

THE ALTITUDE OF FOREST TREES ON THE CAIRNGORM MOUNTAINS.

*(Read at the Andersonian Naturalists' Society, Glasgow,
7th November, 1902).*

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IN the region of the Cairngorm Mountains is to be found the finest wild forest scenery in the country, in respect both of extent and of natural features. From the hill-slope above Boat of Garten, for instance, the prospect is such as no other district in the country can show. That fine river, the Spey, is immediately below the eyes; across it are the massed and serried ranks of the pine trees of the Forests of Abernethy and Rothiemurchus, extending for miles up and down the river, and stretching up the hills, which culminate in the principal summits of the Cairngorms. This great background, far in the distance, dwarfs by its size and remoteness the woodlands at its base. They seem, in proportion, only dense plantations such as may be seen on any hillside, and it is perhaps not until the forests are actually visited and passed through that their extent is properly appreciated.

I do not know that the history of these woodlands has yet been told with any fulness or scientific accuracy, tradition, legend, and imagination—all admirable things in their proper places—having been too much drawn upon. Nor will this side of the subject be taken up here, this paper being limited to some observations, recently made, on the kinds of trees found on the Cairngorms, and particularly as to the altitudes at which they grow.

It may be said generally that about 1700 feet above sea-level represents the line above which only few or exceptionally situated trees occur, and these only of a very few species. It might be more accurate to say that 1500 feet is the limit; about this height the Abernethy

and Rothiemurchus Scots pines die out. In Glen Feshie, and on the Don above Cock Bridge, and in Glen Quoich, the highest pines are also at about 1500 feet. In Glen Dee they stop at about 1300 feet, and in Glen Lui, at Derry Lodge (alt. 1386 feet), there is a detached clump of fair-sized pines. At Braemar, Creag Choinnich (alt. 1764 feet) is wooded nearly to the top, chiefly with Scots pines and larches. The only other tree which attains the heights just named is the birch, which seems better able than the Scots pine to hold its own, and even gain ground. In some places—such as Glen Quoich—the wreck of the pines, blown down and decaying, while not unpicturesque, is in some aspects painful. The fallen pines seem not worth clearing away, and a new plantation at the height-limits named is quite unusual. There is a dense one of Scots pines in Glen Lui (alt. about 1300 feet), carefully fenced, well grown, and healthy looking, but such a plantation cannot be said to add to the beauty of the spot. The birch, on the other hand, cannot be other than beautiful, and one of the finest and most extensive birch woods known to me is at Braemar. Many of the houses in the village of Braemar are built in clearings in this wood, trees frequently being left standing at and around the houses. By the side of the Dee the birches are tall, and many are above the average size; but when an altitude of 1500 feet is reached, they have become beautifully small and well proportioned—regular dwarf trees. There are thousands not over six feet in height. They ascend in almost unbroken numbers to an altitude of about 1700 feet on the side of Morrone, and sweep along its northern slopes from about Corriemulzie to Glen Clunie—a distance of more than two miles. It is somewhat curious how they immediately die out in Glen Clunie, and from near the Croft of Muickan, till the Spital of Glenshee is reached (about 14 miles), not a group of forest trees is to be seen. The Morrone Wood is a characteristic Highland native wood, with an undergrowth of heather, juniper, and bracken. Amongst the birches are occasional aspens, occurring up to 1500 feet,

and Scots pines come in in places, but the wood is a typical birch one. Since I made these observations, I have learned that Macgillivray knew this Morrone Wood (previous to 1855), seemingly much in the same state then as it is now (*Natural History of Deeside and Braemar*, 1885, p. 172). This writer's remark that "the whole tract along the river from . . . Birse to the Linn may be considered a birch forest" (*Op. cit.*, pp. 164-5), is at variance with Lord Cockburn's observation made in 1846. The last-named remarks on the equal profusion of the birch and Scots pine near Castleton (*Circuit Journeys*, 2nd ed., 1889, p. 305). Macgillivray, however, seems to have looked on the Scots pine as not a native of Braemar (*Op. cit.*, pp. 17 and 361). The present conditions are that by the Dee at and above Braemar the Scots pine is predominant, and by the time the Linn is reached the trees are almost entirely of this species. Hazel and alder occur by the river side above Braemar, and at or near the village (alt. 1110 feet) are well-grown and flourishing examples of the lime, great maple, elm, horse-chestnut, beech, and larch. A dark copper beech is right in the village. These last named species must all be noted as introduced, not native. I did not observe any oaks higher up than about 700 or 800 feet.

Through the kindness of Miss J. G. Watt, I had some observations made at Tomintoul (alt. 1160 feet) this summer on forest trees. These, along with my Braemar notes, may be concisely given in the form of a list of species observed at an altitude of 1100 feet and over. This limit is fixed because it covers both Braemar and Tomintoul, and not because any scientific value attaches to an elevation of 1100 feet. Nor can any deduction or inference be safely made from the list as to the limits up to which the species named can grow on our mountains. It is, in short, an "observational", not a theoretical list.

Near Tomintoul, at a height of about 1200 feet, is an interesting peat-moss. It is being cut for fuel, and shows a depth of some ten feet in places. In it are found trunks of large trees; the species I have not ascertained, but the

probability is that it is the Scots pine. The local story is that this wood was burnt by our "auld enemy" the English in "Queen Anne's time". It is much more likely that this and the remains of other burnt woods frequently found in the Highlands are evidences of the primitive methods by which the earlier inhabitants cleared the land for their own purposes.

List of Species of Forest Trees noted at 1100 feet and upwards.

1. Lime	<i>Tilia europæa</i>	1100-1200 feet.
2. Great Maple	<i>Acer Pseudoplatanus</i>	" " "
3. Laburnum	<i>Cytisus Laburnum.</i>	" " "
4. Wild Cherry	<i>Prunus Avium</i>	" " "
5. Rowan	<i>Pyrus Aucuparia</i>	1100 feet.
6. Hawthorn	<i>Cratægus Oxyacantha</i>	" "
7. Ash	<i>Fraxinus excelsior</i>	1100-1200 feet.
8. Elm	<i>Ulmus montana</i>	" " "
9. Birch	<i>Betula alba</i>	up to 1700 "
10. Alder	<i>Alnus glutinosa</i>	1100-1200 "
11. Hazel	<i>Corylus Avellana</i>	" " "
12. Horse-Chestnut	<i>Æsculus Hippocastanum</i>	1100 feet.
13. Beech	<i>Fagus sylvatica</i>	" "
14 & 15. Willows	<i>Salix</i> (2 species at least)	1100-1200 "
16. Aspen	<i>Populus tremula</i>	up to 1500 "
17. Scots Pine	<i>Pinus sylvestris</i>	" " "
18. Larch	<i>Larix europæa</i>	over " "