

THE TERTIARY FLORA OF AUSTRALIA.

SIR,—In the interesting paper on the above subject which appeared in the April Number of this MAGAZINE, p. 153, Prof. von Ettingshausen describes the flora of the Travertin near Hobart Town, and refers to previous investigations on this deposit, specially those of Mr. Johnson. He appears to have overlooked, or at least does not allude to, two short notices on this limestone published about 40 years since, which however are referred to by Mr. Johnson (Roy. Soc. Tasm., 1879, p. 81).

The first notice is by Mr. C. Darwin, who states :—

“ Behind Hobart Town is a quarry of hard travertin, the lower strata of which abound with distinct impressions of plants. Mr. Robert Brown looked at my specimens, and he informed me that there were four or five kinds, none of which he recognizes as belonging to existing species. The most remarkable leaf is palmate, like that of a fan-palm, and no plant having leaves of this structure has hitherto been discovered in Van Diemen's Land. The other leaves do not resemble the most usual forms of Eucalyptus (of which tribe the existing forests are chiefly composed), nor do they resemble that class of exceptions to the common form of the leaves of Eucalyptus, which occur in this island. The travertin containing this remnant of a *lost* vegetation is of a pale yellow colour, hard, and in parts even crystalline; but not compact, and is everywhere penetrated by minute, tortuous, cylindrical pores.” [Volcanic Islands, 1844, p. 140, also Journal of Researches, p. 448.]

The second notice is in Strezelecki's New South Wales. Having been requested by Count Strezelecki to examine his collection of fossil plants and invertebrata, with the exception of the Corals and Bryozoa described by Mr. W. Lonsdale, I found among them a few specimens of plants and shells which were thus referred to under the Pliocene Flora :—

“ The two specimens of leaves and another peculiar form represented on Table vii. figs. 5—7, are from the yellowish compact limestone near Hobart Town which has been described by Mr. C. Darwin. These impressions have been submitted to Mr. R. Brown, who is unable to refer them to any species known to him, although one specimen has somewhat the aspect of a Proteaceous leaf. This fact is interesting because associated in the same limestone are two species of land testacea, a *Helix* and a *Bulimus*, which Mr. G. B. Sowerby cannot at present identify with any existing analogue.

“ These observations, taken in conjunction with the discovery by Mr. Darwin of a palm-like leaf in the same deposit (of which no similar leafy structure has been hitherto found in Van Diemen's Land), may lead us to infer that the species imbedded in the travertin probably represents the fauna and flora of a period slightly anterior to the present.” [Physical Description of New South Wales, 1845, p. 254.]

The two species of shells, *H. Tasmaniensis*, and *B. Gunnii*, G. B. Sow., have been also described by Mr. Johnson, who has added three more species from the yellow limestone of Geilston, near Hobart Town.

The above notices may perhaps be of interest as supplementary to Baron C. von Ettingshausen's paper.

J. MORRIS.

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THE PEBBLES OF THE BUNTER SANDSTONE.

SIR,—The papers on the subject of the origin and composition of the pebbles in the Bunter Sandstone which have recently been contributed to the GEOLOGICAL MAGAZINE give me an opportunity of briefly explaining my present views on this interesting problem.