Thelenota anax[1] sp. nov.

(Plate 18, Figure 3.)

Length in life, 725 mm.; now, in alcohol, about 425 mm.; width about 100 mm. and height 80 to 85 mm. Body-wall thick, especially dorsally. Ventral surface densely covered with pedicels, with no indication of longitudinal series. Dorsal surface also well covered by ambulacral appendages, but these are for the most part more papilliform than those of the ventral side; most of these papillæ are quite small, but along each side and scattered rather sparingly over the back are larger papillæ, which may be as much as 6 to 8 mm. high and 8 to 10 mm. in diameter at base (in life); in the preserved specimen they can be detected only with difficulty. The form and distribution of the ambulacral appendages, as well as their size and color at the anterior end of the body, are well brought out in the figure (pl. 18, fig. 3). There are no anal teeth, nor are there any papillæ about the anus to suggest them. Tentacles 16 or more; 16 can be counted, but they are in poor condition and I have little doubt 20 is the normal number. Calcareous ring only moderately heavy, not peculiar; dorsal side higher (wider) than ventral; radial pieces larger than interradial and their posterior margin more deeply concave, but the differences are not very great. Polian vessels, madreporic canals, and the very long tentacle ampullæ are so inextricably tangled with parts of gonad and respiratory-trees that nothing certain could be made out as to their number. Lining of body-cavity a deep brownish-red, as in *ananas*, indicating that the same "indicator" pigment is present in this species.

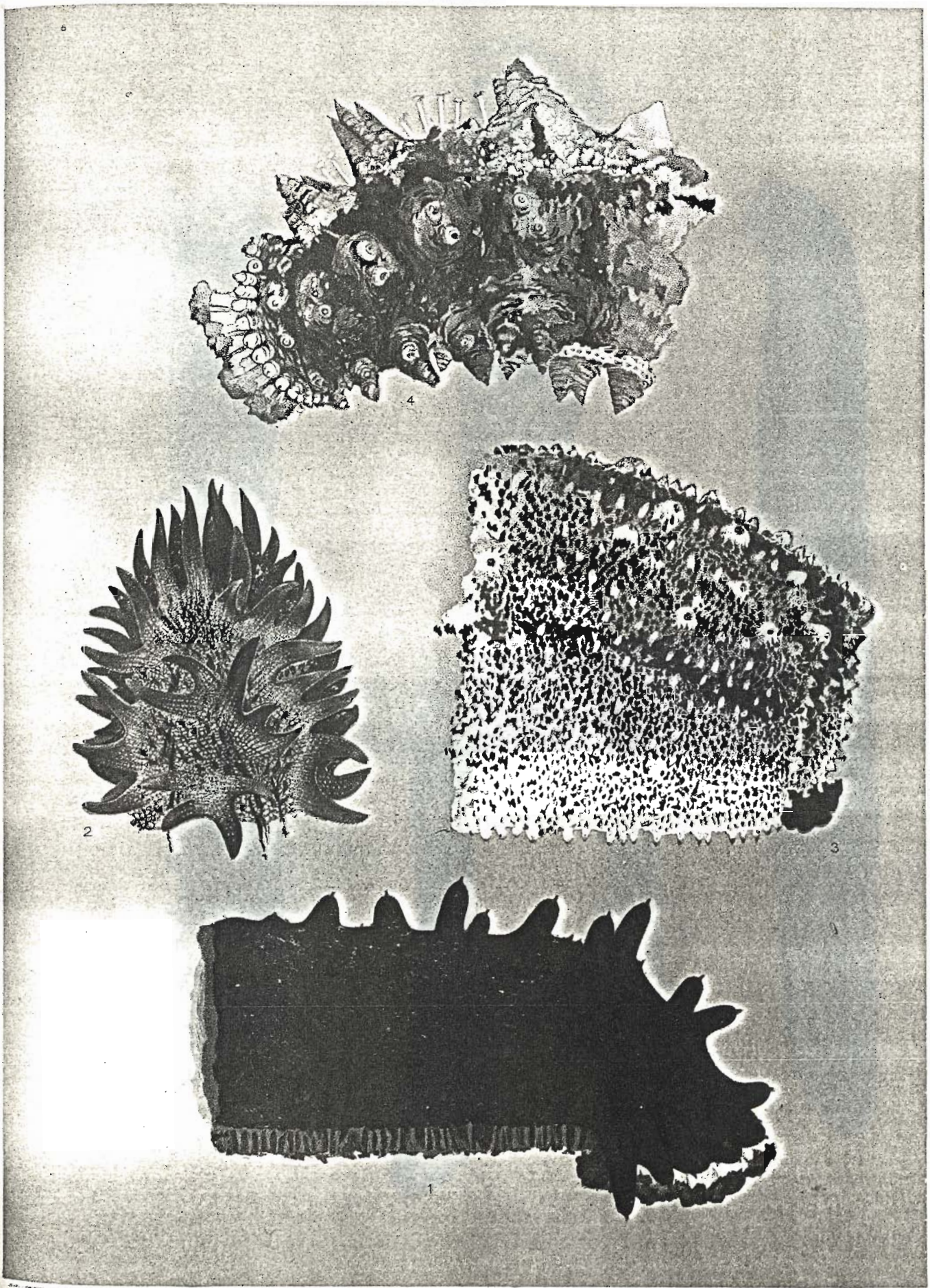
Calcareous spicules of body-wall of two sorts, similar to those of *ananas*. The minute oval grains are excessively numerous and form a fairly continuous layer, not very thick, all over the body; a rough estimate indicates there are not fewer than 160 billion of them if the layer averages one-fourth of a millimeter in thickness! Most of the grains are about 0.002 mm. long, the width a very little less, but a considerable number are noticeably larger; the largest measured was about 0.005 mm. long. Just outside the granules lie the dichotomously branched rods; they seem to be a little more numerous ventrally than dorsally, but they do not form a definite layer and are seldom abundant enough anywhere for the ends to overlap; the length "over all" is 0.040 to 0.100 mm. They are, as in *ananas*, of two quite distinct kinds, slender and stout. The slender ones have the original rod (where the entire length is about 0.100 mm.) about 0.012 mm. long and 0.004 mm. thick; the primary branches are about 0.016 mm. long and 0.003 mm. thick; the secondary branches are nearly as long and a little more slender; and the tertiary branches are about 0.008 mm. long, fine and acute. The tertiary branches usually have 1 to 3 long, con-

[1] ἄναξ = a prince or chief, in reference to the large size and fine appearance of this notable holothurian.

spicuous, acute thorns on the side; if the secondary branches do not divide they bear 1 to 4 such thorns, and indeed these thorns may occur anywhere on the rods. Of course, few rods are perfectly symmetrical, and it is rare indeed to find two alike, but, as a rule, the primary branches are longer than the original rod; tertiary branches are present, and there are at least some conspicuous, slender thorns. The stout rods are usually about 0.050 mm. long, with the original rod about 0.009 by 0.005 mm., the primary branches about the same or a little longer and the secondary branches a little shorter and very acute. Thorns are frequently developed, but tertiary branches rarely occur. There seem to be no connecting-links between stout and slender rods, and the latter are very much more numerous, perhaps 25 to 1. Here and there I have found the slender rods with a rough, warty, or corroded surface, but I believe these are artifacts. Pedicels, when fully developed, with a very finely reticulate terminal plate but with no supporting rods; a few of the dichotomously branched rods may be elongated at right angles to the axis of the pedicel and have a few anastomosed branches, but such are infrequent and inconspicuous. Tentacles without supporting rods, but with a small number of widely scattered plates, 0.050 to 0.075 mm. across formed by anastomosis of the branches of the branched rods. Much more numerous, but not particularly abundant, are little rods, about 0.060 mm. long, which may be bent, curved, or straight and smooth or rough at the tips. Color, in life, white, blue, brown, and yellow, as shown in plate 18, figure 3; the ventral side was pure white, the back pale blue, the large papillæ whitish at base, yellow distally, and dark brown at tip; dorsally the pedicels were brown, usually with darker tips, but ventrally they were white with dark or light brown or yellow tips. Tentacles bright brown. In alcohol, all blue and yellow shades have disappeared and the animal is now yellow-brown above, whitish below, everywhere more or less thickly speckled with the deep brown tips of the pedicels. Tentacles dingy yellow-brown.

Holotype: M. C. Z. No. 1068; off the northwestern reef, in several fathoms, Mer, Murray Islands, Torres Strait.

This very fine holothurian was brought to the laboratory by one of the native fishermen, who got it by diving. He called it an "amber-fish," but I have failed to find any such name used for bêche-de-mer in the Torres Strait region. The species was evidently not a novelty to the natives, who spoke of it as a "prickly-fish" and as one of the most desirable kinds. We saw no other specimens at Mer, nor did we find it at the Barrier Reef, where *ananas* was not uncommon. The differences from *ananas*, in color and in form of dorsal papillæ, are so striking (*cf.* pl. 18, figs. 2 and 3) it is hard to believe the two species are really congeneric; but the resemblances in calcareous particles and in internal organization are even more remarkable.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