

OLENELLUS THOMPSONI Hall.

Plate xvii, figs. 1, 2, 4, 9; pls. xxii, xxiii, fig. 1.

- Olenus Thompsoni* Hall, 1859. Twelfth Ann. Rep. N. Y. State Cab. Nat. Hist., p. 59, fig. 1 on p. 60; Pal. N. Y., vol. iii, p. 525.
- Barrandia Thompsoni* Hall, 1860. Thirteenth Ann. Rep. N. Y. State Cab. Nat. Hist., p. 116.
- Paradoxides Thompsoni* Emmons, 1860. Manual of Geology, p. 280, note A.
- Paradoxides Thompsoni* Barrande, 1861. Bull. Soc. Géol. de France, 2^e sér., t. xviii, p. 276, pl. v, fig. 6.
- Paradoxides Thompsoni* Billings, 1861. Geology of Vermont, vol. ii, p. 950. *Idem*, 1863. Geol. Canada, p. 953.
- Paradoxides macrocephalus* Emmons, 1860. Manual of Geology, p. 88, fig. 70. On the preceding page, fig. 70 is referred to as *Paradoxides asaphoides*; but from the figure there is little doubt that it was taken from a specimen of *O. Thompsoni*.
- Olenellus Thompsoni* Hall, 1862. Fifteenth Ann. Rep. N. Y. State Cab. Nat. Hist., p. 114. Generic name *Olenellus* proposed.
- Olenellus Thompsoni* Billings, 1865. Pal. Foss., vol. i, p. 11.
- Olenellus Thompsoni* Whitfield, 1884. Bull. Amer. Mus. Nat. Hist., vol. i, p. 151, pl. xv, figs. 1-4.

The original description of the species is as follows:

"General form ovate, the length and breadth being nearly as six to five. Head broad lunate, with the postero-lateral angles much extended; the width from the center to the outer margin of the eye almost equal to the width of the cheek. Eyes (which are much crushed in the specimen) elongate semi-oval, equal in length to the space between the anterior angles and the frontal margin; glabella distinctly lobed, narrower in front.

"Thorax with the lateral lobes about once and a half as wide as the middle lobe, consisting of fourteen articulations, the third one of which is much longer than the others, and curving downwards with an extension reaching as far as the line of articulation of the seventh rib. The posterior articulations are bent abruptly backwards, so that the free extremities are parallel with the axis. Pygidium small, pointed, without visible rings and having a narrow ridge running down the centre."

Prof. Hall revised this description in proposing the generic name *Barrandia*. (See description under *Olenellus*, ante, p. 161.)

In 1884 Prof. Whitfield gave a description of the direction of the facial sutures and figured examples of the species that proved the pygidium to be as given in Prof. Hall's second figure (Thirteenth Ann. Rep. N. Y. State Cab. Nat. Hist., p. 116, 1860) and also much more prolonged. Prof. Whitfield's reference to the specimen "figured in 16th Rep. State Cab." probably refers to the figure in the fifteenth report.

Our studies of this species prove that there is a narrow and broad form, as shown by plates xxii and xxiii; also, quite a range of individual variation. This is shown by Prof. Whitfield's group of figures (Bull. Amer. Mus., pl. xv), where he refers specimens varying in form to *Olenellus* (= *Mesonacis*) *Vermontana*.