

CAPE TOWN.

Royal Society of South Africa, June 21.—Dr. C. F. Juritz in the chair.—S. H. Haughton: On some upper Beaufort Therapsida. A new genus of Cynodont reptile, Cynidiognathus, for the species *C. longiceps* based on a skull from the Burghersdorp Beds is described. Its dental formula is $i4c1m1o$. There are well-marked palatine processes of the premaxillæ, no prevomers, and the epipterygoid is retracted from the quadrate. A skull thought to be *Cynognathus berryi* is assigned to the new genus under the name of *C. broomi*. The palate and basi-cranium of *Ælurosuchus* is discussed; the genus belongs to the Bauriamorpha.—T. J. Mackie: Observations on the protective action of normal serum in experimental infection with *Bacillus diphtheriæ*. In guinea-pigs experimentally infected with *B. diphtheriæ*, normal serum from various animals, injected subcutaneously at the same time as the inoculation, exerts a definite protective action. No protection occurs if the serum injection is delayed for 2 hours after the inoculation—the effect is prophylactic, not curative. The activity of the serum persists at 57° C., but is lost at 70° C. and higher. Serum from one guinea-pig injected subcutaneously into another is fully protective or exerts a delaying effect; it is noteworthy that serum of an individual of species highly susceptible to experimental *B. diphtheriæ* infection should be capable of affording some protection when injected parenterally into another animal of the same species infected with the particular organism. Normal horse serum is also protective in guinea-pigs injected with diphtheria toxin.—W. A. Jolly: Note on the electrogram of the frog's gastrocnemius reflexly excited. Records of the electrical change in the gastrocnemius when contraction is elicited reflexly by mechanical stimulation of the heteronymous foot, show that the response of the muscle is of the nature of a tetanus.—J. S. van der Lingen: Note on a cystoscopic irradiator and an ultra-violet light illuminator. The illuminator consists of a lens-system, of two quartz lenses and an iris diaphragm, whereby a field may be illuminated with any desired group of ultra-violet waves. One irradiator takes the form of a quartz-rod or tube shaped like a cystoscope, and the illuminator, by which rays are passed into the organs to be illuminated. The rays pass out only at the spherical tip. The other form consists of an exhausted tube bent into the form of a cystoscope, with a bulb at the external end containing a small quantity of mercury. Carbon-monoxide is introduced into the tube by heating, and this causes the mercury to radiate at a low temperature, when a high-frequency field oscillates in a helix placed over the external end of the tube.

SYDNEY.

Linnean Society of New South Wales, May 31.—Mr. G. A. Waterhouse, president, in the chair.—G. D. Osborne: The geology and petrography of the Clarendtown-Paterson district. Pt. 1. The descriptions are based upon an exhaustive survey of about 200 sq. miles containing rocks of the Burindi Series, Kuttung Series and the Cainozoic System. It is suggested that the Kuttung Series be divided into a basal stage, a volcanic stage, and a glacial stage in consequence of modifications found in the general sequence, the most important of which is the discovery of glacially-produced rocks on a much lower stratigraphic level than hitherto recognised. Five detailed sections of the volcanic stage are described. The work confirms

the broad stratigraphical succession as given by C. A. Sussmilch.—G. F. Hill: Descriptions and biology of some North Australian termites. Four new species and two hitherto undescribed castes of the genera *Eutermes* and *Hamitermes* are described.—J. B. Cleland: A second bird census.—A census of the numbers of species and individuals observed on a series of journeys in various districts. The districts covered are southern coastal Queensland, Blue Mts., N.S.W., South Western Plains, N.S.W., Adelaide and Renmark Districts, S.A., and the Central Northern District, S.A.

Royal Society of New South Wales, June 7.—Mr. C. A. Sussmilch, president, in the chair.—A. R. Penfold: The isolation and identification of the acid bodies produced by the oxidation of piperitone by means of potassium permanganate. The ketone used was from *Eucalyptus dives*, and three acids were identified.—M. Henry: The incidence of anthrax in stock in Australia. Introduced originally about eighty years ago, anthrax attained serious proportions in certain districts, but during the last thirty years there has been a decline in the area infected. The disease has always been definitely localised. It was introduced near Sydney and carried inland and into Victoria but then disappeared from its original areas. At present most of the coastal districts, the tablelands and the Western Division of New South Wales are anthrax free. The real anthrax country consists of a belt in the western slopes; in Victoria there is a similar belt. Queensland is free, and possibly was never affected, and in the rest of Australia the disease is negligible. The season of greatest danger from anthrax is the summer and early autumn. The mortality from it is not heavy. There is an inhibitive factor which has prevented anthrax becoming more widespread. Among human agencies the controlling factors have been vaccination, quarantine, destruction of carcasses by fire, breaking up of large estates, and substitution of agricultural for pastoral activities. Contaminated soil is generally the source of infection; infected feeding-stuffs, the common source of infection in England, do not operate.—E. Cheel: (1) Notes on the species of *Darwinia Homoranthus*, and *Rylstonea* in the states of New South Wales, Victoria, South Australia and Queensland. The plants are known as "Fringe Myrtles" or "Scent Myrtles," and are said to be of importance on account of the essential oil contained in the leaves. The plants known as *Darwinia taxifolia* are very variable and great care is necessary in the selection of material if pure grades of oil are required. Plants originally collected at Rylstone and given the name *Rylstonea* are probably forms of *Verticordia darwiniioides*. (2) Notes on *Melaleuca linariifolia* and *Melaleuca trichostachya*. These species are commonly known as "Tea Tree" and "Tee-doo" respectively, and are also said to be of importance on account of the essential oil contained in the leaves

Official Publications Received.

Imperial Department of Agriculture for the West Indies. Report on the Agricultural Department, St. Kitts-Nevis, 1920-1921. Pp. iv+33. (Barbados.) 6d.

Department of Agriculture, Trinidad and Tobago. Administration Report of the Director of Agriculture for the year 1921. Pp. 12. (Port-of-Spain, Trinidad.) 6d.

On the State of the Public Health: Annual Report of the Chief Medical Officer of the Ministry of Health for the year 1921. Pp. 115. (London: H.M. Stationery Office.) 1s. 6d. net.