

Balistes capriscus (Grey Triggerfish)

Family: Balistidae (Triggerfish)

Order: Tetraodontiformes (Pufferfish, Triggerfish and Boxfish)

Class: Actinopterygii (Ray-finned Fish)



Fig. 1. Grey triggerfish, *Balistes capriscus*.

[<http://fishbase.org/photos/PicturesSummary.php?StartRow=0&ID=7327&what=species&TotRec=10>, downloaded 24 February 2016]

TRAITS. *Balistes capriscus* is light grey in colour as suggested by the common name grey triggerfish (Fig. 1), with green and yellow overtones and its skin is tough and leather-like in texture. Other common names include leatherjacket and pig-faced fish. Beneath the second dorsal fin, there are four dark patches, one of which remains evident even after preservation (Moore, 1967). The triggerfish gets its name from the action when its large first dorsal spine is erected. The second dorsal spine bends downwards, triggering the first as it bends. The upper part of the orbit of the eye is blue (Bester, 2016). It has 8 premaxillary teeth and 8 dentary teeth. As the fish ages, the intensity of the colours decrease. In terms of sexual dimorphism, female triggerfish are notably smaller in size than males (IUCN, 2015). The grey triggerfish may grow up to 76cm in length and weigh as much as 6kg, and it may survive up to between 13-16 years (Bester, 2016).

DISTRIBUTION. This marine species is native to Trinidad and Tobago and is also widespread over the eastern Atlantic ranging from the Mediterranean to Angola and the western Atlantic ranging from Canada to Bermuda, the Gulf of Mexico to Argentina (Smith-Vaniz et al., 1999). Figure 2 illustrates the potential range; the red dots indicate high likelihood of occurrence of the species whereas the yellow dots refer to the area of low likelihood of occurrence.

HABITAT AND ACTIVITY. Grey triggerfish occupy both natural and artificial reefs, ridges in the sea and sandy sea-beds. The juveniles are often found close to the surface of the sea where they obtain most of their food sources whereas the adults mainly dwell close to the bottom. This species is therefore referred to as a eurybathic species as it can thrive in both shallow and deep waters (IUCN, 2015). The species may also occupy lagoons, bays and harbours. They are diurnal in nature.

FOOD AND FEEDING. These fish are both omnivores and carnivores. The juveniles mainly consume *Sargassum* seaweed at the surface of the sea while some adults found on artificial and natural reefs consume barnacles and bivalves. In general the grey triggerfish feeds on hydrozoans, seaweed and algae. They are not particular about any one prey. Although the morphology of its teeth may indicate that it feeds on a particular type of prey, this is not the case, it allows individuals to have a wide range of prey including sea urchins and sand dollars (Vose and Nelson, 1994). Grey triggerfish scout the base of the sea in search of prey by making movements in the water that would disturb the sand on the sea floor to reveal any sand dollars. This is repeated until it uncovers hidden prey beneath the sand. Once found, it lifts up its prey above the ground and releases it repeatedly until it lands on its back, and then consumes the tender flesh (Bester, 2016).

POPULATION ECOLOGY. The grey triggerfish may travel individually or in a small group. Over the years from 1989 to 2010, there was an increase in the population of *Balistes caprisus* in European countries including Libya, Ireland and England as depicted from its annual landings. However, within the following two years, the population of this species declined by a significant 30%. This fish became important for commercial and recreational purposes as well and thus eventually leading to a rise in the demand for this species and later causing its exploitation (IUCN, 2015). In addition to this, in areas such as Ghana, the species population has reduced by 90% but this decline has been also as a result of changes in the currents of the ocean, water mass and climate which affected the habitat of the species (Aggrey-Fynn, 2007).

REPRODUCTION. Unusual spawning behaviour is displayed in the grey triggerfish in comparison to a variety of other marine species. They form harem groups where a group of females share a common male as a mate, they also construct nests at the base of the sea, and both male and female share the responsibility of caring for eggs. The males often build multiple (sometimes as much as thirteen) nests prior to fertilization and attempt to lure a couple of females to spawn. Simultaneously, these males actively guard and defend their territorial nests from other fish that may or may not be of the same species. Females would explore and scrutinize the nests periodically before they are fertilized. During fertilization, the two sexes would closely encircle each other continuously after which 50,000-100,000 eggs would be laid. After fertilization, the females remain around the nesting area to protect the eggs (Fig. 3). In addition to this, a unique behaviour is observed whereby both male and female grey triggerfish surround their eggs and display colours as they do so. The females exhibit black and white contrasting colours whereas the males get darker

in colour. Most females also fan and blow their eggs. Nesting occurs during the months from May to July. The lifecycle includes the stages of egg, larva and juvenile. Most males and females reach maturity at approximately 2 years and mature males have a length of about 25cm (Simmons and Szedlmayer, 2012).

BEHAVIOUR. In Ghana during the wet season when the temperature drops the *Balistes capriscus* journey to waters of higher temperatures of approximately 25°C. It is however not fully understood if these species relocate due to sea temperature alterations or if it involves spawning purposes (Aggrey-Fynn, 2007). Dolphins and tuna are known to prey on juveniles. Their tough skin helps adults to escape predators.

APPLIED ECOLOGY. *Balistes capriscus* is prized commercially and although the population size is decreasing according to the IUCN red list, the population is not seriously fragmented. In the Canary Islands measures such as marine protected regions have been put into effect to preserve this species and in these areas the population is approximately 59% higher than in areas that are threatened.

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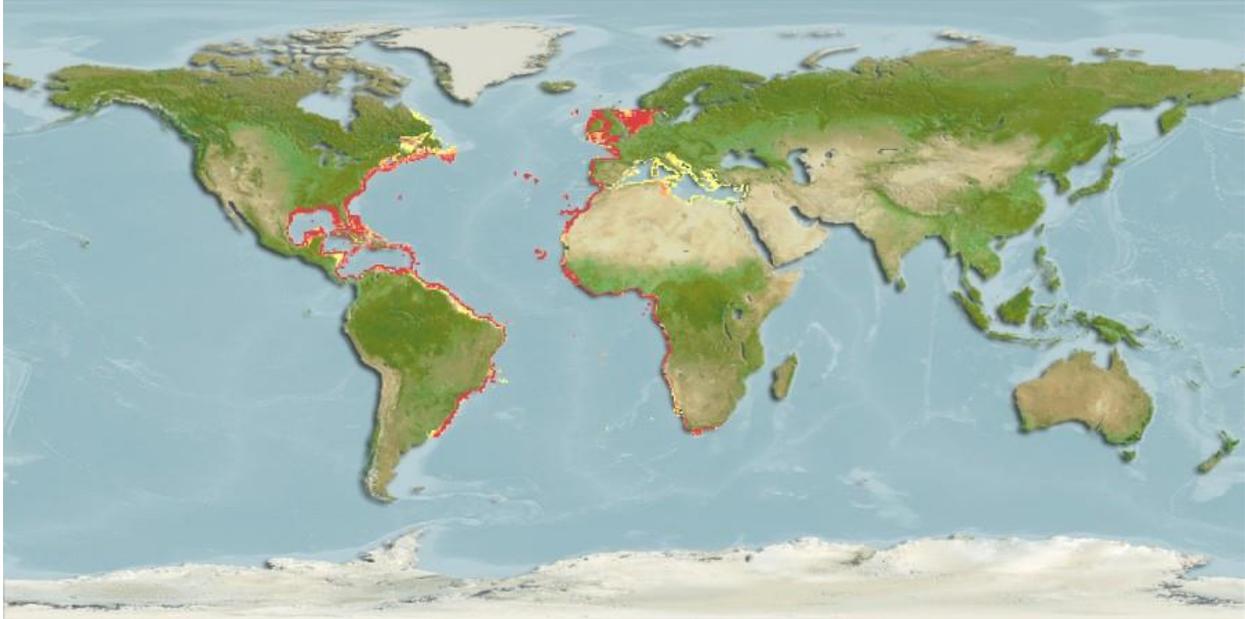


Fig. 2. Grey triggerfish projected geographic distribution.

[<http://fishbase.org/summary/7327>, downloaded 24 February 2016]

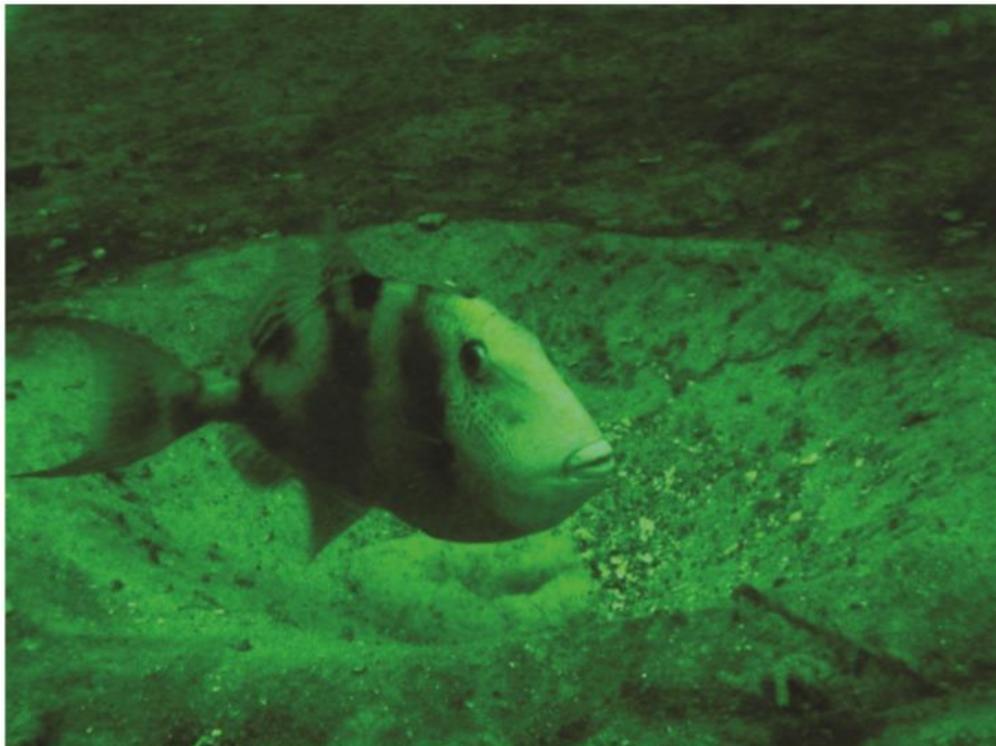


Fig. 3. Female grey triggerfish guarding a nest with eggs.

[<http://dx.doi.org/10.5343/bms.2011.1012>, downloaded 2 March 2016]

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