

In transverse section the body-wall is invested by a well-marked cuticle, thickest ventrally, especially in the middle line. The hypoderm, on the other hand, is very thin. The dorsal longitudinal muscles are peculiar, for they are continued as a thick mass to the middle line anteriorly, where they almost touch, being only separated by strong vertical bands of muscular fibres which pass downward. The ventral longitudinal muscles are not much thickened externally, and only moderately diminished internally. The ventral area is well marked, a considerable interval occurring between the oblique muscles. The cords are somewhat flattened, and have superiorly a thin stratum of longitudinal muscular fibres.

In the sections the proboscis has been cut posteriorly. The external longitudinal muscular layer is very powerful, and between it and the great internal glandular coat a thin stratum of circular fibres occurs.

A few minute ova appeared at the bases of the feet.

The *Polynoë vittata* of Grube,¹ from Sitka, is an allied form with forty-three pairs of scales. Commensalism, indeed, seems the rule in those most nearly related. The *Halosydna lordi* of Baird,² a pale species from Vancouver Island, lodges between the mantle and foot of *Fisurella cratitia*, Gould; while another very fragile form (*Halosydna fragilis*, Baird³), approaching *Achloë*, frequents a Starfish in the same region. Another allied form, the *Lepidametria commensalis*, Webster, lives in the tubes of *Amphitrite ornata*, Verrill,⁴ on the Virginian coast, and it has scales extending throughout the entire length of the body. Like all the preceding, it also has dorsal bristles. Other forms, such as the *Polynoë rutilans*⁵ of Grube, are shorter, with only fifteen pairs of scales. The species just mentioned was found on *Xenia*, an Alcyonarian from the Philippines. Dr. Baird⁶ also mentions that a variety of *Harmothoë imbricata* lives in the tubes of *Chaetopterus insignis*, Baird, at the Menai Straits, near Beaumaris, but an examination of the preparations in the British Museum shows that two species, quite differing from *Harmothoë imbricata*, had been confounded together. One is *Nychia cirrosa*, Pall., and the other resembles *Polynoë longisetis*, Grube (*Harmothoë malmgreni*, Ray Lankester).

Polynoëlla levisetosa, n. gen. and n. sp. (Pl. XI. fig. 4; Pl. XV. fig. 3; Pl. XVI. fig. 4; Pl. XVIII. fig. 6; Pl. XIX. fig. 8; Pl. XIA. fig. 7; Pl. XXXIIA. fig. 6).

Habitat.—A single specimen was trawled at Station 235 (south of Yedo in Japan), June 4, 1875; lat. 34° 7' N., long. 138° 0' E.; depth, 565 fathoms; bottom temperature 38°·0, surface temperature 73°·0; mud.

¹ *Archiv f. Naturgesch.*, xli. p. 82, *fide* De Quatrefages, &c.

² *Journ. Linn. Soc. Lond.*, viii. p. 190.

³ *Annel. Chetop. of the Virginian coast (Trans. Albany Inst., vol. ix., 1879)*, p. 10, pl. iii. figs. 23-31.

⁴ *Annel. Fauna d. Philippinen*, p. 37.

⁵ *Ibid.*, p. 191.

⁶ *Journ. Linn. Soc. Lond.*, viii. p. 161.