

although apparently so well adapted for being fertilized by insects; yet in this species, where self-fertilization cannot be rare, the flowers produce an abundance of seed. Were the anther erect, as in the bud, or still more supine, as in *D. cornuta*, self-fertilization would be impossible, and other contrivances for fertilization would be necessary. This is the case in *D. cornuta*, where the pollinium undergoes an upward movement after removal.

I mention these circumstances with the view of seeing them worked out in other species.

At present it seems strange that out of three very conspicuous species the most fertile should be one frequently liable to self-impregnation.

Mr. Trimen, in the paper referred to, has aptly observed that *Disa grandiflora* seems to be a correlative case to that of *Ophrys muscifera*: it is curious that we should find the parallel carried out in *Disa macrantha*, an instance almost corresponding to *Ophrys apifera*, in which self-fertilization would appear to be the rule instead of the exception, and whose fertility is considerably greater than that of *O. muscifera*.

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Notes on some Species of *Habenaria* found in South Africa. Abstract of a paper by J. P. MANSEL WEALE, B.A. Oxon. (Communicated by Charles DARWIN, Esq., F.R. & L.SS.)

[Read November 3, 1870.]

IN a species of *Habenaria* found in December 1869 and January 1870 on my farm "Brooklyn," nine miles from King William's Town, the contraction of the caudicle takes place principally at the end attached to the viscid disk, which is seen to be very much thicker than the portion attached to the pollinium when removed from the rostellum. So great is the tension when *in situ* that it is surprising the pollinia are not often dragged from the anther, or the disk from the rostellum.

The fertilization of the plant is simple in the extreme, as any insect settling on the bridge must almost certainly deposit one or both of the pollen-masses on the stigmata.

The plant does not appear to be visited by diurnal insects, but must be very attractive to nocturnal ones, as, although each spike bears many flowers, and the plant itself grows in considerable

abundance on the open grassy flats, almost every flower that I have examined has been fertilized.

In another species of *Habenaria* found on the Kagaberg, in February 1869, and on my farm "Brooklyn" in February and March 1869, the whole caudicle, when *in situ*, is relatively much shorter than in any of the preceding species, and does not contract on withdrawal, but is nearly rigid. The viscid disk is seen to be oval on its outside, with a slight extension laterally.

The caudicle at its juncture with the disk is somewhat triangular, the outer angle joining the projecting portion of the disk. This triangular appearance is produced by its being folded over on itself, something like a T-hinge; at the same time, as if this fold had not produced a sufficient shortening of the caudicle, a thin tail-like portion projects beyond.

I was, at the time when I first examined it, inclined to think that the thickened fold was the homologue of the drum-like pedicel of *H. chlorantha* mentioned by Mr. Darwin; but the structure under the microscope appeared to indicate that it is really a thickened portion of the caudicle corresponding to the discal extremities of the caudicle in the two former species.

I watched very carefully to see whether any movement took place on removal, and was at first inclined to think so: but on more careful examination I found that I was mistaken; in fact the incurved portion of the pollen-masses is quite sufficient to place them in a proper position for the fertilization of the flower. I found considerable difficulty in removing the viscid disk, although its prominent position seemed to offer as great facilities as in the other species; and the constant fertilization of the flowers throughout a whole spike leads me to suspect that my pin had too smooth a surface for the viscid disk to adhere to.

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Observations on the Mode in which certain Species of Asclepiadeæ are fertilized. Abstract of a paper by J. P. MANSEL WEALE, B.A. Oxon. (Communicated by CHARLES DARWIN, Esq., F.R. & L.SS.)

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ON placing the blossoms of *Gomphocarpus physocarpus* in water, I noticed that numbers of flies, attracted by the sweet nectar con-