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## Records of the hermit crab genus *Pagurixus* Melin, 1939 (Crustacea: Decapoda: Anomura: Paguridae) from Europa Island, western Indian Ocean, with descriptions of two new species

TOMOYUKI KOMAI<sup>1</sup> & JOSEPH POUPIN<sup>2</sup>

<sup>1</sup>Natural History Museum and Institute, Chiba, 955-2 Aoba-cho, Chuo-ku, Chiba, Japan (komai@chiba-muse.or.jp)

<sup>2</sup>Institut de Recherche de l'Ecole Navale, IRENav, BP 600, 29240 BREST, France (joseph.poupin@ecole-navale.fr)

### Abstract

Three species of the pagurid hermit crab genus *Pagurixus* Melin, 1939, are reported from Europa Island in the Mozambique Strait, western Indian Ocean: *P. haigae* Komai & Osawa, 2007, *P. annulus* **n. sp.**, and *P. europa* **n. sp.** *Pagurixus haigae* is recorded from the western Indian Ocean for the first time. *Pagurixus annulus* **n. sp.** and *P. europa* **n. sp.** are referred to the *P. boninensis* (Melin, 1939) species group and *P. anceps* (Forest, 1954) group, respectively. Diagnostic characters of these two new species are discussed.

### Introduction

The hermit crab genus *Pagurixus* Melin, 1939 (Paguridae) is well represented in shallow coral reefs in the Indo-West Pacific, currently including 36 species. The genus is characterized by the possession of a prominent tuft of setae directed mesially on the right coxa of the fifth pereopod in the male. Recent studies using materials collected by SCUBA diving (e.g., Komai & Myorin 2005; Komai & Osawa 2006; Osawa et al. 2006; Komai & Okuno 2009; Komai 2010; Komai & Rahayu, in press) have much contributed to discovery of species of the genus from the subtidal zone, where access for collections is not easy. Nevertheless, discovery of new species and new records from little investigated areas is still highly expected. From the western Indian Ocean, eight species have been reported, viz., *P. anceps* (Forest, 1954), *P. carinimanus* Komai & Osawa, 2006, *P. crosnieri* Komai, 2010, *P. nomurai* Komai & Asakura, 1995, *P. patiae* Komai, 2006, *P. pupureus* Komai & Okuno, 2009, *P. ruber* Komai & Osawa, 2006, *P. rubrovittatus* Komai, 2010 (Komai 2010; Poupin et al. in press a). All but *P. crosnieri* are widely distributed in the Indo-West Pacific.

Europa Island is one of the French Iles Eparses, otherwise including Bassas da India, Juan de Nova, Les Glorieuses and Tromelin. It is the southernmost island of this group located at 22°21'S, 40°21'E, 550 and 300 km far from Mozambique and Madagascar coasts respectively. It is broadly circular, with diameter of 6–7 km and the surface area of approximately 30 km<sup>2</sup>. Due to its isolation and very low population, anthropogenic influence is limited at Europa Island and there is, therefore, a strong willingness of the TAAF administration (Terres Australes et Antarctiques Françaises) to give the island the status of a Marine Protected Area (MPA). In the Mozambique Channel, the BIORECIE programme (2011–2013), led by the French Institut de Recherche pour le Développement (IRD) has been funded to improve our knowledge on the fauna and flora of the French Iles Eparses. Main objective of the 7–12 November leg to Europa Island was to update the previous inventories of the fauna already made in the island. Material studied herein is part of the decapod collections made during this field survey. Three species of *Pagurixus*, including two new to science, are reported herein: *P. haigae* Komai & Osawa, 2007, *P. annulus* **n. sp.** and *P. europa* **n. sp.** *Pagurixus haigae* is recorded from the western Indian Ocean for the first time. *Pagurixus annulus* **n. sp.** and *P. europa* **n. sp.** are referred to the *P. boninensis* (Melin, 1939) species group and to the *P. anceps* species group, respectively (cf. Komai & Osawa 2006).

All specimens were collected in the intertidal zone, in tide pools of the reef flat, at low tide. They are deposited in the Muséum national d'Histoire naturelle, Paris (MNHN). General terminology follows McLaughlin *et al.*