

Formation and localities.—Middle Cambrian, Georgia Formation, Franklin County, Vermont. East of Highgate Springs the species ranges through the purplish and reddish magnesian limestone and up into the argillaceous shales, a total distance of over 1,500 feet. It occurs at the same relative horizon on the Bullard farm east of Swanton, and also at Parker's quarry in the town of Georgia; also, in the conglomerate lime-stones of Bic Harbor, below Quebec, on the St. Lawrence River, Canada.

PTYCHOPARIA TEUCER Billings.

Plate xxvi, fig. 3.

Conocephalites Teucer Billings, 1861. *Geology of Vermont*, vol. ii, p. 951, fig. 356; Pamphlet (1861) republished in *Pal. Foss.*, vol. i, p. 13, fig. 16, 1863; *Geol. Canada*, p. 286, fig. 295.

Original description.—"Head semi-oval; glabella conical, convex, well defined all round by the dorsal furrows, about two-thirds the whole length of the head, widest just in advance of the neck furrow, sides gently convex, front neatly rounded, neck furrow well defined all across; posterior furrows commencing at about one-half the length of the glabella, and running inwards and backwards nearly to the neck furrow and one-third across; median furrows curved backwards, and extending one-fourth across; anterior furrows short; ocular ridges well defined; front margin one-third the whole length of head, with a well-defined groove running across, in front of which there is an elevated marginal rim, which rises with a flat slope upwards and forwards; the groove across the margin is situated at about one-fourth the distance from the front of the glabella to the elevated edge of the rostrum; the cheeks are moderately tumid; the neck segment is well developed, with a small median tubercle scarcely the fourth of a line in height, which in some specimens seems to be absent altogether.

"Thorax of 13 or 14 segments; axis strongly defined, cylindrical; side lobes about one-third wider than the axis.

"The pygidium is very small, being scarcely one-sixth the length of the thorax. The only specimen in which it has been observed attached to the thorax is not sufficiently well preserved to enable me to describe it in detail.

"The following are the measurements of two of the specimens: Length of head, $4\frac{1}{2}$ lines; length of glabella, 3 lines; width, just in advance of the neck furrow, $2\frac{1}{2}$ lines, and at one-third the length from front margin 2 lines.

"In a specimen consisting of the thorax and pygidium the whole length is 6 lines, of which the pygidium occupies apparently a little less than 1 line. Width at first segment, $5\frac{1}{2}$ lines; width of axis at same place, $1\frac{1}{2}$ lines; width at anterior margin of pygidium, about 3 lines.

"The position of the eye is not shown in any specimen that I have seen, but, from the width of the portions of the fixed cheeks which