

much larger conical spinelet, and one or two or sometimes more thornlets. The miliary spinulation of the infero-marginal plates consists of sharp conical thornlike granules widely spaced. The mouth-plates have a marginal series of seven or eight spinelets, the innermost the longest, the rest very short and little more than flattened dog-tooth-shaped spinelets; there is also a lineal series of five or six small thornlets on the actinal surface of the plate, parallel to the median suture. The tube-feet have a large, thick, and somewhat flattened terminal knob.

*Individual Variation.*—This species is remarkably constant in its general characters, so much so that out of a large series of specimens from one locality (Station 46) I have scarcely noticed any features, even of trivial importance, that present differences worth mentioning, excepting, of course, the normal modifications attendant on age and growth. It may be remarked, however, after a careful examination of this material, that a slight variation occurs in the length and delicacy of the central spinelet of the paxillæ of the area of the disk; that occasionally one or two miliary spinelets below the large lateral spine on the infero-marginal plates are more strongly developed in some examples than in others; and that there is a slight variation in the length and robustness of the single large spine on the actinal surface of the adambulacral plates (in one example they are nearly as large as the spines on the marginal plates, and consequently very conspicuous). There is also to be observed in some specimens a short and delicate miliary spinelet on one or even sometimes on both sides of the actinal spine, but this is apparently of very rare occurrence, and the companion spinelets are indeed so small that their presence can scarcely be said to modify the "formula" of the adambulacral armature.

*Locational Variation.*—In a small series of specimens from Station 50 the rays appear to be proportionally rather narrower throughout when compared with examples of the same size from Station 46, and the interbrachial arc is consequently more distinctly rounded. The length of the major radius in proportion to that of the minor radius is also somewhat greater in the specimens from Station 50.

The few specimens from Stations 44 and 45 are of much larger habit than any of the others. The radius of the disk of the largest measures 15 mm., and the breadth of a ray near the base (between the second and third supero-marginal plates) is 12.5 mm.; unfortunately the tips of the rays are broken away in all these specimens. There is a short but robust conical secondary spinelet below the lateral spine on the infero-marginal plates on the inner half of the ray, and sometimes even a second is present, the disposition being then irregular. On the innermost two or three plates on each side of the median inter-radial line the true lateral spines are reduced to the size of secondaries. The miliary spinelets on the actinal surface of the adambulacral plates are usually more numerous and spiniform, and the one that stands beside the large actinal spine is sometimes well-developed.

*Localities.*—Station 44. Off the coast of North America, east of Delaware and Maryland.