

or neck-segment, and the two curved ones attached to the posterior angles of the cephalic shield, give as many as six spines, which *Triarthrus spinosus*, Billings, possessed. These facts are not founded on this specimen alone, for there are several others, less perfect however, which show the same characters. Of those three spines on the back of the trilobite we find that the anterior one appears to be the shortest; it, however, extends "beyond the apex of the pygidium;" the posterior one is somewhat longer than the anterior, whilst the intermediate one is very long indeed—about twenty millimetres; it is the longest spine of the individual, and projects over ten millimetres beyond the apex of the pygidium. All these spines are more or less cylindrical, attenuated to a sharp point—the longest one appears to be grooved below, no doubt to allow it to rest partially over the posterior one. (*See Plate.*)

It is somewhat difficult to imagine how it happens that so many specimens have been collected by different individuals, which show only one spine on the thoracic segments and that on the eighth. It may be due in part to the state of preservation of the specimens and delicacy of these spines, which, perhaps, were quite brittle (a mere fragment of the point of attachment often indicating the previous presence of the spine), else some solution may be found in the fact that the eight anterior thoracic segments are held so close together, being scarcely ever separated, whilst, beginning with the ninth thoracic segment, the remainder of the segments, down to the pygidium, are almost invariably found detached and separated from each other.

*T. spinosus*, when adult, has been observed to possess as many as thirteen segments in the thorax (Billings and others); therefore, between the eighth thoracic segment and the pygidium, there would be normally five segments; of these, we know that two at least possessed spines. From the evidence gathered in the examination of numerous specimens, it would not be at all surprising to discover that from the eighth to the thirteenth segments each had a spine proceeding from the centre of the axis; were such the case the species would be much more spiny than at first it was thought to be—as it would possess not "four," nor "at least more than four," nor more than "six," but *nine* spines.