

The Canadian Field-Naturalist

VOL. L

OTTAWA, CANADA, OCTOBER, 1936

No. 7

DEVONIAN FOSSIL WOOD FROM KETTLE POINT, LAKE HURON

By J. W. RUSSELL, M.A.
University of Western Ontario

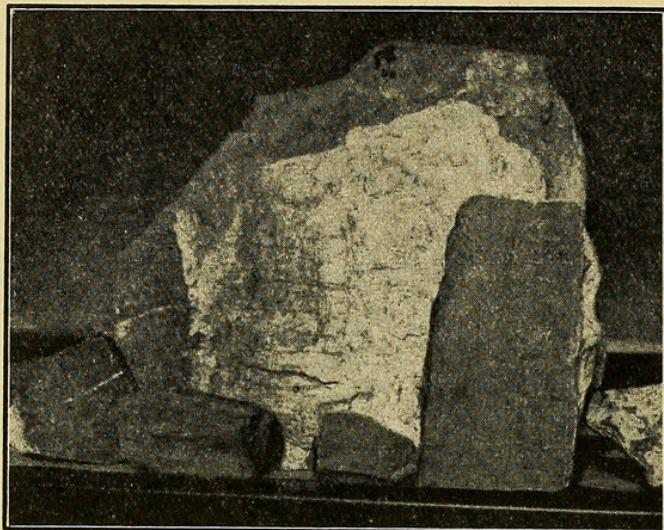


THE ORIGINAL exposures of black shales at Kettle Point were in the form of a bluff some fifteen feet high about two miles west of Ipperwash Beach. The lake water reached almost to its base, with but a narrow fringe of slaty shales along the water's edge. The recent recession of Lake Huron has changed the shore line materially. Instead of a narrow fringe of shales exposed, we have hundreds of acres extending broadly from the former bluffs towards Ipperwash Beach, and extending in an anticlinal fold over a mile northwards into the Lake as shown in the above photograph.

The original exposures have been visited by many eminent geologists, but only within the past year or so has an abundance of fossil wood been found chiefly along the anticline in the shales. The carbonaceous character of these shales and their kettle shaped concretions have been known since Alexander Murray's report in 1855. J. W. Dawson in his reports prior to 1871 described a number of small Devonian plants from these shales. In the original ex-

posures in the bluffs and along the shore, the wood has been coalified and the plant fibres are so poorly preserved that complete identification is difficult. The wood found recently along the anticline was completely silicified before disintegration took place and the preservation of much of it is almost perfect.

More than ten years ago, the writer noted the impression of a tree stem in the shales with portions of the wood in the form of coal. This is in the museum of the University of Western Ontario, and indicates a tree stem over four inches in diameter. In 1927 Dr. Hotson of Park Hill found highly silicified pieces of wood with diameters up to six inches on the shore from which the lake had receded. On seeing them, I requested him to send them to the University for sectioning and microscopic study. I discussed these finds with my classes in geology and pointed out their probable importance. During the summer of 1934, one of the students, Mr. J. W. Patterson of London, Ontario, had an opportunity to go over the exposed beach at Kettle Point and was successful in finding more



than a dozen pieces, the largest of which indicated a tree trunk more than fifty-six inches in circumference and three feet long. This piece is shown in the photograph. The slab standing upright in the photograph shows the remarkable preservation of the wood fibre and has been tentatively identified by Professor R. B. Thompson of the University of Toronto, as a species of *Callixylon*, while the large piece appears similar to *Prototaxites logani* from Gaspé described by J. W. Dawson in his reports on the *Fossil Plants of the Devonian* Part I, 1871, and Part II, 1882.

Professor Hart, Head of the Department of Botany at the University of Western Ontario, has undertaken a complete microscopical examination of all this wood to complete its determination.

The most interesting feature of these finds, for the geologist, is the silicification of all the wood found along the axis of the anticline in the shales, while less than a mile westwards the wood has been changed into coal. The structural features of the shales must be the explanation. During the arching of the anticline sufficient fracturing occurred to allow the circulation of silica-bearing water which also would be heated probably. Such conditions would bring about the speedy silicification of the wood. Only one piece shows even incipient decay before silicification took place.

About three-quarters of a mile east of the anticline in the shales, is another anticline in the Ipperwash limestone and along its axis numerous flinty concretions occur. These two anticlines seem to represent the most northerly extension of the Cincinnati arch which is known to extend across Lake Erie into Ontario, and, as such, would be an adequate explanation of the silicification of the wood buried in the shales. There is no indication that these trees grew in place. The general appearance of the pieces indicates trunks that drifted into the shales, and there became buried.

Scarcity of fossils in these shale beds makes their age somewhat problematical. Of the fossils, the large fish bones (*Dinichthys*) indicate Late Middle, or Early Upper Devonian. Dr. E. M. Kindle has correlated the Kettle Point shales with the Huron Black shales of Ohio. Clinton R. Stauffer in the *Devonian of South Western Ontario*, (Memoir 43 Geol. Surv. Canada) has discussed rather fully the stratigraphic position of the Kettle Point Shales, showing that they lie directly above the Ipperwash dolomite (Delaware) of the Hamilton formation. At the top of the Kettle Point shales occur some thin layers of yellowish green sands similar to those at the base of the Chemung and this may be taken as the logical disconformity separating the Middle Devonian from the Upper.

THE LEECHES OF LAKE NIPISSING

By J. PERCY MOORE



IN A BIOLOGICAL survey of Lake Nipissing, Ontario, extending over the summers from 1929 to 1934, Mr. J. P. Oughton and his associates accumulated

a fairly large and representative collection of leeches from both shore collecting and dredging. These were sent to me for determination by Mr. Oughton and Superintendent LePan of the Royal



Russell, J. W. 1936. "Devonian Fossil Wood from Kettle Point, Lake Huron." *The Canadian field-naturalist* 50(7), 111–112. <https://doi.org/10.5962/p.339917>.

View This Item Online: <https://www.biodiversitylibrary.org/item/89296>

DOI: <https://doi.org/10.5962/p.339917>

Permalink: <https://www.biodiversitylibrary.org/partpdf/339917>

Holding Institution

Harvard University, Museum of Comparative Zoology, Ernst Mayr Library

Sponsored by

Harvard University, Museum of Comparative Zoology, Ernst Mayr Library

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: Ottawa Field-Naturalists' Club

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.