

united by broad ligamentous bands. Their armature consists of about seven spines arranged in pairs one behind the other, forming a biserial group transverse to the furrow. The innermost spine advances prominently into the furrow, its base being conformable with the angular projection of the plate, and those of the inner pair or triplet, as the case may be, are slightly longest, the others diminishing as they recede from the furrow. Sometimes on the outer edge of the adambulacral plate there may be a lineal series parallel to the furrow of two or three small papilliform spinelets in addition to the spinelets above noticed, but it is always difficult to distinguish these from the armature of the small intermediate plates, which intervene between the marginal and adambulacral plates along a great part of the ray. It may be remarked that the armature of the adambulacral plates simulates in a most striking manner the character of that occurring in *Cribrella*.

The mouth-plates, which are small and comparatively inconspicuous, form sharply pointed mouth-angles. They bear on their free margin a series of spines similar to, and at the inner end as long as, those on the adambulacral plates, and along the actinal surface of the plate a lineal series of smaller spinelets running parallel to the median suture, all diminishing in length as they recede from the mouth.

The actinal interradiar areas, though rather small, are well defined on the actinal area of the disk, and extend as a narrow strip far along each ray; in large examples they may be traced fully along the inner half of the ray and sometimes further. On the actinal area of the disk a row of three or four intermediate plates may be counted between the mouth-plates and the marginal plates on each side of the median interradiar line, but these outer series of plates soon disappear. All the plates on the disk-area bear groups of small spinelets, simulating paxillæ, the spinelets being delicate, subclavate, and rather smaller than those on the abactinal paxillæ proper. Along the ray, however, the spinelets on the intermediate plates are almost indistinguishable from the spinelets on the adambulacral plates. In some specimens the spinelets are much more grouped than in others, and when this is the case the plates as indicated by the spinelets appear more distinct and clearly defined.

I have been unable to satisfy myself positively whether this species is proctuchous or not. I have, however, certainly detected the presence of a minute pore in some examples of *Leptoptychaster arcticus*, var. *elongata*, but whether its functions are those of a true anus, I am not at present in a position to say. There is no modification of the paxillæ in the central region of the abactinal surface.

The madreporiform body is hidden from superficial view by paxillæ. In small examples indications of its presence may be detected at about one and a half or two of its own diameters distant from the marginal plates.

The ambulacral tube-feet have a rounded and well-defined terminal knob.

No pedicellariæ of any kind are present.

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