

structure, and its surface and margins are smooth. The second scale is about the same size, but has along its outer border five or six digitate processes, some of the stems being undivided, others bifid or trifid. The scales greatly increase in size after the third, and their outer margins are furnished with well-marked processes. In shape they are irregularly quadrate with a straight outer (or inferior) margin, along which the characteristic papillæ are ranged (Pl. XXV. fig. 3). The papillæ are in a single row, and commence at the anterior angle in the form of a process or two with the tip split into three long divisions or digits; then the latter in the succeeding reach four or five, and toward the posterior border again diminish to three, and finally end in a simple filiform process. In minute structure (Pl. XXIII. fig. 12) the exterior of the entire process is covered with transparent cuticle, which is dense on the main stem and thinner on the divisions, especially towards the tip. It rests on a granular portion of the scale, and the same hypodermic structure is continued into the centre of the process, an enlarged region occurring at the base of the divisions. In the latter the granules are finer and more translucent, indeed, they gradually become indistinct toward the tip. The posterior scales are reniform, and the digitate processes occasionally show a maximum of six or seven divisions. The nerves from the scar of attachment (umbilicus) are distributed to the papillæ in a very suggestive manner. It would appear that in some cases at least the scales in Sigalionidæ are even more diagnostic than the bristles.

When fully formed (in the anterior third of the body) the foot has superiorly a branchial process, two ciliated cups on the dorsum, and a process in the inner angle under the branchia. The dorsal division bears the usual serrated (whorled) bristles, which are more evidently pinnate in some than in others. There appears to be a difficulty in regard to the specific differences to be found in such bristles, and at the present moment no stable distinctive character can be adduced. Thus the thick part of one of the dorsal bristles of this species (Pl. XIII A. fig. 11) diverges very little from that formerly shown in *Thalenessa digitata*.

The ventral division of the foot bears a group of the usual bifid bristles, the upper and lower series having longer tips than the central, some of the lower indeed in the anterior third of the body showing two segments in the terminal portion. The middle series, like the foregoing, present a few spinous rows below the tip of the shaft (Pl. XIII A. fig. 12), and the terminal bifid piece is moderately elongated.

The ventral cirrus is somewhat long, and its slightly bulbous tip extends considerably beyond the setigerous lobe. There are several small papillæ in front of and behind the pedicles for the scales, and one on the ventral margin of the foot to the inner side of the cirrus. The ventral papilla occurs in the fissure behind each foot, and its basal enlargement presents a fold or pit externally.

The structure of the body-wall in this form corresponds in the main with that in the previous species. The transverse band over the nerves is perhaps more distinct as