

## *Chaetodon striatus* (Banded Butterflyfish)

Family: Chaetodontidae (Butterflyfish)

Order: Perciformes (Perch and Allied Fish)

Class: Actinopterygii (Ray-finned Fish)



**Fig. 1.** Banded butterflyfish, *Chaetodon striatus*.

[<http://cs.brown.edu/~twd/fish/Bonaire/doeppe-054.jpg>, downloaded 2 April 2015]

**TRAITS.** The banded butterflyfish, also known as the banded marposa, is a relatively small fish with a circular appearance when viewed at the side. Its dorsal, caudal and anal fins contribute to its circular appearance. It can be yellow or white in colour with darker stripes, usually black, that may hide its eye (Fig. 1). This fish belongs to the family Chaetodontidae which means bristle-toothed; the name *striatus* refers to the dark vertical stripes on its body (MarineBio 2013). Its body is covered with small ctenoid (rounded) scales and it has a short, pointed snout. It has 6-16 dorsal spines, 15-30 dorsal soft rays, and 15 rays in its caudal fin. It can reach lengths of 9-30cm at maturity and is sexually monomorphic (males and females appear the same), however the males are sometimes slightly larger than the females (Weinheimer and Jonna, 2003).

**DISTRIBUTION.** Found predominantly in tropical waters from Massachusetts south to Brazil, including the Gulf of Mexico and the Caribbean Sea (Patton and Bester, n.d.) (Fig. 2). Located in Caribbean countries such as Antigua and Barbuda, Bahamas, Grenada, and Trinidad and Tobago (Myers and Rocha, 2010).

**HABITAT AND ACTIVITY.** A marine or saltwater fish mostly found in shallow regions of tropical waters around coral reefs. This species can remain in the same habitat up to five years with their partner. Some can be found in temperate waters; reside in benthic or coastal biomes and in estuaries or shallow lagoons. It is a diurnal animal, thus it is active at day and sleeping by night. During the day, the butterflyfish can be found foraging in pairs, individually or in schools of 20 individuals. Less foraging activity is observed late in the evening and early in the morning. At night the banded butterflyfish is less active, taking shelter from predators such as the green moray eel, sharks, and other fishes. They also take part in joint territorial advertisement, they defend territories in pairs and move with mutual partner guarding (Bonaldo et al., 2005; Patton and Bester, n.d.; Weinheimer and Jonna, 2003).

**FOOD AND FEEDING.** The banded butterflyfish is a benthic (bottom) foraging predator and can be a carnivore or omnivore. It feeds mostly on tube worms, sea anemones, crustaceans and corals and may feed on parasites found on other fish like the parrotfish and surgeonfish. It also feeds on plankton in the water column, in schools of up to 20 individuals. It hunts visually and uses its bristle-teeth to gain better access to prey (Patton and Bester, n.d.). Approximately 11 hours and 30 minutes of each day are spent in feeding activity, from just after sunrise to just before nightfall. When foraging in a pair this activity lasts longer than when foraging occurs individually (Bonaldo et al., 2005).

**POPULATION ECOLOGY.** The banded butterflyfish is typically a social species that exist in monogamous, stable pairs that can last up to three years or even their entire lifespan, however some individuals are occasionally found in schools (Fig. 3). This species is quite abundant in nature and is thought to have a life span of three years and up (Weinheimer and Jonna, 2003).

**REPRODUCTION.** Mating is monogamous in this species and courtship can be long and energetic, it involves the pair circling each other until one breaks away and chasing one another. Spawning activity occurs at dusk and can be year round for some while in others spawning begins in winter and early spring for those that live in tropical waters and midsummer for those in temperate regions. The male goes behind and underneath the female and uses his snout to nudge the female's abdomen. They release a white column of 3,000-4,000 small pelagic eggs, which hatch in a day to tholichthys larvae. These are transparent and have a bony armour sheath on the head, with bony plates extending backwards from this. After reaching the size of a small coin they settle to the bottom at night, and become juveniles. No parental care is given though juveniles may be seen with the adult pairs (MarineBio, 2013; Patton and Bester, n.d.; Weinheimer and Jonna, 2003).

**BEHAVIOUR.** The juvenile's appearance is different from the adults (Fig. 4). They are brownish to yellow in colour and have, at the bottom of the dorsal fin, a large, ringed black spot that acts as a false eye (MarineBio, 2013) to confuse predators. They usually exist solitarily and are found in seagrass beds. The adult banded butterflyfish use visual and tactile techniques to defend against predators such as fleeing when predators are seen or they might assume an

aggressive stance to dissuade predators from attacking. Additionally they communicate visually by swimming up and down to attract the attention of their partner (Patton and Bester, n.d.).

**APPLIED ECOLOGY.** According to the IUCN red list category and criteria, the banded butterflyfish is listed as least concern because it abundant and widely ranged, thus there is no conservation threat to the species and populations are present within several marine protected areas. The butterflyfish is popular with divers and aquarists and often traded in aquarium stores and sold in pet shops and no negative impact to humans has been documented (Myers and Rocha, 2010).

## REFERENCES

- Bonaldo, R. M, J. P Krajewski, and I. Sazima. 2005. "MEALS FOR TWO: FORAGING ACTIVITY OF THE BUTTERFLYFISH *Chaetodon striatus* (PERCIFORMES) IN SOUTHEAST BRAZIL." *Brazilian Journal of Biology* 65, no. 2 (2005): 211-215. <http://www.scielo.br/pdf/bjb/v65n2/v65n2a03.pdf> (accessed February 13, 2015).
- MarineBio. 2015. "Banded Butterflyfish, *Chaetodon striatus*." *MarineBio Conservation Society Web*. January 14, 2013. <http://marinebio.org/species.asp?id=433> (accessed March 28, 2015).
- Myers, R, and L A Rocha. 2010. *Chaetodon striatus* *The ICUN Red List of Threatened Species*. Vers. 2014.3. 2010. <http://www.iucnredlist.org/details/full/165637/0> (accessed February 13, 2015).
- Patton, Casey, and Cathy Bester. n.d. "FLMNH Ichthyology Department: Banded Butterflyfish." [flmnh.ufl.edu](http://www.flmnh.ufl.edu). <http://www.flmnh.ufl.edu/fish/gallery/descript/butterflybanded/butterflybanded1.html> (accessed March 18, 2015).
- Weinheimer, Monica, and R Jamil Jonna. 2003. *Animal Diversity Web - Univeristy of Michigan Museum of Zoology*. November 19, 2003. <http://animaldiversity.org/accounts/Chaetodontidae/> (accessed February 13, 2015).

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**Fig. 2.** Banded butterflyfish distribution range.

[<http://maps.iucnredlist.org/map.html?id=165637>, downloaded 13 February 2015]



**Fig. 3.** Banded butterflyfish pair.

[<http://cdn.c.photoshelter.com/img-get/I0000d3IZgb3tz7E/s/900/900/BON-Banded-Butterfly-Fish-DSCF3478.jpg>, downloaded 18 February 2015]



**Fig. 4.** Juvenile banded butterflyfish.

[<http://www.flmnh.ufl.edu/fish/gallery/descript/butterflybanded/butterflybanded1.html>, downloaded 18 February 2015]