

"Bibliotheca Botanica," illustrated by eleven fine plates, by Herr G. Karsten. Herr Karsten points out that, in addition to the obvious mechanical function of these roots, serving as a supporting organ to attach the trees more firmly to the very loose soil in which they grow—this is especially observable in *Rhizophora mangle*—there is another important function performed by them, at least in a large number of the trees which make up the mangrove-vegetation, though I do not recollect that *Avicennia nivea* is especially mentioned. In the species examined by Karsten, these aerial roots possess very large inter-cellular spaces, which serve to promote the interchange of gases; and he considers it unquestionable that their chief function is to assist respiration. He therefore proposes for them the term "pneumatophores." It would be interesting to examine the structure of the trees at the Botanic Garden in this respect. All mangrove-trees also contain large quantities of tannin, which is probably serviceable in preventing rotting.

August 1.

ALFRED W. BENNETT.

The Tasman Sea.

I SEND you the inclosed copy of a letter from the Secretary of the Admiralty, in case you should consider the matter of sufficient interest for notice in your columns.

A. LIVERSIDGE, Permanent Hon. Sec.
Australasian Association for the Advancement
of Science.

The University, Sydney, July 4.

Admiralty, May 19, 1891.

SIR,—With reference to your letter of March 17, forwarding copy of a resolution passed by the Australasian Association for the Advancement of Science at the meeting held at Christchurch, New Zealand, that the name of Tasman Sea should be given to the sea between New Zealand and the islands of the north-west of New Zealand on the one hand and Australia and Tasmania on the other, I am commanded by my Lords Commissioners of the Admiralty to acquaint you that the name will be inserted in Admiralty charts and other publications.

I am, Sir,

Your obedient servant,

EVAN MACGREGOR.

To Prof. Liversidge, M.A., F.R.S.,
The University, Sydney.

Reduplication of Seasonal Growth.

LAST summer I sent you a note on the occurrence of apple-blossoms and the blossoms of the mountain ash in July. Before me now, as I write, is a simple but elegant bouquet containing a beautiful and fragrant corymb of the latter tree in full flower, side by side with one of the ripe scarlet fruit, which the black-birds have begun to devour. These were cut from one and the self-same tree this morning at the top of my garden; while from an adjoining tree was gathered a twig carrying four pinnate leaves from which all the chlorophyll has disappeared; the phenomena which mark the beginning and the end of the season thus appearing side by side. These trees grow on the Upper Bagshot Sands, and I have no doubt that this reduplication of seasonal growth is due to the later rains developing some centres of flowering energy in the plant, which had remained dormant during the spring owing to deficiency of moisture and warmth.

Wellington College, Berks, August 17.

A. IRVING.

Rain-gauges.

I HAVE been using the ordinary Symonds pattern rain-gauge, but find that the percentage of rain collected varies in proportion to the strength of the wind; when this is moderately strong, almost the whole of the rain passes across the top, striking and being retained by vertical surfaces only.

The present method of estimating the rainfall is far from being either correct or uniform, and I should like to ascertain if any gauge has been made with a correctly-proportioned inverted cone, which will collect and compensate for side drive; and, if so, what are the correct proportions. It would appear that either this, or a funnel mounted on gimbals and balanced to face the wind at the correct angle, must be the only correct method to ascertain the actual rainfall. The present apparatus would appear to be crude, untrustworthy, and incapable under any

conditions in practice of giving results which are at all trustworthy.

THOS. FLETCHER.

Grappenhall House, Grappenhall, near Warrington,
August 17.

THE BRITISH ASSOCIATION.

(FROM OUR CORRESPONDENT.)

CARDIFF, *Wednesday Morning.*

THE preparations of the Local Committee are now in an advanced state, and members of the Association are beginning to arrive in considerable numbers.

A change has been made in the position of the Reception Room, which is now located entirely in the Drill Hall, the Town Hall having had to be abandoned for that purpose owing to the impossibility of making adequate provision for the accommodation of the large number of guests expected. The Drill Hall is a large building, and has been divided into two parts by a screen, which also serves the purpose of a notice-board. On the entrance side are the offices for various purposes, post and excursions; and at a central oval counter, all other requirements relating to tickets, reserved seats, publications, and lodgings are attended to by a numerous staff of clerks.

Beyond the screen the hall has been fitted up as a drawing-room, and from this lead off smaller rooms for ladies, the press, and smokers. Separated from the drawing-room by a passage is the gun-room, from which everything has been removed, and tables laid down so as to convert it into a dining-room.

The President's address will be given in the Park Hall, this evening, and for the half-hour of waiting before the business commences Mr. T. E. Aylward will give a recital upon the fine organ in that hall. It is understood that Lord Bute, as Mayor of Cardiff, will at the outset welcome the Association in the name of the town of Cardiff.

The *conversazioni* will also be given in the same hall, and from 8.30 to 9 p.m., Lord Bute, as Chairman of the Local Committee, accompanied by Lady Bute, will receive the guests. At 9.30 p.m. an exhibition of views will be given by the lime-light, amongst them some fine ones, by Mr. M. Stirrup, of the limestone region of Languedoc. Amongst other attractions will be taking impressions of finger-tips, by Sergeant Randall (Mr. F. Galton's assistant); a model of the moon, shown by the Astronomer-Royal of Scotland; drawings in black and white of the Himalayas, by Col. Tanner; a collection of old local maps and atlases, by Mr. O. H. Jones; the Eisteddfod concert given at Swansea transmitted by telephone, by Mr. Gavey; and numerous other objects of interest.

Arrangements have been made for military and vocal music.

No alteration has been made in the Section rooms from that mentioned in our former article.

The publications of the Local Committee are ready for distribution, and comprise the local hand-book of 240 pages dealing with the archæology of the land of Morgan, the education, botany, geology, industries, and topography of Cardiff; the excursions-guide containing a map of the district on a scale of four miles to the inch, and two maps on a larger scale, one of the Bute Docks, and the other of the Barry Dock. The excursions number twenty in all—twelve are arranged for Saturday, the 22nd, and eight for Thursday, the 27th; and moderately detailed descriptions of each are given in the guide to the excursions.

The local programme, and the list of lodgings and hotels, are the remaining publications of the Committee. The total number of members of all classes who have taken out tickets for the meeting was, at 6 p.m. yesterday, over 900.

The President's address is as follows:—