

ROYAL SOCIETY.

APRIL, 1884.

A monthly meeting of the society, the first of the present session, was held at the Museum on Tuesday, April 8. There was a large attendance of Fellows. Mr. Jas. Barnard, V.P., in the chair. Mr. W. J. G. Bedford, M.R.C.S., Eng., and Mr. J. Walch, Hobart, who had previously been nominated by the council, were balloted for, and declared duly elected as fellows of the society.

Mr. Thomas Hughes (England) was introduced as a visitor.

The hon. secretary (Dr. Agnew) brought forward the usual returns, viz. :—

(1.) Number of visitors to Museum, January—On Sundays, 650 ; on week days, 1,384 ; total, 2,034. Do., February—On Sundays, 1,012 ; on week days, 1,494 ; total, 2,506. Do., March—On Sundays, 1,087 ; on week days, 1,181 ; total, 2,268.

(2.) Number of visitors to Gardens—January, total 5,489 ; do., February, 4,898 ; do., March, 5,627.

(3.) Plants, etc., sent from, and received at, Gardens :—

January.—Received from Mr. Wm. Bull, new plant merchant, London, patent plant case, containing 100 Chinese chrysanthemums. From Mr. J. Latham, nurseryman, Hobart, collection imported Dutch bulbs, 28 packets. Sent to Major Jacob, Executive Engineer, Jeypore, India, 2lbs. leptosperum lævigatum.

February.—From the Botanic Gardens, Saharampur, N.W. Provinces, India, 50 packets seeds, various. From Baron Ferd. Von Mueller, Government Botanist, Victoria, two packets of seeds. From Mr. G. Oliver, New Plymouth, New Zealand, three packets of seeds. Sent to Mr. G. Brunning, St. Kilda Nurseries, Melbourne, 36 nymphæa alba. To Mr. H. A. James, Department of Mines, Sydney, a bag of sphagnum moss.

March.—From the Chamber of Agriculture, Washington, U.S., 60 packets of assorted seed. From Miss J. Owen, Ireland, seven packets of seed. From Mr. H. A. James, Sydney, 13 packets of seed. Sent to Messrs. De Smet Freres, Ghent, Belgium, case Norfolk Island pines.

(4.) The usual monthly and other periodicals for January, February, and March.

(5.) *Meteorological Returns.*

1. From the Government Observer, Capt. Shortt, tables of observations for January, February, and March. 2. From Mr. F. Abbott, Superintendent Botanic Gardens, register of rainfall at Royal Society's Gardens for January, February, and March. 3. From Mr. C. Purdy, Registrar, register of rainfall at Strahan for February.

(6.) Time of leafing, flowering, and fruiting of a few standard plants in the Botanic Gardens during January, February, and March, 1884 :—January 4, Veronica augustifolia in full flower ; 6, first ripe apricot (royal) gathered ; 10, Grevillea robusta in full flower ; 12, Jargonelle pear commence ripening ; 22, black mulberries commencing to ripen. February 8, Windsor pear commencing to ripen ; 10, Bon chretien ditto ; 11, green gage plum ditto ; 22, ash, common, commencing to shed seed ; 25, sycamore, common, ditto. March 8, tips of hornbeam turning yellow ; 10, seckle pear commencing to ripen ; 12, tips of elm turning yellow ; 15, horse chestnut leaves turning yellow ; 20, ash leaves commence falling—seeds ripe ; 21, oak leaves commence falling—acorns ripe.

(7.) *List of Additions to the Library.*

1. From the Colonial and Geological Survey Department, New Zealand, Handbook of New Zealand, by Dr. J. Hector, C.M.G., F.R.S., etc.
2. From the Tasmanian Fisheries Commissioners, 43 publications of the International Fisheries Exhibition; also two mounted photographs, views of the Tasmanian coast.
3. From Mr. M. Gardiner, C.E., Brisbane, a paper on dynamies.
4. From Mr. Watts, Foraminifera of Victoria.
5. From Baron F. Von Mueller, observations on new vegetable fossils of the auriferous drifts.
6. From Dr. Von Haast, New Zealand, the progress of geology, humanism, and realism.
7. From U.S. Naval Observatory, the total eclipse, July 29, 1878.
8. From Field Naturalists' Club, Victoria, the Victorian Naturalist.
9. From Mr. R. L. Jack, Queensland, the Government geological report on tin mines of Herberton, Western, Thompson's Creek districts, and the silver mines of the Dry River, Queensland.
10. From the Linnean Society, Sydney, proceedings of Linnean Society.
11. From Mr. R. J. Ellery, Victoria, monthly record, Melbourne Observatory.
12. From Mrs. Roblin, Hobart, 26 books, viz., nine vols. Science Gossip, 1874 to 1882; 10 parts Science Gossip, January to October, 1883; Daniell's Introduction to Chemical Philosophy, Ellis' Demonstration of Anatomy, Wilson's Human Anatomy, Dublin Dissector, two vols. Carpenter's Zoology, Report of Tasmanian Fisheries.

(8.) *Presentations to the Museum.*

1. From Mr. A. Evans, Richmond, an eagle (*Aquila audax*).
2. From Mr. Kermodé, Kangaroo Point, four flying gurnard (*Trigla polyommata*).
3. From Mr. Blyth, Campbell Town, a magpie (*Gymnorhina organicum*).
4. From Capt. Broom, caterpillars attacked by *Sphaeria Robertsi*.
5. From Mr. J. Swan, Derwentwater, white-fronted falcon (*Falco lunulatus*).
6. From Mr. J. R. McLymont, a bat (*Nyctophilus timoriensis*).
7. From Mr. J. O. O. McArdell, Mornington, a white hawk (*Leucospiza Novæ Hollandiæ*).
8. From Mons. F. Ratte, Sydney, a collection of minerals, chiefly nickel ore, from New Caledonia.
9. From Mr. A. Jones, Hobart, a moth.
10. From Mr. G. Browne, two crocodile eggs from Perak, Malay.
11. From Mr. Hinsby, a flying squirrel (*Belideus sciureus*); a native comb, from the Sandwich Islands.
12. From Mr. T. Stephens, a more pork (*Podargus cuvieri*).
13. From Mr. Lodge, Sandy Bay, a moth.
14. From Mr. E. D. Swan, two shells (*Cypræa argus*, *Mitra pontificalis*).
15. From Mr. R. W. Rollings, a cockatoo parrot (*Calopsitta Novæ Hollandiæ*).
16. A collection of ethnological specimens, from the South Sea Islands, by Mr. A. Morton, curator.

The hon. secretary read the following papers:—

1. References to Baron C. Von Ettingshausen's recent observations on the tertiary flora of Australia, by Baron F. Von Mueller, K.C.M.G., M.D., F.R.S., etc., etc., etc.
2. Notes of spectroscopic observations of the comet "Pons," 27th January to 2nd February, 1884, by Mr. A. B. Biggs, Launceston.
3. Report of spectroscopic observations of the twilight glows during February and March, 1884, by Mr. A. B. Biggs, Launceston.
4. Mr. R. M. Johnston read a paper, "Notes regarding certain fossil shells occurring at Table Cape, supposed to be identical with living species;"

also "Notes on fossils from Maria Island" and "Notes on three species of Tasmanian fish."

FOSFILLS FROM MARIA ISLAND.

Mr. Johnston presented a specimen of *Pachydomus globosus*, taken from cliffs near Darlington, Maria Island. A diagram was also presented showing the relations of the *Pachydomus* and *Fenestella* beds in the 300 to 500ft. of perpendicular rocks facing the sea. The lower series exposed, over 200ft. thick, is almost wholly composed of the large shells of *Pachydomus globosus*.

The following is a list of the more common fossils found associated with the latter by Mr. Johnston: — *Aviculopecten Fittoni*, Morris; ditto *limæformis*, ditto; *Spirifera convoluta*, Phill.; ditto *Darwinii*, Morris; ditto *Tasmaniensis*, ditto; *Productus brachythærus*, G. Sowerby; *Protoretepora ampla*, Lonsdale; *Fenestella internata*, ditto; ditto *plebeia*, M'Coy; *Stenopora informis*, Lonsdale; *S. Tasmaniensis*, ditto; *Favosites ovata*, ditto; *Pleurotomaria Morrisiana*, M'Coy.

Scattered here and there are to be found angular blocks of granite quietly embedded in the lower *Pachydomus* beds. Some of these travelled blocks are estimated to weigh over a ton. It is interesting to speculate how these erratic blocks came to be included in the lower fossiliferous mudstones. The nearest granite formation known in the neighbourhood lies fully five miles to the south. The mudstone series where the granite blocks are found is almost horizontal, and seems to have been little disturbed. The various blocks of granite seen do not appear to be waterworn. By what agency were these huge granite blocks carried to the position in which they are now found? Ice action seems to be most probable, taking all the circumstances into consideration.

Mr. JOHNSTON stated, with reference to the interesting paper contributed by Baron Von Mueller, that had he been aware of the subject of the paper to be discussed that evening he would have brought a copy of the original work for the inspection of the members of the society: a presentation copy, beautifully illustrated, having been recently kindly forwarded to him by the author, Baron Von Ettingshausen, of Vienna. Mr. Johnston stated that this society, and geologists generally, were under great obligation to Baron Von Mueller for the valuable papers he had contributed from time to time towards the elucidation of the Tertiary Flora of Australia. It was a very difficult matter to determine the exact position of vegetable organism from leaf remains only, so far as their exact position in the vegetable kingdom is concerned, and Baron Von Mueller was to be commended for the great care he had bestowed upon such investigations hitherto. Still Baron Von Ettingshausen's distinguished position in this special field of work is a guarantee that even his conclusions, drawn from the close and careful study of the neuration of leaf remains, are worthy of our highest confidence. In any case the figures are especially serviceable in proving the relative position of the various leaf beds found so abundantly throughout this island, and also in many places in Victoria and New South Wales. It is somewhat gratifying to consider that Tasmania contributes fully two-thirds of the materials of which determinations have been made by Baron Von Ettingshausen respecting the Tertiary Flora of Australia.

FISHES OF TASMANIA.

With respect to the fishes of Tasmania, Mr. JOHNSTON drew the attention of the members to several matters of interest to ichthyologists. As regards the fish recently described by him as the "Butter Fish," and doubtfully referred to the recently described *Chilodactylus Mulhali* of Macleay, Mr. Johnston stated that he had since examined a large number of specimens, and found that the individuals varied considerably in the number of simple rays of pectoral and in the soft rays of anal and dorsal fins, and that the prevailing, or type form agreed in every respect with Richardson's *C. nigricans* hitherto supposed to be confined to King George's

Sound. The variability of individuals in Tasmanian waters covers not only the two fishes referred to, but it probably may embrace the fish recently described by Mr. Macleay (p. 439, Proc. Lin. Soc., New South Wales) as *Psilocranium Coxii*. It is clear, therefore, that Richardson's name—*Chilodactylus nigricans*—must be retained for the "Butter Fish" of Tasmania, unless we are prepared to erect the inconstant variations of individuals into equal rank with the more constant types of species. Mr. Johnston also announced the existence in Tasmanian waters of *Syngnathus curtirostris* Cast. (a species of pipe fish.) He also states that the common kelp fish—*Haplodactylus arctidens* Rich.—is a very variable fish, and occurs in great abundance among kelp about Maria Island and towards the mouth of the Derwent, although it was formerly considered rare on account of its infrequent occurrence in the market.

NOTICES AND EXHIBITS.

The hon. secretary exhibited, on behalf of Mr. J. B. Walker, an atlas voyage of *La Recherche*, by La Perouse and Le. Cen. Labillardiere. The atlas contained a large collection of plates of various subjects, date 1791 and 92, and was examined with great interest.

1. On the table a fine collection of nickel ore, fossils, etc. 2. An interesting collection of ethnological specimens from the South Seas were exhibited. (As various articles in this donation presented points of peculiar interest, it was agreed that they should be specially brought under notice at next meeting with some descriptive observations by the donor.)

Mr. R. M. Johnston exhibited a specimen of a fossil shell—*Pachydomus globosus*.

Mr. C. H. GRANT, in moving a vote of thanks to the authors of the various interesting papers that had been read, and also to the donors of presentations, said he felt highly pleased in doing so, and was glad to see Mr. R. M. Johnston among them once again. And in a few chosen words he referred to the very high and eulogistic terms Mr. Johnston had been spoken of by such eminent authorities as Baron F. Von Mueller, and by Professor Dr. C. Baron Von Ettingshausen, of the University, Austria.

Dr. AGNEW cordially seconded the motion, observing this was by no means the first occasion on which they had to thank their good friend Baron Von Mueller for his learned and valuable contributions. It was very gratifying, too, he was sure, to them all to notice by the remarks of Baron Von Ettingshausen, how the work of Mr. Johnston was appreciated by high authorities abroad—work, too, not confined to one branch alone of Natural History. It was also a matter of congratulation that another student in the same field, a native of the colony, and who had earned the favourable notice of such an authority as Baron Von Mueller, was soon to be at work among us. He referred to Dr. Barnard, son of our excellent chairman, who he had no doubt would prove a valuable and he hoped frequent contributor to the transactions of the society.

The CHAIRMAN returned thanks for the kind mention made of his son, whose return from England was daily expected. His son had, he believed, in some degree, won his spurs in the cause of Natural History in the district of Gulgong, N.S.W., and, as he had given much attention to kindred subjects during his stay in England, he (the chairman) quite hoped he would be an occasional contributor to their evening meetings. However, if all went well, he would soon put in his appearance, and would then have the opportunity of speaking for himself.

The motion having been put and carried with applause, the proceedings terminated.

May Meeting lapsed through inclemency of the weather.