 (Chek Jawa).

Material examined: none.

### TORPEDINIFORMES

#### Narcinidae

*Narcine maculata* (Shaw)

*Narcine* sp. – Chua, 2007: 39 (Changi Beach).

*Narcine maculata* – Chan, 2014: 22 (Changi Beach).

Material examined: ZRC 49762, ZRC 51906, ZRC 52116, ZRC 53483, ZRC 53494.

#### Narkidae

*Temera hardwicki* Gray

Material examined: ZRC 2110, ZRC 10588, ZRC 39643.

### PRISTIFORMES

#### Pristidae

*Pristis microdon* Latham

Material examined: none.

Remarks: The record of this species from the EJS is based on a specimen approximately 5300 mm total length that was netted off Changi Beach along Nicoll Drive in January 2001 (Cooke, 2001).

### RAJIFORMES

#### Rhinidae

*Rhina ancylostoma* Bloch & Schneider

Material examined: none.

Remarks: The record of this species from the EJS is based on a specimen of approximately 1500 mm TL that was netted off Changi Beach in February 1994 (Weng, 1994).

**Rhinobatidae**

*Rhynchobatus laevis* (Bloch & Schneider)

Material examined: ZRC 39622.

**MYLIOBATIFORMES**

**Dasyatidae**

*Dasyatis zugei* (Müller & Henle)

*Amphotistius zugei* – Chua, 1973: 524 (Punggol estuary).

*Dasyatis zugei* – Chong & Sasekumar, 2002: 299 (Sungai Johor estuary).

Material examined: ZRC 39625, ZRC 52386.

*Himantura gerrardi* (Gray)

Material examined: ZRC 39624, ZRC 49719, ZRC 49745, ZRC 49834.

*Himantura walga* (Müller & Henle)

*Himantura walga* – Chua, 2002: 41, 108 (Chek Jawa); Chua, 2007: 35 (Chek Jawa); Tan & Yeo, 2003: 157 (Chek Jawa); Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: LSUMZ 16536, LSUMZ 16626, LSUMZ 16692, LSUMZ 16726, ZRC 39626, ZRC 46577, ZRC 48790, ZRC 49579, ZRC 49677, ZRC 49709, ZRC 49746, ZRC 49770, ZRC 49813, ZRC 49816, ZRC 49824, ZRC 49833, ZRC 49849, ZRC 51151, ZRC 52385, ZRC 52496, ZRC 53466.

Remarks: This is a common species in the EJS.

*Himantura uarnak* (Gmelin)

*Himantura uarnak* – Yeo, 2013a: 32 (Chek Jawa).

Remarks: The record of this species from the EJS is also based on a specimen captured off Pulau Serangoon (not preserved) that is reported and illustrated in Said (2013).

*Neotrygon kuhlii* (Müller & Henle)

*Dasyatis kuhlii* – Chua, 2002: 108 (Chek Jawa); Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: LSUMZ 16530, LSUMZ 16608, LSUMZ 16620, LSUMZ 16700, ZRC 39623, ZRC 46638, ZRC 49578, ZRC 50213, ZRC 52104, ZRC 52398, ZRC 53464, ZRC 53465.

Remarks: This is a common species in the EJS.

*Taeniura lymma* (Forsskål)

*Taeniura lymma* – Tan & Yeo, 2003: 157 (Chek Jawa).

Material examined: ZRC 49747, ZRC 52466.

**Gymnuridae**

*Gymnura poecilura* (Shaw)

Material examined: ZRC 49829.

**ELOPIFORMES**

**Elopidae**

*Elops hawaiiensis* Regan

*Elops saurus* (non Linnaeus) – Fowler, 1931: 443 (Pulau Ubin).

Material examined: ANSP 53470, ZRC 49781, ZRC 50393, ZRC 51416, ZRC 51510, ZRC 51943, ZRC 51945–51947.

**Megalopidae**

*Megalops cyprinoides* (Broussonet)

*Megalops cyprinoides* – Herre in Herre & Myers, 1937: 11 (Pulau Ubin); Chong & Sasekumar, 2002: 297 (Sungai Johor estuary).

Material examined: CAS-SU 30764, ZRC 30581.

**ALBULIFORMES**

**Albulidae**

*Albula argentea* (Forster)

Material examined: ZRC 46662.

**ANGUILLIFORMES**

**Muraenesocidae**

*Muraenesox bagio* (Hamilton)

*Muraenesox bagio* – Kwik et al., 2010: 127, 132 (Changi Point).

Material examined: ZRC 49656, ZRC 53458.

*Muraenesox cinereus* (Forsskål)

*Muraenesox cinereus* – Károli, 1882: 185 (Serangoon); Chong & Sasekumar, 2002: 297 (Sungai Johor estuary).

Material examined: ZRC 49657.

**Muraenidae**

*Gymnothorax tile* (Hamilton)

*Gymnothorax meleagris* (non Shaw) – Herre in Herre & Myers, 1937: 15 (Pulau Ubin).

*Lycodontis nudivomer* (non Günther) – Fowler, 1931: 444 (Pulau Ubin).

*Muraena meleagris* (non Shaw) – Károli, 1882: 185 (Serangoon).

Material examined: ANSP 53496, CAS-SU 30800, ZRC 49681, ZRC 49722, ZRC 49797, ZRC 31525–31526, ZRC 51993.

*Gymnothorax reevesii* (Richardson)

*Gymnothorax reevesii* – Lim & Low, 1998: 61 (off Pulau Tekong).

*Gymnothorax reevesii* [sic] – Chua, 2007: 97 (Beting Bronok), 159 (Chek Jawa).

Material examined: ZRC 52483.

*Strophidon sathete* (Hamilton)

Material examined: ZRC 50204.

**Ophichthidae**

*Pisodonophis boro* (Hamilton)

? *Anguilla australis* (non-Richardson) – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary).

Material examined: ZRC 48902, ZRC 49033, ZRC 49721.  
Remarks: Eels of the genus *Anguilla* have not been recorded in any of the Johor Straits drainages. Judging by the absence of the family Ophichthidae in the list of Chong & Sasekumar (2002), we are of the opinion that their '*Anguilla australis*' was a misidentification of a similar looking eel, among which *Pisodonophis boro* seems to be a likely candidate.

*Pisodonophis cancrivorus* (Richardson)

*Pisodonophis cancrivorus* – Kwik et al., 2010: 128, 132 (Changi Point).

Material examined: ZRC 27073, ZRC 50537.

*Scolecenchelys macroptera* (Bleeker)

*Muraenichthys macropterus* – Fowler, 1931: 444 (Pulau Tekong).  
Material examined: ANSP 53501.

Remarks: This species has not been encountered in the EJS since the 1930s.

**CLUPEIFORMES**

**Chirocentridae**

*Chirocentrus dorab* (Forsskål)

*Chirocentrus dorab* – Chua, 1973: 524 (Punggol estuary).

Material examined: none.

**Clupeidae**

*Amblygaster sirm* (Walbaum)

*Clupea sirm* – Károli, 1882: 183 (Serangoon).

Material examined: none.

*Anodontostoma chacunda* (Hamilton)

*Chaetoessus chacunda* – Károli, 1882: 183 (Serangoon).

*Dorosoma chacunda* – Chua, 1973: 524 (Punggol estuary).

*Anodontostoma chacunda* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary); Chua, 2002: 108 (Chek Jawa); Hajisamae & Chou, 2003: 283 (Changi, Pasir Ris); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); Jaafar et al., 2004: 117 (Pasir Ris); Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: LSUMZ 16733, ZRC 46491, ZRC 48957, ZRC 49598, ZRC 49607, ZRC 49738, ZRC 52107, ZRC 52091, ZRC 52457.

Remarks: This is a common species in the EJS.

*Escualosa thoracata* (Valenciennes in Cuvier & Valenciennes)

*Clupeoides lile* – Chua, 1973: 524 (Punggol estuary).

*Escualosa thoracata* – Chua, 2002: 108 (Chek Jawa); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); 2004: 64, 65, 66 (Changi, Pasir Ris, Sembawang); Jaafar et al., 2004: 117 (Pasir Ris); Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: LSUMZ 16736, LSUMZ 16798, LSUMZ 16845, ZRC 41749, ZRC 46511, ZRC 49486.

Remarks: This is a common species in the EJS.

*Herklotsichthys dispilonotus* (Bleeker)

*Harengula dispilonotus* – Chua, 1973: 524 (Punggol estuary).

Material examined: LSUMZ 16737, ZRC 49080, ZRC 49804.

*Hilsa kelee* (Cuvier)

? *Clupea ilisha* – Károli, 1882: 184 (Seletar, Serangoon).

*Hilsa keele* [sic.] – Chua, 2002: 108 (Chek Jawa).

*Hilsa kelee* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary).

*Hilsa keeli* [sic.] – Hajisamae & Chou, 2003: 283 (Pasir Ris).

Material examined: LSUMZ 16639, LSUMZ 16734, ZRC 46477, ZRC 46575, ZRC 49017, ZRC 49375, ZRC 49408, ZRC 49430, ZRC 49608, ZRC 49665, ZRC 50625.

Remarks: This is a common species in the EJS.

*Nematalosa galathea* Nelson & Rothman

*Nematalosa nasus* (non Bloch) – Herre in Herre & Myers, 1937: 13 (Pulau Ubin).

*Nematalosa galathea* – Chua, 2002: 108 (Chek Jawa).

Material examined: CAS-SU 30694, ZRC 46512.

*Nematalosa nasus* (Bloch)

*Nematalosa nasus* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary)

Material examined: ZRC 49782, ZRC 51886, ZRC 52090.

*Sardinella albella* (Valenciennes)

*Harengula perforata* – Chua, 1973: 524 (Punggol estuary).

*Sardinella albella* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary); Hajisamae & Chou, 2003: 283 (Sembawang); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); Jaafar et al., 2004: 117 (Pasir Ris); Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: LSUMZ 16735, ZRC 49376, ZRC 49392, ZRC 49409.

Remarks: This is a common species in the EJS.

*Sardinella fimbriata* (Valenciennes)

*Harengula fimbriata* – Chua, 1973: 524 (Punggol estuary).

Material examined: none.

*Sardinella melanura* (Cuvier)

*Sardinella melanura* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary).

Material examined: none.

**Engraulidae**

*Coilia dussumieri* Valenciennes in Cuvier & Valenciennes  
*Coilia dussumieri* – Károli, 1882: 183 (Seletar); Chong & Sasekumar, 2002: 295 (Sungai Johor estuary).  
 Material examined: LSUMZ 16694, ZRC 49799, ZRC 49805, ZRC 52397.

*Encrasicholina heteroloba* (Rüppell)

*Stolephorus pseudoheterolobus* – Chua, 1973: 524 (Punggol estuary).  
 Material examined: ZRC 49667.

*Setipinna taty* (Valenciennes in Cuvier & Valenciennes)

*Setipinna taty* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary).  
 Material examined: ZRC 52396.

*Stolephorus chinensis* (Günther)

*Stolephorus chinensis* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary).  
 Material examined: ZRC 46642.

*Stolephorus commersonii* Lacepède

*Engraulis Commersonianus* – Károli, 1882: 182 (Seletar).  
*Stolephorus commersonii* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary).  
 Material examined: none.

*Stolephorus indicus* (van Hasselt)

*Stolephorus indicus* – Chua, 1973: 524 (Punggol estuary); Chong & Sasekumar, 2002: 295 (Sungai Johor estuary); Hajisamae & Chou, 2003: 283 (Changi, Pasir Ris, Sembawang); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); 2004: 64, 65, 66 (Changi, Pasir Ris, Sembawang); Kwik et al., 2010: 127, 131 (Changi Point).  
 Material examined: LSUMZ 16730, ZRC 46603, ZRC 48778, ZRC 49410, ZRC 49488, ZRC 49590, ZRC 49599, ZRC 49701.  
 Remarks: This is a common species in the EJS.

*Stolephorus insularis* Hardenberg

*Stolephorus insularis* – Chua, 1973: 524 (Punggol estuary).  
 Material examined: none.

*Stolephorus tri* (Bleeker)

*Stolephorus tri* - Chong & Sasekumar, 2002: 295 (Sungai Johor estuary).  
 Material examined: none.

*Thrissina dussumieri* (Valenciennes in Cuvier & Valenciennes)

Material examined: LSUMZ 16722, ZRC 49798.

*Thrissina hamiltonii* (Gray)

*Thryssa hamiltonii* – Lim & Low, 1998: 65 (off Yishun); Chong & Sasekumar, 2002: 295 (Sungai Johor estuary); Hajisamae & Chou, 2003: 283 (Pasir Ris); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); Jaafar et al., 2004: 117 (Pasir Ris).

Material examined: LSUMZ 16635, LSUMZ 16738, ZRC 49711, ZRC 50215, ZRC 50221, ZRC 52456.  
 Remarks: This is a common species in the EJS.

*Thrissina mystax* (Bloch & Schneider)

*Engraulis mystax* – Chua, 1973: 524 (Punggol estuary).  
*Scutengraulis mystax* – Herre in Herre & Myers, 1937: 13 (Pulau Ubin).  
 Material examined: CAS-SU 30732, LSUMZ 16729.

*Thrissina setirostris* (Broussonet)

*Engraulis setirostris* – Chua, 1973: 524 (Punggol estuary); Chong & Sasekumar, 2002: 295 (Sungai Johor estuary).  
*Thryssa setirostris* – Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang).  
 Material examined: LSUMZ 16637, ZRC 36930.

**Pristigasteridae**

*Ilisha elongata* (Anonymous [Bennett])

*Ilisha elongata* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary); Jaafar et al., 2004: 117 (Pasir Ris).  
 Material examined: LSUMZ 16523, ZRC 52106, ZRC 52387.

*Ilisha megaloptera* (Swainson)

*Ilisha megaloptera* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary); Jaafar et al., 2004: 117 (Pasir Ris).  
 Material examined: LSUMZ 17043, LSUMZ 17046, ZRC 50388.

*Ilisha melastoma* (Bloch & Schneider)

*Ilisha melastoma* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary).  
 Material examined: LSUMZ 16634, LSUMZ 16636, LSUMZ 16671, LSUMZ 16712, LSUMZ 16739, LSUMZ 16825.

*Opisthopterus tardoore* (Cuvier)

*Opisthopterus tardoore* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary).  
 Material examined: none.

*Pellona ditchela* Valenciennes in Cuvier & Valenciennes

? *Pellona* sp. – Chua, 1973: 524 (Punggol estuary).  
 Material examined: ZRC 53453.

**Dussumieriidae**

*Dussumieria acuta* Valenciennes in Cuvier & Valenciennes

*Dussumieria acuta* – Károli, 1882: 184 (Serangoon); Chong & Sasekumar, 2002: 295 (Sungai Johor estuary).  
Material examined: none.

*Dussumieria elopsoides* Bleeker

Material examined: LSUMZ 16728.

**GONORHYNCHIFORMES**

**Chanidae**

*Chanos chanos* (Forsskål)

*Chanos chanos* – Kwik et al., 2010: 127, 130 (Changi Point).  
Material examined: LSUMZ 16723, LSUMZ 16723, ZRC 49839, ZRC 51409, ZRC 52102.  
Remarks: This species is popularly reared in net cages in the Johor Straits. Examples seen in the wild are most likely farm escapees.

**SILURIFORMES**

**Ariidae**

*Arius* cf. *gagora* (Hamilton)

*Arius* cf. *gagora* – Ng, 2012b: 212, Figs. 1, 3–4 (Punggol, Pulau Ubin, Pulau Tekong).  
Material examined: ZRC 51224, ZRC 52389, ZRC 53332, ZRC 53351, ZRC 53352.

*Arius leptotacanthus* Bleeker

*Arius leptotacanthus* – Ng, 2012b: 214, Fig. 5 (Pulau Ubin).  
Material examined: ZRC 30560, ZRC 51225.

*Arius maculatus* (Thunberg)

*Arius maculatus* – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary).  
Material examined: none.

*Arius oetik* Bleeker

*Arius venosus* (non Valenciennes) – Lim & Low, 1998: 67 (off Pulau Tekong); Chong & Sasekumar, 2002: 294 (Sungai Johor estuary).  
*Arius oetik* – Ng, 2012b: 214, Fig. 6 (Simpang, Sungai Seletar, Sungei Punggol, Pulau Seletar, Pulau Serangoon, Pulau Ubin, Pulau Tekong).  
Material examined: LSUMZ 16822, ZRC 30556–30560, ZRC 49675, ZRC 49699, ZRC 49702, ZRC 49725, ZRC 51225, ZRC 52389, ZRC 53342, ZRC 53343, ZRC 53344, ZRC 53345, ZRC 53351, ZRC 53352, ZRC 53440, ZRC 53441.  
Remarks: This is a common species in the EJS.

*Batrachocephalus mino* (Hamilton)

*Batrachocephalus mino* – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary).  
Material examined: none.

*Hemiarius sona* (Hamilton)

*Hemiarius sona* – Ng, 2012b: 216, Fig. 9 (Pulau Tekong).  
Material examined: ZRC 50386, ZRC 50390.

*Hexanematichthys sagor* (Hamilton)

*Arius sagor* – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary); Chua, 2002: 58, 108 (Chek Jawa); Hajisamae & Chou, 2003: 283 (Pasir Ris); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); 2004: 64, 65, 66 (Changi, Pasir Ris, Sembawang); Jaafar et al., 2004: 117 (Pasir Ris).  
*Hexanematichthys sagor* – Ng, 2012b: 216, Fig. 10 (Pulau Seletar, Serangoon River, Pulau Ubin).  
Material examined: LSUMZ 17036, ZRC 46573, ZRC 49473, ZRC 49693, ZRC 49771, ZRC 50869, ZRC 51146, ZRC 51221, ZRC 52086, ZRC 52374, ZRC 53340, ZRC 53341, ZRC 53346, ZRC 53347, ZRC 53348, ZRC 53349.  
Remarks: This is a common species in the EJS.

*Nemapteryx nenga* (Hamilton)

*Arius caelatus* – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary).  
Material examined: none.

*Osteogeneiosus militaris* (Linnaeus)

*Osteogeneiosus miliaris* – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary); Ng 2012b: 218, Fig. 13 (Punggol River, Pulau Ubin).  
Material examined: ZRC 49822, ZRC 50233, ZRC 52388.

*Plicofollis argyropleuron* (Valenciennes in Cuvier & Valenciennes)

*Plicofollis argyropleuron* – Ng, 2012b: 218, Fig. 14 (Changi, Pulau Tekong).  
Material examined: ZRC 3683, ZRC 50389, ZRC 51223, ZRC 53334.

*Plicofollis nella* (Valenciennes in Cuvier & Valenciennes)

*Plicofollis nella* – Ng, 2012b: 220, Fig. 16 (Simpang River, Pulau Serangoon, Pulau Tekong).  
Material examined: LSUMZ 16627, LSUMZ 16821, ZRC 49726, ZRC 50387, ZRC 51147, ZRC 53333, ZRC 53339, ZRC 53350.

**Bagridae**

*Mystus gulio* (Hamilton)

*Mystus gulio* – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary).  
Material examined: ZRC 52087.

**Plotosidae**

*Paraplotosus albilabris* (Valenciennes in Cuvier & Valenciennes)

*Paraplotosus albilabris* – Chua, 1973: 524 (Punggol estuary); Lim & Low, 1998: 67 (Changi); Chua, 2002: 108 (Chek Jawa).

Material examined: ZRC 27663–27664, ZRC 30561–30562, ZRC 30582–30584, ZRC 46505, ZRC 47853, ZRC 49113, ZRC 49706, ZRC 49801.

Remarks: This is a common species in the EJS, particularly in areas with a sandy substrate.

*Plotosus canius* Hamilton

*Plotosus canius* – Duncker, 1904: 172 (Changi); Chua, 1973: 524 (Punggol estuary); Lim & Low, 1998: 68 (Sungai Seletar); Chong & Sasekumar, 2002: 297 (Sungai Johor estuary); Chua, 2002: 108 (Chek Jawa); Hajisamae & Chou, 2003: 283 (Pasir Ris); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); Tan & Yeo, 2003: 61 (Chek Jawa); Kwik et al., 2010: 128, 132 (Changi Point).

Material examined: LSUMZ 16517, LSUMZ 16596, LSUMZ 16654, LSUMZ 16805, LSUMZ 17049, ZRC 31527, ZRC 41026, ZRC 46504, ZRC 46617, ZRC 49626, ZRC 50725, ZRC 51407–51408, ZRC 52085, ZRC 52095.

Remarks: This is a common species in the EJS.

*Plotosus lineatus* (Thunberg)

*Plotosus limbatus* (non Valenciennes) – Károli, 1882: 178 (Serangoon, Changi, in rivers).

*Plotosus anguillaris* – Chua, 1973: 524 (Punggol estuary); Chong & Sasekumar, 2002: 297 (Sungai Johor estuary).

*Plotosus lineatus* – Chong & Sasekumar, 2002: 297 (Sungai Johor estuary); Chua, 2002: 58 (Chek Jawa); Hajisamae & Chou, 2003: 283 (Changi); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); Tan & Yeo, 2003: 197–198 (Chek Jawa); Jaafar et al., 2004: 117 (Pasir Ris); Kwik et al., 2010: 128, 132 (Changi Point).

Material examined: LSUMZ 16492, LSUMZ 16512, LSUMZ 16724, ZRC 27665, ZRC 30563, ZRC 30699–30702, ZRC 49194, ZRC 49644, ZRC 49694, ZRC 49194, ZRC 53474, ZRC 52492.

Remarks: This is a common species in the EJS.

**AULOPIFORMES****Synodontidae**

*Harpodon nehereus* (Hamilton)

*Harpodon nehereus* – Chong & Sasekumar, 2002: 299 (Sungai Johor estuary).

Material examined: none.

*Saurida tumbil* (Bloch)

*Saurida tumbil* – Chua, 1973: 524 (Punggol estuary); Chong & Sasekumar, 2002: 299 (Sungai Johor estuary); Kwik et al., 2010: 128, 133 (Changi Point).

Material examined: ZRC 40688, ZRC 49424, ZRC 49755, ZRC 52477.

**GADIFORMES****Bregmacerotidae**

*Bregmaceros maclellandi* Thompson

Material examined: ZRC 54206.

**HOLOCENTRIFORMES****Holocentridae**

*Sargocentron rubrum* (Forsskål)

Material examined: ZRC 47860.

**OPHIDIIFORMES****Bythitidae**

*Ungusurculus riauensis* Schwarzhan & Møller

*Dinematichthys ilucoeteoides* (non-Bleeker) – Fowler, 1931: 448 (Pulau Tekong).

*Ungusurculus riauensis* – Ng, 2014: 172 (Pulau Sekudu).

Material examined: ANSP 53485.

Remarks: Examples of this species from Singapore were previously misidentified as *Dinematichthys ilucoeteoides*.

**BATRACHOIDIFORMES****Batrachoididae**

*Allenbatrachus reticulatus* (Steindachner)

*Allenbatrachus reticulatus* – Chua, 2002: 108 (Chek Jawa).

? *Batrachus grunniens* – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary).

Material examined: ZRC 30565–30566, ZRC 46532, ZRC 48603, ZRC 49814, ZRC 49845, ZRC 49847, ZRC 50559, ZRC 50562.

Remarks: This is a common species in the EJS.

*Batrachomoeus trispinosus* (Günther)

*Batrachomoeus trispinosus* – Lim & Low, 1998: 71 (Changi); Chua, 2002: 108 (Chek Jawa); 2007: 85 (Beting Bronok); Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: LSUMZ 16488, LSUMZ 16496, LSUMZ 16499, LSUMZ 16662, LSUMZ 16715, ZRC 31498–31499, ZRC 46466, ZRC 46516, ZRC 46536, ZRC 46627, ZRC 47869, ZRC 48418, ZRC 48435, ZRC 49663, ZRC 49697, ZRC 50556, ZRC 50560–50561, ZRC 50564, ZRC 52494.

Remarks: This is a common species in the EJS.

**KURTIFORMES**

**Apogonidae**

*Apogonichthyoides melas* Bleeker

*Apogonichthyoides melas* – Ng & Lim, 2014: 1062 (Seletar River, Punggol).

Material examined: ZRC 7660, ZRC 53648.

*Archamia bleekeri* (Gunther )

*Archamia bleekeri* – Ng & Lim, 2014: 1063 (Chek Jawa, Changi).

*Archamia lineolatus* (non-Cuvier) – Chua, 1973: 525 (Punggol estuary).

*Archamia macroptera* (non Cuvier) – Chua, 2002: 108 (Chek Jawa).

Material examined: ZRC 36679–36681, ZRC 41760, ZRC 46479, ZRC 46538, ZRC 46660, ZRC 47805.

*Cheilodipterus quinquelineatus* Cuvier in Cuvier & Valenciennes

*Cheilodipterus quinquelineatus* – Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: None.

*Fibramia lateralis* (Valenciennes)

*Fibramia lateralis* – Ng & Lim, 2014: 1064 (Chek Jawa, Changi, Punggol).

? *Apogon amboinenses* (non-Bleeker) – Károli, 1882: 152 (Changi, in rivers).

*Apogon ceramensis* (non Bleeker) – Károli, 1882: 152 (Serangoon, in river).

*Apogon lateralis* – Chua, 2002: 108 (Chek Jawa).

Material examined: ZRC 7197, ZRC 10525, ZRC 1752, ZRC 46517, ZRC 48451.

*Jaydia lineata* (Temminck & Schlegel)

? *Apogonichthys ellioti* [sic.] (non-Day) – Chua, 1973: 525 (Punggol estuary).

*Jaydia lineata* – Ng & Lim, 2014: 1064 (Serangoon).

Material examined: ZRC 53454.

Remarks: This species could have earlier been misidentified as '*Apogonichthys ellioti*' (Chua, 1973: 525).

*Jaydia poeciloptera* (Cuvier)

*Apogonichthys glaga* – Károli, 1882: 152 (Serangoon).

Material examined: none.

*Ostorhinchus compressus* (Smith & Radcliffe)

*Apogon ?compressus* – Chua, 2002: 108 (Chek Jawa).

Material examined: None.

*Ostorhinchus endekataenia* (Bleeker)

*Ostorhinchus endekataenia* – Ng & Lim, 2014: 1066 (Punggol).

Material examined: ZRC 10530, ZRC 53600.

*Ostorhinchus fasciatus* (Shaw)

Material examined: LSUMZ 16750

Remarks: This is the first record of this species from Singapore since 1953 (Fraser, 2005).

*Ostorhinchus margaritophorus* Bleeker

*Ostorhinchus margaritophorus* – Ng & Lim, 2014: 1066 (Punggol, Chek Jawa, Changi).

*Apogon margaritophorus* – Károli, 1882: 152 (Serangoon, in river); Chua, 2002: 108 (Chek Jawa); Tan & Yeo, 2003: 156 (Chek Jawa); Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: LSUMZ 16582, LSUMZ 16649, ZRC 46478, ZRC 47820, ZRC 48429, ZRC 49576, ZRC 52201.

*Ostorhinchus pleuron* (Fraser)

*Ostorhinchus pleuron* – Ng & Lim, 2014: 1066 (Seletar, Punggol, Changi, Tekong).

*Apogon quadrifasciatus* (non Cuvier) – Károli, 1882: 152 (Serangoon); Lim & Low, 1998: 92 (Pulau Seletar); Chong & Sasekumar, 2002: 294 (Sungai Johor estuary); Chua, 2002: 108 (Chek Jawa); Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: LSUMZ 16571, ZRC 40689, ZRC 40697, ZRC 47804, ZRC 49710, ZRC 49754, ZRC 52528, ZRC 53649.

Remarks: This is a common species in the EJS.

*Rhabdamia gracilis* (Bleeker)

*Apogonichthys gracilis* – Károli, 1882: 152 (Serangoon).

Material examined: none.

*Sphaeramia orbicularis* (Cuvier in Cuvier & Valenciennes)

*Sphaeramia orbicularis* – Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: none.

*Yarica hyalosoma* (Bleeker)

*Yarica hyalosoma* – Ng & Lim, 2014: 1068 (Seletar, Ubin, Changi).

*Apogon hyalosoma* – Károli, 1882: 152 (in rivers of Serangoon), Herre in Herre & Myers, 1937: 24 (Pulau Ubin); Chong & Sasekumar, 2002: 294 (Sungai Johor estuary); Chua, 2002: 108 (Chek Jawa); Kwik et al., 2010: 127, 130 (Changi Point).

*Amia hyalosoma* – Fowler, 1931: 445 (Pulau Ubin).

? *Apogon thermalis* (non-Cuvier) – Chua, 1973: 525 (Punggol estuary).

Material examined: ANSP 77798, CAS-SU 30413, LSUMZ 16592, LSUMZ 16684, ZRC 48416, ZRC 48680, ZRC 48813, ZRC 48837, ZRC 49372, ZRC 49442.

Remarks: This is a common species in the EJS.

**GOBIIFORMES**

**Butidae**

*Bostrychus sinensis* Lacepède

*Bostrychus sinensis* – Larson et al., 2008: 136.

Material examined: ZRC 221.

*Butis amboinensis* (Bleeker)

*Eleotris amboinensis* – Károli, 1882: 167 (Seletar).  
Material examined: none.

*Butis butis* (Hamilton)

*Butis butis* – Herre in Herre & Myers, 1937: 38 (Pulau Ubin);  
Chua, 1973: 526 (Punggol estuary); Chong & Sasekumar, 2002:  
295 (Sungai Johor estuary); Larson et al., 2008: 136 (Punggol,  
Sungai Seletar, Sungai Serangoon, Pulau Ubin, Pulau Tekong).  
*Eleotris butis* – Károli, 1882: 167 (Changi).  
Material examined: CAS-SU 30344, LSUMZ 16674, ZRC  
30580, ZRC 41701, ZRC 48427, ZRC 48443, ZRC 49377,  
ZRC 52391.

Remarks: This is a common species in the EJS.

*Butis humeralis* (Valenciennes in Cuvier & Valenciennes)

*Butis humeralis* – Larson & Lim, 2005: 51 (Sungei Khatib Bongsu);  
Larson et al., 2008: 137 (Sungai Simpang, Khatib Bongsu,  
Sungai Seletar, Pulau Seletar, Punggol, Loyang mangroves,  
Sungai Changi).  
Material examined: ZRC 47786, ZRC 48683, ZRC 48819,  
ZRC 48839, ZRC 49105, ZRC 49445, ZRC 49487, ZRC  
49610.

Remarks: This is a common species in the EJS.

*Butis koilomatodon* (Bleeker)

*Butis koilomatodon* – Chua, 2002: 108 (Chek Jawa); Jaafar et al.,  
2004: 117 (Pasir Ris); Larson et al., 2008: 138 (Johor Straits  
off Yishun, Sungei Simpang, Pulau Seletar, Punggol, Pulau  
Ubin, Pulau Sekudu, Changi).

*Eleotris caperata* – Károli, 1882: 167 (Seletar).  
*Prionobutis koilomatodon* – Herre in Herre & Myers, 1937: 38  
(Pulau Ubin); Chua, 1973: 526 (Punggol estuary).  
Material examined: CAS-SU 30368, LSUMZ 16727, LSUMZ  
16819, ZRC 38133, ZRC 41761, ZRC 46630, ZRC 47851,  
ZRC 48428, ZRC 48684, ZRC 48818, ZRC 48838, ZRC  
48901, ZRC 48958, ZRC 49029, ZRC 49446, ZRC 50209.  
Remarks: This is a common species in the EJS.

*Giuris margaritacea* (Valenciennes)

*Eleotris aporos* – Károli, 1882: 167 (Serangoon).  
Material examined: none.

*Ophiocara porocephala* (Valenciennes)

*Ophiocara porocephala* – Fowler, 1931: 448 (Pulau Ubin); Chua,  
1973: 526 (Punggol estuary); Chong & Sasekumar, 2002:  
295 (Sungai Johor estuary); Larson et al., 2008: 138 (Sungai  
Seletar, Sungai Punggol, Sungai Serangoon, Serangoon, Loyang  
mangroves, Pulau Ubin).  
Material examined: ANSP 91044, LSUMZ 16706, ZRC  
31517–31518, ZRC 47777, ZRC 47784, ZRC 48685, ZRC  
48820.

## Eleotrididae

*Oxyeleotris urophthalmus* (Bleeker)

*Oxyeleotris urophthalmus* – Larson & Lim, 2005: 55 (Loyang  
mangroves); Larson et al., 2008: 138 (Sungei Punggol,  
Serangoon, Loyang mangroves).  
Material examined: ZRC 47778, ZRC 47785, ZRC 50465.

## Gobiidae

*Acentrogobius caninus* (Valenciennes in Cuvier & Valenciennes)

*Acentrogobius caninus* – Chua, 1973: 526 (Punggol estuary); Chong  
& Sasekumar, 2002: 296 (Sungai Johor estuary); Chua, 2002:  
108 (Chek Jawa); Jaafar et al., 2004: 117 (Pasir Ris); Larson  
et al., 2008: 145 (Sembawang beach, Sungei Simpang, Sungei  
Seletar, Pulau Seletar, Sungei Punggol, Pasir Ris, Pulau Ubin,  
Changi Point).

*Gobius caninus* – Károli, 1882: 164 (Seletar).  
Material examined: ANSP 77796, LSUMZ 16590, LSUMZ  
16718, LSUMZ 16801, ZRC 20607, ZRC 40710, ZRC  
46595, ZRC 46668, ZRC 47457, ZRC 47482, ZRC 47495,  
ZRC 47501, ZRC 47594, ZRC 47636, ZRC 47681, ZRC  
47829, ZRC 48686, ZRC 48780, ZRC 48791, ZRC 48821,  
ZRC 48840, ZRC 48892, ZRC 48959, ZRC 49018, ZRC  
49082, ZRC 49380, ZRC 49395, ZRC 49412, ZRC 49431,  
ZRC 49447, ZRC 49490, ZRC 50347, ZRC 50468, ZRC  
50470, ZRC 52225.

Remarks: This is a common species in the EJS.

*Acentrogobius cyanomos* (Bleeker)

*Acentrogobius cyanomos* – Tan & Yeo, 2003: 154 (Chek Jawa);  
Larson et al., 2008: 145 (Sembawang beach, Sungei Simpang,  
Pasir Ris, Pulau Ubin, Changi Point).

*Gobius cyanomos* – Károli, 1882: 164 (Serangoon).  
Material examined: ZRC 46497, ZRC 46594, ZRC 46667,  
ZRC 47824, ZRC 48448, ZRC 48781, ZRC 49083, ZRC  
49396.

Remarks: This is a common species in the EJS.

*Acentrogobius janthinopterus* (Bleeker)

*Acentrogobius janthinopterus* – Larson et al., 2008: 145 (Sungei  
Sembawang, Sungei Simpang, Khatib Bongsu, Seletar Dam,  
Pulau Seletar, Sungei Punggol, Sungei Serangoon, Pulau Ubin,  
Changi beach).

Material examined: ANSP 77799, ZRC 47596, ZRC 47717,  
ZRC 48687, ZRC 48718, ZRC 48822, ZRC 48841, ZRC  
49084.

Remarks: This is a common species in the EJS.

*Acentrogobius viridipunctatus* (Valenciennes in Cuvier & Valenciennes)

*Acentrogobius viridipunctatus* – Larson et al., 2008: 145 (Sungei  
Sembawang, Sungei Simpang, Sungei Seletar, Pulau Seletar,  
Sungei Punggol, Sungei Serangoon, Pasir Ris, Changi Point,  
Johor Straits off Pulau Tekong).

Material examined: ZRC 47595, ZRC 47691, ZRC 48688, ZRC 49085, ZRC 49381, ZRC 49397, ZRC 49413, ZRC 49491, ZRC 49612.

Remarks: This is a common species in the EJS.

*Arcyogobius baliurus* (Valenciennes in Cuvier & Valenciennes)

*Arcyogobius baliurus* – Larson & Lim, 2005: 69 (eastern Johor Straits).

Material examined: ZRC 48792, ZRC 50496.

*Amblygobius stethophthalmus* (Bleeker)

*Amblygobius bynoensis* (non Richardson) – Tan & Yeo, 2003: 153 (Chek Jawa).

*Amblygobius stethophthalmus* – Larson et al., 2008: 146 (Punggol, Pulau Serangoon, Beting Bronok).

Material examined: ZRC 47412, ZRC 47867.

*Amblygobius sphynx* (Valenciennes)

*Gobius sphinx* – Károli, 1882: 165 (Seletar).

Material examined: none.

*Amoya gracilis* (Bleeker)

*Acentrogobius gracilis* – Larson & Lim, 2005: 59 (Sungai Simpang); Larson et al., 2008: 145 (Sembawang beach, Sungei Simpang, Sungei Seletar, Sungei Punggol, Pasir Ris, Pulau Ubin).

*Ctenogobius gracilis* – Chua, 1973: 526 (Punggol estuary).

Material examined: ZRC 46597, ZRC 47687, ZRC 49072, ZRC 49086, ZRC 49382, ZRC 49398, ZRC 49414, ZRC 49448, ZRC 49492, ZRC 49613.

Remarks: This is a common species in the EJS.

*Bathygobius fuscus* (Rüppell)

*Bathygobius fuscus* – Tan & Yeo, 2003: 154 (Chek Jawa).

Material examined: ZRC 47849, ZRC 48608, ZRC 50789.

*Cryptocentrus cyanotaenia* (Bleeker)

*Cryptocentrus cyanotaenia* – Larson et al., 2008: 147 (Punggol).

Material examined: none.

*Cryptocentrus leptocephalus* Bleeker

*Cryptocentrus leptocephalus* – Larson et al., 2008: 147 (Punggol).

Material examined: ZRC 47637, ZRC 50788.

*Cryptocentrus pavoninoides* (Bleeker)

*Cryptocentrus pavoninoides* – Larson et al., 2008: 147 (Sungei Punggol).

Material examined: none.

*Drombus globiceps* (Hora)

*Drombus globiceps* – Larson et al., 2008: 148 (Sungei Simpang, Khatib Bongsu, Sungei Seletar, Seletar Wet Gap, Pasir Ris).

Material examined: ZRC 41702, ZRC 47695, ZRC 48793, ZRC 49087.

*Drombus ocyurus* (Jordan & Seale)

*Drombus ocyurus* – Larson et al., 2008: 148 (Pulau Ubin).

*Quisquilius malayanus* Herre, 1936: 11, pl. 8 (type locality: Pulau Ubin); 1937: 45 (Pulau Ubin).

Material examined: CAS-SU 30963, ZRC 48442, ZRC 50343.

*Drombus triangularis* (Weber)

*Drombus triangularis* – Lim & Low, 1998: 137 (Changi); Chua, 2002: 109 (Chek Jawa); Tan & Yeo, 2003: 154 (Chek Jawa); Larson et al., 2008: 148 (Sembawang, Sungei Simpang, Sungei Seletar, Sungei Punggol, Pasir Ris, Pulau Ubin, Pulau Sekudu, Changi Point, Beting Bronok).

Material examined: LSUMZ 16504, LSUMZ 16589, ZRC 41027, ZRC 46524, ZRC 46598, ZRC 47602, ZRC 47694, ZRC 47850, ZRC 47866, ZRC 48441, ZRC 48607, ZRC 48960, ZRC 49019, ZRC 49032, ZRC 49399, ZRC 49415, ZRC 49432, ZRC 50322, ZRC 50341, ZRC 50348, ZRC 50360, ZRC 50469, ZRC 50482, ZRC 50484, ZRC 51913, ZRC 52226.

Remarks: This is a common species in the EJS.

*Eviota queenslandica* Whitley

*Eviota queenslandica* – Larson & Lim, 2005: 92 (Beting Bronok); Larson et al., 2008: 148 (Beting Bronok).

Material examined: none.

Remarks: The record of this species from the EJS is based on a photograph of a freshly preserved specimen collected from Beting Bronok in Larson & Lim (2005).

*Exyrias puntang* (Bleeker)

*Exyrias puntang* – Larson et al., 2008: 148 (Sungei Seletar, Pulau Seletar, Punggol, Pulau Ubin, Sungei Changi).

Material examined: ZRC 47634, ZRC 48437, ZRC 48823, ZRC 49687

*Glossogobius aureus* Akihito & Meguro

*Glossogobius aureus* – Chong & Sasekumar, 2002: 296 (Sungai Johor estuary); Larson et al., 2008: 149 (Sungei Simpang, Seletar Island, Punggol, Changi beach).

Material examined: ZRC 47696, ZRC 47712, ZRC 48692, ZRC 48824, ZRC 49088, ZRC 49449, ZRC 49653, ZRC 50404.

Remarks: This is a common species in the EJS.

*Glossogobius circumspectus* (Macleay)

*Glossogobius circumspectus* – Lim & Larson, 1994: 259 (Sungai Seletar); Larson et al., 2008: 149 (Sungei Seletar, Pulau Seletar, Changi beach).

Material examined: ZRC 47697, ZRC 49638.

*Glossogobius giuris* (Hamilton)

*Gobius giuris* – Károli, 1882: 164 (Serangoon).

*Glossogobius giuris* – Larson et al., 2008: 149 (Sungei Seletar, Pulau Tekong).

Material examined: ZRC 4736, ZRC 4487.

*Glossogobius sparsipapillus* Akihito & Meguro

*Glossogobius sparsipapillus* – Larson & Lim, 2005: 102 (Simpang); Larson et al., 2008: 149 (Sungei Simpang, Sungei Seletar, Pasir Ris).

Material examined: none.

Remarks: The record of this species from the EJS is based on a photograph of a preserved specimen collected from the Sungei Simpang estuary in Larson & Lim (2005).

*Gobiopsis macrostoma* Steindachner

*Gobiopsis macrostoma* – Larson & Lim, 2005: 106 (Beting Bronok); Larson et al., 2008: 149 (Beting Bronok).

Material examined: ZRC 47828, ZRC 47865, ZRC 48604.

*Istigobius diadema* (Steindachner)

*Istigobius diadema* – Larson et al., 2008: 149 (Sungei Punggol).  
Material examined: ZRC 19644–19647, ZRC 19652, ZRC 19661–19662, ZRC 19968, ZRC 19716–19717, ZRC 19796, ZRC 19982, ZRC 22481–22482, ZRC 47391, ZRC 47405.

Remarks: This is a common species in the EJS.

*Istigobius goldmanni* (Bleeker)

*Istigobius goldmanni* – Larson et al., 2008: 149 (Beting Bronok).  
Material examined: ZRC 48605.

*Istigobius ornatus* (Rüppell)

*Gobius elegans* – Károli, 1882: 164 (in Changi River).  
*Gobius spence* (non-Smith) – Chong & Sasekumar, 2002: 296 (Sungai Johor estuary).

*Istigobius ornatus* – Chua, 2002: 109 (Chek Jawa); Tan & Yeo, 2003: 154 (Chek Jawa); Larson et al., 2008: 149 (Pulau Ubin, Pulau Sekudu, Changi Point).

Material examined: ZRC 30672, ZRC 46523, ZRC 47500, ZRC 47846.

*Macrodontogobius wilburi* Herre

*Acentrogobius henderson* [sic] – Chua, 1973: 526 (Punggol estuary).  
Material examined: none.

*Mahidolia mystacina* (Valenciennes in Cuvier & Valenciennes)

*Mahidolia mystacina* – Larson & Lim, 2005: 116 (Pulau Ubin); Larson et al., 2008: 150 (Pulau Ubin).  
Material examined: ZRC 48447, ZRC 50774.

*Oplopomus oplopomus* (Valenciennes in Cuvier & Valenciennes)

*Oplopomus oplopomus* – Larson et al., 2008: 150 (Changi).  
Material examined: ZRC 47593.

*Papillogobius melanobranchus* (Fowler)

*Favonigobius melanobranchus* – Larson et al., 2008: 148 (Pulau Ubin, Pulau Sekudu, Changi Point).  
Material examined: LSUMZ 16800, ZRC 47292, ZRC 47416, ZRC 47459, ZRC 47848.

*Papillogobius reichei* (Bleeker)

*Favonigobius reichei* – Larson et al., 2008: 148 (Sungei Seletar, Pasir Ris, Pulau Ubin, Changi Point, Beting Bronok).

*Papillogobius reichei* – Chua, 2002: 109 (Chek Jawa).

Material examined: ZRC 20608, ZRC 26994–26997, ZRC 30710–30722, ZRC 41773, ZRC 46498, ZRC 46527, ZRC 46596, ZRC 46641, ZRC 47417, ZRC 47460, ZRC 47483, ZRC 47497, ZRC 47503, ZRC 47603, ZRC 47678, ZRC 47688, ZRC 47827, ZRC 48446, ZRC 48606, ZRC 49493, ZRC 49508, ZRC 49542, ZRC 50485.

Remarks: This is a common species in the EJS, particularly in areas with a sandy substrate.

*Paragobius macrostomus* (Herre)

*Myersina macrostoma* – Larson & Lim, 2005: 122 (Simpang); Larson et al., 2008: 150 (Sungei Simpang, Punggol, Pasir Ris, Changi Point).

Material examined: ZRC 20609, ZRC 47562, ZRC 47692, ZRC 47803, ZRC 50344, ZRC 50956, ZRC 52198.

*Priolepis nuchifasciata* (Günther)

*Priolepis nuchifasciata* – Larson & Lim, 2005: 135 (Beting Bronok); Larson et al., 2008: 150 (Beting Bronok).

Material examined: none.

Remarks: The record of this species from the EJS is based on a photograph of a freshly preserved specimen collected from Beting Bronok in Larson & Lim (2005).

*Psammogobius biocellatus* (Valenciennes in Cuvier & Valenciennes)

*Glossogobius biocellatus* – Chua, 2002: 109 (Chek Jawa).  
*Psammogobius biocellatus* – Larson & Lim, 2005: 137 (Changi); Larson et al., 2008: 150 (Sungei Seletar, Sungei Punggol, Pasir Ris, Changi beach).

Material examined: ZRC 40676, ZRC 46496, ZRC 47418, ZRC 47638, ZRC 47693, ZRC 47716.

*Silhouettea* cf. *nuchipunctatus* (Herre)

*Silhouettea* cf. *nuchipunctatus* – Larson et al., 2008: 150 (Pulau Ubin, Changi Point).

Material examined: ZRC 47567, ZRC 47826, ZRC 50483.

*Tomiyamichthys russus* (Cantor)

Material examined: ZRC 50775, ZRC 50787.

Remarks: Previously regarded as a species of *Cryptocentrus* (Larson et al., 2008: 147). Generic assignment follows Allen & Erdmann (2012: 885).

*Yongeichthys nebulosus* (Forsskål)

*Acentrogobius nebulosus* – Larson et al., 2008: 145 (Sungei Sembawang, Sungei Simpang, Sungei Punggol, Pasir Ris, Pulau Ubin, Pulau Sekudu, Changi Point).

*Ctenogobius criniger* – Chua, 1973: 526 (Punggol estuary).

*Gobius criniger* – Károli, 1882: 164 (Serangoon).

*Yongeichthys nebulosus* – Chua, 2002: 109 (Chek Jawa); Tan & Yeo, 2003: 154 (Chek Jawa).

Material examined: ZRC 26991–26993, ZRC 30680–30685, ZRC 46534, ZRC 47458, ZRC 47502, ZRC 47601, ZRC 47680, ZRC 47825, ZRC 47847, ZRC 48434, ZRC 48444, ZRC 48794, ZRC 49383, ZRC 49400, ZRC 49416, ZRC 49476, ZRC 49494.

Remarks: This is a common species in the EJS.

*Yongeichthys madraspatensis* (Day)

Material examined: ZRC 30673, ZRC 47472, ZRC 50346.

*Yongeichthys virgatus* (Jordan & Snyder)

*Acentrogobius* cf. *caninus* – Larson et al., 2008: 151 (Changi Beach).

Material examined: ZRC 40710, ZRC 47829, ZRC 47837.

Remarks: Presently recognised as an invasive species in Singapore that reached there most probably via ship ballast water (Jaafar et al. 2012).

**Gobionellidae**

*Apocryptodon madurensis* (Bleeker)

*Apocryptodon madurensis* – Larson et al., 2008: 139 (Pasir Ris, Pulau Ubin).

Material examined: CAS-SU 30338, ZRC 47686.

*Boleophthalmus boddarti* (Pallas)

*Bolcophthalmus* [sic] *boddaerti* – Károli, 1882: 166 (Changi).

*Boleophthalmus boddarti* – Chua, 2002: 108 (Chek Jawa); Larson & Lim, 2005: 73 (Seletar Dam); Larson et al., 2008: 139 (Sungai Seletar, Pulau Seletar, Punggol, Sungai Serangoon, Pasir Ris).

Material examined: ZRC 48689, ZRC 49614.

*Brachygobius kabiliensis* Inger

*Brachygobius xanthomelas* – Herre in Herre & Myers, 1937: 43 (NE of Singapore Island)

*Brachygobius kabiliensis* – Larson et al., 2008: 141 (Sungai Simpang, Khatib Bongsu, Sungai Seletar, Pulau Seletar, Sungai Punggol, Sungai Serangoon, Sungai Pinang, Loyang mangroves).

Material examined: CAS-SU 33046, LSUMZ 16780, ZRC 47670, ZRC 48690.

*Eugnathogobius illotus* (Larson)

*Calamiana ilota* – Larson et al., 2008: 141 (Khatib Bongsu, Loyang mangroves).

Material examined: LSUMZ 16688, ZRC 47668, ZRC 49615, ZRC 50458.

*Eugnathogobius variegatus* (Peters)

*Tamanka ubinensis* Herre in Herre & Myers, 1937: 41 (type locality: Pulau Ubin).

*Calamiana vaiegata* – Larson et al., 2008: 141 (Sungai Seletar, Seletar Dam, Pulau Seletar, Sungai Simpang, Khatib Bongsu, Pasir Ris, Loyang mangroves).

Material examined: CAS-SU 30964, LSUMZ 16515, LSUMZ 16679, LSUMZ 16781, ZRC 47608, ZRC 47667,

ZRC 47781, ZRC 48398, ZRC 48691, ZRC 48719, ZRC 49616, ZRC 50457.

Remarks: This is a common species in the EJS.

*Gobiopterus birtwistlei* (Herre)

*Gobiopterus birtwistlei* – Larson & Lim, 2005: 107 (Loyang mangroves); Larson et al., 2008: 141 (Khatib Bongsu).

(?) *Gobiopterus brachypterus* (non Bleeker) – Larson et al., 2008: 141 (Sungai Simpang, Khatib Bongsu, Pulau Seletar, Seletar Dam, Sungai Punggol, Sungai Serangoon).

Material examined: ZRC 48693, ZRC 48720, ZRC 48825, ZRC 48842.

*Gobiopterus panayensis* (Herre)

*Gobiopterus panayensis* – Larson et al., 2008: 142 (Sungai Serangoon, Loyang mangroves).

Material examined: ZRC 47291, ZRC 47672.

*Hemigobius hoevenii* (Bleeker)

*Hemigobius hoevenii* – Chua, 2002: 109 (Chek Jawa); Larson & Lim, 2005: 109 (Loyang mangroves); Larson et al., 2008: 142 (Sungei Sembawang, Sungei Simpang, Seletar Dam, Pulau Seletar, Sungei Punggol, Sungei Serangoon, Pasir Ris, Loyang mangroves, Pulau Ubin).

Material examined: CAS-SU 40136, ZRC 47607, ZRC 47664, ZRC 47780, ZRC 48430, ZRC 48694, ZRC 48721, ZRC 48826, ZRC 49106, ZRC 49617, ZRC 50462.

Remarks: This is a common species in the EJS.

*Hemigobius melanurus* (Bleeker)

*Gnatholepis mingi* Herre, 1936: 8, pl. 4 (type locality: Pulau Ubin); 1937: 40 (Pulau Ubin).

*Hemigobius mingi* – Larson & Lim, 2005: 110 (Loyang mangroves); Larson et al., 2008: 142 (Sungei Sembawang, Sungei Punggol, Sungei Serangoon, Loyang mangroves).

*Stigmatogobius mingi* – Chua, 1973: 526 (Punggol estuary).

Material examined: CAS-SU 30960, CAS-SU 36038, ZRC 47663, ZRC 47698, ZRC 47779.

Remarks: Nomenclature follows Kottelat (2013: 411).

*Mugilogobius chulae* (Smith)

*Mugilogobius chulae* – Larson et al., 2008: 142 (Sembawang, Pulau Seletar, Punggol, Sungei Serangoon, Loyang mangroves).

Material examined: CAS-SU 33872, ZRC 47671, ZRC 47783, ZRC 49107, ZRC 50461.

*Mugilogobius platystomus* (Günther)

*Mugilogobius platystomus* – Larson, 2001: 165 (Serangoon); Larson et al., 2008: 142 (Serangoon).

Material examined: CAS 36031.

*Mugilogobius rambaiae* (Smith)

*Mugilogobius rambaiae* – Larson, 2001: 170 (Sungai Serangoon); Larson et al., 2008: 142 (Sungai Serangoon).

Material examined: ZRC 20362–20445, ZRC 48039.

*Mugilogobius tigrinus* Larson

*Mugilogobius tigrinus* – Larson & Lim, 2005: 121 (Loyang mangroves); Larson et al., 2008: 142 (Loyang mangroves).  
Material examined: ZRC 47669, ZRC 50459.

*Oxyurichthys microlepis* (Bleeker)

*Oxyurichthys microlepis* – Larson & Lim, 2005: 125 (eastern Johor Straits); Larson et al., 2008: 143 (Johor Straits off Yishun).  
Material examined: ZRC 50278.

*Oxyurichthys uronema* (Weber)

*Oxyurichthys uronema* – Larson et al., 2008: 143 (Punggol).  
Material examined: ZRC 41565.

*Pandaka pygmaea* (Herre)

*Pandaka pygmaea* – Larson & Lim, 2005: 126 (Loyang mangroves).  
*Pandaka* cf. *pygmaea* – Larson et al., 2008: 143 (Sungei Simpang, Pulau Seletar, Loyang mangroves).  
Material examined: ZRC 47673.  
Remarks: The identification of this species is tentative.

*Parapocryptes seperaster* (Richardson)

*Parapocryptes seperaster* – Larson et al., 2008: 139 (Sungai Seletar).  
Material examined: ZRC 309.

*Paratrypauchen microcephalus* (Bleeker)

*Ctenotrypauchen microcephalus* – Larson et al., 2008: 139 (Pulau Sajahat).  
Material examined: none.

*Periophthalmodon schlosseri* (Pallas)

*Periophthalmodon schlosseri* – Herre in Herre & Myers, 1937: 46 (Pulau Ubin); Chua, 1973: 526 (Punggol estuary); Chua, 2002: 109 (Chek Jawa); Larson & Lim, 2005: 129 (Pulau Ubin); Larson et al., 2008: 139 (Sungai Simpang, Khatib Bongsu, Sungai Seletar, Loyang mangroves, Pulau Ubin, Changi Point).  
Material examined: ZRC 27325, ZRC 46599, ZRC 47775, ZRC 49821, ZRC 49835, ZRC 52390.  
Remarks: This is a common species in the EJS.

*Periophthalmus argentilineatus* Valenciennes in Cuvier & Valenciennes

*Periophthalmus argentilineatus* – Larson et al., 2008: 139 (Sungai Sembawang, Sungai Simpang, Pulau Ubin, Changi Point).  
Material examined: ZRC 30697–30698, ZRC 31519, ZRC 47560, ZRC 48440.

*Periophthalmus chrysospilos* Bleeker

*Periophthalmus chrysospilos* – Károli, 1882: 166 (Serangoon); Chua, 2002: 41, 59, 109 (Chek Jawa); Tan & Yeo, 2003: 40 (Chek Jawa); Larson & Lim, 2005: 131 (Chek Jawa); Larson et al., 2008: 139 (Pulau Seletar, Pasir Ris, Pulau Ubin, Changi beach, Pulau Tekong).  
Material examined: ZRC 31509–31512, ZRC 41029, ZRC

47559, ZRC 47600, ZRC 47679, ZRC 48438, ZRC 48695, ZRC 51912.

Remarks: This is a common species in the EJS.

*Periophthalmus gracilis* Eggert

*Periophthalmus gracilis* – Larson et al., 2008: 140 (Sungai Simpang, Pulau Seletar, Sungai Serangoon, Pulau Tekong).  
Material examined: LSUMZ 16708, ZRC 48696, ZRC 50498.

*Periophthalmus variabilis* Eggert

*Periophthalmus novemradiatus* (non Hamilton) – Chua, 2002: 109 (Chek Jawa); Tan & Yeo, 2003: 40 (Chek Jawa); Larson & Lim, 2005: 133 (Sungai Simpang, Loyang mangroves); Larson et al., 2008: 140 (Sungai Simpang, Khatib Bongsu, Pulau Seletar, Punggol, Sungai Serangoon, Loyang mangroves, Pulau Ubin, Pulau Tekong).

Material examined: ZRC 47776, ZRC 48425, ZRC 48697, ZRC 50497.

Remarks: Although *Periophthalmus variabilis* had long been considered a junior synonym of *P. novemradiatus*, Jaafar et al. (2009) demonstrated that the two species are distinct, and that *P. variabilis* is the correct name for the Singapore taxon.

*Periophthalmus walailakae* Darumas & Tantichodok

*Periophthalmus walailakae* – Larson & Lim, 2005: 134 (Seletar Dam, Sungai Simpang); Larson et al., 2008: 140 (Sungai Simpang, Khatib Bongsu, Pulau Seletar, Pasir Ris, Pulau Ubin).  
Material examined: LSUMZ 16489, LSUMZ 16514, LSUMZ 16680, ZRC 47832, ZRC 48439, ZRC 48698, ZRC 48827, ZRC 49108, ZRC 50380.

Remarks: This is a common species in the EJS.

*Pseudapocryptes elongatus* (Cuvier)

*Pseudapocryptes lanceolatus* – Herre in Herre & Myers, 1937: 46 (Pulau Ubin).

*Pseudapocryptes elongatus* – Larson et al., 2008: 140 (Sungai Punggol, Pasir Ris, Pulau Tekong).

Material examined: CAS-SU 33148.

*Pseudogobius avicennia* (Herre)

*Pseudogobius avicennia* – Larson & Lim, 2005: 140 (Sg. Simpang); Larson et al., 2008: 143 (Sungei Sembawang, Pulau Seletar, Loyang mangroves).

Material examined: ZRC 47666, ZRC 48843.

*Pseudogobius javanicus* (Bleeker)

*Pseudogobius javanicus* – Chua, 2002: 109 (Chek Jawa); Larson & Lim, 2005: 141 (Sg. Simpang); Larson et al., 2008: 143 (Sungei Simpang, Khatib Bongsu, Seletar Dam, Pulau Seletar, Seletar Wet Gap, Pasir Ris beach, Loyang mangroves, Pulau Ubin).

*Vaimosa piapensis* - Herre in Herre & Myers, 1937: 40 (Pulau Ubin).  
Material examined: CAS-SU 30373, LSUMZ 16678, ZRC 31520, ZRC 47604, ZRC 47665, ZRC 47782, ZRC 47834, ZRC 48433, ZRC 48699, ZRC 48722, ZRC 48828, ZRC 48844, ZRC 49089, ZRC 49109, ZRC 49450, ZRC 49530, ZRC 49543, ZRC 49618, ZRC 50463.

Remarks: This is a common species in the EJS.

*Pseudogobius melanostictus* (Day)

*Pseudogobius melanostictus* – Larson et al., 2008: 144 (Sungei Serangoon).

*Vaimosa serangoonensis* Herre in Herre & Myers, 1937: 40 (type locality: creek at Serangoon).

Material examined: CAS-SU 30984, LSUMZ 16676.

*Redigobius isognathus* (Bleeker)

*Redigobius isognathus* – Larson et al., 2008: 144 (Sungei Simpang, Khatib Bongsu, Pulau Seletar, Pulau Ubin).

Material examined: LSUMZ 16677, ZRC 48400–48404, ZRC 49639–49640, ZRC 49642, ZRC 51678–51679.

*Scartelaos histophorus* (Valenciennes)

*Scartelaos histophorus* – Chua, 2002: 109 (Chek Jawa); Larson & Lim, 2005: 147 (Pasir Ris); Larson et al., 2008: 141 (Pasir Ris, Pulau Ubin).

Material examined: ZRC 41028, ZRC 46506, ZRC 46666, ZRC 47522, ZRC 47599, ZRC 51911.

*Stigmatogobius pleurostigma* (Bleeker)

*Stigmatogobius pleurostigma* – Larson et al., 2008: 144 (Pulau Ubin).

Material examined: ZRC 48432.

*Stigmatogobius sadanundio* (Hamilton)

*Gobius sadanundio* – Herre in Herre & Myers, 1937: 38 (Pulau Ubin).

*Stigmatogobius sadanundio* – Larson & Lim, 2005: 151 (Loyang mangroves); Larson et al., 2008: 144 (Sungei Sembawang, Sungei Simpang, Pulau Seletar, Sungei Punggol, Pasir Ris, Pulau Ubin).

Material examined: CAS-SU 30365, LSUMZ 16707, ZRC 46460, ZRC 47606, ZRC 48431, ZRC 48700, ZRC 48845, ZRC 49110, ZRC 49619, ZRC 50464.

Remarks: This is a common species in the EJS.

*Trypauchen vagina* (Bloch & Schneider)

*Trypauchen vagina* – Chong & Sasekumar, 2002: 299 (Sungai Johor estuary); Larson et al., 2008: 139 (off Changi Point, off Pulau Sajahat).

Material examined: ZRC 3517, ZRC 41541.

*Wuhanlinigobius malayensis* Huang, Jaafar & Chen

*Wuhanlinigobius malayensis* Huang, Jaffar & Chen, 2013: 152, Figs. 1b, 2b.

*Calamiana polylepis* – Larson et al., 2008: 141, Fig. 2 (Pasir Ris, Pulau Tekong).

Material examined: ZRC 47532, ZRC 50569, ZRC 50455.

**Ptereleotridae**

*Parioglossus palustris* (Herre)

*Parioglossus palustris* – Larson & Lim, 2005: 156 (Loyang mangroves); Larson et al., 2008: 151 (Sungei Serangoon, Loyang mangroves).

Material examined: ZRC 47662.

**SYNGNATHIFORMES**

**Callionymidae**

*Repomucenus enneactis* (Bleeker)

*Callionymus enneactis* – Ng, 2012a: 27 (Changi).

Material examined: ZRC 7530–7539, ZRC 36689–36690, ZRC 53140.

*Repomucenus erythraeus* (Ninni)

*Callionymus erythraeus* – Ng, 2012a: 29, Figs. 3, 4 (Changi, Punggol).

Material examined: ZRC 40675, ZRC 40707, ZRC 47815, ZRC 52224, ZRC 53279, ZRC 53295–53297, ZRC 53336–53338.

*Repomucenus hindsii* (Richardson)

*Callionymus hindsii* – Ng, 2012a: 29, Fig. 6 (Punggol River).

Material examined: ZRC 53274.

*Repomucenus melanopterus* (Bleeker)

*Callionymus melanopterus* – Ng, 2012a: 32, Fig. 8 (Sungai Seletar, Sungai Punggol).

Material examined: ZRC 7540–7541, ZRC 40569, ZRC 40603, ZRC 53280–53287, ZRC 53290–53291.

*Repomucenus sagitta* (Pallas)

*Callionymus sagitta* – Ng, 2012a: 32, Fig. 10 (Changi).

Material examined: ZRC 41766.

*Repomucenus schaapii* (Bleeker)

*Callionymus schaapii* – Lim & Low, 1998: 132 (Changi); Kwik et al., 2010: 127, 130 (Changi Point).

*Callionymus schaapii* – Ng, 2012a: 34, Fig. 11 (Changi, Punggol, Sungai Simpang, Sungai Seletar).

Material examined: ZRC 3509, ZRC 10564–10566, ZRC 36684–36688, ZRC 40706, ZRC 47814, ZRC 47884, ZRC 47970, ZRC 48787, ZRC 53261–53262, ZRC 53300, ZRC 53275–53277, ZRC 53298–53305, ZRC 53307–53308, ZRC 53319, ZRC 53335.

**Centriscidae**

*Aeoliscus strigatus* (Günther)

Material examined: ZRC 51393.

**Mullidae**

*Upeneus sulphureus* (Cuvier in Cuvier & Valenciennes)

*Upeneus sulphureus* – Chong & Sasekumar, 2002: 297 (Sungai Johor estuary).

Material examined: ZRC 40694, ZRC 46658.

*Upeneus sundaicus* (Bleeker)

*Upenoides sundaicus* – Károli, 1882: 156 (Serangoon).  
Material examined: ZRC 40657, ZRC 40695, ZRC 41754,  
ZRC 47822, ZRC 48783.

*Upeneus tragula* Richardson

*Upeneus tragula* – Chua, 1973: 525 (Punggol estuary); Kwik et al., 2010: 128, 132 (Changi Point).  
Material examined: ZRC 40658, ZRC 52213.

**Pegasidae**

*Pegasus volitans* Linnaeus

*Pegasus volitans* – Kwik et al., 2010: 128, 132 (Changi Point).  
Material examined: ZRC 40315, ZRC 47817.

**Syngnathidae**

*Hippichthys cyanospilos* (Bleeker)

*Hippichthys cyanospilos* – Chua, 2002: 108 (Chek Jawa); 2007: 72 (Changi Beach).  
*Hippichthys cyanospilus* [sic.] – Lim & Low, 1998: 79 (Changi); Kwik et al., 2010: 128, 133 (Changi Point).  
*Hippichthys* sp. – Tan & Yeo, 2003: 155 (Chek Jawa).  
Material examined: LSUMZ 16518, LSUMZ 16783, ZRC 41762, ZRC 46508, ZRC 46522, ZRC 46613, ZRC 46634, ZRC 46669, ZRC 49550, ZRC 49595, ZRC 53531.

*Hippichthys penicillus* (Cantor)

*Hippichthys penicillus* – Chua, 2002: 108 (Chek Jawa).  
Material examined: none.

*Hippichthys spicifer* (Rüppell)

Material examined: ZRC 46633.

*Hippocampus kuda* Bleeker

? *Hippocampus trimaculatus* (non-Leach) – Károli, 1882: 186 (Serangoon).  
*Hippocampus kuda* – Chua, 1973: 525 (Punggol estuary); Lim & Low, 1998: 78 (Changi); Chong & Sasekumar, 2002: 299 (Sungai Johor estuary); Chua, 2002: 51, 108 (Chek Jawa); 2007: 21, 31 (Changi Beach); Kwik et al., 2010: 128, 133 (Changi Point); Yeo, 2013b: 71–73 (Changi Beach).  
*Hippocampus* spp. – Tan & Yeo, 2003: 195–196 (Chek Jawa).  
Unidentified seahorse – Chua, 2007: 176 (Pulau Ubin).  
Material examined: ZRC 40313, ZRC 41241, ZRC 41763a, ZRC 46513, ZRC 47811, ZRC 48785.

*Hippocampus mohnikae* Bleeker

*Hippocampus mohnikae* – Lim, 2013b: 68–69 (Changi Beach).  
Material examined: ZRC 36692, ZRC 41763b, ZRC 45619, ZRC 49864, ZRC 47812, ZRC 54290.

*Ichthyocampus carce* (Hamilton)

Material examined: LSUMZ 16521, LSUMZ 16606, LSUMZ 16809, LSUMZ 17030, ZRC 47787, ZRC 48708, ZRC 48833, ZRC 48848, ZRC 49535, ZRC 49655.

*Micrognathus micronotopterus* (Fowler)

*Micrognathus micronotopterus* – Chua, 2002: 108 (Chek Jawa).  
Material examined: ZRC 46509, ZRC 46526.

*Syngnathoides biaculeatus* (Bloch)

*Syngnathus biaculeatus* – Chua, 1973: 525 (Punggol estuary).  
Material examined: none.

**SCOMBRIFORMES**

**Scomberidae**

*Scomberomorus commerson* (Lacepède)

*Scomberomorus commerson* – Chong & Sasekumar, 2002: 298 (Sungai Johor estuary).  
Material examined: none.

*Scomberomorus lineolatus* (Cuvier)

*Scomberomorus lineolatum* – Chua, 1973: 526 (Punggol estuary).  
Material examined: none.

**Stromateidae**

*Pampus argenteus* (Euphrasen)

*Stromateus argenteus* – Károli, 1882: 162 (Serangoon).  
Material examined: ZRC 49826.

*Pampus chinensis* (Euphrasen)

*Pampus chinensis* – Chong & Sasekumar, 2002: 298 (Sungai Johor estuary); Tan, 2008: 140 (Johor Strait off Pulau Tekong).  
Material examined: ZRC 50217, ZRC 51495.  
Remarks: The juvenile of this species apparently mimics a pelagic jellyfish (Tan, 2008).

**Trichiuridae**

*Lepturacanthus savala* (Cuvier)

*Trichiurus savala* – Chong & Sasekumar, 2002: 299 (Sungai Johor estuary).  
Material examined: none.

*Trichiurus lepturus* Linnaeus

*Trichiurus haumela* [sic.] – Chua, 1973: 526 (Punggol estuary); Chong & Sasekumar, 2002: 299 (Sungai Johor estuary).  
Material examined: LSUMZ 16533, LSUMZ 16752, ZRC 46661, ZRC 49685, ZRC 49802, ZRC 52109.

## ANABANTIFORMES

### Osphronemidae

*Trichopodus trichopterus* (Pallas)

Material examined: ZRC 48050.

Remarks: This is a freshwater species that was apparently washed out from a creek draining into the mangrove swamp in Sungai Simpang estuary when it was collected.

## CARANGIMORPHARIAE INCERTA SEDIS

### Centropomidae

*Lates calcarifer* (Bloch)

*Lates calcarifer* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary); Chua, 2002: 108 (Chek Jawa).

Material examined: LSUMZ 16513, LSUMZ 17031, LSUMZ 17048, ZRC 46467, ZRC 49076, ZRC 49443, ZRC 52083.

Remarks: An important subject for commercial cage culture in the Johor Straits. Individuals encountered in the wild could be escapees (Jaafar et al., 2012).

*Psammoperca waigiensis* (Cuvier)

*Psammoperca waigiensis* – Chua, 2002: 108 (Chek Jawa); Kwik et al., 2010: 127, 131 (Changi Point).

Material examined: ZRC 46468.

### Menidae

*Mene maculata* (Bloch & Schneider)

*Mene maculata* – Lim & Low, 1998: 105 (off Yishun).

Material examined: none.

Remarks: The record of this species from the EJS is based on a photograph of a specimen collected off Yishun in Lim & Low (1998).

### Polynemidae

*Eleutheronema tetradactylum* (Shaw)

*Pomadasys* [sic.] *tetradactylum* – Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang).

Material examined: ZRC 49668.

Remarks: This species is commercially farmed in net cages locally (Chou & Lee, 1997). It is likely that some examples in the wild are farm escapees.

*Leptomelanosoma indicum* (Shaw)

*Polynemus indicus* – Chong & Sasekumar, 2002: 297 (Sungai Johor estuary).

Material examined: ZRC 49773.

## Sphyraenidae

*Sphyraena jello* Cuvier

*Sphyraena jello* – Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); Kwik et al., 2010: 128, 133 (Changi Point).

Material examined: LSUMZ 16812, LSUMZ 17037, ZRC 46655, ZRC 48898, ZRC 48907, ZRC 48962, ZRC 49023, ZRC 49404, ZRC 49423, ZRC 49438, ZRC 49501, ZRC 49594, ZRC 49603, ZRC 49662, ZRC 51948.

Remarks: This is a common species in the EJS.

*Sphyraena flavicauda* Rüppell

*Sphyraena langsar* – Chua, 1973: 525 (Punggol estuary).

Material examined: none.

## Toxotidae

*Toxotes chatareus* (Hamilton)

Material examined: none.

Remarks: The inclusion of this species here is based on live individuals sighted (but not captured) off the Sungai Seletar dam by HHT.

*Toxotes jaculatrix* (Pallas)

*Toxotes jaculator* – Chua, 1973: 526 (Punggol estuary); Chong & Sasekumar, 2002: 299 (Sungai Johor estuary).

Material examined: LSUMZ 16667, LSUMZ 16693, ZRC 48419, ZRC 48709, ZRC 48835, ZRC 48849, ZRC 52363, ZRC 52406.

## ISTIOPHORIFORMES

### Istiophoridae

*Istiompax indica* (Cuvier in Cuvier & Valenciennes)

Material examined: none.

Remarks: The record of this species from the EJS is based on a specimen of approximately 3000 mm total length that was trapped in a kelong (offshore fishing trap) off Punggol in June 1995 (Chang, 1995).

## CARANGIFORMES

### Carangidae

*Alectis indica* (Rüppell)

*Alectis indicus* – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary); Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: LSUMZ 17045, ZRC 49482, ZRC 49664, ZRC 49831, ZRC 50703, ZRC 51149.

*Alepes djedaba* (Forsskål)

*Alepes djedaba* – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary).

Material examined: ZRC 49712, ZRC 49825, ZRC 49832.

*Alepes melanoptera* (Swainson)

Material examined: LSUMZ 16642, ZRC 49713.

*Atule mate* (Cuvier in Cuvier & Valenciennes)

*Selar mate* – Chua, 1973: 525 (Punggol estuary).

Material examined: none.

Remarks: The record of this species from the EJS is also based on a photograph of a specimen (not preserved) caught at Sembawang in 2013 by an angler.

*Caranx ignobilis* (Forsskål)

Material examined: ZRC 49780.

*Caranx sexfasciatus* Quoy & Gaimard

Material examined: ZRC 49838.

*Gnathanodon speciosus* (Forsskål)

*Gnathanodon speciosus* – Chua, 2002: 108 (Chek Jawa); Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: LSUMZ 16814, LSUMZ 17038, ZRC 49815, ZRC 49830.

*Megalaspis cordyla* (Linnaeus)

*Megalaspis cordyla* – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary).

Material examined: none.

*Olistus armatus* (Forsskål)

Material examined: LSUMZ 16745.

*Olistus praeustus* (Anonymous [Bennett])

?*Carangoides equula* (non-Temminck & Schlegel) – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary).

*Carangoides praeustus* – Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang).

Material examined: ZRC 46578, ZRC 48888, ZRC 49026, ZRC 49427, ZRC 49483, ZRC 52424.

*Parastromateus niger* (Bloch)

*Pampus niger* – Chong & Sasekumar, 2002: 298 (Sungai Johor estuary).

*Parastromateus niger* – Tan, 2009: 168 (Johor Straits off Pulau Ubin).

Material examined: LSUMZ 17039, ZRC 50394.

*Scomberoides commersonianus* Lacepède

*Scomberoides commersonianus* – Chua, 2002: 108 (Chek Jawa); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang).

Material examined: ZRC 46473, ZRC 48889, ZRC 49484, ZRC 49735, ZRC 50202.

*Scomberoides lysan* (Forsskål)

*Scomberoides lysan* – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary).

Material examined: ZRC 49734.

*Selaroides leptolepis* (Cuvier)

*Selaroides leptolepis* – Chua, 1973: 525 (Punggol estuary).

Material examined: none.

*Trachinotus blochii* (Lacepède)

Material examined: LSUMZ 16534, LSUMZ 16744, ZRC 52373, ZRC 52403.

Remarks: This species is commonly reared in net cages in the Johor Straits (Chou & Lee, 1997). Examples caught in the wild may be farm escapees.

**Echeneidae**

*Echeneis naucrates* Linnaeus

*Echeneis naucrates* – Károli, 1882: 162 (Serangoon).

Material examined: LSUMZ 17047, ZRC 49828, ZRC 53447.

**Rachycentridae**

*Rachycentron canadum* (Linnaeus)

*Elacate nigra* – Károli, 1882: 162 (in Serangoon River).

Material examined: none.

Remarks: The record of this species from EJS is also based on photographs of specimens (not preserved) caught off Changi in 2003 and 2009 by anglers. The cobia is also reared in net cages for human consumption (Jaafar et al., 2012).

**PLEURONECTIFORMES**

**Cynoglossidae**

*Cynoglossus arel* (Bloch & Schneider)

Material examined: LSUMZ 16526, LSUMZ 16575.

*Cynoglossus cynoglossus* (Hamilton)

*Cynoglossus cynoglossus* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary).

Material examined: none.

*Cynoglossus kopsii* (Bleeker)

Material examined: LSUMZ 16573, LSUMZ 16583, LSUMZ 16663.

*Cynoglossus lingua* Hamilton

*Cynoglossus lingua* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary).

*Cynoglossus lingua* [sic.] – Chua, 1973: 526 (Punggol estuary).

Material examined: LSUMZ 17034, ZRC 53457.

*Cynoglossus macrolepidotus* (Bleeker)

Material examined: ZRC 52475.

*Cynoglossus puncticeps* (Richardson)

*Cynoglossus brachyrhynchus* [sic.] – Károli, 1882: 177 (Serangoon, Seletar).

*Cynoglossus puncticeps* – Lim & Low, 1998: 148 (Changi); Chua, 2002: 109 (Chek Jawa); Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: LSUMZ 16574, LSUMZ 16579, ZRC 41774, ZRC 46475, ZRC 46537, ZRC 46628, ZRC 48789, ZRC 52203, ZRC 53475.

*Paraplagusia bilineata* (Bloch)

*Paraplagusia bilineata* – Chua, 2002: 109 (Chek Jawa).

Material examined: LSUMZ 16617.

**Paralichthyidae**

*Pseudorhombus arsius* (Hamilton)

*Pseudorhombus Russelii* – Károli, 1882: 176 (Serangoon).

? *Pseudorhombus natalensis* (non-Gilchrist) – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary).

*Pseudorhombus* [sic.] *arsius* – Chua, 2002: 109 (Chek Jawa).

*Pseudorhombus arsius* – Kwik et al., 2010: 128, 132 (Changi Point).

Material examined: LSUMZ 16494, ZRC 46629.

*Pseudorhombus elevatus* Ogilby

Fig. 1a

Material examined: LSUMZ 16603, LSUMZ 16619.

Remarks: This is a new record for Singapore waters.

*Pseudorhombus javanicus* (Bleeker)

Material examined: ZRC 53647.

*Pseudorhombus neglectus* Bleeker

Material examined: ZRC 53477.

**Psettodidae**

*Psettodes erumei* (Bloch & Schneider)

*Psettodes erumei* – Károli, 1882: 175 (Serangoon); Chua, 1973: 526 (Punggol estuary); Chua, 2002: 109 (Chek Jawa).

Material examined: ZRC 50211, ZRC 50635, ZRC 50955.

**Soleidae**

*Brachirus heterolepis* (Bleeker)

Material examined: ZRC 41769, ZRC 49862.

*Brachirus orientalis* (Bloch & Schneider)

*Brachirus* sp. – Chua, 1973: 526 (Punggol estuary).

*Brachirus orientalis* – Kwik et al., 2010: 128, 133 (Changi Point).

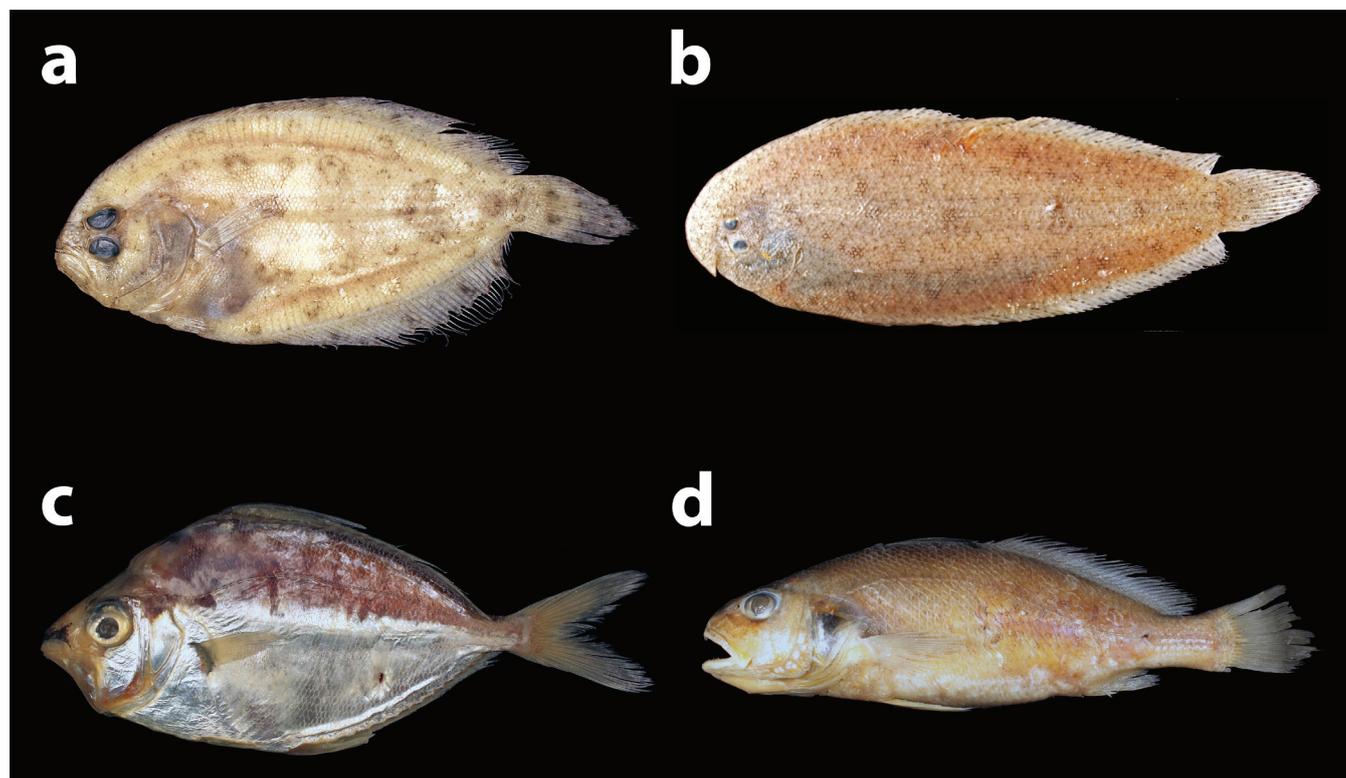


Fig. 1. Four species of marine fishes recorded as new for Singapore in this study: a, *Pseudorhombus elevatus*, LSUMZ 16603, 88.0 mm SL; b, *Heteromycteris hartzfeldii*, LSUMZ 16615, 97.6 mm SL; c, *Nuclequula manusella*, LSUMZ 16740, 86.6 mm SL; d, *Johnius carouna*, LSUMZ 16646, 151.3 mm SL. Images not to scale.

Material examined: LSUMZ 16817, ZRC 49716, ZRC 49720, ZRC 49731, ZRC 49769.

*Dagetichthys commersonii* (Lacepède)

*Synaptura Commersoniana* – Károli, 1882: 176 (Serangoon).

*Synaptura commersoniana* – Chua, 2002: 109 (Chek Jawa).

? *Solea elongata* (non-Day) – Chong & Sasekumar, 2002: 298 (Sungai Johor estuary).

Material examined: ZRC 41770, ZRC 47351, ZRC 53530.

*Heteromycteris hartzfeldii* (Bleeker)

Fig. 1b

Material examined: LSUMZ 16615.

Remarks: This is a new record for Singapore waters.

*Pardachirus pavoninus* (Lacepède)

*Pardachirus pavoninus* – Károli, 1882: 176 (Serangoon); Tan & Yeo, 2003: 158 (Chek Jawa); Chua, 2007: 112 (Chek Jawa, Beting Bronok).

Material examined: ZRC 50622.

*Solea ovata* Richardson

*Solea ovata* – Lim & Low, 1998: 146 (Sg. Seletar); Chong & Sasekumar, 2002: 298 (Sungai Johor estuary).

Material examined: LSUMZ 16572, LSUMZ 16625, LSUMZ 16716, LSUMZ 16720, LSUMZ 16816, ZRC 49422, ZRC 53456.

*Zebrias quagga* (Kaup)

Material examined: ZRC 40692.

*Zebrias zebra* (Bloch)

*Synaptura zebra* – Károli, 1882: 176 (Serangoon).

*Zebrias zebra* – Lim & Low, 1998: 147 (Changi); Kwik et al., 2010: 128, 133 (Changi Point).

Material examined: LSUMZ 16776, ZRC 52202.

**OVALENTARIAE INCERTA SEDIS**

**Ambassidae**

*Ambassis interrupta* Bleeker

?*Ambassis batjanensis* (non-Bleeker) – Károli, 1882: 151 (in river Changi).

*Ambassis interrupta* – Chua, 2002: 108 (Chek Jawa); Jaafar et al., 2004: 117 (Pasir Ris).

*Ambassis interruptus* – Hajisamae & Chou, 2003: 283 (Pasir Ris); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); 2004: 64, 65, 66 (Changi, Pasir Ris, Sembawang).

Material examined: ZRC 31528, ZRC 46510, ZRC 48681, ZRC 48815.

*Ambassis kopsii* Bleeker

*Ambassis kopsii* – Herre in Herre & Myers, 1937: 25 (Pulau Ubin).

*Chanda kopsii* – Chua, 1973: 525 (Punggol estuary).

*Ambassis kopsii* – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary); Chua, 2002: 108 (Chek Jawa); Hajisamae & Chou, 2003: 283 (Changi, Pasir Ris, Sembawang); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); 2004: 64, 65, 66 (Changi, Pasir Ris, Sembawang); Jaafar et al., 2004: 117 (Pasir Ris); Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: ANSP 77819, CAS-SU 30403, LSUMZ 16509, LSUMZ 16516, LSUMZ 16607, LSUMZ 16650, LSUMZ 16681, LSUMZ 16699, LSUMZ 16749, LSUMZ 16754, LSUMZ 16793, LSUMZ 16824, ZRC 30677–30678, ZRC 31521–31524, ZRC 46459, ZRC 46530, ZRC 46612, ZRC 46489, ZRC 48417, ZRC 48453, ZRC 48711, ZRC 48717, ZRC 48788, ZRC 48890, ZRC 48900, ZRC 48956, ZRC 49003, ZRC 49009, ZRC 49016, ZRC 49027, ZRC 49071, ZRC 49077, ZRC 49104, ZRC 49115, ZRC 49373, ZRC 49391, ZRC 49407, ZRC 49428, ZRC 49474, ZRC 49485, ZRC 49505, ZRC 49516, ZRC 49525, ZRC 49537, ZRC 49606, ZRC 49700, ZRC 50859.

Remarks: This is a very common species in the EJS.

*Ambassis nalua* (Hamilton)

*Ambassis nalua* – Chua, 2002: 108 (Chek Jawa).

Material examined: CAS-SU 30396, ZRC 46488, ZRC 46645, ZRC 47806.

*Ambassis vachellii* Richardson

?*Ambassis macracanthus* – Károli, 1882: 151 (in river Serangoon).  
*Ambassis gymnocephalus* (non Lacepède) – Herre in Herre & Myers, 1937: 25 (Pulau Ubin); Chong & Sasekumar, 2002: 294 (Sungai Johor estuary).

*Ambassis vachellii* – Lim & Low, 1998: 86 (Pulau Ubin); Hajisamae & Chou, 2003: 283 (Changi, Pasir Ris).

*Chanda gymnocephalus* (non Lacepède) – Chua, 1973: 525 (Punggol estuary).

*Priopis buruensis* (non Bleeker) – Herre in Herre & Myers, 1937: 25 (Pulau Ubin).

Material examined: CAS-SU 30396, CAS-SU 30399, LSUMZ 16510, LSUMZ 16669, ZRC 30569–30579, ZRC 48452, ZRC 48777, ZRC 49078.

**Pomacentridae**

*Abudefduf bengalensis* (Bloch)

Material examined: ZRC 50208.

*Abudefduf vaiensis* (Quoy & Gaimard)

Material examined: ANSP 77818, ZRC 49695.

*Dischistodus fasciatus* (Cuvier in Cuvier & Valenciennes)

Material examined: ANSP 53498.

*Pomacentrus littoralis* (Cuvier in Cuvier & Valenciennes)

Material examined: ZRC 49748, ZRC 49855, ZRC 49857.

*Pomacentrus tripunctatus* Cuvier in Cuvier & Valenciennes

*Pomacentrus tripunctatus* – Chua, 2007: 97 (Pulau Sekudu).

Material examined: none.

Remarks: The record of this species from the EJS is also based on a photograph of a live specimen (not preserved) caught at Changi Point by an angler in 2009.

**Pseudochromidae**

*Congrogadus subducens* (Richardson)

*Congrogadus subducens* – Chua, 2002: 58, 109 (Chek Jawa); Tan & Yeo, 2003: 200 (Chek Jawa).

Material examined: CAS 35623, ZRC 50571, ZRC 51914, ZRC 53529.

**CICHLIFORMES**

**Cichlidae**

*Cichlasoma urophthalmum* (Günther)

Material examined: LSUMZ 16784, ZRC 48817, ZRC 49539, ZRC 51013.

*Etroplus suratensis* (Bloch)

Material examined: LSUMZ 16686, ZRC 41700, ZRC 48682, ZRC 48816, ZRC 49004, ZRC 49028, ZRC 49079, ZRC 49374, ZRC 49429, ZRC 49444, ZRC 49506, ZRC 49526, ZRC 49538, ZRC 51709–51711, ZRC 52495.

*Oreochromis mossambicus* (Peters)

*Tilapia mossambica* – Chua, 1973: 526 (Punggol estuary).

Material examined: LSUMZ 16785.

*Paraneetroplus melanurus* (Günther)

Material examined: ZRC 48071.

**ATHERINIFORMES**

**Atherinidae**

*Atherinomorus duodecimalis* (Valenciennes in Cuvier & Valenciennes)

*Atherina duodecimalis* – Chua, 1973: 525 (Punggol estuary).

*Atherinomorus duodecimalis* – Chua, 2002: 108 (Chek Jawa); Hajisamae & Chou, 2003: 283 (Sembawang); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: LSUMZ 16658, ZRC 46499, ZRC 46529, ZRC 46644, ZRC 48710, ZRC 48887, ZRC 49070, ZRC 49524, ZRC 49577, ZRC 49837.

*Hypoatherina valenciennesi* (Bleeker)

*Atherina valenciennesi* [sic.] – Chua, 1973: 525 (Punggol estuary).

*Hypoatherina* sp. – Chua, 2002: 108 (Chek Jawa).

*Hypoatherina valenciennesi* – Hajisamae & Chou, 2003: 283 (Sembawang); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang).

Material examined: ZRC 31529–31530, ZRC 46500, ZRC 46614, ZRC 49024, ZRC 49390, ZRC 50542.

**Phallostethidae**

*Neostethus bicornis* Regan

Material examined: ZRC 48704, ZRC 48831, ZRC 48847, ZRC 49452, ZRC 49498.

*Neostethus lankesteri* Regan

*Neostethus lankesteri* – Chong & Sasekumar, 2002: 297 (Sungai Johor estuary).

*Neostethus* sp. – Chua, 2002: 108 (Chek Jawa).

Material examined: LSUMZ 16666, ZRC 48415, ZRC 48445, ZRC 48705, ZRC 48895, ZRC 48905, ZRC 49386.

**BELONIFORMES**

**Adrianichthyidae**

*Oryzias javanicus* (Bleeker)

*Haplochisus* [sic.] *javanicus* – Károli, 1882: 181 (Serangoon).

Material examined: LSUMZ 16673, LSUMZ 16782, ZRC 47789, ZRC 48421, ZRC 48679, ZRC 48716, ZRC 48812, ZRC 48836, ZRC 48899, ZRC 49103, ZRC 49441, ZRC 49469, ZRC 49515, ZRC 49523, ZRC 49605.

**Belonidae**

*Strongylura leiura* (Bleeker)

*Tylosurus leiurus* – Chua, 1973: 524 (Punggol estuary).

Material examined: none.

*Strongylura strongylura* (van Hasselt)

*Strongylura strongylura* – Chong & Sasekumar, 2002: 294 (Sungai Johor estuary); Chua, 2002: 108 (Chek Jawa); Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: ZRC 46465, ZRC 49684, ZRC 52496.

*Tylosurus crocodilus* (Péron & Lesueur)

Material examined: LSUMZ 16656.

**Hemiramphidae**

*Hemiramphus far* (Forsskål)

*Hemiramphus far* – Chua, 1973: 525 (Punggol estuary).

? *Hemiramphus marginatus* (non-Forsskål) – Chong & Sasekumar, 2002: 296 (Sungai Johor estuary).

Material examined: ZRC 49750.

*Hyporhamphus limbatus* (Valenciennes in Cuvier & Valenciennes)

*Hyporhamphus limbatus* – Lim & Low, 1998: 74 (Changi); Kwik et al., 2010: 127, 131 (Changi Point).

Material examined: ZRC 41748, ZRC 46458, ZRC 46606, ZRC 49091, ZRC 49621, ZRC 50531–50533.

*Hyporhamphus quoyi* (Valenciennes in Cuvier & Valenciennes)

*Hyporhamphus quoyi* – Kwik et al., 2010: 127, 131 (Changi Point).  
Material examined: LSUMZ 16755.

**Zenarchopteridae***Dermogenys collettei* Meisner

*Dermogenys pusilla* (non Kuhl & van Hasselt) – Lim & Low, 1998: 75 (Senoko).

*Hemirhamphus sumatranus* (non-Bleeker) – Károli, 1882: 182 (Changi).

Material examined: LSUMZ 16829, ZRC 31536–31539, ZRC 47788, ZRC 48701.

*Zenarchopterus buffonis* (Valenciennes in Cuvier & Valenciennes)

? *Hemirhamphus amblyurus* (non-Bleeker) – Károli, 1882: 182 (Changi).

*Hemirhamphus buffonis* – Duncker, 1904: 170 (Changi).

*Zenarchopterus buffonis* – Herre in Herre & Myers, 1937: 17 (Pulau Ubin); Chua, 2002: 108 (Chek Jawa).

? *Hemirhamphus marginatus* (non-Forskål) – Chua, 1973: 525 (Punggol estuary).

? *Zenarchopterus dispar* (non-Valenciennes) – Chong & Sasekumar, 2002: 296 (Sungai Johor estuary).

Material examined: LSUMZ 16506, LSUMZ 16687, LSUMZ 17018, ZRC 46503, ZRC 46540, ZRC 46637, ZRC 52497, ZRC 53473.

*Zenarchopterus gilli* Smith

Material examined: ZRC 48449, ZRC 48712, ZRC 49384, ZRC 49401, ZRC 49433, ZRC 49496.

**CYPRINODONTIFORMES****Aplocheilidae***Aplocheilus panchax* (Hamilton)

Material examined: ZRC 49075, ZRC 48851, ZRC 48300, ZRC 48197, ZRC 47871, ZRC 48026.

**Poeciliidae***Poecilia sphenops* (Valenciennes in Cuvier & Valenciennes)

Material examined: LSUMZ 16786, ZRC 48706, ZRC 48896, ZRC 49114, ZRC 49472.

**MUGILIFORMES****Mugilidae***Chelon macrolepis* (Smith)

*Mugil borneensis* – Károli, 1882: 170 (Serangoon, Changi).

Material examined: none.

*Chelon planiceps* (Valenciennes)

*Liza tade* – Chong & Sasekumar, 2002: 297 (Sungai Johor estuary); Jaafar et al., 2004: 117 (Pasir Ris).

Material examined: none.

*Chelon subviridis* (Valenciennes)

*Liza subviridis* – Chong & Sasekumar, 2002: 297 (Sungai Johor estuary); Chua, 2002: 109 (Chek Jawa).

*Mugil dussumieri* – Chua, 1973: 525 (Punggol estuary).

Material examined: CAS-SU 32736, ZRC 46461, ZRC 46484, ZRC 46610.

*Ellochelon vaigiensis* (Quoy & Gaimard)

*Mugil vaigiensis* – Károli, 1882: 169 (Serangoon).

*Mugil vaigiensis* – Duncker, 1904: 166 (Changi); Fowler, 1931: 444 (Pulau Ubin).

*Ellochelon vaigiensis* – Lim & Low, 1998: 72 (Pulau Ubin); Chua, 2002: 109 (Chek Jawa); Kwik et al., 2010: 128, 132 (Changi Point).

*Liza vaigiensis* – Hajisamae & Chou, 2003: 283 (Changi, Pasir Ris, Sembawang); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); 2004: 64, 65, 66 (Changi, Pasir Ris, Sembawang); Jaafar et al., 2004: 117 (Pasir Ris).

Material examined: ANSP 77801, LSUMZ 16588, LSUMZ 16652, LSUMZ 16682, LSUMZ 16704, ZRC 30564, ZRC 46483, ZRC 46609, ZRC 49509, ZRC 49519, ZRC 49749, ZRC 50868, ZRC 51148, ZRC 52084, ZRC 52467, ZRC 52493.

Remarks: This is a common species in the EJS.

*Liza melinoptera* (Valenciennes in Cuvier & Valenciennes)

*Liza melinoptera* – Chong & Sasekumar, 2002: 297 (Sungai Johor estuary).

Material examined: ANSP 77802, ZRC 53449.

*Liza subviridis* (Valenciennes in Cuvier & Valenciennes)

Material examined: ZRC 51251, ZRC 53472.

*Moolgarda perusii* (Valenciennes in Cuvier & Valenciennes)

*Mugil longimanus* – Herre in Herre & Myers, 1937: 20 (Pulau Ubin).

Material examined: CAS-SU 30793, ZRC 51245–51247, ZRC 51250.

*Mugil cephalus* Linnaeus

Material examined: ZRC 49779.

Remarks: In the Johor Straits, this species is commercially reared in large numbers in net cages. Although the EJS is well within its native distribution, it is likely that the population of this species here includes fish farm escapees.

*Paramugil parmatus* (Cantor)

*Liza parmata* – Hajisamae & Chou, 2003: 283 (Changi, Pasir Ris); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang).

Material examined: ZRC 49624.

*Valamugil seheli* (Forsskål)

*Valamugil seheli/buchananis?* – Chong & Sasekumar, 2002: 297 (Sungai Johor estuary).

Material examined: none.

**BLENIIMORPHAE INCERTA SEDIS**

**Opistognathidae**

*Stalix* sp.

Material examined: ZRC 50385.

**BLENIIFORMES**

**Blenniidae**

*Omobranchus ferox* (Herre)

Material examined: LSUMZ 16792, ZRC 47149, ZRC 47529, ZRC 48776, ZRC 48814, ZRC 49025.

*Omobranchus punctatus* (Valenciennes in Cuvier & Valenciennes)

Material examined: ZRC 53461.

*Petroscirtes variabilis* Cantor

*Petroscirtes variabilis* – Lim & Low, 1998: 133 (Changi); Tan & Yeo, 2003: 198 (Chek Jawa).

Material examined: LSUMZ 16647.

**PERCOMORPHARIA INCERTA SEDIS**

**Caesionidae**

*Caesio cuning* (Bloch)

Material examined: ZRC 49703, ZRC 49753, ZRC 49842.

**Centrogenyidae**

*Centrogenys vaigiensis* (Quoy & Gaimard)

*Centrogenys vaigiensis* – Chua, 1973: 525 (Punggol estuary); Chua, 2002: 108 (Chek Jawa); Kwik et al., 2010: 128, 132 (Changi Point).

Material examined: LSUMZ 16511, LSUMS 16587, LSUMS 16659, ZRC 46493, ZRC 47864.

**Chaetodontidae**

*Chaetodon octofasciatus* Bloch

*Chaetodon octofasciatus* – Kwik et al., 2010: 127, 130 (Changi Point).

Material examined: none.

*Chelmon rostratus* (Linnaeus)

*Chelmon rostratus* – Chua, 2002: 59 (Chek Jawa); 2007: 116 (Chek Jawa); Tan & Yeo, 2003: 197 (Chek Jawa).

Material examined: ZRC 46600, ZRC 49841, ZRC 52428.

*Parachaetodon ocellatus* (Cuvier)

*Chaetodon oligacanthus* – Károli, 1882: 155 (Seletar).

*Parachaetodon ocellatus* – Chong & Sasekumar, 2002: 295 (Sungai Johor estuary); Chua, 2002: 59, 108 (Chek Jawa); 2007: 99 (Beting Bronok); Tan & Yeo, 2003: 197 (Chek Jawa).

Material examined: LSUMZ 16598, LSUMZ 16618, LSUMZ 16633, LSUMZ 16664, LSUMZ 16748, LSUMZ 16799, ZRC 46481, ZRC 46632, ZRC 47852, ZRC 49817, ZRC 52427, ZRC 52512.

**Gerreidae**

*Gerres erythrourus* (Bloch)

*Gerres abbreviatus* – Chua, 1973: 525 (Punggol estuary); Chong & Sasekumar, 2002: 296 (Sungai Johor estuary); Hajisamae & Chou, 2003: 283 (Sembawang); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); Jaafar et al., 2004: 117 (Pasir Ris).

*Gerres* cf. *abbreviatus* – Chua, 2002: 108 (Chek Jawa).

Material examined: LSUMZ 16653, LSUMZ 16683, LSUMZ 16703, ZRC 48891, ZRC 49005, ZRC 49011, ZRC 49030, ZRC 49081, ZRC 49117, ZRC 49378, ZRC 49394, ZRC 49411, ZRC 49475, ZRC 49489, ZRC 49507, ZRC 49517, ZRC 49527, ZRC 49540, ZRC 49611, ZRC 51942.

Remarks: Often identified in literature as *Gerres abbreviatus*, which is a junior synonym (Iwatsuki et al., 1998). This is a common species in the EJS.

*Gerres filamentosus* Cuvier

*Gerres punctatus* – Károli, 1882: 155 (Serangoon).

Material examined: none.

*Gerres limbatus* Cuvier in Cuvier & Valenciennes

*Gerres limbatus* – Károli, 1882: 155 (Serangoon)  
*Gerres lucidus* – Fowler, 1931: 446 (Pulau Tekong).  
 Material examined: ANSP 77810.

*Gerres longirostris* (Lacepède)

Material examined: ZRC 49736.

*Gerres macracanthus* Bleeker

Material examined: ZRC 49528.

*Gerres oyena* (Forsskål)

*Gerres argyreus* – Károli, 1882: 155 (Serangoon).  
 ? *Gerres oblongus* (non-Cuvier) – Chua, 1973: 525 (Punggol estuary).  
*Gerres oyena* – Chua, 2002: 108 (Chek Jawa); Hajisamae & Chou, 2003: 283 (Sembawang); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); Hajisamae et al., 2004: 64, 65, 66 (Changi, Pasir Ris, Sembawang).  
*Gazza* [sic.] *oyena* – Kwik et al., 2010: 127, 131 (Changi Point).  
 Material examined: LSUMZ 16522, LSUMZ 16595, LSUMZ 16631, LSUMZ 16660, ZRC 46485, ZRC 46521, ZRC 46618, ZRC 46643, ZRC 47819, ZRC 49031, ZRC 49118, ZRC 49379, ZRC 49529, ZRC 49541, ZRC 49600.  
 Remarks: This is a common species in the EJS.

*Pentaprion longimanus* (Cantor)

*Pentaprion longimanus* – Chong & Sasekumar, 2002: 296 (Sungai Johor estuary).  
 Material examined: none.

**Haemulidae**

*Diagramma pictum* (Thunberg)

? *Diagramma punctatum* – Károli, 1882: 153 (Serangoon).  
*Spilotichthys* sp. – Chua, 1973: 525 (Punggol estuary).  
*Diagramma labiosum* (non Macleay) – Kwik et al., 2010: 127, 131 (Changi Point).  
*Diagramma pictum* – Lim, 2013a: 15 (Changi Beach near Changi Ferry Terminal).  
 Material examined: ZRC 49683, ZRC 49690, ZRC 49757.

*Plectorhinchus chrysotaenia* (Bleeker)

*Plectorhinchus* sp. – Tan & Yeo, 2003: 161 (Chek Jawa).  
 Material examined: LSUMZ 16602, ZRC 52407.

*Plectorhinchus gibbosus* (Lacepède)

*Diagramma affine* – Duncker, 1904: 149 (Changi).  
*Plectorhinchus gibbosus* – Lim & Low, 1998: 96 (Changi).  
*Plectorhinchus* [sic.] *gibbosus* – Chua, 2002: 109 (Chek Jawa).  
 Material examined: LSUMZ 17050, ZRC 38041, ZRC 41759, ZRC 46631, ZRC 49620, ZRC 49765, ZRC 52223.

*Pomadasys argenteus* (Forsskål)

*Pomadasys hasta* – Chong & Sasekumar, 2002: 296 (Sungai Johor estuary).  
 Material examined: ZRC 46574.

*Pomadasys auritus* (Cuvier in Cuvier & Valenciennes)

Material examined: ZRC 49680, ZRC 49723, ZRC 50205, ZRC 52468.

*Pomadasys kaakan* (Cuvier in Cuvier & Valenciennes)

*Pomadasys kaakan* – Chua, 2002: 109 (Chek Jawa); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); Jaafar et al., 2004: 117 (Pasir Ris).  
 Material examined: ZRC 41758, ZRC 48893, ZRC 49090, ZRC 49477, ZRC 49495, ZRC 49737, ZRC 49760, ZRC 49768, ZRC 50216, ZRC 53459.

*Pomadasys maculatus* (Bloch)

*Pomadasys maculata* – Chua, 1973: 525 (Punggol estuary).  
*Pomadasys maculatus* – Chong & Sasekumar, 2002: 296 (Sungai Johor estuary).  
*Pomadasys maculatum* – Kwik et al., 2010: 127, 131 (Changi Point).  
 Material examined: ZRC 40690, ZRC 49478, ZRC 52212.

**Kyphosidae**

*Kyphosus vaigiensis* (Quoy & Gaimard)

*Pimelepterus lembus* – Károli, 1882: 157.  
 Material examined: none.

**Leiognathidae**

*Deveximentum hanedai* (Mochizuki & Hayashi)

? *Leiognathus ruconius* (non-Hamilton) – Chua, 1973: 525 (Punggol estuary).  
*Secutor hanedai* – Lim & Low, 1998: 104 (off Yishun); Kwik et al., 2010: 127, 131 (Changi Point).  
*Secutor ruconius* (non Hamilton) – Hajisamae & Chou, 2003: 283 (Changi, Pasir Ris); Chong & Sasekumar, 2002: 296 (Sungai Johor estuary).  
 Material examined: LSUMZ 16710, LSUMZ 16742, ZRC 40682, ZRC 46663.

*Deveximentum insidiator* (Bloch)

*Secutor insidiator* – Chong & Sasekumar, 2002: 296 (Sungai Johor estuary).  
 Material examined: none.

*Equulites leuciscus* (Günther)

? *Leiognathus berbis* – Chua, 1973: 525 (Punggol estuary).  
*Leiognathus elongatus* (non Günther) – Kwik et al., 2010: 127, 131 (Changi Point).  
 Material examined: LSUMZ 16558, ZRC 36667–36678.

*Equulites lineolatus* (Valenciennes)

*Leiognathus lineolatus* – Chua, 1973: 525 (Punggol estuary).  
Material examined: none.

*Equulites stercorarius* (Evermann & Seale)

*Leiognathus stercorarius* – Chong & Sasekumar, 2002: 296 (Sungai Johor estuary); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang).

Material examined: ZRC 40681, ZRC 40696, ZRC 41764, ZRC 49582, ZRC 50951.

*Eubleekeria splendens* (Cuvier)

*Leiognathus splendens* – Chua, 1973: 525 (Punggol estuary); Chong & Sasekumar, 2002: 296 (Sungai Johor estuary).

Material examined: LSUMZ 16711, LSUMZ 16820, ZRC 53451.

*Gazza minuta* (Bloch)

*Gazza minuta* – Chua, 1973: 525 (Punggol estuary); Lim & Low, 1998: 103 (off Yishun); Chong & Sasekumar, 2002: 296 (Sungai Johor estuary); Kwik et al., 2010: 127, 131 (Changi Point).

Material examined: LSUMZ 16741, ZRC 49820, ZRC 52115.

*Karalla daura* (Cuvier)

*Equula daura* – Károli, 1882: 161 (Serangoon).

Material examined: none.

*Leiognathus brevirostris* (Valenciennes)

*Leiognathus brevirostris* – Chua, 1973: 525 (Punggol estuary); Chong & Sasekumar, 2002: 296 (Sungai Johor estuary).

Material examined: none.

*Leiognathus equula* (Forsskål)

*Leiognathus equulus* – Chong & Sasekumar, 2002: 296 (Sungai Johor estuary); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); Kwik et al., 2010: 127, 131 (Changi Point).

Material examined: ZRC 48903, ZRC 49093, ZRC 49622, ZRC 49740, ZRC 52423.

*Leiognathus robusta* Sparks & Dunlap

Material examined: LSUMZ 16670.

Remarks: This is the first confirmed record of this species from Singapore waters. Although *Leiognathus robusta* was described from Singapore, the holotype was purchased in a market and may not have been caught in local waters.

*Nuchequula blochii* (Valenciennes in Cuvier & Valenciennes)

*Leiognathus blochi* – Chua, 1973: 525 (Punggol estuary).

Material examined: ZRC 49739, ZRC 53452.

*Nuchequula gerreoides* (Bleeker)

*Leiognathus decorus* – Hajisamae & Chou, 2003: 283 (Pasir Ris, Sembawang); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); 2004: 64, 65, 66 (Changi, Pasir Ris, Sembawang); Jaafar et al., 2004: 117 (Pasir Ris).

Material examined: LSUMZ 16668, ZRC 48782, ZRC 48903, ZRC 49006, ZRC 49012, ZRC 49434, ZRC 49581.

*Nuchequula manusella* Chakrabarty & Sparks

Fig. 1c

Material examined: LSUMZ 16525, LSUMZ 16600, LSUMZ 16630, LSUMZ 16740, ZRC 50952

Remarks: Originally described from Taiwan, this species has been reported from the Malay Peninsula by Seah et al. (2011). Although its presence in Singapore is to be expected, this is nevertheless, the first record from there.

*Photopectoralis bindus* (Valenciennes)

*Leiognathus bindus* – Chua, 1973: 525 (Punggol estuary).

Material examined: none.

**Lobotidae**

*Lobotes surinamensis* (Bloch)

Material examined: ZRC 54631.

**Lutjanidae**

*Lutjanus argentimaculatus* (Forsskål)

*Lutjanus argentimaculatus* – Chong & Sasekumar, 2002: 297 (Sungai Johor estuary).

Material examined: none.

Remarks: This species is commonly reared on fish farms in Singapore waters (Lee & Chou, 1997).

*Lutjanus erythropterus* Bloch

*Lutjanus erythropterus* [sic] – Chua, 1973: 525 (Punggol estuary).  
Material examined: ZRC 40700.

*Lutjanus johnii* (Bloch)

*Lutjanus johnii* – Chong & Sasekumar, 2002: 297 (Sungai Johor estuary); Kwik et al., 2010: 127, 131 (Changi Point).

Material examined: ZRC 36827, ZRC 49623, ZRC 50214, ZRC 52114.

*Lutjanus madras* (Valenciennes in Cuvier & Valenciennes)

*Lutjanus madras* – Lim & Low, 1998: 108 (Changi).

Material examined: ZRC 31502–31503, ZRC 40678, ZRC 40699.

*Lutjanus malabaricus* (Bloch & Schneider)

*Lutjanus malabaricus* – Kwik et al., 2010: 127, 131 (Changi Point).  
Material examined: LSUMZ 16777, ZRC 36682, ZRC 49843, ZRC 49851.

*Lutjanus rivulatus* (Cuvier)

Material examined: ZRC 49704–49705.  
Remarks: This species is apparently not found naturally in the area, but is sometimes stocked in fish farms. Individuals encountered in the Singapore waters could be escapees.

*Lutjanus russellii* (Bleeker)

*Lutjanus russellii* – Chua, 2002: 109 (Chek Jawa); Kwik et al., 2010: 127, 131 (Changi Point).  
Material examined: ZRC 31501, ZRC 46607, ZRC 49418, ZRC 49583, ZRC 49601, ZRC 49730, ZRC 52485.

*Lutjanus stellatus* Akazaki

Material examined: ZRC 50540.  
Remarks: As with *Lutjanus rivulatus*, this species is not found naturally in Singapore waters, but is sometimes stocked in fish farms. It is possible that the specimen was an escapee.

*Lutjanus vitta* (Quoy & Gaimard)

*Lutjanus vitta* – Chua, 1973: 525 (Punggol estuary).  
Material examined: none.

**Monodactylidae**

*Monodactylus argenteus* (Linnaeus)

Material examined: ZRC 52394, ZRC 52404, ZRC 52426, ZRC 52526.

**Pomacanthidae**

*Pomacanthus annularis* (Bloch)

Material examined: ZRC 52400, ZRC 52408.

*Pomacanthus sexstriatus* (Cuvier in Cuvier & Valenciennes)

Material examined: ZRC 52399.

**Scatophagidae**

*Scatophagus argus* (Linnaeus)

*Scatophagus argus* – Károli, 1882: 156 (Serangoon); Herre in Herre & Myers, 1937: 32 (Pulau Ubin); Chua, 1973: 526 (Punggol estuary); Chong & Sasekumar, 2002: 297 (Sungai Johor estuary); Chua, 2002: 109 (Chek Jawa); 2007: 162 (Chek Jawa); Jaafar et al., 2004: 117 (Pasir Ris); Kwik et al., 2010: 128, 132 (Changi Point).

Material examined: CAS-SU 30848, LSUMZ 16535, LSUMZ 16609, ZRC 46476, ZRC 46541, ZRC 47350, ZRC 48707, ZRC 48832, ZRC 49021, ZRC 49387, ZRC 49420, ZRC 49436, ZRC 49453, ZRC 49479, ZRC 49499, ZRC 49511, ZRC 49533, ZRC 49670, ZRC 498682, ZRC 49686, ZRC 49691, ZRC 49859, ZRC 50210, ZRC 50858, ZRC 51011–51012, ZRC 51987.

Remarks: This is a very common species in the EJS.

**Sciaenidae**

*Dendrophysa russellii* (Cuvier)

*Dendrophysa russellii* – Lim & Low, 1998: 114 (off Pulau Tekong); Chong & Sasekumar, 2002: 298 (Sungai Johor estuary).  
Material examined: LSUMZ 16524, LSUMZ 16623, LSUMZ 16643, LSUMZ 16691, LSUMZ 16713, ZRC 49692, ZRC 49796, ZRC 52430, ZRC 53455.

*Johnius belangerii* (Cuvier in Cuvier & Valenciennes)

*Johnius belangerii* – Lim & Low, 1998: 114 (off Pulau Tekong); Chong & Sasekumar, 2002: 298 (Sungai Johor estuary); Kwik et al., 2010: 128, 132 (Changi Point).  
Material examined: LSUMZ 16532, ZRC 46576, ZRC 49860.

*Johnius carouna* (Cuvier)

Fig. 1d

Material examined: LSUMZ 16528, LSUMZ 16646.  
Remarks: This is a new record for Singapore waters.

*Johnius coitor* (Hamilton)

*Johnius coitor* – Chong & Sasekumar, 2002: 298 (Sungai Johor estuary).  
(?) *Johnius dussumieri* – Chong & Sasekumar, 2002: 298 (Sungai Johor estuary).  
Material examined: none.  
Remarks: The ‘bearded croaker’ or ‘*Johnius dussumieri*’ of Chong & Sasekumar (2002: 298) from the Sungai Johor estuary could be a mis-identification of this species, as *Johnius dussumieri* is restricted to the tropical coasts of the Indian Ocean.

*Johnius trewavasae* Sasaki

Material examined: LSUMZ 16645.

*Larimichthys crocea* (Richardson)

Material examined ZRC 49850.  
Remarks: This species is native to the East China Sea and the northern part of the South China Sea. Its presence in Singapore is most likely due to escapees from floating fish farms in the Straits of Johor (Jaafar et al., 2012).

*Nibea soldado* (Lacepède)

Material examined: ZRC 50220.

Remarks: The '*Nibea chui*' of Chong & Sasekumar (2002: 298) from the Sungai Johor estuary appears to be a misidentification of a similar looking taxon.

*Otolithes ruber* (Bloch & Schneider)

*Otolithes ruber* – Chong & Sasekumar, 2002: 298 (Sungai Johor estuary).

Material examined: ZRC 49714, ZRC 52458.

*Otolithoides biauritus* (Cantor)

Material examined: ZRC 49772, ZRC 49774.

*Pennahia anea* (Bloch)

*Pennahia macrophthalmus* – Chong & Sasekumar, 2002: 298 (Sungai Johor estuary).

Material examined: LSUMZ 16527, LSUMZ 16644, LSUMZ 16714, LSUMZ 16751, LSUMZ 16826, LSUMZ 16832, ZRC 49696, ZRC 49724, ZRC 52429, ZRC 52431, ZRC 52459, ZRC 52527.

*Sciaenops ocellatus* (Linnaeus)

Material examined: ZRC 51145.

Remarks: This species is native to the western Atlantic. Its presence in Singapore is due to escapees from floating fish farms in the Straits of Johor (Jaafar et al., 2012).

**Siganidae**

*Siganus canaliculatus* (Park)

*Siganus canaliculatus* – Chua, 2002: 59, 109 (Chek Jawa); Tan & Yeo, 2003: 162 (Chek Jawa); Kwik et al., 2010: 128, 132 (Changi Point).

*Siganus oramin* – Chua, 1973: 526 (Punggol estuary); Chong & Sasekumar, 2002: 298 (Sungai Johor estuary).

Material examined: ZRC 40693, ZRC 40705, ZRC 41757, ZRC 46482, ZRC 47818, ZRC 49689, ZRC 49854.

*Siganus guttatus* (Bloch)

Material examined: LSUMZ 16665, LSUMZ 16685, ZRC 49853, ZRC 52402.

*Siganus javus* (Linnaeus)

*Siganus javus* – Chong & Sasekumar, 2002: 298 (Sungai Johor estuary); Chua, 2002: 109 (Chek Jawa).

Material examined: ZRC 46528, ZRC 49688, ZRC 49728, ZRC 49751, ZRC 49767.

*Siganus punctatus* (Schneider & Foster)

Material examined: ZRC 50275.

**Sillaginidae**

*Sillago burrus* Richardson

*Sillago burrus* – Chua, 2002: 109 (Chek Jawa).

*Sillago maculata* (non Quoy & Gaimard) – Chua, 1973: 525 (Punggol estuary); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang).

Material examined: LSUMZ 16502, LSUMZ 16604, LSUMZ 16611, LSUMZ 16648, LSUMZ 16796, ZRC 46518, ZRC 49513, ZRC 49521, ZRC 52199.

*Sillago sihama* (Forsskål)

*Sillago ciliata* (non Cuvier) – Kwik et al., 2010: 128, 133 (Changi Point).

*Sillago sihama* – Károli, 1882: 162 (Serangoon, in river); Chua, 1973: 525 (Punggol estuary); Lim & Low, 1998: 94 (Pulau Seletar); Chong & Sasekumar, 2002: 298 (Sungai Johor estuary); Chua, 2002: 109 (Chek Jawa); Hajisamae & Chou, 2003: 283 (Changi, Pasir Ris, Sembawang); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); Hajisamae et al., 2004: 64, 65, 66 (Changi, Pasir Ris, Sembawang); Jaafar et al., 2004: 117 (Pasir Ris); Kwik et al., 2010: 128, 133 (Changi Point).

Material examined: LSUMZ 16503, LSUMZ 16547, LSUMZ 16591, LSUMZ 16610, LSUMZ 16675, LSUMZ 16719, LSUMZ 17028, ZRC 31387, ZRC 40673, ZRC 41753, ZRC 46462, ZRC 46615, ZRC 46659, ZRC 48450, ZRC 48715, ZRC 48784, ZRC 48795, ZRC 48897, ZRC 48906, ZRC 48961, ZRC 49008, ZRC 49014, ZRC 49022, ZRC 49034, ZRC 49074, ZRC 49095, ZRC 49120, ZRC 49341, ZRC 49388, ZRC 49403, ZRC 49421, ZRC 49437, ZRC 49481, ZRC 49500, ZRC 49514, ZRC 49522, ZRC 49534, ZRC 49549, ZRC 49587, ZRC 49593, ZRC 49602, ZRC 49627.

Remarks: This is a common species in the EJS.

**Terapontidae**

*Eutherapon theraps* (Cuvier in Cuvier & Valenciennes)

*Eutherapon theraps* – Chong & Sasekumar, 2002: 299 (Sungai Johor estuary).

*Terapon theraps* – Lim & Low, 1998: 90 (Changi); Chua, 2002: 109 (Chek Jawa); Kwik et al., 2010: 128, 133 (Changi Point).

Material examined: LSUMZ 16529, LSUMZ 16640, LSUMZ 16701, ZRC 48454, ZRC 52529.

*Pelates quadrilineatus* (Bloch)

*Pelates quadrilineatus* – Chua, 2002: 109 (Chek Jawa); Kwik et al., 2010: 128, 133 (Changi Point).

Material examined: LSUMZ 16585, LSUMZ 16808, ZRC 30493–30495, ZRC 40680, ZRC 41025, ZRC 46463, ZRC 46604, ZRC 46654, ZRC 47810, ZRC 49588, ZRC 49596.

*Pelates sexlineatus* (Quoy & Gaimard)

Material examined: ZRC 52208.

*Terapon jarbua* (Forsskål)

*Terapon jarbua* – Lim & Low, 1998: 90 (Changi); Chua, 2002: 109 (Chek Jawa); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); Kwik et al., 2010: 128, 133 (Changi Point).

*Therapon* [sic.] *jarbua* – Chua, 1973: 525 (Punggol estuary).  
Material examined: ZRC 30679, ZRC 31384–31386, ZRC 49628, ZRC 49733.

*Therapon puta* Cuvier in Cuvier & Valenciennes

*Therapon puta* – Chua, 2002: 109 (Chek Jawa).  
Material examined: LSUMZ 16601, ZRC 30496, ZRC 46487, ZRC 46636, ZRC 49819.

## URANOSCOPIFORMES

### Pinguipedidae

*Parapercis* sp.

*Percis sexfasciata* – Károli, 1882: 162 (Seletar).  
Material examined: none.  
Remarks: *Parapercis sexfasciata* (Schlegel) is known only from East Asia (Cantwell, 1964) and is not found naturally in the area.

### Uranoscopidae

*Ichthyoscopus lebeck* (Schneider in Bloch & Schneider)

*Ichthyoscopus lebeck* – Tan & Lim, 2013: 90 (Changi Beach).  
Material examined: none.

## LABRIFORMES

### Labridae

*Choerodon oligacanthus* (Bleeker)

*Choerodon oligacanthus* – Chua, 2002: 109 (Chek Jawa); Kwik et al., 2010: 127, 131 (Changi Point).  
Material examined: ZRC 46507, ZRC 49856, ZRC 52216, ZRC 52484.

*Choerodon schoenleinii* (Valenciennes in Cuvier & Valenciennes)

Material examined: ZRC 49852, ZRC 52405.

*Halichoeres bicolor* (Bloch & Schneider)

*Halichoeres bicolor* – Lim & Low, 1998: 129 (Changi); Chua, 2002: 109 (Chek Jawa); Kwik et al., 2010: 127, 131 (Changi Point).  
Material examined: ANSP 77803, ANSP 77820, ZRC 38190–38192, ZRC 41775, ZRC 46494, ZRC 46533, ZRC 46601, ZRC 51850, ZRC 52214.

*Halichoeres nigrescens* (Bloch & Schneider)

*Halichoeres nigrescens* – Chua, 2002: 59, 109 (Chek Jawa); Tan & Yeo, 2003: 198 (Chek Jawa); Kwik et al., 2010: 127, 131 (Changi Point).  
Material examined: LSUMZ 16552, ZRC 41755, ZRC 46495, ZRC 46531, ZRC 46653, ZRC 48602, ZRC 49707, ZRC 51851.

*Pteragogus flagellifer* (Valenciennes in Cuvier & Valenciennes)

*Pteragogus flagellifera* – Chua, 2002: 109 (Chek Jawa).  
Material examined: ZRC 46623.

### Scaridae

*Scarus ghobban* Forsskål

Material examined: CAS-SU 30846.  
Remarks: This species has not been encountered in the EJS since the 1930s, although it has recently been reported from the Singapore Straits (Low, 2013).

## EPHIPPIFORMES

### Drepaneidae

*Drepane longimana* (Bloch & Schneider)

*Drepane longimana* – Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang).  
Material examined: ZRC 51150.

*Drepane punctata* (Linnaeus)

*Drepane punctata* – Károli, 1882: 156 (Serangoon); Chong & Sasekumar, 2002: 295 (Sungai Johor estuary); Chua, 2002: 108 (Chek Jawa).  
Material examined: LSUMZ 16628, LSUMZ 17035, LSUMZ 17040, ZRC 46608, ZRC 46624, ZRC 46656, ZRC 48779, ZRC 49116, ZRC 49393, ZRC 49609, ZRC 49679, ZRC 49715, ZRC 49836, ZRC 52105, ZRC 53750.  
Remarks: This is a common species in the EJS.

### Ephippidae

*Ephippus orbis* (Bloch)

Material examined: LSUMZ 16695, ZRC 50206, ZRC 52117, ZRC 52384.

*Platax teira* (Forsskål)

*Platax teira* – Kwik et al., 2010: 127, 131 (Changi Point).  
Material examined: ZRC 52113, ZRC 53749.

## SPARIFORMES

### Lethrinidae

*Lethrinus lentjan* (Lacepède)

*Lethrinus lentjan* – Lim & Low, 1998: 110 (off Pulau Tekong); Kwik et al., 2010: 127, 131 (Changi Point).  
*Lethrinus opercularis* – Károli, 1882: 157 (Changi River).  
Material examined: ZRC 49729, ZRC 49758.

*Lethrinus nebulosus* (Forsskål)

*Lethrinus nebulosus* – Chua, 1973: 525 (Punggol estuary); Chua, 2002: 109 (Chek Jawa).

? *Lethrinus mahsena* (non-Forsskål) - Chong & Sasekumar, 2002: 296 (Sungai Johor estuary).

*Lethrinus* sp. – Tan & Yeo, 2003: 162 (Chek Jawa).

Material examined: ZRC 30498, ZRC 30696, ZRC 31500, ZRC 40685, ZRC 46480, ZRC 46635, ZRC 52210.

**Nemipteridae**

*Nemipterus nemurus* (Bleeker)

*Synagris nemurus* – Károli, 1882: 154 (Seletar, in river).

*Nemipterus nemurus*– Kwik et al., 2010: 128, 132 (Changi Point).

Material examined: none.

Remarks: There is a photograph of a specimen caught by an angler off Changi in 2007.

*Nemipterus peronii* (Valenciennes in Cuvier & Valenciennes)

Material examined: ZRC 40687.

*Pentapodus bifasciatus* (Bleeker, 1848)

Material examined: LSUMZ 16563.

*Pentapodus setosus* (Valenciennes in Cuvier & Valenciennes)

*Pentapodus setosus*– Kwik et al., 2010: 128, 132 (Changi Point).

Material examined: LSUMZ 16551, LSUMZ 16655.

*Pentapodus trivittatus* (Bloch)

*Pentapodus vittatus* - Károli, 1882: 155 (Serangoon, in rivers).

Material examined: none.

*Scolopsis monogramma* (Cuvier)

Material examined: ZRC 40679, ZRC 40709, ZRC 49708, ZRC 49848.

*Scolopsis taeniopterus* (Kuhl & van Hasselt)

*Synagris taeniopterus* - Károli, 1882: 154 (Serangoon).

Material examined: none.

*Scolopsis vosmeri* (Bloch)

Material examined: ZRC 50735.

**Sparidae**

*Acanthopagrus berda* (Forsskål)

Material examined: ZRC 49840.

**LOPHIIFORMES**

**Antennariidae**

*Lophiocharon trisignatus* (Richardson)

*Antennarius* sp. – Chua, 1973: 526 (Punggol estuary).

*Lophiocharon trisignatus* – Chua, 2002: 108 (Chek Jawa).

Material examined: ZRC 46626, ZRC 47868, ZRC 50598.

**TETRAODONTIFORMES**

**Balistidae**

*Balistapus undulatus* (Park)

Material examined: ZRC 52409.

Remarks: The presence of this reef species is unusual. It could have been a stray individual or an abandoned aquarium pet.

**Monacanthidae**

*Acreichthys tomentosus* (Linnaeus)

*Monacanthus tomentosus* – Duncker, 1904: 190 (Changi).

*Acreichthys tomentosus* – Chua, 2002: 109 (Chek Jawa).

? *Stephanolepis auratus* (non-Castelnau) —Chong & Sasekumar, 2002: 297 (Sungai Johor estuary).

Material examined: LSUMZ 16584, LSUMZ 16613, ZRC 41768, ZRC 46440, ZRC 49584, ZRC 49591.

*Anacanthus barbatus* Gray

*Anacanthus barbatus* – Kwik et al., 2010: 127, 131; Tan & Lee, 2014: 290 (Changi Point).

Material examined: ZRC 2107, ZRC 47328, ZRC 54633.

*Chaetodermis penicilligerus* (Cuvier)

*Chaetoderma penicilligera* – Chua, 2002: 59, 109 (Chek Jawa).

*Chaetoderma* [sic.] *penicilligera* – Tan & Yeo, 2003: 159 (Chek Jawa).

Material examined: ZRC 46525, ZRC 54616.

*Monacanthus chinensis* (Osbeck)

*Monacanthus chinensis* – Chua, 1973: 526 (Punggol estuary);

Chong & Sasekumar, 2002: 297 (Sungai Johor estuary); Chua,

2002: 59, 109 (Chek Jawa); Chua, 2007: 39 (Pulau Sekudu), 96

(Beting Bronok); Tan & Yeo, 2003: 160 (Chek Jawa); Kwik

et al., 2010: 127, 131 (Changi Point).

*Acreichthys tomentosus* (non-Linnaeus) – Chua, 2007: 73 (Changi Beach).

Material examined: LSUMZ 16491, LSUMZ 16531, LSUMZ 16597, LSUMZ 16629, LSUMZ 16651, LSUMZ 16794, ZRC 40691, ZRC 40698, ZRC 46464, ZRC 46520, ZRC 46616, ZRC 47807, ZRC 48420, ZRC 51275, ZRC 52096, ZRC 52469.

*Paramonacanthus choirocephalus* (Bleeker)

*Paramonacanthus* sp. – Chua, 2002: 109 (Chek Jawa).  
*Paramonacanthus choirocephalus* – Kwik et al., 2010: 127, 131 (Changi Point).  
 Material examined: ZRC 46501, ZRC 49756.

**Ostraciidae**

*Lactoria cornuta* (Linnaeus)

*Lactoria cornuta* – Chua, 2002: 50, 109 (Chek Jawa); 2007: 100 (Pulau Sekudu).  
 Material examined: ZRC 40012, ZRC 46470.

*Rhynchostracion nasus* (Bloch)

*Rhynchostracion nasus* – Chua, 2002: 109 (Chek Jawa).  
 Material examined: ZRC 46490, ZRC 49858, ZRC 51494.

**Tetraodontidae**

*Arothron immaculatus* (Bloch & Schneider)

*Arothron immaculatus* – Chong & Sasekumar, 2002: 299 (Sungai Johor estuary); Yap & Sankar, 2015: 47 (Pasir Ris Park).  
 Material examined: ZRC 17449, ZRC 17593, ZRC 49846, ZRC 52486.

*Arothron caeruleopunctatus* Matsuura

*Arothron caeruleopunctatus* – Yap & Sankar, 2015: 47 (Pasir Ris Park).  
 Material examined: none.

*Arothron mappa* (Lesson)

*Arothron mappa* – Yap & Sankar, 2015: 47 (Pasir Ris Park).  
 Material examined: none.

*Arothron reticularis* (Bloch & Schneider)

*Arothron reticularis* – Yap & Sankar, 2015: 47 (Pasir Ris Park).  
 Material examined: ZRC 46605, ZRC 50391.

*Arothron stellatus* (Anonymous)

*Arothron stellatus* – Yap & Sankar, 2015: 47 (Pasir Ris Park).  
 Material examined: none.

*Chelonodontops patoca* (Hamilton)

*Chelonodon patoca* – Lim & Low, 1998: 152 (Changi); Chua, 2002: 109 (Chek Jawa).  
 Material examined: LSUMZ 16505, ZRC 30585, ZRC 46471, ZRC 49597.

*Dichotomyctere nigroviridis* (Marion de Procé)

*Tetrodon fluviatilis* (non Hamilton) – Károli, 1882: 187 (Seletar); Chong & Sasekumar, 2002: 299 (Sungai Johor estuary).  
 Material examined: CAS-SU 30929, LSUMZ 16490, LSUMZ

16672, LSUMZ 16698, LSUMZ 16725, ZRC 48834, ZRC 49096, ZRC 49454, ZRC 49629, ZRC 49759, ZRC 53460.

*Gastrophysus oblongus* (Bloch)

*Takifugu oblongus* – Chua, 2002: 109 (Chek Jawa); Hajisamae & Chou, 2003: 283 (Pasir Ris); Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); Jaafar et al., 2004: 117 (Pasir Ris).  
 Material examined: ZRC 46472, ZRC 46535, ZRC 47821.

*Lagocephalus lunaris* (Bloch & Schneider)

*Gastrophysus lunaris* – Chong & Sasekumar, 2002: 299 (Sungai Johor estuary).  
*Lagocephalus lunaris* – Hajisamae et al., 2003: 92, 93 (Changi, Pasir Ris, Sembawang); Jaafar et al., 2004: 117 (Pasir Ris); Kwik et al., 2010: 128, 133 (Changi Point).  
 Material examined: LSUMZ 16624, ZRC 41767, ZRC 49425, ZRC 49439, ZRC 53646.

*Lagocephalus scleratus* (Gmelin)

*Tetrodon scleratus* – Károli, 1882: 187 (Serangoon).  
 Material examined: none.

**Triacanthidae**

*Pseudotriacanthus strigilifer* (Cantor)

*Pseudotriacanthus strigilifer* – Chong & Sasekumar, 2002: 299 (Sungai Johor estuary).  
 Material examined: none.

*Triacanthus biaculeatus* (Bloch)

*Triacanthus biaculeatus* – Károli, 1882: 186 (Serangoon); Chong & Sasekumar, 2002: 299 (Sungai Johor estuary); Chua, 2002: 109 (Chek Jawa).  
*Triacanthus brevirostris* – Chua, 1973: 526 (Punggol estuary); Chong & Sasekumar, 2002: 299 (Sungai Johor estuary).  
 Material examined: CAS-SU 30940, LSUMZ 16500, LSUMZ 16690, LSUMZ 16747, ZRC 40703, ZRC 41756, ZRC 46502, ZRC 46639, ZRC 48908, ZRC 48963, ZRC 49015, ZRC 49035, ZRC 49121, ZRC 49405, ZRC 49426, ZRC 49440.  
 Remarks: This is a common species in the EJS.

*Tripodichthys blochii* (Bleeker)

*Triacanthus blochii* – Herre in Herre & Myers, 1937: 49 (Pulau Ubin).  
*Tripodichthys blochii* – Lim & Low, 1998: 149 (Changi); Chua, 2002: 59 (Chek Jawa); Tan & Yeo, 2003: 160 (Chek Jawa); Kwik et al., 2010: 128, 133 (Changi Point).  
*Triacanthus blochi* – Chong & Sasekumar, 2002: 299 (Sungai Johor estuary).  
 Material examined: CAS-SU 30938, LSUMZ 16501, LSUMZ 16586, LSUMZ 16612, LSUMZ 16632, LSUMZ 16795, ZRC 40672, ZRC 40701, ZRC 40702, ZRC 46519, ZRC 46602, ZRC 48786, ZRC 48909, ZRC 48964, ZRC 49036, ZRC 49389, ZRC 49406, ZRC 49536, ZRC 49551, ZRC 49589, ZRC 49604, ZRC 49630, ZRC 52491.  
 Remarks: This is a common species in the EJS.

**PEMPHERIFORMES**

**Pempheridae**

*Pempheris oualensis* Cuvier

Material examined: ZRC 2862, ZRC 50274.

**PERCIFORMES**

**Aploactinidae**

*Sthenopus mollis* Richardson

Material examined: ZRC 51991, ZRC 53085.

**Platycephalidae**

*Cymbacephalus bosschei* (Bleeker)

Material examined: LSUMZ 16576, LSUMZ 16593.

*Cymbacephalus nematophthalmus* (Günther)

*Cymbacephalus nematophthalmus* – Chua, 2002: 108 (Chek Jawa); Tan & Yeo, 2003: 155 (Chek Jawa); Kwik et al., 2010: 128, 132 (Changi Point).

Material examined: ANSP 77806, LSUMZ 16493, LSUMZ 16580, LSUMZ 16594, LSUMZ 16804, ZRC 41772, ZRC 47349, ZRC 49718, ZRC 50604, ZRC 50611, ZRC 50631, ZRC 46515, ZRC 49547.

*Grammoplites scaber* (Linnaeus)

*Platycephalus scaber* – Chong & Sasekumar, 2002: 297 (Sungai Johor estuary).

Material examined: LSUMZ 16495, LSUMZ 16581, LSUMZ 16641, LSUMZ 16818, ZRC 49643, ZRC 50207.

*Inegocia japonica* (Cuvier in Cuvier & Valenciennes)

*Inegocia japonica* – Chua, 2002: 108 (Chek Jawa).

Material examined: ZRC 40686, ZRC 40708, ZRC 41771, ZRC 46492, ZRC 46514, ZRC 47813, ZRC 50630, ZRC 52108.

*Platycephalus indicus* (Linnaeus)

*Platycephalus indicus* – Chua, 1973: 526 (Punggol estuary); Chong & Sasekumar, 2002: 297 (Sungai Johor estuary); Chua, 2002: 108 (Chek Jawa).

Material examined: LSUMZ 16753, ZRC 40674, ZRC 46652, ZRC 48348, ZRC 49510, ZRC 49678, ZRC 50610, ZRC 50613, ZRC 50616, ZRC 50629, ZRC 51274, ZRC 52470.

*Rogadius asper* (Cuvier)

*Platycephalus asper* – Chong & Sasekumar, 2002: 297 (Sungai Johor estuary).

Material examined: none.

*Sorsogona tuberculata* (Cuvier in Cuvier & Valenciennes)

Unidentified Platycephalidae – Chua, 2007: 102 (Pulau Sekudu).  
Material examined: none.

Remarks: The record of this species from the EJS is based on a photograph of a live specimen taken at Pulau Sekudu in Chua (2007).

*Sunagocia carbunculus* (Valenciennes)

Material examined: LSUMZ 16508, LSUMZ 16696, LSUMZ 16697, LSUMZ 16803.

**Serranidae**

*Cephalopholis boenak* (Bloch)

*Cephalopholis boenak* – Lim & Low, 1998: 87 (off Pulau Tekong).  
*Epinephalus* [sic.] *pachycentrum* – Chua, 1973: 525 (Punggol estuary).

Material examined: ZRC 48600, ZRC 49764, ZRC 49818.

*Cromileptes altivelis* (Valenciennes in Cuvier & Valenciennes)

Material examined: ZRC 49727.

Remarks: This is likely to be a fish farm escapee.

*Epinephelus coioides* (Hamilton)

*Epinephalus* [sic] *tauvina* (non-Forsskål) – Chua, 1973: 525 (Punggol estuary).

*Epinephelus coioides* – Chua, 2002: 109 (Chek Jawa); Tan & Yeo, 2003: 161 (Chek Jawa).

Material examined: LSUMZ 17042, ZRC 30671, ZRC 46469, ZRC 48436, ZRC 48601, ZRC 49752, ZRC 49800, ZRC 53476.

Remarks: A common species in mariculture. Some individuals could be farm escapees (Jaafar et al., 2012).

*Epinephelus malabaricus* (Bloch & Schneider)

Material examined: CAS-SU 30886, ZRC 47861, ZRC 49763, ZRC 53471.

Remarks: A common species in mariculture. Some individuals could be farm escapees (Jaafar et al., 2012).

*Epinephelus fuscoguttatus* (Forsskål)

Material examined: ZRC 49766, ZRC 54632.

Remarks: These could be escapees from floating fish farm pens. This species was earlier mis-identified as *E. polyphkadion* in Jaafar et al. (2012).

*Epinephelus sexfasciatus* (Valenciennes)

*Epinephelus sexfasciatus* – Chong & Sasekumar, 2002: 298 (Sungai Johor estuary).

Material examined: none.

**Synanceiidae***Inimicus didactylus* (Pallas)

Material examined: ZRC 53085.

*Leptosynanceia asteroblepa* (Richardson)

Material examined: ZRC 49823, ZRC 49863.

*Minous monodactylus* (Bloch & Schneider)

Material examined: ZRC 40684, ZRC 53084.

*Synanceia horrida* (Linnaeus)

Material examined: ZRC 49861.

*Trachicephalus uranoscopus* (Bloch & Schneider)

*Polycaulus uranoscopus* – Lim & Low, 1998: 82 (Changi); Chong & Sasekumar, 2002: 298 (Sungai Johor estuary).

*Trachicephalus uranoscopus* – Kwik et al., 2010: 128, 132 (Changi Point).

Material examined: LSUMZ 16569, LSUMZ 16578, LSUMZ 16709, LSUMZ 16815, LSUMZ 16823, ZRC 40571, ZRC 40677, ZRC 40711, ZRC 41751, ZRC 46539, ZRC 47816, ZRC 51959, ZRC 53081, ZRC 53448.

**Tetrarogidae***Paracentropogon longispinis* (Cuvier in Cuvier & Valenciennes)

*Paracentropogon longispinis* – Chua, 1973: 526 (Punggol estuary); Lim & Low, 1998: 81 (Punggol); Chua, 2002: 59, 108 (Chek Jawa); Chua, 2007: 91 (Chek Jawa); Tan & Yeo, 2003: 200 (Chek Jawa).

*Paracentropogon longispinus* [sic.] – Kwik et al., 2010: 128, 132 (Changi Point).

Material examined: LSUMZ 16599, LSUMZ 16616, LSUMZ 16810, ZRC 40683, ZRC 40704, ZRC 41024, ZRC 41752, ZRC 46486, ZRC 46542, ZRC 46657, ZRC 47808, ZRC 47863, ZRC 49548, ZRC 52215, ZRC 53082.

*Trichosomus trachinoides* (Cuvier in Cuvier & Valenciennes)

*Vespicula trachinoides* – Chong & Sasekumar, 2002: 298 (Sungai Johor estuary).

Material examined: ZRC 54123.

**DISCUSSION**

A total of 435 fish species, including 20 cartilaginous fishes, are herein recorded from the EJS based on fieldwork and reviews of the existing literature, photographs and museum specimens. Four species are recorded herein for the first time in Singapore waters. They are: *Pseudorhombus elevatus* (Paralichthyidae), *Heteromycteris hartzfeldii* (Soleidae), *Nuclequula manusella* (Leiognathidae) and *Johnius carouna*

(Sciaenidae). The identities of 50 species (Table 1) could not be verified due to the absence of specimens or photographs. Therefore, it is possible that some (or all) of these 50 species could have been misidentified and are potentially dubious records.

Seven of the species in our checklist are not native to Singapore. Their presence here is due to either escapes from commercial fish farms in the area, or the release of unwanted pets by aquarists. They are: *Cichlasoma urophthalmum* (Cichlidae), *Etroplus suratensis* (Cichlidae), *Larimichthys crocea* (Sciaenidae), *Oreochromis mossambicus* (Cichlidae), *Paraetropus melanurus* (Cichlidae), *Poecilia sphenops* (Poeciliidae) and *Sciaenops ocellatus* (Sciaenidae).

Some species that are native to the general or adjacent regions are imported from elsewhere and reared commercially in net cages on fish farms. Sometimes, due to damage to net cages or intentional release, species that may be released into the wild include *Chanos chanos* (Chanidae), *Cromileptes altivelis* (Serranidae), *Eleutheronema tetradactylum* (Polynemidae), *Epinephelus coioides* (Serranidae), *Epinephelus malabaricus* (Serranidae), *Epinephelus polyphekadion* (Serranidae), *Lates calcarifer* (Latidae), *Lutjanus argentimaculatus* (Lutjanidae), *Lutjanus stellatus* (Lutjanidae), *Lutjanus rivulatus* (Lutjanidae), *Mugil cephalus* (Mugilidae), *Plectropomus maculatus* (Serranidae), *Rachycentron canadum* (Rachycentridae) and *Trachinotus blochii* (Carangidae). Even though there is no documented evidence of net cage escapees surviving and reproducing in the EJS, the fact that other non-native, cultured fish species (e.g., *Larimichthys crocea*) have been shown to survive after escape in the EJS is compelling evidence that many, if not all, escapees of the species listed above will also at least survive for some time, even if there is sufficient evidence to indicate that farmed fish are less fit than wild fish (Weir & Grant, 2005). Given that all of these species have native distributions that include the EJS, it is likely that the populations here consist of individuals from both wild and cultured populations.

Of the 432 species reported here, 31 (7.2%) have not been encountered in the last 40 years (Table 2). Among these, the identities of 29 species have not been verified by us (compare Tables 1 and 2), so it is likely that the number of species no longer found in the EJS may be much smaller. In any case, it is very difficult to determine local extirpations (if any) for the EJS because its marine ichthyofauna has been only sporadically sampled.

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Table 1. Fishes reported from EJS whose identities remain unverified.

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<b>CARCHARHINIFORMES</b>	<b>CARANGIFORMES</b>
<b>Carcharhinidae</b>	<b>Carangidae</b>
<i>Rhizoprionodon acutus</i>	<i>Megalaspis cordyla</i>
<b>CLUPEIFORMES</b>	<i>Selaroides leptolepis</i>
<b>Chirocentridae</b>	<b>PLEURONECTIFORMES</b>
<i>Chirocentrus dorab</i>	<b>Cynoglossidae</b>
<b>Clupeidae</b>	<i>Cynoglossus cynoglossus</i>
<i>Amblygaster sirm</i>	<b>BELONIFORMES</b>
<i>Sardinella fimbriata</i>	<b>Belonidae</b>
<i>Sardinella melanura</i>	<i>Strongylura leiura</i>
Engraulidae	<b>MUGILIFORMES</b>
<i>Stolephorus commersonii</i>	<b>Mugilidae</b>
<i>Stolephorus insularis</i>	<i>Chelon macrolepis</i>
<i>Stolephorus tri</i>	<i>Chelon planiceps</i>
<b>Pristigasteridae</b>	<i>Valamugil seheli</i>
<i>Opisthopterus tardoore</i>	<b>PERCOMORPHARIA INCERTA SEDIS</b>
<b>Dussumieriidae</b>	<b>Gerreidae</b>
<i>Dussumieria acuta</i>	<i>Gerres filamentosus</i>
<b>SILURIFORMES</b>	<i>Pentaprion longimanus</i>
<b>Ariidae</b>	<b>Kyphosidae</b>
<i>Arius maculatus</i>	<i>Kyphosus vaigiensis</i>
<i>Batrachocephalus mino</i>	<b>Leiognathidae</b>
<i>Nemapteryx nenga</i>	<i>Deveximentum insidiator</i>
<b>AULOPIFORMES</b>	<i>Equulites lineolatus</i>
<b>Synodontidae</b>	<i>Karalla daura</i>
<i>Harpodon nehereus</i>	<i>Leiognathus brevirostris</i>
<b>KURTIFORMES</b>	<i>Photopectoralis bindus</i>
<b>Apogonidae</b>	<b>Lutjanidae</b>
<i>Jaydia poeciloptera</i>	<i>Lutjanus vitta</i>
<i>Rhabdamia gracilis</i>	<b>Sciaenidae</b>
<b>GOBIIFORMES</b>	<i>Johnius coitor</i>
<b>Butiidae</b>	<b>URANOSCOPIFORMES</b>
<i>Butis amboinensis</i>	<b>Pinguipedidae</b>
<i>Giuris margaritacea</i>	<i>Parapercis</i> sp.
<b>Gobiidae</b>	<b>SPARIFORMES</b>
<i>Amblygobius sphynx</i>	<b>Nemipteridae</b>
<i>Macrodontogobius wilburi</i>	<i>Pentapodus trivittatus</i>
<b>SYNGNATHIFORMES</b>	<i>Scolopsis taeniopterus</i>
<b>Syngnathidae</b>	<b>TETRAODONTIFORMES</b>
<i>Syngnathoides biaculeatus</i>	<b>Tetraodontidae</b>
<b>SCOMBRIFORMES</b>	<i>Lagocephalus sceleratus</i>
<b>Scombridae</b>	<b>Triacanthidae</b>
<i>Scomberomorus commerson</i>	<i>Pseudotriacanthus strigilifer</i>
<i>Scomberomorus lineolatus</i>	<b>PERCIFORMES</b>
<b>Trichiuridae</b>	<b>Platycephalidae</b>
<i>Lepturacanthus savala</i>	<i>Rogadius asper</i>
<b>CARANGIMORPHARIAE INCERTA SEDIS</b>	<b>Serranidae</b>
<b>Sphyraenidae</b>	<i>Epinephelus sexfasciatus</i>
<i>Sphyraena flavicauda</i>	<b>Scorpaenidae</b>
	<i>Pterois russellii</i>

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Table 2. Fishes not encountered from the EJS within the last 40 years.

<b>CARCHARHINIFORMES</b>	<b>BELONIFORMES</b>
<b>Carcharhinidae</b>	<b>Belonidae</b>
<i>Rhizoprionodon acutus</i>	<i>Strongylura leiura</i>
<b>ANGUILLIFORMES</b>	<b>MUGILIFORMES</b>
<b>Ophichthidae</b>	<b>Mugilidae</b>
<i>Scolecenchelys macroptera</i>	<i>Chelon macrolepis</i>
<b>CLUPEIFORMES</b>	<b>PERCOMORPHARIA INCERTA SEDIS</b>
<b>Chirocentridae</b>	<b>Gerreidae</b>
<i>Chirocentrus dorab</i>	<i>Gerres filamentosus</i>
<b>Clupeidae</b>	<b>Kyphosidae</b>
<i>Amblygaster sirm</i>	<i>Kyphosus vaigiensis</i>
<i>Sardinella fimbriata</i>	<b>Leiognathidae</b>
<b>Engraulidae</b>	<i>Equulites lineolatus</i>
<i>Stolephorus insularis</i>	<i>Karalla daura</i>
<b>KURTIFORMES</b>	<i>Leiognathus brevirostris</i>
<b>Apogonidae</b>	<i>Photopectoralis bindus</i>
<i>Rhabdamia gracilis</i>	<b>Lutjanidae</b>
<b>GOBIIFORMES</b>	<i>Lutjanus vitta</i>
<b>Butiidae</b>	<b>Sciaenidae</b>
<i>Butis amboinensis</i>	<i>Johnius coitor</i>
<i>Giuris margaritacea</i>	<b>URANOSCOPIIFORMES</b>
<b>Gobiidae</b>	<b>Pinguipedidae</b>
<i>Amblygobius sphynx</i>	<i>Parapercis</i> sp.
<i>Macrodontogobius wilburi</i>	<b>LABRIFORMES</b>
<b>SYNGNATHIFORMES</b>	<b>Scaridae</b>
<b>Syngnathidae</b>	<i>Scarus ghobban</i>
<i>Syngnathoides biaculeatus</i>	<b>SPARIFORMES</b>
<b>SCOMBRIFORMES</b>	<b>Nemipteridae</b>
<b>Scombridae</b>	<i>Pentapodus trivittatus</i>
<i>Scomberomorus lineolatus</i>	<i>Scolopsis taeniopterus</i>
<b>CARANGIMORPHARIAE INCERTA SEDIS</b>	<b>TETRAODONTIFORMES</b>
<b>Sphyraenidae</b>	<b>Tetraodontidae</b>
<i>Sphyraena flavicauda</i>	<i>Lagocephalus sceleratus</i>
<b>CARANGIFORMES</b>	<b>PERCIFORMES</b>
<b>Carangidae</b>	<b>Scorpaenidae</b>
<i>Selaroides leptolepis</i>	<i>Pterois russellii</i>

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