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A new species of the genus *Rhopalaea* (Class: Ascidiacea) from the Red Sea

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Abstract

During regular surveys and collection of ascidians along the Red Sea coast of Israel, several specimens of an undescribed species of *Rhopalaea* were collected. Samples were collected by SCUBA from the natural coral reef and man-made structures at depths between 10 to 40m. This is the first species of the genus *Rhopalaea* described from the Red Sea, which is characterized by a transparent, uncolored gelatinous tunic with elongated attachment extensions, and is distinguished by its eight atrial lobes, thoracic muscle arrangement, and branchial sac structure.

Key words: Ascidians, Red Sea, Gulf of Aqaba, Elat, Coral reef

Introduction

The coral reefs of the Red Sea are well known for their extraordinarily high biodiversity and high number of endemic species (Loya 1972, Goren 1993). Many species of ascidians that have a widely cosmopolitan distribution nowadays such as *Phallusia nigra* and *Didemnum candidum* were originally described by Savigny of this area (Savigny 1816). However, not many species have been added to the original inventory list since then. In order to monitor the current ascidian fauna of the region a new collection of ascidians has been established at the National Collections of Natural History at Tel-Aviv University (TAU), Israel. The renewed interest in the ascidian fauna of the region resulted in the findings of new species, and the revision of the inventory list of species previously recorded (Shenkar and Monniot 2006, Shenkar and Lambert 2010, Shenkar 2012).

The genus *Rhopalaea* belongs to the family Diazonidae. The systematic position of this family between the orders Aplousobranchia or Phlebobranchia is still uncertain (Moreno and Rocha 2008). To date there are nineteen accepted species within this genus that are either solitary or colonial (Table 1, Shenkar et al. 2012). It is closely related to the genus *Diazona*, in which all species are colonial and have at least the abdomen included in a common tunic. However, in *Rhopalaea* there are no large colonies like those of *Diazona* (Van Name 1945). In the genus *Rhopalaea* the body is divided into two discrete sections. The posterior section is buried in the substratum, and the anterior section is erect in the water. The tunic is often gelatinous and clear (Vazquez and Young 1996). Most known species are tropical (Kott 2006), few are from temperate waters and one species, *R. cloneyi* is from the British Columbia fjords (Vazquez and Young 1996). *Rhopalaea* species have a wide depth range, from shallow waters to 500m (Table 1). Some *Rhopalaea* species are known to be able to reproduce asexually (Monniot and Monniot 2001), though the mechanism of bud formation is unclear. Therefore, the “colonial” or “solitary” life style classification in this genus is ambiguous in some cases.

In the current paper the morphology and distribution of a new species of *Rhopalaea* is described. Although this species is fairly common around the coral reefs of the northern Gulf of Aqaba, it is the first record of *Rhopalaea* from the Red Sea.