

Sponge Specimen used in the Study:

A specimen of a marine sponge identified as *Euryspongia cf. rosea* De Laubenfels, 1936. Family Dysideidae, Order Dictyoceratida was collected off Chub Cay Bahamas using the Johnson Sea Link submersible at a depth of 597 m (HBOI Sample ID 8-XII-84-2-010). The specimen is massive lobate, with deformed somewhat flattened lobes that are collapsed in the deck photograph (Fig. 1a). Fragments of the lobes appear to be 1-2 cm thick, and in the photograph (Fig. 1a) they seem to be approximately 10 cm in height. The color is grayish white, tan in spirit. The surface is strongly conulose, with conules 1-2 cm high and 3-4 mm apart (Fig.1b).

After cross sections were made, a very sparse skeleton of large yellowish fibers (120-200 μm) that form the conules at the surface were observed. These fibers are internally cored by sand grains densely packed inside of the fiber, never covering the surface. Occasionally long thinner fibers (40-100 μm) devoid of coring sand, and showing slightly stratified internal structure split from the larger fibers forming discrete reticulation (Fig. 2a) were observed. Sand grains are found in high concentration throughout the interior of the body and concentrated at the surface (Fig 2b).

Based upon these characteristics the specimen belongs to the Dictyoceratida family Dysideidae which has spongin fibers slightly laminated, cored by sand and/or foreign material, and strongly long and sparse conules. By overall appearance this sponge could have been identified as a *Dysidea*, but it better matches the genus *Euryspongia* where the thicker primary fibers are cored but never the thinner interconnecting fibers (Cook and Bergquist, 2002) as observed in this specimen. This characteristic and the usual collapsible nature of the sponge favors its assignment as a *Euryspongia* species. Furthermore, the amount of sand incorporated throughout the body and concentrated at the surface is as described for the two Caribbean species of *Euryspongia*: *E. rosea* (De Laubenfels 1936), and *E. lankesteri* (Lehnert and Van Soest, 1989).

The external appearance (amorphous lobate), and the size of the fibers (40-200 μm) coincide better with the amorphous, lobate, strongly conulose *E. rosea* versus the massive, lightly conulated *E. lankesteri* (fibers range from 40-80 μm). *E. rosea* has been collected in Loggerhead Key, FL at 80 m. However, that specimen of *E. rosea* was pinkish in color, and the thicker fibers reach up to 1 mm, although the thinner ones were around 50 μm . A comparison with the type specimens kept in the Smithsonian would allow a closer comparison of this sample with the types of *E. rosea*, but until that is conducted based upon the color and skeleton differences this specimen is kept as *Euryspongia cf. rosea*

References:

Cook, S.D.C.; Bergquist, P.R. (2002). Family Dysideidae Gray, 1867. Pp. 1061-1066. In: Hooper, J. N. A. & Van Soest, R. W. M. (ed.) *Systema Porifera. A guide to the classification of sponges*. 1 (Kluwer Academic/ Plenum Publishers: New York, Boston, Dordrecht, London, Moscow).

Laubenfels, M.W. de. (1936). A Discussion of the Sponge Fauna of the Dry Tortugas in Particular and the West Indies in General, with Material for a Revision of the Families and Orders of the Porifera. *Carnegie Institute of Washington Publication*. 467 (Tortugas Laboratory Paper 30) 1-225, pls 1-22. page(s): 29-30; pl 6 fig 6

Lehnert, H.; van Soest, R.W.M. (1999). More North Jamaican deep fore-reef sponges. *Beaufortia*. 49 (12): 141-169.



Figure 1. a. Photograph on deck of specimens 8-XII-84-2-010; b. Two fragments of specimen 8-XII-84-2-010, in close up showing strong, well-spaced conules.

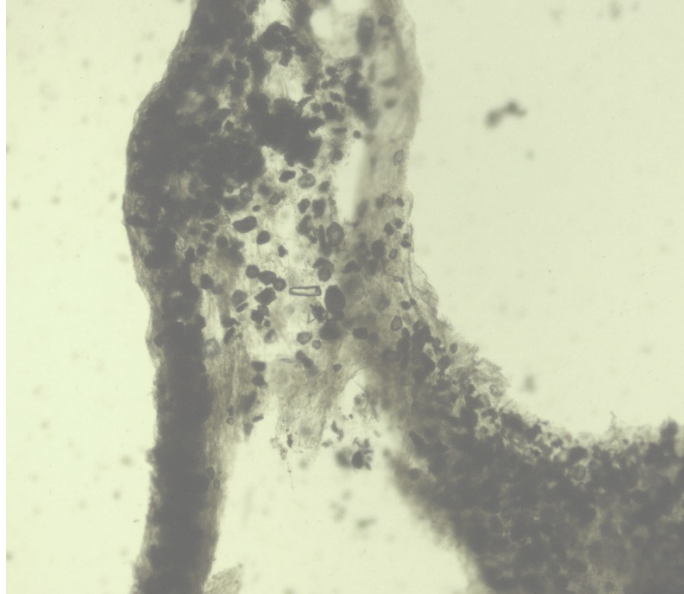
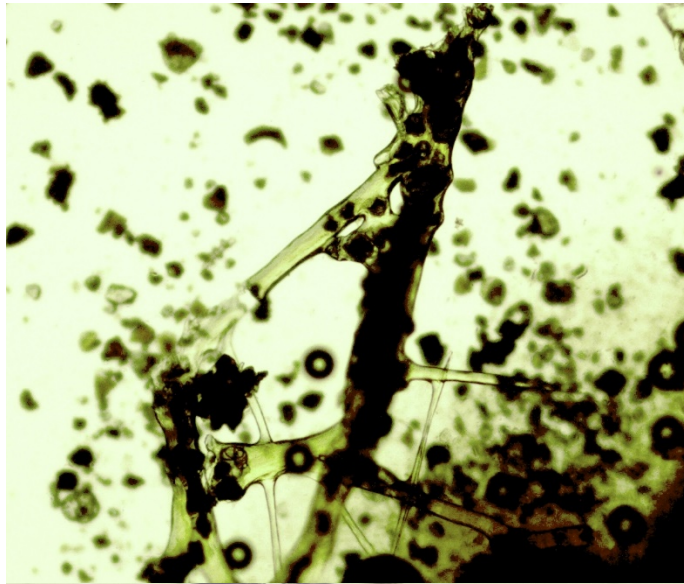


Figure 2. a. (top image) A section showing a thicker large fiber cored by sand, and uncored lateral thinner fibers that can split and anastomose occasionally forming a reticle. b. (bottom image) Section at the base of a conule where the concentration of sand grains at the surface is evident.