lum is very frequently inhabited by one, sometimes by a pair, of a "commensal" decapod crustacean; indeed, the association is so constant that only a few years ago a paper was written to show that the sponge was a wonderful siliceous habitation constructed by the crab! It is singular that while *Palythoa fatua* is as constantly associated with examples of *Hyalonema* from the coast of Portugal as with those from Japan, no commensal crustacean has been found in any of the Atlantic specimens of *Euplectella*.

We were greatly interested in adding one of these singular sponge-forms to the fauna of Europe. *Euplectella* belongs to a very special group of sponges which have been called the HEXACTINELLIDÆ, from the circumstance that the siliceous spicules throughout the whole family appear to be six-rayed. This fundamental form is often curiously masked—one, two, three, or four of the rays being frequently suppressed; but when this is the case, some branching or splitting of the central canal, or some symmetrical arrangement of projections in the ornament of the spicule, is sure not only to refer it to its ground-form, but to give some clue to the particular kind of suppression or modification which has taken place.

The HEXACTINELLIDÆ are a beautiful family. Besides *Euplectella*, which is perhaps the flower, it contains *Hyalonema*, the glass-rope sponge of the Atlantic and the North Pacific; *Aphrocallistes*, another beautiful lacey fabric of flint; *Holtenia*, *Rossella*, *Poliopogon*, and many other wonderful genera. The group belongs specially to the fauna of the deep sea, and they seem to thrive best among the elements of nascent limestones. They are an old family, abounding in many graceful shapes in the beds of chalk and greensand of the South of England; but until lately the fossil "ventriculites" were supposed to be extinct, and the discovery of their descendants living in the modern chalk-beds of the Atlantic was one of the most interesting of the many corroborative evidences in favor of the view of