

NOVEMBER, 1884.

The monthly meeting of the Royal Society of Tasmania, the last of the present session, was held on Monday, November 17, His Honor the Deputy Governor (Hon. W. L. Dobson, F.L.S.) in the chair. The Chairman apologised for the absence of the hon. secretary (Hon. Dr. Agnew), who had been called away to Melbourne. The Curator of the Museum, in his absence, brought forward the usual returns. The following were then duly elected as Fellows of the Society :—Miss E. C. Poynter, Signor A. G. D. Bernacchi ; Messrs. H. L. Swift, J. W. C. Ross, B.Sc., F.G.S., W.A. Weymouth, E. Wallack, J.P., J. Andrew, J. W. Syme, R. A. Bastow, H. I. Rooke, M.H.A.

Number of visitors to the Museum, October, week days, 1,273 ; Sundays, 710 ; total, 1,983. Number of visitors to gardens, 6,000.

Seeds received at the Royal Society's Gardens during the month of October, 1884. From Mr. Wm. Bull, London, 5 packets seeds. From Messrs. Pilmorin, Andrieaux, et Cie, Paris, 104 packets seeds.

Time of leafing, flowering, and fruiting of a few standard plants in the Royal Society's Gardens, during October, 1884 :—

October 7.—*Carpinus betulus* commence to break.

October 12.—*Ailanthus glandulosus* ditto ditto.

October 18.—*Tilia europea* commencing to ditto.

October 19.—*Morus nigra* ditto ditto

October 24.—*Ulmus campestris* ditto ditto fall.

October 25.—*Melia azedarach* ditto ditto break.

LIST OF ADDITIONS TO THE LIBRARY, MONTH OF OCTOBER.

Journal of the Royal Microscopical Society, London, August, 1884, from the Society.

Journal of Science, September and October.

Journal of the Society of Arts, August 8, 15, 22, 29, September 5, 12, 19, 26.

Proceedings of the Royal Society of London, 5 parts, Vols. 35, 36, No. 227 to 231, from the Society.

Proceedings of the Philosophical Society of Glasgow, 1883-4, from the Society.

Meteorological Observations, monthly record, July, 1884, Melbourne Observatory, from R. J. Ellery, Esq., F.R.S.

Meteorological Observations for April, 1884, from the Meteorological Office, India.

Meteorological Report, 1883, for New Zealand, from J. Hector, Esq., M.D., F.R.S.

Meteorological Report, Tasmania, from Commander Shortt, Meteorological Observer.

Vital and Meteorological Statistics of Tasmania for the months of October and November, from R. M. Johnston, Esq., Government Statistician.

Quarterly Weather report of the Meteorological Office, London, Part III., July and September, 1876, from the Meteorological Office, London.

New Zealand Geological Report, 1883-84, from James Hector, Esq., F.R.S.

The Botany of Bermuda, two parts, part 2, by Sir J. H. Lefroy, from the U.S. National Museum.

The Midland Medical Miscellany, from the society.

The Victorian Naturalist, from the society.

Report on the Zoological collections made in the Indo-Pacific Ocean during the voyage of H.M.S. Alert, 1881-2, from the trustees British Museum

Proceedings and Transactions of the Royal Society of Canada, vol. 1, 1882-83, from the society.

Gardeners' Chronicle, September 6, 13, 20, 27, October 4.

Agriculturist Gazette, September 15, 22, 29.

The Athenæum, August and September.

Nature, August and September.

Geological Magazine, September.

Annals and Magazines of Natural History, September and October.

Florist and Pomologist, September and October.

Statistics of the Colony of New Zealand, parts 4 and 5, for the year 1883, from the Government Statistician.

The Monthly Weather Report of the Meteorological Office, London, February, 1884, from the Meteorological Office.

Über Ringe Afrikanische, Reptilien Amphibien, und Fische des Naturlastorischen Museum, Von Dr. J. G. Fischer, Hamburg, from Prof. Dr. H. A. Pagenitecher.

Report of Naturlistorisches Museum zu Hamburg, for 1883, from Prof. Dr. H. A. Pagenitecher.

Tasmanian Statutes, vol. 3, M.R., 1337 to 1944, from the Government.

Tasmanian House of Assembly Papers, from Mr. F. A. Packer.

A collection of Australian and Foreign Animals received from the Trustees of the Australian Museum, Sydney, in exchange for some fishes kindly presented by the Tasmanian Fisheries Commission to the Royal Society.

Foreign.

Macacus radiatus.

Assamenese Monkey, *Macacus assamensis*.

A Monkey, *Macacus* sp.

Squirrel Monkey, *Chrysotrrix sciurea*

Patas Monkey, *Cercopithecus ruber*.

Long-armed Monkey, *Macacus* sp.

The Ruffed Lemur, *Varecia varius*.

The Racoon, *Procyon lotor*.

The Badger, *Meles texas*.

The Mungous, *Herpestes griseus*.

The Stoat, *Mustela ermenia*.

The English Mole, *Talpa Europea*.

The Chevrotain *Tragulus javanicus*.

The English Hare, *Lepus timidus*.

The English Squirrel, *Sciurus Europæus*.

The Plantain Squirrel, *Sciurus plantani*.

The American Chipping Squirrel, *Tamias striatus*.

Fish.

An English Salmon, *Salmo salar*.

Australian.

An Australian Water Rat, *Hydromys chrysogaster*.

An Australian Porcupine, *Echidna hystrix*.

Platypus, *Ornithorhynchus anatinus*.

Great Flying Squirrel, *Petauraist taguanoides*.

Grey Opossum, *Phalangista vulpina*.

Small Headed Squirrel, *Belideus breviceps*.

Australian Bear, *Phascolarctos cinereus*.

Queensland Ringtailed Opossum, *Phalangista cookii*.

Native Cat, *Dasyurus viverrinus*.

Tiger Cat, *Dasyurus maculatus*.

Brush-tailed Kangaroo, *Petrogale penicillata*.

Two Black Wallaby, *Halmaturus ualabatus*.
 One Rufous-necked Wallaby, *Halmaturus ruficollis*.
 One Black-gloved Wallaby, *Halmaturus manicatus*.
 Two Bennett's Wallaby, *Halmaturus bennetti*.
 One Black Wallaroo, *Osphranter robustus*.
 One Great Grey Kangaroo, *Macropus major*.

List of presentations to the Museum :

Mammals.

A Porcupine or Ant-eater, *Echidna setosa*, Mr. W. A. Martin.
 A Porcupine or Ant-eater, *Echidna setosa*, Mr. T. P. H. Jones.
 Tasmanian Wallaby, *Halmaturus billardieri*, Mr. T. Stephens.

Birds.

Chestnut-faced Owl, *Strix castanops*, Mr. Graves.
 Spotted Owl, *Athene maculata*.
 Two Wood Swallows, *Artamus sordidus*, Mr. Geo. Hinsby.
 Musk Duck, *Biziura lobata*, Mr. Lucas.
 A Water Crake, *Porzana fluminea*, Mr. McCluskey.
 Dusky Robin, *Petroica fusca*.
 Cuckoo, *Cuculus ornatus*, Mr. J. McCance.
 Nest and Eggs of Dusky Robin, *Petroica fusca*, Mr. C. H. Stewart.
 Nest and Egg of a Black Cap Honeyeater, *Melithrephtus melanocephalus*, Miss A. Brent.

Fishes.

Two Hand Fish, *Brachionichthys hirsutus*, Miss Gertrude Swan.
 Apogon *guntheri*, Mr. John Martin.
 Two Native Salmon, *Arripis truttaceus*, Mr. J. Arnold.
 Parrot Fish, *Labrichthys mortoni*, Mr. W. L. Boyes.
 Seahorse, *Hippocampus abdominalis*.

Reptiles :

A Diamond Snake, *Hoplocephalus superbus*, Mr. Geo. A. Power.
 A collection of Lizards, *Hinulia* sp., Master E. Hull.
 A collection of Lizards, *Hinulia* sp.
 A Whip Snake, *Hoplocephalus coronoides*, Mr. H. L. Swift.
 A Lizard, *Hinulia* sp. Mr. Geo. Hinsby.

Insects :

2 Spiders, Mr. E. B. Gawne.
 1 Spider, Mr. J. McCance.
 3 *Eurymela Speculum*, Mr. J. McCance.
 1 Beetle, *Longicorn* sp., Mr. Hissey.
 1 Ichneumon Fly, *Pimpla entricator*, Mrs. Jones.

Shells etc. :

Mutton Fish Shell, *Haliotis neovosa*, Mr. J. R. McClymont.
 Comminella Tasmanica, *Chiton petholatus*, Mr. J. McCance.
 Land Shell, *Bulimus dufresmi*, Mr. H. L. Swift.

Minerals, etc. :

A collection of cores with tabulated report of strata passed through in boring for coal at Tarleton in the Mersey District, from the Hon. N. J. Brown, Minister of Lands and Works.

A block of wood from Queensland showing the boring of the white ant. Mr. J. E. Baynton.

A collection of Marsupial bones and pumice stone, etc., from Deal Island, Kent's Group, Mr. Johnston.

Fossil Wood, Mr. Chas. Headlam.

PAPERS.

The following papers were read :—

"Notes on the Infusorial Parasites of the Tasmanian White Ants," by Mr. Saville-Kent, F.L.S., etc., etc.

"On the Determination of a True Meridian," a problem of interest to surveyors, by Mr. H. C. Kingsmill, M.A.

After discussing the various methods usually adopted, and making remarks on the advantages and disadvantages of each, the writer proceeded to describe a method, which, he said, so far as he was aware, was as yet untried. The novelty consisted in a modification of the well-known method of elongations, which rendered a knowledge of the latitude unnecessary for the calculations. It was theoretically simple, but as some unforeseen difficulties might occur in actual work, he hoped that practical surveyors would give an opinion on its merits.

"Observations on Mr. R. M. Johnston's Vital Statistics," by Mr. A. B. Biggs.

Mr. R. M. JOHNSTON, F.L.S., read a paper in reply to Mr. A. B. Biggs' paper entitled, "A rejoinder to Mr. A. B. Biggs' criticism of observations made in respect of the observed periodicity of the death-rate, etc."

In Mr. Johnston's investigations into matters bearing upon the inexplicable wave-like rise and fall of the Australian death-rate, he found that a searching analysis of the ordinary local causes afforded no satisfactory explanation, but appeared to him most probably to be caused by some obscure powerful influence lying beyond and acting strongly through the local causes at regular periods. Having compared their periodicity with the sun-spot period, and with the position of Jupiter in his orbit, he found such a wonderful agreement between the three that with many eminent observers he was inclined to believe that it could hardly be due to a mere chance series of coincidences; although the fact of an underlying causal relation could not be demonstrated owing to the complexity and obscurity of the matters involved. Mr. Biggs agrees with Mr. Johnston in supposing that there may be some causal connection with the sun-spot magnetic declination and death-rate periods, but denies that Jupiter can have any influence whatever upon the several matters referred to. He attempted to show this by a simple comparison of the respective periods of Jupiter's orbit and of Wolf's sun-spot minima and maxima deduced from a mean of observed cycles dating from early in the seventeenth century. Mr. Johnston, however, showed that Wolf's sun-spot observations were not of strict scientific value prior to the time when Schwabe improved the system of sun-spot observations in 1832, *i.e.* just one year prior to the series represented in his (Mr. Johnston's) diagrams, and quoted Balfour Stewart to prove that no exact value can be placed as yet upon the sun-spot periodicity over long periods, and hence any conclusions, positive or negative, based upon a supposed known periodicity of sun-spots for a long period are apt to be fallacious.

Mr. JOHNSTON also stated that even a difference occurring between the periodicity of Jupiter and mean periodicity of the maxima and minima of sun-spot would not be of much value in demonstrating that Jupiter had no influence whatever, direct or indirect upon the development of the sun-spot phenomena; for the problem was a most complex one, and Jupiter was only one of the many supposed factors in the complex problem, which, as yet, is too obscure to admit of proof or demonstration, either negatively or positively. The language of suggestion is, as yet, all that can be admitted scientifically.

Commander SHORTT, R.N., Meteorological Observer, read a paper, entitled "Earthquake shocks in Tasmania during the years 1883-1884."

This paper contained a list of the various shocks felt and noticed at the various stations throughout the island during the years 1883-1884. The object of the paper was to afford the member's

of the Royal Society an opportunity of learning the way in which the earthquake shocks were recorded at the meteorological office, and to furnish a summary of the information to be deduced from a study of the records as a whole. It was pointed out that a very large number of shocks (over 1,000) had been felt, but that none of them were severe, and that the reports are tabulated with the time, etc., of each shock, and an attempt was made to demonstrate the probable centre of disturbance. It was found that there were discrepancies in the reported times of various shocks, but, on consideration of a considerable number of shocks, it is shown that the slighter shocks were only felt in the N.E. part of Tasmania and adjacent islands, while the severer ones, which were felt over a wider area, affected St. Mary's, Gould's Country, Kent's Group, etc., before they did Launceston, Hobart later still, and South Victoria, with Gabo Island, afterwards. Various sources of error were pointed out as liable to cause discrepancies, and the various subjects for investigation in reference to the shocks were also alluded to. Finally, a short reference was made to the various theories in connection with earthquake phenomena, and it was strongly urged that further and more careful observation was required before any theory could be satisfactorily established.

A further explanatory paper on the same subject by Mr. J. C. Ross, B.Sc., F.G.S., illustrated by models and diagrams, showing various rough forms of seismometer, by the use of which the tremors or shocks might be more accurately recorded. The forms described were such as from simplicity of construction were suitable for use by untrained observers, such as blocks of wood of various sizes to be displaced by the shocks, basins containing treacle or other viscid liquids, etc.

A complete census of the flora of Deal Island, in Kent's Group, was laid on the table by His Honor Mr. Justice Dobson, who had enlisted the services of the superintendent of the lighthouse on the island, Mr. Johnston, to collect and send him specimens of all plants growing there. These were forwarded to Baron F. Von Mueller, who prepared the census. One plant, and orchid, *Pterostylis vittata*, was new to Tasmania, but was common to the continent of Australia.

NOTES AND EXHIBITS.

Mr. E. D. SWAN drew attention to an extremely rare nest and egg of the common blackcap (*Melithreptus melanocephalus*), which had been taken at Austin's Ferry, Bridgewater, and presented to the museum by Miss A. Brent, Roseneath. Although the bird was one of our commonest, and various rewards offered for the eggs, Mr. Swan stated this had been the first egg as yet obtained. The nest taken in November is composed almost entirely of wool, though a few pieces of moss, stringy bark, and cobwebs are also used. It is cup-shaped, two inches in depth, and two in breadth on the inside, while externally the measurements are one inch more each way. It is suspended by the rim to the small branches of a lofty gum tree (*Eucalyptus*), where, from its situation, it is very difficult of detection. The eggs are either two or three in number. Their ground color is pink or buff, spotted and streaked at the larger end with deep reddish brown, with fainter markings appearing beneath the surface of the shell. They differ from the well-known eggs of the *M. lunulatus* of the mainland in not having the clouded markings of bluish grey, and in being free from spots towards the smaller end.

Mr. T. STEPHENS exhibited a black wallaby. He stated that he was indebted to the kindness of the Rev. E. H. Thompson, of the Franklin, for the specimen which he had been able to present to the Museum, which was distinct, so far as colour went, from any hitherto described in

Tasmania. The nearest approach to it was the common wallaby (*Halmaturus* Billardieri). Waterhouse says, referring to this species:—"It is readily distinguished from other small species of its group by its short ears, long dark-coloured fur, and the rufous and sometimes yellow tint of the under parts of the body." Gould connects the warmer and more sombre-coloured coat of this species with the dense and humid vegetation of the forests which it frequents, where the sun sometimes does not penetrate at all. He speaks of much diversity of colour, but only on the throat and under surface of the body, which in some specimens are of a deep reddish buff, while others have the same parts much lighter.

A POPULAR DELUSION.

The Curator drew attention to a small lizard (*Hinulia* S. sp.) which he produced alive before the fellows, and handled in their presence, saying that it had the reputation of being poisonous, but it was not really so, and if death had ever occurred from a bite from the reptile it must have been caused by sheer fright. Because it had a blue tongue, and was fond of putting it out, the lizard had got a bad reputation, and was called the death adder, but it did not deserve it.

CLOSE OF THE YEAR.

Mr. JAMES BARNARD, V.P., said:—In moving a vote of thanks to the authors of the papers which have been read to us, and to the numerous contributors to our Museum, I desire to congratulate the meeting upon the success of the session of 1884, which has just terminated as shown by the uninterrupted regularity of our evening meetings, and by the number and variety of the papers possessing scientific interest which have been brought forward. During the past year we have had the return among us of our highly-esteemed vice-president and hon. secretary, the Hon. Dr. Agnew—(applause)—whose increasing interest in, and exertions on behalf of, the society we are all prepared to acknowledge and appreciate. (Applause.) We have also had the good fortune to secure the services of a gentleman remarkable for zeal, intelligence, and industry, combined with experience, in the person of Mr. Alexander Morton—(applause)—the curator of the Museum. Full evidence is afforded of the value of that appointment by the improvements which he has already effected in the Museum. (Hear, hear.) I also congratulate the meeting on the large accession of members to the roll of fellows during the past year. Several of those recently elected gentlemen have already contributed papers, possessing scientific merit, and I think there is reason to hope that the session of 1885 will result in unabated interest being shown in the proceedings of the society, and to increase and maintain the advancement of its objects. I have great pleasure in making the usual formal motion—formal, but real—that our thanks be given to the readers of papers, and also to the donors of gifts to the museum. (Applause.)

Dr. PERKINS seconded the motion.

The CHAIRMAN said that before putting it to the meeting, he should like to call attention to the splendid collection of animals which they had just received from Sydney, and which was in itself almost enough to stock a museum. It was a collection of Foreign animals and the marsupials of Australia, which it would be especially interesting to compare with the marsupials of Tasmania. They had also had a salmon sent to them, so that actually, instead of breeding salmon they were importing stuffed fish from New South Wales. Still it was a very noble fish, and would be useful for purposes of comparison. They had gained 50 new members, and he would also mention that they had no less than 28 papers read before them during the last

session, many of them being of very great interest and value. Those of the fellows who were not themselves able to produce papers, and he included himself among the number, fully appreciated the advantage of being able to benefit by the knowledge possessed by others, and he hoped that fact would compensate them in some small degree for the trouble which was given them.

The motion was unanimously agreed to.

The meeting then terminated.

LIST OF PRESENTATIONS TO THE MUSEUM FOR THE MONTH OF NOVEMBER AND DECEMBER.

Mammals.

A Porcupine, *Echidna, setosa*, Mr. H. L. Swift.

A Kangaroo Rat, *Hypsiprymnus apicalis*, Mr. W. H. Charpentier.

Birds.

A More Pork, *Podargus cuvieri* (albino), Master A. Brown.

Fulvous fronted Honeyeater, *Glyciphila fulvifrons*, Mr. G. Hinsby.

A Pelican, *Pelecanus conspicillatus*, Mr. Parker.

Diamond Bird, *Pardalotus punctatus*, Master A. Murphy.

Freckled Duck, *Anas naevosa*.

Bird's Nest and Eggs.

A Collection of Bird's Eggs (16 species), Mr. George Hinsby.

A Collection of Bird's Eggs and Nests, Mr. A. Brent.

Nest of Spine-billed Honeyeater, *Acanthorhynchus tenuirostris*, Mr. J. R. McClymont, M.A.

Fishes.

An Elephant Fish, *Callorhynchus antarcticus*.

4 Mackerel, *Trachurus trachurus*.

3 Native Salmon, *Arripis salar*.

4 Soilder, *Pentaroze marmorata*.

2 Bastard Trumpeter, *Latris forsteri*.

3 Silver Travally, *Caranx georgianus*, Mr. F. Self.

Crustacean.

A Crab, *Nectocarcinus tuberculosus*, Mr. C. Turner.

Insects.

1 Brown Moth, *Dasypodia silenophora*.

1 Moth, *Ardices fulvorhita*.

1 Beetle, *Metriorhynchus* sp.

1 Beetle, *Lagria grandis*, Mr. J. R. McClymont, M.A.

Ethnology.

A Peruvian God, Lieut. Gilmore, U.S.S. Iroquois.

Coins.

4 American Coins, Mr. McCarthy, U.S.S. Iroquois.

Peruvian Paper Money "Un Sol," Mr. Bailey, U.S.S. Iroquois.

Peruvian Paper Money, 2 "Dos Soles," ditto.

Confederate One Dollar, Crew of the U.S.S. Iroquois.

Attendance at the Museum.

November, Week Days	1213.	Sundays,	835.
December, " "	1325.	" "	950.
	<u>2538</u>		<u>1785</u>

Gardens, November, 6000 ; December, 5800.