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On: 04 March 2015, At: 07:14

Publisher: Taylor & Francis

Informa Ltd Registered in England and Wales Registered Number:
1072954 Registered office: Mortimer House, 37-41 Mortimer Street,
London W1T 3JH, UK

Transactions of the Botanical Society of Edinburgh

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/tped18>

Report on Temperature and Vegetation in the Garden of the Royal Institution of Glasgow, during 1884-1885

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Published online: 01 Dec 2010.

To cite this article: R. Bullen Curator (1886) Report on Temperature and Vegetation in the Garden of the Royal Institution of Glasgow, during 1884-1885, Transactions of the Botanical Society of Edinburgh, 16:1-4, 232-235, DOI:

[10.1080/03746608609468266](https://doi.org/10.1080/03746608609468266)

To link to this article: <http://dx.doi.org/10.1080/03746608609468266>

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plants came into flower during the month, making a total of 818 for the season, as compared with 798 at corresponding date last year. The following were amongst the most conspicuous which flowered, viz.:—

Aciphylla squarrosa (♂ ♀).	Gaultheria carnea.
Ajuga genevensis.	Haplocarpha Leichtlini.
Androsace rotundifolia macro- calyx.	Hedysarum obscurum.
Allium cœruleum.	Houstonia cœrulea.
Anagallis tenella.	Hypoxis erecta.
Arenaria montana.	Melissa grandiflora.
Aster alpinus.	Mulgedium alpinum.
albus.	Lewisia rediviva.
Astragalus vaginatus.	Linum alpinum.
Calochortus cœruleus.	Libertia grandiflora.
Calceolaria Kellyana.	Lychnis pyrenaica.
Celmisia spectabilis.	viscaria splendens fl.-pl.
Chrysobactron Hookeri.	Ononis rotundifolia.
Clintonia Andrewsiana.	Onosma taurica.
Coronilla iberica.	Oxytropis Hallerii.
Craspedia Richea.	Pentstemon Lewisii.
Dianthus alpinus.	Potentilla eriocarpa.
eximius (hybrid).	Pratia angulata.
Fischeri.	Rosa pyrenaica.
neglectus.	Sedum oreganum.
superbus.	Trifolium alpinum.
Diphylleia cymosa.	Vaccinium Mortinia.
Echium rubrum.	Vella spinosa.
Erigeron aurantiacum.	Veronica Haastii.
purpureum.	carnosula.
Erinus hispanicus albus.	Chathamica.
Eriophorum alpinum.	Hulkeana.
Gaillardia maxima.	Vancouveria hexandra.
Gentiana lutea.	Verbascum olympicum.
Geranium cinereum.	Wahlenbergia saxicola.
	&c., &c.

*Report on Temperature and Vegetation in the Garden of the
Royal Institution of Glasgow, during 1884–1885. By
R. BULLEN, Curator.*

December 1884.—Frost was registered on eighteen mornings during the month, the lowest reading being 21°, or 11° of frost, during the nights of the 21st and 22nd respectively. Total for the eighteen readings, 93°. The mean temperature was generally high during the day,

the lowest readings being 32° on the 1st, 17th, and 23rd, and 30° on the 22nd and 28th. The highest readings were 48° on the 13th, and 50° on the 14th. Dull, showery, and often stormy weather prevailed during the first half of the month, accompanied by an occasional heavy downfall of rain and hail. Since the 19th the weather has been generally fine; vegetation is in a dormant state, and in striking contrast from the same month last year, when so many hardy plants were blooming prematurely.

January 1885.—Frost was registered on nineteen mornings during the month, the lowest reading being 20° , or 12° of frost, during the night of the 21st. Total of the nineteen readings, 95° . Although the total record of frost is nearly the same as last month, the low temperature at night was continuous from the 11th to the 25th, and being assisted by the cold dry weather which prevailed at the time made its effects felt to a much greater degree. The highest day temperature was 47° on the 5th, the lowest 31° on the 23rd, but on several other days the thermometer was at, or very little above, freezing-point. The frequent frosts have had the effect of keeping vegetation in check. The rainfall has been light, and weather all that could be desired for the season.

February.—The thermometer during February has been at or below the freezing-point fifteen times during the month, the lowest reading being 22° during the night of the 18th. Total frost, 73° . The highest day temperature was 53° on the 27th; the lowest 34° , on the 20th. Sharp frosty nights were continuous from the 13th to the 21st, both inclusive, after which mild weather prevailed until the night of the 28th, when 24° , or 8° of frost, were registered. The frosty nights were succeeded by fine days, but the snow which fell during the night of the 17th gave the country a wintry look. A severe gale of wind was experienced during the night of the 21st, but no serious damage resulted. Although showers were frequent during the early and latter part of the month, the rainfall was not heavy. Vegetation is still dormant, the only plants in bloom in the open ground being *Daphne Mezereum* and *D. m. album*, *Crocus vernus* and *biflorus*, and *Petasites vulgaris* and *lobata*.

March.—The thermometer has been at or below the freezing-point twenty-one times during the month; the remaining night readings also being low. The lowest was 22° during the night of the 22nd. The mean day temperature has also been low for the month, with cold and variable winds. The weather has been mostly dry, and favourable for working heavy soils; but the frequent frosts have prevented seed sowing to any great extent. Most trees and shrubs have a backward look. The leaf-buds of Lilacs are ready to burst, but the only shrub in actual leaf and bloom is the common *Ribes sanguineum*. Some forms of *Salix* and *Ulmus* are in bloom. Several herbaceous plants, which may frequently be seen in bloom here in February, such as *Pulmonaria officinalis* and *azurea*, *Helleborus viridis*, and some of the early Scillas, are not yet developed. Owing partly to the absence of severe frosts, and partly to the drier weather that has prevailed during the dormant season, the latter class of plants have suffered much less than is usual here.

April.—The thermometer has been at or below the freezing-point nine times, the lowest reading being 26° during the night of the 8th. No frost has been registered since the morning of the 18th. During the latter part of the month the temperature has been higher than usual, weather often sunless, and showers frequent, but generally light; this has had a marked effect on vegetation, the growth developed in a few days being wonderful. Like the corresponding month last year, the rainfall has been light, and favourable for seed sowing, which important operation had in many instances to be deferred owing to the frequent slight frosts.

May.—During the first half of the month 23° of frost were registered, the lowest readings being 27° during the nights of the 4th and 6th respectively. The day temperatures during the early part of the month was also correspondingly low, cold east and north-east winds prevailed, and with an occasional shower of hail and sleet, was anything but May-like. The weather during the latter half has also been variable, and generally cold, the highest day temperature recorded being 62° (in the shade), on the

28th. Owing to the untoward weather, vegetation has been considerably retarded; the leaves of some hardy trees, such as the Horse Chestnut and Bird Cherry, have a blighted look. Late-leaving trees, as well as hardy herbaceous plants, are slightly in advance of last year. Late-sown annuals have germinated freely. Deciduous trees and shrubs of all kinds are blooming freely, and there is every prospect of a good fruit season.

June.—The temperature has been low, 36 having been registered several times in the latter as well as in the early part of the month, and frequently the temperature did not exceed 40°. The lowest day reading was 58°, the highest 78°. The weather has been very dry; bright sunny days have been general; the few slight showers which have fallen have been of little benefit to vegetation, and most garden and farm crops are suffering. Spring-sown seed, particularly those of annuals, promised well, but being kept alive by artificial watering have made little progress; indeed, all half-hardy plants have a stunted look. Hardy trees and shrubs of all kinds have been prolific of bloom, but owing to the occasional cold nights and dry days the foliage is not so healthy as usual. Hardy herbaceous plants are mostly early in bloom.

Notes on the Vegetation and Vegetable Products of Blantyre and Zomba Districts of Africa. By JOHN BUCHANAN, Associate.*

(Read May 14, 1885.)

From Quilimane up the Zambesi	Flowering Plants.
and Shiré to Katungas near to	Economic Plants.
the Murchison Rapids.	Soil of the District.
Blantyre and Zomba.	Native Crops.
Trees producing Fruit.	

Quilimane and around it.—The town of Quilimane is built close to the River Kwakwa or Quilimane, on its left bank, and only a few feet above high water mark; so at full tide the banks of the ditches which traverse the streets, receive a fresh watering of mud, as their odoriferous contents are thus periodically dammed back. The great marsh

* See also *The Shiré Highlands (East Central Africa) as Colony and Mission*. By John Buchanan, planter at Zomba. Edinburgh and London: William Blackwood & Sons.