

## Morphology and distribution of the acorn barnacle *Tetraclita reni* nom. nov. (Crustacea: Cirripedia) in Madagascar and adjacent waters

BENNY KWOK KAN CHAN<sup>1,2</sup>, CHIH-HSIUNG HSU<sup>1</sup> & PEI-CHEN TSAI<sup>1</sup>

<sup>1</sup>*Biodiversity Research Center, Academia Sinica, Taipei 115, Taiwan*

<sup>2</sup>*Corresponding author. E-mail: chankk@gate.sinica.edu.tw*

### Abstract

In Madagascan waters, both *Tetraclita rufotincta* Pilsbry 1916 and *T. africana* Ren 1989 have been reported. *Tetraclita rufotincta* is more widely distributed than *T. africana*, extending to the western Indian Ocean and east Africa. *Tetraclita africana* is reported from Madagascar and no further distribution record has been made apart from its type locality. Both species have pink parietes and are similar in size, which could lead to identification confusion. In this study, we revealed that *T. africana* differed from *T. rufotincta* in having multicuspidate setae on cirrus III, a feature that can be observed with both light microscopy and SEM. Additionally, the tergum of *T. africana* has a rounded spur and a larger basi-scutal angle than that of *T. rufotincta*. However, since the name *Tetraclita africana* has been pre-occupied under the name *Tesseropora (Tetraclita) wireni africana* Nilsson-Cantell, 1932, we, therefore, propose herein a replacement name, *Tetraclita reni* nom. nov. Based on museum specimens examined, *Tetraclita reni* nom. nov. is present in northeastern and southern Madagascar and Mauritius but absent from Yemen, Kenya, South Africa, Aldabra and northwestern Madagascar, suggesting the distribution of *T. reni* nom. nov. could be confined to the south and northeast of Madagascar and adjacent waters.

**Key words:** Barnacles, Cirripedia, the western Indian Ocean, *Tetraclita rufotincta*, *Tetraclita africana*, *Tetraclita reni* nom. nov.

### Introduction

Barnacles of the genus *Tetraclita* are common intertidal inhabitants of tropical and sub-tropical waters (Newman & Ross 1976). They are often the major space occupiers on the shore, playing important roles in the filter-feeding food chain and as foundation species affecting the structure and dynamics of intertidal communities (Barnes 2000). In Madagascan waters, only two species of *Tetraclita* have been reported, *T. rufotincta* Pilsbry 1916 and *T. africana* Ren 1989. *Tetraclita rufotincta* is common in the mid shore (Taylor 1971), occurring from the western coast of India (Wagh 1969) to the eastern coast of Africa (Pilsbry 1916), Madagascar (Utinomi 1968, 1969) and the Red Sea (Ross 1999). *Tetraclita africana*, which has a narrower distribution record than *T. rufotincta*, has been reported only from Madagascar (Ren 1989), based on the collections in the Muséum national d'Histoire naturelle, Paris, France. In Madagascan waters, the identification of the species may be confusing since they are externally morphologically similar, both having pink parietes, and no detailed comparative morphological studies have been conducted. Scanning Electron Microscope (SEM) examination of arthropodal characters, such as setal types on cirri and mouth parts, in conjunction with light microscopy (Chan *et al.* 2007 a, b) can help resolve this problem. Arthropodal features have been proven to be useful and reliable for species identification and phylogenetic studies (Southward & Newman 2003; Chan *et al.* 2008a, b).

The name *Tetraclita africana* has been pre-occupied under *Tesseropora (Tetraclita) wireni africana* (Nilsson-Cantell 1932). Its geographical distribution is poorly known, except for its type locality in Sainte