
THE
NORTH QUEENSLAND
NATURALIST
CAIRNS

Journal of
NORTH QUEENSLAND NATURALISTS CLUB

Founder, Presd. The late Dr. HUGO FLECKER.

OBJECTS—The furtherance of the study of the various branches of Natural History and the preservation of our heritage of indigenous fauna and flora.

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MEETINGS—Second Tuesday of each month at Oddfellows Hall, Lake Street, 8 p.m.

FIELD DAYS—Sunday before meeting. Notice of place and time given in "Cairns Post."

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"Each Author is responsible for the opinions and facts expressed in his or her article."

Club Officers — September 30, 1971 to September 30, 1972.

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Editor: Miss J. MORRIS.

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NEWS & NOTES: The late Dr. Brass generously bequeathed his binocular microscope to our Club, also a bookcase and a filing cabinet.

A Club member recently visited the Forestry Research Institute at Atherton and reports that the Flecker Herbarium is being well cared for there.

The Treasurer requests that all outstanding subscriptions be paid forthwith.

The Editor requests many more contributions for our Journal.

The following people would like Australian correspondents in the subjects stated:

Mr. C. C. Chua, P.O. Box 12, Tabah Rata, Cameron Highlands, Pahang, Malaysia. *Butterflies, moths, beetles, insects generally.*

Kevin Donohue, 7 Harrington Avenue, Coriland, New York 13075, U.S.A. *Insects generally.*

Mitsui Nomoto, 129 Umaki-cho, Matsuyama City, Japan. *Butterflies.*

Fumio Miyasaka, Box 66, Ueda City, Nagano, Japan. *Butterflies.*

Takashi Hosono, 1, 11-chome, Denenchofu honcho. Ota-ri, Tokyo, Japan. *Butterflies.*

Takayoshi Matsumura, 827-5 Fujioka, Fuyioka-shi-Gumna 375, Japan. *Butterflies.*

J. Haugum, Lunhusvej 33, 7100 Vejle, Denmark. *Butterflies.*

BULIMBA FAUNA SANCTUARY

In April 1970, the Bulimba cattle station on the Lynd River was declared a Fauna Sanctuary as a result of representations to the Minister for Primary Industries by the owner of the property, Mr. E. Cunningham.

Mr. Cunningham kindly supplied the following information about this Sanctuary for our Journal:

Bulimba is a very remote property lying on both sides of the Lynd River. Scattered all through the area are great big deep lagoons and swamps. These are ideal habitats for all manner of wild life such as geese, ducks, ibis, native companions (brolgas), jabiru, and numerous other wild birds. The station manager is Ranger and as such has complete authority to report anyone violating the sanctuary. It is felt that now they cannot be disturbed these wildfowl will breed in ever increasing numbers.

Should the property ever change hands the sanctuary would remain and it is most probable the new owner would agree to act as Ranger. Should this not be the case, the Lands Department would then appoint some other responsible person.

With Bulimba as a sanctuary Mr. Cunningham feels that the wild life of the Peninsula is now in no danger of extinction.

AN AMATEUR NATURALIST IN NEW GUINEA

FROGS:

A giant tree frog up here measures about 5½ inches in body length and about 10 inches with back legs extended. Colouring is deep green on top, white underneath with just a faint touch of yellow. The face is flat, the body very thick through. It has a very deep rattling voice which fortunately is not used very often. Up at Wau I found a small tree frog, brown with orange stripes down each side, that had a voice like someone striking an anvil. Another one was always belching politely - after each belch I fully expected to hear a small voice say: "Pardon!" On top of Mt. Kiandi, 8,000 feet up in moss forest, and always under logs, were two species of very small frogs about 1 inch in length that were quite beautifully marked like small jewels. The last frog I found back in Lae, right under the house. It was 1½ inches long, with small black granules on the back. It had the loudest voice of any frog I know, a series of high pitched "beep-beeps" which it kept up all night. It was impossible to sleep with one of these under your room, so I crawled under, to emerge after fifteen minutes with the offending frog, then was just sitting down when another started. Cursing, I spent a further half hour searching and finally caught it. Rod then let them go across the road. Naturally the following night we were once more deafened by "beep-beeps". After capture this time the frog was set free miles away. These frogs were very common.

REPTILES:

The natives usually kill any snakes they find. We have seen a black-headed python, what appeared to be two brown snakes, and perhaps a whip-snake. Then a native brought us a beautiful green python. It was green on top and sides blending into yellow with whitish underbelly and mauve speckles splashed along the sides - simply gorgeous in the sunshine. The natives let it go into the bush. We have seen a lovely tree goanna, 3 feet long, bright green with white speckles all over, climbing all the way up a tree. There are green skinks easily 1 foot long and others with blue tails. Across the Markham River I found a gecko under some bark, as large as our leaf-tailed gecko, with beautifully patterned eyes and markings of chocolate brown, deep grey and a black patch on the back.

BIRDS:

In a quiet clearing I heard in the distance what I took to be a heavy wind. Closer and closer it came, a strange soughing pulsing sound of heavy objects beating through the air. Then over the treetops came fifteen large birds. As soon as I saw the bills, heavy and downcurved with a large carbuncle-type protuberance at the head, I knew they were hombills. They were black except for white tips on the huge beating wings and long tails. Altogether three flocks totalling about thirty birds flew over the clearing.

Another day up at Wau I went round the mist nets with Peter Shanahan's boys. Peter collects birds for overseas zoos. A few birds in the nets were gently put into cloth bags. On our return down the ridge, the leading boy stopped, silently beckoned me forward and pointed to a largish tree on the outer jungle wall. Onto a branch right in front hopped a king bird of paradise. He was small with pure gleaming white breast and neck, his head and all his back flaming scarlet, and two lyre-like green feathers extending from his tail. These bobbed up and down as he hopped around, busily peering into loose bark. Suddenly he was still, peering intently, his head weaving this way and that. Then in a red flash he was gone. I shall never forget that bird.

Going down a track on Mt. Kiandi I heard a strange cry, a kind of rapid chattering after the style of a machine gun, which I realised I had heard before on one of my records at home. It was the call of a Sicklebill bird of paradise. I hurriedly focused my binoculars on the nearest tree and there in the shadows was the male. Black with white splashes on wings, mottled breast, he had a long tail from which protruded two longer white feathers that streamed behind him when he flew. He sat there absolutely still, eyeing me inquisitively. Another shadow joined him, his rather drab wife. Both had long thin down curved beaks, like the rifle bird. We must have stared at each other for ten minutes before they unhurriedly flew away. This same day in the moss forest I saw yet another bird of paradise the Magnificent. I managed to see the yellow feathers of his back and he appeared to have greens and browns on black. One moment he was on a branch, the next gone.

I saw some tree creepers with black caps scaling the trees, and two New Guinea versions of the golden whistler flitting round on the moss covered boughs. A party of large black birds with bare yellow faces came slowly through the trees, foraging up and down the branches - a type of

honeyeater. Later I came upon two grey mottled birds, the size of rifle birds and with similar bills, which were really tearing into an old tree, bark flying everywhere. Small all black parrots shot rapidly amongst the trees, possibly a species of fig parrot.

Another day on Mt Kiandi I came upon some mistletoe with bright orange blossoms on which half a dozen dainty little honeyeaters were feeding. They had coal black plumage with a scarlet splash across back and head. Also at this place I saw one of the New Guinea yellow robins, the yellow very faded out with the same gentle nature and friendly eyes.

INSECTS ETC:

Rod and Joan took me out to meet some of their boys who had been collecting specimens for them. We left the car in a small clearing surrounded by semi-jungle and wended our way along a path until we came out onto a river. Now crossing this river was what Joan and Rod, in the understatement of the year called a swinging bridge. They assured me they had crossed it before. I followed Joan awkwardly up a series of wooden slats or branches, going almost on all fours as there was nothing to hang onto. On getting up to the top and watching Joan commence her swaying progress across, I turned a pea green and decided definitely that this was not for me. Ignoring rude remarks from Rod I tottered down to the ground, took my boots off and waded across the treacherous current that swept strongly round my ankles.

On the other side we met the boys at their home under some palm trees. They and their friends from the village welcomed us and they brought out their hoard. Michael had collected on a vine two chrysalises of the black and yellow birdwing, but best of all was a giant green katydid. It was so like a leaf that at first it did not register on us. The wings had the veins and arteries of the usual leaf as well as camouflage splotchings that from a distance resembled holes or fungus spots. It was 5½ inches long and 1 1/4 inches deep, truly a magnificent specimen.

Going back I once again forded the raging torrent, stopping in mid-stream to watch the slow progress of Joan returning over the bridge. Cautiously inch by inch she stumbled and tripped, grabbing tightly the cables on each side. In fact so hard was she concentrating on crossing and keeping her balance that she almost knocked a smiling native off the end as she stepped off. She did not know anyone was there until he spoke to her. I think that the only reply he got was a small shriek.

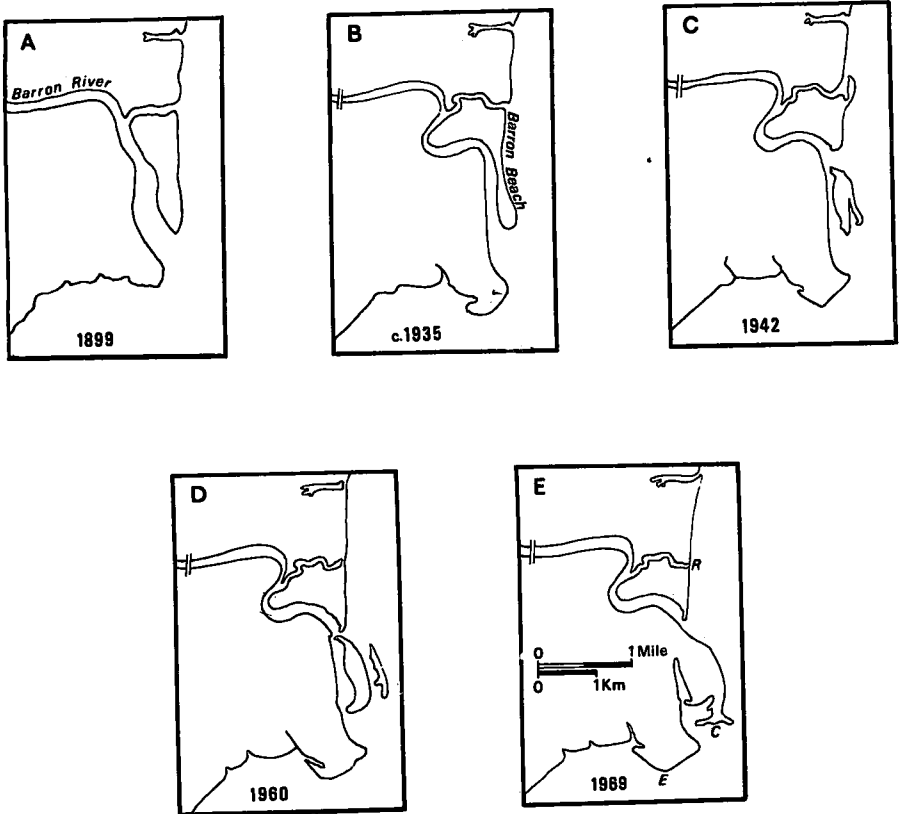
The beetle collecting I would say has been fairly poor, although I will end up with a little over two thousand beetles. I have been here during the dry season - though it rains almost every night. The wet season should start in April or May. I have met many interesting people and have enjoyed every moment of this trip. From spiders and birds to snakes and giant millipedes that grow to over a foot long (pick up these last with care as they secrete some solution that burns the skin, causing it to peel off): in a new country everything that moves is interesting.

John Crowhurst .

RECENT CHANGES ON THE SHORELINE OF THE BARRON DELTA

E. C. F. Bird (University of Melbourne)

Figure 1.



The coastal lowland north of Cairns consists of the delta built up by the Barron River, which has brought down large quantities of sediment (chiefly sand, silt and clay, with some gravel) from its catchment on the Atherton Tableland. Rivers in delta regions commonly branch into several distributary channels, and the Barron is no exception. Thomatis Creek, leading into Richter Creek, is one distributary, and Redden Creek, opening on to Machan's Beach, is another. Barr Creek, at the northern end of Machan's Beach, marks the site of a third, no longer linked to the Barron River.

As deltas develop, these channels tend to migrate, and change in size. Most of the water and sediment now discharged by the Barron flows down its main channel, under the road bridge at Stratford and out to the sea at the southern end of Machan's Beach, but at earlier stages in delta development the main outflow was at times by way of Richter Creek, and at times by way of what is now Redden Creek. At one stage, the Barron flowed into Cairns Bay somewhere near the Airport.

These past changes have been deduced from studies of the surface and sub-surface deposits of the delta region (Bird 1969, 1970), but even within the past century there has been a major change in the outflow from the Barron River. Evidence of this can be obtained from comparison of early maps and charts with the more recent configuration shown on air photographs (Figure 1).

Cook and Flinders both sailed past this sector of the coast without pausing to examine it, but Philip King visited Trinity Inlet in 1819, and thought it to be the mouth of a large river. Owen Stanley agreed with this view when he visited the area in 1848, but when Dalrymple explored Trinity Inlet in 1873 he found that it led only into branching and narrowing mangrove-fringed tidal creeks. None of the early visitors seems to have noticed the mouth of the Barron River, though it must have been known to the first settlers, who arrived in Cairns in 1876. It was marked on Lieutenant Connor's plan of Cairns Harbour, prepared in 1878, in a position adjacent to Ellie Point. A map of Cairns and surrounding districts published around 1885 (kept in the Queensland Archives) also shows the Barron opening in this position, but it labels Ellie Point erroneously as Casuarina Point. The first reliable map of the lower course of the Barron River is the chart of Cairns Harbour surveyed by Commander Parry in 1899. The configuration at that stage is shown in Figure 1, a.

In the early years of the present century there was an uninterrupted beach extending from the mouth of Redden Creek southward to end in a spit flanking the outlet from the Barron. This was known as Barron Beach (Figure 1,B). By the mid-nineteen thirties there were several dwellings on the sandy country immediately behind this beach, and two of the people who lived there (Mr. F. G. White and Mrs. B. Brown) have supplied the author with local information. Year by year, the Barron River sharpened its meandering channel, encroaching on the narrow strip of coastal land. The sandy isthmus was almost breached during the 1934 cyclone, when heavy seas pounded the shoreline at the same time as floodwaters poured down the Barron River. The actual break-through seems to have taken place a year or two later, probably in 1937. A wide new outlet was soon formed, and shoals began to accumulate across the old channel.

This was the situation when air photographs were taken in July 1942 (Figure 1,C). Extensive shoals of sand which had formed south of the new outlet were probably derived mainly from the washed-out sector of Barron Beach, though additional sand may have come down the river at this stage. Subsequently, a large sandspit has developed south of the new outlet (Figure 1,D) culminating in Casuarine Point, and the old channel has been sealed off by a tract of mangrove swamp, so that by 1969 it was no more than a blind inlet between Casuarina Point and Ellie Point (Figure 1,E).

The sandspit at Casuarina Point is a fine example of a recurved spit. The dominant longshore drift on this sector of the coast is southward, because waves produced by the prevailing south-easterly winds are usually weak in the lee of Cape Grafton peninsula. Waves from the north-east are moving sand down the coast to Casuarina Point, but occasional strong southerly winds, coinciding with high tides in Cairns Bay, bend back the southern termination of the spit to form recurves. These are usually directed landwards, but at times there is also a seaward projection of sand, giving the spit a 'hammer-head' appearance.

When the Barron mouth lay near Ellie Point, the river supplied sand to build a recurved spit there. Once it changed its course, the sand supply was cut off, and mangroves began to colonise the mud in front of the sandy beach. There is still lateral growth, however, at the western end of Ellie Point beach, where a small sandspit is fingering into the mangrove swamps that fringe the northern shore of Cairns Bay. If the mangroves continue to spread they will eventually enclose this recurved spit, and its growth will come to an end. There is nothing new in this, for the mangrove swamps of the Cairns district already enclose several such 'dead' spits, relics of earlier phases of sand supply when the river mouth lay in other locations.

The evolution of the Barron delta has certainly been complex, and the changes that can be demonstrated from historical evidence within the past century are simply the most recent variations in physiography. In the future, it is likely that Casuarina Point will continue to extend, and that mangroves will advance further on to the muds accumulating in Cairns Bay. It is possible that the Barron River will again change its course — or that engineers will find it necessary to divert the outlet to some other position, perhaps as a means of delivering sand to replenish the eroded shoreline at Machan's Beach.

References:

- Bird, E. C. F. 1969 The deltaic shoreline near Cairns, Queensland, *Australian Geographer*, vol. 11, pages 138-147.
Brid, E. C. F. 1970 Coastal evolution in the Cairns district, *Australian Geographer*, vol. 11, pages 327-335.
Figure 1. In panel E, R indicates Redden Creek, C Casuarina Point, and E. Ellie Point.