

NOTES ON TRIARTHURUS SPINOSUS, BILLINGS.

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Recent and more detailed observations have brought out new and remarkable features as belonging to this very interesting little trilobite.

The species, as originally described by Billings, is said to possess four spines, thus described by him in the Report of Progress of the Geological Survey of Canada for the years 1853-56, page 340 :

"One of these springs from the centre of the neck-segment and extends backwards to the third or fourth segment of the body; a second proceeds from the centre of the eighth segment of the axis of the thorax and projects back beyond the apex of the pygidium. Two others, from posterior angles of the head, extend as far as the points of the seventh or eighth pair of pleura. The spines are all slender, apparently cylindrical, and about one-fifth of a line in diameter."



Thiarthrus spinosus.
(after Billings.)

These salient characters separate this species very readily from any of the other two species described by Billings, viz.:—*T. glaber* and *T. Fischeri*; also from *T. Canadensis*, Smith, described in the Canadian Journal for 1861, page 275, and from the common, *T. Becki*, Greene, in his monograph, p. 87.

In a paper read before the Ottawa Field Naturalists' Club during the winter of 1881-82, on "The Utica Slate Formation," the writer had occasion to notice, in regard to the same species, that whilst the majority of specimens found indicated in the presence of a spine on the eighth thoracic segment, still, in a few specimens he was able to observe another spine on the ninth thoracic segment. It was this fact which led him to say: "for the present we are satisfied with stating that it (*T. spinosus*) possessed at least more than four spines."

Now, the most perfect specimen yet procured from the deposits of the Utica at Cummings' Bridge, Gloucester, Ont., shows clearly that, not only did the species in question possess "more than four spines," but that the eighth, the ninth, and likewise the tenth thoracic segments of the one individual have each a spine proceeding from the central portion of their axis, which three spines, along with that on the *occipital*