

which, covered with spines, is represented in Fig. 873; also species of *Bellerophon*, *Euomphalus*, *Pleurotomaria*, *Murchisonia*, Lower Silurian genera that continue through the Devonian, into, and part of them beyond, the Carboniferous. Among *Cephalopods* there are species of *Orthoceras*, *Gomphoceras*, *Cyrtoceras*, and the last known of *Trochoceras*, a Silurian type; also the first known of American *Goniatites* — *G. mithrax* H. (Fig. 874), and a variety

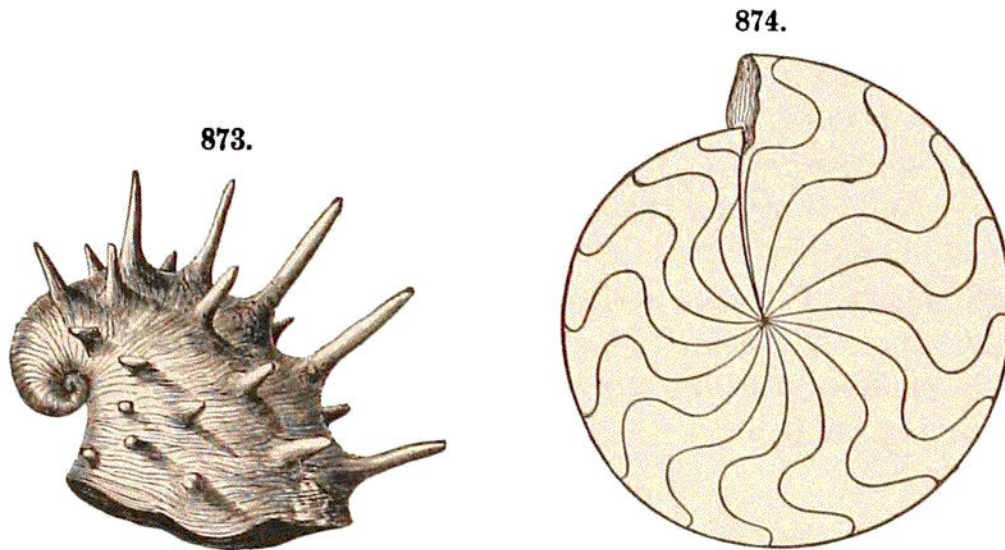


Fig. 873, *Platyloceras dumosum*; Meek. Fig. 874, *Goniatites mithrax*; Hall.

of *G. discoideus* H. being reported from Ohio. The *Goniatites* differ from species of the *Nautilus* family in having the siphuncle ventral, and the margin of the septa deeply flexed. *Tentaculites* of large size also occur, and the related genus *Styliolina* (Fig. 916).

6. **Crustaceans.** — Trilobites of the Lower Silurian genera, *Calymene* and *Dalmanites*, and of the Upper Silurian, *Homalonotus*, *Lichas*, *Phacops*, *Proetus*, *Cyphaspis*, are most common. Under some genera there is a large diversification of form in ornamented heads and pygidia. The following figures from Hall and Clarke illustrate some of the forms from the beds of the Early and Middle Devonian. Figs. 875, 876 are heads of species of *Dalmanites*; 877, 878, pygidia of species of the same genus; 879, the head of an *Acidaspis*; 880, part of a pygidium of another *Acidaspis*; 881, 882, heads of species of *Lichas*; 883, part of a pygidium of a *Lichas*; 884, pygidium of a *Proetus*.

The most extravagant of all is *Lichas grandis* H., which had a pygidium four inches broad armed with seven thorny spines $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long, and a grossly protuberant warty head, with a stout spine by the side of each eye. The extremity of the pygidium, restored from an imperfect specimen, is represented in Fig. 883. In contrast with these, other species of *Dalmanites* and *Lichas* are very plain. Those of *Proetus* (Fig. 884) are all prim-looking species, with evenly curving outline before and behind.

Crustaceans of the Phyllopod and Ostracoid types are rare. But *Barnacles* of a peculiar kind occur, imbedded to their upper surfaces in the Corals of