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The

North Queensland Naturalist

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NORTH QUEENSLAND NATURALISTS' CLUB

Meets at Girls' and Infants' School, Abbott Street, Cairns,
usually on second Monday in each month, at 8 p.m.

BUSINESS FOR NEXT MEETING, Monday, 14th June, 1937.

To be announced later.

Reports of Meetings:

8th March, 1937: Dr. Flecker exhibited a new grass, *Eriachne setosa*, not previously recorded in Australia, found growing in Cairns.

12th April, 1937: A paper entitled "Submarine Views of the Great Barrier Reef," by Mr. A. Bruce Cummings was read.

10th May, 1937: A fine series of photographs illustrating the activities of the American Archbold Natural

History Expedition to Papua, showing the different types of country from the lowlands to a height of 13,000 feet, where the expedition was encamped for a month, were shown by Mr. L. J. Brass.

Mr. John Foster was elected Honorary Secretary of the Wild Nature Show, to be held on 4th and 5th September next.

Miss J. Richardson, of Cairns, was elected a member.

SUBMARINE VIEW OF THE GREAT BARRIER REEF.

BY A. BRUCE CUMMINGS.

The "Cairns Post" of March 2, 1937, described the construction of our diving cylinder, from which we were able to obtain submarine motion pictures. and now I shall go on to tell you something of our experiences during these trips to the submarine gardens of the Great Barrier Reef. Stepping into a flattie, we are rowed out to the "Bohemian," the boat being specially fitted up from which to work the diving apparatus. We climb aboard, the engine is started, and off we go to where the diving cylinder is anchored. Coming alongside, the cylinder chain

attached to it is passed through the pulley block, and towing the cylinder, we start out on the day's work. The "Bohemian" chugs along slowly now, making very hard work of it, as the cylinder trailing behind, acting as a sea anchor, slows us down to about quarter speed. With a look-out man perched up on the cross-arm of the mast, directing the course, we thread our way in and out of the reefs. A sharp look-out must be kept lest we run on to a peak of submerged coral rising up to within a few feet of the surface at low tide, and tear a hole in

our boat. Towing the cylinder makes the steering of the boat very difficult, it being slow to answer the rudder, and more than once we expect to hear the sound of copper plates being ripped off. Once out in the deep water, we are safe, and giving the engine more throttle, we make for a suitable location.

Some time passes. The look-out man shouts that there is good coral straight ahead. A couple of us climb on to a platform in the bow and gaze into the crystal waters. Deep down are masses of coral rising up into fantastic shapes. The engine is thrown out of gear, the boat quickly comes to rest, and an anchor is thrown over. From the flattie, and with the aid of a waterscope we explore the locality for a suitable place to dive with a flat spot, if possible, for the cylinder to rest on. The boat is brought into position; one forward and two stern anchors are put out. Opening up the cylinder, the camera gear is lowered into it, the airpipes are connected, and the air pump started. A strong northerly wind makes the sea quite choppy. Sitting inside the cylinder, while the lid is being screwed on, and the extra ballast of lead weights is being placed in position, is a most uncomfortable experience, somewhat resembling being mounted on a bucking broncho whilst semi-blindfolded, then caught in cross currents, the cylinder spins first in one direction and then in the other.

A voice through the exhaust air tube asks if I am ready to go, and, half seasick, I reply, "Lower away." Once away from the surface, all boisterous motions cease, and the cylinder sinks so gently down that there is no feeling of movement, and I am about to call up the air tube, which I have clutched in my left hand, when the peak of coral mountain comes into view, and I know that I am still sinking. Myriads of beautifully coloured fish appear; they seem to be getting more numerous, and, if possible, more brightly coloured. A pair of feather stars (Crinoidea), feeding on an outstretched branch of staghorn coral (Acropora hebe) wave their arms in welcome as I pass by; they are so close that I feel tempted to pick them

off, but, a second later, the sound of coral being crushed beneath me and a metallic ring inside the cylinder tells me that I am on the bottom. But, what has happened? A corner of the triangle carrying the lead ballast has come to rest on a coral boulder, thereby giving the cylinder a list to one side, almost throwing me off my seat. Calling up the air tube, I asked to be raised a little, and to go forward. When over the desired place I give the order to lower away, and this time I come to rest on the only flat surface within sight.

Swinging the camera to one side, I look through the inch-thick glass window into a new world. The sight is awe inspiring, and baffles description. Cliffs of coral rise up on either side—a brilliant patchwork of color, with giant fan-shaped corals jutting out here and there, some of these being sixteen feet in diameter, and beneath them in the shadows are large fish, scarcely moving, waiting patiently for their lunch. At the far end of the valley tall soft corals (Alcyonaria) resemble a forest of fir trees as the ocean currents sway them from side to side. Small caves lead back into the cliff, the entrance to them decorated with stalactites and stalagmites growing in riotous profusion, while, above and around as far as I can see, are clouds of darting, flashing fishes of every imaginable (and unimaginable) design. Some of them, I believe, never before seen by man, are here in this world beneath the sea. They are flat, oval, round and square, striped, spotted, and, in size, from microscopic dimensions to a huge estuarine cod (*Epinephelus tauvinus*) weighing about three hundredweight. "Are you O.K." comes a shout down the air tube from the attendant, and, with a jolt, I am brought back from this world of wonder. "I am all right," I answer, "but it's terribly hot down here. Can you give me more air?" My shirt and shorts are saturated with perspiration, and the condensation on the walls of the cylinder makes zig-zag tracks as it trickles down. I screw myself round to look through the two observation windows behind me. A shoal of large fish, with silver bodies and gold tails, are

there. They appear to be cast in crystal glass, for they remain almost motionless for some considerable time, all facing the same direction, until a current carries them forward a few feet, and after a pause, brings them back again, still maintaining their formation.

With dramatic suddenness panic breaks upon this peaceful scene, and in an instant there is not a fish visible. They have taken refuge in the coral. We don't have to wait long to learn the reason, for out of the blue mist of the distance swims a huge tiger shark (*Galeocerdo arcticus*), coming so close that I can see a sucker fish (*Echeneis naucrates*) attached to it, and the sight is so comical, I almost laughed aloud, but like the fish in the coral, I just looked as the shark slowly and sullenly goes on its way. Heads appear from every crevice in the coral, then dart back again. A few of them swim from one clump to another, more follow, and soon the whole fish community is playing and feeding as happily as before they were so rudely interrupted. A pair of fish with elongated bodies of glittering gold, black heads and tails, dart down past the window and nibble at some seaweed.

After directing the crew to change my position so as to view at close range the coral on my left side, a strange sight presented itself. An army of stream-lined fish are swimming, head downward, across the face of a coral boulder. These quaint little chaps, with bodies shaped like a Bengal razor, and between three and five inches long, and appropriately called razor fish (*Centriscus scutatus*), move in military formation. They swim vertically. Their tails are merely spikes, which can be bent to any angle, and appear to control the ascending and descending apparatus. Their mouths are long tapering tubes, being most suitable to thrust down into the finger-like corals in search of food. Being equipped with several pairs of fins, they are capable of the most unique manoeuvres. They all keep together, maintain the same distance apart, and ascend or descend in perfect unison. When on the move they resemble a unit of soldiers, as

they wheel and turn as one. While looking at them as they approach the cylinder, they are like a lot of sticks about an eighth of an inch thick, but as they turn, they present themselves broadside on, showing amber-coloured bodies, about three-quarters of an inch wide, with a black stripe running down the centre from tail to head.

Moorish Idols (*Zancus canescens*), with their long flowing white streamers, play follow the leader through the coral forest, which resembles shrubs that have shed their leaves. Gaily-painted parrot fish (*Labridae*) nibble at the coral. A number of inquisitive little striped fish, about an inch long, come right up and look in at the window, swimming up and down, with their mouths pressed against the glass. They evidently saw their reflections as their numbers increased until they blotted out the light. Sting rays (*Dasyatidae*) swim leisurely along, close to the bottom, and cover themselves with sand, leaving only their eyes and barbed tail visible.

Clinging to the sides of the coral boulders are giant sea anemones (*Stoicactys*). Living under ideal conditions in these tropical waters, anemones grow to as large as two feet across, resembling huge cactus dahlias. Hidden in the anemones flowing tentacles are a pair of small anemone fish (*Actinicola percula*), decked out in all their war paint, for they are the working partners of the anemone, and assist it in the search for food, receiving its share of the booty.

Down below a cold green light envelops all. The sun's rays, being broken up by the waves, are converted into hundreds of small searchlights, and their pencil light beams playing on the fantastic shapes of the coral and the gleaming fish, presents a sight which beggars description. A call from above tells me that the breeze has freshened, but here it is none too rough to tarry longer. This seemed difficult to understand, because down below all is quiet and peaceful, except for an occasional current surging through the passages in the coral pool. Whilst being brought to the surface, an angel fish (*Chaetodon auriga*), dressed in royal blue and

silver, with black velvet trimmings, darts from its mansions in the coral and swims close to the window, showing off its finery while its antics plainly say: "Come down and see me again some time." Nearing the surface the buck-jumping starts again, but not for long. The wing bolts are quickly released, with some assist-

ance I scramble out, feeling very cramped after three and a half hours down below. There is more work to be done here, so we leave the cylinder securely anchored, and in a few minutes are heading for the palm-fringed island, tired, but very satisfied with the day's work.

A RARE ORCHID.
BY W. H. NICHOLLS.

Epipogum nutans, Ldl.

This rare ground orchid is of more than normal interest. It is a leafless saprophytic species—the sole representative of the genus found in the new world, viz., Australia, Tropical Asia and Africa.

The few other species are found also in scant numbers throughout Europe, which includes, also, Great Britain.

I am indebted to Dr. H. Flecker, of Cairns, North Queensland, for my specimen. The colour of the flowers was just a shade paler than the all-pervading hue of the whole plant, i.e., a light straw colour. Most descriptions record the blooms as "white."

R. D. Fitzgerald, F.L.S., in his work on Australian orchids (Vol. v), figures the labella segment with reddish markings, but in my specimen the flowers lacked this additional attraction.

Epipogum nutans is entirely leafless, but the stem is adorned with several closely-appressed bracts; the tuber is darkly-hued and rhizome-like.

The flowers are racemose in a more or less drooping habit; labellum sessile—adnate to column base, ovate deeply concave; margins undulate, tip pointed; spur longer than in Fitzgerald's figures and obtuse; disk broad, with minute marginal glands; column very small, vizor-like, with a very prominent appendage.

Flowering during late spring.

Distribution in Australia: North Queensland, southwards to Northern New South Wales.

My material was collected in "Grass Clearing, Chuchaba (M. Pearson), 29/11/36.

The specimen was about 6 inches high.

KEY TO PLATE.
Epipogum Nutans, Ldl.

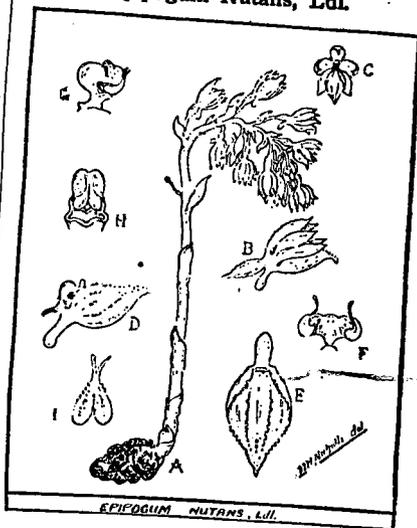


Fig. A.—A specimen from Chuchaba, North Queensland. (No 2615 Dr. Flecker).
" B.—Flower from side.
" C.—Flower from front.
" D.—Labellum and column from side.
" E.—Labellum from above.
" F.—Anther with pollinia attached, opened out.
" G.—Column from side.
" H.—Column from front.
" I.—Pollinia.