



## Hermit crabs (Crustacea: Decapoda: Anomura) inhabiting the intertidal and shallow subtidal region of Red Sea coast of Egypt

KHALEID F. ABD EL-WAKEIL, ELHAM S. AHMED, AHMAD H. OBUID-ALLAH & NASSER A. EL-SHIMY

Department of Zoology, Faculty of Science Assiut University, Egypt. E-mail: kfwakeil@yahoo.com

### Abstract

The present work surveys hermit crab species inhabiting the intertidal and shallow subtidal region in the Red Sea coast of Egypt, and presents an identification key for surveyed hermit crabs. Twelve hermit crab species were recorded from the 29 sites along the Red Sea coast of Egypt. These species belong to three families (Coenobitidae, Paguridae and Diogenidae) and seven genera. The dominant species in this survey were *Clibanarius signatus* and *Calcinus latens*. The less dominant species in this survey were *Diogenes pallescens*, *D. costatus*, *D. lagopodes* and *Clibanarius carnifex* and rarer species were *Dardanus woodmasoni*, *Diogenes tirmiziae*, *Coenobita scaevola*, *Clibanarius longitarsus*, *Cestopagurus coutieri* and *Pagurus cavicarpus*. Identification key for the recorded hermit crabs species is provided.

**Key words:** Hermit crab; Red Sea; Coenobitidae; Paguridae; Diogenidae; identification key

### Introduction

Hermit crabs on a world-wide basis influence whole communities of associates in a range of habitats from the terrestrial to the deep sea (Williams & McDermott 2004). Those authors reported that in total over 550 species of invertebrates from 16 phyla are associated with 180 species of hermit crabs. Hermit crabs represent an important portion of the many intertidal and moderately deep benthic marine communities worldwide, where they play an important role in the food chain (Fransozo & Mantelatto 1998).

The increasing interest in environmental care makes the hermit crabs relevant in this respect, because they can be used as an indicator of ecological health (Dunbar *et al.* 2003). Lyla & Ajmal Khan (1996) used the estuarine hermit crab, *Clibanarius longitarsus* (De Hann) as an indicator of changes in heavy metals (iron and manganese) in the Vellar estuary, India, over a period of one year. Lyla *et al.* (1998) (cited in Dunbar *et al.* 2003) proposed the hermit crabs as test organisms for detecting environmental impacts. Some species of marine hermit crabs may be useful as indicators of freshwater inundation on tropical shores (Dunbar *et al.* 2003).

The Red Sea hermit crabs have not been extensively studied. Heller (1861a–d) described several species of the Red Sea hermit crabs. Lewinsohn (1969), studied anomurans of the Red Sea, including hermit crabs. Vine (1986) listed the species of hermit crabs from the Red Sea, but many of the species that he mentioned have since been revised or synonymised with other species. Therefore, a necessary re-evaluation of the Vine (1986) list of Red Sea hermit crabs is needed. Al-Aidaros (1989), described the complete larval development of *Coenobita scaevola* (Forskål) (Coenobitidae) and *Dardanus tinctor* (Forskål) (Diogenidae), based on laboratory rearing. McLaughlin & Dworschak (2001) re-evaluated the hermit crabs from the Red Sea obtained and identified by Camill Heller.