

to the presence of catechin. He then deals with the first group, and shows that, with one anthereally doubtful species, the members are identical with the group *Renanthera* of Benth and Müller's anthereal classification. He shows how the examination of kinos is a valuable aid or supplement in the diagnosis of Eucalypts, and concludes this part with an account of all the ruby kinos at present known to science.—On Rhopalocera from Mount Kosciusko, New South Wales, by A. Sidney Olliff. In this short paper some sixteen species are recorded from specimens obtained by Mr. R. Helms, a most painstaking and energetic collector, who recently made an excursion, chiefly in the interests of entomology, on behalf of the Australian Museum. The collection contains both the species described from the mountain by Mr. Meyrick, as well as a new *Xenica*, proposed to be called *X. correa*.—Note on the fructification of *Phleboteris alathopteroides*, Etheridge, fil., from the Lower Mesozoic Beds of Queensland, by R. Etheridge, Jun. From the examination of additional material the author has been able to determine an arrangement of the sori similar to that in *P. polyptodioides*, Brongn., and other known species of the genus.—Note on the bibliography of Lord Howe Island, by R. Etheridge, Jun. This paper is supplementary to a recently published work ("Lord Howe Island: its Zoology, Geology, &c.," *Mem. Austr. Mus.*, 1889, No. 2), and gives a digest of certain valuable reports by Dr. Foulis, Mr. White, Captain Denham, R.N., and Dr. J. Dennis MacDonald, contained in the "Votes and Proceedings of the Legislative Council of New South Wales for 1853," and with which, when contributing to the above-mentioned work, the author had been unable to meet

## PARIS.

Academy of Sciences, October 14.—M. Des Cloizeaux, President, in the chair.—Presentation of vol. iv. of the "Collection of Memoirs relating to Physics," published by the French Physical Society, by M. C. Wolf. This volume is devoted to the pendulum; and contains memoirs by La Condamine, Borda, Cassini, Prony, Kater, and Bessel. M. Wolf supplies a bibliography and chronology of works on the pendulum from Galileo's time to 1885; also an historical introduction. The fifth volume will deal with the same subject.—Reciprocal displacements between the halogen elements and oxygen; hydrobromic and hydriodic acids, by M. Berthelot. A dilute solution of iodide of potassium remains an indefinite time colourless in presence of oxygen; but it is otherwise with a saturated solution, owing to the formation of a small amount of tri-iodide. Dilution of the yellow liquor with fifty times its volume of water (or more) removes the colour almost entirely; dissociation of the tri-iodide allowing the potash to react fully with the iodine.—On transformism in pathogenic microbiology; limits, conditions, and consequences, of the variability of the *Bacillus anthracis*; researches on ascendant or reconstituent variability, by M. A. Chauveau. The natural *Bacillus*, with its virulence quite removed by compressed oxygen, may be revived by degrees, thus: it is cultivated in *bouillon*, to which fresh blood of, e.g., a guinea-pig is added, and in very rarefied air; it then becomes fatal to mice, guinea-pigs, rabbits, &c., and is vaccinal to small ruminants, but does not kill them. Cultivation of this *Bacillus* in *bouillon* to which sheep's blood is added renders it fatal to small ruminants, and probably vaccinal to the ox.—New relation between sugars and furfural compounds; constitution of methylfurfural and of isodulcitol, by M. Maquenne. Distilling isodulcitol ( $C_6H_{12}O_5$ ) with dilute sulphuric acid, he got some pure methylfurfural ( $C_6H_8O_2$ ) identical with that obtained from Fucus; and he infers the presence of isodulcitol in tissues of marine plants. Its relations to arabinose suggest that it may be much more widely diffused than has been supposed.—On the physical properties of the free superficial layer of a liquid, and of the layer of contact of a liquid and a solid, by M. Van der Mensbrugghe.—On doubly harmonic linear elements, by M. L. Raffy.—On the area of certain ellipsoidal zones, by M. G. Humbert.—On the fermentation of raffinose, in presence of different species of beer-yeast, by M. D. Loiseau. A claim of priority.—Observations on the communication made by M. Ch. E. Guignet, at the meeting of September 30 last, by M. M. C. Vincent and Delachanal. The addition of ammoniacal sulphate of copper to the juice of sorbs precipitates sorbite itself, so the production of this precipitate does not prove the presence of mannite nor its separation from sorbite.—On the optical analysis of oils and of butter, by MM. E. H. Amagat and Ferdinand Jean. They describe a method based on variation of the index

of refraction of various oils, and of the melted fatty matter of butter, due to the presence of adulterating substances.—On air contained in the soil, by M. Th. Schloesing, *fil.*. He has improved on the method adopted by MM. Boussingault and Lévy thirty years ago; he forces into the ground a steel tube with conical point, the opening of which is temporarily closed by wire. The upper end is connected by means of a capillary tube with a bulb, from which mercury is withdrawn on lowering a small connected reservoir; thus the air of the soil is drawn in. He finds abundant gaseous oxygen in the soil, and much variability at different times; details are promised.—On a musculo-cutaneous strip, in form of a flap, applied to the restoration of eyelids, by M. Léon Tripier. The strip is dissected out from one eyelid and transferred to the other side.—On the exploration and the formation of *avens*, by MM. E. A. Martel and G. Gaupillat. These *avens* are natural, open, deep pits, found in numbers on calcareous plateaus. The authors hold that four factors participate in their formation: (1) previous dislocations of the ground; (2) surface waters (erosion); (3) interior waters (erosion, hydrostatic pressure, falling in); (4) chemical phenomena. Frequently only three or two of these factors have been in operation. It is only accidentally that the *avens* communicate with subterranean rivers.

## BOOKS, PAMPHLETS, and SERIALS RECEIVED.

Chief Ancient Philosophies—Aristotelianism: Rev. I. G. Smith and Rev. W. Grundy (S.P.C.K.).—Toilers in the Sea; M. C. Cooke (S.P.C.K.).—Federal Government in Canada: J. G. Bourinot (Baltimore).—Elementary Manual of Magnetism and Electricity: Part 1, Magnetism: Prof. Jamieson (Griffin).—Index of the Genera and Species of Mollusca in the Hand-list of the Indian Museum, Calcutta, Parts 1 and 2 (Calcutta).—Journal of the Chemical Society, October (Gurney and Jackson).—Journal of Anatomy and Physiology, October (Williams and Norgate).—Morphologisches Jahrbuch, 15 Band, 2 Heft (Leipzig).—Journal of the Royal Microscopical Society, August (Williams and Norgate).—Key to Lock's Arithmetic for Beginners: Rev. R. G. Watson (Macmillan).—A General Formula for the Uniform Flow of Water in Rivers and other Channels: E. Ganguillet and W. R. Kutter; translated (Macmillan).—Scientific Papers of Asa Gray, 3 vols., selected by C. S. Sargent (Macmillan).—Hand-book of the Bromeliaceæ: J. G. Baker (Bell).—Ker Kompass an Bord; ein Handbuch für Führer von Eisernen Schiffen (Hamburg, Friederichsen).—A Bibliography of Geodesy; Appendix No. 16, Report for 1887 (Washington).—Calendar of the University College of Wales, Aberystwyth, 1889-90 (Manchester, Cornish).—Les Industries des Animaux: F. Houssay (Paris, J. B. Baillière).—Glasgow and West of Scotland Technical College Calendar for the Year 1889-90 (Glasgow, Anderson).—The Engineer's Sketch-book: F. W. Barber (Spon).—Proceedings and Transactions of the Royal Society of Canada for the Year 1888, vol. vi. (Montreal, Dawson).—Iris; Studies in Colour and Talks about Flowers: F. Delitzsch, translated by Rev. A. Cusin (T. and T. Clark, Edinburgh).—Steam: W. Ripper (Longmans).—The Tornadoes and Hailstorms of April and May 1888 in the Doab and Rohilkhand: S. A. Hill (Calcutta).—Journal of the Royal Statistical Society September (Stanford).—Journal of the Scottish Meteorological Society, 3rd series, No. 6 (Blackwood).—Journal of Morphology, vol. iii. No. 1 (Boston, Ginn).

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