

the fur of the winter-whitened stoat, as well as in the permanently white polar bear. I think Mr. Mudge's observations are a distinct help to us in getting at the meaning of these white coats. I should like to see what Miss Sollas can do with the hair of the variable hare, as in the whitened specimens of this animal I have never seen any trace of the yellow tints found in the stoat.

Mr. Mudge's note that the white areas of a piebald mouse can be turned pink by immersion in 5 per cent. nitric acid in 78 per cent. spirit, but only in summer or a warm temperature, is also of great interest. Does it not suggest a reason why pink colour in feathers is mostly found in summer plumages and in warm climates? And is not his production of brown in the hairs of white rats exposed to damp warm weather comparable with the well-known saturated tints so prevalent in animals living naturally in damp but warm countries?

While writing on winter whitening it may be well to direct attention to another point, which has always been difficult to explain on physiological grounds, namely, the fact that the black ear tips of the hare and the black tail tip of the stoat are not subject to winter whitening. This, however, would be explicable if, whereas the general

THE SUBANTARCTIC ISLANDS OF NEW ZEALAND.¹

THE naturalists of New Zealand have always shown themselves eager to take advantage of any opportunity for extending our knowledge of the fauna and flora of their country. Such opportunities are presented from time to time by the periodical official visits of the Government steamer to the outlying islands. In November, 1907, the s.s. *Hinemoa* deposited a large party of New Zealand men of science on Auckland and Campbell Islands, calling for them again on her return trip more than a week later. The expedition was undertaken at the instance of the Philosophical Institute of Canterbury, primarily for the purpose of extending the magnetic survey of New Zealand to the outlying southern islands, but the volumes before us consist chiefly of zoological and botanical observations, though there are also articles on geophysics and geology.

The work has been issued under the editorship of

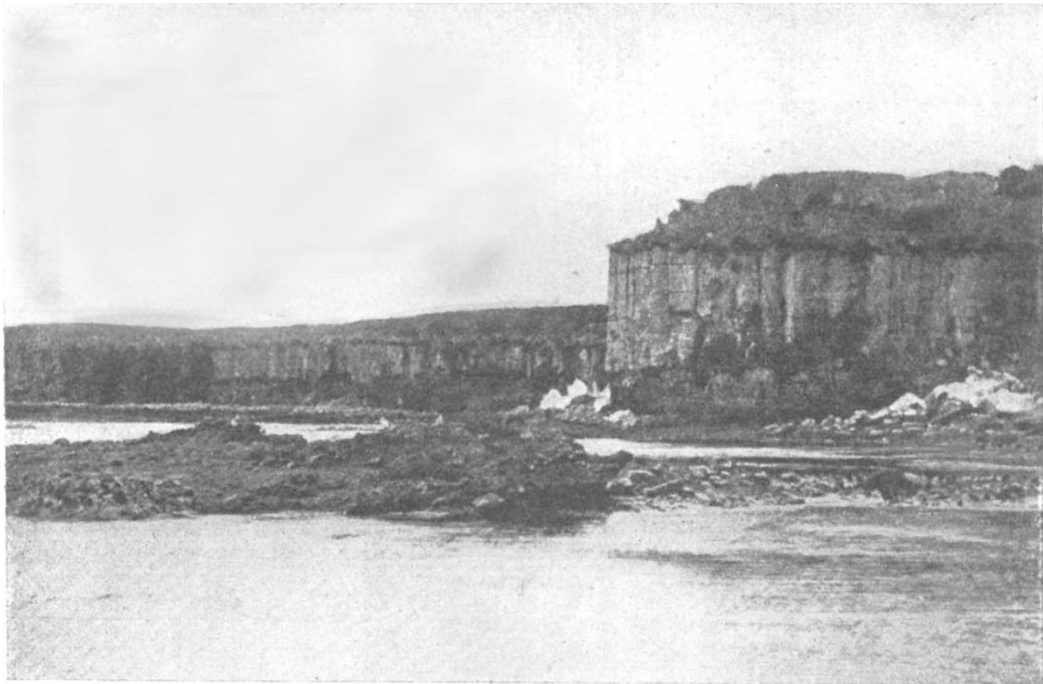


FIG. 1.—Cliffs of Columnar Basalt, Enderby Island. From "The Subantarctic Islands of New Zealand."

body coat of both these animals is cast twice a year, the black hairs on the ears and tail are renewed only once a year. If they are renewed only once they must remain (apart from fading) of the same colour throughout the year. That such a single moult is possible, and even probable, in these two instances is shown by the fact that in the squirrel there are two moults of the general body coat, but only one of the ear tufts and tail hairs. Similarly in the Equidæ (according to Ewart), there are two moults of the general coat but one only of the mane and tail.

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Kilmanock House, Campile, Co. Wexford,
Ireland, November 3.

Helium and Geological Time.

I MUST apologise for an error in my letter published in NATURE of November 3. The sixteenth line and onwards should read "... for we have no knowledge of chemical affinity between helium and solid substances; while, in respect of solubility, it would probably be inferior to the other gases."

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Dr. Charles Chilton, and the publication has been rendered possible by a substantial subsidy from the New Zealand Government. It comes at an opportune moment, and acquires a special interest in relation to the exploration of the Antarctic continent now in progress.

The time at the disposal of the expedition was, of course, all too short for a complete biological survey, and the collections were evidently, at any rate in many cases, very fragmentary, but many very interesting results were obtained. The zoologists were undoubtedly right in devoting most of their energies to the terrestrial fauna, which is much more likely to be modified or even exterminated by human agency than the marine fauna, but we cannot help wishing

¹ The Subantarctic Islands of New Zealand. Reports on the Geo-Physics, Geology, Zoology, and Botany of the Islands lying to the South of New Zealand. Based mainly on Observations and Collections made during an Expedition in the Government Steamer *Hinemoa* (Capt. I. Bellons) in November, 1907. Edited by Prof. Charles Chilton. Vol. i., pp. xxxv+388, vol. ii., pp. 389-848. (Wellington, N.Z.: Philosophical Institute of Canterbury. London: Dulau and Co., Ltd., 1909.) 2 vols. Price 42s. net.