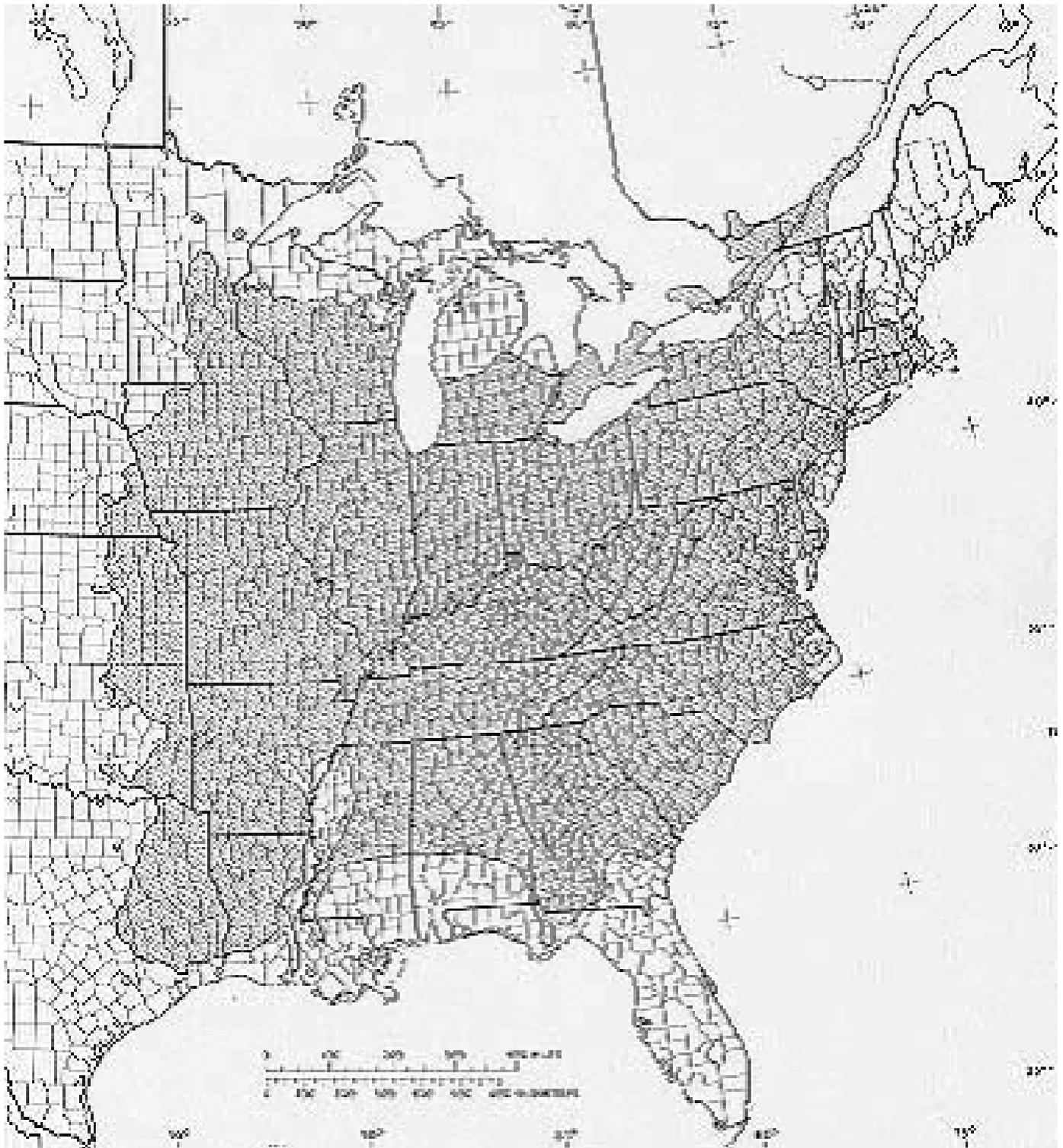


Range Map of Bitternut Hickory, *Carya cordiformis*, taken from the document* [Bitternut Hickory](#),



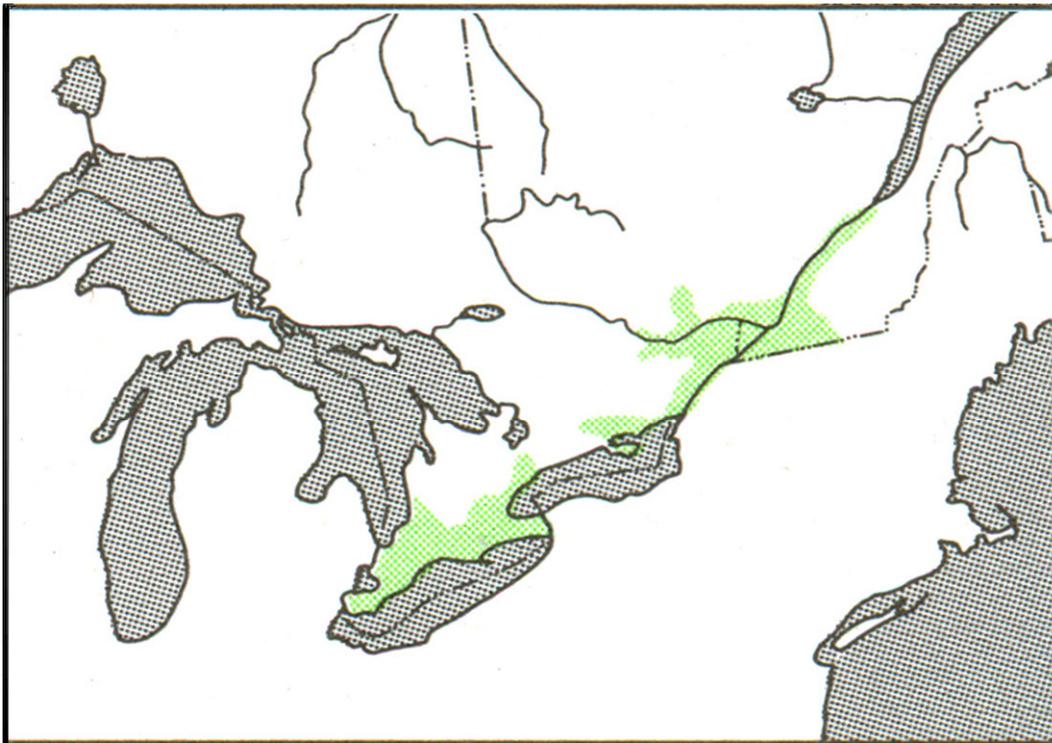
Note the close correspondence to the map for “Native Trees of Canada.” It closely resembles the Map for the *domain bioclimatique de l’érablière à caryer cordiforme*. Also note of the extent of the species distribution in Ontario and the US. Take a look at the range in southern Ontario, Upper New York State and a tiny corner in northwestern Vermont. Here is our contiguity with other jurisdictions. – D. Fletcher GCV

* <http://www.wildwnc.org/education/trees/bitternut-hickory-carya-cordiformis-juglandaceae-walnut-family>

The following is an excerpt of the tree's profile from the document *Bitternut Hickory - *Carya cordiformis* Juglandaceae - Walnut family* Research by H. Clay Smith. Published on the [Western North Carolina Nature Centers' web site](#). Last accessed on August 16, 2008.

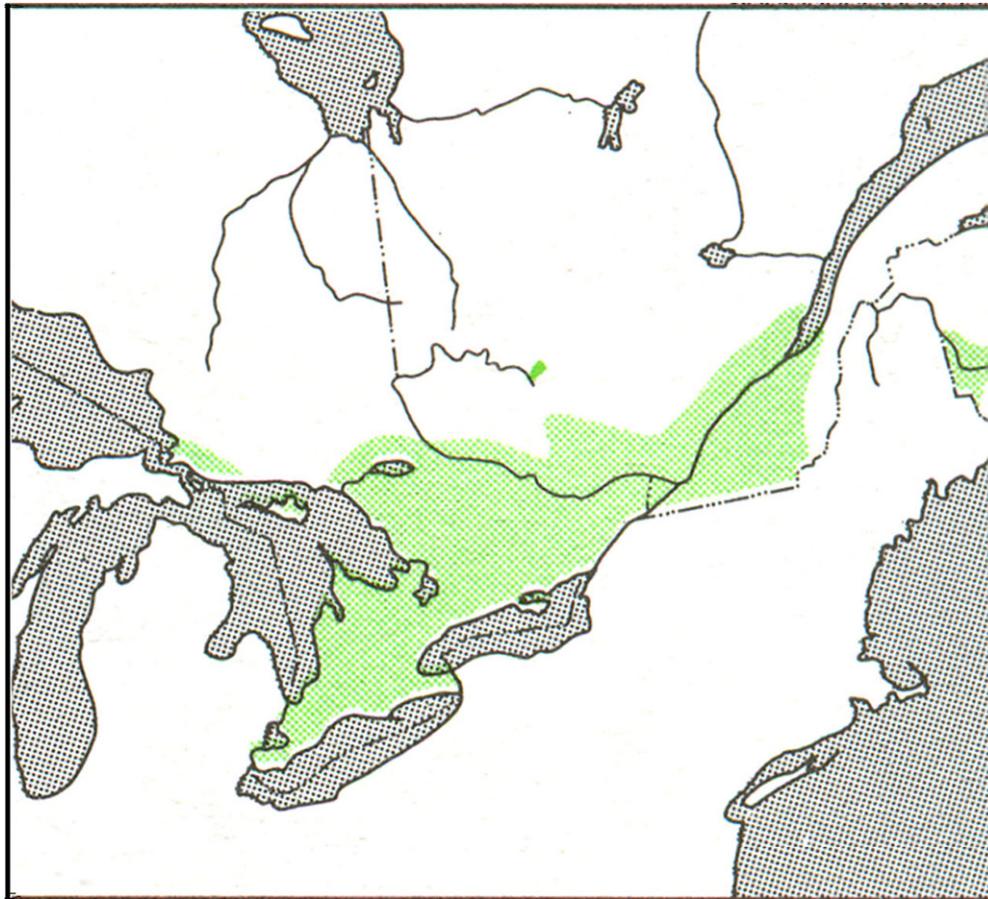
Associated Forest Cover

"Because bitternut hickory occupies many sites throughout its geographic range, its associations vary. In addition to the species named in the cover types, bitternut hickory grows with various oaks (*Quercus spp.*) in the northern region. **In the southern part of Quebec, there is a sugar maple-bitternut hickory subtype that is restricted to deep soils.** Trees associated with it include basswood (*Tilia spp.*), eastern hophornbeam (*Ostrya virginiana*), northern red oak (*Quercus rubra*), butternut (*Juglans cinerea*), and black maple (*Acer nigrum*). In the central hardwood region, extending in to northwestern Minnesota, bitternut hickory is found with hackberry (*Celtis occidentalis*), green ash (*Fraxinus pennsylvanica*), and butternut. Common understory herbaceous stems include largeflower bellwort (*Uvularia grandiflora*), Virginia creeper (*Parthenocissus quinquefolia*), hepatica (*Hepatica acutiloba*), wood-nettle (*Laportea canadensis*), wild ginger (*Asarum canadense*), large flowering trillium (*Trillium grandiflorum*), springbeauty (*Claytonia caroliniana*), violets (*Viola spp.*), anemone (*Anemone spp.*), Solomons-seal *Polygonatum pubescens*, and false Solomons-seal (*Smilacina stellata*)."



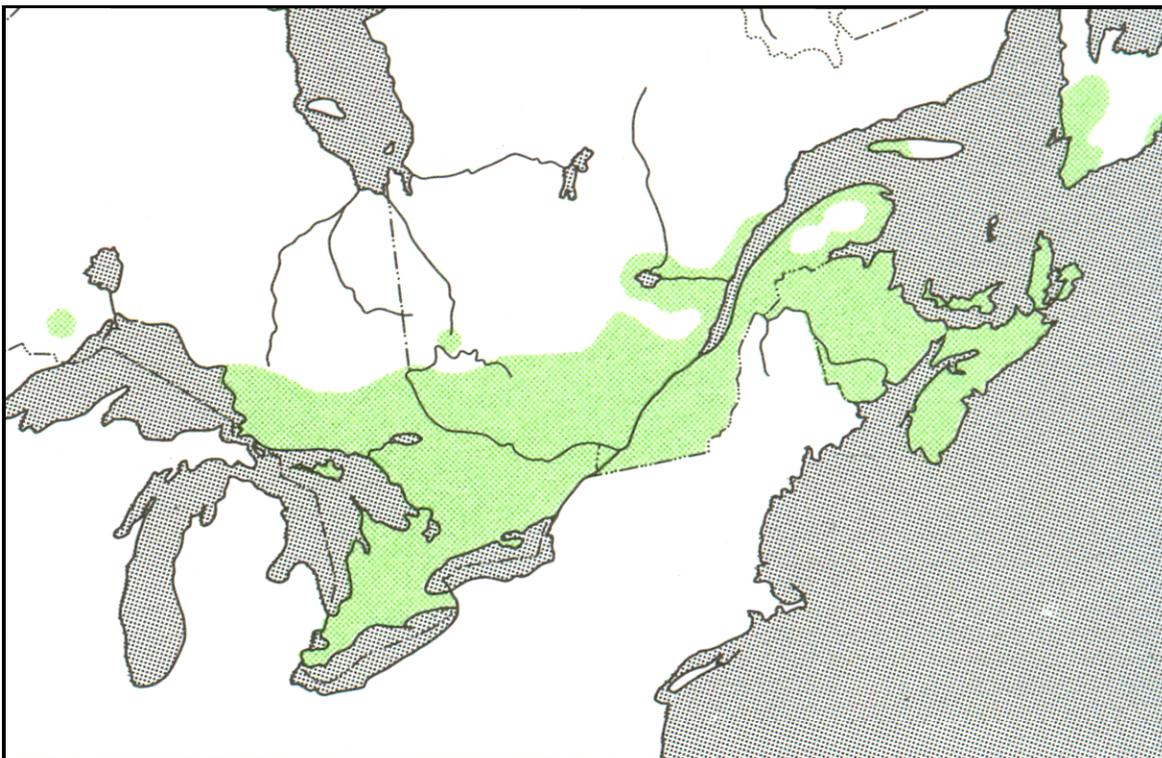
Range Map of Bitternut Hickory, *Carya cordiformis*

Taken from "Native Trees of Canada," R.C.Hosie, Published by Fitzhenry& Whiteside in co-operation with the Canadian Forestry Service, 1979.



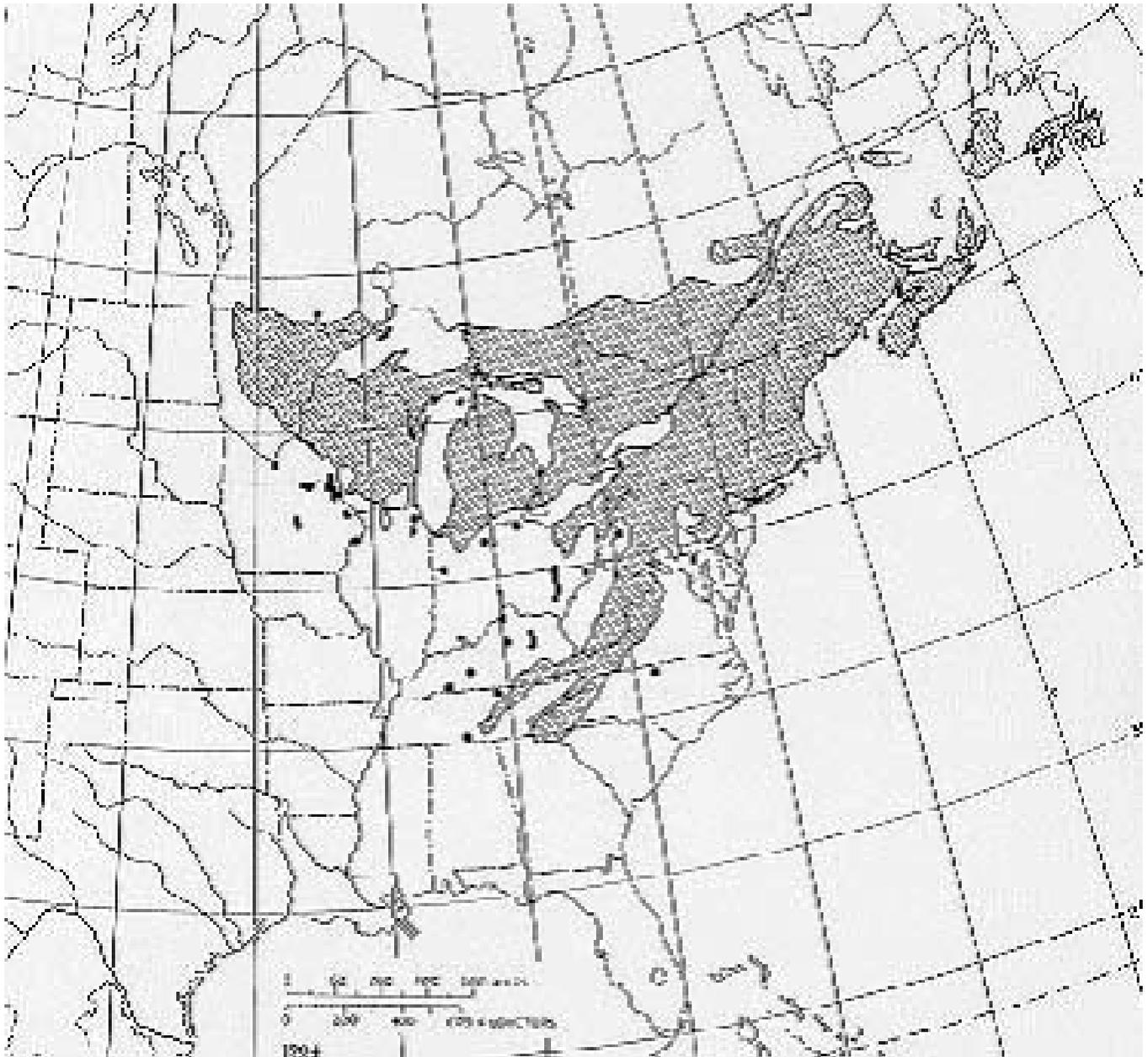
Range Map of American Basswood (Tilleul).

Signature species for the “domaine bioclimatique de l’érable à tilleul”. This is the next onion layer out in Quebec and Ontario, but not in the American Deep South. The whole range is shifted north relative to that of the bitternut hickory. It is obviously more cold tolerant. Note its presence throughout the Adirondacks, south of Montreal, where bitternut hickory is absent, and its deeper reach down the St Lawrence. Also note the outlying, isolated populations in the south.



Range Map for Yellow Birch from Native Trees of Canada.

Note the range beyond Québec. This is the outermost layer for the “Zone feuillus,” beyond which the forest begins to intergrade with conifers in the transition (Zone mixte) to the “Zone boreale.” This specie’s range defines the *Domain bioclimatique de l’érablière à bouleau jaune*, which enclose the other two in the Broadleaf Forest Zone in Québec. North of this, conifers become the dominant populations.



Range Map for Yellow Birch from USDAFS.

Note the range shift north and the reach into the southern Appalachians where the higher elevations are cooler and, hence, more favourable. Notice, too, the discontinuous US Midwestern outliers.

Yellow Birch - *Betula alleghaniensis* Betulaceae - Birch family. Research by G. G. Erdmann

<http://www.wildwnc.org/education/trees/yellow-birch-betula-alleghaniensis-betulaceae-birch-family>

– D. Fletcher GCV