The casts of Foraminifera in glauconite and other silicates are especially abundant in some terrigenous deposits, and will be specially referred to when discussing the chemical deposits in Chapter VI.

Sponge Spicules.—The spicules of calcareous Sponges (Calcarea) are occasionally met with in the deposits, but they are rare and only locally present.[1]

Corals.—All the groups of the Cœlenterata which secrete carbonate of lime contribute to the formation of marine deposits. In the neighbourhood of coral reefs the remains of Madreporaria and Hydrocorallinæ may frequently make up the principal part of Coral Sands and Muds, and their fragments may be carried into the surrounding deep water. Certain species of Stylasteridæ, *Flabellum*, &c., are inhabitants of deep water, and may be detected in deposits of all depths, but they never form a large part of a deep-sea formation.[2]

Alcyonarian Spicules.—These spicules are very frequently observed when examining the deposits from shallow water, and occasionally are present in considerable abundance in Globigerina or Pteropod Oozes. When they are locally abundant in deep water, as at Station 182,[3] it would seem as if some specimens of Alcyonaria had lived at the spot where the sounding was taken.[4]

Annelida.—The calcareous tubes of the Serpulidæ in some coral reef regions, as for instance at Bermuda, form very massive structures,[5] and these tubes with their broken-down fragments can be recognised in nearly all marine deposits down to depths of 300 fathoms. A few species live in very deep water, and fragments of their tubes are sometimes observed in the Red Clays, Globigerina Oozes, and in other kinds of pelagic deposits.[6]

Crustacea.—When we remember the enormous numbers of Crustacea inhabiting all parts of the ocean, it is somewhat remarkable that their remains are so rarely met with in marine deposits. Chitin, which enters largely into the composition of the crustacean exoskeleton, is well known to be dissolved only with difficulty in acids or alkalies, and it might be supposed that it would protect the calcareous portions of the skeleton from solution in sea-water. The disappearance of the crustacean exoskeleton in all likelihood arises from its areolar structure, which admits of relatively rapid solution after the death of the animal, and the putrefaction of its soft parts.

In two or three cases the tip of a claw has been observed in the dredgings from both shallow and deep water, but with these exceptions, the remains of all the higher groups

[1] See Poléjaeff, Report on the Calcarea, Zool. Chall. Exp., pt. 24.

[2] See Moseley, Report on the Corals, Zool. Chall. Exp., pt. 7.

[3] See p. 91, Chapter II.

[4] See Wright and Studer, Report on the Alcyonaria, Zool. Chall. Exp., pts. 64 and 81.

[5] See Murray, *Proc. Roy. Soc. Edin.*, vol. x. p. 512, 1880.

[6] M'Intosh says :—*Serpula philippensis* reaches 1050 fathoms, a *Vermilia* 1450 fathoms, *Placostegus challengeriæ* 2375 fathoms, *Placostegus ornatus* 2900 fathoms, and *Placostegus benthalianus* the still greater depth of 3125 fathoms (see M'Intosh, Report on the Annelida, Zool. Chall. Exp., pt. 34, p. 508).