permeating its body, the external shape of the animal and particularly its shagreen-like surface, its skeleton (more compact than, but not nearly so hard as, that of *Cacospongia mollior*) recalls that of a *Euspongia* rather than that of a *Cacospongia*.

If now this species, as regards the property of its skeleton, were a typical *Euspongia*, the question as to its systematic place would be still more difficult; one classifier might place it in the *Euspongiæ*, another, and on grounds of equal validity, among the *Hippospongiæ*. Now the species in question is neither a *Euspongia* nor a *Cacospongia*, nor a typical *Hippospongia;* but since one of the main characters of *Hippospongia* is very characteristic of this specimen, the most logical proceeding will be, I think, to group it in this latter genus. For my own part I do not doubt that the species in question, be it referred to *Hippospongia* or *Euspongia*, will still remain a good species, and I shall be quite content if my description prove sufficient for future recognition. In order to render it more complete I add the following details. The average diameter of the primary fibres reaches 0·12 mm., that of the secondary fibres being on an average only 0·028 mm.; the latter are nearly all quite free from any foreign enclosures; the first-mentioned, however, are so full of them that their surface is of a rather angular character, owing to the fact that these foreign bodies lie not only in the central part of the fibres but also in their peripheral portions, projecting outwards and thus rendering the surface of the fibres uneven. It is in this form that I have found, hand in hand with normal flagellated chambers, chambers devoid of any special cameral canaliculis, although in other details its internal organisation presents no deviations from that, for instance, of *Euspongia officinalis*. The specimen proved to be sterile.

Colour.—Soft parts and outer surface pale yellowish-white, skeleton straw-yellow.

Habitat.—Station 186, September 8, 1874, lat. 10° 30′ S., long. 142° 18′ E., depth 8 fathoms, coral mud.

Hippospongia mauritiana (Pl. VI. fig. 3).

Spongia lapidescens, Duchassaing de Fonbressin et Michelotti; subspecies *mauritiana*, Hyatt, Revision, &c., vol. ii. p. 527.

There can be scarcely any doubt that the three specimens of the collection now under consideration are to be referred to Hyatt's *Spongia lapidescens*, subspecies *mauritiana*. His description is very good and detailed, and the form itself, owing to the density of its skeleton, admits of a very clear definition. But what appears to me very strange is that Hyatt still finds it possible to distinguish in its skeleton primary and secondary fibres. I find them all approximately of the same size; of course the bundles of parallel fibres projecting from the outer surface are directed vertically, but seeing that they are not united one with another by smaller horizontal fibres, and that they do not differ in thickness from other fibres of the skeleton, I see absolutely no grounds for regarding