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## ***Periclimenaeus denticulodigitus* sp. nov. (Crustacea: Decapoda: Palaemonidae: Pontoniinae), from Heron Island, Queensland, Australia**

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### **Abstract**

An unusual species of the genus *Periclimenaeus* Borradaile, 1915 (Crustacea: Decapoda: Palaemonidae Pontoniinae) from Heron Island, Queensland, Australia, collected by Dr Niel Bruce in 1979, is described and illustrated. *Periclimenaeus denticulodigitus* sp. nov., an ascidian associate was collected from coral reef at 7.0 m and presents some interesting new features. It increases to 17 the number of *Periclimenaeus* known from Heron Island, Queensland, and to 28 the number of species known from Australia. The new species has the second pereiopod fingers minutely denticulate and unique to the genus.

**Key words:** *Periclimenaeus denticulodigitus*, new species, Crustacea, Decapoda, Pontoniinae, Heron Island, Great Barrier Reef, Australia, ascidian host

### **Introduction**

A recent review of the third pereiopod dactyls of the genus *Periclimenaeus* Borradaile 1915 has shown that only four species of the genus have third ambulatory dactyls completely unarmed (Bruce, 2013). In these the unguis is without ornamentation and the corpus lacks a distoventral tooth, ventral spinulation or proximal ventral armament. The present specimen possesses a simple dactyl in this situation but can be readily distinguished from the similar species by the fingers of the second pereiopod chelae, unique within the genus, and it is now described and illustrated as a new species.

Seventeen species of *Periclimenaeus* are now known from Heron Island, out of a total of 29 species from Australian waters and 61 from the Indo-West Pacific region.

The new species was collected from an unidentified ascidian host. from the depth of 7 meters, and is described and illustrated. The specimen is deposited in the collections of the Queensland Museum, Brisbane.

Abbreviations used: CL, postorbital carapace length; QM, Queensland Museum, Brisbane. Measurements are in millimetres (mm).

### **Systematics**

#### **Palaemonidae Rafinesque, 1815**

#### **Pontoniinae Kingsley, 1879**

#### **Genus *Periclimenaeus* Borradaile, 1915**

#### ***Periclimenaeus denticulodigitus* sp. nov.**

(Figs 1–4)

**Material examined.** 1 ovig. ♀, holotype, Heron Island, Queensland, coll. N.L. Bruce, from reef slope, 7.0 m, 8 December 1979, QM W29199

2012, do show traces of minute tuberculations in this position (Bruce, 2012: 24, Fig. 3), with feeble indications of a fossa on the fixed finger. *Periclimenaeus usitatus* Bruce, 1969 is also noteworthy as although the cutting edge of the minor second pereopod dactyl has an entire cutting edge the fixed finger has the cutting edge grooved and in the holotype specimen “Indeed the fixed finger has this minute denticulation on the higher medial edge of the groove. It is not a single row of denticles however, but extends into the groove with obtuse denticles forming a granular longitudinal band. I also checked the major second chela, which has the same structure on the fixed finger”, as reported by Dr C.H.J.M. Fransen (Bruce, 2010). A similar structure can also be found in other genera such as the sponge associate *Nippontonia* (Bruce & Bauer, 1997; Fransen, 2013).

**Remarks.** It is remarkable that despite several years of detailed shrimp collecting on Heron Island, no further specimens of this shrimp were obtained although numerous examples of *Periclimenaeus* species were collected from ascidians and sponges. Heron Island now has a *Periclimenaeus* shrimp fauna of 18 species, with a further 2 species from the adjacent Capricorn Islands. The Great Barrier Reef supports no further species but 28 of the 61 Indo-West Pacific species are known from Australian waters.

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