



III —Trees Struck by Lightning

James M'Nab

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Geological Survey, found the "Stringy-bark" (*Eucalyptus obliqua*, L'Héritier) growing to a height of 300 feet, with a diameter of 15 feet towards the base.

During a recent survey of the coal bearing rocks of the Cape Otway District, Mr Krause, Mining-Surveyor, took the following measurements of a "Messmate" *Eucalyptus*:—

At the base,	.	.	.	53 feet in circumference.
At 12 feet from the ground,				32 „ do.
At 20 „	do.	do.		17 „ do.
At 110 „	do.	do.		11 „ 6 in. do.

Mr Krause also found that on the same line of coast an acre of ground carried 90 trees of the Ironbark (*Eucalyptus leucoxylon*, F. Mueller), the trees varying from 6 inches to 2 feet in diameter near the base.

One of the "White-gums" (*Eucalyptus Stuartiana*, F. Mueller), is nearly equal in height to the largest examples of the "Stringy-bark" (*Eucalyptus obliqua*), which average from 300 to 400 feet high; whilst the "Blue-gum" (*Eucalyptus globulus*, Labillardière), when growing in gullies and moist localities, attains a similar gigantic size.

In Western Australia, Baron von Mueller tells us that in a glen of the Warren River, the "Karri-Eucalypt" (*Eucalyptus collosa*, F. Mueller) is about 400 feet high, and that into its hollow trunk three horsemen, with an additional pack-horse, could enter and turn without dismounting.

III.—*Trees Struck by Lightning.* By JAMES M'NAB.

For many years past, it has been customary to notice, at the Botanical Society's meetings, trees injured by lightning. A thunderstorm of rather a local character took place on the 9th of October 1874, on the road leading from Loanhead to Lasswade. The electric fluid struck a large healthy ash tree, which is now quite dead. It was one of a row of trees overhanging a line of telegraph posts and wires on the south-east side of the road. Five consecutive telegraph posts, standing 150 feet apart, were thrown down, and more or less split up. I recently inspected all the trees in the

at a where the posts were injured, and found that, without exception, they were either elm or ash. One ash, I have said, has been totally killed. It stood near the centre of the line where the telegraph posts were destroyed. The wires, however, do not seem to have been in contact with it, or indeed any of the trees. Another ash is also disfigured on one side, the bark being stripped off about two inches in breadth, beginning about six feet below the level of the wires, and extending to the bottom of the tree. Several of the elms have had narrow portions of bark, from two to three feet in length, and about one inch broad, displaced from their stems; and this has always occurred on the side next the wires. One elm, where the wire was within twelve inches of the stem, has a strip of bark, two feet long and about one inch broad, taken off immediately below the level of the wire. This denuded space is straight for several feet, and it is observed to turn round and reach the ground on the east side of the tree. Notwithstanding that the wires appeared to be at a greater distance from the ash than from the elm trees, the ash trees suffered most. Probably the ash tree killed was first struck, and the fluid afterwards communicated with the telegraph wires.

Sir Robert Christison has supplied me with the following particulars regarding the lightning-struck ash near the Dean Road toll-bar:—

“The tree was struck in July of last year, and still continues untouched. It is eight feet six inches in girth at five feet from the ground, and appears sixty feet high. It was a fine thriving tree previously. It has put out this year a great quantity of foliage, but much less than that of an ash close to the toll-bar, the nearest on the line of which the damaged tree is the fourth.

“The only damage I apprehend arising from the lightning, at least visible as yet, is stripping off the bark. Various long rents, indeed, now appear in the stripped wood, but not the slightest fissure was to be seen two days after the injury was inflicted. Whether the rents now seen arise from inward electrical damage, undeveloped at

first, I do not pretend to decide; but probably drying and shrivelling are sufficient to account for them.

"The bark has been stripped from beneath the first large branches, about eighteen feet from the ground, down at the west part, to very near the bottom of the trunk. I imagine that two-thirds of the whole eighteen feet of trunk has been stripped of the whole thickness of the bark, so that the outer surface of the wood is perfectly and smoothly bare. *The upper five feet of trunk is entirely stripped round the whole circumference*, though in a somewhat oblique direction. This is interesting in relation to the great amount of foliage shown this year."

IV. *Open-Air Vegetation at the Royal Botanic Garden, Edinburgh.* By JAMES M'NAB, Curator.

January 1875.—The past winter has been remarkable for its severity, particularly during December, when the thermometer was observed on twenty-seven mornings at or below the freezing point. The lowest markings were on the mornings of the 15th, 23d, 25th, 28th, 29th, and 30th, indicating respectively 17° , 18° , 17° , 13° , 5° , and 15° ; whilst the highest night temperatures were on the 1st, 4th, 5th, and 6th, indicating 33° , 33° , 40° , and 38° . During last month (January 1875) the thermometer was fourteen times at or below the freezing point. During the past month the lowest markings were on the mornings of the 1st, 8th, 23d, 25th, 26th, and 30th, indicating 13° , 26° , 28° , 29° , 25° , and 26° ; while the highest morning markings were on the 10th, 11th, 14th, 16th, 19th, and 28th, indicating 38° , 39° , 39° , 42° , 42° , and 44° . The following plants have bloomed in the open air during the month:—

Jan. 15. <i>Corylus Avellana</i> .	Jan. 21. <i>Leucocymum vernum</i> .
18. <i>Galanthus nivalis</i> .	" <i>Veronica alpestris</i> .
" <i>Tussilago fragrans</i> .	23. <i>Crocus susianus</i> .
20. <i>Primula denticulata</i> .	" <i>Scilla præcox</i> .
" <i>Erica herbacea alba</i>	24. <i>Crocus Imperati</i> .
vera.	25. <i>Hepatica angulosa</i> .
21. <i>Hepatica triloba</i> .	30. <i>Eranthis hyemalis</i> .

On the 1st day of January this year the only open-air flowers were *Jasminum nudiflorum*, four species of *Helle-*