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III. Notice of a Botanical Excursion to Kielder and Deadwater Fell, Northumberland, on 4th July 1863

Professor Balfour

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a rugose appearance, not unlike the convolutions of the brain (fig. 8). On examining this cellular coat, we find that the scarlet colour is produced by globules, apparently of an oily nature, filling the interior of the external cells, and that the cells below are deficient in colour, being clear and transparent (fig. 9). This scarlet succulent mass, increasing very rapidly in the axis, separates the achenes from each other, so that they finally spread out in a cruciate manner, being united only at their bases (fig. 6). The cells of the succulent part of the pericarp are beautiful objects under the microscope, and they are represented in fig. 10. The rapid development of this cellular coat seems almost akin to that in some Fungi, *Bovista* for example, which is one of the marvels of vegetative power. The scarlet colour stains paper beyond remedy; nothing but scratching removes it. The oil-globule-bearing cells look like glands. The minute globules of oil (fig. 11), when pressed out of the cells in water, exhibit molecular movements. When the cells are put into water, the oil globules run together, so as to form a homogeneous mass. The beautiful scarlet covering of the achenes renders the plant scarcely less showy in fruit than it was in flower. (Specimens of the pistil and fruit in various states were exhibited.)

EXPLANATION OF PLATE XVI.

- Fig. 1. Seed of *Clerodendron Thomsonæ* germinating, showing epigeal cotyledons and radicle.
- Fig. 2. Flower with white-coloured calyx, scarlet corolla and didynamous stamens.
- Fig. 3. Large calyx surrounding the young fruit, separated into four carpels. The style has fallen off. The calyx is at first white, and finally assumes a pinkish hue.
- Fig. 4. Young pistil, showing terminal style with the four united carpels.
- Fig. 5. Four achenes, with black shining outer coat, and succulent inner covering of a scarlet colour.
- Fig. 6. Four achenes still more separated, apparently by the rapid growth of the scarlet cellular mass at the commissure, which now becomes the upper surface. The achenes arranged in a cruciate manner.
- Fig. 7. Young ovary cut across, showing four ovules and scarlet coat in its early development.
- Fig. 8. One of the ripe achenes cut transversely, showing the dark episperm on the outside, and the succulent scarlet cellular mass on the inside.
- Fig. 9. Coloured cells of the commissure with oil globules, surmounting other cells which are colourless.
- Fig. 10. Cells containing scarlet or orange oil-like globules.
- Fig. 11. Oil-like globules shown separately.

III. *Notice of a Botanical Excursion to Kielder and Deadwater Fell, Northumberland, on 4th July 1863.* By PROFESSOR BALFOUR.

Professor Balfour gave an account of a botanical trip to Kielder on Saturday, 4th July, with eighty pupils. The party went by the North British Railway to Riccarton, and thence by the Border Counties Railway to Kielder. They visited the woods near Kielder Castle, and proceeded by the Kielder Water to the mountains in the neighbourhood, ascending Deadwater Fell, which rises to the height of 1800 or 2000 feet. The numbers of species gathered were as follows:—

Flowering plants,	176
Ferns, Lycopods and Equisetums,	18
Mosses,	66
Jungermannia,	10
Lichens,	38
	<hr/>
	308

Among the plants collected were the following :—

Carduus heterophyllus.	Salix herbacea.
Aquilegia vulgaris.	Vaccinium Vitis-idaea.
Spiraea salicifolia.	Botrychium Lunaria.
Trollius europæus.	Scolopendrium vulgare.
Rubus Chamæmorus.	Hymenophyllum Wilsoni.
Listera cordata.	Cryptogramme crispa.
Habenaria viridis.	Polypodium Phegopteris.
Melampyrum pratense var. mon-	Lastrea Oreopteris.
tanum.	L. spinulosa.
Veronica scutellata.	L. dilatata var. alpina.
Solidago Virgaurea.	Asplenium Ruta-muraria.
Corydalis claviculata.	Exidia auricula.
Sedum villosum.	

Among the Musci, Hepaticæ, and Lichenes, which were determined by Mr John Sadler, were the following :—

Andræa Rothii.	Beomyces roseum.
Sphagnum cuspidatum var. plu-	Lecanora tartarea.
mosum.	Sticta pulmonaria.
Gymnostomum curvirostrum.	S. sylvatica.
Campylopus longipilus.	S. scrobiculata.
Cinclidotus fontinelloides.	Peltidea scutata.
Racomitrium aciculare.	Cetraria glauca.
Pogonatum alpinum.	Alectoria jubata.
Bryum nutans.	Sphærophoron compressum.
Splachnum sphæricum.	Stereocaulon paschale.
Bartramia fontana.	Cladonia uncialis.
Fegatella conica.	Scyphophorus squamosus.
Jungermannia sphagni.	S. cocciferus.

IV. Notice of Mosses found in Fifeshire. By Mr CHARLES HOWIE.
Communicated by Mr JOHN SADLER.

The author remarked that he had gathered 248 species and varieties of mosses in Fifeshire, some of them being very much restricted in their distribution.

Bankhead Moss, situated a few miles south of Ceres, is one of the few remaining portions of peat formation from which the country people cut peat for domestic purposes. It contains pools filled with water. In the larger and deeper pools we have *Sphagnum cuspidatum* var. *plumosum* in fruit, floating freely, bearing its fruit generally on lateral pedicels; *Sphagnum contortum* var. *subsecundum*, bearing fruit more sparingly. *Sphagnum cuspidatum* var. *recurvum* is generally associated in more dense masses in water of less depth. *Hypnum molluscum* is found by the sides of some of the deep ditches in fruit, and *Sphagnum cymbifolium* occurs with various tints of colour. *Sphagnum acutifolium*, *S. rubellum*, and *Hypnum fluitans* occur in fine fruit, in a pool of deep water, asso-