

SHORT COMMUNICATION

Shrimps (Crustacea, Decapoda, Caridea) associated with gorgonians at the coast of Senegal

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INTRODUCTION

Symbioses are common in the marine environment. Some taxa appear to be particularly prone to be involved in associations. Crustaceans probably form more associations with other classes than any other marine animals (Ross 1983), crustacean – cnidarian associations being particularly common (Patton 1967). Gorgonian-associated decapods have been described from both sides of the Atlantic (e.g. Spotte et al. 1994, 1995, Wirtz & d'Udekem d'Acoz 2001, Wirtz et al. 2009). Gorgonians were therefore searched for associated decapods during three dives in the area of NGor, Senegal, i.e. at the western tip of Africa.

MATERIAL AND METHODS

All observations were made while SCUBA diving. The first dive was at 14°45.643' N, 17°30.710' W, on 11 October 2009. An unidentified green gorgonian (Fig. 1) in 14 m depth was visually searched and a hand-held aquarium net was wiped over its surface. The second dive was at 14°45.673' N, 17°31.079' W, on 12 October 2009. Several large *Leptogorgia* sp. (Fig. 2) in 25 m depth were visually searched and a hand-held aquarium net was wiped over their surfaces. The third dive was at 14°43.806' N, 17°32.046' W, on

20 October 2009 in 29 m depth. An unidentified, long-armed, red gorgonian (Fig. 3) was visually searched and a hand-held aquarium net was wiped over its surface.

Specimens were deposited at the Oxford University Natural History Museum (OUMNH) under the numbers 2009-27-02 and -03 (*Rapipontonia platalea*), 2009-27-04 and -05 and -06 (*Pseudocoutierea wirtzi*), and 2009-27-07 and -08 (*Hippolyte* cf. *palliola*).

RESULTS

Three species of shrimps were found on the gorgonians sampled.

Hippolyte cf. *palliola* Kensley, 1970

An ovigerous female of this species was found on the unidentified green gorgonian in 14 m depth, and another one on the unidentified red gorgonian from 29 m depth (Fig. 1).

Hippolyte palliola is known from Guinea to western South Africa (Crosnier 1971; d'Udekem d'Acoz 2007) and apparently has not yet been recorded in association with other invertebrates.

Pseudocoutierea wirtzi d'Udekem d'Acoz, 2001
Numerous animals of this species were found on the gorgonians checked in all three dives.

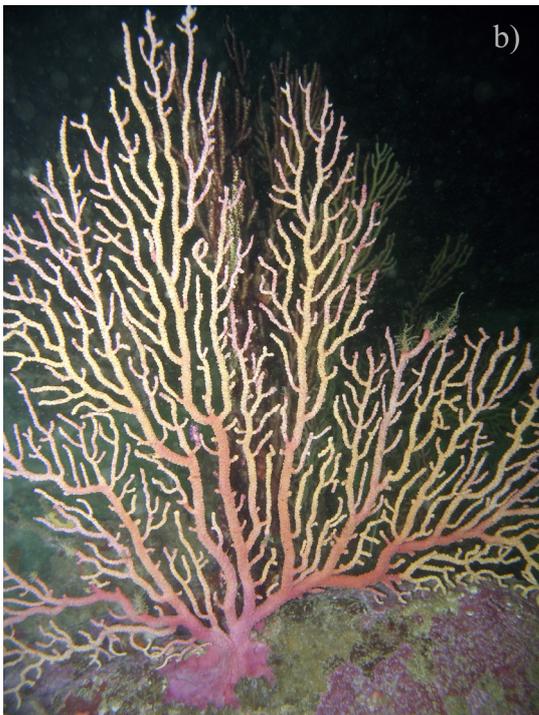


Fig. 1a) Unidentified green gorgonian, host of three species of symbiotic shrimps; b) *Leptogorgia* sp. (25 m depth); c) unidentified red gorgonian, host of two symbiotic shrimp species.

This species has so far been recorded only from the Cape Verde Islands and from São Tomé Island, where it also lives in large groups on gorgonians or solitarily on whip-coral (Wirtz & d'Udekem d'Acoz 2001, 2008)

***Rapipontonia platalea* (Holthuis, 1951)**

Numerous individuals of this species were found on the unidentified green gorgonian in 14 m depth and on the *Leptogorgia* surveyed in 25 m depth.

Rapipontonia platalea is known from the Cape Verde Islands, from Guinea and from São Tomé and Príncipe in the Eastern Atlantic and from Tobago in the Western Atlantic (Hale & De Grave 2007). Wirtz & d'Udekem d'Acoz (2001) noted that it lives in symbiosis with black coral and gorgonians, while Hale & De Grave (2007) found it on a hydroid encrusted with a zoantharian.

DISCUSSION

At present, it appears unlikely that the gorgonians in any way benefit from the shrimps living on them. Most gorgonians are unpalatable to predators such as fish (Epifanio et al. 1999; and references therein). Gorgonian symbionts might profit from the fact that their hosts are avoided. Shrimps living on gorgonians probably feed on gorgonian tissue and on particles captured by the gorgonian polyps. It remains to be tested if symbiotic shrimps perhaps even take up unpalatable compounds from their hosts and thereby become unpalatable themselves.

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