

ADDITIONAL RECORDS OF OLD FIELD BIRCH

Betula populifolia Marsh., IN ONTARIO^{1, 2}

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ATTENTION has been called to the occurrence and distribution of old field birch (*Betula populifolia* Marsh.) in Ontario by Walker and Fox (page 90 this number). This species has a large number of common names. In addition to white birch, gray birch, old field birch, and field birch mentioned by Walker and Fox (*l.c.*), it is also known as American white birch, poverty birch, broom birch, and pin birch. In Nova Scotia the name in common use is wire birch. This name does not appear to be used in any of the current manuals, but Halliday and Brown (*Ecology* 24(3): 353-373. 1943) have used it in their discussion of the distribution of forest trees in Canada. In New England the common name is old field birch. Field birch is apparently used only by Walker and Fox (*l.c.*). Since this species is now also known to occur in the Ottawa District we are presenting herewith the information available to us.

Intensive collecting was carried out in the Ottawa District during 1939 to 1941 with a view to amplifying and bringing up to date our knowledge of the flora. At this time we had in mind the possibility of finding *Betula populifolia* since it was reputed to occur in southeastern Ontario only a relatively short distance from the boundary of the District. Eventually in 1941 the species was recognized and collected (Russell Co., Cumberland Twp., 3 miles east of Carlsbad Springs, Senn 2017). Two years later, in 1943, it was again recognized and collected, this time much closer to Ottawa (Carleton Co., Gloucester Twp., along Rideau River near C. N. railway, Zinck 1306).

During 1944 another station close to Ottawa was located (Carleton Co., Nepean Twp., Wright's Grove on Prescott Highway about 5 miles south of Ottawa, Zinck 1445, 1447, 1448). *Betula populifolia* occurs here as scattered trees intermingled with white

birch, *Betula papyrifera*. Subsequently the material in the Divisional Herbarium was re-examined and it was found that *B. populifolia* had been collected but not recognized at this locality in 1939 (Minshall 28, 91).

Examination of the *Betula* specimens in the National Herbarium of Canada has revealed only one Ontario specimen, which is, in reality, the first collection of the species in the Ottawa District (Mer Bleue peat bog near Ottawa, A. E. Porsild 6419, May 27, 1938). This specimen had been determined as *B. papyrifera*. The locality is only a few miles from the first noted above.

From these data it is apparent that old field birch occurs in occasional scattered stands in the southeastern portion of the Ottawa District. These stands are possibly more or less continuous with those along the St. Lawrence River mentioned by Walker and Fox (*l.c.*).

Certain further information respecting the general range in Ontario is also available. The Division of Botany Herbarium has specimens collected along the Lake Shore, Kingston, Ont., September 9 and 13, 1880 by T. J. W. Burgess. We have recently received through the courtesy of Mr. L. T. Owens of Toronto a specimen of old field birch from York County (Scarborough Twp., woods bordering Lake Ontario, Owens s. n., July 7, 1945). Stroud (Can. Field-Nat. 55: 74. 1941) reported *Betula populifolia* as occurring in Wellington Co. and Dr. J. H. Soper has kindly advised us that he has seen the following specimens in the herbarium of the Ontario Agricultural College, Guelph: Wellington Co., Arkell, McCallum s. n., and Wellington Co., Guelph, Kalham s. n. These specimens are probably the basis for Stroud's report.

Walker and Fox (*l. c.*) report "that the late Mr. Herriot recorded finding the field birch in Waterloo County but left no specimens from that source in his collection." Dr. Soper also advises us that he has seen a specimen collected at Galt, Waterloo Co.,

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June 13, 1902 by W. Herriot.³ This specimen is in the Herriot Herbarium now in the possession of Mr. Monroe Landon, Simcoe, Ont.

Munns (U. S. Dept. Agr. Misc. Publ. 287: 1-176. 1938) has presented a map which shows *B. populifolia* occurring in Ontario from the Quebec boundary along the St. Lawrence river to the eastern end of Lake Ontario. The map does not indicate an inland range of more than a few miles. Halliday and Brown (*l. c.*) also published a map showing approximately the same Ontario range.

Recently (October, 1945) we have had an opportunity to secure specimens of old field birch and to examine hurriedly its distribution in the southeastern counties of Ontario.

In Prescott County it was located in North Plantagenet Township, 2 miles east of Plantagenet (*Senn and Zinck 2273*) and in East Hawkesbury Township, 2 miles south of Chute-à-Blondeau (*Senn and Zinck 2274*). At both of these localities it occurs as a shrub of fencerows but at the latter station there are also a considerable number of small trees along the edges of woodland. Between Ottawa and Plantagenet no old field birch was seen although white birch is quite common.

No stations were located in the north-eastern part of Glengarry Co. but in the southeastern section close to the Quebec Boundary *B. populifolia* was located in Lancaster Twp., one-half mile southeast of Bridge End (*Senn and Zinck 2275*). No white birch was seen here and both large and small trees of old field birch were common. Proceeding west along No. 2 highway, field birch is abundant in old pastures and at the boundaries of woodland. In many places it is definitely colonizing abandoned pastures and has the appearance of an aggressive weedy shrub. Another collection was made in Charlottenburgh Twp. (Glengarry Co.) near the mouth of the Raisin River, just west of South Lancaster (*Senn and Zinck 2276*). At this station some trees reached a height of 30 ft. and there were individuals of many different ages.

The last mentioned station is apparently near the western boundary of the area in which old field birch is really abundant in

Ontario. The species was not seen in Stormont, Dundas or Grenville counties either along the St. Lawrence river or in a few brief trips along little used inland roads. Inland, white birch again became the dominant species.

The stations, west of Brockville, to which Walker and Fox (*l. c.*) refer are evidently part of an area at least several thousand acres in extent. A collection was made in Elizabethtown Twp. (Leeds Co.) one-half mile west of Brockville (*Senn and Zinck 2277*) and another in the same township about 5½ miles west of Brockville (*Senn and Zinck 2278*). At the latter station the tree was colonizing rocky pastures much as it does farther east in Glengarry Co. and in the Maritime provinces. The western boundary of this area appears to be about eight miles west of Brockville but it was not possible to determine the northern boundary. We were unable to verify the Kingston record established by Burgess in 1880.⁴

From examination of specimens on the margins of the areas in which *Betula populifolia* is common it would appear that there is some suggestion of hybridization with *B. papyrifera*. According to Rehder (Man. Cult. Trees and Shrubs, 2nd rev. ed., p. 129, Macmillan Co., New York, 1940) such hybrids have been observed in Massachusetts. South-eastern Ontario might well be a promising locality for a critical study of what may prove to be another instance of introgressive hybridization.

From the paper by Walker and Fox (*l. c.*) and the above information the known distribution of *Betula populifolia* in Ontario may be summarized as follows:

Prescott Co.: North Plantagenet Twp., 2 miles east of Plantagenet; East Hawkesbury Twp., 2 miles south of Chute-à-Blondeau.

Glengarry Co.: "near Quebec boundary to vicinity of Cornwall", Walker and Fox *l. c.*; Lancaster Twp., ½ mile southeast of Bridge End; Charlottenburgh Twp., ¼ mile west of Raisin River.

3. — Montgomery (Trans. Roy. Can. Inst. 25:265, 5 pl. 1945) includes *Betula populifolia* in the catalogue of plants of Waterloo Co. without any specific comment.

4. — Since this paper was completed and submitted for publication Mr. J. M. Gillett of Queen's University has kindly sent to us a specimen collected in Kingston (City Park, near corner Park Ave. and Barrie St., 25 ft. high, J. M. Gillett, Nov. 1, 1945). He states that there were three trees at this station. Being located in a park, the trees may have been planted although this species is very rarely cultivated.

Russell Co.: Cumberland Twp., 3 miles east of Carlsbad Springs.

Stormont Co.: "near Quebec boundary to vicinity of Cornwall", Walker and Fox *l.c.* In view of our recent survey the actual occurrence in Stormont Co. should be considered doubtful.

Carleton Co.: Gloucester Twp., Mer Bleue peat bog, and Rideau River near Ottawa; Nepean Twp., Wright's Grove, Prescott Highway, 5 miles south of Ottawa.

Leeds Co.: Elizabethtown Twp., from Brockville to approximately eight miles west of Brockville.

Frontenac Co.: Kingston.

York Co.: Scarborough Township.

Wellington Co.: Guelph and Arkell.

Waterloo Co.: Galt.

Huron Co.: Goderich (Walker and Fox *l.c.*).

All specimens cited with the exception of those otherwise indicated are in the Herbarium of the Division of Botany and Plant Pathology, Department of Agriculture, Ottawa.

BOOK REVIEW

ATLANTIC HYDROIDS

Sponsored by the National Research Council, the University of Toronto Press published in 1944 a book of 451 pages and 94 plates on "Hydroids of the Atlantic Coast of North America" by Dr. C. McLean Fraser, now retired from the chair of Zoology in the University of British Columbia. This fine, illustrated account of the group will be indispensable to the student who wishes to differentiate any of the 426 species of the region. It contains keys, figures and descriptions as well as synonymy, literature references and distribution records of the various species.

Before going to the Pacific coast where he has been for many years Dr. Fraser did spend two summers collecting hydroids while investigating the marine life of the Atlantic coast at the Biological Station, temporarily located in 1901 and 1902 at Canso, N. S. It was under Prof. Nutting at the University of Iowa that he began in 1910 a serious study of these attractive plant-like animals that grow in colonies attached usually to the bottom of the sea, and he dealt first with Pacific forms, of which his first collection was made in 1903 at the Minnesota Seaside Station on the outer coast of Vancouver

Island. Through the years since that time, his interest in these forms has never flagged, and he has neglected no opportunity of extending our knowledge of their taxonomy and distribution on both coasts.

For the Atlantic, he is able to state that over one hundred papers dealing with these hydroids have been published since the first in 1854, the "Synopsis of the Marine Invertebrates of Grand Manan" by William Stimpson of Boston, Mass. Never have more than three years passed by in that period without at least one paper appearing.

While he finds evidence of larger numbers of species in tropical as compared with northern waters, the difference is not extreme - 202 species south of Florida as compared with 129 north of Cape Sable (to Hudson Bay), or 215 north vs. 275 south of Cape Hatteras. He has 77 species common to Atlantic and Pacific coasts at the north, apparently through connection by the Arctic route. He reaches the somewhat surprising result that there are more species in the Atlantic than in the Pacific (426 vs. 336), although further collecting may modify this.—

—A. G. HUNTSMAN, Toronto.



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