

A. FROM THE WESTERN LARAMIE.

(1.) FROM THE PORCUPINE HILL SERIES.

No fossils have yet been obtained from the Porcupine Hill Series proper, though it is probable that a systematic search would result in the discovery of fossiliferous beds. In the sandstones and shales of Shaganappie Point, two miles west of Calgary, however, Sir William Dawson collected a few remains of the shells of fresh water mollusca in 1883. The deposits at this place are on the horizon of those of the Porcupine Hill Series of the southern part of the district, though for reasons which will be stated more at length in connection with the St. Mary R. Series, the definition of the sub-divisions of the Laramie has not been attempted on the northern part of the map which accompanies Dr. Dawson's report. The genera or species indicated at this locality appear to be somewhat as follows, so far as they can be ascertained:—Three detached valves of a *Sphærium* or *Leptesthes*, the largest of which may be conspecific with the *Sphærium recticardiale* of Meek & Hayden, but the characters of the interior of all three are unknown: fragments of a *Physa*, probably of that form of *P. Copei*, White, which will be described and figured in the present paper as the variety *Canadensis*; casts of the interior of the shell of a *Goniobasis* (?); *Viviparus Leai*, Meek & Hayden; and a single specimen of a shell which is either an unusually large form of a new species of *Valvata* which will be found described a little farther on under the name of *V. filosa*, or a species of *Patula*.

(2.) FROM THE WILLOW CREEK SERIES.

In the clays, sandstones and indurated sands of this sub-division of the Western Laramie, fossils appear to be scarce and are usually not well preserved. The only localities at which any were collected are on the Upper Belly River seven miles above the mouth of the Old Man River, and on the Upper Belly River near Slide Out, by Mr. R. G. McConnell in 1881. The species from the locality first mentioned are—an apparently new species of *Unio*; fragments of a small bivalve perhaps referable to the genus *Sphærium*; crushed examples of a new species of *Patula*, which will be described a little farther on, under the name *P. obtusata*, from much better specimens collected from the "St. Mary River Series" on the Old Man River; and a few badly preserved casts of a *Goniobasis*, which is probably only a variety of the *G. tenuirinata* of Meek and Hayden. On the Upper Belly River near Slide

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