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## A new genus and some new species of the genus *Lauriea* Baba, 1971 (Crustacea, Decapoda, Galatheidae) from the Pacific and Indian Oceans, using molecular and morphological characters

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### Abstract

The genus *Lauriea* belongs to the family Galatheidae and is easily differentiated from other genera of the family by the endopod of the uropod being much wider than long and the dactyli of the walking legs being curved and strongly biunguiculate. Examination of many specimens collected during recent expeditions from Madagascar to French Polynesia and using morphological and molecular data revealed the existence of six species, five of them new, that are genetically distinct yet morphologically very similar. Furthermore, another new species, having a triunguiculate P2–4 dactyli, represents a new genus, *Triodonthea*.

**Key words:** New species, squat lobster, molecular data, morphology, *Lauriea*, *Triodonthea*

### Introduction

The genus *Lauriea* was established by Baba (1971) to include *Galathea gardineri* Laurie, 1926, a small species collected in the Providence and Seychelles Islands during the H.M.S. “Sealark” expedition carried out in the western Indian Ocean in 1905. Unfortunately the types of the species (two males and one ovigerous female) are lost. The genus belongs to the family Galatheidae Samouelle, 1819 (Ahyong et al. 2010) and is easily differentiated from other genera of the family by the endopod of the uropod being much wider than long and the dactyli of the walking legs being curved and strongly biunguiculate (Baba 1971; Macpherson & Baba 2011). The body and appendages of *Lauriea* have numerous long setae. *Galathea biunguiculata* Miyake, 1953, from the Palau Islands, was considered a junior synonym of *G. gardineri* by Tirmizi (1966) and Baba (1971). The type material of *G. biunguiculata* is unfortunately also lost. In 1994, a second species of the genus, *Lauriea siagiani* Baba, 1994, was described from Bali, Indonesia.

*Lauriea gardineri* has been reported sporadically in the Pacific and Indian Oceans (see Baba et al. 2008): Red Sea (Tirmizi 1966; Lewinsohn 1982), Madagascar (Baba 1991, 1994), Japan (Baba 1971, 1989; Kamezaki et al. 1988; Minemizu 2000; Kato & Okuno 2001; Osawa & Okuno 2004), Talaud Islands, Indonesia (Baba 1977a), Sulu Archipelago (Baba 1988), western Indian Ocean off the Somali Republic, the Andaman Islands (Tirmizi & Javed 1993), New Caledonia (Baba, 1994), and Western Australia (Macpherson 2008; Poore et al. 2008). The species has been collected, usually in shallow waters, from the shore to ca. 100 m, although the records from south-western Australia are at 100–382 m (Poore et al. 2008). *Lauriea siagiani* has been reported from Indonesia, the Philippines and Japan (Gosliner et al. 1996; Kato & Okuno 2001; Osawa & Okuno 2004).

A large number of specimens of *Lauriea*, along with colour images of some specimens, have been collected by numerous expeditions over the past decades in the Indian and Pacific Oceans (e.g. Bouchet et al. 2009). Here, we examine all of this material, using a combined morphological and molecular approach based on two mitochondrial (cytochrome oxidase I, COI, and 16S rRNA) markers. This approach follows previous studies on squat lobsters