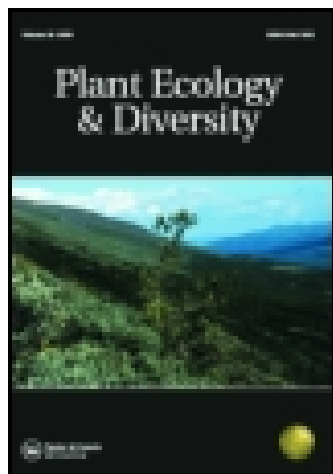


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### III. Account of a Botanical Excursion to Forteviot and Invermay, Perthshire, on 7th July

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larly on the axis, the one directly over the other. I have confirmed these observations on specimens of the fruits found in Britain, belonging to Dr Hooker, and made some important additional observations on the structure of the strobilus and the contents of the sporangia, which I hope soon to publish.

It is not easy to find anything analogous to *Calamites* among recent plants. Nevertheless its structure does not differ so essentially from the vascular cryptogams as to cause any uncertainty as to its position. The histological character of its wood, the absence of medullary rays, and the nature of its fruit, clearly establish that it was a true cryptogam, and while it differed in the arrangement of the parts of its stem in its foliar appendages, and in its organs of fructification from *Lepidodendron*, yet it is evident these were both near allies, and both more highly organised than any of their living representatives.

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EXPLANATION OF PLATES VIII. AND IX.

*Plate VIII.*

Restoration of *Lepidodendron* and *Calamites*; and section of stem of *Calamites*, showing the position of the fluting. (The axis is drawn too slender in proportion to the thickness of the stem.)

*Plate IX.*

Figs. 1-5. *Lepidodendron*.—1. Transverse section of the half diameter.—2. Longitudinal section of ditto.—3. Strobilus.—4. Scale and Sporangium. The vascular bundle should be produced to the apex of the scales.—5. Spores.

Fig. 6. Scale of *Flemingites*.

Figs. 7-12. *Calamites* (after Ludwig).—7. Strobilus.—8. Part of a whorl of strobili.—9. Longitudinal section of two cells of a strobilus.—10. Transverse section of one cell.—11. Apex of a spine with its four sporangia.—12. Scales from strobilus.

III. *Account of a Botanical Excursion to Forteviot and Invermay, Perthshire, on 7th July.* By Mr JOHN SADLER.

Mr Sadler gave an account of one of Professor Balfour's class excursions to Invermay, on Saturday 7th July, and enumerated the more interesting plants collected. The party, numbering about forty botanical students, and

accompanied by Professors Balfour and Liston, Dr Dickson, Dr Traquair, and the author, left Edinburgh by the morning train, and on reaching Forteviot, about nine o'clock, partook of breakfast in Mr Wood's Station Hotel there. Hence they proceeded by the banks of the May to the "Birks of Invermay," where they were met by Mr Brown Douglas, Dr Lauder Lindsay, and Dr Laing, of Bridge of Earn. They next visited that remarkable natural curiosity, the "Humble Bumble," so called from the peculiar noise made by the water, as it rushes through the narrow passage it has cut out for itself in the conglomerate sandstone rock; and Muckarsey Linn, a pretty little waterfall of about 30 feet. They returned by the old church of Muckarsey, which is now used as a burying-ground, with its ivy-clad walls and shelter of aged yew trees, to Invermay House, where they were joined by Sheriff Jameson, from Aberdeen, and where they were most hospitably entertained to lunch by Mr and Mrs Brown Douglas. The party returned to Edinburgh by train, passing Forteviot about half-past four P.M., all fully satisfied with their trip, the day being extremely fine. The following were amongst the plants collected:—

Cardamine amara.  
Sinapis alba.  
Cerastium arvense.  
Hypericum humifusum.  
                  maculatum.  
Malva moschata.  
Geranium sylvaticum.  
Astragalus Hypoglottis.  
Trifolium medium.  
                  striatum.  
Vicia sylvatica.  
Geum intermedium.  
Rubus saxatilis.  
Galium Mollugo.  
Campanula latifolia.

Melampyrum pratense.  
Mimulus luteus.  
Veronica montana.  
Stachys Betonica.  
Polygonum Bistorta.  
Habenaria chlorantha.  
Listera ovata.  
Neottia Nidus-avis.  
Lilium Martagon.  
Holeus mollis.  
Polystichum angulare.  
Botrychium Lunaria.  
Cystopteris fragilis (*large var.*)  
Equisetum umbrosum.

Professor Balfour noticed some new localities for several rare plants in the neighbourhood of Edinburgh. Among others were the following:—*Scutellaria galericulata*, Dundas Hill; *Ceterach officinarum*, Renton; *Vicia Orobus*, Grant's House; *Chelidonium majus*, Culross; *Trifolium hybridum*, near Charleston; *Helosciadium inundatum*, near