

characteristic differences, was recognisable by a change in the constitution of its tissues, similar to that which is noticed in pelagic animals belonging to other groups, when compared with their non-pelagic allies, viz., the hyaline transparency of the body, with undiminished, or even with rather increased bulk. The first specimen captured was a ripe female, the second a very young female. No further specimens were met with. The first specimen, though somewhat lacerated, was preserved; the second was observed alive and figured, but was destroyed. Before mentioning the results which have been obtained by a careful microtomy of the available specimen, I will here insert in full the interesting descriptions with which Professor Moseley furnished us as early as 1875,¹ soon after the specimens were captured, and when he had been able to observe them in the fresh state. His first article² on *Pelagonemertes rollestoni* runs as follows:—

“This remarkable form was found in the trawl, together with a number of deep-sea animals, from 1800 fathoms, near the southern verge of the South Australian current, lat. 50° 1' S., long. 123° 4' E., March 7, 1874. Its appearance at once pronounced it a pelagic animal, the body being gelatinous and transparent as in *Salpa*, with the exception of the alimentary canal, which stood out in relief, being of a deep burnt-sienna colour (as is the nucleus in many *Salpæ*), and the region of the sheath of the proboscis, which was less transparent than the remainder of the body. The animal was living when obtained, and when placed in fresh sea-water gave evidence of life by a feeble, irregular, peristaltic contraction of the external muscular tunic, which increased on irritation; the proboscis was also protruded and retracted several times.

“The animal was about 4 cm. long and 2 broad, and 5 mm. in thickness. Hence its dimensions, and especially its thickness, render it unfavourable for a perfect examination of its structure under the microscope whilst in the entire condition. As only one specimen was procured, and as this was believed to be unique, no dissection was resorted to, excepting the removal of a small portion of the epidermis and external muscular tunic for microscopic examination. Hence the investigation of the structure of this Nemertine necessarily remained an imperfect one, and the affinities of the animal amongst other Nemertines could not be determined.

“The animal is leaf-like in shape, narrowing to a blunt point at the posterior extremity, and commencing abruptly at the anterior. The proboscis is protruded from the summit of a protuberance occupying the middle region of the anterior extremity. The mouth is situate on the ventral surface of the body, just posterior to the aperture for the proboscis. It is a simple aperture with a plaited margin composed of five or six folds. It is the commencement of a short muscular tube, the œsophagus, which was seen to pass behind the most anterior prolongation of the main mesial digestive canal, but the communication of which with the latter was not traced. The digestive system stands

¹ *Ann. and Mag. Nat. Hist.*, 1875, No. 87 and No. 96.

² The figures which accompanied the article have all been reproduced on Pl. I. figs. 24–27.