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NORTH QUEENSLAND NATURALISTS' CLUB

Meets at School of Arts, Shields Street, Cairns.
usually on second Tuesday in alternate months, at 8 p.m.

Annual General Meeting, Tuesday, 10th September, 1946.

Annual Report, Balance Sheet, Election of Officers.

MEETINGS AND EXCURSIONS

June 15-17: Excursion to Chillagoe and Mungana. Description on p. 7.

9th July: General Meeting. Lecture by E. W. Priest. Reclamation of Desert as exemplified at Broken Hill and Mildura.

New Members elected: Mr. and Mrs. Giraud; 147 Esplanade, Cairns; Mr. Holdcroft, care Chandler's Ltd., Cairns; Mrs. May, Esplanade, Cairns.

28th July: Lower Stoney Creek, via Kamerunga Crossing. Attendance, 20.

31st August: Pine Creek.

29th September: Mossman Gorge.

27th October: Fitzroy Island.

24th November: Fishery Falls.

27th December: Behana Creeks.

Will those wishing to take part in excursions please communicate with President or Hon. Secretary of the Club.

A Ceremonial Ground of the Wakamen Tribe

By S. E. STEPHENS

Whilst prospecting in the vicinity of Gurrumba some ten years ago Messrs. G. B. Stephens and A. Willoughby encountered a bora ring in good preservation on the summit of Iron Mountain. The existence of the ring was reported to the writer late in 1945 and arrangements were made to visit the area and record it. The visit was made during Easter of 1946.

Iron Mountain is the highest mountain in the area, rising to 2907 feet, and being some 700 feet above the level of the surrounding valleys. The mountain is conical on three sides but on the northern side a spur runs from the summit to a minor peak some five or six hundred yards distant and about one hundred feet lower. The tops of both the major and minor peaks are very limited in area and the connecting ridge is a rocky razor back only sufficiently wide on the top for a single track.

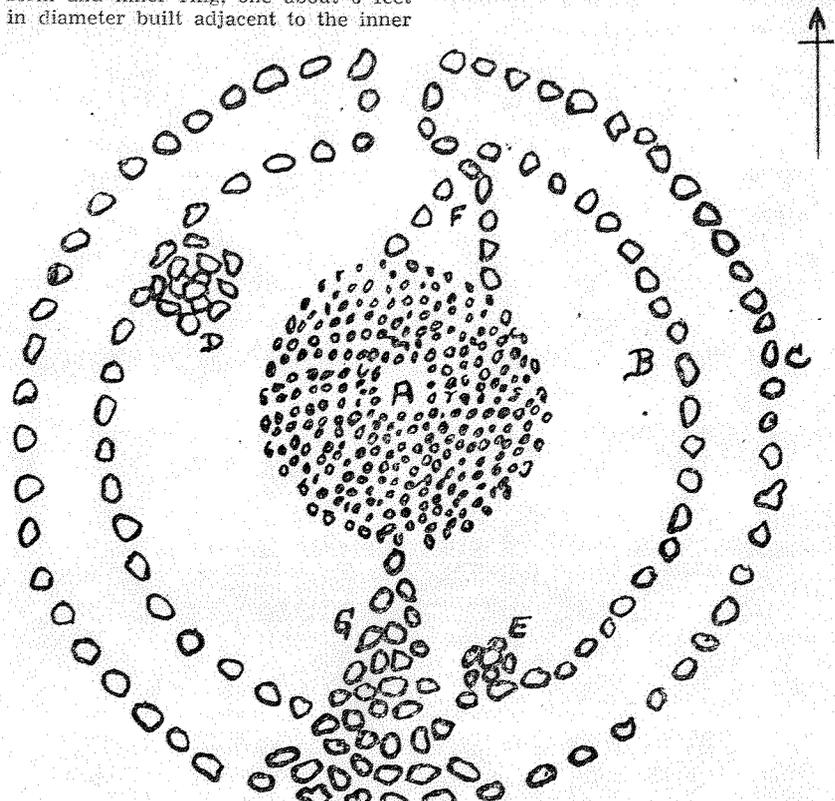
The examination of the mountain top disclosed that during the war period a trigonometrical survey disc had

been erected in the centre of the bora ring, and that most of the stones of which the ring had been formed had been displaced and used to anchor the disc supports. The spirit of destructiveness that seemed to pervade the military forces has almost completely obliterated what must have been a very well preserved ring.

Piecing together the meagre traces still remaining it appears that the ground was enclosed by a double ring of stones, the diameter of the outer ring being 34 feet and of the inner ring 26 feet. A narrow opening into the centre of the ground was left through the rings on the northern side so that it could be entered by way of the razor backed spur above mentioned. The centre of the ground was occupied by a low raised platform of broken stones, circular in outline, and measuring 13 feet 6 inches in diameter. From a point on the inner stone ring immediately to the left when entering through the gap, two lines of stones diverged to form a

large V connecting the ring and platform. From the opposite or southern side of the platform a solid V of stones extended through the inner ring to the outer ring. There are also traces of two mounds of stones in the intervening space between the platform and inner ring, one about 6 feet in diameter built adjacent to the inner

tion of the lesser peak for a second small circle such as would be required to complete the lay-out of a bora ground of the type described by various investigators as occurring in south-eastern Queensland and New South Wales. This ground is within



Ceremonial Ground of Wakamen Tribe On Iron Mountain

(a) raised platform of small stones, (b) inner stone ring, (c) outer stone ring, (d) larger stone mound, (e) smaller stone mound, (f) large stone v, (g) solid stone v. Scale: one-eighth inch equals one foot.

ring on the north-west side, and the other only 1½ feet in diameter adjacent to the inner ring, just east of of the solid V. The accompanying sketch gives details of the lay-out and measurements as far as they could be ascertained.

No traces of any path along the spur could be identified and circumstances did not permit the examina-

tion of the area occupied by the Wakamen tribe—a tribe that Tindale and Birdsell * class as a transitional type between the Tasmanoid and the normal Australian tribes. Whether this tribe used the traditional type of bora ground for its initiation ceremonies is not known.

*Reference: Tindale, N. B., and Birdsell, J. B. (1941) Tasmanoid Tribes in North Queensland.

Taeniophyllum Wilkianum, sp. nov.

By T. E. HUNT, Ipswich

Planta parvissima. Folium solitarium, succosum, lineare, complanatum, falcatum, 5-6 m.m. longum. Racemus circiter 7 m.m. longum. Flores pauci, pallidoflavi, tubulati circiter 3 m.m. longi: perianthi segmenta usque ad antherae altitudinem unita. Labellum integrum, obtusum, supra concavum, 3 m.m. longum: calcar fere orbiculare, 1 m.m. latum. Columna brevissima: anthera alba, prominens.

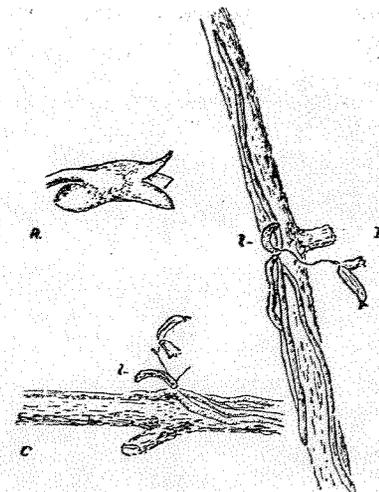
A very small plant. Solitary leaf succulent, broad-linear, flattened, falcate 5-6 m.m. long. Raceme about 7 m.m., with six or more minute flowers which open in succession over several weeks so that capsules, flowers and buds may all be present together. Floral bracts minute, apiculate. Flowers on very short pedicels, yellowish, about 3 m.m. long, tubular; sepals and petals more or less united for part of their length but all free from the level of the anther, free portions acute. Labellum entire, concave above, rather blunt, as long as the other segments; basal spur almost globular, about 1 m.m. in diameter. Column short, anther white, prominent. Capsule terete, curved, about 10 m.m. long, 2.5 m.m. in diameter, furrowed.

Babinda, North Queensland, J. H. Wilkie, 20/7/46.

A parcel of rare species of orchids, received recently from Mr. Wilkie of Babinda, included five plants which, at first glance, appeared to be that oddity of the Order *Taeniophyllum Muellieri*, Lindl. A closer inspection of the plants, however, revealed that one of them possessed a solitary leaf. The same specimen had a flower open at the time, and a critical examination and dissection soon revealed that it belonged to a hitherto undescribed species. It may easily be distinguished from the above species by:—

- (1) Its having a leaf.
- (2) The labellum is entire and not two-lobed.
- (3) The spur is shorter.
- (4) The flower is somewhat larger.

The leaves were absent from the remaining plants but the tops of the minute stems appeared to show scars where leaves had been. The nature of the leaf suggests to me that it



A. Flower enclosed.
B. and C. Plant, natural size.
L. Leaf.

might be a somewhat impermanent feature of the plant; either being cast when the young plant has become established, or developed only periodically. A closer study of *T. Muellieri* might reveal a similar characteristic there.

I have named the new species in honour of its discoverer, Mr. J. H. Wilkie of Babinda, who has done, and is doing so much towards furthering our knowledge of North Queensland orchids.

A New Fern and Some New Fern Records for North Queensland.

(By D. A. SMITH, Brisbane.)

Mecodium contiguum D. A. Smith; sp. nov. affinis *M. raro* (R.Br.) Copel. sed rhizomate robustiore, frondibus magis divisis saepe majoribus, sori comparate angustioribus ellipticis dif-

Felix repens. Rhizoma gracile, longe repens, glabrum, ramosum, ca. 0.5 mm. diam. Frondes sparsae, pendulae, glabrae, usque ad 20 cm. longae; stipites graciles, fusci, 2-4 cm. longi, sursum vel interdum fere ad basin anguste alati. Laminae membranaceae, brunnescentes, irregulariter lineares vel anguste lanceolatae, usque ad 16 cm. longae, 3.5 cm. latae, tripinnatifidae; rachis alata. Pinnae numerosae, alternatae, imbricatae, decurrentes, plus minusve rhomboideo-oblongae, usque ad 2.2 cm. longae, 1 cm. latae, profunde inciso-pinnatifidae, superiores breviores, ceterae subaequilongae vel interdum harum aliquae irregulariter elongatae vel abbreviatae; segmenta primaria contigua, plus minusve profunde incisa vel pauci-lobata; venae manifestae, fuscae. Sori numerosi, in parte superiore laminae praecipue siti, ad apicem segmentarum semi-immersi, elliptici, ramis duobus venularum suffulti; indusium quam segmentum angustius, ca. 1.7 mm. longum, usque ad medium bilobum, margine loborum integrum; receptaculum inclusum.

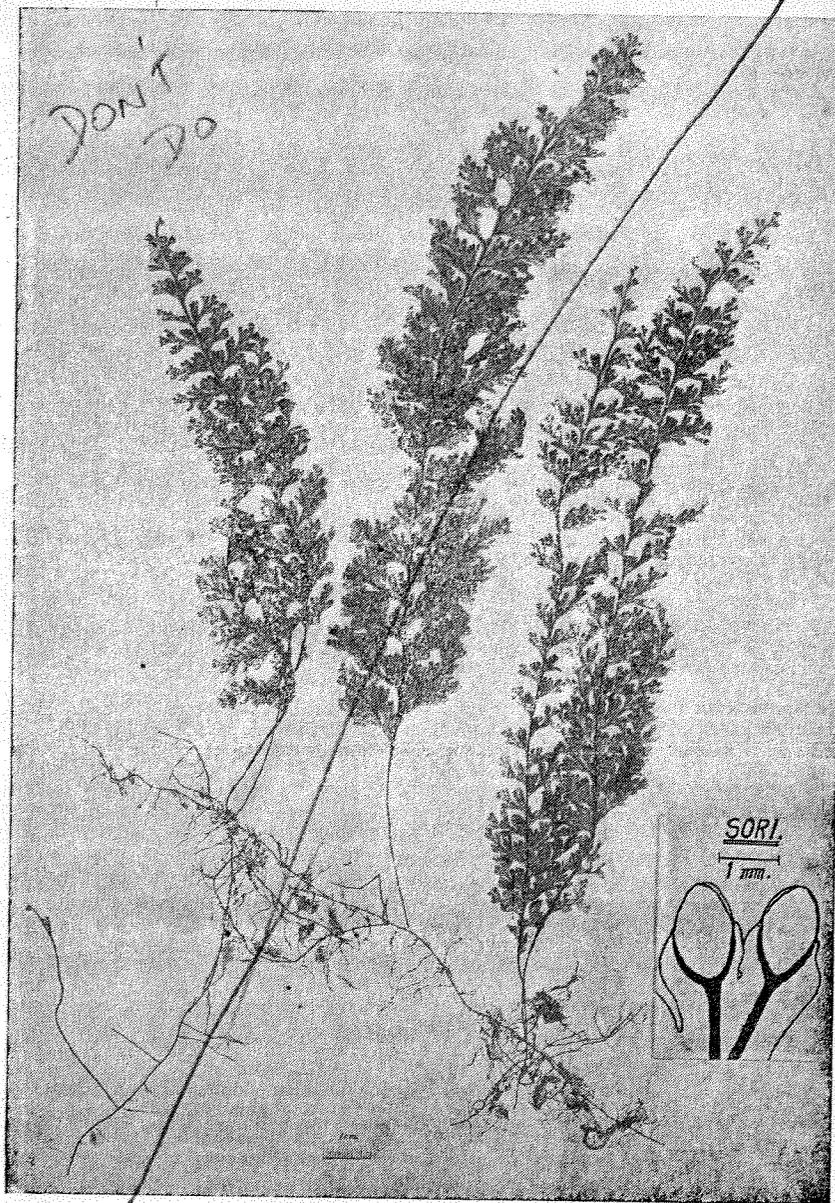
Rhizome slender, wiry, wide-creeping, branched, glabrous, about 0.5 mm. diam. Fronds scattered, stipitate, pendulous, glabrous, up to 20 cm. long; stipes slender, dark, narrowly but distinctly winged in the upper part and sometimes almost to the base, 2-4 cm. long. Lamina membranous, brownish when dried, irregularly linear to narrow-lanceolate, up to 16 cm. long, 3-5 cm. broad in the widest part. tripinnatifid; rachis winged throughout, the wing flat. Pinnae numerous, overlapping, alternate, decurrent, somewhat rhomboid-oblong, up to 2.2 cm. long and 1 cm. broad, all about the same length except the shorter uppermost ones or with some irreg-

ularly elongated or abbreviated, deeply incised-pinnatifid; primary segments contiguous, more or less deeply incised or few-lobed; veins moderately prominent, blackish. Sori numerous, more abundant in the upper part of the frond, half immersed in the apices of the ultimate segments, elliptic, subtended by a fork of the veinlets; indusium narrower than the segments, about 1.7 mm. long, 2-lobed to the middle, the margins of the lobes entire; receptacle included.

Cook District: Mossman River Gorge, L. J. Brass 2048, 5/2/1932. (Growing thickly on wet rocks in the rain forest; fronds pendulous, up to 6 ins. long; a very beautiful species.) (Type — in Queensland Herbarium, Brisbane.)

I hesitated for some time to publish a description of this plant as a new species as it appeared to be somewhat similar to a rather poor specimen in the Queensland Herbarium collected in British New Guinea by the Rev. Copland King, No. 106 (1908), and identified as *Hymenophyllum ooides* F. Muell & Baker by F. M. Bailey. Dr. E. B. Copeland followed Bailey's interpretation of this species in Phil. Journ. Sci. 64 (1937) 108. Later, in Phil. Journ. Sci. 73 (1940) 459, Copeland, following Christensen's interpretation based on a comparison with the type, recognises *Mecodium ooides* (F. Muell. & Baker) Copel. as a completely different species. In correspondence with Dr. Copeland regarding the proposed new species, *Mecodium contiguum*, he stated: "King 106 and 246 are *Mecodium Archboldii* Copel. Phil. Journ. Sci. 73 (1940) 458, Plate I." This is certainly not identical with *Mecodium contiguum*.

The closest Australian ally appears to be *M. rarum* (R.Br.) Copel. From this species, *M. contiguum* differs in having a stouter rhizome, more divided fronds which are also usually larger, and comparatively narrower elliptic sori. The paired branches of the veinlets which subtend the sori are also much less oblique than those of *M. rarum*.

*Mecodium contiguum*, D. A. Smith, sp. nov.

Culcita villosa C. Chr.

Cook District: Mt. Spurgeon, C. T. White 10702, Sept. 1936. (Fronds 1.5 m. high; base of stipes very hairy with reddish brown hairs).

This specimen was described as *Hypolepis tenuifolia* (Forst.) Bernh. var. *hirsuta* by White and Goy in the Victorian Naturalist Vol. LIV (1938) 149. It was later found to be a *Culcita* and to agree perfectly with an isotype specimen of *Culcita villosa* C. Chr. collected by L. J. Brass (4971), July-Aug., (1933) at Urnu, Vanapa Valley, Papua.

Dryopteris leucolepis (Pr.) Maxon
(*Lastrea leucolepis* Presl.)

Cook District: Barron Falls, alt. 1,071 ft., D. A. Goy 394, 27/7/1938. (Growing in a drain at top of falls). Determined by Dr. E. B. Copeland, University of California, Berkeley, California, U.S.A., May 1943.

This Malaysian and Polynesian species has not previously been recorded from Australia.

Dryopteris unita (Kze.) Copel.

Cook District: Between Cairns and Herberton, C. J. Wild, 1891.

Bailey had placed Wild's specimen under *Aspidium molle*, Sw. (now *Dryopteris nymphalis* (Forst.) Copel.), a different species altogether. Actually the specimen agrees fairly well with others from Malaysian and Polynesian sources.

The species has not previously been recorded from Australia.

Tectaria devexa (Kze.) Copel.

Port Curtis District: Olsen's Caves, about 15 miles north of Rockhampton, S. T. Blake & L. J. Webb 15682, 22/4/-1945 (on ledge in crevice in limestone hill supporting monsoon forest).

Except for being slightly more robust, the above specimen agrees very well with one in the Queensland Herbarium which was collected by M. R. Henderson from Pahang in the Malay Peninsula. As the latter specimen was also found growing on limestone rocks, the species appears to prefer a calciferous substrate.

Although this new record for Australia is from Central Queensland, as the species occurs in Malaysia, it seems very probable that it will ultimately

be found in some of the limestone country in North Queensland.

Sticherus flabellatus (R.Br.) Ching var. *compacta* (White & Goy) D. A. Smith, nov. comb.

(*Gleichenia flabellata* R. Br. var. *compacta* (White & Goy)).

In view of the recent revision of the Gleicheniaceae by Ching, this new combination becomes necessary.

Dryopteris decora Domin (*Aspidium pteroides* Sw. var. *terminans* F. M. Bailey).

In his Bibliotheca Botanica Domin describes *D. decora* as a new species and places *Aspidium pteroides* var. *terminans* consists of a single pinna, with only a few of the basal lobes bearing very few sori towards their tips. To judge from better specimens since collected it seems apparent that the var. *terminans* is based on an incompletely fertile pinna since normally the sori occur all around the margin of the lobes. In view of this, I am unable to separate the normal specimens of Bailey's variety from *D. decora* Domin.

Diplazium polypodioides Bl.

In the past there appears to have been a good deal of confusion between this species and *Diplazium Dietrichianum* (Luer) C. Chr. in Queensland. In the Queensland Flora, Bailey bases the record of *D. polypodioides* on two specimens. One of these I have not seen, but the other, collected by Fitzalan, was seen by Mr. R. A. Holtum of the Botanic Gardens, Singapore, whilst visiting Brisbane a few years ago, and he stated that this specimen definitely belonged to quite a different species, possibly *D. Dietrichianum*. To judge from some remarks by Domin it seems very probable that Fitzalan's specimen is this latter species although I have not been able to compare his specimen with the original description.

At that time true *D. polypodioides* was not represented in the Queensland Herbarium. However, since then two specimens forwarded by the N.Q. Naturalists' Club, Cairns (Manski) and Edge Hill (Flecker), have definitely established its occurrence here.

Some Mosquitoes With Unusual Habits

By ELIZABETH N. MARKS, Brisbane.

It is well known that all mosquitoes require water in which to breed and most people have observed the larvae or "wrigglers" in tanks, creeks and waterholes. Larvae of some species, however, are less easy to locate.

Those of the genus *Taeniorhynchus* (also known as *Mansonia*) have the breathing siphon with sharply pointed tip and special saw-like appendage, and this is inserted into the root of an aquatic plant, from which the larva is then able to obtain its oxygen without ever coming to the surface of the water to breathe as do the larvae of almost all other mosquitoes. This genus includes *T. xanthogaster*, "the golden mosquito," a striking orange coloured adult sometimes encountered in the vicinity of swamps, particularly during the autumn.

A large number of mosquitoes breed in water-holding cavities in the branches or exposed roots of trees and hollows in stumps or fallen logs. Another group selects the water which collects at the base of the leaf axils of such plants as pandanus, cunjevoi, taro, crinums, bananas, pineapples and certain grasses and sedges. Others again are found in the "pitchers" of pitcher plants.

Among those breeding in plant axils are *Aedes kochi* and its allies, the larvae of which are clothed with tufts

of stiff hairs, which give them a "hedgehog" appearance, and which enable them to crawl for quite long distances over a moist surface, a very useful attribute since a leaf axil is liable to rot or dry out. The adult of *A. kochi*, a pest species in New Guinea, is speckled black and white.

Also found in plant axils, sometimes in barely a thimbleful of water, are larvae of the genus *Harpagomyia*. The adults are small mosquitoes ornamented with brilliant silvery scales and with unique feeding habits, which were first observed in detail by Jacobson in Java.

In most mosquitoes the proboscis is a fairly straight appendage of uniform diameter; in *Harpagomyia* it is specially adapted with a flexible joint and a very swollen tip clothed with long hairs. Food is obtained from ants of the genus *Cremastogaster*. The mosquito places itself in front of an advancing ant, sometimes nipping the ant between the front legs. The ant stops and opens its jaws, and the mosquito thrusts the swollen tip of its proboscis into the ant's mouth and absorbs the food offered, while the ant strokes the tip of the proboscis with its palpi.

The species mentioned above all occur in the vicinity of Cairns.

Excursion to Chillagoe

By JEAN DEVANNY

The recent inauguration by the N.Q.N.C. of monthly field excursions is proving an unqualified success. The highlight of these, so far, was the June trip made by forty-seven Club members and friends to the hinterland township of Chillagoe, about 130 miles west of Cairns.

The chief objective was inspection of the caves at Chillagoe and Mungana, but none were disappointed to find the limestone belt in which these are situated to be in itself worth the visit. A strip of magnificent country! A few miles below Chillagoe, the

bluish-white and mottled limestone crags begin to supplant the granite country, their channelled and peaked formations rivalling in beauty anything of that kind presented by Fitzpatrick in his colour films of Arizona and Mexico.

In contrast were the forested hills, their grass in the "dry" a strawberry-coloured background for their embroidery of dispersed ever-green vegetation.

Chillagoe itself was found to be somewhat of a deserted village, set in the midst of a gigantic, delightfully

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verdant "sunken garden." *Cryptostegia grandiflora*, or rubber plant, lovely for all that it is a wretched weed, sprawled in profusion about the homes, embraced the bases of the "wallaby castles" and crags that formed the sides of the vast cup.

All the vegetation was as fresh as the invigorating air. Besides the predominant Eucalyptus of many species, other interesting trees and bushes included three kinds of native *Bauhinias*, *Strychnos lucida*, *Terminalia*, *Gyrocarpus Jacquinii*, whose seeds as they fall gyrate by means of their peculiar vanes, *Alstonia verticillata*, and bunched China Apple. The bloodwoods were in creamy flower.

One member of the party gave a demonstration of the collection of mosquito larvae on Chillagoe Creek.

The willing co-operation of the local people ensured every facility for inspection of the Cathedral and Markham caves at Mungana and those at Chillagoe. Each cave had its points of special interest. Some of the visitors became ecstatic about the delicate tracery, tapestries, statuary and pillar formation of the Markham. Others were more impressed by the majesty of the prodigious caverns at Chillagoe. Fossils and molluscs on the floor of the caves were specially investigated. Not least spectacular were the fig trees that dropped their roots through sporadic openings in the roof and trailed them down the sides and tunnels of the caves in lengths several times in excess of the height of the

trees themselves. In at least one instance the root found its way vertically down the centre of one of the large chambers.

Yes, there in that hinterland, not inhospitable to man, are caves lacking only the addition of man-provided facilities of approach to put them "upsides," as objects of tourist attraction, with the world-famed Waitomo in New Zealand and Jenolan in New South Wales. A few years protection and nature herself would remedy the inconsiderable damage wrought by vandals to stalagmites and stalactites. A whitewash brush could easily dispose of the disfigurement of scrawled names.

There seemed no end to the appeal of that country respecting objects of natural history and artistic interest. At Mungana, examples of early aboriginal art in the form of rock paintings were revealed, in a state of perfect preservation. This latter condition, one is pleased to state, a tribute to the innate sense of cultural values of the local population. Indeed, our guides expressed unequivocal disappointment in that their representations to the "powers that be" on behalf of official assistance to preserve their natural treasures had met with absolutely no response.

Some specimens of fossilised coral deposits and some dendrites—fern-like patterns formed by crystals of manganese dioxide between layers of rock—were secured for the North Queensland Museum collection.

EDIBLE PLANTS OF NORTH QUEENSLAND. (Continued)

By H. FLECKER.

ARAUCARIACEAE :

231. *Araucaria Bidwillii* Hook., Bunya Pine.
Seeds eaten raw.

CYCADACEAE :

232. *Cycas media* R. Br., Kammana.
Nuts roasted and left on ashes all day; shells broken next day on stones, the inside made into flour and left in dilly bag for 24 hours before being eaten (Roth).
233. *Macrozamia Hopei* W. Hill, Arumba.
Nuts prepared similarly to above.
234. *Bowenia spectabilis* Hook., Jul-bin.
Roots and cones baked, crushed, washed and roasted.

(To be continued)

Published by N.Q. Naturalists' Club.

1. Check List of N.Q. Orchids. Price 1/-.
2. Marketable Fish of Cairns Area. Price 1/-.