

This species varies in the shape of the glabella, occipital segment, and frontal limb so much that I am inclined to consider it a little more than a variety of *P. Adamsi* or *P. Teucer*, as it is intermediate to them in many of its characters. An illustration is given of an extreme form and also of one that approaches more nearly to that of *P. Adamsi*.

It is associated with *P. Adamsi* at all the localities where it has been found.

Formation and localities.—Middle Cambrian, Georgia Formation. Franklin County, Vermont, Parker's quarry, and also one mile east of Highgate Springs.

PTYCHOPARIA MISER Billings.

Plate xxvii, fig. 2.

Conocephalites miser Billings, 1861. Geology of Vermont, vol. ii, p. 950, fig. 354; also in pamphlet. *Idem*, 1863. Geology of Canada, p. 286, fig. 293. *Idem*, 1865. Pal. Foss., vol. i, p. 12, fig. 14.

Original description.—"Glabella elongate, conical, very convex, most elevated at about the mid-length, slightly narrowed at the neck segment, widest in the middle, narrowly rounded in front, well defined all round by the dorsal furrows. Neck segment strongly convex and bearing a short broad-based spine directed upwards and backwards. Neck furrow extending all across; the posterior glabellar furrow well defined across, forming an obtuse angle backward in the median line; median glabellar furrow also running across, but not so strongly defined as the posterior; anterior furrows extending one-third across.

"Length of glabella, two lines; width in the middle, about one-half the length.

"There is no described species to which this one bears any close relation, on account of the peculiar character of the posterior and median furrows running quite across the glabella."

In looking over the collection of the Canadian Geological Survey with Prof. J. F. Whiteaves, we found a more perfect example of the head than that figured by Mr. Billings, and I was kindly permitted to have a figure made of it. The frontal limb, fixed cheeks, palpebral lobes, and postero-lateral limbs are shown in addition to the parts described by Mr. Billings.

Formation and locality.—Middle Cambrian. In limestone, associated with fossils characteristic of the Georgia Formation of Vermont, L'Anse au Loup, on the north side of the Straits of Belle Isle.

PTYCHOPARIA QUADRANS H. & W.

Plate xxix, figs. 4, 4a, b.

Crepicephalus? (*Loganellus*) *quadrans* Hall & Whitfield, 1877. Geol. Expl. Fortieth Par., vol. iv, p. 238, pl. ii, figs. 11-13.
Compare *P. Adamsi* and *P. Kingi*.

Original description.—"Form of entire body unknown. Glabella and fixed cheeks together broadly quadrangular, about four-fifths as high