An updated checklist of the marine fish fauna of Redang Islands, Malaysia

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Abstract

Background

Redang Islands Marine Park consists of nine islands in the state of Terengganu, Malaysia. Redang Island is one of the largest off the east coast of Peninsular Malaysia, which is famous for its crystal-clear waters and white sandy beaches. The ichthyofauna of the Redang archipelago was surveyed by underwater visual observations between August 2016 and May 2018. Census data were compiled with existing records into the checklist of the marine fish of the Redang archipelago presented herein. A total of 314 species belonging to 51 families were recorded. The most speciose families (Pomacentridae, Labridae, Scaridae, Serranidae, Apogonidae, Carangidae, Gobiidae, Chaetodontidae, Lutjanidae, Nemipteridae and Siganidae) were also amongst the most speciose at the neighbouring Tioman archipelago (except Chaetodontidae). The coral fish diversity index value for the six families of coral reef fishes (Chaetodontidae, Pomacanthidae,
only four species recorded by Harborne et al. (2000) and two by Yusuf et al. (2001). Surgeonfish were not observed in the Redang Islands by Comley et al. (2004) nor in the present study, even though the area had high coral coverage.

The CFDI value for the Redang Islands was 132 and, from this value, based on the proposed formula by Allen (1988) and Allen and Werner (2002), we estimated that there were 427 coral reef fish species in the Redang Islands Marine Park. However, only 314 species were observed, which is low compared with the estimated number of species. More surveys on different sites and in different seasons should be conducted in future research. A similar number of Chaetodontidae species were observed at the Redang Islands Marine Park as at the Perhentian, Tinggi Islands Marine Park and other marine parks in Peninsular Malaysia. However, fewer were observed compared with other areas in the Coral Triangle area, for example, the Tunku Abdul Rahman Park, Sabah (Townsend 2015).

According to the IUCN Red List, eight of the species recorded are Near Threatened (Carcharhinus melanopterus, Chaetodon trifascialis, Choerodon schoenleinii, Epinephelus fuscoguttatus, E. polyplekadion, Plectropomus leopardus, Taeniura lyamma and Triadenodon obesus), eleven are Vulnerable (Bolbometopon muricatum, Chaetodon trifasciatus, Chlorurus sordidus Dascyllus trimaculatus, Epinephelus fuscoguttatus, E. polyplekadion, Halichoeres marginatus, Heniochus acuminatus, Nebrius ferrugineus, Neopomacentrus cyanomos and Plectropomus areolatus), and three are Endangered (Amphiprion clarkia, Cheilinus undulatus, and Scarus ghobban). These species require further attention in terms of park management practices and conservation issues (e.g. habitat integrity, anthropogenic impact and possible poaching within the park area).

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