

THE CANADIAN SPECIES OF TROCHOLITES.

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From the dismemberment and reconstruction of so many of the older genera of nautiloid shells of the Cambro-Silurian and Silurian rocks, which the progress of modern research has necessitated, the genus *Trocholites* has emerged unscathed.

First described by Conrad in 1838 and again in 1842, it has since been studied, described more fully, and illustrated, by Hall, Foord, Schröder, Holm and Hyatt.

The original description of the genus in 1838, on page 118 of the Second Annual Geological Report of the State of New York, is as follows: "Shell in the form of an Ammonite; volutions contiguous, gradually increasing in diameter; septa plain." And, the additional definition of the genus, in 1842, on page 274 of the eighth volume of the Journal of the Academy of Natural Sciences of Philadelphia, is in these words: "Involute; symmetrical; whirls contiguous; the back of inner volutions rounded, fitting into a corresponding groove; septa convex; siphuncle near the inner margin." "This genus," Conrad adds, "differs from *Lituites* in having a submarginal siphuncle, and in not being extended into a straight or bent prolongation. The aperture is widely different, being of a lunate outline, whilst in *Lituites* it is nearly round." As now understood, shells of the genus *Trocholites* may be roughly described as small nautilicones, with slender whorls that are compressed on the venter and dorsum and expanded at the sides, their outline in cross section being usually reniform. The surface markings consist of small flexuous transverse ribs, ridges or striae, often accompanied with spiral raised lines. The sutures of the septa are also flexuous; the siphuncle of the adult shell is placed near the dorsum, or at least on the inner side of the centre; and the chamber of habitation occupies from rather less than one-half to about three-quarters of the outer volution.

In the Guelph formation of Ontario there is a fossil that seems to be identical with the *Lituites multicostatus* of Whitfield (1882) which Hyatt says is synonymous with the *L. Graftonensis* of Meek and Worthen (1870), though it does not belong to the genus