

THE OCCURRENCE OF *PALAEMONETES ATRINUBES* BRAY (CRUSTACEA:DECAPODA:PALAEMONIDAE) ON THE AUSTRALIAN EAST COAST

A.J. BRUCE

Northern Territory Museum of Arts and Sciences
GPO Box 4646, Darwin, NT 0801, Australia.

CRUSTACEA LIBRARY
SMITHSONIAN INST.
RECEIVED 10 W-119

ABSTRACT

The palaemonid shrimp, *Palaemonetes atrinubes* Bray, previously known from Western Australia is reported from Frazer Island, Queensland.

KEYWORDS: Crustacea, Decapoda, Palaemonidae *Palaemonetes atrinubes*, Queensland, Australia.

INTRODUCTION

Through the kindness of Peter Davie, some specimens of *Palaemonetes* in the collection of the Queensland Museum were made available for study. The genus *Palaemonetes* is very poorly represented in the Indo-West Pacific region or adjacent fresh or brackish waters. Two species are known from China and the only other two occur on Australia coasts. *P. australis* Dakin has been reported from numerous localities in southern Western Australia by Dakin (1915), Serventy (1938), and Bray (1976). The second species, *P. atrinubes* Bray, has a generally more northerly distribution in Western Australia, reaching as far north as Cookatoo Island (16° 06'S). Neither species has been previously recorded outside Western Australia.

SYSTEMATICS

Palaemonetes atrinubes Bray

(Fig. 1)

Palaemonetes atrinubes Bray, 1976: 76-82.

Material. 2 ♂, 1 ovig. ♀, 4 juv., QM W.11984 Moon Creek, W. side of Frazer Island, Qld., 25° 13'S 153° 00'E, 0.6m, rotenone, 3 October 1984, coll. J. Johnson.

Description. The specimens agree essentially with the description provided by Bray (1976), and, in particular, the branchiostegal spine is always clearly on the anterior carapace margin in all specimens. The rostrum shows some variation. The dentition varies from 7-8 dorsal teeth and 3-4 ventral teeth. The most posterior tooth is situated on the carapace, well behind the posterior orbital margin and the anterior tooth is always

subterminal. In the type material the rostral dentition is 6/4, with the distal third of the dorsal margin of the rostrum unarmed, except for the preterminal tooth. This feature is present in some of the Frazer Island specimens but is less marked in others. None of the dorsal rostral teeth appear to be articulated. The dorsal denticular interspaces are feebly setose; the ventral rostral margin bears a median row of plumose setae proximally.

The antennule has the biramous upper flagellum with the fused portions only slightly longer than the shorter ramus, whereas in the type material it is reported to be twice the length. The distal segments of the short ramus also appear to be ventrally concave and laterally imbricate, with two groups of aesthetascs arising from the concavity of each segment.

The fourth thoracic sternite is armed with a small acute median process.

The second pereopods have the chela about 0.6 of the carpus length and fingers about 0.6 of the palm length, as in the type material, with the fingers with sharp unarmed cutting edges. The third pereopod has a robust, feebly armed propod, with a distoventral and a single ventral spine only; the dactyl is about 0.5 of the propod length, instead of 0.3 as reported in the original descriptions. The fifth pereopods have the propod about 1.85 times the length of the third, with seven transverse groups of serrulate setae distolaterally.

The appendix masculina of the male second pleopod closely resembles the original description, extending well beyond the appendix interna, with four long apical

Bruce, A.J. 1988

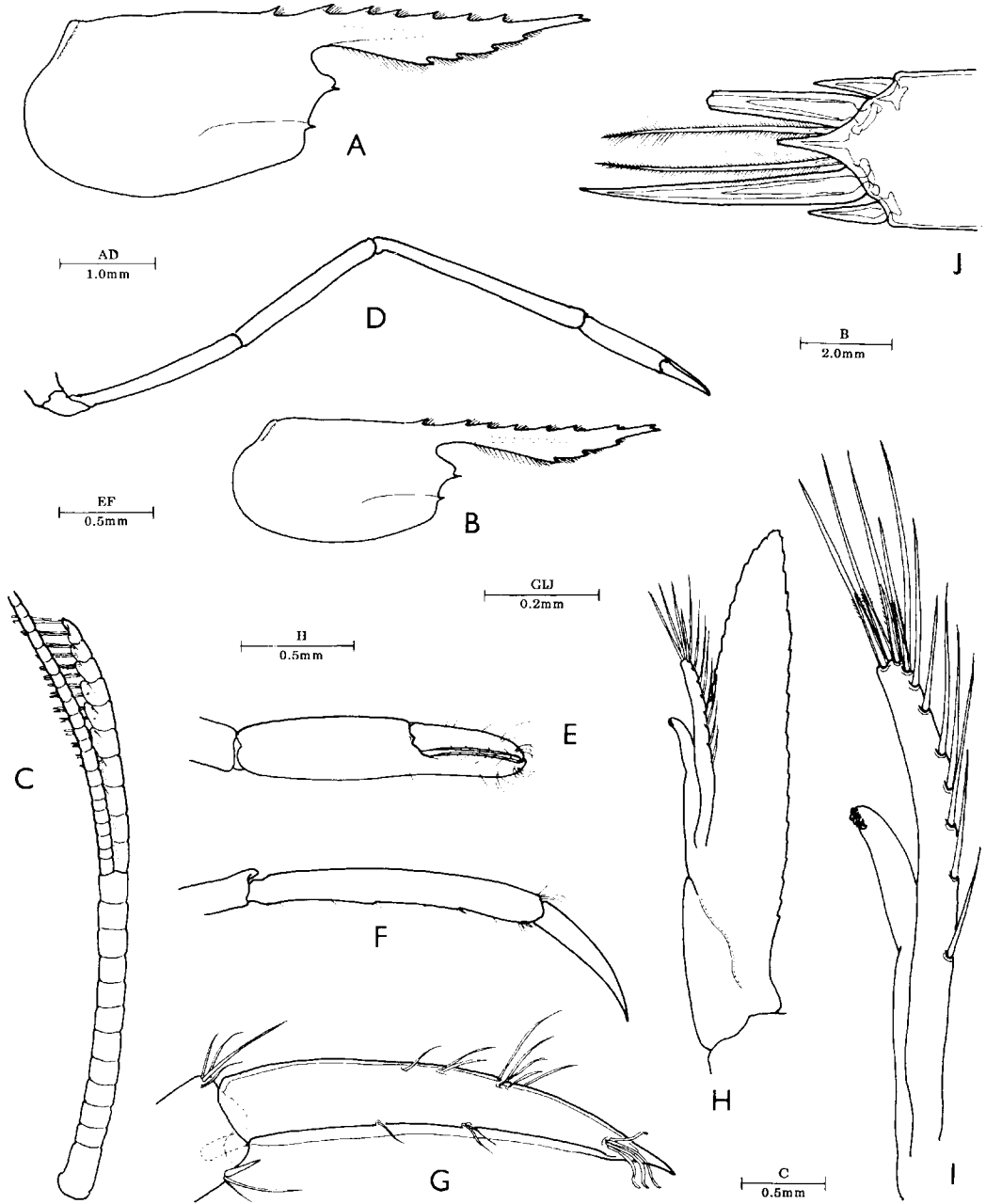


Fig. 1. *Palaemonetes atrinubes*: **A**, carapace and rostrum, ovigerous ♀; **B**, same, juvenile; **C**, antennule; **D**, second pereiopod; **E**, same, chela; **F**, third pereiopod; **G**, same, dactyl; **H**, first ^{2nd} pleopod, ♂ endopod; **I**, same, appendix interna and appendix masculina; **J**, telson, posterior spines.

spines and 10 similar spines along the distolateral border; the apical spines are finely spinulose on the central portion.

The posterior margin of the telson has two pairs of spines, with a pair of slender plumose submedian setae. The lateral spine is about 0.25 of the medial spine length, as opposed to 0.5 in the type material.

Measurements. Post-orbital carapace lengths (mm): ovig. ♀ 5.2; ♂ 5.5-5.6; juvs. 3.0-3.6. Length of ovum, 0.8.

Habitat. Sandy floored mangrove pools.

Remarks. The discovery of specimens of *P. atrinubes* on the east coast of Australia, at a latitude of 25°S, suggests that this species may occur all around Australia's northern coastline, where suitable habitats occur. This is of interest, as no species of this genus have been previously recorded from the east coast, probably due mainly to inadequate sampling.

The genus is poorly represented outside the New World, European, Mediterranean and Middle Eastern waters, with one species occurring in Nigeria, *P. africanus* Balss, and

two in south-east asian fresh waters, in China, *P. sinensis* (Sollaud), and Vietnam, *P. tonkinensis* (Sollaud), (Strength 1976), and otherwise only known from the two coastal species found in Australia, *P. australis* Dakin and *P. atrinubes* Bray.

REFERENCES

- Bray, D. M. 1976. A review of two Western Australian shrimps of the genus *Palaemonetes*, *P. australis* Dakin 1915 and *P. atrinubes* sp. nov. (Decapoda, Palaemonidae). *Records of the Western Australian Museum* **4**: 65-84.
- Dakin, W.J. 1915. Fauna of Western Australia. IV. *Palaemonetes australis* sp. nov., being the first record of the genus in Australia. *Proceedings of the Zoological Society of London* **1915**: 571-574.
- Serventy, D.L. 1938. *Palaemonetes australis* Dakin in south Western Australia. *Journal of the Royal Society of Western Australia* **24**: 51-57.
- Strength, N.E. 1976. A Review of the Systematics and Zoogeography of the Freshwater Species of *Palaemonetes* Heller of North America (Crustacea:Decapoda). *Smithsonian Contributions to Zoology* **228**: 1-27.

Accepted 10 August 1988