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“The mythical *Calluna atlantica*”: heather in Newfoundland

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It is now an accepted fact that there are no heathers – members of the genera *Calluna*, *Daboecia* and *Erica* – native to the western hemisphere, the Americas. Plants called “heathers” do inhabit North America but they are classified in other genera – both *Cassiope* and *Phyllodoce* are dubbed “mountain heather” or “mountainheath”, for example. However, during the nineteenth century, botanists were not so certain that *Calluna vulgaris*, ling (or Scotch, or Scottish heather), at least, was not indigenous in parts of eastern North America, in Newfoundland and Massachusetts, in particular. During 1861, a colony of *Calluna* reported near Tewksbury, Massachusetts, caused a great kerfuffle in American botanical and horticultural circles, as related by Judy Wiksten (2000).

Several decades earlier, *Calluna vulgaris* had been collected on Newfoundland, and several colonies of ling are extant there (see Barclay-Estrup 1974, 1988, 1991) so the species has a recorded history extending over at least 180 years on that island.

Earliest record

In his monograph on the Ericaceae, the tribe of the heather family (Ericaceae) which includes *Calluna*, George Bentham (1839) gave the distribution of the single species, *C. vulgaris*, as “in Europâ occidentali et boreali vulgaris, etiam in Islandiâ et in Terrâ-Novâ Americæ borealis”: “in western and northern Europe common, and even in Iceland and in Newfoundland.” Bentham wrote that early in 1839, his monograph being published towards the end of that year in the seventh part of Augustin-Pyramus de Candolle’s magisterial *Prodromus*. He did not give any authority for the inclusion of Newfoundland (“Terrâ-Novâ Americæ borealis”), but Bentham was a very well-informed and thorough botanist.

The next year, 1840, his friend Sir William Hooker published the second volume of his flora of North America. Inserted in the index, at the end of right-hand column on page 280 of this volume, obviously as a very late afterthought, was this statement linked by an asterisk to “*Calluna vulgaris*, *Salisb.*”: “This should have been inserted at p. 39, as an inhabitant of Newfoundland, on the authority of De la Pylaie.”

Auguste Jean Marie Bachelot de La Pylaie (1786–1856) was a French explorer and naturalist, who visited Newfoundland in 1816 and 1819–1820, collecting specimens and recording plants. There is no indication that he ever published the information which Hooker cited – it is not in Bachelot de la Pylaie's *Voyage à l'île de Terre-Neuve, contenant la description des îles voisines et des vues générales sur leur végétation* (1825). Hooker may have obtained the information direct from Bachelot de la Pylaie, but that suggestion presents an enigma, pointed out as long ago as 1863 by Charles J. Sprague.

I am grateful to Dr Piotr Daszkiewicz (Muséum national d'histoire naturelle, Paris) for confirming that Auguste Bachelot de la Pylaie's manuscript notes about Newfoundland contain no record of *Erica* or *Calluna*. In "Plantes recueillies à L'île St Pierre, à Miclon et à Terre Neuve en 1819 (surtout aout et septembre) [Plants collected ... in Newfoundland in 1819 (especially August and September)]" (MNHM Ms1799), under "Ericinées" (Ericaceae), he listed 18 species but neither *Erica* nor *Calluna*, nor did he use the French vernacular for heather, "bruyère". In a companion manuscript (MNHM Ms1797), Bachelot de la Pylaie was explicit, writing

... je ferai remarquer quant à ces deux derniers tribus, que je ne rencontré aucune espèce du genre *Erica* à Terre neuve. ... L'absence de hautes montagnes dans cette île détermine ainsi manifestement celle de ces végétaux. [... I should point out that of the last two tribes [including Ericinées, heaths], that I did not encounter any species of *Erica* in Newfoundland. ... The absence of high mountains on that island thus obviously determines the absence of these plants.]

Thus, contrary to what has been repeated often, on the authority of Sir William Hooker, Auguste Jean Marie Bachelot de La Pylaie never observed or collected *Calluna* in Newfoundland. As noted above, this was exactly the conclusion of Charles J. Sprague when, addressing the Boston Natural History Society on 4 March 1863, he posed the question: "Is the heath indigenous to the United States?" (Sprague 1863; see also Lawson 1867).

Suffice it now to observe that Hooker's faulty attribution of the first record of heather in Newfoundland to Bachelot de la Pylaie was not the earliest *published* report anyway.

William Eppes Cormack

Neither Bentham nor Hooker, as we have seen, made reference to other records of *Calluna* on Newfoundland, yet in 1834, before either of their works were published, David Don stated that *Calluna* had been collected on Newfoundland by a "Mr Cormack". This undoubtedly was William

Eppes Cormack (1796–1868), a Newfoundland-born entrepreneur and explorer, who had studied at the universities of Glasgow and Edinburgh and consequently, under the influence of Professor Robert Jameson, developed a keen interest in natural history (Story 2000). David Don (1834: 150), in a most interesting footnote to his “new arrangement of the Ericaceae” published in the *Edinburgh new philosophical journal*, noted that specimens of *Calluna* “were contained in a collection of dried plants from Newfoundland, given me by Mr Cormack, who assured me they had been collected in that country”.

Thus it seems that Don’s report of Cormack’s collection was the first in print, preceding Bentham’s by five, and Hooker’s by six, years. It is most likely that Bentham’s authority was Don rather than Bachelot de la Pylaie, if only because he must have been extremely familiar with Don’s paper, given that he was writing a monograph on members of the Ericaceae.

The present whereabouts of Cormack’s specimen, given to Don, is not known, but there are a few clues that might lead to it, if it has survived.

In April 1864, Hewitt Cottrell Watson, published the following:

Specimens of *Calluna vulgaris* from Newfoundland have very recently come into my hands, under circumstances which seem to warrant its reception henceforth as a true native of that island. At the late sale of the Linnean Society’s Collections in London, in November, 1863, I bought a parcel of specimens, which was endorsed outside, “A collection of dried plants from Newfoundland, collected by — McCormack, Esq., and presented to Mr. David Don.

“McCormack” could easily be a misreading of a poorly written or faded “W. E. Cormack” (see Fernald 1927: 52) or “Mr Cormack”, so that is not a problem. Watson went on to state that among the specimens were “two flowerless branches of the true *Calluna vulgaris*, about six inches long, quite identical with the common heath of our British moors.” He noted also that they were labelled as having come from

Head of St. Mary’s Bay — Trepassey Bay¹, also very abundant — S. E. of Newfoundland considerable tracts of it.

Watson’s herbarium has had a calamitous history (see Kent & Allen 1984) – he himself intended to burn it. However, specimens did survive in a cupboard that once stood “in an honoured place, halfway up the stairs, in the Herbarium at Kew” (see Egerton 2003: 218, n. 39). Whether Cormack’s *Calluna* is among the specimens in this cupboard is not known but it is doubtful.²

Watson's 1864 contribution about "the common heath in Newfoundland" was not a coincidence – remember that in 1861 and 1862 there was the Massachusetts discovery and a "small kerfuffle". Watson even alluded to this:

We should recollect that the *Calluna* advances to the extreme western limits (or outliers) of Europe, in Iceland, Ireland, and the Azores. The step thence to Newfoundland and Massachusetts, though wide, is not an incredible one.

Calluna atlantica

There is a further twist to the saga of the Newfoundland heather, for it was to become the prototype of a new species of *Calluna* – the "mythical *C. atlantica*" of F. N. Williams's *Prodromus florae britannicae* (1911).

In the issue of the *Journal of botany* published on 1 October 1866, there is a well-executed and accurate hand-coloured engraving of *Calluna*, drawn and lithographed by one of the most skilful of mid-nineteenth-century botanical artists, Walter Fitch. It accompanies an article by the journal's editor, Dr Berthold Seeman, entitled "On the Newfoundland heather". Seeman (1866) commenced by thanking Dr David Moore, of the Royal Dublin Society's Botanic Gardens (now the National Botanic Gardens), Glasnevin, for "fresh specimens of the Heather which he received some years ago from Newfoundland." Moore, Seeman stated, has been growing this plant "side by side" with the common "European Heather". There follows these observations:

It did not escape so acute an observer as Dr. Moore that *biologically* the Newfoundland Heather was different from the common British one; that whilst the Newfoundland one always suffered from frost, and turns brown during the mild Irish winter, the common British one, growing by its side, was unaffected by cold, and retained its usual green colour.

These indications suggest that the Newfoundland plant was less hardy than the "ordinary" Irish one; the illustration also suggests it had a rather slender habit. Seeman was unable to find any clear distinction between the Newfoundland plant from Glasnevin and the "common British" form:

However, I fully believe that the Newfoundland plant is a distinct species, which I would like to name *Calluna Atlantica*, and which I have also seen from Iceland and the higher Alps. Perhaps some Scottish specimens may also be referred to it.

Almost no one followed his opinion and *Calluna atlantica* was hardly ever mentioned again – Wallace (1903) and Williams (1911) were exceptions.



Calluna atlantica. Walter Fitch's hand-coloured engraving showing a shoot from the plant raised at the Glasnevin Botanic Gardens, Dublin. It is indistinguishable from *Calluna vulgaris*.



Calluna vulgaris in full bloom on Signal Hill, St. John's, Newfoundland, 20 August 2007;
© Dr. B. Shawyer.



We do not have explicit indication of the origin of the material cultivated at Glasnevin in the early 1860s. However, examination of the Gardens' manuscript accessions book indicates that in January 1865, Moore received a quantity of seeds from Philip Francis Little, of St John's, Newfoundland, whose affiliation is given as the Newfoundland Agricultural Society; Little was a vice-president in 1864. That consignment is not likely to have yielded a mature, flowering plant of ling by October 1866, but Little, a judge of the Supreme Court of Newfoundland, had close connections with Ireland and was in Dublin during 1864 – on 4 May he had married Miss Mary Jane Holdright in the Roman Catholic Church, Kingstown (Dun Laoghaire) (Hiller 2000). No other likely sources are indicated in the accessions book, but given that not every accession was recorded, previous consignments are quite possible. If Little was the source, it is possible he obtained seeds from Signal Hill at St John's.

Ling in Newfoundland today

Calluna vulgaris still grows in a scattering of about half a dozen localities, almost all on the Avalon Peninsula in the extreme south-east of Newfoundland (Barclay-Estrup 1988, 1991: 52–53; Rouleau & Lamoureux 1992: map 313; Day 1995, Meades *et al.* 2000). The noteworthy colonies are at Old Perlican, Signal Hill and South Side Hill at St John's, and in various places about Whitbourne and Calvert. The current opinion is that in all localities it is a naturalized alien plant.

Notes

¹ I am grateful to Professor Alan Macpherson for the following information.

I have no evidence that Cormack was ever in the Trepassey Bay area. It and St Mary's Bay are indentations at the southern end of the Avalon Peninsula. *Calluna vulgaris* has thoroughly naturalised on Signal Hill. From its relative success in replacing native plants I'd be inclined to accept the hypothesis that it dates back to a period between 1763 when Highland troops retook St John's from the French, and 1822–1827 when William Eppes Cormack was residing in St John's. Its profusion validates, to some extent, Dr Cluny Macpherson's reference (1956) to its growing luxuriantly in two locations: Sir Robert Bond's estate at Whitbourne (c. 1881) and Calvert near Ferriland on the Southern Shore (south of St John's).

Watson's reference to the label "Head of St Mary's Bay – Trepassey Bay, also very abundant – S. E. Newfoundland considerable tracts of it" is very tantalising. *Annotated checklist of the vascular plants of Newfoundland* (Meades *et al.* 2000) identifies Colinet at the head of St Mary's Bay as one modern site where

C. vulgaris has been found. Cormack walked through the Colinet area in 1822 as a preliminary to his famous trek across the island from Trinity Bay to St George's Bay on the west coast later in that year. But unfortunately his unpublished diary for the earlier walk shows no indication that he botanised as he walked from St John's to Placentia.

² Dr D. E. Allen (*in litt.* 12 August 2009) commented as follows:

I have always understood that the cupboard at Kew which has always housed H. C. Watson's collection is essentially the vouchers supporting the vice-county records published in the first edition of his *Topographical Botany*. At any rate, it is usually expressly in that connection that people, such as myself, have consulted it over the years. I went through it on quite a wide scale when researching the Botanical Society of London – as a high proportion of his specimens he acquired via the annual distribution of duplicates – but cannot recall seeing any material from outside the British Isles. I suspect any of the latter that he may have donated or bequeathed were incorporated in Kew's General Collection – and are almost impossible to locate these days, unless one is concerned with just a single species

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