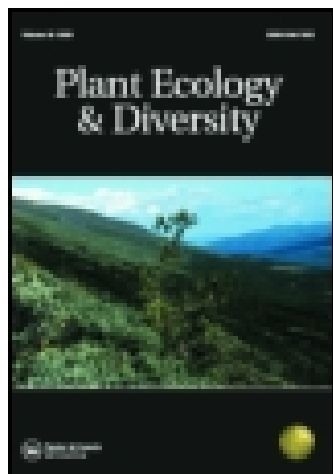


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Preliminary Note On A Peculiarity In The Pith Of A Species Of Cucurbit

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and cracks of various depths, in which *Scolopendrium vulgare* grew in great quantity, while in the small débris *Ceterach officinarum* and *Asplenium Ruta-muraria* were everywhere abundant.

The following plants were found:—*Apium nodiflorum* var. *repens*, *Aquilegia vulgaris*, *Arum maculatum*, *Bidens cernua*, *Carex extensa*, *Carlina vulgaris*, *Chlora perfoliata*, *Erythraea Centaurium*, *Gentiana Amarella*, *Gymnadenia conopsea*, *Habenaria bifolia*, *Hippuris vulgaris*, *Hypericum Androseumum*, *Inula crithmoides*, *Oenanthe Phellandrium*, *Oenanthe fistulosa*, *Ophrys apifera*, *Rosa spinosissima*, *Veronica polita*.

On the roadside, on the way back to Galway, *Ceterach officinarum* was found in greater luxuriance than on any other day. A plant of *Asplenium Ruta-muraria* with branched fronds was found by the president, and, next to the crested *Lomaria* found near Clifden, was the best varietal form of fern found during the excursion. The members left by the morning train on Wednesday the 15th August, and on arriving at Dublin went straight to the Botanical Gardens, Glasnevin, where they were kindly shown round by Mr. M'Ara, in the absence of the curator, Mr. Moore. The party were struck with the excellent order in which the Gardens in general were kept, and especially with the fine condition of the plants in the houses, the collections of water lilies in flower in the open, and of British ferns, and a fine plant of *Romneya Coulteri* in full flower over 6 feet high. The party left Dublin by the evening steamer, and arrived in Edinburgh on the forenoon of Thursday the 16th, when they separated.

Note.—2nd October 1907.—Since the above paper was read it is interesting to record that a plant gathered by a member of the party on the 10th August, on Roundstone Moor, and not at the time identified, has since proved, on flowering under cultivation, to be the true *Erica Stuarti*.

PRELIMINARY NOTE ON A PECULIARITY IN THE PITH OF A SPECIES OF CUCURBIT. By J. W. BEWS, M.A., B.Sc.

The stem of this species of cucurbit has the usual central cavity extending the whole length of the internode. The vascular bundles are of the bicollateral type, with large vasa

in the centre, and phloem on the outside and also on the inside.

In one part of the stem certain cells form a projection into the central cavity. This projection appears to have originated as a single cell, and afterwards in the centre of it there is meristematic tissue. As this structure is followed along the stem, it increases in size till it gradually fills up the whole of the central cavity. But before it has altogether done so, in the centre of the projecting portion—that is to say, in the centre of the meristematic tissue—another cavity arises which differs entirely in appearance from the original central hollow. It is bounded by a very regular layer of cells, which have thicker walls than the other cells of the stem, and have abundant cell content. Two or three rows of cells next to this layer also differ from the others.

From the surrounding layer of cells there project outwards into the cavity hairs of two kinds, pluricellular and glandular. The former are the more numerous, and are of the kind described by De Bary as conical multicellular hairs.¹ The foot cell differs slightly in appearance from the others. There may be as many as seven or eight cells in a hair. All the cells are full of protoplasm.

The glandular hairs are not nearly so numerous. They are similar to those which De Bary calls capitate glandular hairs,¹ *i.e.* the free end is swollen to form a round head, the transverse section of which exceeds that of the stalk. The stalk is short, 1–3 celled.

The outside of the stem is also covered with hairs, both pluricellular and glandular, and these are absolutely identical in appearance with the hairs which fill the cavity.

The cells surrounding the cavity are exactly like the cells of the epidermis.

These facts point to the conclusion that we have here an internal epidermal structure. It is not exactly the case, however, that the cells surrounding the central hollow, in response to an air environment, have started to produce an epidermis with hairs. Such would doubtless be a likely and natural explanation if it were not for the way in which the hair cavity arises.

¹ See De Bary, "Comparative Anatomy of Phanerogams and Ferns," p. 59.

As far as I could see, there was no appearance of any wound on the surface of the stem. There was no disarrangement of the vascular bundles, nor any other irregularity in the appearance of the stem or distribution of the tissues.

The material which I examined was among that which had been supplied from the Edinburgh Royal Botanic Garden for the use of students in the winter class of Botany. It consisted of short pieces of the stems of several cucurbits. I was able to find three or four short pieces, probably cut from the same plant, which contained this hair cavity, and in one I was able to trace its origin as above described.

It extended for several inches along the stem, but I was unable to follow it to an end. It was difficult to say to what species of cucurbit the little piece of stem belonged, but after examining the large number of cucurbits which are grown in the Royal Botanic Garden I have come to the conclusion that it was very probably *Benincasa cerifera*.

Dr. BORTHWICK exhibited a series of lantern slides illustrating the natural regeneration of coniferous woods under shelter trees as practised on dry, chalky soil in Bavaria.

MR. H. F. TAGG, F.L.S., exhibited a specimen of *Hyoscyamus niger*, Linn., var. *pallidus*, Waldst. et Kit. The plant was sent to the Royal Botanic Garden, Edinburgh, in September 1906, by Mr. Lumley, gardener at Culross Abbey, and was identified by Mr. J. F. Jeffrey as the *Hyoscyamus pallidus* of Waldstein and Kitaibel. Mr. Lumley, in a communication accompanying the specimen, stated that the plant was found growing upon an embankment, the soil forming which was taken from below the Abbey during excavations carried out in 1905, and that the appearance of a plant, not hitherto observed in the district, in such a situation had given rise to much conjecture regarding its origin.

Another specimen of the same variety, found by Mr. Jeffrey among the specimens in the herbarium of the Royal Botanic Garden, was also exhibited. The label on the plant ran as follows:—C. E. Parker, 1874, Teignmouth, Devon. Mr. Tagg pointed out that the published records of the occurrence of the variety in Britain were very few, and

quoted in this connection the following localities and authorities as the only records he had been able to find: Esher, Surrey (H. C. Watson in "Cybele Britannica"); near Portobello, Edinburgh (Boswell in Sowerby's "English Botany"); Fincham, Norfolk (Smith in "English Flora").

MR. H. F. TAGG, F.L.S., exhibited a spike of a Foxglove, the flowers of which showed adesmy of the corolla and other teratological features.

In all the flowers on the spike was observed a separation of the parts of the normally gamopetalous corolla into a varying number of petals which were free from one another, except at the extreme base, where they were united with the stamens to form a short collar surrounding the lower portion of the ovary. In many cases the petaline structures were narrow and strap-shaped, in others they took the form of long tapering threads, in others again they were reduced to short tooth-like prolongations not exceeding the length of the ovary.

The stamens, normally adnate to the corolla for a considerable part of their length, were in this specimen free, except at their base, where their filaments contributed to the formation of the short petaline collar, already described.

The number of stamens varied. In some flowers four only were present, in others as many as eight. The filament portion of many of the additional stamens was broad and petaloid, suggesting a petal origin.

The specimen was found among a group of Foxgloves growing in a garden at Haddington, and was sent to the Royal Botanic Garden by Mr. A. Burnett, Letham Bank, Haddington.

MR. H. F. TAGG, F.L.S., exhibited a flowering spike of *Habenaria bifolia* R. Br., var. *chlorantha*, Bab., the flowers on which were without spurs, while many possessed additional petaloid structures within the perianth proper.

These additional petals, in the opinion of the exhibitor, were derived from some of the staminodal structures, which in the normal flower of *Habenaria* are combined with other flower-parts to form the column. Reference was made to petalody of stamens, a teratological feature common in many families with which the petalody of the staminodes of the flowers exhibited was compared.

The specimen was one donated to the Museum of the Royal Botanic Garden, Edinburgh, by Mr. Arthur S. Reid, Trinity College, Glenalmond, Perth, who found the specimen exhibited and subsequently two others of a similar character on a moor in the Glenalmond district.

Mr. R. L. Harrow showed the following plants in flower from the Royal Botanic Garden:—*Anoiganthus breviflorus*, *Ceropegia Thwaitesii*, *Clematis grewiae* flora, *Crassula lactea*, *Cyphomandra betacea*, *Hymenocallis tubiflora*, *Illicium anisatum*, *Ipomæa Horsfalliae* var. *Rheedii*, *Calliandra Harrisii*, *Merendera sobolifera*, *Sedum Goldmanni*.

Mr. L. STEWART exhibited plants of *Euphorbia viperina*, *E. neriifolia* var. *variegata*, *E. xylophyllodes*, *E. aphylla*, and *E. colletioides*.

W. W. SMITH, M.A., exhibited a proliferous inflorescence of *Daucus Carota*. The umbellate inflorescence was repeated several times. The specimen was found in St. Mary's, Isles of Scilly.