

Chaetodon ocellatus (Spotfin Butterflyfish)

Family: Chaetodontidae (Butterflyfish)

Order: Perciformes (Perch and Allied Fish)

Class: Actinopterygii (Ray-finned Fish)



Fig. 1. Spotfin butterflyfish, *Chaetodon ocellatus*.

[<http://www.flmnh.ufl.edu/fish/discover/species-profiles/chaetodon-ocellatus>, downloaded 7 March 2016]

TRAITS. The spotfin butterflyfish gets its name from the black spot located towards the end of its dorsal fin (Fig. 1). With a thin and deep body, the spotfin is disc shaped has a small mouth and teeth in a comb-like shape and arrangement. The body of the spotfin is white, with a vertical black bar that runs through its eye across the head. In juvenile spotfins, there is another black bar that goes from the base of the dorsal fin and ends at the base of the anal fin (Fig. 2). The fins are bright yellow, apart from the pectoral fins which have a yellow streak at the base (Live Aquaria, 1997). The maximum length is 20cm, but they commonly grow to 8-15cm.

DISTRIBUTION. The spotfin butterflyfish is mainly found in the western Atlantic Ocean, from North Carolina and Florida to Brazil. The can also be found in the Bahamas, the Gulf of Mexico, Belize and other Caribbean countries including Trinidad and Tobago (Fig. 3). During the mating

season, the Gulf Stream currents may sometimes disperse the eggs and larvae northward, where the young (juveniles) are seen as far north as Canada during the summer months of June to August.

HABITAT AND ACTIVITY. This butterflyfish is usually found on shallow coral reefs at depths ranging from 0-30m, and the juveniles are more commonly found in seagrass beds. Although their primary preference is coral reef and sandy bottoms, spotfins are also seen around and between any rock formations. These butterflyfish rarely stray far from their sheltering reef and their narrow bodies allow them to fit easily into cracks and holes in the rock or coral. Spotfins swim and feed over bare, sandy bottoms which is slightly different from other butterflyfish that usually feed in the shallow reef areas as well. These butterflyfish are generalist carnivores feeding on sea anemones, hydroids, small crustaceans and tube worms (Froese and Pauly, 2005). Their eating habits do not depend on seasons or time of the day but instead what is readily available on the sandy bottom. However, spotfins are strictly diurnal, feeding only during the day because they rely on their eyesight to detect prey. During their feeding time, they pay little to no attention to their sheltering reef (territory) and may swim a distance of 7-12m away (Froese and Pauly, 2005).

FOOD AND FEEDING. These butterflyfish thrive on sea anemones, coral polyps, small crustaceans and tube worms. The food sources of a spotfin butterflyfish are usually covered with protective shells. Because of this the spotfin has adapted various techniques used for catching prey. The spotfin has the ability to hover motionless while picking at the coral and when they spot a tube worm in the sandy bottom, they are able to dart swiftly over a short distance to get the worm before it retracts into its shell. They do this using their pectoral fins as oars to brake, sprint, turn, and even reverse (Whats That Fish, 2010). Spotfins have small, bristle teeth that are organized in narrow bands in the jaws which are used for scraping small worms, tunicates and other invertebrates which are usually inaccessible to other fish but make up their diet. The spotfin also uses its small, projecting mouth which is skilled at crevice feeding where its meals are often hidden (Fig. 4).

POPULATION ECOLOGY. Solitary, territorial; spotfins are usually seen singly or in pairs, rarely in groups of four or five. These butterflyfish pair off at a very early age and when they do, the two remain inseparable for the rest of their lives. In the case of spotfins, this would be for 7-10 years. Since these fishes do not raise their young, it is often questioned as to why they pair off at such an early age, but possibly it is to avoid interbreeding between (Goodson and Welsgerber, 2003). Like most butterflyfish they lay hundreds of eggs during their mating season. These fish can potentially be aggressive especially during feeding (Goodson and Welsgerber, 2003).

REPRODUCTION. At 5-7cm long spotfins characteristically pair off and the two are almost inseparable for the remainder of their lifetime. Spawning occurs at dusk. The spotfin pair chase each other during courtship, doing headstands and lateral displays. They circle until one of them discontinues and swims away, while the other follows. Spawning occurs all year climaxing in the early summer. One day after fertilization, the egg hatches into a small planktonic larva. After development, the late-stage tholichthys larva is laterally compressed with large bony plates extending from the head, which is encased within bony armour. When the larva reaches 20mm, it floats away from the plankton and settles on a hard surface. By morning, the larva has turned

into a juvenile butterflyfish. Many juveniles are eaten by predators hence the survivors are found hiding in crevices.

BEHAVIOUR. Spotfins rigorously patrol their territory and will defend it fearlessly against aggressors, especially other species of butterflyfish. Although they seem fragile and defenceless, spotfins are able to survive by their rapidity, agility and defensive shape and colouring which they use against numerous predators. They use their narrow bodies to fit between crevices and holes to hide away from predators. At night, the spotfins change colour, forming dusky bands on their body in an attempt to hide from nocturnal predators. If cornered, spotfins spread their dorsal and anal fin spines, presenting the attacker with a difficult, prickly meal to swallow (Goodson and Welsgerber, 2003).

REFERENCES

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Moyle, P., J. Cech. 2000. *Fishes: An introduction to ichthyology*. 4th Edition. Upper Saddle River, NJ: Prentice-Hal.
Whats That Fish. 2016. *Spotfin Butterflyfish*. <http://www.whatsthatfish.com/fish/spotfin-butterflyfish/1669>. Accessed 9 March 2016.

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Fig. 2. Juvenile spotfin butterflyfish coloration.

[<http://www.pbase.com/underseascapes/image/102130956>, downloaded 7 March 2016]



Fig. 3. Distribution map for the spotfin butterflyfish.

[<http://www.flmnh.ufl.edu/fish/discover/species-profiles/chaetodon-ocellatus>, downloaded 7 March 2016]



Fig. 4. Adult spotfin butterflyfish searching for food.

[<http://www.flmnh.ufl.edu/fish/discover/species-profiles/chaetodon-ocellatus>, downloaded 7 March 2016]

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