each other. This forms the basis for the thick layer of glandular tissue lining the alimentary canal, and consequently the disposition of the parts is noteworthy.

This species approaches Schmarda's *Protula appendiculata*,[1] from Jamaica, in regard to the tube, but differs from it in other respects.

Apomatus, Philippi.

Apomatus elisabethæ,[2] n. sp. (Pl. LIV. fig. 4; Pl. XXXIA. figs. 21, 22).

Habitat.—Trawled at Station 167 (a little to the east of the sound between the north and south islands of New Zealand), June 24, 1874; lat. 39° 32′ S., long. 171° 48′ E.; depth, 150 fathoms; surface temperature, 58°·5; sea-bottom, blue mud.

The total length of this species is about 18 mm., of which the branchiæ measure about 8. The diameter of the body in the anterior thoracic region is 1·6 mm.

This species differs from the British representative of the genus (*Apomatus ampulliferus*, Phil.) in the great proportional length of the branchiæ, and in the presence of a broad membranous wing on the radioles on each side of the pinnæ. The portion of the fan united by a common web inferiorly is very short, viz., only a small margin above the edge of attachment, and a fragment at the base of each radiole. The radioles throughout the rest of their extent are quite free. The membranous wings are not much developed at the base, but widen on each side about the middle of the process, and continue as broad lamellæ to the tip, the smooth filament terminating the organ being thus abruptly distinguished. The flattened region of the radiole seems to be formed by the hypoderm and cuticle. The pinnæ are richly ciliated, and the terminal filament also shows a few fine cilia toward the tip, but whether these be vibratile or only palpocils could not be determined. One of the branchiæ (probably the second dorsal, but there is difficulty in distinguishing, since the branchiæ were separated and fragmentary), while resembling the rest in other respects, has at the tip a globular process which is much less in proportion than in the British form. Three or four of the radioles at the side of the fan opposite the globule are short and rudimentary, the wings especially being deficient.

The cephalic collar forms a prominent ridge all round the front. It is entire ventrally, but has a notch in the mid-lateral region at each side. Turning backward from the great dorsal frill at each lateral angle, it passes under the bristles, and forms a broad apron behind the thoracic boundary.

There are seven setigerous processes in the thoracic region. The first as usual occupies a dorsal position considerably in front of the others, the rest being lateral, and directed upward and backward. The bristles (Pl. XXXIA. fig. 21) are comparatively

[1] Neue wirbell. Thiere, I. ii. p. 33, Taf. xxii. fig. 185.

[2] Named after my best aid in marine zoology. The title of the remarkable *Euphione elisabethæ* has the same origin.