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Alan W. Decho
Louisiana State University

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**REPORT OF A CEPHALOCARID
(*Lightiella incisa* Gooding)
FROM THE FLORIDA KEYS
WITH NOTES ON ITS HABITAT**

Since the discovery of the crustacean subclass Cephalocarida by Sanders (1955) nine species, and possibly ten (R. Hessler personal communication), comprising four genera have been described. The genus *Lightiella* Jones and its first described species (*L. Serendipita*) were collected from San Francisco Bay (Jones, 1961). Subsequently, three more species have been described: *L. incisa* (Gooding, 1963), *L. monniotae* (Cals & Delmare Debutteville, 1970), and *L. floridana* (McLaughlin, 1976). *L. incisa* has been reported from Barbados in the West Indies (Gooding, 1963) and Puerto Rico (Gooding, 1963; Sanders & Hessler, 1964). A larval specimen of *L. incisa* was also reported from Biscayne Bay, Florida by Joseph H. Young (Hessler & Sanders, 1973). Several adult and metanaupliar specimens of *L. incisa* are reported here from Big Pine Key, Florida. This represents the first report of a cephalocarid from the Keys. Notes on its habitat are presented.

The following specimens were collected: two specimens from approximately 70 mm off the south shore of Big Pine Key, Florida (24°38'58"N:81°19'40"W) during meiobenthic sampling in March, 1980. Later reconnaissance of the same site in March, 1981 yielded four more specimens. In March, 1982, one animal was collected. Samples were obtained using 3.4 cm diameter coring syringes with extraction by MgCl₂ multiple decantation.

This species was distinguished from *L. serendipita* by the presence of dorsal terminal spines on the telson. The presence of a single prominent tooth on the incisor process of the mandible and

the relative length of the caudal rami were the characters used to distinguish *L. incisa* from *L. monniotae* and *L. floridana*, respectively (McLaughlin, 1976). While none of the animals carried eggs, five of the seven specimens collected were considered adults because of the presence of 20 post-cephalic segments (Gooding, 1963) and a mean length (head to the tip of caudal ramus) of 2.47 ± 0.03 mm = $\bar{x} \pm$ SD. The five adults ranged in length from 2.43-2.51 mm. The two juveniles possessed 16 and 17 post-cephalic segments, with lengths of 1.36 and 1.39 mm, and correspond to metanaupliar stages four and five, respectively (Sanders & Hessler, 1964).

The habitat localities were barren sand patches located among turtlegrass (*Thalassia testudinum* König) beds at 0-2 cm depth in the sediment, and with a water depth of 0.4 m at low-water level. The sediment was composed primarily of calcareous sand, with some coral fragments, and segments of *Halimeda* spp. Mean grain size = 398 ± 36 μ m ($\bar{x} \pm$ SD) with a silt + clay content = 2.1 \pm 0.2%. Analysis of phi size distributions indicates that these samples characteristically contained a high percentage of sediment in phi sizes, 1, 0, -1 (78.8%), but relatively low (19.1) percentages in intermediate phi sizes (2,3,4). Distributions of silt vs. clay were approximately equal. Other meiofaunal taxa found in the same samples as *L. incisa* were nematodes, harpacticoid copepods, polychaetes, oligochaetes, ostracods, trubellarians, halacarids, isopods, decapod larvae, entoprocts, and sipunculids.

Gooding (1963) reported *L. incisa* to occur in *Thalassia* beds off Barbados and Puerto Rico. Sanders and Hessler (1964) also found *L. incisa* in *Thalassia* beds. However, all specimens (collected

over a three year period) from Big Pine Key were from barren sand patches immediately adjacent to *Thalassia* beds. Intensive meiobenthic sampling of the *Thalassia* beds during March, 1980 revealed no cephalocarids from the grass beds themselves therefore, the barren sand patches adjacent to *Thalassia* beds are considered the habitat of *L. incisa* specimens from Big Pine Key, Florida. A different species of cephalocarid, *L. floridana* was reported from barren coarse sand off the west coast of Florida (Saloman, 1978). Stoner (1981) found this same species in both vegetated areas and sand patches devoid of vegetation off the northwestern coast of Florida. These reports, in addition to the present one, indicate that cephalocarids are not restricted to grass beds. Associations of cephalocarids with sediment characteristics such as a large silt-clay fraction (Sanders & Hessler, 1964) or high organic matter (Saloman, 1978) are not particularly strong (Stoner, 1981). Further, and more detailed habitat investigations of cephalocarids are needed before factors controlling their distributions can be defined.

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- Alan W. Decho Department of Zoology and Physiology, Louisiana State University, Baton Rouge, LA. 70803.