Note on South-African Orchids. By W. MANSELL WEALE.
(Communicated by Sir J. LUBBOCK, Bart., M.P., and abridged.)

[Read December 19, 1878.]

ACCORDING to the observations of Mr. Weale made on living plants in South Africa, he finds that structurally *Mystacidium* and *Polystachya* do not agree in those generic characters pointed out as characteristic of them by botanists. Thus *Mystacidium* in the fresh state and with the parts *in situ* shows that the so-called two-legged caudicles are essentially free and not adherent. By slight manipulation with a horse-hair or fine pin, the two pollinia are seen twisted round and widely separated—a position unattainable had the caudicles been united as represented in Harvey's 'Thesaurus Capensis,' and moreover under the circumstances the pollen never would have fertilized the plant. In the case of *Polystachya*, of the four pollen masses said to be grouped in pairs, the fresh plant shows that each waxy pollen mass is partially cleft, *not* divided, and is attached by a very short caudicle to an ovate viscid disk common to the two pollinia.

On the Absorption of Rain and Dew by the Green Parts of Plants*.

By the Rev. GEORGE HENSLOW, M.A., F.L.S., F.G.S.

[Read November 7, 1878.]

1. *Introduction.*

THE subject of this paper has been a matter of controversy for 150 years; but it is hoped that at last the question whether moisture of any kind is absorbed or not by the aerial parts of plants will be set at rest for ever, and answered in the affirmative.

The many and varied experiments I have made, extending over some years, have convinced me that such is the case; and they corroborate entirely the conclusions of M. Boussingault and other modern physiologists. M. Boussingault's researches have proceeded simultaneously with my own, but quite unknown to me, until they appeared in the 'Annales de Chimie et de Physique'

* This paper as originally written embodied an historical *résumé* of experiments and views on the subject, extending over the last 150 years. I had also added a good many more of my own experiments than are now recorded in the text. As, however, the conclusions had been to some extent anticipated by M. Boussingault and others, agreeably to the recommendations of the Council, I have omitted nearly the whole of the historical part and recast the experimental, retaining a few only of each series of my experiments.