

What Shall I Feed To My *Terebra*?

by OLIVE SCHOENBERG

Not much is actually known about feeding habits of the Terebridae. Some terebrids have been found to feed on worms, and there are reports that others feed on *Donax* clams.

Possibly terebrids differ as to method of feeding as they possess different feeding apparatus. Some have a poison gland like the cones; others have radular teeth like cowries; others' stomachs evert so they can swallow their prey like fish-eating cones.

Are terebra as versatile as cones in their feeding habits?

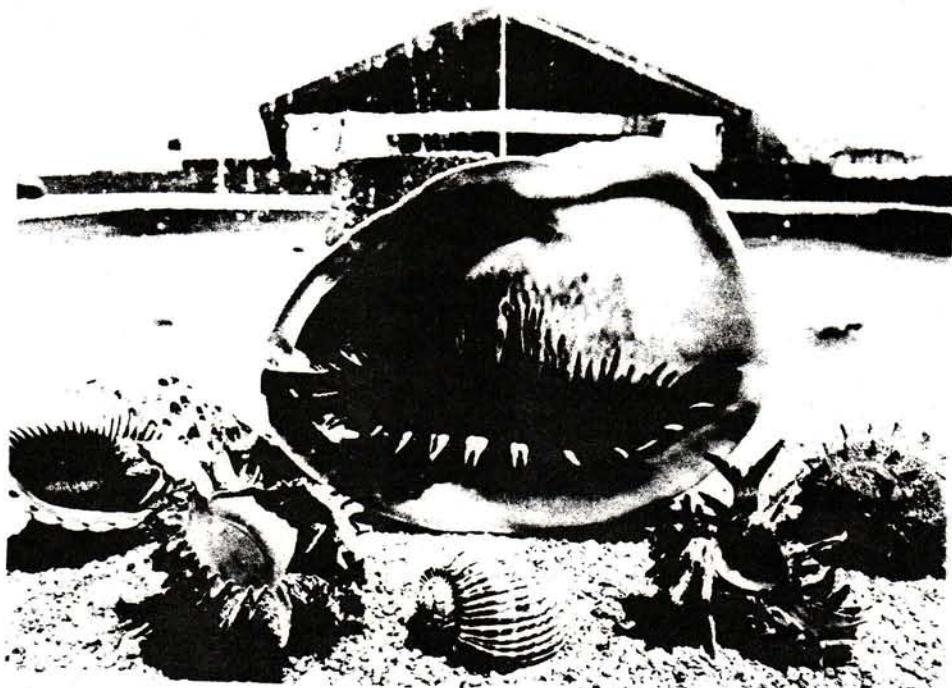
Several people have found *Terebra dislocata*, which comes from the East Coast of North America, in close association with a hemicordate, *Balanoglossus*, and think it preys on them (Mollick 1973).

Terebra cinerea (Born, 1778) are found intertidally in close association with single-celled algae upon which the clam, *Donax*, feeds. It is reported that *cinerea* shoots poison darts into small polychaete worms, and swallows them whole. However, quite a few people report that *cinerea* feeds on young clams. Humfrey, in *Sea Shells of the West Indies*, says *cinerea* feeds on *Donax denticulatus* in Jamaica waters.

Here in Hawaii, I have never found terebrids in close association with small clams but have almost always found them in the same areas as soft-sided yellowish sand worms. *Ptychodera flava* (*Balanoglossus*) commonly called acorn worms. I have seen *Terebra maculata* in the process of swallowing a six to seven-inch worm of this type, with half the worm inside its gut. I have kept *T. gutatta*, *spauldingi*, *gouldi*, *achates*, *penicillata*, *lanceata*, *crenulata*, *affinis*, and *funiculata* alive for months in my home aquarium where there are many small marine worms, much detritus and algae, but no clams.

The most comprehensive work on any terebrid has been done by Bruce Miller on *Terebra gouldi* Deshayes, 1859. He notes that *T. gouldi* is carnivorous and feeds only on the marine worm. *Ptychodera flava* (acorn worm). *T. gouldi* does not possess a poison gland but captures its prey with its proboscis. It detects the worm by "smell" or chemoreception. Once the worm has thus been located the terebra zeros in on it and makes contact with its foot. Then it everts its muscular proboscis to grasp the worm and slowly ingests it. Many worms are twice as long as the terebra, and consumption can take up to fifteen hours.

According to Miller, other terebrids found in Hawaiian waters that are the same feeding type as *T. gouldi* are *T. thaenumi* Pilsbry, 1920. *T. areolata* (Link, 1807), *T. crenulata* (Linne, 1758), and *T. dimidiata* (Linne, 1758). These terebrids all lack a radula and would have difficulty capturing fast moving prey such as *Donax* clams.



"Come see us at the Jacksonville (Florida) Shell Club's annual shell show, July 29 and 30," say the specimens, lined up in front of the spectacular Flag Pavilion in Jacksonville Beach, scene of the display. Out-of-town exhibitors are welcome at what is expected to be the largest show ever held in the resort community, adds Show Chairman Allan Walker.

Termed 'Indeterminate' *Conus ventricosus*

Interesting observations on *Conus mediterraneus* Hwass in Bruguiere, 1792. *C. guinaicus* Hwass in Bruguiere, 1792 and *C. ventricosus* Gmelin, 1791 have been presented by K. Bandel of Bonn, West Germany, and E. Wils of Amsterdam. The three species have been the source of confusion among *conus* experts for years.

Briefly, they conclude that *C. mediterraneus* and *C. guinaicus* represent two distinct species, "although very similar in conchological characters." On the other hand, *C. ventricosus* is considered to be "an indeterminate species based on a hardly recognizable figure without a locality."

In layman's language, that means: "Nobody really knows. Better not use the name *Conus ventricosus*. In fact, forget it!"

A group of terebrids possessing poison apparatus or those with radula might be capable of securing faster moving prey, but actual ingestion of this type of prey has not been seen as far as I know.

References:

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- Bartsch, Paul. *Molluscs*, 1968.
- Edmondson, Chas. H. *Reef & Shore Fauna of Hawaii*, 1946.
- Miller, Burce. *Pacific Science*, V29, N3. "Biology of *Terebra gouldi* . . ."
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The study involved extensive field trips to the Mediterranean and West Africa, as well as use of the new scanning electron microscope. The results have been published in *Basteria* 41: 33-45, 1977.

"*C. mediterraneus* and *C. guinaicus* can hardly be distinguished conchologically," the authors write. "On the whole, identification by means of color and size differences is hampered by the fact that both species show a considerable amount of variation. . . . In their ecological requirements, both species are very similar and prefer soft substrates close to the shore."

But the species "can be separated by studying their distribution, egg cases, embryonic shells and radulae. *C. mediterraneus* seems to be restricted to the Mediterranean and is the only member of the genus there. To our knowledge, *C. guinaicus* penetrates the Mediterranean only near the Strait of Gibraltar, but otherwise is a Lusitanian species."

E.G.L.

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