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Preliminary Note on the Sedentary Habits of Platyceras

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which gives it a decided biangular appearance; the costæ are crossed by numerous fine, crowded concentric lines; and a few larger somewhat imbricated lines of growth.

Length 24 mm. ; breadth 21 mm. ; height 20 mm.

Horizon and locality. Limestones of the Hamilton at Iowa City, Iowa.

This species somewhat resembles certain forms of *C. trigonale* of Hall, but the very broad, strongly biangular umbonal slope readily distinguishes it from that species. It also approaches some congeneric forms from the Devonian of Europe, especially certain species from the western part of France, recently described by M. Ehlert¹

¹ Etude sur quelques Fossiles Devoniens de l'ouest de la France.

PRELIMINARY NOTE ON THE SEDENTARY HABITS OF PLATYCERAS.*

BY CHARLES R. KEYES.

Platyceras is a generic term which has been proposed for a Paleozoic group of mollusks whose shells are "sub-oval or sub-globose, with a small spire, the whorls of which are sometimes free and sometimes contiguous; the mouth generally campanulated or expanded." These fossil shells had been frequently referred to the genus of modern mollusca known as *Capulus*. In the case of *Platyceras* as in many other Paleozoic genera, numerous species have been based, not on any apparent distinctive character, but seemingly simply on their occurrence at different geological horizons; and this has given rise to the establishment of many species which are unquestionably invalid. For specific distinction considerable importance has been attached to the configuration of the peristome, but even this feature now appears to have little classificatory value in the majority of species of the genus. A careful comparison of a large series of different species of *Platyceras* reveals the fact that the apertural margin in various specimens of the same species often presents considerable variation; a phenomenon not to be entirely unexpected in a group so closely allied to the modern *Capulus*.

Notwithstanding the comparative abundance of *Platyceras* in some of the Paleozoic strata of both this country and Europe direct paleontological evidence of the sedentary habits of the members of this group is not often met with; yet the instances presented, independent of their bearing upon *Platyceras*, are of unusual significance as furnishing a solution to certain important morphological problems relative to the Paleozoic crinoids.

From time to time Paleontologists have mentioned the occurrence of *Platyceras* attached to crinoids and numerous explanations have been advanced, but it was not until about the year 1873 the correct solution was given. In a large number of instances lately examined the gasteropod covered completely the anal opening of the crinoid, the sinuosities in the lip of the Calyptraean shell corresponding exactly to the irregularities of the surface to which the shell was attached. The conclusion, therefore, is that the intimate association of the two organisms was not the result of accidental pressure but that the molluscan shell was actually attached during life. The inference is, then, that the *Platyceras* was not truly parasitic in its habits, as has been urged by many writers.

*This and the three preceding papers were read at the meeting of September 5, 1888, but through an oversight were omitted from the Academy's proceedings of that year.