

mammiform processes; towards the summit of the sponge many of these processes are larger than elsewhere, measuring about 6 mm. in height; these are conical and have each a distinct oscular opening at the top. Much more abundant are the smaller processes, which occur abundantly all over the upper surface of the sponge, excepting where they are replaced by the larger ones; they are very short, cylindrical, and abruptly truncated at the top. The larger processes are undoubtedly cloacal tubes, and we were at first inclined to think that the small ones might be the same in a state of retraction, but we have now very strong evidence in favour of regarding them as raised pore-areas. Canals in the body of the sponge lead up to both kinds; the smaller ones, however, appear to the naked eye to be almost all closed at the top. This description also applies fairly to the two specimens from Station 320. The larger of the two is more globular and smaller than the Kerguelen sponge; the difference between the large and small papilliform processes is not so well marked; but the sponge is in poor condition for making out anatomical details; it is even impossible to decide whether there was one or more large oscula at the summit; that there was at least one is certain. The small processes are more conical in form, and, though plentiful, not nearly so abundant as in the Kerguelen sponge. *Colour* in spirit (of the specimens from Station 320) yellowish-grey. The specimen from Kerguelen is of a deep chocolate brown colour throughout; but as all the specimens in the bottle with it, and also the parchment label, were found to be stained of the same colour, we cannot be certain to which sponge the colour may be proper. *Texture* fairly compact, but spongy throughout, with tough, parchment-like dermal layer easily separable from the deeper tissues. In the Kerguelen specimen the cortex is a good deal thicker than in the specimens from Station 320, and may be described as tough and leathery. *Surface* smooth between the mammiform processes, but rather harsh to the touch. *Oscula* on the tops of mammiform processes. *Pores*; narrow perforations through the flat tops of the smaller mammiform projections, leading into large inhalent canals.

*Skeleton*.—There is a dermal crust composed of a single layer of the characteristic *Latrunculia* "chess-man" spicules (discastra), vertically placed and with outwardly directed, elongated apices. Below these the skeleton is very loose and irregular, composed of abundant smooth stylote spicules disposed without any definite order. Immediately below the surface these spicules tend to be vertically arranged, but this layer passes very soon into a much denser but utterly irregular reticulation, and below this again, forming the main mass of the skeleton, is a loose, irregular reticulation of the same spicules, often forming incipient fibres but with no distinguishable primary and secondary lines. The discastra also occur scattered promiscuously throughout the sponge. In the Kerguelen specimen the dermal layer of discastra is immediately backed up by a thick, dense layer of closely interwoven stylote spicules. It thus appears that there is great irregularity in the arrangement of the main skeleton.