



## Exploiting mimicry: *Prosorhynchoides thomasi* n. sp. (Digenea: Bucephalidae) from the fang blenny genus *Plagiotremus* (Bleeker) (Blenniidae) from off Lizard Island on the Great Barrier Reef, Australia

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*Prosorhynchoides thomasi* n. sp. (Digenea: Bucephalidae) is described from the intestine of the fang blennies, *Plagiotremus tapeinosoma* and *P. rhinorhynchos* (Blenniidae: Nemophini) from off Lizard Island, Great Barrier Reef, Australia. The new species is differentiated from other species of *Prosorhynchoides* Dollfus, 1929 that also have testes which are symmetrical or nearly symmetrical by the shape and direction of the caecum and the position of the ovary relative to the caecum. This is the first report of a new species, but the second report of adult bucephalids from *Plagiotremus* spp. *Prosorhynchoides thomasi* n. sp. likely exploits the habit of *Plagiotremus* spp. of mimicking cleaner wrasse (Labridae) behaviour and micropredation on 'client' fish. We have not encountered this species from other blennies or from other teleost families known to be infected with bucephalids from the Great Barrier Reef.

The Blenniidae comprise a major component of the herbivorous teleost biomass of the Great Barrier Reef (43 species, see Townsend, 2000). Blennies of the tribe Nemophini, which include the genus *Plagiotremus*, are known to nip fins and scales of larger fish for food (Randall et al., 1997), which is a departure from the generally herbivorous tendencies of the Blenniidae (Kotrschal, 1986; Townsend, 2000; Wilson, 2000). They are also known to mimic colouration and behaviour of other fish, particularly the cleaner wrasse, *Labroides dimidiatus* (Labridae), allowing them to approach large fish, who may otherwise try to eat them, in order to nip their fins (Randall, 1990).

Adult stages of the Bucephalidae Poche, 1907 (Trematoda: Digenea) are usually found in the intestines of piscivorous hosts. *Prosorhynchoides koreana* (Ozaki, 1928) Bott and Cribb, 2005, was recorded in the fang blenny *Plagiotremus laudandus* (Whitley) and *P. tapeinosoma* (Bleeker) taken from Okinawa, Japan (Dyer et al., 1988) and is the only record of an adult bucephalid from the Blenniidae. Here we report a new species of bucephalid from *Plagiotremus tapeinosoma*, and *P. rhinorhynchos* (Bleeker), from off Lizard Island on the northern Great Barrier Reef, Australia.

Fish were collected by spear and were euthanased prior to dissection by severing the nerve chord. The entire digestive tract was removed, opened in vertebrate saline and examined under a stereo microscope. Parasites were killed in near boiling vertebrate saline and fixed in 5% formalin.

Specimens were rinsed in water before being over-stained in Mayer's haematoxylin, destained in 0.5% hydrochloric acid and neutralised in 0.5% ammonia solution. The worms were dehydrated in a graded ethanol series, cleared in methyl salicylate and mounted in Canada balsam. Worms were examined with an Olympus BH-2 compound microscope, and drawn with the aid of a drawing tube. Measurements were taken with an eyepiece micrometer. Measurements are given in micrometers as range followed by mean in parentheses.

Bucephalidae Poche, 1907

### *Prosorhynchoides* Dollfus, 1929

#### *Prosorhynchoides thomasi* n. sp. (Figs. 1–2)

**Type host:** *Plagiotremus tapeinosoma* (Bleeker). Prevalence: 55% (6/11)