MOLLUSCA FROM ONE HUNDRED FATHOMS, SEVEN MILES EAST OF CAPE PILLAR, TASMANIA.

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(Plates xxii-xxv.)

No vessel equipped for deep sea investigation like the "Challenger" has ever explored the Tasmanian coast. The nearest point where a deep sea dredge has been hauled is off Twofold Bay, about four hundred miles from the scene of our work. Hitherto Tasmanian naturalists have confined their attention to shallow and sheltered waters.

To search further and deeper the writers engaged the "Sea-Bird," a serviceable steamer of twenty-five tons, and spent some hours of December 17th and 18th, 1907, in dredging around a spot seven miles east of Cape Pillar in an estimated depth of one hundred fathoms. We enjoyed the company and assistance of Dr. J. C. Elkington during the cruise. The weather was rough and unpleasant, and the success attained was due to the skilful management of the apparatus by the ship's engineer, Mr. Gulliver. We employed the bucket dredge, and for the final haul trailed a dredge behind the bucket with excellent results.

The submarine slope of the land is here extremely steep. The contour has not been fully developed by soundings, but the few scattered observations indicate that a depth of three hundred and forty-three fathoms is reached about eight miles from the land, descending to over a thousand fathoms at twelve miles and the level floor of the abyss, two thousand two hundred and seventy five fathoms beneath the surface, is attained at a distance of seventy miles.

A remarkable feature was the total absence of mud in the area examined. The hard ground diminished the proportion of bivalves to gasteropods. The sea-floor was shown by the dredge to be carpeted by a dense growth of tunicates, alcyonaria, sponges, bryozoa, etc., on a firm bottom of sand, rolled pebbles, and a conglomerate of recent shells. The rock was hard enough to dint the lip of the bucket. Some specimens of the siliceous pebbles, quartz, chert, jasper, etc., which Dr. C. Anderson kindly weighed for us, were 1·092, 0·774, and 0·509 grams respectively. The coral *Flabellum australe*, Moseley, was abundant, and reached a large size. While we worked, a strong current drifted us north-