

# NOTES ON THREE WESTERN ATLANTIC DEEP-SEA CRABS (DECAPODA, BRACHYURA)

BY

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## INTRODUCTION

In June of 1999, Dr. James Welch, at that time working at Harbor Branch Oceanographic Institution, collected several specimens of deep-sea crabs using the submarine "Johnson Sea Link II" in the western Atlantic. Four specimens were sent to us for identification. In addition, video footage of some of the crabs taken just prior to their collection was also sent to us. In this note, we describe slight geographic range and/or depth extensions for all three species and provide the first observations on feeding behavior in the homolid crab *Homola minima* Guinot & Richer de Forges, 1995.

## MATERIALS AND METHODS

The four specimens resulted from dives of the "Johnson Sea Link II" on 9, 11, 12, and 19 June, 1999, in various regions of the Bahamas and at depths of 690 to 952 m. All specimens are in the personal collection of Dr. James Welch, Wittenberg University, Springfield, Ohio, U.S.A.

## HOMOLODROMIIDAE

### ***Homolodromia paradoxa*** A. Milne-Edwards, 1880

Material examined. — One female, mature, not ovigerous, Northwest Channel, Bahamas, "Johnson Sea Link II" dive 3124, depth approximately 2950 ft (approximately 952 m), 9 June 1999. According to the collector (J. Welch, pers. comm.), the species used *Thalassia* rhizomes for cover and was collected on sandy substrate.

Previous range. — Although the literature contains numerous listings of this species, it has become apparent recently (Martin et al., in press) that another

undescribed western Atlantic species of *Homolodromia* may account for some of these records. The current range of *H. paradoxa* s. l. (that is, including all records, even those that may eventually prove to belong to the new species being described by Martin et al., in press) includes the Lesser Antilles, Gulf of Mexico, Straits of Florida, French Guyana, and Surinam (see Guinot, 1995: 193), at depths from 577 to 914 m (Guinot, 1995). Thus, this report is a slight northern geographic range extension and a slight depth range extension (to 952 m) for the species.

### ***Dicranodromia felderi* Martin, 1990**

Material examined. — One female, mature, not ovigerous, Conception Island, Bahamas, 2340 ft (approximately 755 m) depth, "Johnson Sea Link II" dive 3129, 11 June 1999. The collector (J. Welch, pers. comm.) indicated that the species used a sponge skeleton as cover.

Previous range. — *Dicranodromia felderi* was described by Martin (1990) from the following localities in the Caribbean: Lesser Antilles east of Dominica, south of Grenada, and off Panama; recorded depths were from 585 to 641 m. The species has been mentioned since then only by Guinot (1995), who expanded the range to include Cuba and the Isle of San Andres. Guinot also extended the known depth of the species to 948 m. The present note extends the known range slightly northward to the Bahamas. The depth of the new collections, 755 m, is slightly greater than was reported by Martin but is within the range given by Guinot (1995). This is the first record of any specific camouflage used by this species (the sponge cover).

## HOMOLIDAE

### ***Homola minima* Guinot & Richer de Forges, 1995**

Material examined. — One adult male, San Salvador, Bahamas, 2140 ft (approximately 690 m) depth, "Johnson Sea Link II" dive 3132, 12 June 1999. According to the collector (J. Welch, pers. comm.), the species used a piece of a sponge, collected on a nearby rock wall, as cover. One from specimen (actual specimen not seen by us) collected on Egg Reef, Bahamas, depth not given, "Johnson Sea Link II" dive 3141, 19 June 1999; specimen kept alive in aquarium at Harbor Branch Oceanographic Institution.

Previous range. — *Homola barbata* was formerly considered a wide ranging species that had been recorded from both sides of the Atlantic and from the Mediterranean Sea. The species was reported from Portugal and the Azores south to the Cape Verde Islands, Angola, and South Africa in the eastern Atlantic, and from Massachusetts south to Brazil in the western Atlantic (Williams, 1984: 261). However, following the extensive review by Guinot & Richer de Forges (1995), the species *H. barbata* has been restricted to only those specimens and locations that are in the Mediterranean or (with some reservation) possibly some of the

collecting sites in the eastern Atlantic. Western Atlantic specimens were described as a new species, *Homola minima*, by Guinot & Richer de Forges (1995), with the range given as off Martha's Vineyard, Massachusetts, to the Rio Grande do Sul, Brazil, from 55 to 683 m depth (the same range given by Williams, 1984, as *H. barbata*). Its occurrence in the Bahamas is therefore not remarkable. The depth of this collection (2140 ft, approximately 690 m) is only a slight increase over the previously recorded depth range of 55 to 683 m (Williams, 1984; Guinot & Richer de Forges, 1995).

Notes on feeding. — In one brief segment of the video footage, a specimen of *H. minima* was seen walking lightly over the sandy bottom, its chelae just off the surface, its rear legs held nearly perpendicular to the axis of the body and other legs and holding what appeared to be a sponge or tunicate just above and behind the body. The crab swept the tips of the chelae over the sediment, while around the crab small shrimp could be seen emerging from, and diving headfirst into, the sand. Sensing one of these shrimp, the crab pounced quite quickly on it, pinning it to the sand with its chelae, and proceeded to consume it. This is, to our knowledge, the first record of feeding in this genus.

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