

ART. II.—*The Heather (Calluna vulgaris) a Native of the United States: Extracted from an unpublished Report to the Massachusetts Horticultural Society; by EDWARD S. RAND, Jr.*

QUITE a sensation has been created among botanists during the past summer (1861) by the discovery of plants of the Scotch Heather (*Calluna vulgaris*) growing wild in the vicinity of Boston.*

It has been supposed that no true *Ericaceæ* were indigenous to America, though the large and highly ornamental family of *Ericaceæ* is abundantly represented by our beautiful native *Andromedas*, *Cassandra*, *Epigæa*, *Cassiope*, *Clethra*, and many other allied plants.

On Saturday, July 13th, the attention of the writer was first called to a plant exhibited at the weekly show of the Massachusetts Horticultural Society by Jackson Dawson, a young gardener of Cambridge. The plant was growing in a pot, was apparently from about six to ten years old, was half a foot in diameter and a little more in height; it was in full bloom, though the flowers were white rather than pink, owing, as was afterwards ascertained, to its being kept from the light to prevent its drooping from being transplanted at such an unfavorable season. The plant was labelled "Native Heath, found growing wild within twenty miles of Boston."

The writer, as chairman of the Flower Committee, at once called the attention of the committee to this plant, and notified a special meeting to examine the matter. The identity of the plant with the Scotch Heather was obvious enough, but the assertion of its being found wild within twenty miles of Boston naturally met with no believers.

This was so incredible that many were not slow to pronounce it impossible, and looked upon the exhibition as an attempt to deceive the committee. At a meeting of the flower committee, the chairman was instructed to address a note to Mr. Dawson, requesting him to appoint a time and lead the committee to the locality of the Heather. More than a week having passed, and no answer being received, the committee now convinced that it was an attempt at imposition, passed a vote dismissing the subject from consideration. A few days after, Mr. Dawson called upon the chairman, stated satisfactory reasons for his silence, and promptly appointed an early day for conducting the committee to the habitat of the Heather; and on the morning of Monday, August 5th, the committee took the cars for Tewkesbury (Mass).

It is well known to botanists that the region about Tewkesbury

* See this Journal, xxxii, 290.

is peculiar, and is noted for producing many rare and beautiful plants. The locality of the Heather is about half a mile from the State Alms House, on the farm of Mr. Charles H. Thwing. Leaving the Alms House on our right, we take a narrow sandy road and shortly come near the field; a few minutes walk brings us to the spot, near a lane on the left hand side of the road. The plants occur sprinkled over an extent of perhaps half an acre; there may be in all twenty or more old plants, some, allowing for the slow growth of the plant, from fifteen to twenty years old, others much younger.

The surface of the ground is varied by small hummocks, and is covered with a short close grass, interspersed with numerous plants of *Kalmia angustifolia*, *Spiræa tomentosa*, *Cassandra calyculata*, *Azalea viscosa*, *Myrica Gale*, &c. A rapid brook bounds one side of this field, its banks densely fringed with the common alder (*Alnus incana*), of which shrubs are sparingly scattered over the whole field; in several cases the Heather was found overgrown and shaded by these shrubs. The common Cranberry (*Vaccinium macrocarpon*) occurs somewhat abundantly in the immediate vicinity of the Heather, usually most so on the depressions, while the Heather occurs on the hummocks. From appearances, overflows of the brook are of not unfrequent occurrence, when the greater part of the field would be submerged, and, as it is surrounded by low ground and ditches, a moderate freshet would convert the spot into an island. At the time of the visit of the committee, owing to the continued drought of the past summer, the whole field was parched, and the brook very low. The soil is a sandy peat, just that which a gardener would choose for heaths.

The committee explored the stream on both sides for some distance; but a heavy shower prevented a more satisfactory examination. They also searched for young plants, and found a multitude of seedlings, from one to two years old, and a few somewhat larger. The plants were in full bloom, and presented a most pleasing sight.

About a week later a sub-committee visited the spot, and explored for several miles up and down the stream on both banks, but without finding any farther traces of the heather.

The committee, unable to believe the plant indigenous, started many theories to account for its introduction. Of the existence of the plant in a wild state there was no doubt, and a more unlikely place for it to have been planted could scarcely be found. The question was, whence came it? The first supposition was, that it had been planted or the seed sown there by a Scotchman, Mr. Sutton, who lived near by; but in an interview with Mr. Sutton, he denied all knowledge of the plant till within a few years; said he had never had any heather seed in his possession,

had never received any parcels from Scotland, or done anything in any way by which the plant could have been introduced; that he was as much astonished as delighted when, about ten years before, he discovered the plant, which he at once recognized as the Scotch heather, and each year since he had gathered it when in blossom to adorn his house. On being farther pressed by one of the committee as to the possibility of its being introduced by him, he indignantly replied: "Wuld 'na I hae been a fule, mon, to sow it on another mon's land when my ain as good wuld hae grown it as well?" Mr. Sutton's land is on the same stream, adjoining Mr. Thwing's, and in every respect as well adapted to the growth of the heather, yet it occurs only on Mr. Thwing's land. The next supposition was, it might have been planted by Mr. Thwing; but upon questioning him, it was ascertained he had owned the farm for about three years only; had observed the heather in its present locality; but though he noticed it as a pretty plant, and one not found elsewhere on his farm, he knew nothing of its rarity, or had he given the matter a second thought; he had used the land for a peat meadow and for pasturage, and had noticed the cattle would not browse on the plant; he had purchased the farm of Caleb Livingston of Lowell, in whose family it had been for a long time; he believed the field was formerly mowing land.

Mr. Thwing took great interest in the discovery, did everything in his power to aid the committee, and has agreed to protect the plants against injury or removal.

Another ingenious theory was that the seed of the heather had in some way been washed down by the stream from some place above, and being deposited by a freshet in a congenial soil, had vegetated and thriven. It is well known the seed of the heather is minute, and will preserve its vitality for years. The plant not unfrequently springs up in the earth in which imported plants are potted. But it was ascertained that there is or had been no greenhouse and no importers of foreign plants anywhere in the vicinity on the course of the stream, and the nearest greenhouse is five miles distant. The question arises, why should the plant occur in this one spot when there are so many localities all along the stream for miles equally favorable for its development? The neighbors stated they had never observed it elsewhere, except Mr. Sutton, who remembered seeing, several years ago, a plant on the other side of the brook directly opposite the present locality; since attention had been called to the heather he had searched for this plant but unsuccessfully. As the opposite meadow is a mowing field on which the grass is annually cut in August, it is not surprising the plant has been destroyed.

The evidence thus far, proves only that the plant has existed in the same place for about ten years; and the opinion of the

committee was adverse to its being considered indigenous. Upon inquiry it was ascertained that until within about a dozen years the field had been used for mowing; but lately it had been pastured; this at once accounts for the occurrence of no decaying clumps and no old dead branches. Mr. Dawson's attention was first attracted to the plant through members of Mr. Sutton's family a few years ago; through whom also its existence has also been known to parties in Salem (Mass.) for some time, and plants of the heather removed from Tewkesbury are now flourishing in a garden in Salem.

The next step in the investigation was to interrogate Mr. Livingston, the former owner of the farm. At an interview with him, he at first could remember no such plant. But, upon being shown a sprig of the heather, he remembered the occurrence of of such a plant many years ago, at a place on the farm which he designated. His account is as follows: Many years ago, say fifty or more, when he was a boy, he remembered helping his father, who then owned the farm, plough up the field in question; it was then more "hummocky," and with deeper depressions than now. They had great trouble in ploughing the field, owing to large patches, "as big as a bushel basket or larger" of a strange spreading plant, which run on the ground like "ground hemlock," and had long and tough roots which caught the plough. He now recognized the heather shown him as the same plant. After a great deal of trouble with the plant, they got a heavy, strong harrow, and tore up roots which were very old, strong and tough, and piled roots and plants in the hollows and covered them deep with soil. They then levelled and sowed the field, and during his father's and his occupancy of the farm the field was until recently used as mowing land. He cannot say how many plants there were, but remembered they were large and gave a great deal of trouble; he has never seen the plant elsewhere, and had forgotten the circumstance, but it recurs vividly to his mind, and he is fully persuaded of the identity of the plant.

During his occupancy of the farm he does not remember the plant; it may have existed, but as that field was mowed each year he thinks the constant cutting would have killed the plants when they grew to any size. In order to assure himself of the identity of the plant he showed a specimen to his mother who is still living at a very advanced age! She at once recognized the plant, told where it grew, said it had grown there for many years, and remembered the trouble it was to plough the field. Mr. Livingston then came to Tewkesbury, and undirected went immediately to the spot where the plant now grows.

The vitality of the seeds of the heather is well known; indeed experience has shown that it is difficult to keep land in

pasture which has formerly been covered with it. It is also well known that continual cutting will in time kill any bush or shrub, and there is nothing strange in supposing that the heather may after its original destruction have come up year after year among the grass, and been mowed down unnoticed; indeed it would have been strange if a farmer had noticed such a plant unless its encroachments called his attention to it. Nor is it improbable that the plants now well established in the locality originated from seed of the plants destroyed fifty years ago. Most probably the heather has kept growing all the time, more or less. But allowing that the present plants are only ten years old, and that the original plants were destroyed fifty years ago, say in 1810, this gives us only forty years for the seed to have retained its vitality, by no means an improbable time. Or again, the present plant may have sprung from seed of seedlings from the original plants, for the heather flowers very young, is a low growing shrub and might have flowered year after year unnoticed; indeed to give origin to the present number of plants, it is only necessary for one low branch to have escaped the scythe and perfected seed. This is not only not impossible but very probable. Loudon remarks, "When heathy ground has been subjected to the plough it should never be kept in pasture for many years together, unless it is richly manured, for, as the seeds retain their vitality for many years, plants never fail at the end of a few seasons to make their appearance among the grass."

Now, as to the age of the plants: fifty years ago, say in 1810, there were plants in existence "as large as a bushel basket or larger," the question arises, how old were those plants? Every botanist knows that the growth of the heather is very slow. Loudon remarks, "The plant is of slow growth, seldom making shoots longer than three or four inches in one season even when young; and when of five or six years growth not more than half that length but it is of great duration." We may safely conclude that plants of so large a size and with such tough roots as Mr. Livingston describes are not unlikely to have been in existence for more than a century, which carries it back to about the year 1700. Beyond this we have no evidence and can only assert the probability that the plant existing at so early a date in such an unlikely and out-of-the-way place, was not introduced by man.

The town of Tewkesbury is five miles southeast of Lowell and twenty miles northwest from Boston; it was formerly a part of Bellerica, and was an Indian village called Warressit. The town was set off from Bellerica in 1734. Bellerica was settled in 1653, but very sparsely, and the present population of Tewkesbury is, we believe, less than two thousand.

Early in September the writer had the pleasure of accompanying Professor Gray to the locality of the heather. The ground was carefully examined, but, with the exception of the discovery of innumerable young plants of all ages, from one to five years, no new facts were obtained. From all the evidence adduced it seems much more probable that this is an indigenous locality of the heather, although the only one known in the United States. In this opinion Professor Gray coincides, after an examination of the facts.

May not the heather have once existed in profusion on this continent and have gradually died out owing to some inexplicable, yet perhaps only slight climatic changes? May not this be the last vestige, or one of the last, of what was once an American heath? And if the heather exists in Nova Scotia* and Newfoundland may we not expect that some intermediate stations may yet be discovered?

Every few years botanists are startled by the discovery in what were considered well gleaned localities of new or very rare plants, and we are forced to the conclusion that the botany even of New England and the Canadas is not yet wholly known. The botanical interest of this discovery is very great, both from its unexpectedness, and from the new floral link by which it connects New England with the mother country, but also from its bearing upon mooted questions respecting the geographical distribution or dispersion of species, upon which distinguished naturalists are now at issue.

Although Mr. Dawson cannot be said to be the original discoverer of this locality, yet to him belongs all the credit of appreciating the discovery, and of first directing the attention of botanists to the existence of the plant in the United States.