

## Question and Answer with Dr. Henry Reiswig

### Can you tell us a bit about glass sponges?

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Well, "glass sponges" is the common name for one of the four classes of the phylum Porifera (sponges). Why are they called glass sponges? Because their skeletons are made of glass or silica and are very transparent. It turns out some other sponges also make glass spicules, but glass sponge spicules have a distinct symmetry, so we can tell them apart.



Dr. Henry Reiswig.  
Renowned glass sponge  
expert and research associate  
at the Royal BC Museum.

### What inspired you to become an expert on glass sponges?

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I wanted to address an uncertainty in sponge research—the uncertainty about the cellular structure of glass sponges (class Hexactinellida). At the time, in the late 1970s, the subject hadn't really been studied since the early 1900s. I decided to take some time from my work with coral reef sponges to attack the problem with a modern electron microscope. I found that there was no taxonomic specialist in Hexactinellida alive at the time, so I decided that I would develop that expertise to solve the problems of identifying species. I soon became the go-to specialist

for the Hexactinellids.

### Can you tell us about your glass sponge research?

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I have done more work on identifying and describing Hexactinellids than I ever imagined possible. Specimens come from all over the world, and we receive more all the time. When I came on the scene in the 1980s, interest in actual identification of glass sponges was low. Now, with world conservation interests increasing, it seems every country with a coastline wants to have a better inventory of their sea life.

To identify specimens, I prepare and measure sponge spicules. I then narrow down what family, genus and even species a specimen belongs to using a library I keep at home. Often I cannot find a species-level group to contain the specimen, so I have to decide if it is of high

enough quality to be described as a new species. It takes me about 150 hours of identification, slide preparation, measuring, manipulating figures and writing per specimen. This is what I do on a daily basis. Right now I have in my garage at least 40 new species awaiting description. Tomorrow it may be many more.

## What does being a research associate with the Royal BC Museum entail?

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I come to the museum one day a week, but most of my taxonomic work happens at my home laboratory. At the museum, I review manuscripts, work on images, go through the museum's unidentified glass sponge specimens, write up new species and genus descriptions, and work with museum staff and other research associates. One of the best parts of being a research associate at Royal BC Museum is the assistance I get in receiving and sending loaned material to and from other institutions. *Every day at the museum is an adventure—a discovery of a small piece of the earth's biodiversity puzzle that I strive to solve before I leave the endeavour to the next generation.*