

The armoured sea robin, *Peristedion cataphractum* (Linnaeus, 1758) in the coastal waters of Mukallah, Yemen

Le malarmat, *Peristedion cataphractum*
(Linnaeus, 1758) dans les eaux côtières
de Mukallah, Yemen

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Mukallah is one of the chief fishing centres in Yemen. It is situated on the Southern coast of the Arabian Peninsula, East of Aden city.

In November 2001, a single specimen of the peristediid fish, *Peristedion cataphractum* (Linnaeus, 1758) was captured on the coast of Mukallah city, Yemen in the Arabian Sea by one of us (MAB), using a seine net. The fish was 424 mm in total length. The specimen was stored among the fish specimens at the Faculty of Environmental Sciences and Marine Ecology, Mukallah, Yemen.

Linnaeus (1758) originally described *Peristedion cataphractum* as *Trigla cataphracta*. Lacépède (1801) described the same species as *Peristedion malarmat* and *Peristedion chabrontera*, both of which are considered to be synonyms (Blanc, Hureau, 1973). Subsequently, it was reported from the Italian and

Sicilian coasts (Rafinesque, 1810) as *Octonus olosteon*. In 1951, Cadenat described it from the Sénégal coasts as *Peristedion macronema*.

The genus *Peristedion* comprises twenty-three species distributed throughout the world in tropical and temperate seas (Fish base, 2001). *P. weberi*, ranging from Somalia to Natal, South Africa is the only species that is geographically close to the Mukallah *Peristedion* species recorded here in. *P. cataphractum* differs from *P. weberi* in several morphological aspects such as: the shape of the 1st and 2nd dorsal fins, long and branched mandibular and chin barbels, and number of spines and rays in dorsal fins and anal fin.

The armoured sea robin occurs along the Northeast, Eastern central and Southeast Atlantic coasts, in the Mediterranean and Black Seas (Fish base, 2001).

Previous studies on the ichthyofauna of the Red Sea, the Arabian Sea and the Arabian Gulf have not indicated the presence of *P. cataphractum* on the coasts of these areas (Botros, 1971; Kuronuma, Abe, 1972; Chakraborty, 1984; Ormond *et al.*, 1984; Al-Baharna, 1986; Randall, 1986, 1995; Hussain *et al.*, 1988; El-Etraby, 1992; Al-Sakaff, Essen, 1999).

It is very unlikely for such a disjunct distribution of *Peristedion cataphractum* to have arisen naturally. There are two explanations for the presence of this fish in the coastal waters of Mukallah. The possibility of anti-lessepsian migration cannot be ruled out since there is no record of this species in the Red Sea (Botros, 1971, Randall, 1986). A more likely explanation however is that the *P. cataphractum* has been accidentally introduced to Mukallah coast in the ballast water of ships or sea chests. Most likely there are oil supertankers, playing between Europe and the Arabian Gulf through the Strait of Aden. The feasibility of the transport in ballast water of fish and other organisms is reviewed by Carlton (1985). Strictly marine, *P. cataphractum* is a taxon composed of various morphs, with different ecological preferences, one of which for example, has a larval pelagic existence in coastal waters (Hureau, 1986). The likelihood of trapping *P. cataphractum* in ballast water would depend on the environmental conditions around domestic shipping-terminals and the immediate movements of the vessel after discharge of cargo. Elsewhere, and most likely also introduced in ballast water, two Japanese coastal gobies, *Acanthogobius flavimanus* (Temminck et Schlegel) and *Tridentiger trigonocephalus* (Gill), have become established in New South Wales (Williams *et al.*, 1978; Middleton, 1982; Lockett, Gomon, 1999) and California (Haaker, 1979). Another Japanese goby fish, *Rhinogobius brunneus* (Temminck et Schlegel) has become established in the North West corner of the Arabian Gulf (Al-Hassan, Miller, 1987). Recent studies by Cranfield *et al.* (1998), Thresher *et al.* (1999), Hewitt (2002), Gollasch (2002) and Dodgshun, Coutts (2003), however, suggest that the sea chests are considered as a major carrier of potential marine organisms.

The importance of this record is valuable when biosecurity issues are raised. Nothing exists on record about the feeding, reproduction and behavioural biology of this species or on the other members of the family Peristediidae that can be used in the discussion of biosecurity issues. Members of the closest family Triglidae, however, are bottom feeders preying on small

crustaceans and molluscs. Considering this feeding habit, Peristediids might have an unknown impact on the bottom fauna of the Arabian Sea. In addition, their unknown behaviour could form an important biosecurity issue that should be taken into consideration when the ecosystem of the area is discussed.

We believe that the origin of the Arabian Sea specimen of armoured sea robin could be conclusively demonstrated by further studies once field works in the area can again provide specimens.

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Bibliography

- Al-Baharna W.**, 1986 - *Fishes of Bahrain*. Ministry of Commerce and Agriculture, Directorate of Fisheries, Manama, Bahrain, 285 pp.
- Al-Hassan L.A.J., P.J. Miller**, 1987 - *Rhinogobius brunneus* (Gobiidae) in the Arabian Gulf. *Japan. J. Ichthyol.*, **33** (4) : 405-408.
- Al-Sakaff H., M. Esseen**, 1999 - Occurrence and distribution of fish species off Yemen (Gulf of Aden and Arabian Sea). *Naga*, **22** (1) : 43-47.
- Blanc M., J.-C. Hureau**, 1973 - Peristediidae. In : *Checklist of the fishes of the north-eastern Atlantic and of the Mediterranean - Clofnam, Vol. I*. J.-C. Hureau, T. Monod (eds), UNESCO, Paris, pp: 591.
- Botros G.A.**, 1971 - Fishes of the Red Sea. *Oceanogr. mar. Biol. a. Rev.*, **9** : 221-348.
- Cadenat J.**, 1951 - *Poissons de mer du Sénégal, Initiations Africaines, III*. Institut Français d'Afrique Noire, Dakar, 345 pp.
- Carlton J.T.**, 1985 - Transoceanic and interoceanic dispersal of coastal marine organisms: the biology of ballast water. *Oceanogr. mar. Biol. a. Rev.*, **23** : 313-371.
- Chakraborty D.**, 1984 - *Fishery statistics in the People's Democratic republic of Yemen. An expanded plan of development*. UNDP/RAB/81/002/19, 48 pp.

- Cranfield H.J., D.J. Gordon, R.C. Willan, B.C. Marshall, C.N. Battershill, M.P. Francis, W.A. Nelson, C.J. Glasby, G.B. Read**, 1998 - Adventive marine species in New Zealand. *NWA techn. Repts*, **34**, 48 pp.
- Dodgshun T., A. Coutts**, 2003 - Opening the lid on sea chests. *Seafood N.Z.*, **11** (2) : 35.
- El-Etraby S.G.**, 1992 - Experimental trawl, fishing survey for the demersal fishes in the Red Sea Coast of the Republic of Yemen. *J. Egypt. Ger. Soc. Zool.*, **10** (B) : 13-37.
- Fish base**, 2001 - <http://www.fishbase.org/Eschmeyer/EschmeyerSummary.cfm> RefNo= 12676
- Gollasch S.**, 2002 - The importance of ship hull fouling as a vector of species introductions into the North Sea. *Biofouling*, **18** (2) : 105-121.
- Haaker P.L.**, 1979 - Two Asiatic gobiid fishes, *Tridentiger trigonocephalus* and *Acanthogobius flavimanus*, in Southern California. *Bull. south. Calif. Acad. Sci.*, **78** : 56-61.
- Hewitt C.L.**, 2002 - The distribution and biodiversity of tropical Australian marine bioinvasions. *Pacif. Sci.*, **56** (2) : 213-222.
- Hureau J.-C.**, 1986 - Peristediidae. In : *Fishes of the North-Eastern Atlantic and the Mediterranean. Vol. III*. P.J.P. Whitehead, M.-L. Bauchot, J.-C. Hureau, J. Nielsen, E. Tortonese (eds), UNESCO, Paris, pp : 1239-1240.
- Hussain N.A., A.K. Naima, L.A.J. Al-Hassan**, 1988 - Annotated check-list of the fish fauna of Khor Al-Zubair, North West of the Arabian Gulf, Iraq. *Acta ichthyol. pisca.*, **18** (1) : 17-24.
- Kuronuma K., Y. Abe**, 1972 - *Fishes of Kuwait*. Kuwait Institute for Scientific Research, Kuwait, 123 pp.
- Lacépède B.G.E.**, 1801 - *Histoire naturelle des poissons - Vol.3*. Paris, 558 pp.
- Linnaeus C.**, 1758 - *Systema Naturae, Ed. X. (Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tomus I. Editio decima, reformata)*, Holmiae, Systema Nat. ed., 824 pp.
- Lockett M.M., M.F. Gomon**, 1999 - Occurrence and distribution of exotic fishes in Port Phillip Bay. In : *Marine biological invasions of Port Phillip Bay, Victoria*. C.L. Hewitt, M.L. Campbell, R.E. Thresher, R.B. Martin, (eds), CSIRO Centre for Research on Introduced Marine Pests, Techn. Report 20, pp : 178-192.
- Middleton M.J.**, 1982 - The oriental goby, *Acanthogobius flavimanus* (Temminck and Schlegel), an introduced fish in the coastal waters of New South Wales, Australia. *J. Fish Biol.*, **21** : 513-523.
- Ormond R.F.G., S.A.R. Doweon, A.R.C. Price, J.R. Pitts**, 1984 - *Reports on the distribution of habitats and species in the Saudi Arabian Red Sea. I*. IUCN/MEPA, Kingdom of Saudi Arabia, 123 pp.
- Rafinesque C.S.**, 1810 - *Indice d'ittologia siciliana ossia catalogo metodico dei nomi latini, italiani, e siciliani dei pesci, che si rinvencono in Sicilia*. Indice Ittiol. Sicil., Messina, 69 pp.
- Randall J.E.**, 1986 - *Red Sea reef fishes*. Immel Publishing. London, 192 pp.
- Randall J.E.**, 1995 - *Coastal fishes of Oman*. University of Hawaii Press, Honolulu, Hawaii, 439 pp.
- Thresher R.E., C.L. Hewitt, M.L. Campbell**, 1999 - Synthesis: Introduced and cryptogenic species in Port Phillip Bay. In : *Marine biological invasions of Port Phillip Bay, Victoria*. C.L. Hewitt, M.L. Campbell, R.E. Thresher, R.B. Martin, (eds), CSIRO Centre for Research on Introduced Marine Pests, Techn. Report 20, pp : 283-295.
- Williams R.J., E.J. Van der Wal, J. Story**, 1978 - Draft-inventory of introduced marine organisms. *Aust. mar. Sci. Bull.*, **61** : 12.

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