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RECORDS OF *ZYGOPA MICHAELIS* HOLTHUIS, 1960  
(DECAPODA: ANOMURA: ALBUNEIDAE) FROM THE GULF OF MEXICO

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**ABSTRACT** The albuneid mole crab, *Zygopa michaelis* Holthuis, 1960, which was originally described from Curaçao and recently reported from the Florida East coast (Gore and Becker 1977), is reported from the Gulf of Mexico off the Florida West coast. Of the seven specimens collected, six were taken in 38 m of water off Fort Myers and one in 42 m on the Florida Middle Ground. All seven specimens occurred in substrata composed primarily of calcareous sand.

Seven specimens of the albuneid sand crab *Zygopa michaelis* Holthuis, 1960 have been collected during a study of the macroinvertebrate fauna of the eastern Gulf of Mexico. Six of these specimens were taken from a station in 38 m of water off Fort Myers, Florida. The bottom at this station is composed of coarse calcareous (carbonate) sand. The seventh specimen was collected from 42 m of water in the Florida Middle Ground, where bottom sediments are composed primarily of fine calcareous sand with a large portion of shell fragments.

Five specimens were collected with a Capetown Dredge. This dredge consists of a rectangular, steel-framed opening, followed by a tapering, angle iron frame covered by 1 x 2 cm expanded metal. Inside this apparatus is placed a removable liner frame covered with 1.3 x 1.3 cm vinyl-coated hardware cloth. The dredge was towed along the sandy bottom at these stations for 10–15 minutes. The remaining two specimens were taken with a box coring device. The core samples taken had a sediment depth of 20 cm with bottom surface dimensions of 21.3 x 30.5 cm.

*Zygopa michaelis* Holthuis, 1960. (Figure 1)

**Material Examined** — 1 ♀, 7.7 x 9.2 mm (carapace length by carapace width); R/V "Columbus O. Iselin," 15 September 1975, 26°15'N, 82°58'W; box core; 38 m; Coll. Wayne M. Bock; GCRL 1116. 1 ♀, 8.3 mm damaged; vessel name not presently available, January or February 1976, 26°15'N, 82°15'W; box core; about 38 m; collector's name not presently available; GCRL 1117. 2 ♀♀, 7.9 x 9.4 and 7.9 x 9.7 mm; 1 ♂, 8.2 x 9.9 mm; M/V "Indian Seal," 22 August 1977, 26°24'55"N, 82°57'56"W; 100 x 120 cm Capetown Dredge; 37 m; Coll. T. S. Hopkins; DISL 6183–1505. 1 ♀, 7.5 x 9.1 mm; M/V "Java Seal," 23 October 1977, 26°24'59"N, 82°58'0"W; 100 x 120 cm Capetown Dredge, 38 m; Coll. T. S. Hopkins; USNM 184958. 1 ♀, 10.3 x damaged (approximately 6.4 mm); M/V "Indian

Seal," 5 February 1978, 28°29'46"N, 84°20'49"W, 100 x 120 cm Capetown Dredge; 42 m; Coll. T. S. Hopkins; DISL 6183–1504.

Our seven specimens from the eastern Gulf of Mexico agree with the original description by Holthuis (1960) and with specimens in the collections of the National Museum of Natural History (USNM 122644 and 168526) studied by Gore and Becker (1977). The color was, as noted by Holthuis (1960) and Gore and Becker (1977), ivory to chalky white with pilosity on the appendages ranging from yellow to golden brown. *Zygopa michaelis* is easily distinguishable from other species of American albuneids by their apparent lack of eyes, (seen to be small and fused on close examination), and by the distinct outline of the anterior margin of the carapace.

The range for *Zygopa michaelis* now extends from Curaçao, in the southern Caribbean, to southeastern Florida and the eastern Gulf of Mexico. We agree with Gore and Becker (1977) that the disjunct distribution is an artifact of collecting methods.

The two specimens taken by box core are deposited in the collection of the Gulf Coast Research Laboratory Museum (GCRL). One of the specimens (Fig. 1) taken by dredge off Fort Myers has been deposited in the collections of the National Museum of Natural History. The other dredge specimens from that station and the one from the Florida Middle Ground have been deposited in the Bureau of Land Management (BLM) Reference Collection at the Dauphin Island Sea Lab (DISL), Dauphin Island, Alabama.

*Zygopa michaelis* was originally described from Sint Michiels Baai, Curaçao, in the Netherland Antilles. The 20 original specimens (14 ♀♀, 6 ♂♂) were taken in 1957 by suction dredge from fine white sand in about 4 m of water. The genus is distinguished by (1) eyes which are much reduced and fused or "yolk shaped," and by (2) presence of two submedian teeth on the anterior margin of the carapace which are separated by a concavity rather than a single median tooth. The color is noted to be chalky white without iridescence (Holthuis 1960).

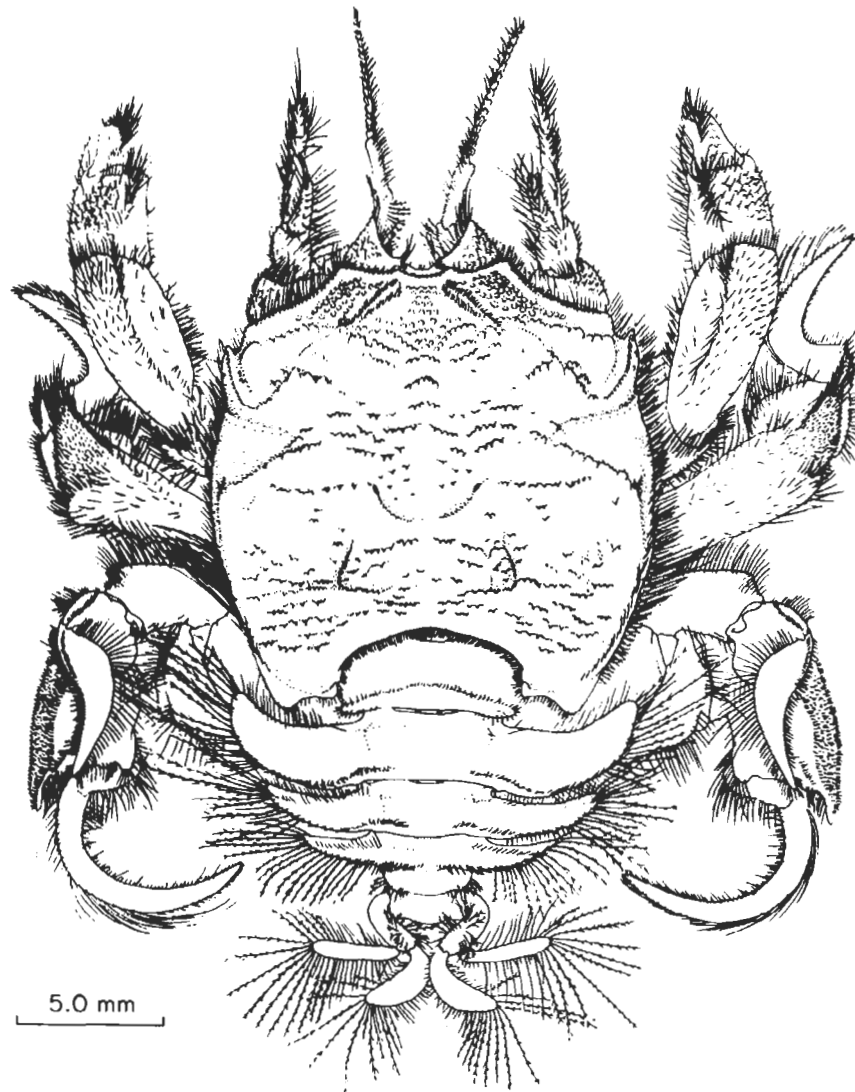


Figure 1. *Zygopa michaells* Holthuis, 1960. Female (USNM 184958) from off Fort Myers, Florida, U.S.A.

A second species, *Zygopa nortoni* Serene and Umali, 1965, described from the Philippines, with the type specimen collected from Bantangas Bay, Luzon, is reported to differ from *Z. michaells* primarily in eye morphology, but also in the number of joints on the antennular flagellum and in cheliped morphology (Serene and Umali 1965).

Gore and Becker (1977) extended the range of *Z. michaells* to the southeast coast of Florida, constituting a 2100-km range extension. Of the five specimens they reported, one female was collected in 1950 from 55–73 m of water off Palm Beach, Florida; and it remained unidentified until after Holthuis' description of the species in 1960. The four other specimens were collected in August 1976 from 55 m of water off Miami, Florida. Those specimens were collected with a tumbler dredge, while the collection method for the Palm Beach specimen was not noted.

The following additional measurements are the same em-

ployed by Gore and Becker (1977) for their material. These measurements are provided in order of collection date for the Fort Myers and Florida Middle Ground specimens: fronto-orbital, ♀, 0.9; ♀, 1.2; ♀, 1.1; ♂, 1.2; ♀, 1.2; ♀, 1.0; ♀, 1.3 mm; intramedial tooth width, ♀, 3.3; ♀, 3.7; ♀, 3.4; ♂, 3.6; ♀, 3.7; ♀, 3.3; ♀, 4.8 mm; anterolateral width, ♀, 7.7; ♀, 8.6; ♀, 7.8; ♂, 7.9; ♀, 8.1; ♀, 7.7; ♀, 10.8 mm; anterolateral tooth width, ♀, 8.6; ♀, 9.5; ♀, 8.7; ♂, 8.8; ♀, 9.0; ♀, 8.4 mm; ♀, damaged.

A number of other crustaceans were collected in the two box core samples that contained *Z. michaells*. These included a stomatopod (*Eurysquilla plumata* Bigelow), tanaidaceans (*Leptocheilia* sp. and *Aapseudes* sp.), cumaceans (*Cyclaspis unicornis* Calman, *Campylaspis* sp. and *Cumella* spp.), amphipods (*Ampelisca agassizi* Judd, *Photis melanicus* McKinney, *Unciola serrata* Shoemaker and *Lysianopsis* sp.) and a caridean shrimp (*Automate* cf. *evermanni* Rathbun).

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