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WILD LIFE

In the Heart of Northern Forests. By A. RADCLYFFE DUGMORE. Chatto and Windus. 21s.

A Year on the Great Barrier Reef. By C. M. YONGE. Putnam. 21s.

These two unusual and absorbing travel-books may well be read together, for they are in a sense complementary. Mr. Radclyffe Dugmore has set down the results of many years of sagacious and devoted animal-watching in the North of America; he is a solitary worker, a true animal-lover, and is never unduly hampered by scientific or biological considerations. His chief interest lies in the beaver, the moose and the caribou, all of which he has studied exhaustively over a period of many years. His mind is original, and he exhibits much of that same charming, tender curiosity towards wild life that was exemplified at its best in the genius of W. H. Hudson. He closely resembles Hudson, indeed, in many ways; like him, he prefers to work alone, and his manner of approach to the wild is similar; he is flies sometimes into a typically Hudsonian anger at the sound of a shot or at the discovery of some pieces of "collecting barbarity; he draws his deductions from the evidence of his own eyes and ears and lets the fairy-tales of old women go hang; and as a writer he exhibits the same simplicity and often the same angry prejudices as Hudson, and is just as likely as he to than a provincial journalist or with a sudden burst write worse of inspired loveliness. The Hudson resemblances apart, he is a brilliant photographer, and the plates with which his book is packed are as striking as the stills of expert shots from a film. Dr. Yonge is a very different person. The very title of his book indicates the vast difference of his field, and his book is, in a sense, the work of the activities not of one man, but of a whole body of men. The Great Barrier Reef Expedition, suitably subsidised, was an official marine scientific expedition whose business it was to study the Queensland barrier for a year. Dr. Yonge was in charge of the expedition; it is his purpose to give an account of the barrier :

To tell of its multitudinous reefs and islands, of the corals and other animals and plants which compose it and of the others which live on and around it; to recount the story of its discovery and of the wealth it possesses and the dangers it holds; to speak of the native people who dwell on its islands and who obtain much of their living the reef and animalies of the result. the weater it possesses and an its islands and who obtain much of their livelihood from the reefs and animals of these coral seas which have influenced at all points their habit and culture.

He continues :

But this is in no sense an official account of that expedition. But this is in no sense an omean account or that experiment. A is a record of personal experiences and impressions... A scientist deals with facts, and it is primarily with facts that I am concerned here, but I have tried to avoid the technicalities of the zoologist as carefully as the sensationalism of the journalist.

His prose is generally cool and academic, but often beautiful, and he writes on the whole with more style and more scientific weight and authority than Mr. Radclyffe Dugmore, but with less individuality, and with an absence of his engaging prejudice.

He is concerned primarily with corals. (" Corals are animals . the coral 'insect' is as mythical as the griffon.") Corals, which are allied to sea-anemones, are creatures which possess the extraordinary power of forming living skeletons of great size and strength. They consist of a soft tubular trunk, the under side of which fastens itself on rock and the upper part of which is composed of a fringe of many tentacles surrounding a mouth. Thus a coral is merely a tube stopped at the base. Like plants, corals feed and grow and at certain seasons seed themselves, as it were, over a large area with prolific rapidity. Like higher animals, they develop sexual products. They reproduce on a vast scale, discharging into the sea thousands of minute, pearshaped planulæ, which, under favourable conditions, settle themselves on a clean hard surface, fix themselves mouth upwards, and in an astonishingly short time undergo an entire metamorphosis. The base spreads over the rock and cements itself there; about the mouth grows a ring of minute tentacles of delicate loveliness; the coral, as it were, buds, and the foundation of a coral colony has begun. The Great Barrier Reef itself is simply a range of submarine limestone mountains formed by the infinite accumulation of the living skeletons of these amazing carnivorous animals. In life they are exquisite, and species will be shaped like staghorns or fungi or ragged chrysanthemums or the branches of trees. Their colours are riotous and vivid; the common staghorn coral, brittle as glass, flourishes in vast

flats of blue and heliotrope; the beautiful red coral is well known there are innumerable lovely corals of green and brown and yellow and soft rose. These reef-formers, which cover the rocks like lovely, useless embroideries, are the most stupendous of living builders. The Great Barrier, which guards the length of the east coast of Queensland, is no less than 1,260 miles long many miles wide, and not less than 180 feet high. In the search for species of coral, the study and classification of them, and not least in experiments on specimens, the expedition put in much hard, elaborate and invaluable work. Not only refbuilders but also reef-destroyers were studied. Coral reefs are the scenes of an endless conflict between forces of growth and architecture and those of destruction. In addition to the sea and the many injurious forces of organic origin, the most de structive agents are bivalve molluses. These creatures are capable of boring into the limestone basis of a reef by means of pouring out an acid which dissolves away the calcium carbonate composing the rock. Boring barnacles, a few species of sear urchins, and the curious sea-cucumber are enemies to rec consolidation too. Of other roof interlated to be Vonge gives consolidation too. Of other reef inhabitants Dr. Yonge give an enchanting account. Reef pools are populated by exquisite coral fish, blue groop construction of the group of the second coral fish, blue, green, orange, red, yellow and purple in colour, besides such greatures on the besides such creatures as the snake-like synapta, the blue startis and a chameleon-like species of octopus. The most terrible and deadly inhabitant of the reefs is the stone-fish, a hideous, flaw lessly camouflaged creature, impossible to see, a slow swim but with a power of defence that is diabolical. The back of the stone-fish is armed with thirteen spikes, which, at the approach of danger, are sharply erected a spikes which at the approach of the spikes which are sharply erected as the spikes are sharply are s danger, are sharply erected. Each spike is powerfully performance and poisonous. A human victim of the stone-fish may suffer days of blinding pain are the stone of the stone deally suffer days of blinding pain, months of illness, and even death

A Year on the Great Barrier Reef is remarkable, too, for some securiful photography. then the result is the source of the securified photography that the source is the securified photography that the source of the security of the securit beautiful photography, though in this case Mr. Dugmore is definitely the superior article definitely the superior artist. A colony of coral, exposed of unexposed, a great claw unexposed, a great clam, a group of bêche-de-mer, are But attractive but comparatively easy subjects for the camera, But what of the timid beaver, of whose life and operations Mr. Dugnore has given such a forcienti has given such a fascinating account, or the shy caribou, or even shver Booky Mount is even shyer Rocky Mountain sheep, for a glimpse of which let alone a photograph, Mr. Dugmore travelled so tirelessly a snap of the camera, and a hord of snap of the camera, and a herd of caribou will fancy it has been shot. Of beavers, huilden in shot. Of beavers, and a herd of caribou will fancy it has $m_{\rm orb}$ shot. Of beavers, builders in every way as interesting as orbit, there are only two distinct retry way as interesting for the there are only two distinct photographs in the book, for the beaver is rarely to be seen by the seen b beaver is rarely two distinct photographs in the book, for beaver is rarely to be seen by day. Thus, since all his subjects are among more commonly known creatures, it was infinitely difficult for Mr. Dugmore to make here to the book of the stability difficult for Mr. Dugmore to make his book remarkable; but and here, again, like W. H. Hudson—he has managed to give of the factor half a dozen familiar North American animals a fascinating history, flavoured strongly in the story of the strongly in the story of the history, flavoured strongly with his own individuality and all of oreat interview. of zoological value and of great interest also to the general reader. His chapters on caribou and because the second the His chapters on caribou and beaver are excellent. The beaver is a shy, insignificant-looking animal, rather like a muskrai and the average person is aware that is a shore that the like a All this. and the average person is aware that it builds dams. All this among other things, Mr. Dugmore explains; his observations are clear and illuminating, and he believes not merely in the high intelligence of the heaven but of the building of high intelligence of the beaver but also that in the building the beaver is dams it has been of definite her also that in the beaver is a astonishing a creature constraint of the markind. e^{-1} is as astonishing a creature as anything Dr. Yonge describes the work and it is interesting from these two books to compare the work of corals and beavers, both colored to compare the work

H. E. BATES.

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