nate in short falcate points; pleural groove rather broad and deep, and continued nearly to the extremity of the segment.

Pygidium subelliptical in outline; axis prominent, elongate, subconical, divided by four transverse furrows into four rings and a terminal segment; the pleural lobes are less convex, and, towards the margin, flattened out so as to form a broad, slightly convex border across which the four anchylosed segments, with their pleural grooves well defined, extend nearly to the margin.

Surface not preserved so as to show any surface striæ.

Dimensions: Length of entire body, 23mm; head, 9mm; thorax, 8mm; pygidium, 6mm.

The pygidium of this species is much like that of several referred to the genus Bathyurus, but in all other characters it is far outside that genus.

From the associated species, *B. producta*, it differs in having a different type of frontal margin to the head and in the extension of the pleural groove of the thoracic segments out nearly to their extremities. The pleural lobes of the pygidium also show the anchylosed segmental division much more strongly. The difference of one segment would not be of specific value in all cases, but, united with the other differences, it serves to distinguish the species.

The type specimen is the only one yet discovered that shows head, thorax, and pygidium. It is entire, with the exception of the free cheek, and the form is but slightly compressed.

*Formation and locality.*—Middle Cambrian. In an argillaceous shale at the Chisholm mine, on the southwest face of the Ely Mountains, near Pioche, Nevada. A pygidium was found in the Highland Range section twenty miles farther West.

### BATHYURISCUS PRODUCTUS H. & W.

Plate xxx, figs. 1, 1*a–i*.

*Ogygia producta* Hall & Whitfield, 1877. Geol. Expl. Fortieth Par., vol. iv, p. 244, pl. ii, figs. 31–34.

*Ogygia parabola* Hall & Whitfield, 1877. Geol. Expl. Fortieth Par., vol. iv, p. 245, pl. ii, fig. 35.

The original description of the species is unsatisfactory, as it is drawn from imperfect material. I have before me all the type specimens, also a large collection made by Mr. J. E. Clayton for the Wheeler Survey, and a collection obtained the past season in the Highland Range of Central Nevada, where the stratigraphic position of the fauna was determined; the same horizon was also found in Big Cottonwood Cañon of the Wasatch Range in this same relative position just above the *Olenellus Gilberti* zone.

Form ovate. Head of medium size and nearly semicircular; margin bordered by a narrow rim that, at the genal angles, is prolonged into a rather strong spine. Glabella elongate, and expanding slightly near