

of shorter spines; in the female there is an additional pair of spines shorter still and situated outside of them.

Of the first four thoracic segments the fourth is the longest in the male; in the female all four are subequal. Each of these segments is traversed by a posterior ridge, which is narrow dorsally and only occupies the posterior extreme of the segment; laterally this ridge becomes wider and comes to occupy the whole of the surface; it is here divided by furrows into several convex areas, which are roughened and tubercular, besides bearing long spines. In the first three thoracic segments in the male the ridge bears three pairs of long spines situated at approximately equidistant intervals; the median pair are the shortest and the rest increase progressively in length up to the most laterally placed pair, which are situated just dorsal of the epimera.

The fourth thoracic segment of the male only possess two pairs of long spines upon the tergum, a median pair and lateral pair, situated just above the epimera and considerably anterior to the median pair, owing to the increased length of the segment. The epimera of this segment has also a long spine, which is covered and concealed on a superficial view, by the lateral spine of the tergum. The epimera of the anterior segments have no such a spine.

In the female the first thoracic segment has four pairs of spines, the rest having them as in the male; there are also a number of short sharp spines developed between the principal ones; the lateral margins of the epimera are also furnished, in all these segments, with several short spines, that on the last being the longest. On the fourth thoracic segment, as in *Arcturus glacialis* (p. 87), the epimera are particularly large and project inwards, nearly meeting in the median ventral line; besides the lateral spine they give off a large posterior curved spine, which is closely applied to the ovigerous lamellæ and doubtless contributes towards their support; there are rudimentary equivalents of this spine on the anterior segments.

Each of the first four thoracic segments in both sexes has a short ridge in front of the posterior one, from which arise a single row of tubercles, blunter in the male and sharper in the female; in the first segment this ridge is wider antero-posteriorly than in any of the following segments.

Of the three posterior thoracic segments the first is the longest in both sexes; the posterior portion of each segment is ridged, the ridge being narrow dorsally and wide laterally; it is covered with tubercles, which again are more strongly marked in the female than in the male. On the sides of the tergum, anterior to the ridge in the first, is a single conspicuous tubercle; beneath this, and situated a little behind the articulation of this segment with that in front, is a strong ridge with a sharp forwardly directed edge traversing the ventral side of the segment; uniting the tubercles of either side, at the posterior margin of the segment, is a median V-shaped notch, on either side of which are a pair of short spines; the two remaining segments have a single ridge in