

## Some Diseases, Parasites, and Epibionts of Lobsters, Crabs, Isopods, and Copepods in Puerto Rico and the U.S. Virgin Islands

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We have seen rather few diseases, parasites, and associates of crustaceans and mostly in shrimp, but we have had a few interesting cases in other crustaceans.

**Chia Pet Isopods:** We found algal species, *Enteromorpha lingulata*, *Ceramium* sp., *Dictyota* sp., and others (work in progress) growing on parasitic isopods, *Anilocra chromis* and *A. haemuli*. We also found bryozans *Electra tenella* and others; cnidarian hydroids *Podocoryne carnea*; and other epibionts. We believe these only cover up old isopods, which have ceased periodic molting. Specimens were deposited in Algal and Invertebrate Collections, Department of Marine Sciences (ICDMS) and records on isopods.

**“Radioactive” Lobsters:** When fishermen found their catch glowing in the dark, we were called on to explain a case of supposedly radioactive seafood. We diagnosed a florescent bacteria, *Vibro logei*, usually found in processed and stored seafood. This may be the first report in Puerto Rico and in unprocessed lobsters and fishes. This bacterium is harmless to humans, but some florescent bacteria are pathogenic. This is also a record for Puerto Rico.

**Ciguatera Disease Not in a Slipper Lobster:** Ciguatera toxins affect the carrier fish as well as humans, who eat them. We investigated a case of reputed Ciguatera in a Slipper Lobster and showed it was false and relived the symptoms in the patient (Williams et al., 2008: Psychos. Med. 70: 384-385). Ciguatera is only known in fishes.

**Crab Bobyrids:** We very rarely found *Aporobopyrus curtatus* in the Porcelain Crab, *Petrolisthes galathinus*, and the Spotted Porcelain Crab, *Porcellana sayana* (a hermit crab associate); and *Astaliona cruciaria* in *Clastocheuchus vanderhorsti*. These are new locality records for the bobyrids and *C. vanderhorsti* in Puerto Rico (ICDMS).

**Copepod Worm:** We found 1 *Udonella caligorum* on a male *Brachiella thynni* in a wahoo, 1 each on 3 *Euryphorus brachypterus* in a Yellowfin Tuna; and on *Caligus bonito* in a snapper (Williams and Bunkley-Williams, 1996: Offshore Big Gamefishes book). We also found it off copepods on Red Lionfish in Puerto Rico (Ramos-Ascherl, et al., 2015. J. Parasit. 101: 50-56.).

**Pelagic Barnacle on Copepods:** We found a barnacle, *Conchoderma virgatum*, attached on a parasitic copepod, *Dinemoura latifolia*, on a Shortfin Mako (Williams, 1978: Crust. 34: 109-111) and on *Pennella makaira*, attached on an Atlantic Blue Marlin (Williams and Bunkley-Williams, 1996).

**Lobster Barnacles:** We found *Octolasmis lowei* in the gills of Spiny Lobster and Slipper Lobster. Nothing unusual, but new records for Puerto Rico (ICDMS).

**Turtle Barnacles on Crabs:** We have found *Chelonibia testudinaria* on Ornate Blue Crabs and Blue Crabs in Puerto Rico. We found it on another species of crab in the northern Gulf of Mexico (Williams and Bunkley-Williams, in press: chapter in Crustacean Parasites book). Again, nothing unusual, but a record (ICDMS).

#### Further Information Not in Abstract:

**Blue Bugs:** We also collected European Pillbugs, *Armadillidium vulgare*, blue with Isopod Iridescent Virus in Los Angeles, California, but did no work with them. Interestingly, this virus also infects their parasitic nematode, *Thaumamermis cosgrovei*.

#### Literature Cited

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