

WALCOTT.]

fect material at their command. The study of the variation of form under different conditions of preservation is an essential one and is often disregarded by paleontologists, more especially in relation to the greater or less convexity of form. This remark is caused by reading the description of trilobites preserved in shales when the form is given as depressed, flattened, &c., as a specific character.

*Formation and localities.*—Middle Cambrian. Just above the Olenellus-bearing strata, one mile below Argenta in Big Cottonwood Cañon; also, at City Creek, Wasatch Mountains; East Cañon, Oquirrh Mountains, Utah; and at the Olenoides horizon, 2,000 feet below the Potsdam horizon of the Highland Range section, near Pioche, Nevada.

#### Genus ASAPHISCUS Meek.

*Asaphiscus* Meek, 1873. Sixth Ann. Rep. U. S. Geol. Survey Terr., p. 485, foot-note, 1872.

*Original description.*—"Asaphiscus differs from the typical forms of *Bathyurellus* Billings, to which it is nearly allied, "in having its conical glabella *decidedly depressed* and the margin of the head in front of it first convex and sloping forward into a deep transverse mesial furrow, then rising in the form of a convex margin to the front. The mesial lobe of its pygidium is also proportionally longer, and the free margins of the same much narrower and less flattened and alate. It probably only forms a subgenus under *Bathyurellus*. From *Asaphus*, with which it agrees in general form and proportions, it differs in its decidedly conical, well-defined glabella, without lateral furrows or lobes, the extended and transversely furrowed character of the anterior margin of its head, its less arcuate eyes placed more remote from the glabella, and particularly in having nine body segments, instead of only eight. As in *Asaphus*, its pleuræ are distinctly furrowed, but they are more pointed than is usual in that genus, though not falcate. Its surface is smooth.

"The generic and specific characters will be given in full, with illustrations, in Lieutenant Wheeler's Report.

"Several American species with a similar depressed, conical glabella, without traces of lateral furrows or lobes, have been described from more or less complete specimens of the head, under the name *Conocephalites*. It is evident, however, from its smaller number of body segments, large pygidium, and differently formed plural grooves, that *Asaphiscus* is entirely distinct from that group."

From reading the descriptions of the genera *Bathyrurus*, *Bathyurellus*, and *Asaphiscus*, I considered that the two latter genera had been separated on specific rather than generic characters (Twenty-eighth Ann. Rep. N. Y. State Mus. Nat. Hist., p. 94, 1879), but now that I have examples of the typical species of *Bathyrurus* (*B. extans*) and *Asaphiscus* (*A. Wheeleri*) before me their generic differences are readily appreciated. The pygidium of *Asaphiscus* is identical in character with that of *Bathy-*