

Presenter: Jeff Johnson – Collection Manager, Ichthyology (Biodiversity Program)

Topic: Velvetfish

My name's Jeff Johnson. I'm an ichthyologist at the Queensland Museum. Basically that means that I collect fish and research fish and I'm in charge of maintaining the Queensland Museum's fish collection.

Today I'm going to talk about the velvetfish, a rare and interesting species and some of its adaptations. The velvetfish is a vertebrate and it's a **ray-finned fish** of the class Actinopterygii, which means it's got an **internal skeleton**, it uses **fins** for locomotion, and breathes through **gills**.

The velvetfish has a special adaptation. It has an extremely long dorsal fin and that dorsal fin is used to break up the outline of the fish in the habitat in which it lives. In this particular velvetfish, the dorsal fin stretches all the way from in front of the eyes to the tail. It has the **longest dorsal fin** of any species of velvetfish and the dorsal fin actually begins on the forehead of the fish which is quite different from most other species of fish which have specialised skeletal structures that support the spines.

Here we have an x-ray photograph of the velvetfish showing the dorsal spines extending onto the forehead in the frontal part of the skull with **no supporting structures** whatsoever, whereas the spines towards the rear, have a **pterygiophore** which leads to a neural spine on the vertebrae. So they have support in tune with most other types of fishes.

This adaptation is reflected in the velvetfish's **behaviour**. It lives amongst fan-leafed seaweeds in areas where there's a huge tidal current and with this long dorsal fin, the fin itself moves in a rippling motion in tune with the way the weeds move with the current. In this way the velvetfish is able to avoid the notice of predators and is able to feed freely on the small shrimps and crustaceans that live amongst the weeds.

Velvetfish are one of the families that I specialise my research on. This family's highly diverse. There's currently 43 species in 18 genera known. Many of the species are very rare and there's some species yet to be discovered. This fish we have here today is only found in the Kimberley region of north-western Australia in very high tidal range areas.

I'll be naming this species soon and its Latin name will be derived from the very long dorsal fin as well as the fleshy beard that it has on the chin.

These fishes have amazing structural adaptations that allow them to survive in the specialised environments that they inhabit.

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