ABORIGINAL GROOVED AXE-HEADS

KEITH KENNEDY

President, Townsville and District Naturalists' Club. Past President, Anthropological Society of N.S.W.

Recently a member of the Townsville and District Naturalists' Club presented me with a grooved form of aboriginal axe-head. It had been given to him by a lady, who supplied the information that it was brought from Cooktown some years ago. A few weeks later another member of the Club gave me a smaller specimen which he found in a shallow depression made by soil getters on the Townsville Common.

Normally the axe-heads made by the Australian aborigines are not grooved, and are wedged into the haft. It is only in certain localities that the grooved kind is found. The reason of the groove is to prevent the head slipping from the hafting, which is formed by bending a strip of split pliable wood around the groove, and binding the ends together for the handle.

Roth (1) mentions grooved axe-heads occurring in North Queensland but does not report them in his Ethnological Studies of North Western Queensland. In New South Wales they are found on the watersheds of the Murray and Darling Rivers, and in Victoria from the western part of that State. A variety with two grooves was collected near Avoca, Victoria, (2) and another from Willcannia, New South Wales, (3) but this double grooved variety is very rare. The specimen from Cooktown weighs 3 lbs. 3 ozs. Its greatest length is 17 cm. and greatest breadth 12.2 cm. The material it is made of is a greyish igneous rock,
and the whole implement is patinated—a sure sign of age. On one face a flake, 8.4 cm. long, has been broken off, but so long ago that the scar has also become patinated. The groove, averaging 14 mm. in width and 5.5 cm. in length, is made by the "pecking" process. The cutting edge of the blade is evenly rounded and ground. Superficially this axe-head gives the impression of being made from a water-worn pebble, but a close scrutiny shows that, like the groove, it has been made also by the "pecking" process.

The Townsville specimen weighs 8 ozs., is 9.5 cm. in length, and 7.3 cm. in breadth. Its groove, 3.3 cm. from the butt end, averages 14 mm. in width and 3 mm. in depth, and completely, but obliquely, encircles the head. Like the Cooktown specimen it and its groove have both been made by pecking. One face has been partly broken away, but not enough to damage the ground edge. The stone is very dense and dark, with minute glistering particles, and is probably schistose in character.

Most of the axe-heads found in Australia were made by first flaking into shape and then smoothed and polished by grinding (rubbing) on sandstone. Sometimes only the cut edge is ground, and the rest of the implement left in the rough. Often, instead of shaping a stone, a water-worn pebble of suitable dimensions was selected, and ground at one end to make a cutting edge. This grinding process is typical of the Neolithic culture, which was employed in the older Paleolithic culture. In the latter process flakes were struck off a piece of siliceous stone and, inasmuch as the parent core having sharp edges, were ready for use, but only certain kinds of stone would flake out cleanly, and were suitable for this process.

The pecking process, also Neolithic, requires a different technique to grinding and flaking. Any hard and tough stone can be used, and the shape desired is obtained by striking a numerous succession of short blows with a hammer-stone, causing the part struck to crumble away. By both this and the grinding process the form of the object required can be envisaged on the stone, and is therefore under the control of the worker.

The grooved axe is not found on the Pacific Islands, but is distributed over most of North America, where it is also made by the pecking process. Its uneven distribution in Australia where it is often found side by side with the ungrooved form, in the Pacific, and occurrence in North America, is one of the ethnological problems yet to be solved.

REFERENCES.

Orchis triplicata Willem., the name-bringing synonym, is not conspecific. While C. veratrolia R.Br., as to plant and figure described, is probably conspecific, the figures of the plant, as given, are open to grave doubt, as pointed out by Smith, I.c., whether Limodorum veratrolia Willd. is the same as the plant that Bateman described and described. Should Limodorum veratrolia Willd. be C. sylvatica Lindl., as seems probable, the combination C. veratrolia R.Br. would apply to that species.

The question of the correct nomenclature of this genus, which we in Australia know as Calanthe veratrolia R.Br., is thus seen to be a complicated and difficult one. I do not know of any later publication on the subject since Merrill's cited above. In Bot. Reg. VII (1821), a note from M.S.B. R.Br. is published in connection with a figure of Lisceliium, in which Brown establishes the genus Calanthe, "consisting of Limodorum veratrolia, and judging from Kaempf's figure, L. striatum also."

In Bot. Reg. IX (1823), two plates (720 A and B) are published of Calanthe veratrolia R.Br., which is identified with Wildenow's Limodorum veratrolia. These two fine colour plates unquestionably, in my opinion, represent our Australian plant.

Whether our plant is identical with the Philippine species is another matter. At all events, in view of the uncertainties involved in the question of this nomenclature, I think we shall be well advised in Australia to retain for our plant the long-established and familiar name C. veratrolia R.Br. until it is clearly demonstrated that the rule of priority requires its suppression in favour of some other.

BIRDS OF TOWNSVILLE AND DISTRICT
By H. E. TARR, Melbourne.

In compiling this list of the birds of the Townsville District, I am indebted to Mr. Spenard Hopkins, of Townsville, from whose personal direction I was able to make many observations. Three very interesting observations I made this time up north; the main item being a pair of Little Crows, Corvus bennetti at Edge Hill (in the Cairns District) on 20/9/47. The next item was two Greater Frigate Birds, Fregata minor. The next was the appearance of several large Sooty Swift Pigeon, Myristicivora spilorrhoa on the Town Common at Townsville, this being the most southerly record I have made in 15 visits north until three more were noted at Ayr, 10/10/47. A large black bird, which I identified on 4/10/47 as the Red-Tailed Black Cockatoo, Calyptorhynchus bennetti, flew from the direction of Magnetic Island and passed over Cape Pallaranda and then over the Town Common. As it passed within 100 yards of me, I am absolutely certain of its identity, but it surely must have been the Little Crow, it is not a seaside dweller. This is not the first seaseide record of C. banksi as I had daily observations of it flying over Darwin in 1941-2.

In the Town Common at Townsville lies one of the most prolific bird sanctuaries in Australia in respect to both quality and quantity. The Common Myna, Acridotheres tristis is the only introduced bird observed.

The localities from which the following birds have been noted may be listed into five districts, groups which are indicated as follows: A. North Ward and Belgaria Gardens; B. Armstrong Paddock and Oonoonba Railway; C. Town Common; D. Bayside and adjacent mangrove inlets; E. Magnetic Island; X. Listed at earlier visits.

2. Red Capped Quail, Pigeon, Oxford ptychodon. X. 1944.
3. Torres Strait Pigeon, Myristicivora spilorrhoa. X. Very common, most southern record is Ayr, 16/10/47.
4. Peaceful Dove, Geopelia placida, Common, breeding in all districts.
5. Common Bronzewing, Phaps chalcoptera. X. B. 1929.
6. Crested Pigeon, Ocyphaps lophotes. C. Did not expect to find this here.
7. Dusky Moorhen, Gallinula tenebrosa. C. One bird only observed.
8. Eastern Swamphen, Porphyrio melanetus. C. In small numbers.
11. Little Black Cormorant, Phalacrocorax ater. C. Occasionally.
27. White-headed Stilt, Himantopus leucocephalus. C. One large flock noted.

(To be continued.)

FRESH WATER FISHES OF THE BARRON RIVER.

BRUCE SHIPWAY, Perth, W.A. (Concluded)

KURANDOPOGON BLANCHARDI Whitley

Kurandopogon blanchardi Whitley

Found in the lower reaches of the Barron and Mulgrave Rivers. The body of this perchlet is coloured light green with broad vertical bands of yellowish green. The spinous and soft dorsals are about equal in size and all the fins are carried well extended. It lives amongst dense patches of aquatic plants such as Eleodea and is a midwater swimming fish. Information regarding its breeding habits is desired. Owing to its small size, one and a half inches, and its hardness it should make a good aquarium fish.

THE NORTH QUEENSLAND NATURALIST

Family ELEOTRIDAEE.

Carassius compressus (Ogilby)

Found in the upper and lower reaches of the Barron River. This little gudgeon is noted for its hardness. It can live in water too foul or stagnant for most others. Its rather drab pale green colour is only relieved by a dark edge on its soft dorsal fin. It is sluggish in habits and prefers to more or less "walk" along the bottom of the streams and water holes in search of food instead of actively swimming. It is often found in dense masses of Eleodea where it will remain hidden for lengthy periods. It is a valuable destroyer of mosquito larvae but owing to its small appetite cannot cope with a badly mosquito-ridden pool unless it is present in large numbers. Information is desired regarding the breeding habits of this fish but it is probable it may set in the same manner as the Mogurnda mogurnda adspersus. Length 4 inches.

Family CYPRINODONTIDAE.

Gambusia affinis holbrooki (Girard). Mosquito Fish.

The writer has been advised that the above fish has been introduced in the swamps around Cairns. This fish, imported from the Southern States of U.S.A. about 1910, belongs to the viviparous group and drops from 10 to 100 young every four to five weeks. The young reach maturity in about 10 weeks and are able to fend for themselves a few hours after birth. The fish is remarkable mainly in the differences between sexes. The female is about 3/4 inches long and usually has a black spot on the body above the anal fin, known as the gravid spot, indicating the presence of the unborn young. The male when mature is about 1/2 inches long and is of slimmer build. The anal fin of the male develops into an organ, known as the gonopodium. The colour of both male and female is of a pale greenish grey with a faint iridescent blue. The dorsal fin and tail are marked with very small dark spots. Occasionally a fish may be seen with larger black markings, sometimes nearly covering the entire fish. It is a cannibalistic fish, eating its young and that of other fish. It can live in fresh, salt or brackish water. The writer's views on the subject of the introduction of these fish to waters already stocked with indigenous mosquito-eating fish are at variance with the authorities responsible for their release.

THE SCIENTIFIC NAME OF THE DINGO

(By H. Flecker)

Under the above heading, in the Proceedings of the Royal Zoological Society of New South Wales for the year 1946-47, on p. 35, Tom L. Redale has shown that according to the usual rules of priority, the name, Canis antarcticus Kerr, 1792 must be applied to the dingo. As, however, the dingo is now generally regarded as a variety of the domestic dog, Canis familiaris L., the full name should be Canis familiaris antarticus (Kerr), combination nova.

NEST BUILDING OF CYRTOSTOMUS FRENATUS

S. E. STEPHENS, President, N.Q. Naturalists' Club.

The yellow-breasted Sunbird, Cyrtostomus frenatus, is a very sociable bird, or perhaps rather one should say has a trusting nature insomuch as human beings are concerned. It delights in flitting round a garden extracting nectar from the flowers and catching stray insects. Its nest is frequently built close to human habitation, and its eggs and young are soft-soured in the protection of eaves or on the verandah of a house.
THE NORTH QUEENSLAND NATURALIST

The nest building habits are interesting. Breeding occurs during the summer months—particularly in December and January at Cairns. The breeding pair spend several days inspecting the site of the nest for the next appears to be a joint undertaking. Some hanging object from which the nest can be suspended is usually sought, and possible spots are carefully inspected from all angles. Both birds repeatedly fly at and hang together on sites under consideration, chattering continuously. The object in this manoeuvre appears to be to test the swaying, which would be an important consideration in a pend-ent nest, and would have some influence on its design. Over a period of several days a site that appears to find favour will be re-inspected between searches for other likely spots. A piece of hanging string or frayed rope is a very frequent choice as it offers security for their young. The case of one of the larger species of Bag Moth growing on a house wall was observed to have been used by one pair during the 1944-1945 season. Occasionally work will be commenced on nest building and the site abandoned after several days work, a possibility explaining that some unfavourable factor, such as too great exposure to wind, has been discovered.

Provided no unforeseen hitches occur, building progresses along the following lines—a large quantity of spider web is brought in and stuck to the foundation over a length of several inches. Pieces of fine dry grass, and threads of bark fibre are worked into and suspended on the length of spider web and grass are added until the structure is about eighteen inches to two feet long. An area below the centre of the nest structure is built up in thickness with closely laid pieces of fibre and grass cemented with the spider web. When a sufficient body of material has been accumulated the bird clings to the outside and, with her long bill, pushes the fibres apart to form a hollow with a side opening. The nest is cemented in a circular formation with thin patches in the outer walls and these are filled with more fibre. Gradually the hollow is increased in size, until it becomes large enough for the bird to enter. She then enters and shuffles violently until the inner walls have spread sufficiently to give ample room. The hollow is next lined with food containing a mass of dry grass seed stems, pieces of palm fibre, bark fibre, etc. At this stage a projecting hood is built over the nest opening, the fibre being extended through the top of the opening to construct it. Concurrently with the internal lining the outer structure is added, the nest being decorated with dead leaves, pieces of paper bark from Melaleuca trees and liberal sprinklings of borer excreta from Acacia trees. The tall which extends below the nesting hollow is added to, and decorated plentifully with the same materials held together with spider web. During the decorating process the hood is woven to the outer structure and the ragged ends bound in to make a neat finish, and a secure porch roof. The nest is completed with a final lining of downy feathers and soft down from seed pods of Asclepias spp.

Practically all the building work is carried out by the female. The male spends his time in the near vicinity of the female entertaining and encouraging her with song. Various combinations of the names of the work in company with her, at which times they indulge in animated chattering.

The speed with which the work progresses is indicated by the following time-table:—During the week ended 10th January, 1948, inspections were made for a nesting site. The site was selected and the building commenced on the 11th; the 12th was wet and very little work was done; on the 15th the centre hollow was opened out; and on the 17th lining of the nest with feathers and Asclepias down was completed.

Dimensions of a typical nest of the Sunbird and Oriole range 14 3/4 inches; from suspension to top of nest bulb 14 inches; nest bulb 6 inches long by 2 1/2 inches side to side and 2 1/2 inches front to rear measurement; tail 8 inches. The nest entrance is 1/4 inch high by 1/2 inches wide.

MAGNETIC ISLAND

Field Day of the Townsville and District Naturalists' Club, held 16th November, 1947.

By KEITH KENNEDY

The November Field Day of the Townsville and District Naturalists' Club was an excursion to Nellie Bay, Magnetic Island.

One of us, accompanied by Field Day Headquarters at Picnic Bay and walked the rocky track to Nellie Bay, which lies in the next valley. Here we made our headquarters for the day.

The bulk of Magnetic Island is covered with "dry forest" and on the Nellie Bay side only at an elevation half-way up Mt. Cook does the highest peak on the island, the Outstanding Beacon, which requires moist conditions. Mt. Cook reaches a height of 1628 feet and from Nellie Bay can be seen on...
its side a patch of darker forest sprinkled with numerous light lines denoting the stems of palms. Some of us decided to make this palm forest our objective, so taking a track which leads into the valley, we walked on until the valley gradually got narrow and ended near a small farm. Cutting across the farm we entered a dry water course and commenced the climb. A few wallabies hopped away and we saw several monitors (goannas). On the bank of the watercourse were seen a number of small holes in the ground which aroused some speculation as to their cause. The mystery was solved by Mr. F. Breuer who observed a large goanna busily digging away evidently searching for grubs or some other form of food. In places grew a few stinging trees (Laportea moroides) called by the blacks “gimpie”—some of these we destroyed. Then we saw some Torres Strait pigeons, a bird often found where palms grow. The slope grew steeper and at last we reached the palm forest. The palms were a species of Archontophoenix and around their bases grew many ferns, those observed being Nephrolepis exaltata, Bryenaria sparsisora, Dryopteris nymphae, Davallia denicallata, Pteris tremula, Adiantum hispidulum and A. aethiopicum.

FIELD EXCURSION
18th January, 1948: Miller’s Beach.
Attendance 26.

Perfect weather favoured the excursion, which was made by twenty-four adult and several junior members. The autumn-tinted foliage of the Milky Mangrove, Exoseaeria Agallocha, attracted the attention to a small creek nearby from which several varieties of water beetles were collected. A number of small fish were noted in the isolated pools in the creek-bed, for the creek had already stopped flowing, although the rain had ceased only a few days before. Insect life was scarce along the banks of the creek, most of it having been flooded out by storm-water.

The male and female flowers of the Milky Mangrove are borne by separate trees, and develop while the trees shed their leaves. The sap of this tree is extremely irritating to the skin and eyes, and it should therefore be handled with caution.

A number of the beautiful Jewel Beetles were collected from the foliage of the young Wattles near the road, and it was there that a small caterpillar was observed carrying about twenty cocoons of some parasitic insect (probably a wasp) in the fur of its back.

Following afternoon tea on the beach at 3.30, the day’s collection of specimens was displayed and discussed, and a quick run home through the cane fields in the glow of the late afternoon concluded a very pleasant day.—A. P. Watkins.

NORTH QUEENSLAND NATURALISTS’ CLUB
Meets at School of Arts, Shields Street, Cairns.
usually on second Tuesday in each month, at 8 p.m.

NEXT MEETING, TUESDAY, 9th MARCH, 1948.

MEETINGS
9th December, 1947: Lecture by H. Pottinger, Member Queensland Entomological Society. “Collecting in Cape York Peninsula.”


10th February: Members’ Night. General discussion on exhibits.

NEW MEMBERS ELECTED
9th December: Mrs. E. W. Wham, Severin St., Cairns; Master G. W. Wham, Severin St., Cairns (Junior); Miss A. V. Stremlinoff, 154 Sheridan St., Cairns; Mr. N. Gore, Wasua, Fly River, Papua.

13th January: Mr. C. W. Elliott, Atherton; Mr. T. W. Elliott, Innisfail; Mr. C. J. Baker, 220 Abbott St., Cairns.

16th February: Mr. and Mrs. J. Barkus, Walsh St., Edge Hill; Mr. and Mrs. J. Killoran, Friend St., Edge Hill; Miss V. Beeman, Stratford (Junior).