

# Larval RACERS

It's official. Squirrel fish have the fastest babies

### **BABY MARLIN?**

During the recent black marlin fishing season off the Great Barrier Reef, we were squid fishing behind the boat at night. In a bucket of water for the squid, we noticed this little fella, which everyone assumed was a baby marlin, swimming around at high speed. It was less than a centimeter long and though you can't see it in the photo, had its dorsal fin up when it was swimming and was quite translucent at the tip and the base of the bill. The crew ended up getting three and had them merrily swimming for some time. So Captain Luke Fallon was claiming we caught four marlin that day! Can you let us know if that's true?

#### Kelly Dalling, Old

Great looking little fish, Kelly. At the outset, I can say it's definitely not a larval marlin since, rather ironically, they don't have any semblance of a bill when they're that small. Identification of larval and post-larval fish is always tricky. largely because they rarely look like adults of the species. In fact, the way that specialist scientists work out which larva is which is to try and collect whole series of sizes of a given species, ranging from pinhead size to the point where they begin to look like adults. Sort of like

80 tradeaboat.com.au

The speed of the squirrel fish larvae (adult below) confused our reader into thinking it was instead a baby marlin. (Photo © Jarad Boshammer).



a stop-frame movie sequence. Luckily, a colleague of mine at the Australian Museum, Dr Jeff Leis, has spent his whole career doing just that, so they don't come any more expert than Jeff when it comes to fish larvae. When Jeff looked at the photo of this fish, he was therefore able to immediately pin it as a member of the family of fishes known as Holocentridae, or in plain speak, squirrel fishes. These are colourful reef fishes, often orange or red, that are mainly nocturnal in their habits and have a very big eye as a result — not dissimilar looking

to nannygai or redfish, in fact. While Jeff could not identify this one to species level, he was quite familiar with these larvae, and added a bit more information about them. He noted that many people think they are tiny marlin since they have what looks like a bill (the 'rostrum'), are silver and blue and can occur pretty far offshore. He also remarked that larval Holocentrids are fast swimmers; to the extent that he has had some that swim faster than he could swim, leaving him in the dust, so to speak. Jeff has even published a scientific paper

#410 JAN 26- FEB 22 2011

(with co-author Brooke Carson-Ewart) on the subject of how fast larval fish can swim. The wav speeds were measured was to first catch live late-stage larvae in light traps and crest nets and then to release them in open water and follow them using SCUBA. They must have spent a lot of time in the water since they followed 260 larvae representing 50 families of mainly tropical reef-associated fish. They were rather surprised to find that many of the larvae, usually no more than 2cm long, were capable of sustained swimming at speeds faster than prevailing currents. This means that they would in theory be able to swim against currents to either stay put on a nice piece of reef, or disperse in any direction they wished to. And guess which larvae were measured at the fastest absolute speeds? Squirrelfish larvae, of course! Only two such larvae were followed but these blitzed the field, swimming at measured speeds of 65.5 and 48.1cm per second. So while Captain Luke

can't claim to have caught his four tiny marlin in one day, I'm sure this fascinating information about his baby squirrel fish will compensate.

#### **INK CLOUDS**

Over the years, I have caught a lot of squid, most of which produce a huge cloud of ink in the water. However, when cleaning squid, I have noticed that the ink sac is really very small in relation to the size of the body. How can such a small organ produce so much ink? *Gary Brown*, *Port Hacking, NSW* 

The ink produced by squid and octopus is an extremely concentrated pigment. When the squid is under major threat, such as being hooked, the ink is injected directly into the water, which then diffuses rapidly in a large dark cloud, very much like a smoke screen. Fluorescent dyes used in marine survival kits work in the same way. They spread over a large area from a small amount of concentrate, and become highly visible to searching aircraft. But now for the really interesting bit. Some species of squid and octopus use their ink in a very different way to create decoys to confuse a would-be predator. They do this by mixing their ink with mucous just before it is squirted from their funnel. The mucous binds with the ink, preventing it from spreading too far. This has the effect of suddenly producing a dark, solid-looking object in the wake of the fleeing squid or octopus. The amazing thing is that the size and shape of these blobs resembles the size and shape of the squid or octopus. For example, long, slender squids produce long, slender blobs while short, squat ones leave short, squat blobs in their wake. The obvious function of these blobs is to confuse a pursuing predator by attracting its attention to a dummy squid or octopus while the real prey makes its escape. As I often say, it's an amazing underwater world. 🐼

## **INTRODUCING THE SABRE 40 SEDAN**

Ø

**The Sabre 4O Sedan – infusion hull, twin Zeus azipod drives, hand-crafted interior.** Born from a blend of ultra-modern boat-building techniques, the latest technology and a traditional style, the Sabre 40 Sedan is a beautifully crafted, high performance classic. Capable of offshore cruising and speeds in excess of 30kt, yet whisper quiet for meandering the inland waterways, the Sabre 40 Sedan is the ultimate boating accomplishment. Coming to Australia in 2011.



**EMARINE** australia

Roseville Bridge Marina, 15 Normac Street, Roseville Chase NSW 2069 I P: (02) 9417 8671 I M: 0417 200 165 I E: info@emarine.com.au w w w , e m a r i n e . c o m . a u