



# Observations on the

# JAWFISH

**By Tony Wu**

Photography ©Tony Wu

Until recently, I rarely gave jawfish much thought. Granted, they are quite cute, but all you tend to see of these fish is their round faces protruding from burrows in the sand or rubble. My perception of these fish completely changed when my friend Tetsu sent me some pictures of jawfish in some very engaging situations – jumping out of their tunnel-like homes, “spitting” sand, brooding eggs in their mouths. So began my personal quest to learn more about jawfish.

Being a modern diver, my first point of research was the internet. Try as I might, however, I couldn’t find much meaningful information on the web. I plugged the genus classification, *Opistognathus*, into a search engine, but came up mostly empty handed. Resorting to more primitive means, I flipped through my library of marine life guidebooks. Not much better really.

I was able to gather from various sources that there are an estimated seventy species of jawfish, and that they live in almost all tropical waters. They all have large eyes placed high and forward on the head, a disproportionately large mouth and long bodies. Jawfish live in vertical burrows, usually reinforced by pieces of coral or rock. From these homes, they watch for zooplankton floating past in the current, and dart out to grab it. Interestingly, when jawfish retreat to their holes, they can re-enter

their homes tail-first. Occasionally, there is a thin commensal shrimp that lives in the burrow, though the precise relationship between the fish and the shrimp has not been well studied. That’s about all I could find.

Tetsu had been doing some of his own research, and I joined him for a couple of weeks. We spent many hours searching for and observing jawfish, and we learned many things.

For example, we were able to find jawfish at depths ranging from one metre down to twenty-two metres. At one dive site, we found at least eight unique species, with each species living at different depths. Each species behaved slightly differently, with one, for example, being very possessive of the coral around its hole. If we moved the coral, it would look indignantly at us, dart out to grab the coral and replace it. One species was too shy to approach closely, while another was as pugnacious as a pit bull guarding a steak dinner. We also found that jawfish tend to live in small groups or colonies, so if you find one, it’s likely, though not certain, that more are nearby.

Testu also managed to figure out the breeding cycle of one species of jawfish, the gold specs. A few days before the full or new moon, some of the females swim out of their own burrows and into the homes of a nearby male. This may happen several times in one “courtship”,

with the end result being the depositing of fertilised eggs by the female in the mouth of the male. Though we couldn’t count the eggs, there were clearly hundreds in each brood. Subjectively, some females appeared to lay more eggs than others, judging by how “full” the mouths of their mates appeared. We couldn’t figure out if the females always pick the same male, but it seemed as if there were certain “pairs”.

Once the eggs are laid, the male protects them while they mature, a process that takes around eight or nine days. While watching one male, we noted that a thin membrane surrounds the eggs and holds them loosely together, somewhat like plastic wrap around a bunch of grapes. The male is thus able to leave his precious cargo of eggs inside his burrow, dart out to get food and then pick the eggs back up.

As the eggs develop, the eyes and internal organs gradually become visible, until the eggs begin to look “ripe”. When the eggs are ready to hatch, the male opens its mouth as wide as possible and breaks the membrane holding the eggs with a series of quick, jerking motions. Almost all at once, the juvenile fish hatch and swim rapidly away in the current to begin a new generation of jawfish.

So little is understood about these fish that there’s clearly much more work to be done documenting their behaviour.