

a geological point of view, as supplying a large part of the material of which calcareous reefs and sand rocks are built up. At St. Thomas the Siphonaceæ are especially abundant, whereas at other places, as at St. Vincent, Cape Verde Islands, the Corallinaceæ appear to supply most of the calcareous matter separated from the sea water by plants.

The rise and fall of the tide at St. Thomas is only about a foot; yet along the very margin of the water I found plenty of animals living, some of them only just awash. Sea urchins (*Diadema antillarum*), with extremely long sharp spines, were very common. The spines penetrate a bather's foot or hand with the greatest facility, and breaking off leave a very unpleasant wound. In gathering specimens I got wounded in the finger, though I took great care; so well are the animals protected. The animals keep their long spines in constant motion, so that it is very difficult to avoid being pricked if one tries to handle one. The wound produced by the spines is apt to fester, but there appears to be no poison on the spine. In the case, however, of another genus of sea urchins which I dredged in abundance in shallow water on the Philippine coast, and in which the short spines are hollow and tubular at their extremities, a definite poison certainly exists. Probably there is a poison gland in the tube. A sharp stinging pain, like that produced by the sting of a wasp, but not quite so intense, is felt at the instant when one of these spines pierces the flesh, and the pain lasts for about five minutes. These urchins are peculiar, because they have a perfectly flexible test or shell, and are, I believe, of the genus *Asthenosoma* (Grube). Allied forms are common in great depths, but in these I never experienced so marked a stinging effect as in the case of the shallow-water ones.

Large Chitons, three inches in length, were abundant along the shore of St. Thomas, and a very large Annelid, with glistening yellow setæ (*Eunice*), was a constant feature about the water's edge, crawling over the rocks. In dredging in shallow water most of the seaweeds obtained were of a brilliant green colour,* and amongst these lived a crab and a Squilla which were of exactly the same shade of green, evidently for protection and concealment.

There is only one kind of Humming-bird at St. Thomas. It is very common, and constantly to be seen hanging poised in the air in front of a blossom, or darting across the roads. It is remarkable how closely Humming-birds resemble in their flight that of Sphinx moths, such as our common Humming-

* *Udotea cyathiformis*, *U. conglutinata*, and *U. flabellata*, and others.