

DAMSELFISHES FISHES (FAMILY POMACENTRIDAE) OF PAKISTAN

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ABSTRACT

Family Pomacentridae includes small and medium-sized species that mainly inhabit coastal waters including rocky shore and submerged rocks, coral, and nearshore environments. The present study reveals the presence of 14 genera and 35 species from Pakistan; of which the western gregory (*Plectroglyphidodon obreptus*) and surge damsel *Chrysiptera brownriggii* are reported for the first time from the Pakistan coast. Species of this family are abundantly found among submerged coral assemblages and shipwrecks. *Abudefduf bengalensis* (Bloch, 1787) and *Abudefduf vaigiensis* (Quoy and Gaimard, 1824) were recorded to be the most dominating species in such habitats. Family Pomacentridae is not commercially exploited in Pakistan, however, some species are frequently caught in the recreational fisheries along the rocky shores of Pakistan.

Keywords: Family Pomacentridae, *Plectroglyphidodon obreptus* (Whitley 1948), *Chrysiptera brownriggii* (Bennett, 1828), *Abudefduf* spp., rocky shore, coral assemblages, shipwrecks, recreational fisheries.

INTRODUCTION

Family Pomacentridae includes small to medium-sized fishes that have compressed bodies and a short and blunt snout. These fishes are usually not consumed as food but may have commercial importance only to the aquarium fish trade. Family Pomacentridae contains about 29 genera and 423 species which are mainly found in all tropical to warm-temperate seas worldwide, mainly found on coral and rocky reefs. Although there are no coral reefs in Pakistan, coral assemblages and subtidal and intertidal rocky areas as well as shipwrecks and submerged structures offer suitable habitats for members of the family Pomacentridae. Members of Family Pomacentridae are locally known as “Margan” or “Jabal kuin” in Sindh and “Baanore” or “Shaher bano” in Balochistan. No dedicated review of this family was previously published from Pakistan, however, species of this family are included in many checklists including Hoda (1985a, 1985b, 1988), Hussain (2003), and Jalil and Khaliluddin (1972, 1981). Psomadakis *et al.* (2015) have reported 3 species of the genus *Abudefduf* and one species each to the genera *Chrysiptera* and *Neopomacentrus*. Ali *et al.* (2021) reported 4 species of the genus *Neopomacentrus*, 3 species of the genus *Abudefduf*, 2 species of the genus *Chromis* and one species each of the genera *Amphiprion* and *Pomacentrus* from the coral habitats along the Pakistan coast. There is no commercial fishing for the members of Family Pomacentridae, however, these are popular among SCUBA divers, snorkelers, and skin divers in the coral habitats of Pakistan. In the present paper, a review of species of Family Pomacentridae from Pakistan is presented.

MATERIAL AND METHODS

Published scientific literature was examined for the records of groupers and allied species from the Pakistan coast. In addition, specimens of Family Pomacentridae were collected between 2005 and 2024 from Karachi Fish Harbour. Samples collected from the harbour; were photographed and salient features and measurements were recorded, before, their preservation in 5 % neutralized formalin. In addition, clips and videos of marine life around coral habitats posted by the armature and professional SCUBA divers on social media were analyzed frame by frame to identify fish species belonging to the family Pomacentridae. Photographic records of various expeditions and scientific tours conducted on the coastal were analyzed for any record of damselfish.

RESULTS AND DISCUSSION

Members of the damselfishes (Family Pomacentridae) are found mainly in shallow coastal waters and are generally caught by recreational fishermen using handline. Sometimes, these fishes are caught by bottom-set gillnets and longlines, if deployed in shallow waters. Most damselfishes are found along rocky shores and nearshore environments. These fishes are of no commercial value except in the aquarium trade, however, there are only a few

marine aquariums in Pakistan, therefore, and these species are seldom caught for the pet trade. Members of the Family Pomacentridae from Pakistan are arranged alphabetically in this paper.

Family **Pomacentridae** (Damsel-fishes)
 Genus *Abudefduf* Fabricius 1775
Abudefduf bengalensis (Bloch, 1787)
 (Fig. 1)

This species is commonly known as Bengal sergeant. This species was reported from Karachi by Day (1889) and Nielsen (1960); Mubarak Village by Ali, *et al.* (2021), Churna Island by Ali, *et al.* (2021), from Astola Island by Moazzam (2024). This species was reported from the Pakistan coast without mentioning any specific location by Allen (1991), Amanuallah and Qureshi (1967), Hoda (1985b, 1988), Froese and Pauly (2024) and Lieske and Myers (1994). This species was originally described as *Chaetodon bengalensis* from Bengal by Bloch (1787). No holotype is known, however, syntypes are housed in Zoologisches Museum, Humboldt Universitat, Berlin (Frickle *et al.*, 2024). Day (1889) reported this species as *Glyphidodon bengalensis*.

This species can be distinguished from its congeners in having greenish-grey head and body and in having 6 distinct black bars narrower than pale interspaces; 1st bar from dorsal-fin origin to behind the pectoral-fin base. It is known from the Indo-Pacific area including Pakistan to the east coast of India, Thailand, Vietnam, Indonesia, Philippines, China, South Korea, Japan, and northern Australia (Allen, 2022; Frickle, *et al.*, 2024, Parenti, 2021).



Fig. 1. *Abudefduf bengalensis* Photographed of a specimen collected from Karachi Fish Harbour.

Abudefduf lorentzi Hensley and Allen, 1977

It is commonly known as black-tail sergeant and reported from Goth Jafar near Karachi by Anonymous (1993) and by Anonymous (1999) from Karachi. This species was originally described from Tenibuli Bay, Isabel Island, Soloman Islands, west Pacific (ca. 08°25'S, 159°50'E) by Hensley and Allen (1977). Its holotype (FMNH 23564) is housed in the Field Museum of Natural History, Chicago, Illinois, U.S.A. (Frickle *et al.*, 2024).

Species is known from the Indo-Australian Archipelago in Western Central Pacific including Indonesia east to Palau and Papua New Guinea, Philippines and Moluccas to the Solomon Islands; Palau (Belau) in Micronesia. (Frickle *et al.*, 2024; Froese and Pauly 2024, Parenti, 2021). Since this species is not known from the Western Indian Ocean it is presumed that its records from Pakistan may be based misidentification of some other species.

Abudefduf septemfasciatus (Cuvier 1830)

This species is commonly known as banded sergeant and reported from Karachi by Ahmed and Wazarat (1993), Moazzam and Rizvi (1980), and Nielsen (1960). This species was reported from the Pakistan coast without mentioning any specific location by Ahmed (1996) and Hoda (1985b, 1988). It was originally described as *Glyphisodon septemfasciatus* from Mauritius by Cuvier (1830). Its holotype is not known, however, syntypes are housed in Museum National d'Historie Naturelle, Paris, France (Frickle *et al.*, 2024).

This species can be distinguished from other species of genus *Abudefduf* occurring in Pakistan in having a whitish body that has 6 dusky grey vertical bars from the rear of the head to the caudal-fin base. There is a small black spot present at the upper end of the pectoral-fin bases and its fins are pale greyish to translucent. This species is known from Indo-West Pacific area including from South Africa, East Africa, Socotra (Yemen), Seychelles, Aldabra (Seychelles), Madagascar and Mascarenes (La Réunion, Mauritius, Rodrigues) east to the Tuamotu Archipelago and Line Islands (Kiribati) and Gambier Islands (French Polynesia), north to southern Korea and Kagoshima Prefecture (southern Japan), south to Western Australia, New South Wales, New Caledonia and Tonga (Frickle *et al.*, 2024; Froese and Pauly 2024, Parenti, 2021).

Abudefduf sexatilis (Linnaeus, 1758)

This species is commonly known as sargent major and it was reported from Thandi Sarak and Pasha Bundar Karachi by Ahmed (1996) and Ahmed and Wazarat (1993). It was originally described as *Chaetodon sexatilis* from India and other localities by Linnaeus (1758). Its holotype is not known, however, syntypes are housed in British Museum of Natural History, London, U. K., Naturhistoriska Riksmuseet, Stockholm, Sweden and Uppsala Universitet, Zoologiska Museet, Uppsala, Sweden (Frickle *et al.*, 2024).

Its report from Pakistan must be based on misidentification as it is known from the Atlantic Ocean only including Rhode Island to Uruguay, Capo Verde Islands, and tropical eastern Atlantic to Angola. (Parenti, 2021).

Abudefduf sexfasciatus (Lacepede, 1801)

This species is commonly known as scissortail sergeant and was reported from Karachi by Anonymous (1955), from Churna Island by Ali, *et al.* (2021), and Mekran by Anonymous (1955). This species was reported from the Pakistan coast without mentioning any specific location Hoda (1985b, 1988). Anonymous (1955) reported this species as *Abudefduf coelestinus* which is considered to be a synonym of this species. It was originally described as *Labrus sexfasciatus* from Indo West Pacific by Lacepede (1801). Its holotype is not known, however, syntypes are housed in Museum National d'Historie Naturelle, Paris, France (Frickle *et al.*, 2024).

This species can be distinguished from other species of genus *Abudefduf* occurring in Pakistan in having a dorsally blue-green and ventrally whitish body that has 4 blackish vertical bars from head to peduncle, and a short 5th bar at caudal-fin base that joins with the black band of the upper lobe. Its each caudal fin lobe has a submarginal black band, and other fins whitish to translucent.

This species is known from Indo-West Pacific area including East Africa, Persian Gulf, Socotra (Yemen), Seychelles, Comoros, Madagascar and Mascarenes (La Réunion, Mauritius, Rodrigues) east to Marquesas Islands and Gambier Islands (French Polynesia), north to southern Korea and southern Japan, south to Rottneest Island (Western Australia), Merimbula (New South Wales, Australia), Lord Howe Island (Australia), Tonga and Rapa Islands (Frickle *et al.*, 2024; Froese and Pauly 2024, Parenti, 2021). It is an invasive species that entered the Mediterranean Sea (Frickle *et al.*, 2024).

Abudefduf sordidus (Forsskal, 1775)

(Fig. 2)

This species is commonly known as blackspot damsel which is reported from Sindh by Day (1877), Buleji (Anonymous, 1993; Hoda, 1985a), Goth Jafar, Hawks Bay, Karachi (Anonymous, 1993), and Karachi (Nielsen, 1960). Froese and Pauly (2024), GBIF (2024) and Hoda (1985b, 1988). Day (1877) reported this species as *Glyphidodon sordidus*. It was originally described as *Chaetodon sordidus* from Jeddah, Saudi Arabia, Red Sea by Forsskal (1775). Its holotype (ZMUC P56264) is housed in Zoological Museum, University of Copenhagen, Denmark (Frickle *et al.*, 2024).

This species can be distinguished from other species of genus *Abudefduf* occurring in Pakistan in having 6 dark grey bars and narrower pale interspaces on the body. It also has an intense black spot on the upper surface of the peduncle and a small black spot at the upper end of the pectoral-fin bases. Its fins are pale greyish to translucent.

This species is known from Indo-West Pacific including South Africa, Red Sea and East Africa, Socotra (Yemen), Seychelles, Comoros, Madagascar, and Mascarenes (La Réunion, Mauritius, Rodrigues), Chagos and Maldives, east to Hawaiian Islands, Wake Atoll and Pitcairn Group, north to southern Korea and central Japan, south to Australia, Tonga and Rapa Islands (Frickle *et al.*, 2024; Froese and Pauly 2024, Parenti, 2021).



Fig. 2. *Abudehdud sordidus*. Photographed of a specimen collected from Karachi Fish Harbour.

Abudehdud vaigiensis (Quoy and Gaimard, 1824)
(Fig.3-4)



Fig. 3. *Abudehdud vaigiensis*. Photographed of a specimen collected from Karachi Fish Harbour.

It is commonly known as Indo-Pacific sergeant and reported from Karachi (Nielsen, 1960), Mubarak Village (Ali, *et al.*, 2021), Paradise Point, Karachi (Moazzam and Rizvi, 1980), Churna Island (Ali *et al.*, 2021), Astola Island (Ali *et al.*, 2021; Anonymous, 2001; Moazzam, 2024). This species was reported from the Pakistan coast without mentioning any specific location (Amanullah and Qureshi, 1967 and Hoda, 1985b, 1988). Amanullah and Qureshi (1967), Hoda (1985b, 1988), Moazzam and Rizvi (1980), and Nielsen (1960) reported this species as *Abudehdud sextatilis vaigiensis*. This species was originally described as *Glyphisodon vaigiensis* from Waigeo, Indonesia by Quoy and Gaimard (1825). Its holotype is not known, however, syntypes are housed in Museum National d'Historie Naturelle, Paris, France (Frickle *et al.*, 2024).



Fig. 4. *Abudefduf vaigiensis*. Specimen caught on board tuna vessel in offshore water of Pakistan; associated with floating debris

This species can be distinguished from other species of genus *Abudefduf* occurring in Pakistan in having a whitish (with yellow tinge dorsally) body with 5 vertical blackish bars from pectoral-fin base to peduncle. Its fins are whitish to translucent. This species is known from the Indo-West Pacific area including South Africa, East Africa, Persian Gulf, Socotra (Yemen), Oman, Seychelles, Comoros, Madagascar and western Mascarenes (La Réunion), Chagos and Maldives, Indonesia, New Guinea, east to Samoa and Tonga, north to southern Korea and central Japan, south to Australia, northern New Zealand Tuamotu Island and Marquesas Island (Frickle *et al.*, 2024; Froese and Pauly 2024, Parenti, 2021). It is a Red Sea immigrant to the Mediterranean Sea. It is also introduced in the Hawaiian Islands

Genus *Amblypomacentrus* Bleeker 1877
Amblypomacentrus annulatus (Peters 1855)

This species is known as footballer demoiselle and it was reported from the Pakistan coast without mentioning any specific location by Hoda (1985b, 1988) and Hussain (2003). This species was originally described as *Pomacentrus annulatus* from Mozambique by Peters (1855). Its holotype is not known, however, syntypes are housed in Zoologisches Museum, Humboldt Universitat, Berlin (Frickle *et al.*, 2024).

It has a white body with 5 black transverse bars (on the head, body, and adjacent fins). Its pelvic fins are black and other fins are white or yellow to translucent. This species is known from the Western Indian Ocean including Red Sea to South Africa, East Africa to Socotra (Yemen), Seychelles, Aldabra, Madagascar, Reunion and Mauritius (Frickle *et al.*, 2024; Froese and Pauly, 2024).

Genus *Amphiprion* Bloch and Schneider 1801
Amphiprion biaculeatus (Bloch 1790)

This species is commonly known as spinecheek anemonefish. It was reported from Pakistan by Amanullah and Qureshi (1967) as *Premnas biaculeatus*. It was originally described as *Chaetodon biaculeatus* from East Indies by Bloch (1790). Information about types are not available (Frickle *et al.*, 2024).

This species is known from the Eastern Indian Ocean and Western Pacific including the Indo-Australian Archipelago including India, Myanmar, Thailand, Malaysia, Indonesia, Philippines, New Guinea, New Britain, Solomon Islands, Vanuatu, and Australia (Frickle *et al.*, 2024; Froese and Pauly 2024, Parenti, 2021). Since this species is not known from the Western Indian Ocean it is presumed that its records from Pakistan may be based misidentification of some other species.

Amphiprion chrysopterus Cuvier, 1830

This species is known as orange-finned anemonefish and reported from Naval firing area near Karachi by Ahmed (1996) and Ahmed and Wazarat (1993). This species was described by Cuvier (1830). Its type locality is not

known and holotype used to be housed in Museum National d'Historie Naturelle, Paris, France (Frickle *et al.*, 2024). This species was reported by Ahmad (1996) and Ahmed and Wazarat (1993) from Karachi. According to Froese and Pauly (2024) this species is known from the Pacific Ocean including Australia (northern Great Barrier Reef), the Coral Sea, New Guinea, New Britain, Solomon Islands, Vanuatu, Fiji, Caroline Islands, Marshall Islands, Gilbert Islands, Samoa, Society Islands and Tuamotu Islands (Frickle *et al.*, 2024; Froese and Pauly 2024, Parenti, 2021). Since this species is not known from the Western Indian Ocean it is presumed that its records from Pakistan may be based misidentification of some other species.

***Amphiprion ephippium* (Bloch, 1790)**

This species is commonly known as saddle anemonefish and it was reported from Pakistan by Hoda (1985b, 1988). It was originally described as *Lutjanus ephippium* from Tranquebar, India by Bloch (1790). Its holotype is not known, however, lectotype (ZMB 2766) is housed in Zoologisches Museum, Humboldt Universitat, Berlin (Frickle *et al.*, 2024). It is known from Eastern Indian Ocean including Andaman and Nicobar Islands, Thailand, Malaysia, and Java and Sumatra in Indonesia (Frickle *et al.*, 2024; Froese and Pauly 2024, Parenti, 2021). Since this species is not known from the Western Indian Ocean it is presumed that its records from Pakistan may be based misidentification of some other species.

***Amphiprion percula* (Lacepede, 1802)**

This species is known as orange clownfish and reported from Buleji, Manora, Thandi Sarak by Ahmed and Wazarat (1993). This species was reported from the Pakistan coast without mentioning any specific location by Ahmed (1996) and Hoda (1985b, 1988). It was originally described as *Lutjanus percula* from Port Praslin, New Britain Island, Bismarck Archipelagoby Lacepede (1802). Whereabouts of the holotype are not known (Frickle *et al.*, 2024).

This species is known from Western Pacific including Queensland and Melanesia including northern Great Barrier Reef, northern New Guinea, New Britain, Solomon Islands, Vanuatu and New Caledonia (Frickle *et al.*, 2024; Froese and Pauly 2024, Parenti, 2021). Since this species is not known from the Western Indian Ocean it is presumed that its records from Pakistan may be based misidentification of some other species.

***Amphiprion sandaracinos* Allen 1972**

This species is commonly known as yellow skunk clownfish and was reported from Churna Island, Pakistan by Ali *et al.* (2021). This species was originally described from Pagbilao Island, Luzon Island, Philippines by Allen (1972). Its holotype (USNM 147130) is housed in US Natural History Museum, Washington D. C., USA (Frickle *et al.*, 2024).

This species is known from the Eastern Indian Ocean and western Pacific including Christmas Island and Indonesia Ryukyu Islands, Taiwan, Philippines, New Guinea, D'Entrecasteaux Islands, New Britain, Solomon Islands, northwestern Australia, Christmas Island and New Caledonia ((Frickle *et al.*, 2024; Froese and Pauly 2024, Parenti, 2021).

Ali *et al.* (2021) did not provide any photograph or details about *Amphiprion sandaracinos*, however, a photograph under the same name is provided under Ali (2017) which indicates that there is no white band on the dorsal profile which is characteristic of this species. Although the photograph is blurred but seems closer to *Plectroglyphidodon cf. luteobrunneus* (Smith 1960) which has similar coloration and a spot on the start of the first dorsal fin. *P. luteobrunneus* is known from East Africa to India and Sri Lanka (Frickle *et al.*, 2024).

***Amphiprion sebae* Bleeker, 1853**

This species is commonly known as Sebae anemone fish and was reported from Pakistan coast without mentioning any specific location by Allen (1991), Hoda (1985b, 1988), Hussain (2003), Jalil and Khalil (1972, 1981) and Lieske and Meyers (1994). It was originally described from Jakaraka, Java, Indonesia by Bleeker (1853). No holotype is known, however, syntypes are housed in AMS and National Museum of Victoria, Melbourne, Victoria, Australia. (Frickle *et al.*, 2024).

This species is known from Indian Ocean including Arabian Peninsula, Gulf of Aden, Oman, India, Sri Lanka, Maldives, Andaman Islands, and Sumatra and Java, Indonesia (Frickle *et al.*, 2024; Froese and Pauly, 2024).

Genus *Cheiloprion* Weber 1913
Cheiloprion labiatus (Day, 1877)

This species is commonly known as big-lip damsel and it is reported from Pakistan by Amanullah and Qureshi (1967). It was originally described as *Pomacentrus labiatus* from Andaman and Nicobar Islands, Bay of Bengal, India by Day (1877). Its holotype is not known, however, syntypes or Day's specimens are housed in Australian Museum, Sydney, N. S. W., Australia, British Museum of Natural History, London, U. K. , Naturhistorisches Museum, Wien (Vienna), Austria, Rijksmuseum van Natuurlijke Historie, Leiden and Zoological Survey of India, Kolkata (Frickle *et al.*, 2024).

This species is known from Sri Lanka Andaman Islands and Bangladesh to, Eastern Pacific including the Solomon Islands, north to the Philippines, south to Vanuatu, northern Australia and Palau (Belau) in Micronesia (Frickle *et al.*, 2024; Froese and Pauly, 2024).

Genus *Chromis* Cuvier, 1814
Chromis chromis (Linnaeus, 1758)

This species is commonly known as damselfish and reported from Pasha Bundar, Karachi, Pakistan by Ahmed (1996) and Ahmed and Wazarat (1993). This species was originally described as *Sparus chromis* from southern Europe by Linnaeus (1758), however, no type is known (Frickle *et al.*, 2024).

This species is known from Mediterranean Sea: Eastern Atlantic: Along the coast of Portugal to the Gulf of Guinea (St. Thomas Island = São Tomé Island) extending to Angola Micronesia (Frickle *et al.*, 2024; Froese and Pauly, 2024). Its record from Pakistan is erroneous and may be base a misidentification of some other species.

Chromis flavaxilla Randall 1994

This species is commonly known as Arabian chromis and reported from Churna Island, Balochistan by Ali *et al.*, (2021). This species was originally described from Um-aabak, Dahklak Archipelago, Eritrea, Ethiopia, Red Sea by Randall (1994). Its holotype (BPBM 36414) is housed in Bernice P. Bishop Museum, Honolulu, Hawaii, U.S.A. (Frickle *et al.*, 2024).

The head and body of this species are olive-brown whereas scale edges are darker on the upper half of the body. Its fins are brown to translucent and the upper and lower margins of the caudal fin are broadly blackish, with a thin blue line along the distalmost margin, and also along the leading edges of dorsal, anal, and pelvic fins. Its pectoral-fin axils range-yellow. It is known from Red Sea; northwestern Indian Ocean: Gulf of Aden, Socotra, Gulf of Oman, Persian Gulf (Frickle *et al.*, 2024). Another unidentified species of genus *Chromis* was reported by Ali *et al.* (2021) from Churna Island, Pakistan.

Genus *Chrysiptera* Swainson 1839
Chrysiptera biocellata (Quoy and Gaimard, 1824)

It is commonly known as twin-spot damselfish and reported from Buleji, Hawks Bay by Ahmed and Wazarat (1993), Karachi by Nielsen (1960) and Paradise Point (Moazzam and Rizvi, 1980). It was reported from the Pakistan coast without mentioning any specific location by Ahmed (1996), Allen (1991), and Hoda (1985b, 1988). Ahmed (1996), Ahmed and Wazarat (1993), Hoda (1985b, 1988), Moazzam and Rizvi (1980) and Nielsen (1960) reported this species as *Abudefduf biocellatus*. It was originally described as *Glyphisodon biocellatus* from Guam, Mariana Islands, western Pacific by Quoy and Gaimard (1824). Its holotype (MNHN 8361) is housed in Museum National d'Historie Naturelle, Paris, France (Frickle *et al.*, 2024).

It is known from Indo-West Pacific area including South Africa, East Africa, Seychelles, Madagascar and Mascarenes (Mauritius), east to Caroline Islands (Federated States of Micronesia), Samoa, north to Ryukyu Islands (Japan), south to Jervis Bay (A.C.T., Australia) and east to Caroline Islands (Federated States of Micronesia) and Samoa, north to Ryukyu Islands (Japan), south to Jervis Bay, Australia (Frickle *et al.*, 2024; Froese and Pauly, 2024).

Chrysiptera cyanea (Quoy and Gimard, 1825)

This species is commonly known as sapphire devil. It was reported from the Pakistan coast without mentioning any specific location by Hussain (2003), Jalil and Khalil (1972, 1981) as *Abudefduf uniocellatus*. It was originally

described as *Glyphisodon cyaneus* from Timor Island, southern Malay Archipelago by Quoy and Gaimard (1825). Its holotype (MNHN 8365) is housed in Museum National d'Historie Naturelle, Paris, France (Frickle *et al.*, 2024).

This species is known from Indo-West Pacific area including eastern edge of the Indian Ocean and Western Australia to New Guinea, New Britain, Solomon Islands, Marianas and Caroline Islands, Indonesia, Philippines, Taiwan, Ryukyu Islands, Kyushu (Japan), Vanuatu, New Caledonia, Palau and Yap and Samoa (Frickle *et al.*, 2024; Froese and Pauly, 2024).

***Chrysiptera brownriggii* (Bennett, 1828)**

(Fig. 5)

This species is commonly known as surge damsel and is reported for the first time from Pakistan coast. This species was originally described from South coast of Sri Lanka, Indian Ocean as *Chaetodon brownriggii* by Bennett (1828). Its holotype is not known (Frickle *et al.*, 2024)

This species is known to have two distinct colour forms. The first is pale form which is mainly pale yellow body, including fins. It has a prominent bright blue stripe dorsally (from snout and over eyes and beneath dorsal-fin base to peduncle). It also has a blue-edged black ocellus on rear part of dorsal fin. The other form is a dark form dark brown with broad white bar at midbody and another bar on peduncle. Its rear margin of opercle white or yellowish and fins are brown to translucent except middle portion of caudal fin which is whitish or pale yellow.



Fig. 5. *Chrysiptera brownriggii* Photographed at Goth Mubarak, Karachi (Photo Credit: Zafeer A. Shaikh) <https://www.facebook.com/photo/?fbid=1916512165471706&set=gm.7540789489369962&id=2466568380125457>

This species is known from Indo-Pacific area including South Africa, Kenya, Socotra (Yemen), Seychelles, Madagascar, Comoros, Seychelles, Mascarenes (La Réunion, Mauritius, Rodrigues), Chagos, Maldives, India, Sri Lanka, Andaman Sea and Indonesia, Marquesan and Society islands, north to Japan, south to Australia (Allen, 2022; Frickle *et al.*, 2024; Froese and Pauly 2024, Parenti, 2021).

According to Allen (2022), this species occurs on shallow reefs exposed to wave action. Its pale form is often found on either side of outerreef crests where wave action is less severe, whereas dark fish mainly inhabit wave-swept algal ridges, however, the two colour forms are sometimes seen together. It was photographed by Mr. Zafeer A. Shaikh at Goth Mubarak, Karachi in a rock pool and only pale form was photographed.

***Chrysiptera unimaculata* (Cuvier, 1830)**

This species is commonly known as onepoint demoiselle. It was reported from Astola Island by Anonymous (2001), Froese and Pauly (2024) and GBIF (2024). Additionally several specimens (mainly juveniles) were collected and photographed at Karachi coast including at Mubarak Goth. It was originally described as *Glyphisodon unimaculatus* from Timor Island, southern Malay Archipelago by Cuvier (1830), however, no type is known (Frickle *et al.*, 2024).

Adults of this species are brown to pale bluish-grey which often have pale streaks at the center of each scale. There is a black blotch or blue-edged black spot on the rear of the dorsal fin. Its fins are brown or grey to translucent, except pectoral fins which are translucent yellow. Juveniles are mainly yellow, with a prominent blue stripe on the sides from the snout to below the rear half of the dorsal fin. It has a large blue-edged black spot at the base of the last dorsal-fin spines and a similar smaller spot at the base of the last dorsal-fin rays.

This species is known from Indo-West Pacific area including South Africa Red Sea, East Africa, Socotra (Yemen), Oman, Seychelles, Comoros, Madagascar and Mascarenes (La Réunion, Mauritius, Rodrigues), Chagos, Maldives, India, north to Ryukyu Islands and east to Timor Sea, Fiji, Tonga, southern Great Barrier Reef and Australia (Allen, 2022; Frickle *et al.*, 2024; Froese and Pauly 2024, Parenti, 2021).



Fig. 6. *Chrysiptera unimaculata* Juvenile photographed at Goth Mubarak, Karachi

Genus *Dascyllus* Cuvier 1829

Dascyllus marginatus (Ruppell, 1828)

This species is called marginate dascyllus and reported from Buleji (Ahmed and Wazarat, 1993), Paradise Point, Karachi (Moazzam and Rizvi, 1980). It was reported from the Pakistan coast without mentioning any specific location by Ahmed (1996), Amanullah and Qureshi (1967), Hoda (1985b, 1988). It was originally described as *Pomacentrus marginatus* from Massawa, Eritrea, Red Sea by Ruppell (1828). Its holotype is not known, however, syntypes or Ruppell's specimens are housed in British Museum of Natural History, London, U. K., Naturhistorisches Museum, Wien (Vienna), Austria, Forshungs Institut und Natur Museum Senckenberg, Frankfurt, Germany and Museum National d'Historie Naturelle, Paris, France (Frickle *et al.*, 2024).

The body of this fish is entirely white (sometimes also with pale blue scale margins, or sometimes greyish on the head and over much of the lower sides). Its fins are mostly white to bluish, except black pelvic fins. Its dorsal and anal fins are with prominent black margins and black or blackish spots covering pectoral-fin bases. This species is known from Western Indian Ocean including Red Sea, Socotra (Yemen), Oman, and Mozambique (Allen, 1991; 2022. Frickle *et al.*, 2024; Froese and Pauly 2024, Parenti, 2021; Randall and Allen, 1977).

Genus *Dischistodus* Gill, 1863

Dischistodus perspicillatus (Cuvier, 1830)

This species is commonly known as white damsel and reported from Paradise Point, Karachi (Moazzam and Rizvi, 1980). It was reported from the Pakistan coast without mentioning any specific location by Allen (1991), Amanullah and Qureshi (1967) and Hoda (1985b, 1988). Amanullah and Qureshi (1967), Hoda (1985b, 1988) and Moazzam and Rizvi (1980) as *Pomacentrus perspicillatus*. It was originally described as *Pomacentrus pavo perspicillatus* by Cuvier (1830). Its type locality is not known, however, the holotype is housed in Rijksmuseum van Natuurlijke Historie, Leiden (Frickle *et al.*, 2024).

This species is known from the eastern Indian Ocean from the Andaman Sea, Rowley Shoals to northwest Australia eastward to the Mariana Islands and Solomon Islands, north to China, and south to the Great Barrier Reef

(Frickle *et al.*, 2024; Froese and Pauly, 2024; Parenti, 2021). Since this species is not known from the Western Indian Ocean it is presumed that its records from Pakistan may be based misidentification of some other species.

Genus *Neopomacentrus* Allen, 1975
Neopomacentrus bankieri (Richardson, 1846)

This species is commonly known as Chinese demoiselle and reported from Mubbarak Village and Churna Island by Ali *et al.*, 2021). It was originally described as *Glyphisodon bankieri* from Hong Kong, China Seas by Richardson (1846). Its holotype is not known, however, syntypes (BMNH 1848.3.19.113-114) is housed in British Museum of Natural History, London, U. K. (Frickle *et al.*, 2024).

It is known from Indonesia east to New Ireland (Papua New Guinea), north to southern China, and south to northern Australia (Frickle *et al.*, 2024; Froese and Pauly, 2024; Parenti, 2021). According to Froese and Pauly (2024) there are two separate populations; the first population inhabits the South China and Java seas. The second population is known from eastern Queensland and the vicinity of Daru Island off southern Papua New Guinea. Since this species is not known from the Western Indian Ocean it is presumed that its records from Pakistan may be based misidentification of some other species.

Neopomacentrus cyanomos (Bleeker, 1856)
 (Fig. 7)



Fig. 7. *Neopomacentrus cyanomos* Astola Island (Diver Reef Karachi)

This species is commonly known as regal damselfish and reported from Churna Island (Ali *et al.*, 2021) and Astola Island by Moazzam (2024). It was originally described as *Pomacentrus cyanomos* from Jakarta, Java, Indonesia by Bleeker (1856). Whereabouts of the holotype is not known, however, Bleeker's specimen is housed in British Museum of Natural History, London, U. K. (Frickle *et al.*, 2024).

This species is known from the Indo-West Pacific area including the Red Sea, East Africa Persian Gulf, Socotra (Yemen) and Madagascar to Philippines, New Ireland (Papua New Guinea) and Vanuatu, north to southern Japan to northern Australia New Caledonia, Melanesia, north to southern Japan, Ryukyu Islands, Taiwan, and Philippines (Frickle *et al.*, 2024; Froese and Pauly, 2024). It is reported to be invasive in Invasive at Cayo Arcas (Campeche Bank) Gulf of Mexico (Frickle *et al.*, 2024; Parenti, 2021). It was observed to be abundant at Churna Island and Astola Island, possibly the most dominating species in some parts of these coral habitats.

Neopomacentrus miryae Dor and Allen, 1977

This species is commonly known as Miry's demosille and was reported from Churna Island by Ali *et al.* (2021). This species was originally described from Dahab, Sinai Peninsula, Egypt, Gulf of Aqaba, and Red Sea by Dor and Allen (1977). Its holotype (BPBM 20322) is housed in the Bernice P. Bishop Museum, Honolulu, Hawaii, U.S.A. (Frickle *et al.*, 2024).

This species is known from the Red Sea and the northwestern Indian Ocean- Socotra (Froese and Pauly, 2024) as well as the Red Sea north of Jeddah, Saudi Arabia, and Socotra (Frickle *et al.*, 2024; Froese and Pauly, 2024, Parenti, 2021).

Neopomacentrus sindensis (Day, 1873)
(Fig. 8)



Fig. 8. *Neopomacentrus sindensis*. Karachi Fish Harbour

This species is commonly known as Arabian damselfish and was reported Karachi by Day (1873, 1877, 1889), Jenkins, 1910) and Sorley (1932), Mubbark Village by Ali et al. (2021), Paradise Point, Karachi (Moazzam and Rizvi, 1980), Sindh creeks (Amanullah and Qureshi, 1967) and Churna Island, Astola Island (Ali et al. 2021; Anonymous, 2001, Moazzam, 2024). It was reported from the Pakistan coast without mentioning any specific location by Allen (1991), Froese and Pauly (2024), Hoda (1985b, 1988) and Randall (1995). Day (1889), Hoda (1985b, 1988), Jenkins (1910), Moazzam and Rizvi (1980) and Sorley (1932) reported this species as *Pomacentrus sindensis* whereas Day (1877) referred it as *Glyphisodon sindensis*. It was originally described as *Glyphidodon sindensis* from Karachi, Pakistan by Day (1873). No holotype is known, however, syntypes or Day's specimens are housed in Australian Museum, Sydney, N. S. W., Australia, British Museum of Natural History, London, U. K., Universita di Firenze, Museo Zoologico de la Specola, Firenze, Italy, Naturhistorisches Museum, Wien (Vienna), Austria and Zoological Survey of India, Kolkata (Frickle et al., 2024).

This species is reported from the Western Indian Ocean including the Persian Gulf and Arabian Sea, the Gulf of Aden, and the Gulf of Oman, east to Pakistan (Frickle et al., 2024; Froese and Pauly 2024, Parenti, 2021). It is the most common species of fish found in coral habitats and shipwrecks along the coast of Pakistan.

Neopomacentrus taeniurus (Bleeker, 1856)

This species is commonly known as freshwater demoiselle. It was reported from the Pakistan coast without mentioning any specific location by Amanullah and Qureshi (1967), Hoda (1985b, 1988) and Jalil and Khalil (1972, 1981) as *Abudefduf cochinensis*. It was originally described as *Pomacentrus taeniurus* from Ambon Island, Moluccas Islands, Indonesia by Bleeker (1856). The whereabouts of the holotype are not known, however, Bleeker's specimen is housed in the British Museum of Natural History, London, U. K. (Frickle et al., 2024). Parenti (2021) considers this species and *Abudefduf cochinensis* as a synonym of *Neopomacentrus fallax* (Peters, 1855).

This species is known from the Indo-West Pacific area including Madagascar, East Africa to Indonesia and the Solomon Islands, north to Ryukyu Islands, Taiwan and the Philippines, and south to northern Australia and Vanuatu. Reported from Taiwan ((Frickle et al., 2024; Froese and Pauly, 2024).

Genus *Plectroglyphidodon* Fowler and Ball 1924

Plectroglyphidodon obreptus (Whitley 1948)

(Fig. 9)

This species is commonly known as Western gregory and is a new record from Pakistan. It was originally described as *Pomacentrus obreptus* from Monte Bello Islands, Western Australia. Its holotype: (AMS IB.1571) is housed in the Australian Museum, Sydney, Australia (Frickle et al., 2024).

Its body and median fins are generally brown to nearly black whereas it is paler ventrally. The fins are grading to smoky gray distally. The margin of its scales on sides with blackish streaks, appearing as a series of transverse bands. There are a few small blue spots scattered on the head and sides. The leading edge of its pelvic and anal fins are bright blue anteriorly and lips are dusky brown.



Fig. 9. *Plectroglyphidodon obreptus*. Karachi Fish Harbour

This species is known from the eastern Indian Ocean and western Pacific area including the Ryukyu Islands, Japan to the Indo-Malayan Archipelago, the Philippines and West Papua (Indonesia), and Western Australia north of Abrolhos Islands. Its distribution extends eastward along the northern margin of the tropical Indian Ocean to Sri Lanka, Bangladesh, and East Andaman Sea, and India (Frickle *et al.*, 2024; Froese and Pauly 2024; Parenti, 2021). The present paper extends its distribution further to the northwest into the Arabian Sea along the coast of Pakistan.

Genus *Pomacentrus* Lacepède, 1802

Pomacentrus caeruleus Quoy and Gaimard, 1825

This species is commonly known as Caerlean damsel. This species is reported from Mubbarak Village and Churna Island by Ali *et al.* (2021). It was originally described from Mauritius, Mascarenes, southwestern Indian Ocean by Quoy and Gaimard (1825). Its holotype is not known, however, Syntypes (MNHN 0000-8250) is housed in the Museum National d'Historie Naturelle, Paris, France (Frickle *et al.*, 2024).

This species is known from the Western Indian Ocean including South Africa, East Africa, Socotra, Seychelles, Comoros, Madagascar and Mascarenes (La Réunion, Mauritius, Rodrigues) east to Maldives (Frickle *et al.*, 2024; Froese and Pauly 2024; Parenti, 2021).

Pomacentrus tripunctatus Cuvier, 1830

(Fig. 10)

This species is commonly known as threespot damsel. It was reported from the Pakistan coast without mentioning any specific location by Amanullah and Qureshi (1967) and Hoda (1985b, 1988). It was originally described from Vanikoro Island, Santa Cruz Islands, southwest Pacific (11°37'S, 166°58'E) by Cuvier (1830). No holotype is known, however, syntypes are housed in Museum National d'Historie Naturelle, Paris, France (Frickle *et al.*, 2024).

It has a dark greyish brown body which has darker scale edges and have small blackish 'ear' spot on the upper opercle. There is a black spot or saddle-like marking on the upper half of the peduncle, usually preceded by a small blue spot. The fins are dark grey to translucent whereas the pectoral-fin axil with black spot and, the base of the uppermost rays is whitish. Juveniles with blue-rimmed black ocellus posteriorly on the dorsal fin.

This species is known from the Indo-West Pacific area including India, Sri Lanka, Bangladesh, Andaman Sea (Phuket) and Malaysia, east to the Philippines, New Ireland (Papua New Guinea), New Britain, Solomon Islands, Santa Cruz Islands, and Vanuatu and Vanuatu, north to Ruykyu and Yaeyama Islands (Japan), south to northern Australia and New Caledonia (Allen, 2022; Frickle *et al.*, 2024; Froese and Pauly, 2024; Parenti, 2021). Along the Pakistan coast, it was observed to be common in the intertidal and subtidal areas along the rock shores and coral assemblages.



Fig. 10. *Pomacentrus tripunctatus*. Karachi Fish Harbour.

Genus *Stegastes* Jenyns, 1840

Stegastes acapulcoensis (Fowler, 1944)

This species is commonly known as Acapulco major and reported from Manora and Buleji by Ahmed (1996) and Ahmed and Wazarat (1993) as *Eupomacentrus acapulcoensis*. It was originally described as *Pomacentrus acapulcoensis* from Acapulco, Mexico by Fowler (1944). Holotype (ANSP 70281) is housed in ANSP (Frickle *et al.*, 2024).

This species is known from Baja California, Mexico to Lobos de Afuera, Peru, including the Cocos and Galapagos islands (Froese and Pauly, 2024). The record from Pakistan is a misidentification.

Stegastes flavilatus (Gill, 1862)

This species is commonly known as beaubrummel and it was reported Ahmed (1996) and Ahmed and Wazarat, (1993) from Buleji, Karachi s *Eupomacentrus flavilatus*. It was originally described as *Pomacentrus flavilatus* from Cape San Lucas, Baja California, Mexico by Gill (1862). Its possible holotype (USNM 3671) is housed in the National Museum of Natural History, Washington D.C., U.S.A.or (MCZ 36023), housed in MCZ (Frickle *et al.*, 2024).

This species is known from Baja California, Mexico to Bahia Santa Elena, Ecuador (Froese and Pauly, 2024). The record from Pakistan is a misidentification.

CONCLUSIONS

Since damselfishes of Family Pomacentridae are found mainly in coastal water, therefore, general public and fishermen area are aware of, at least those species which are found along rocky shores and nearshore environments. More often these species are caught by sport fishermen that operate on rocky shore and in coral areas. Pomacentridae has no economic importance except for the aquarium trade. In the 1960s, small quantities of species belonging to genera *Abudefduf*, *Neopomacentrus* and *Chrysiptera* used to be exported from Karachi to Germany and other European countries (Nielsen, 1960). Recreational fishermen that fish on the rocky shores, coral assemblages, and shipwrecks frequently catch the members of the families, however, most of these species are discarded except larger specimens of *Abudefduf* and *Pomacentrus* are sometimes retained and consumed.

Ahmed (1996) and Ahmed and Wazarat, (1993) have studied aquarium fishes in Pakistan and reported several species that were possibly identified by matching with published photos in various books, thus resulting in reports of several Atlantic and Pacific Oceans species whose occurrence in Pakistan is not possible. Records of occurrence of *Abudefduf sextatilis* (Linnaeus, 1758), *Chromis chromis* (Linnaeus, 1758), *Stegastes acapulcoensis* (Fowler, 1944) and *Stegastes flavilatus* (Gill, 1862) from Pakistan made by Ahmed (1996) and Ahmed and Wazarat (1993) are, therefore, considered erroneous.

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