

The NORTH QUEENSLAND NATURALIST CAIRNS

Journal of

NORTH QUEENSLAND NATURALISTS CLUB
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OBJECTS: The furtherance of the study of the various branches of Natural History and the preservation of our heritage of indigenous fauna and flora.

MEETINGS: Second Tuesday of each month at Cairns Education Centre, Cnr. Morehead and Lazarus Sts., Bundalow, 8.00 p.m.

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

SUBSCRIPTIONS: (Due September 30th)

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

LAND SNAIL LIFE HISTORIES.

by PHILLIP H. COLMAN.⁺

Our knowledge of the life histories of Australian land snails and slugs is virtually non-existent. Some work has been done on the life cycle of a large N.S.W./Sth. Qld. species Hedleyella falconeri, and a little work is currently in progress on some species of the carnivorous family Rhytididae. But other than that, to the author's knowledge, no work is in progress on any other species, and little work has been published of past research. This sort of research is difficult to do by professional malacologists, in our museums or elsewhere, but offers unlimited scope to the amateur, who is on the spot - and much better equipped for that reason - to not only pursue a potentially fascinating project, but at the same time to add significantly to our knowledge of Australia's fascinating terrestrial molluscs.

I live in Sydney and work at the Australian Museum. It is therefore extremely difficult to bring back some specimens of land snails from, say, 200 miles north of Sydney, recreate the natural environment in the lab, and watch what happens over the next year or so. My time is taken up with general curatorial matters, enquiries, administrative calls etc. By the time I get home I'm not exactly rearing to start studying shells! However, a person who happens to live within walking distance of say, a rainforest or whatever, could very well recreate quite closely the same conditions of that rainforest in his house, in miniature fashion, such as in an aquarium. This artificial environment would not be an exact replica of the real thing, but factors such as temperature and altitude would be automatically the same, and the leaf litter or whatever making up the normal structural environment would be accessible within walking distance. It is not much use bringing live species home from a Eucalyptus globulus dominated environment 200 miles away and trying to create a natural environment in the aquarium with E. citriodora, just because that Eucalyptus species happened to be accessible at all times.

Land snails need moisture, calcium, shelter and food. In an aquarium all four needs can be met fairly easily. Moisture in the form of a mist spray of water when necessary; calcium by collecting a few dead shells and crushing them to add to the leaf litter, plus soil from their natural habitat; shelter by the aquarium; and food...a bit more difficult and depending on species. We DO know, from available evidence, that no native slug or snail is a live-herbivore. We DO know also that most species seem to eat decaying plant matter. Some species are carnivores, feeding on other species of molluscs, worms, etc., plus others of their own kind. But we DON'T know EXACTLY what 99% of the rest really do eat. Most, we think, are feeders on detrital matter, consuming decaying plant matter such as leaf litter, moulding logs or fallen forest fruit, or algae and fungi. Leaves and trunks of most tropical plants carry quite a load of hitch-hikers in the shape of algae and moulds and it is presumed the many arboreal snail species scrape this off the leaves without eating the leaves themselves.

What the intelligent naturalist-observer could do to increase our very limited knowledge of the food preferences of our native molluscan fauna, plus probably the species' breeding habits, is to keep two to several in a terrestrially planned aquarium, and supply them with whatever you can lay your hands on that typifies, to you, their natural environment. If they are found on tree trunks (live ones) or leaves of trees or shrubs, your task may be difficult; but the results would be that much more rewarding.

As well you can ask the various questions we continuously ask each other, such as: what kind of eggs does it lay, how many, when, where, and how often? Has it specific food preferences or does it seem omnivorous? Is it carnivorous, and if so does it only prey on other molluscs or does it eat other animals or dead animal material? And if

a carnivore does it actively chase prey by following up tracks or is it purely opportunistic? How long do juveniles take to reach maturity, and how long do they live? Some of the answers you get will of course differ from those results obtained by observing snails in a natural instead of artificial environment, but still those answers would be invaluable, and many of them would be impossible to get any other way.

Remember that moisture is essential to the well-being of snails and especially slugs. A small atomizer is ideal for spraying an aquarium.

Write your observations up and get them published in The North Queensland Naturalist or some other publication, or send them to a museum curator of molluscs so that he can publicise your findings.

⁺Dept. of Malacology, Australian Museum, Sydney.

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A FURTHER NOTE ON CONUS TEXTILE (LINNÆUS 1758)

by BARBARA COLLINS.

One night we were fortunate to witness the fascinating spectacle of Conus Textile feeding. Previously we had just noted the empty shells of various Mitra, Olividae and Cypraea cast away on the surface of the sand.

This specimen, taken from Cape Tribulation, is approaching two years in captivity. When collected it attacked several olives and "spears" about 3 mm. in length could be seen protruding from the anterior end of the shell. These we examined under a microscope, not very successfully, but we could see some detail.

The cone spends much of its time buried beneath the sand. When a new batch of "food" was added late one night, it instantly emerged and cruised about, sensing for the prey. An unfortunate olive, Oliva oliva (L. 1758), was not quick enough to right itself and burrow, and the cone moved right up onto the olive and injected a dart; it then lifted itself and "blew" the venom cloud away by "exhaling" through its syphon. The cone then moved over the olive and in a short time had consumed it.

With hunger pangs by no means satisfied, the cone then searched out other prey. It ignored several other sluggish olives and moved quickly towards a small stromb, Strombus labiatus, which had overturned and was frantically trying to right itself. As the cone approached, the kicking of the stromb's foot became even more frantic and the cone was held at bay, but managed to get opportunities to insert darts. We definitely saw strong muscular contractions three times before it moved away from the stromb and waited. It took several seconds for the stromb's movements to subside, then the cone moved over to devour it. We watched for half an hour before turning in. In the morning the shell was empty. The cone had vanished and we didn't see it for almost a fortnight, and then it by-passed food offered. The evidence of later rampages is apparent and perhaps the cone is busy enlarging its shell.

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ARISTOLOCHIAS AND BUTTERFLIES

by KEITH KENNEDY, Townsville.

Some time ago an appeal was made to the citizens of Cairns to grow the climbing plant aristolochia in their gardens to encourage the increase of the big Birdwing butterflies, and so add another attraction to the city.

There are several species of aristolochias in North Queensland, also two cultivated in gardens, which were imported from South America. The latter are known as Dutchman's Pipe because of a resemblance of the flowers to the old-fashioned curved pipe once popular in Holland and Germany.

The aristolochias native to Australia have smaller flowers. In "Queensland Flora", Bailey describes five species growing in Queensland, all climbers. Of these A. indica, as its name implies, also grows in eastern India and the Malay Archipelago, and was amongst the plants collected by Banks and Solander while the "Endeavour" was undergoing repairs on the banks of the river subsequently named after her.

The writer has not found any of the native species growing in the Townsville district, but further north in the Cardwell district, Dallachy, collecting for the Melbourne (Kew) Botanic Gardens during the regime of Baron von Mueller, obtained A. deltantha, A. pubera, A. thozeti and A. indica. In southern Queensland the species A. praevendsa has been collected on the McPherson Range, and near Nerang Creek.

These native aristolochias furnish food for the larvae of various species of Birdwing butterflies, but since the importation of A. elegans it also has attracted them.

Concerning this, the editor of the "N.Q. Naturalist" has drawn my attention to an article by G. Sankowsky in "Wildlife in Australia", in which he names the host plants for the Richmond Birdwing, Papilio priamus richmondii Gray, as all species of native aristolochias, but not A. elegans which he asserts is poisonous to the larvae; while for the Cairns Birdwing, P. priamus euphorion Gray, he includes A. elegans as a host plant. Unfortunately he does not mention his authority, or whether he made observations himself.

I have an A. elegans growing, on which a Birdwing sp. ? laid an egg; the larva from this reached the pupa stage, when it died, either by the delayed action of the poison or by some other cause.

G.A. Waterhouse in "What Butterfly is that?" writes of the host plants of the Cape York Birdwing P. Priamus prononus Gray, as "various species of Aristolochias, poisonous vines that exude a milk-like juice when broken. The Dutchman's Pipe, so named on account of the shape of the flower, is one of these vines."

C. Barrett in "Butterflies of Australia and New Guinea" writes: "The Birdwing butterflies are classed in a section of the Papilionidae which is known as the Aristolochia Papilios. As the name implies they are practically all aristolochia feeders in the larval stage; a few species however feed on allied plants." He does not mention the toxic attributes of aristolochias.

The question now is whether A. elegans is definitely toxic to the Richmond Birdwing and not to the Cairns Birdwing. In the meantime it should be held suspect until more evidence is brought forward.

From a botanical point of view, the seed capsules of A. elegans are unique, for when the seeds are ready to be scattered, the capsule, consisting of six carpels, splits into six segments united at the base but spreading out like a miniature inverted parachute, each of the segments being suspended by a fibre string. The parachute swings in the breeze until a stronger puff causes it to swing further and sling out the small scale-like seeds which are easily carried away by the wind. The strings which suspend the inverted parachute are formed from the peduncle, the stalk which bears the flower and later the seed capsule. Within the peduncle are six vascular strands that conduct nutriment to each of the six carpels. When the capsule ripens and splits open, the peduncle also splits and the six strands remain attached to the carpels

and also becomes the strings of the parachute.

The strange pipe-shaped flower of A. elegans is caused by the sepals and petals being fused into a single floral envelope, a single perianth, curved at the base to give the pipe appearance. The perianth is bi-lobed. A. grandiflora, the other exotic aristolochia grown in Queensland gardens, has a perianth that is not lipped, but has a kind of tail hanging from it, giving a fanciful resemblance to a bird with a long beak, hence the additional vernacular name of Pelican Flower. A. elegans also has an additional name of Calico Flower.

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A SPIDER ABERRATION - LINUS FIMBRIATUS

by CLYDE COLEMAN.

The fringed jumping spider, Linus fimbriatus, of the family Saltacidae, is well named in that it is fringed by prominent tufts of scales and dense hairs on the legs, palps, head-thorax and abdomen in a striking pattern of separate curved, fanlike fringes.

It differs from other spiders of this family in having all metatarsi (last joint of legs before the feet) long and slender. These are usually very heavy and spined in the front four legs and lighter in the rear four of other genera of Saltacidae. Another striking difference from other members of the family is that it spins a web to hold its eggsac. Its eye pattern and jumping ability, however, identify it with other Saltacidae.

The first specimen I studied was collected at Kuranda by a visiting American naturalist and science teacher, Mr. J.R. (Bob) Thomson. Later a colony was found on the rock walls of the path to Crystal Cascades and here a few females were photographed in their webs with eggsacs.

These webs were very irregular and had no central radiating point but were made by irregular crisscrossing silk strands, whose ends were anchored to the rock faces. All webs were built between large clefts in the rock and the spiders were resting in a hunched distorted position with two or more legs resting on the sac. One spider had hidden the sac behind a green leaf which had been securely fastened in the web. All sacs were roughly central in the web. Two females and sacs were taken for further study.

Placed in gauze containers with a large twiggy branch and their eggsacs, each spider had soon constructed a flimsy rough web and had hauled the eggsac up and secured it to the web strands on one end and to a twig on the other.

In constructing this web the spider dabbed the spinnerets to a twig, walked down to the nearest fork trailing a line with the spinnerets and one fourth leg; from there it climbed an opposite twig and fastened the line in an approximately horizontal position. This action was repeated a few times, after which the sac was hauled up one twig by one hind leg and spinnerets and fastened to web and twig.

No web spinning was observed under natural conditions and since these two specimens were taken the rock wall has been blasted wider for an enlargement of Cairns-Mulgrave water supply line.

WITH THE 'BIRDOES' TO GEORGETOWN.

by JOHN CROWHURST, Cairns.

At Easter the Cassels, Magarrys, Huddys (who left us Sunday morning), Bob Gricks and I went to Georgetown. We left Cairns at 7.30 a.m. on Friday, went up the Gillies Highway and skirted the Tablelands, stopping at Archer's Creek, where we saw a couple of Wedge-tailed Eagles and discovered square toilet seats for round bottoms, very uncomfortable. We charged through Innot Hot Springs, Mt. Garnet, the Forty-mile Scrub (studded with giant figs and bottle trees) and Mt. Surprise; stopped for lunch at Junction Creek, where we studied messages on the bridge and saw a Black-fronted Dotterel. Arrived at Georgetown's Council Caravan Park about 3 p.m.

Walking along Sandy Creek late in the afternoon, we saw the Yellow-fronted Honeyeater, one of twelve new birds for me, and not seen anywhere else, strange to say. Also observed Crested Pigeons, Double-banded and a lone Black-throated Finch, a party of female and juvenile Red-backed Wrens fossicking through the scrub, and we heard the Grey-crowned Babblers. That night we heard dingoes across the Etheridge River, the "more-porking" of a Boobook Owl (which we saw on Sunday night) and the distant bugling of Brolgas, and we caught an eclipse of the moon. Early in the morning, before sunrise, I was violently licked by Bob's small dog - a frightening experience.

Saturday morning found us at Durham. First birds for the day were the Singing Bushlarks; then Jack Cassels saw a Great Bowerbird and Jacky Winters or Brown Flycatchers. From then on it was one exciting sighting after another. Round a pool surrounded by thorny acacia-type bushes, I got my first Red-throated Honeyeater, attractive with yellow flashes on the wings. Later Yellow-tinted Honeyeaters appeared. Further on we found a sandy creek bed lined with pandanus, river red gums, lantana and the same thorny acacia. Black-throated Finches were feeding nestlings in a pandanus, crowds of Zebra and Double-banded Finches flitted along the banks. Blue-faced Honeyeaters, Apostle Birds, Grey-crowned Babblers, Mudlarks, Black-faced and Little Cuckoo-shrikes and Yellow-throated Miners were seen. Arnold Magarry, Bill Huddy and Craig saw a Budgerigar drinking. Red-browed Pardalotes called from a river red gum, Pale-headed Rosellas squabbled and Red-winged Parrots swooped along the creek. Bob Gricks disturbed a couple of bleary Tawny Frogmouths.

Drove over a slight hill to a great sheet of water covered with white flowering waterlilies. The second most thrilling sight of the trip was here - a flock of twelve Black-tailed Native Hens scattering on the far shore, darting off among the bushes. Royal and Yellow-billed Spoonbills, White Egrets, White and a couple of Glossy Ibis were doing their thing. Black and White-eyed Duck sailed amongst busy Coots and dowdy Little Grebes. A Peregrine Falcon surveyed us from a dead tree. Black Kites took a keen interest in us; every day a couple flew over the caravan park, hoping I suppose that one of us might have died. Black Cormorants hung out their washing and Galahs disrupted the scene.

Going back, we found Squatter Pigeons coming in and saw mixed groups of Peaceful and Diamond Doves browsing seeds.

Late Saturday, 4 p.m., some of us returned to the sandy creek at Durham, while others went nutty and knocked little white balls about on a nearby golf course. We sat under our thorny shade beside a water soakage, a series of pools scalloped in sand, with more of our eternal friend, the thorny acacia, on the far bank. One part had died and to this all the small birds seemed to come. Hundreds of Red-throated Honeyeaters flitted in, joined by Zebra Finches (going under the new name, Hotlips), busy Double-banded and later smartly attired Black-throated and Chestnut-breasted Finches.

Suddenly Marion Cassels gurgled hoarsely, "Gouldian Finch!" Never have I been so excited. I dropped my binoculars and looked through my comb, got out my sunglasses, blew my nose and took off my boots before I was somewhat calmer. Opposite was one of the most thrilling and beautiful birds I ever wish to see. It wasn't the common black-faced variety but the red-faced, and the colours were unbelievable. I suppose he was there for a minute, I don't know. He hopped from the top perch, then lower and lower again, then onto the sand and bingo, no more! The high-light of the trip.

Before we left a Singing Honeyeater appeared, and going home we were observed by a Bustard beside the road, which strode imperiously away. Saw quite a few bustards over the four days. A Brown Goshawk was also seen.

Sunday I woke early, not licked this time, just a cold nose pushed in my earhole. We went up the Forsayth road. Right on the edge of town we saw sandy wallabies, then two big red kangaroos and later a wallaroo bounding away. Where we stopped beside two small-leaved bauminias, the forest included messmate and a species of geebung. Brown Weebills ferretted amongst the leaves, Red-backed Kingfishers meditated, White-winged Trillers (not in eclipse plumage this time) patrolled the grasslands, Black Treecreepers played hide-and-seek, Brown Flycatchers flirted, White-throated Warblers tantalised (heard but never seen), and Red-browed Pardalotes dotted their song in the warm air. A Grey Falcon darted swiftly over.

Back at Durham at a melaleuca we saw Banded Honeyeaters, a distinctive tailored black and white bird, thousands of the now very common Red-throated Honeyeaters, a few Yellow-tinted and Blue-faced Honeyeaters and some Yellow-throated Miners.

Down to the waterhole again, where Arnold sat on a thorn and Dawn said "Shush". We watched the finches and multitudes of Red-throated Honeyeaters bathing once more. Four Red-tailed Black Cockatoos creaked overhead. Grey-crowned Babblers, Apostle Birds, Miners and the odd Red-winged Parrot and Pale Headed Rosella came to drink at water further up from where we were. The only new bird for the waterhole was a Yellow Honeyeater. The smell of cattle was overpowering; we finally got used to faces appearing round corners and mooing at us and to being nearly trampled on by mobs of cattle.

Later Cumberland Dam loomed up, covered with densely flowering white waterlilies. Jacanas minced over the leaves, White-necked Herons stood motionless, Bee-eaters hawked overhead, a single Darter wished he was somewhere else and a hawk or kite was doing something unmentionable in tall green rushes. Later again we revisited the dam at Durham, which this time held gangs of Grey Teal and plaintive Grass Whistle Ducks, a coy Black Swan and some loud mouthed Magpie Geese. A pair of Red-kneed Dotterels busily ducked around the water's edge.

Going back we stalked a Singing Honeyeater, saw and heard a Bar-shouldered Dove, and cursed the Crows. We sat at the waterhole, where again Arnold sat on a thorn and Dawn remonstrated. Willie Wagtails put on a comedy session and Red-backed Wrens tinkled through the bush. Going back to the car we got Restless Flycatchers being restless.

Monday morning I woke me, not Bob's dog. Did a short trip to the Durham waterhole again, where Arnold didn't sit on anything and Dawn said nothing. A Black Tree-creeper came down on the sand, and another Singing Honeyeater. After breakfast we headed home. On the Newcastle Ranges, the Magarrys saw White-browed Woodswallows and Ground Cuckoo Strikes. We scorched back to the Crater, weeing a Cassowary and chicks on the way, came down the Gillies Highway, staggered into Cairns about 6 p.m. and went to bed.

I forgot to mention the Purple-backed Wrens seen on the bed of the Etheridge River on Saturday, a scruffy male with blue head and red patch and the slightly blue-tinged females. The Black-faced Woodswallows don't really need mentioning.

by JAMES A. BAINES

Note: STCN = Standard Trade Common Name

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Citronella. This genus was set up in 1843 by D. Don, who, according to Francis, took the name from a Chilean vernacular name for a American species. If so, the word would come from Spanish, and hence from Latin. Citronella is a diminutive of Citron, which is a form of Citrus, the generic name for lemons, oranges, etc. Oil of citronella, familiar as a mosquito repellent, comes from tropical grasses, Cymbopogon nardus, Citronella Grass, and C. citratus, Lemon Grass (fam. Gramineae or Poaceae). Citronella moorei is Churnwood or STCN Silky Beech, and C. smythii is White Oak or Soap Box, STCN Northern Silky Beech (once classified in Chariessa and Villaresia). Fam. Icacinaceae. Lat citrus is cognate with cedrus (through Gk kedros), because the fruit of the citron, Citrus medica, was substituted in ancient Jewish ritual for the cone of the cedar of Lebanon, Cedrus libani.

Cleacylon. Gk klac, to break; ylon, wood; alluding to the brittleness of the wood. Bailey and later Burbidge list 4 Q. species, but only one, C. australe, is included by Francis.

Cleistocalyx. Gk kleistos, that can be closed, enclosed; kalyx, bud cup, calyx; the buds being top-shaped and pointed, fully enclosing the petals. The sole species is endemic in N.Q., C. gustavioides, described by Bailey as a species of Eugenia; specific epithet means 'like Gustavia', a genus of S. America in fam. Lecythidaceae. These myrtaceous trees are called Grey Satinash.

Clerodendrum. Gk kleros, chance; dendron, tree; supposedly alluding to the variable medicinal qualities. The form with -um ending, used in the original description which must prevail, is a latinized version of the purer Gk Clerodendron, the form used by Bailey. Many showy tropical species are cultivated in gardens. Francis lists 2 species. Fam. Verbenaceae.

Codonocarpus. Gk kodon, a bell; karpos, fruit; because the fruits are shaped like little bells. C. attenuatus, found in Q. subtropical rain forests, and C. cotinifolius, found in the dry inland, are both known as Bellfruit Trees. Fam. Gyrostemonaceae.

Commersonia. Named by the Forsters after French naturalist, Philibert Commerson (1728-73), who as a member of the Bougainville expedition discovered many new species, but whose premature death in Mauritius meant that his herbarium had to be worked on and results published by others. Bailey lists 3 species for Q., including C. fraseri, Black-fellows' Hemp (which reaches V. in East Gippsland) and the species included by Francis, C. bartramia, Brown Kurrajong. Fam. Sterculiaceae.

Croton. Gk kroton, a tick; from the resemblance of the seeds to ticks. Francis lists 5 species, including C. insularis, Q. Cascarilla Bark (specific name from its discovery first in the South Sea islands; common name from its relationship to C. cascarilla, Cascarilla Bark of the Bahamas.) Cascarilla is diminutive of Spanish cascara, bark, from which comes the drug. The crotons with showy, variegated leaves grown in tropical gardens are mostly varieties of Codiaeum pictum, like Croton, in fam. Euphorbiaceae. (The writer remembers talking to the parish priest in his garden at Proserpine, 1956; he had nearly 100 varieties!)

Cryptocarya. Gk kryptos, hidden; karyon, nut; because the nut is hidden in the perianth-tube. Francis lists 24 species, most named, because of the appearance of timber and nuts, as different kinds of walnut. Fam. Lauraceae. (The true walnuts, Juglans, literally Jupiter's acorns, are in fam. Juglandaceae.) C. cinnamomifolia, Cinnamon Laurel, has an apt common name.