

Astyanax bimaculatus (Sardine Doree or Two Spot Astyanax)

Family: Characidae (Characins)

Order: Characiformes (Characins and Allied Fish)

Class: Actinopterygii (Ray-finned Fish)



Fig. 1. Sardine doree, *Astyanax bimaculatus*.

<http://www.ucs.louisiana.edu/~jxa4003/Characiformes%206-15-10%20mh%202.html> downloaded 22 October 2016]

TRAITS. *Astyanax bimaculatus* otherwise known as the two spot astyanax or sardine doree, is named for the two black spots on the fish's silver body. The black spots are located near the shoulder area and the other by the caudal peduncle (base of the tail). *Astyanax bimaculatus* has a silver to grey colour and sometimes displays an amber to red colour in its fins (Fig. 1). They grow to a maximum body length of 17.5cm and a maximum weight of 92g. Females tend to be rounder and less colourful (Wikipedia, 2016).

DISTRIBUTION. *Astyanax bimaculatus* commonly occurs in Central and South America, from Panama to the Amazon Basin (Fig. 2). *Astyanax bimaculatus* are also very common in Trinidad, mainly south of the northern range (Boseman, 1960).

HABITAT AND ECOLOGY. *Astyanax bimaculatus* is a very abundant species and occupy a number of habitats. These include; large, clear flowing rivers, small flowing streams, ponds, and even ditches. They can also be found in coastal swamps, black water streams and even forest creeks (Mol, 2012). They are also mostly active during the day and said to be benthopelagic which mean they mostly swim at mid water. The maximum life span of *Astyanax bimaculatus* is approximately 18 years in the wild. Two spot astyanax are very curious schooling fish, which feed on practically anything edible. Their diet consists mainly of plant material, zooplankton and

detritus. Within the school there are aggressive individuals which attack other members of the school. The attacking individuals sometime cause scales to dislodge and then consume the scales (Zaret, 1983). *Astyanax bimaculatus* sometimes stalk larger fish in order to devour whatever edible substances they may stir up.

REPRODUCTION. During the dry season males grow a hook-like structure on the rays of the anal and pelvic fins, and their colours also intensify. The reproductive period is considered to be during the rainy season. Females lay eggs which are fertilized by males. Eggs then hatch approximately 24-36 hours later. Larvae begin eating on their own about five days later when the yolk sac is used up (Mol, 2012) Females lay approximately 700-3200 eggs (Hamlett, 1992).

BEHAVIOUR. Juveniles often exist in schools, living in flood plains and small rivers. They are on a constant search for food, feeding mainly on small invertebrates. Adults can be found in permanent water sources feeding on anything which is edible (Heckman, 1998). Schooling of adult *Astyanax bimaculatus* occurs during feeding. Fish swiftly moves toward its prey biting or strikes with its mouth closed. It is during and after feeding time the aggressive behaviour intensifies. This is so because while searching for food, the chances of an encounter between aggressive individuals within the school are very high (Zaret, 1983). The black spots on the body of *Astyanax bimaculatus* act as a communication system (Figure 1). It is a social behavioural pattern which results in schooling of the fish (McConnell and McConnell, 1987). An experiment was conducted by Goulart and Young (2013) in which they exposed *Astyanax bimaculatus* to various predation threats. When exposed to an underwater threat, aggressive members began attacking conspecific members in attempts to make them more vulnerable to the predator, a type of behaviour recorded as being “actively selfish”.

APPLIED BIOLOGY. *Astyanax bimaculatus* is listed as being extant by the ICUN. This means it continues to exist or survive with no immediate threat of extinction. Major threats to the species include habitat loss and eutrophication. The two spot astyanax is popular among aquarists worldwide.

REFERENCES

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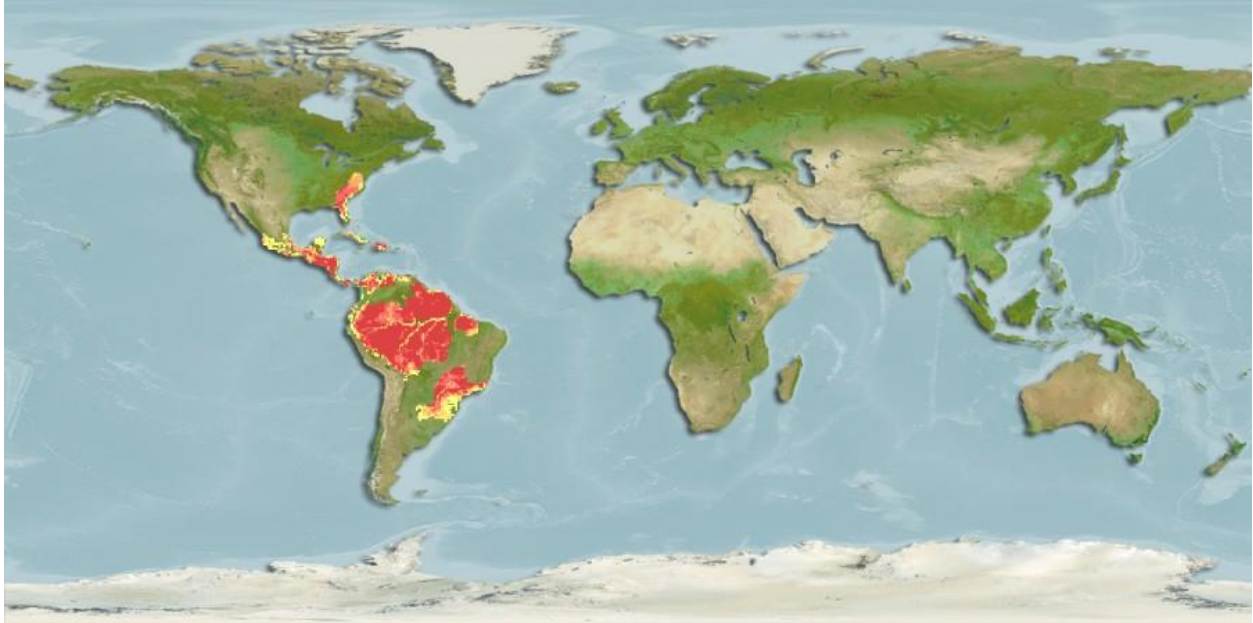


Fig. 2. Geographic distribution of *Astyanax bimaculatus*.

[http://www.aquamaps.org/AM_Americas/receive.php, downloaded 26 October 2016]

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