

## ***Victoriasquilla poorei*, a new genus and species of mantis shrimp from southern Australia, and a range extension for *Hadrosquilla edgari* Ah Yong, 2001 (Crustacea: Stomatopoda: Nannosquillidae)**

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### **Abstract**

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*Victoriasquilla poorei*, a new genus and species of nannosquillid stomatopod from southern Australia is described. *Victoriasquilla poorei* appears to be most closely related to species of *Austrosquilla*, especially *A. osculans* (Hale, 1924), with which it shares a similar rostral plate, a similar complement of antennal papillae, similar raptorial claw armature, and telson and uropod structure. *Victoriasquilla poorei* also superficially resembles the eastern Atlantic *Nannosquilloides occulta* (Giesbrecht, 1910), but differs in numerous features including fusion of the ocular scales, the number of ventral papillae on the antennal protopod, size of the epipod of maxilliped 5, the armature of the basal segment of the pereopods and posterolateral margin of AS6, and the absence of a 'false eave' on the telson. New distributional records of *Hadrosquilla edgari* are also reported.

### **Keywords**

Crustacea, Stomatopoda, Nannosquillidae, *Victoriasquilla*, *Hadrosquilla*, Victoria, Australia

### **Introduction**

The Australian stomatopod fauna currently stands at 148 species in 14 families (Ahyong, 2001, 2008; Ahyong *et al.*, 2008). Nannosquillidae is represented by six genera in Australia, of which only *Austrosquilla* Manning, 1966 (6 species) and *Hadrosquilla* Manning, 1966 (2 species), both southern Australian endemics, occur in temperate waters. Examination of unidentified material in the collections of Museum Victoria, not accessible at the time of the Ahyong (2001) revision of the Australian Stomatopoda, revealed the presence of an undescribed species and genus from Victoria, along with first records of *Hadrosquilla edgari* Ahyong, 2001 from mainland Australia. The new species and new genus are described herein, and new records reported.

### **Materials and Methods**

Terminology and size descriptors follow Ahyong (2001). All measurements are in millimetres (mm). Total length (TL) is measured along the midline from the tip of the rostral plate to the apices of the submedian teeth. Carapace length (CL) is measured along the midline and excludes the rostral plate. The Propodal Index (PI) of the raptorial claw is given as  $100CL/\text{propodus length}$ . The Propodal Length-Depth Index (PLDI) of the raptorial claw is given as 100 times propodus length/

propodus depth. Specimens are deposited in the collections of Museum Victoria, Melbourne (NMV).

### **Nannosquillidae Manning, 1980**

#### ***Victoriasquilla* gen nov.**

**Diagnosis.** Cornea subglobular. Rostral plate with single anterior median projection. Antennal protopod with 2 mesial and 1 ventral papillae. Mandibular palp absent. Maxillipeds 1–5 with epipod. Raptorial claw dactylus with 8 teeth; ischium unarmed. Abdominal somite 6 with posterolateral spines; sternum unarmed. Telson dorsal surface with posteromedian projection, otherwise unarmed; 'false-eave' absent; margins with movable submedian teeth, intermediate and lateral primary teeth, and four intermediate denticles.

**Etymology.** Derived from a combination of the Australian state name, Victoria, and the generic name *Squilla*. Gender feminine.

**Type species.** *Victoriasquilla poorei* gen. et sp. nov.

***Victoriasquilla poorei* gen. et sp. nov.**

Figure 1

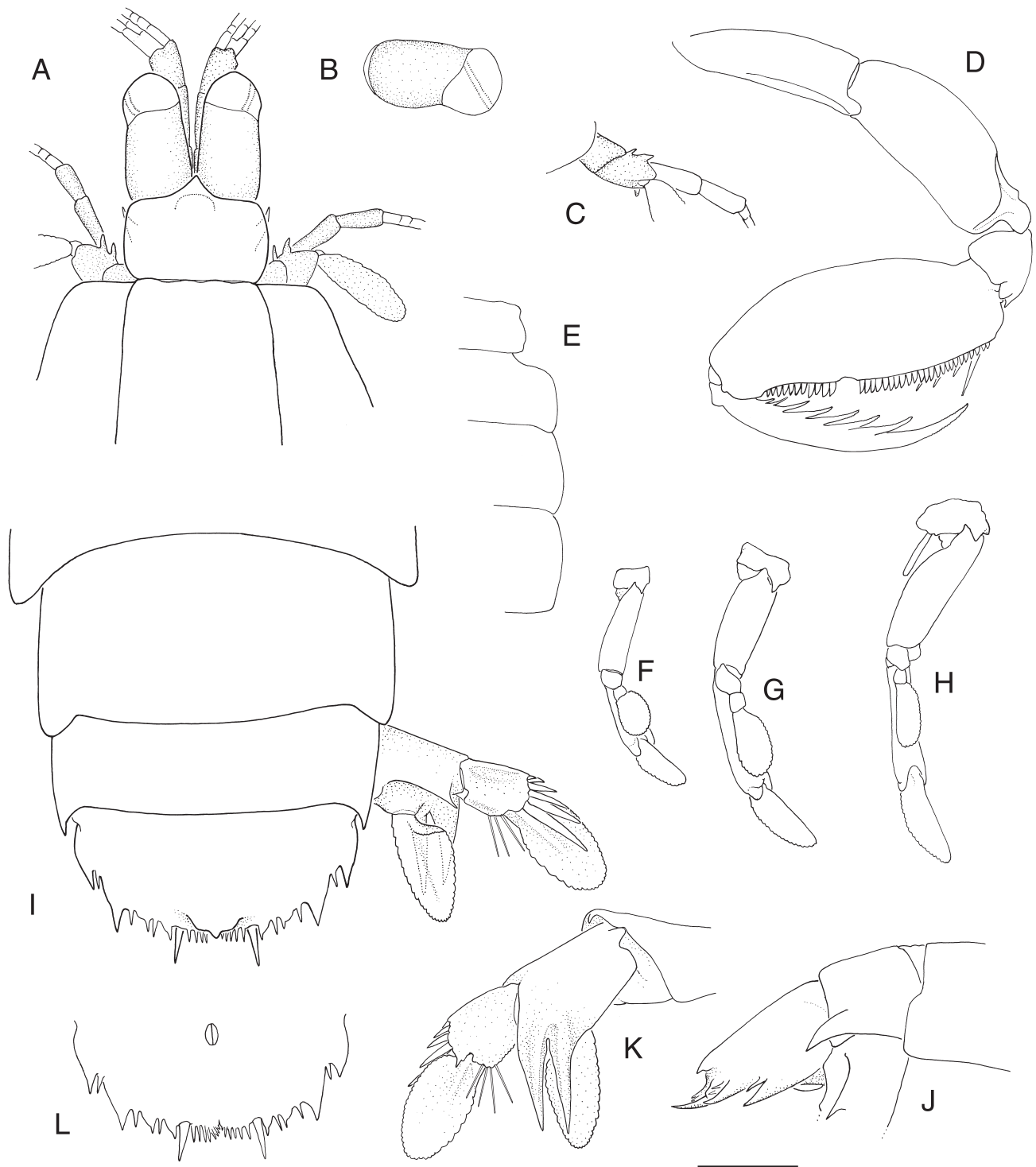


Figure 1. *Victoriassquilla poorei* gen et sp. nov., male holotype, TL 17 mm (NMV J53108). A, anterior cephalothorax. B, right eye, lateral view. C, right antennal protopod, lateral view. D, right raptorial claw, lateral view. E, thoracic somites 5–8, right dorsal view. F–H, right pereopods 1–3, respectively, posterior view. I, posterior abdomen, telson and right uropod, dorsal view. J, posterior abdomen and telson, right lateral view. K, right uropod, ventral view. L, telson, ventral view. Scale 1.0 mm

*Type material.* Holotype: NMV J53108, male (TL 17 mm), Horn Point, North Shore, Wilsons Promontory, Victoria, 39°01'36"S, 146°28'12"E, shallow subtidal, rotenone, WPNPA stn 44, R. Kuiter and M. McDonald, 8 Feb 1982.

*Description of holotype.* Eye with cornea subglobular, oriented slightly obliquely on stalk; extending slightly beyond midlength of antennular peduncle segment 3. Ophthalmic somite anterior margin rounded. Ocular scales fused into broad, subtruncate lobe, about twice as wide as long.

Antennular peduncle 0.52CL. Lateral spines of antennular somite slender, directed anterolaterally, not reaching anterior margin of rostral plate. Antennal protopod with 1 ventral papilla and 2 mesial papillae; antennal scale 0.30CL, margins fully setose.

Rostral plate subquadrate, wider than long, lateral margin broadly convex, anterolateral and posterolateral corners rounded; anterior median projection triangular; dorsal and ventral surfaces smooth.

Raptorial claw dactylus with 8 teeth; outer margin convex, with small proximal lobe. Propodus shorter than carapace; occlusal margin pectinate, proximally with 4 movable spines; PI 115, PLDI 255. Carpus with small dorsal distal spine, otherwise unarmed. Merus and ischium unarmed, former slightly longer than latter.

Mandibular palp absent. Maxillipeds 1–5 each with epipod; fourth and fifth epipod subequal.

Thoracic somites 6–8 lateral margins subtruncate to broadly rounded. Thoracic somite 8 sternal keel obsolete.

Pereopods 1–3 each with pointed, triangular lappet on outer posterior margin of basal segment; endopods 2-segmented, subcircular to ovate.

Abdominal somite 6 smooth, unarmed dorsally; posterior margin smooth; posterolateral spine prominent; sternum surface and posterior margin unarmed; small, curved ventrolateral spine anterior to uropodal articulation.

Telson wider than long; with 2 pairs of fixed primary teeth (intermediate and lateral); with 6–8 submedian denticles either side of midline forming shallow inverted V-shaped row; with 4 spiniform intermediate denticles in same plane; with 1 spiniform lateral denticle. Dorsal surface smooth, with trapezoid posteromedian projection bearing short median tooth overhanging innermost submedian denticles.

Uropodal protopod with 2 straight, ventrally carinate primary spines, inner slightly longer than outer; inner margin of protopod unarmed adjacent to endopod articulation; dorsal spine prominent, sharp. Exopod proximal segment outer margin with 5 or 6 straight, graded movable spines, distalmost exceeding midlength of distal segment; inner distal margin with 4 stiff setae; distal margin with short ventral spine. Exopod distal segment ovate, with low median carinae. Endopod with median dorsal sulcus.

*Colour.* Faded in alcohol.

*Measurements.* TL 17 mm, CL 3.50 mm, antennular peduncle length 1.83 mm, antennal scale length 1.06 mm. Raptorial claw propodus length 3.04 mm, height 1.19 mm.

*Etymology.* It is a pleasure to name this species for Gary Poore,

in recognition of his major and longstanding contributions to carcinology, especially that of southern Australia.

*Habitat.* The precise habitat and sampling depth of the holotype of *V. poorei* were not recorded at the time of collection, but it was at SCUBA depths, probably shallower than 15 m (T. O'Hara pers. com.). According to Museum Victoria records, other species collected at the same station include the decapod shrimps *Alpheus australosulcatus* Banner & Banner, 1982, *A. parasocialis* Banner & Banner, 1982, *Philocheras victoriensis* (Fulton & Grant, 1902) and *Rhynchocinetes australis* Hale, 1941, along with numerous shallow water inshore fish species.

*Remarks.* Based on Ahyong (2001), *Victoriasquilla* gen. nov. will key out to the eastern Atlantic *Nannosquilloides* Manning, 1977, sharing similar armature of the dactylus of the raptorial claw, similar eye and rostral plate shape, absence of the mandibular palp, presence of 5 epipods, and 2 mesial papillae on the antennal protopod, and an unarmed sternal margin of abdominal somite 6. *Victoriasquilla poorei* gen. et sp. nov., however, differs from the type and only species of *Nannosquilloides*, *N. occulta* (Giesbrecht, 1910), in numerous features: 1) the ocular scales are fused instead of separate; 2) one instead of two ventral papillae are present on the antennal protopod; 3) the epipod of maxilliped 5 is subequal to, instead of less than half the size of that of maxilliped 4; 4) the posterior margin of the basal segment of the walking legs bears a broad triangular lappet instead of a pair of slender spines; 5) one instead of two ventrolateral spines are present anterior to the uropodal articulation; 6) the posterolateral margin of abdominal somite 6 is armed; 7) the upper posterior margin of the telson lacks a 'false eave'; and 8) the outer primary spine of the uropodal protopod is subequal to, instead of distinctly shorter than, the inner. Although *Victoriasquilla* and *Nannosquilloides* share a number of taxonomic features, the similarities appear to be superficial. The general facies of *Nannosquilloides*, including the presence of a 'false eave' on the telson, suggests that it is more closely related to *Hadrosquilla* Manning, 1966, and *Nannosquilla* Manning, 1963. In contrast, *Victoriasquilla* appears to be more closely allied to *Austrosquilla*, especially *A. osculans* (Hale, 1924), with which it shares a similar rostral plate, a similar complement of antennal papillae, similar armature on the raptorial claw dactylus and similar telson and uropod structure. *Austrosquilla osculans* itself is aberrant in the genus (see Ahyong, 2001), and might also belong in a different genus.

The holotype of *V. poorei* is a subadult male, so the endopod of pleopod 1 is not yet modified and the penes have not reached full length. The specimen otherwise displays typical adult features. Of the known southern Australian Nannosquillidae, *V. poorei* is similar to *Austrosquilla osculans* (Hale, 1924) (as already noted) and *Hadrosquilla edgari* Ahyong, 2001, in sharing a subquadrate rostral plate with a short median point and 2 mesial papillae on the antennal protopod. *Victoriasquilla poorei* is distinguished from *A. osculans* by lacking the distal ischial spine on the raptorial claw, 5 instead of 4 epipods, and in having a blunt, rather than spinular median projection on the posterodorsal surface of the telson. From *H. edgari*, *Victoriasquilla poorei* is readily distinguished by the absence

of the false-eave on the telson, 5 instead of 4 epipods, presence of more than 7 teeth on the dactylus of the raptorial claw and in having subequal instead of markedly unequal primary spines on the uropodal protopod.

The small size of *V. poorei*, and its general similarity to *Austrosquilla osculans*, which reaches at least 43 mm TL (Ah Yong, 2001), means that it could be easily overlooked as a juvenile of the latter species.

*Distribution.* Presently known only from the type locality, Horn Point, North Shore, Wilsons Promontory, Victoria.

#### ***Hadrosquilla edgari* Ah Yong, 2001**

*Hadrosquilla edgari* Ah Yong, 2001: 161–162, (fig. 80) [type locality: Cloudy Bay Lagoon, Tasmania, Australia].

*Material examined.* NMV J53612, 3 females (TL 26–30 mm), Shoreham, Western Port Bay, Victoria, 38°26'S, 145°03'E, J. A. Kershaw, 30 Mar 1902; NMV J53613, 12 specimens, same; NMV J53614, 1 male (TL 28 mm), same.

*Remarks.* *Hadrosquilla edgari* was previously known only from Tasmania, so the present records from Victoria confirm that it occurs on both sides of Bass Strait.

*Distribution.* Tasmania and now from Western Port Bay, Victoria.

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