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DESCRIPTION OF A NEW SPECIES OF *UNIO* FROM THE CRETACEOUS ROCKS OF THE NANAIMO COAL FIELD, V. I.

By J. F. WHITEAVES.

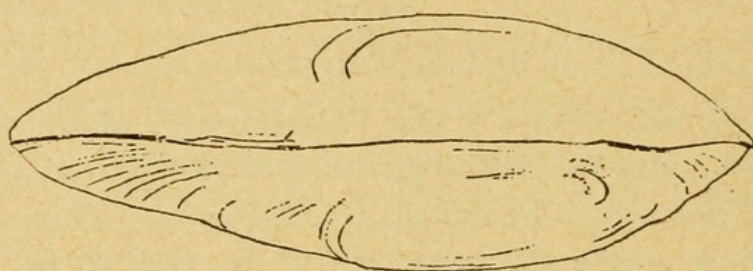
In the second volume of the Palæontology of California, published in 1869, Mr. W. M. Gabb described and figured a Cretaceous species of *Unio*, which he called *U. Hubbardi*. This species was based upon a single specimen, which is said to be "from the Nanaimo Coal Mine, Vancouver Island," and to have been "kindly loaned" to Mr. Gabb by Mr. Samuel Hubbard. It has long seemed to the writer that the evidence for this locality is very unsatisfactory, and that there are two strong reasons for supposing that some mistake has been made in regard to it. The first of these reasons is that no similar specimens have since been found in the Cretaceous rocks at Nanaimo, or any other locality in Vancouver, or any of the immediately adjacent islands, by members of the staff of the Geological Survey of Canada, or by local collectors. The second is that numerous very typical specimens of *U. Hubbardi* were collected at the Cowgitz coal mine, on Graham Island (one of the Queen Charlotte Islands) by Mr. James Richardson in 1872, and by Dr. G. M. Dawson in 1878.

No other land or fresh-water shells have yet been recorded as occurring in the Cretaceous rocks of the Nanaimo, Comox, or Cowitchan coal fields. But in March, 1894, a nearly perfect but somewhat crushed and slightly distorted bivalve shell was found

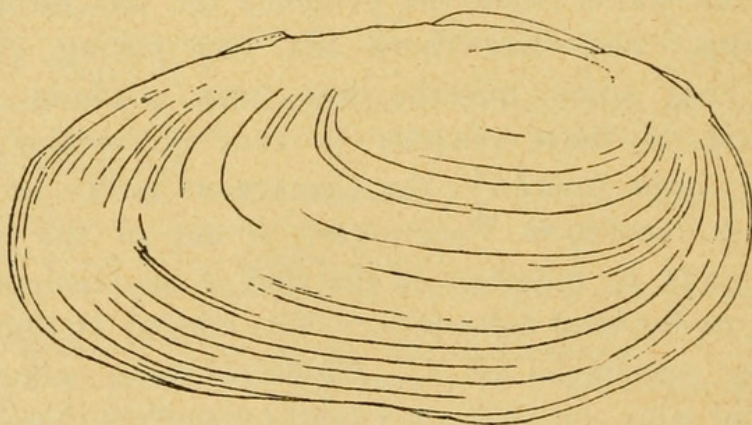
by Mr. W. Haggart, in shale at the top of No. 6 Pit, Wellington Colliery, Nanaimo. This specimen is now the property of the Provincial Museum at Victoria, B.C., and has been forwarded to the writer by Dr. C. F. Newcombe, of that city, for examination and comparison.

Judging by its external form and surface markings, this fossil seems to be a specimen of a previously undescribed species of *Unio*, that is quite distinct from *U. Hubbardi* and from any of the Unionidæ of the Cretaceous or Laramie rocks of North America. The species may now be provisionally named and characterized as follows :—

UNIO NANAIMOENSIS (SP. NOV.)



1a

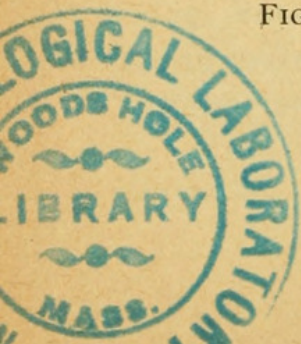


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FIG. 1.—*Unio Nanaimoensis*. Side view of the only specimen known, in outline.

FIG. 1a.—Dorsal view of the same, also in outline, to show the proportionate convexity of the closed valves.

Both the figures are of the natural size.



Shell compressed-convex, ovately subelliptical, much longer than high, higher than broad, and very inequilateral. Anterior end short, rounded; posterior end much longer than the anterior, its extremity obliquely subtruncate above, produced and somewhat narrowly rounded below; beaks placed in advance of the mid-length; posterior umbonal slopes not at all angulated.

Surface marked only with numerous concentric lines of growth. Hinge dentition, muscular impressions, and pallial line unknown.

Approximate dimensions of the specimen figured:—Maximum length, sixty-eight millimetres; greatest height, thirty-seven millimetres; maximum breadth or thickness, twenty-four millimetres.

The slight distortion and somewhat slickensided movement to which the specimen has been subjected has so displaced the normal position of the valves that the marginal outline is not as distinctly defined as might be desired, and the beaks are no longer quite opposite.

As compared with *U. Nanaimoensis*, *U. Hubbardi* is a much more convex shell, with distinctly angular or subangular posterior umbonal slopes, and it is much more attenuate posteriorly.

For the two drawings which are reproduced in this paper, the writer is indebted to his friend and colleague, Mr. L. M. Lambe, F.G.S.

Ottawa, December 4th, 1900.

BOTANY.

Mr. C. Guillet, whose paper "On the Late-flowering of Native Plants," is announced for February 12th, in the Programme of the Club's Winter Soirees, would be glad to receive notes and records of observation on the same subject by other members of the Club.

This notice should have been announced at the last meeting of the Club but was inadvertently omitted.

H. M. A.



Whiteaves, Joseph Frederick. 1901. "Description of a New Species of *Unio* from the Cretaceous Rocks of the Nanaimo Coal Field, V.I." *The Ottawa naturalist* 14(10), 177–179.

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