

the Taconic system, it was considered by Prof. Hall the same as the *Triarthrus Becki* of the Utica slate, and not of importance in establishing a different geologic horizon for the Taconic slates. It was not until Mr. Ford, in 1871, published a list of the fossils known to him from the conglomerate limestones east of Troy, N. Y., that the question was satisfactorily settled, a fact overlooked by the writer in preparing a list of the synonyms of *Triarthrus Becki* in 1879 (Trans. Albany Inst., vol. x, p. 23).

The original specimens figured by Dr. Emmons were fragmentary and very much compressed, and the figures of the head and three segments of the thorax of the best specimens are not so good as the original specimen that is now preserved in the collection of the American Museum of Natural History, New York, a figure of which is given on plate xxvii, fig. 1. Subsequently (Amer. Geol., p. 115, 1855) Dr. Emmons described a much more perfect specimen, as follows:

"Crust granulated, cephalic shield semicircular, with its anterior and lateral edges turned upwards; posterior angles rounded, facial suture beginning at the outer angle of the cephalic shield and runs nearly parallel with the anterior margin to the middle lobe, when it turns at a right angle and runs parallel with that lobe; eyes undistinguishable, body composed of seventeen or eighteen rings, narrowing very gradually to the caudal extremity; pygidium a flat expansion of the crust, and is provided with a single ring; axis narrower than the lateral lobes; rings seventeen, each of which is separated by a groove about as wide as the rings. Axis armed by a row of short spines; lateral lobes provided with a row of tubercles or prominences along the median line; margins of the rib groove run parallel as far as the tubercle, when they diverge; tubercles become obsolete towards the tail; caudal shield very small and provided with one or at most two rings."

The figure which we reproduce on plate xxvii (fig. 1c) is that of the specimen described; it is crushed, and if the same liberty was taken in making the drawing that was used in that of the first figure we cannot place much reliance on the details. The whereabouts of the specimen is unknown to me.

Dr. Emmons afterwards considered this specimen as belonging to a distinct species, *A. punctatus*; but, from the fact that the original does not preserve the outer shell and that from the parts preserved we cannot judge of its specific distinction, I have considered them as belonging to one species.

The first type specimen shows an ocular ridge and traces of the direction of the facial sutures the same as in typical species of the genus *Ptychoparia*.

The generic name *Atops* preceded that of *Ptychoparia*, but it was not until years after *Ptychoparia* had been thoroughly described, illustrated, and published that Dr. Emmons so defined *Atops trilineatus* that even the specific characters could be determined. The simple pro-