

*A ROMANCE OF THE DEEP SEA.*<sup>1</sup>

TO those of our readers who have followed our successive notices of the great work achieved by Dr. Alcock in the exploration of the Indian Seas, for which

The author pays a just tribute to the pioneer work of Davis and Baffin, to Drake, as the discoverer of the "Robber crab," and to the early labours of the Bombay Marine in 1832 and of the Marine Survey of India in 1874, which, under the stimulus arising out of the *Challenger* expedition, led to the adoption of modern standards and the now memorable series of voyages which will ever be associated with the author's name.

The earlier portion of the book, intentionally popular, is charming in its method. A walk across the bed of the ocean from Madras to the Andamans is idealised in a manner calculated to fascinate the reader and arouse an interest in marine research. The Globigerina ooze, depth and darkness, the essentials of coral reef structure and formation, and other allied topics, are graphically introduced, in terms as far as possible expressive of the author's first impressions and his enthusiasm thereby aroused.

Adaptation to life in deep water and colour variation and resemblance come conspicuously into consideration; and interesting to a degree are the descriptions of a series of hermit crabs, some so little modified as to remain lobster-like in appearance, but still given to the characteristic hiding habit. One of these creatures, from the Andamans at 185 fathoms, "bottles" itself in a piece of mangrove stem or a bamboo internode, filling it tightly, with its great claws so extended that their terminal joints, flexed, close the mouth of the tube as by a lid. Another (*Chlaenopagurus*) from the Malabar coast effects the early attachment to its body of a compound anemone, which, extending with the growth of its host, forms a fleshy pallium bearing two lateral series of polyps. Holding the edge of this with its smaller pincers, the crab not only keeps it in place, but is enabled, as Dr. A. R. S. Anderson (who in

the later days of the *Investigator* work dredged these two remarkable animals) has observed, to pull the pallium forwards the more completely to effect a covering for its head.

he has just been granted a Coronation honour, the present book, dedicated by the author to his shipmates, will be welcome; while to the general public it ought to be both interesting and instructive, if only by the nature of its contents and its literary style. It is divided into three parts; the first, of fourteen chapters, giving a popular account of the ship and the voyage, and of apparatus and methods employed; the second, of nine chapters, giving a popular account of the deep-sea fauna of the Indian region; the third, in the form of appendices, being a list of dredging stations and depths, and a complete record of the literature of the expedition as thus far published. The Andaman and Arabian Seas, and the Bay of Bengal, were the scene of action; and, in the intervals of dredging and surveying, land parties were daily put ashore to sound and erect survey marks, and were in some cases left there for a month at a time for tide-watching, shore-collecting and other congenial occupations. Among the islands visited were the Andamans (twice), the Laccadives and the Coco set. To Cardamum and Minnikoy a special chapter is given.

<sup>1</sup> "A Naturalist in the Indian Seas; or, Four Years with the Royal Indian Marine Survey Ship *Investigator*." By A. Alcock, M.B., LL.D., F.R.S. Pp. xxiv + 318; 98 figs., tables and a map. (London: J. Murray, 1902.)

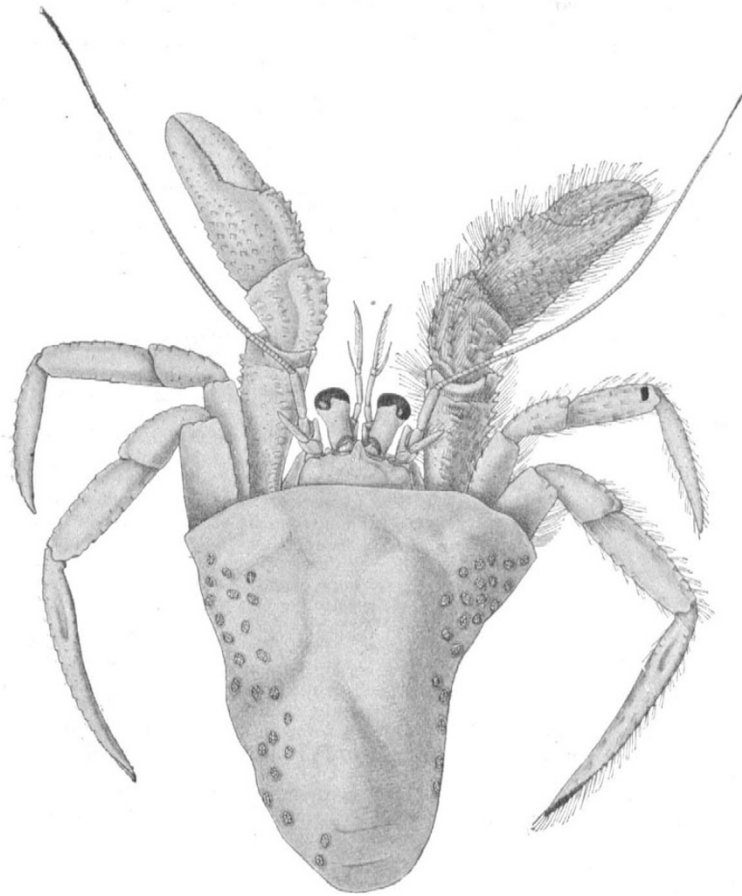


FIG. 1.—*Chlaenopagurus Andersoni*, with its protective blanket of sea anemones. (From Alcock's "Naturalist in the Indian Seas.")

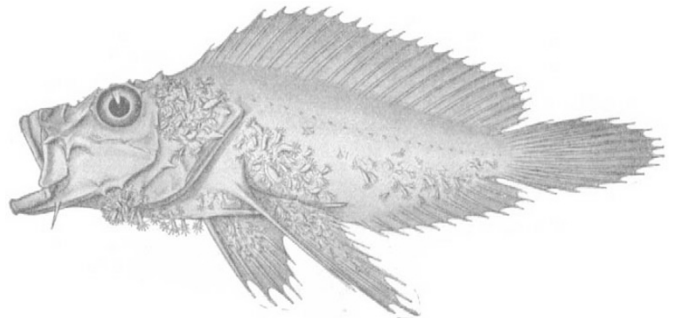


FIG. 2.—*Minous inermis*, with commensal polyps (*Stylactis minoi*). (From Alcock's "Naturalist in the Indian Seas.")

The work teems with charming topics of this order. Croaking crabs, milk-giving rays, luminous fishes and crustaceans are described, the latter as discharging a renal (green-gland) and para-oviducal secretion, and a sea-urchin has been observed which carried rice to its burrow for storage. Among the deep-sea fishes, of

which some 169 species are recorded, the voracious habit of swallowing a prey several times its own size is extended to a powerfully dentigerous Scopeloid *Odontostomus*, living at 573-870 fathoms.

Most interesting among the fishes is a Scorpenoid (*Minous inermis*), trawled at 45-70 fathoms both N. and S. of the Bay of Bengal and in the Malabar Sea. It has a compound Hydroid (*Stylactis minoi*) living commensally about its branchial region, and of this creature we recall the fact that, in his original memoir upon it, the author tells us how, in the presence of two species of the genus *Minous*, it will select that after which he has now named it.

Numerous other fantasies are attractive features of the book, as, for example, certain stories of bird-life which have come within the experience of the author and his wife, which almost baffle comprehension. And as a noteworthy scientific fact, the author tells us that while his greatest haul was one at 188 fathoms in the Andaman Sea near the Cinque Islands, his successor, Dr. Anderson, obtained nothing on repeating it.

For those who love sensation and admire pluck, the story of the carrying away by a big shark of a drift-net, which with its sinkers weighed more than 450 lb., the two becoming involved "past all surgery," like that of the fate of the cork of a bottle of "Bass" when lowered to 439 fathoms, where the pressure is equal to two tons to the square inch, and, above all, of the loss of the cap of one of the lieutenants, while returning to the ship after the successful rescue of a gunner from the attentions of three man-eating sharks, are tales of the sea as instructive as they are exhilarating, which must be read to be appreciated.

Among the more important discoveries of the voyage emphasised in the book are those of a "solitary" coral (*Caryophyllia ambrosia*), and the giant ostracod *Bathynomus* and blind lobster *Phoberus caecus*, hitherto thought to be characteristic of the depths of the Gulf of Mexico; and there are endless other records little less important than these, as all familiar with Dr. Alcock's scientific memoirs may well imagine. The book is interesting and attractive from cover to cover, worthy its author's reputation as a naturalist and explorer; and we know of no popular work of the kind more trustworthy and at the same time better calculated to give the reader an insight into the nature and methods of marine investigation, and to arouse an interest in this charming pursuit and the quaint resources of the deep sea. It is one of the best natural history books published for some time, altogether admirable, and it cannot fail to be widely read and appreciated.

#### A TRAVELLER IN PATAGONIA.<sup>1</sup>

HUDSON, in his "Idle Days in Patagonia," says "It is not strange that the sweetest moment in any life, pleasant or dreary, should be when nature draws nearer to it, and, taking up her neglected instrument, plays a fragment of some ancient melody, long unheard on the earth." Perhaps in Patagonia, more than in any other part of the western continent, the traveller feels the touch of *aeons* of forgotten centuries. He finds himself in a strange, unfinished world. On the west, a belt of volcanic peaks, snow-crested and glacier-dotted, represents the last fiery effort of the Andes to divide the world into two fractions. Cradled in their ramifications lies an extensive system of great lakes of surpassing beauty—lake succeeding lake for a distance of 600 miles from north to south. On all sides are found ancient moraines and the remains of mountains which have been torn to fragments by volcanic action, and vast

<sup>1</sup>"Through the Heart of Patagonia." By H. Hesketh Prichard. (London: William Heinemann, 1902.)

cañons and deep river beds through which streams have sometimes found their way to the Atlantic and then again to the Pacific Ocean, or *vice versa*, according to the convulsions of nature. Between the Atlantic coast and this Andean belt rises terrace after terrace, representing one of the greatest Tertiary deposits known. The shingle- and basalt-covered plains are scored by violent rivers and deep, broad depressions. Everywhere are found evidences that the country has been several times submerged and raised. The plains are the home of the guanaco, the huemul, the puma, the American ostrich and countless varieties of the feathered tribe. Primitive man must have found here a rare hunting-ground. His numerous, sturdy descendants, a nomadic hunting race, without trace of agricultural life, presented a bold front to the Spanish *conquistador*. They had several tribal divisions; the Moluches, or warriors (called Araucanos by the Spaniards), occupied both sides of the Cordillera in Patagonia, and were subdivided into Pehuenches and Huilliches. The former extended to 35° south lat. and derived their name from *pehuen*, a pine tree, and *che*, meaning people. The Huilliches, or southern Moluches, had four subdivisions, and extended along the whole west side of Patagonia south to the Straits of Magellan. The Puelches, or eastern people, so-called by the Moluches, occupied the whole of Patagonia between the Atlantic Ocean and the Andes, but were split into several fractions; the most southern one was known as the Tehuelhets, but called themselves Tehuel-kunny, or southern men, generally known in early writings as Patagones, but in modern times writers have fallen into the error of calling them Tehuel-ches, applying the Araucano *che* instead of the Tehuel *het* to denote people.

All these tribes south of 36° south lat. were the scourge of the Viceroyalty of Buenos Ayres and incessantly raided the Spanish settlements as far north as the line of the present Central Argentine Railway, even as late as 1868. In 1845, they proposed to the Government of Buenos Ayres that the southern frontier of the province should be the River Salado, only eighty miles south of the city of Buenos Ayres. There is now but a remnant of them left.

Such is the country the interior of which Mr. Prichard traversed from the mouth of the River Chubut to Puerto Gallegos, covering about nine degrees of latitude, and such the "Tehuelches," the only indigenous tribe whom he met, from time to time, *en route*. His expedition was generously financed by Mr. Pearson, proprietor of the *Daily Express*, of London, with the hope of discovering a living specimen of the Giant Ground Sloth—the prehistoric *Mylodon*—a portion of the remains of one having been previously found, at Last Hope Inlet, by the well-known Argentine *savant*, Dr. F. P. Moreno. In his quest, Mr. Prichard was unsuccessful; and it recalls to mind that a King of Spain was also unable to obtain a live *Megatherium* which he had ordered a Buenos Ayrean Viceroy to obtain and send to him. But if Mr. Prichard could not bring a *Mylodon* to life, he has at least given a life colouring to Patagonia in his charming book. It is profusely and richly illustrated from photographs and maps drawn from the inexhaustible collection made by Dr. Moreno during his years of explorations there. After devoting a few interesting pages to the physical features of Patagonia, its discovery, and some mention of some of the travellers and writers who preceded him, Mr. Prichard takes us with him to the Welsh Patagonian settlement, at the mouth of the River Chubut, and tells us that "the older and younger generation are unlike each other now, and will probably continue to become more so as time goes on. Physically, the younger people are far better developed than their elders." The splendid climate is evidently destined to grow a superb race of men—such, in fact, as Pigafetta and others, of Magellan and Drake's