

Open Brain Coral (*Trachyphyllia geoffroyi*)

Open brain coral, *Trachyphyllia geoffroyi*, red stringy substance.

By J. Charles Delbeek

Q. I have a question about something that occurred with my brain corals. About a week ago, I was viewing the tank, which is primarily a reef tank. It contains two brain corals, one on the right side, and a much smaller one (that's not doing too well) on the left. The coral on the right side "dilated" in the center of its right side. This hole was approximately the size of the tip of a little finger. Once it was dilated, it expelled a red substance that appeared to be stringy. This substance was expelled in one large burst. Then the right side slowly started to close up, and the left side started to dilate.

While this was occurring, the smaller brain coral on the left side of the tank grew very large at the top. The coral on the right side then began to dilate on the left side, and again expelled matter into the tank. Once this side was through, it closed as well. There was no evidence of these enlargements in the coral after about an hour.

After this occurred, the nodules of the leather coral in the tank became enlarged, and began to secrete a white stringy substance. The coral then appeared to weaken and withdraw. It has finally returned to its original state.

I asked my local pet store about this. They are very knowledgeable about saltwater tanks, and even they were puzzled. The owner asked several people, and no one could verify what had occurred. Can you explain this? Could it be that the coral spawned? Is it possible for corals to spawn in a closed environment?

A. It is difficult to know exactly what happened in your tank. I am not sure what genus of coral you are calling a "brain" coral, but by your description of one side opening up, I assume you have what is commonly referred to as an open brain coral, *Trachyphyllia geoffroyi*. As to what the red stringy substance was, there are three things that come to mind.

It is possible that the red substance was composed of excess zooxanthellae. At times corals will expel zooxanthellae from their gastric cavities in long thin strands (see photo on page 333 in volume one of *The Reef Aquarium* by Sprung and Delbeek).

Another possibility is that the stringy material may represent the expulsion of detached mesenterial filaments from the coral's gastric cavity. Why this might occur I have no idea, but it may be a stress reaction.

The third possibility is as you mentioned — reproduction. Given the reaction of the leather coral, it is likely that what you witnessed was spawning. If something like this occurs again, try to obtain some samples and examine them under a microscope if possible. This will easily tell you if the string material is zooxanthellae, eggs sperm or something else.

Yes, it is possible for corals to spawn in closed environments, such as our aquariums. There is a long list of stony coral, soft coral, anemone and gorgonian species that have been observed to do so. For a complete discussion of reproduction in stony corals, see *The Reef Aquarium* (1996), noted above, and for sea anemones, soft corals, gorgonians, zoanthids and corallimorpharians, see volume two, which should be available in the fall of this year.

Although many aquarists can reproduce corals via fragmentation, sexual reproduction offers a new challenge. It is only a matter of time until the techniques used by scientists to spawn and raise corals will be used by hobbyists to do the same in their own aquariums.