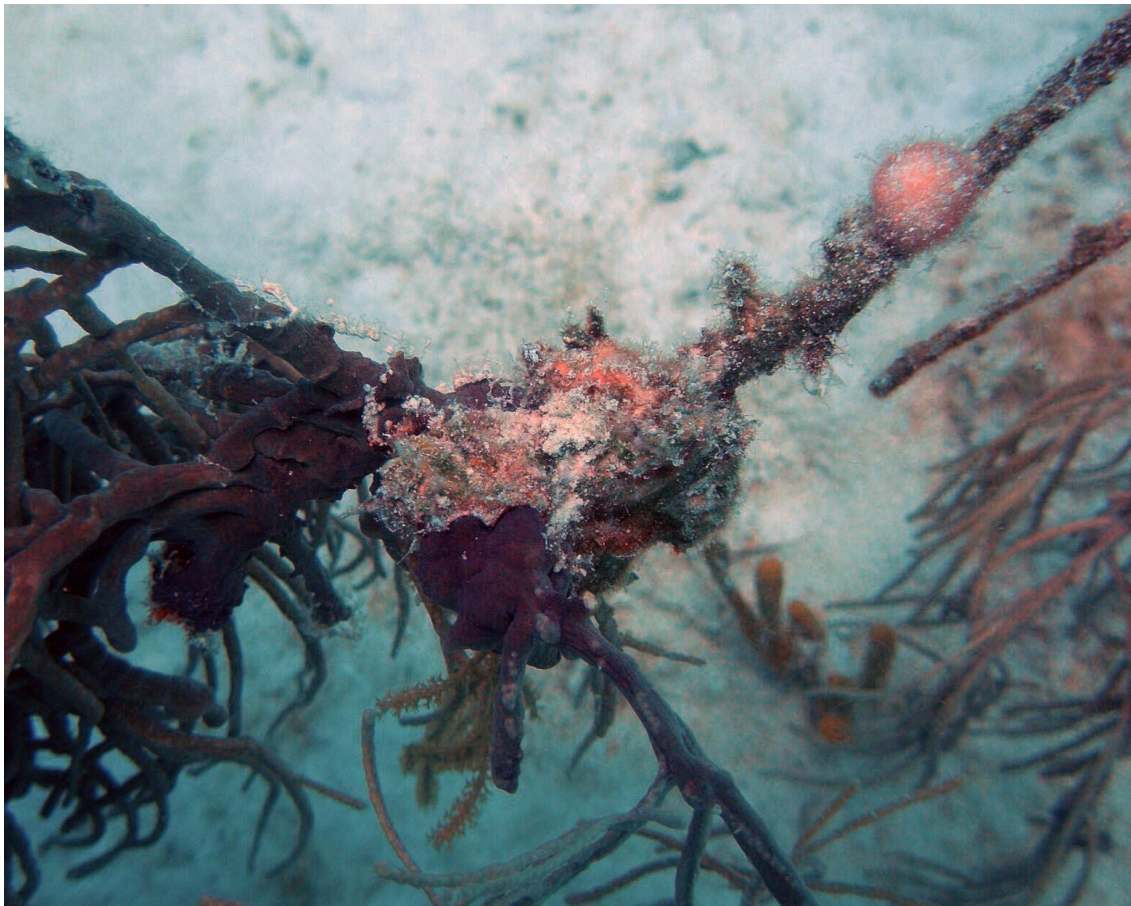


**2010 Guana fieldwork report – vermetid worm-snail diversity (and preliminary survey of overall molluscan diversity)**

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During a week's stay in early August 2010, we surveyed the waters around Guana (and to a lesser extent, Norman) Island for the occurrence and distribution of worms-snails of the family Vermetidae, a group of sessile marine snails with high invasive potential. Nothing was previously known about their occurrence in these islands. Using various field techniques while wading, snorkeling, and diving, as well photo documentation and coarse field dissection (employing the nice microscope that Lianna made available!), we found surprising small-bodied species diversity in this group, although one large-bodied Caribbean genus, *Thylacodes*, was expected and not been found during this survey.



Underwater photograph of typical “oyster cluster” on Guana’s gorgonian soft coral. A cluster such as this might be settled by up to three different species of vermetid snails.



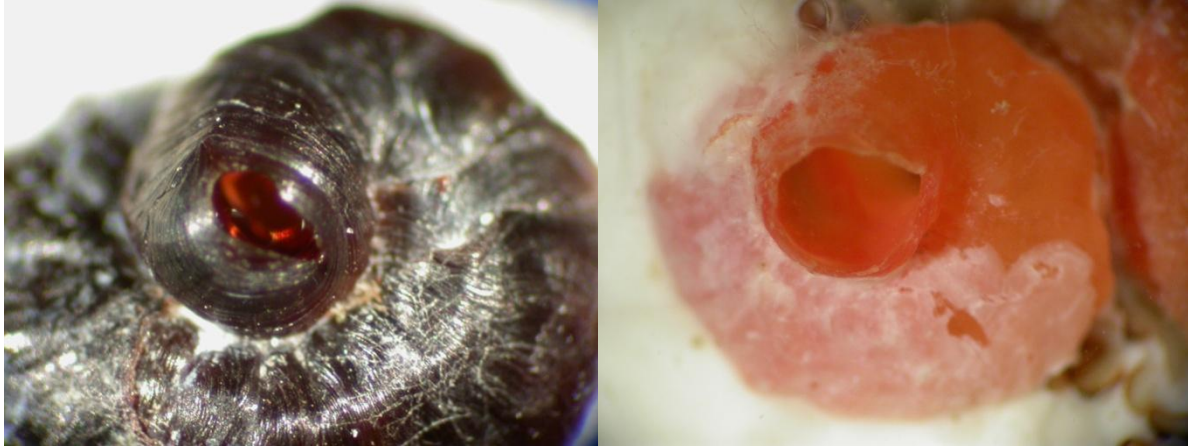
Rüdiger (left) and Tim (right) in the field and “lab.”

Several species of the targeted vermetid “worm-snails” were found, most on clusters formed by oysters and fire coral on damaged/stressed gorgonians. Analyses of specific identities are still ongoing, but are preliminarily identified as:

1. *Thylaeodus* sp.
2. “*Dendropoma*” *meroclista*
3. *Petalconchus* sp. (orange)
4. *Petalconchus* cf. *varians*
5. *Dendropoma* *corrodens*

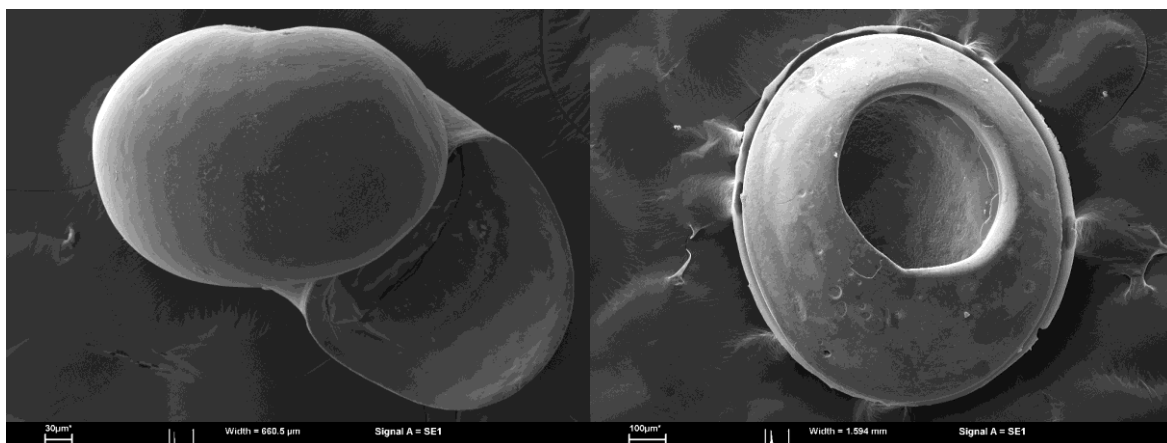
Dry and preserved samples have been included in the Field Museum collections (catalog numbers FMMH 326699, 326700, 326702, 326703, 326705-326707, 326709, 326712-4, 326717-9). Tissue samples are being processed at Florida International University for molecular analysis, and the morphology of the remaining specimens is being studied at the Field Museum.

The following images illustrate a small part of the data which has been collected to date as a result of this survey.



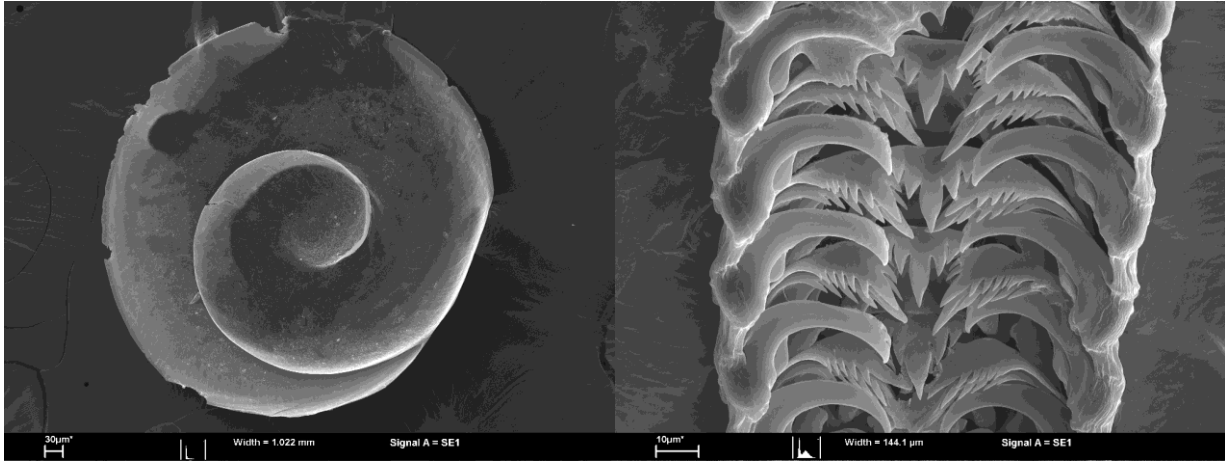
Above: Tiny (few mm sized) "*Dendropoma meroclista*" occurs in two morphs, dark brown (left) and orange (right). We are investigating whether there might in fact be two different species involved (the color difference could not be observed in the field, as both forms are near-completely overgrown by coralline algae that have been removed for these images).

To compare the Guana material with specimens collected elsewhere in the Caribbean (and the Indo-Pacific, where some of these potentially invasive species might have their origin), we are now using various techniques of morphological and molecular study. The following are a few images of Guana material under the scanning electron microscope to show details under high magnification and resolution:

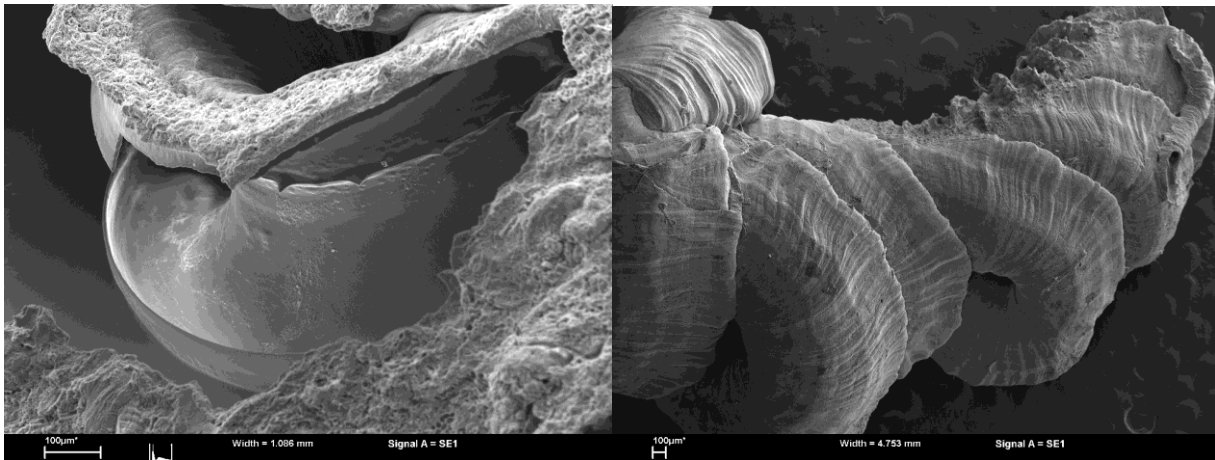


Above: Scanning electron micrographs of "*Dendropoma meroclista*" larval shell (left) and operculum (right). Compare the shape of the operculum (the horny lid that closes the shell opening when the body is retracted into the shell) with the next image.





Above: Scanning electron micrographs of *Thylaeodus* sp. operculum (left) and radular teeth (right).



Above: Scanning electron micrographs of *Petalconchus* cf. *varians* internal (left) and external (right) shell sculpture.



Above: Scanning electron micrographs showing variation in larval shell morphology of *Dendropoma corrodens*.

Station data for vermetid project

RB-1949: 8/04/10, Guana, BVI, White Bay (SW side of Island), 18°28'24"N, 64°34'31"W; snorkeling in 6-8 feet of water.

RB-1950: 8/04/10. Guana, BVI, Crab Cove, Muskmelon Bay (NW side of Island); 18°28'51"N, 64°34'39.9"W; snorkeling in 6-10 feet of water

RB-1951: 08/05/10, Guana, BVI, White Bay (SW side of Island); 18°28'15"N, 64°34'26"W; snorkeling in 6-8 feet of water.

RB-1952: 08/06/10; Guana, BVI, White Bay (SW side of island); 18°28'17"N, 64°34'32"W; scuba in 18-19 feet of water.

RB-1953: 08/06/10, Guana, BVI, North Beach; 18°28'51"N, 64°34'25"W; empty shells on beach.

RB-1954: 08/07/10; Norman Island, BVI (at NE end of Pirate's Bight, near Pirate's Beach); 18°19'00"N, 64°36'51.30"W; 1-4 ft; pilings of pier at S end of Pirate's Beach.

RB-1955; 08/07/10 Norman Island, BVI, bay across the island from Pirate's Bight; along a large spit made up of coral fragments on the SW side of the bay; 18°28'43.6"N, 64°36'34"W; 1 ft

RB 1956: 08/08/10, Guana, BVI, off Monkey Point at S end of White Bay, 18°27'52.5"N, 64°34'13.8"W; scuba in 20ft of water.

RB 1957: 08/08/10, Guana, BVI, SE part of White Bay, near Monkey Point; 18°27'58.2"N, 64°34'17.6"W; scuba in 15-20ft of water.

RB 1958: 08/09/10, Guana, BVI; cove at Iguana Head at SW point of island; scuba in 15-30 feet of water; 18°28'28.2"N, 64°34'56.4"W.

In addition, we began a preliminary survey of all molluscan species occurring around Guana. Determination of surveyed material (about 60 local species so far) is ongoing. Below are some of the more conspicuous members of the local fauna, flamingo tongues and chitons, that were photo-documented during the trip.

