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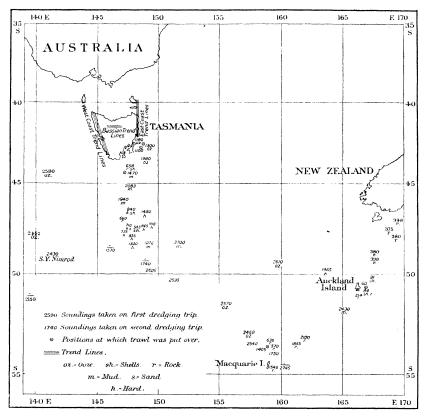
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(461)

DISCOVERY BY THE AUSTRALASIAN ANTARCTIC EXPE-DITION OF IMPORTANT SUBMARINE BANKS.

By Prof. T. W. EDGEWORTH DAVID, F.R.S.

CAPTAIN J. K. DAVIS, of Dr. Mawson's Australasian Antarctic ship Aurora, has recently reported the discovery, as the result of an oceanographic cruise, of an important rocky ridge or bank about 200 miles south of Tasmania. The Aurora left Hobart on this cruise on November 12, 1912, returning to Hobart on December 14 following.

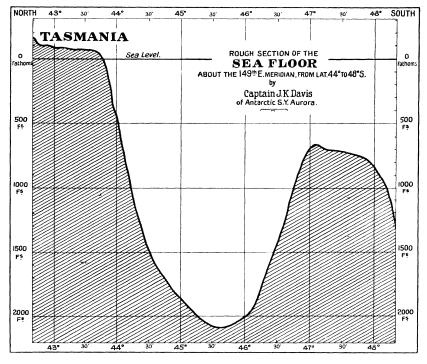


She left Hobart for Adélie Land, in order to pick up Dr. Mawson's main party at Commonwealth bay, and his western party under Frank Wild at Termination glacier, to the east of Gaussberg, on December 26. The accompanying plan and section by Captain J. K. Davis explains the nature of his recent oceanographic discoveries.

Captain Davis reports that for about 100 miles south of the southernmost land in Tasmania, the bottom deepens steadily to 2082 fathoms. It then commences to rise again to the crest of a long ridge, at least 150 miles in length. The shallowest portion of this ridge as yet proved by

462 DISCOVERY BY THE AUSTRALASIAN ANTARCTIC EXPEDITION.

Captain Davis has a depth over it of 545 fathoms. Comparing this with the depth of the ocean in adjacent areas to the east and west, ranging as they do from 2450 fathoms to 2700 fathoms, one may conclude that the ridge rises at least 11,000 feet above the general level of the neighbouring sea floor. The ridge, as far as developed as yet, proves to be at least 100 miles in width. The bottom for the most part is hard and rocky, but no specimens of the rock have as yet been recovered. A glance at the map showing the chief trend lines (mostly powerful rock folds together with geological faults and axes of eruption) reveals the fact that the principal trend lines tend to converge near this great submarine bank or ridge, which has already been proved to be nearly as large as the whole of



Tasmania, an island whose size is intermediate between that of Ireland and that of Ceylon. This is, without doubt, a fragment of a lost continent formerly stretching perhaps from Tasmania to Antarctica.

The palæontological evidence for the existence of this old land bridge between Tasmania and South America by way of Antarctica have recently been summarized in an able and original manner by Mr. C. Hedley, z.L.S., of the Australian Museum, Sydney, in a paper to the Linnean Society, London.*

* "The Palæogeographical Relations of Antarctica," read June 6, 1912. Proc. Linn. Soc., London, Session 124, 1911-12, pp. 80-90.

It is interesting to note that this submerged fragment is severed from Tasmania by a deep trench, a replica, but on a grander scale, of the foundered earth segment marked by Bass strait. It will be noticed on the accompanying map that the meridional, or N.N.W. to S.S.E. trend lines are crossed in the northern part of the island by strong E. to W. lines, termed on the map "Bassian lines," on account of their parallelism with Bass strait.

Captain Davis on this recent cruise also discovered a deep bank at a point about 60 miles north of Macquarie island, and rising from depths of 1750 fathoms to within 570 fathoms of the surface. The bottom here, too, proved to be rocky. All these interesting soundings were obtained by Captain Davis under very unfavourable weather conditions.

Captain Davis intended spending some little time on his return voyage to Antarctica in developing the interesting Tasman bank to the south of Tasmania. He took with him as a recently joined member of Dr. Mawson's scientific staff, Mr. Vander Waterschoot vander Gracht, the brother of the Government geologist of the Netherlands. He joined the expedition, giving his services entirely gratuitously, as a cartographic artist.

THE LORIAN SWAMP.

By C. W. HAYWOOD.

It has been a point of discussion amongst those interested in British East Africa, as to whether the E. Uaso Nyiro river flows out of the Lorian swamp or not; and if it does not, whether there is any marked river-bed running down towards the Indian ocean. I am in a position to give definite information on this point owing to my recent journey in that part of the world, especially in view of the fact that I was there during the driest months of the year, July and August, 1912, after a particularly rainless season.

In July I received orders to proceed to Wajheir and Lorian in order to report on the country, movement of tribes, and other matters; and accordingly I set off from Kismaya, which is the port of the Jubaland Province, on June 27, and proceeded to Gobwein, where I finally collected my camel caravan, syces, escort, etc. Owing to the fact that I anticipated having to cover considerable stretches of waterless country, nine of my camels carried water-tins, and the remainder were utilized to carry food for the men, tents, ammunition, etc.

Gobwein is a small township 10 miles north of Kismayu, and is situated on the Juba river, which forms the boundary between British East Africa and Italian Somaliland. The mouth of this river is partially blocked by a bar, which is passable at high water by shallow-draught steamers. After leaving Gobwein and passing Yonti, where there is a detachment of the King's African Rifles, I proceeded in a northerly direction and crossed the Deshek Wama near Barragon.