



Spores of *Aecidium* on *Mahonia aquifolia* germinating upon the cuticle of a wheat plant : showing the germ-tubes entering the stomata.

Experiment 162.—A wheat-plant, grown out of doors in the parish of West Lynn, was placed in a flower-pot in April. On the 31st of May this plant was removed to my garden, near King's Lynn, and covered by a bell-glass. The plant was far more robust and considerably larger than those employed in the former experiments. On the 2nd of June it was infected with fresh *aecidiospores*, sent by Mr. Little from Stagsholt. The bell-glass was removed on the 5th, and on the 10th of June the uredospores of *Puccinia graminis* made their appearance. On the 19th there were thirteen stems of this wheat-plant, about 18 inches in height; fourteen leaves were affected with uredo. There were many wheat-plants, of all ages, growing at this time in the garden, but upon no one of them did any *Uredo linearis* exist.

II. "Description of Teeth of a large Extinct (Marsupial?) Genus, *Sceparnodon* Ramsay." By Professor OWEN, C.B., F.R.S. Received October 2, 1883.

(Abstract.)

In this paper the author describes teeth of a new genus of Mammal, representing a species of the size of the *Thylacoleo* or *Nototherium*, specimens of which teeth have been discovered in three distinct and remote localities in Australia. In shape the teeth resemble the scalpriform incisors of the upper jaw of the *Rodentia*; in the microscopic structure of the dentine there is a nearer resemblance to that in the incisor of the large extinct form of wombat (*Phascolumus*). Figures of the teeth, and of their dentinal structure mag-

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nified, are appended to the text. The author remarks that the first indication of since restored species, *e.g.*, of the *Diprotodon*, as a large extinct Marsupial, was a portion of a tooth, and corresponding accessions of fossil remains may be expected to lead to a like reconstruction of the present animal. He is indebted to E. P. Ramsay, Esq., F.L.S., for casts of the first found specimens of the teeth in question to which the transmitter had appended the name *Sceparnodon*; subsequently the author received, through the kindness of C. H. Hartman, Esq., of Toonromba, Queensland, a large portion of the tooth itself.

- III. "Evidence of a Large Extinct Monotreme (*Echidna Ramsayi*, Ow.) from the Wellington Breccia Cave, New South Wales." By Professor OWEN, C.B., F.R.S. Received November 3, 1883.

(Abstract.)

In this communication the author gives a description of a fossil humerus from the breccia cave of Wellington Valley, which repeats the characters of that bone in the existing monotrematous genus *Echidna* more closely than those of the same bone in any other known kind of mammal. The fossil, however, greatly exceeds in size that of the existing Australian species, *Echidna hystrix*, Cuv. The existence of, at least, two other kinds lately discovered living in New Guinea has been made known in memoirs by Professor Gervais and Mr. E. P. Ramsay, F.L.S.; these occupy, in respect of size, the interval between them and the Australian *Ech. hystrix*, but the subject of the present paper makes known the largest Monotreme hitherto discovered. Figures of the fossil in question, and of the corresponding bone of the smaller existing Australian kind, accompany the text. The fossil formed part of the series of remains obtained from the cave above cited, and was with them submitted to the author, who proposes to indicate the present acquisition by the name *Echidna Ramsayi*.

- IV. "Correction to a paper 'On the Determination of Verdet's Constant,' published in the 'Phil. Trans.,' 1877." By J. E. H. GORDON, M.S.T.E. Communicated by Professor STOKES, Sec. R.S. Received October 5, 1883.

(Abstract.)

In revising my "Treatise on Electricity" for the second edition, in July, 1883, I noticed a discrepancy between the value of Verdet's constant obtained by myself and that deduced from M. H.