



Two new species of shallow-water hermit crabs (Crustacea: Decapoda: Paguridae) from Mayotte, Comoro Islands, southwestern Indian Ocean

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Abstract

Two new species of pagurid hermit crabs are described from shallow coral reefs of Mayotte, Comoro Islands, southwestern Indian Ocean. *Cestopagurus caeruleus* sp. nov., representing the fourth of the genus, is morphological similar to *C. coutieri* Bouvier, 1897 and *C. timidus* (Roux, 1830), but the new species is immediately distinguished from the latter two species by the proportionally longer antennular peduncles and the different armature of the dactylus of the right cheliped. *Trichopagurus asper* sp. nov., representing the third species of the genus, appears closer to *T. macrochela* Komai & Osa-wa, 2005, but the tuberculate dorsal surface of the right palm and the possession of spines on the carpus of the left cheliped readily differentiate the new species from the latter species.

Key words: Crustacea, Decapoda, Anomura, Paguridae, *Cestopagurus*, *Trichopagurus*, new species, Mayotte Island

Introduction

This work constitutes part of a series of taxonomic studies that present the faunistic results obtained during the KUW 2009 Expedition carried out in Mayotte, Comoro Islands, southwestern Indian Ocean, in 1–21 November 2009. This expedition was organized by Jean-Marie Bouchard, Kraken Underwater Works Cie (KUW), Mayotte, with scientific partnership between the Institut de Recherche de l'Ecole Navale (IRENav), Brest, and the Muséum national d'Histoire naturelle (MNHN), Paris (Bouchard *et al.* 2009). The objective of the expedition was to establish the first inventory of the Crustacea Decapoda and Stomatopoda of the Mayotte region. The previous outputs of this expedition include the description of a new sentinel crab of the genus *Macrophthalmus* (Poupin & Bouchard 2010), the shallow-water squat lobsters (Macpherson & Cleve 2010), the terrestrial, mangrove and freshwater decapods (Bouchard *et al.* in press), the anomurans (Poupin *et al.* in press), and the caridean shrimps (Li *et al.* 2012). All these results are also integrated into a database (<http://crustaceamayotte.free.fr/>) used as a collaborative tool to update, share, and retrieve the data of the KUW project including, list of the species, with photographs, stations data, maps, field observations, and associated literature.

The present paper complements the checklist of the anomuran crustaceans (Poupin *et al.*, in press). Two new species of Paguridae are described and illustrated in detail, viz. *Cestopagurus caeruleus* and *Trichopagurus asper*. Affinities of these two new species are discussed.

Material and methods

The material was collected in shallow-water of the lagoon during SCUBA dives made between 6–22 m. Specimens were mixed with coral debris and rubbles that were brought to the surface in large bins and carefully sorted after each dive. Details on the sampling techniques used during KUW fieldwork are described by Bouchard *et al.* (2009, in press) with a list of the stations. The material collected during the survey is deposited in MNHN.

General terminology follows McLaughlin *et al.* (2007), except for numbering of thoracic sternites. Shield length (sl), measured from the tip of the rostrum to the midpoint of the posterior margin of the shield, indicates specimen size. Others abbreviations are: coll., collected by; stn, station.