

DESCRIPTION OF A CANADIAN SPECIES OF
PELTOCERAS.

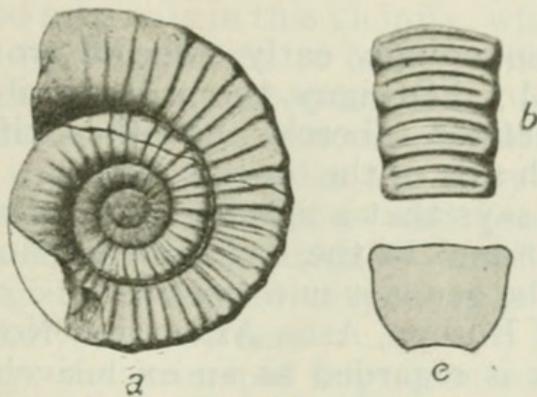
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The genus *Peltoceras* was constituted by Dr. Waagen for the reception of certain Jurassic Ammonites from Europe and India, that are most closely allied to *Aspidoceras* and *Perisphinctes*. A "short diagnosis" of this genus was published in November, 1871, in the fourth part of the fourth volume of the Records of the Geological Survey of India. And, under the auspices of that Survey, a much fuller description of the generic characters of *Peltoceras* was published in 1875, in the first volume of the "Jurassic Fauna of Kutch." In the latter publication Dr. Waagen makes the following remarks: "Most essential for the generic determination of the shells I place under the name of *Peltoceras* is the form of the earlier stages of growth, which is characteristic to a high degree, and varies but very little in most of the species. The strong, sharp, mostly dichotome, but sometimes also undivided, ribs, which cover the inner whorls of those Ammonites, cannot be easily mistaken, and serve well to recognize the genus, even in specimens where other characteristics are not observable. The whorls are always very little embracing, and the transversal section of the latter somewhat rectangular." The genus is divided into three sections, viz.: (1) The group of *Ammonites annularis*, Reinecke; (2) the group of *A. Eugeniei*, Raspail; and (3) the group of *A. athleta*, Phillips.

In the summer season of 1906, Mr. D. B. Dowling found a small Ammonite, which seems to the writer to belong to the genus *Peltoceras* and to the group of *P. athleta*, in rocks of mesozoic and presumably of Jurassic age, on the Red Deer River, Alberta, at the Rocky Mountain Park. This little Ammonite is not more than an inch and a quarter in its maximum diameter, and represents only the early stage of growth of the shell, but that, as Dr. Waagen states, is highly characteristic in the genus *Peltoceras*. The sutures of its septa are not preserved, but the outline of its transverse section, and its surface ornamentation, are essentially similar, in a general way, to those of the corresponding stage of growth of *P. athleta*, as figured by d'Orbigny, under the name *Ammonites athleta*, on Plates 163 and 164 of the "Atlas" to the first volume of the "Terrains Jurassiques." This Canadian *Peltoceras*, however, seems to be specifically distinct from

P. athleta and other known species of the genus, and may be provisionally named and described as follows:—

PELTOCERAS OCCIDENTALE, sp. nov.



Peltoceras occidentale; *a*, side view of the only specimen collected; *b*, portion of venter of the same, showing four primary bifurcating ribs, alternating with four secondary simple ones; *c*, outline of transverse section of the outer volution of the same, near the aperture. All the figures of the natural size.

Shell widely but very shallowly umbilicated on both sides, the umbilicus occupying fully two-thirds of the entire diameter.

Whorls slender, increasing very slowly in size, in close contact throughout, but without embracing, flattened and widest on the venter (as shown in figure *c*) angulated at its junction with each side, and narrowing convexly and somewhat obliquely inward, to the rather narrow dorsum, which is impressed longitudinally by a very shallow furrow of contact.

Test unknown; surface of the cast of the interior marked with numerous, nearly straight transverse ribs. On each of the sides all the ribs are simple and unbranched (as shown in figure *a*) which represents one of the sides. But, at the ventrolateral angulation on each side of the outer whorl, each primary rib swells into a comparatively large, circular and flattened tubercle, then bifurcates (as represented in figure *b*) or trifurcates in passing over the venter, and finally coalesces with a similar tubercle on the ventrolateral angulation of the other side. The secondary ribs are as long as the primaries, but the former are neither tuberculated on the outer margin of the outer whorl, nor divided on the venter, though they are not infrequently interrupted in or by the close proximity of a tubercle on one of the alternating primaries.

Sutural line unknown.

Maximum diameter of the only specimen known to the writer, thirty millimeters; that of the umbilicus, from suture to suture, twenty-one millimeters.

Red Deer River, Alberta, at Rocky Mountain Park, D. B. Dowling, 1906; the small specimen figured, which shows the characters of three of the outer whorls, the nuclear ones not being preserved.

In the correspondingly early stage of growth of *Peltoceras athleta*, as figured by d'Orbigny, the primary ribs have not begun to develop well defined tubercles, and they bifurcate from near the middle of each side of the outer volution.

Dr. Waagen says that a specimen of *Peltoceras annulare* or *athleta* has been found in the "vicinity of Mombas, equatorial Africa," so that the genus is now known to be represented in the mesozoic rocks of Europe, Asia, Africa and North America.

As *Peltoceras* is regarded as an exclusively Jurassic genus, it would seem most probable that the rocks at Rocky Mountain Park from which the type of *C. occidentale* was collected, are of Jurassic age. On purely palæontological grounds, also, it would seem highly likely that those presumably Jurassic rocks in Alberta which hold *P. occidentale* are of about the same age as the coarse grits from the Crow's Nest coal fields near Fernie, B.C., which hold *Cardioceras Canadense*, and as those Jurassic rocks in the Black Hills of Dakota which hold *C. cordiforme*. In a Bulletin of the American Museum of Natural History, New York, published on December 17th, 1906, Professors Whitfield and Hovey have shown that *C. cordiforme* is a very variable species, especially in the adult state, and it is just possible that *C. Canadense* may prove to be only a local variety of that species. However that may be, it is abundantly clear that both *C. cordiforme* and *C. Canadense* are very closely allied to the British and European *C. cordatum*.

OTTAWA, July 12th, 1907.



Whiteaves, Joseph Frederick. 1907. "Description of a Canadian Species of *Peltoceras*." *The Ottawa naturalist* 21(5), 80–82.

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