

# The NORTH QUEENSLAND NATURALIST CAIRNS

Journal of

NORTH QUEENSLAND NATURALISTS CLUB  
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*Founder President: The late Dr. HUGO FLECKER*  
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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., Bungalow, 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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**OBITUARY:** Older members note with regret the passing of Mr. Stan. Dean in October, 1977. Mr. Dean served for a time as both Secretary and Treasurer of our Club and will be well remembered for his cheerful personality.

## CANOPY COLLECTING FOR MOLLUSCS.

by PHILLIP H. COLMAN\*

In a previous article I discussed very briefly the problems of collecting landsnails (treesnails) in forest canopies. The tropics in general throughout the world are richer in arboreal species of molluscs than elsewhere, but inaccessibility to this 'niche' has precluded any indepth studies of tree dwelling molluscs. Below I wish to suggest ways in which readers could help in our understanding of canopy dwellers, and discuss some of the species that might be encountered. Remember that museum personnell spend most of their time in offices, whether they like it or not, and amateur collectors can help enormously in the understanding of our Australian fauna.

Landsnails can be broadly divided into two groups, operculate and nonoperculate. (An operculum is the "door" attached to the foot that closes off the animal from the outside world.) Most arboreal species are operculate in Australia. Moisture is a virtual pre-requisite to the survival of molluscs, and an operculum is the door that keeps in that key to life. Ground dwelling species can utilise moist niches in dry spells. Arboreal species must somehow attach themselves to their exposed substrate, and with the aid of an operculum, plus a mucus that sticks them to the tree or leaf, they survive to multiply.

Most arboreal species known so far have been collected after they have been dislodged by the elements, by wind or rain, and fallen to the ground, or when they die and fall. This is still a good way to collect them, although it is perhaps an uncomfortable one, as the collector needs to be in the forest during the storm to make best use of its services. The writer has utilised the destructive habits of the timber cutter in the same way. A large tree crashing down will dislodge all but the most tenacious snail. Those that survive will immediately head for the nearest tree or shrub for the time being, and often species more at home 60 feet up will be found on saplings 10 feet high. A good shake of larger saplings in the vicinity of a fallen giant will often produce interesting results.

Another method of collecting canopy species is to band the trees of a selected area with some form of band that will tempt climbing snails to hide below the band, much the same way that garden snails tend to congregate under the weather sill of a house window. For small species one-sided corrugated cardboard is good, with the corrugations against the trunk. Floppy hessian or other material, such as ragged strips of coconut palm 'weave', could be used for larger species. Fallen snails dislike climbing over this sort of surface and will tend to stay below it. For those who are entomologists as well, this method is also excellent for attracting the pupating larvae of some lepidoptera, such as the Lycaenidae, and other insects.

There could be other canopy collecting methods. I would always be pleased to learn of them. The ultimate way to learn of canopy fauna of course, is to build accessible tree houses and access paths, but time, effort and cost usually preclude this.

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TWO UNUSUAL BIRD SIGHTINGS (cont. from last journal)

by ROY WHEELER, Melbourne, Vic.

The second unusual sighting of our visit to North Queensland in 1976 was at Weipa on November 2. Michael O'Reilly had told me about a wader feeding on the edge of a sullage dam near where the nursery staff were planting trees, and his description fitted the Common Sandpiper. In the evening I scrambled up the steep bank of the dam, clamped the binoculars on the bird and was immediately struck by its very green coloured plumage. It had all the appearance and characteristics of the Common Sandpiper, except that it was a rich green coloured bird. Lacking books for wader identification and sure that the colour could not be wrong, I wired the Queensland Ornithological Society and my old friend, Mr. Fred Smith of Melbourne, saying I had found the Green Sandpiper. However a letter from Mr. Smith, dated November 11, rather confirmed that the green colour was caused by the sun's rays on the plumage of an immature bird. He told me of several occasions when he had been caught in this way. Twice it was with young Wood Sandpipers, one at Kuranda on the Barron River and the other near Bourketown. The calls of these birds confirmed them as Wood Sandpipers in spite of their green plumage. Again, near Bourketown, a bird with such a rich green plumage almost convinced him he was on to a strange species, but after several minutes he was convinced that he was watching an immature Curlew Sandpiper, turned green by the tropical sunlight. He concluded by saying that at times in southern Victoria he had seen immature Curlew Sandpipers with a greenish wash in the dark upper parts.

After further discussions with Mr. Smith, there is now no doubt that the bird we saw on the sullage dam at Weipa was an immature Common Sandpiper turned green by the tropical sunlight. Mr. Smith also advises that the Green Sandpiper actually is not green and the Purple Sandpiper of Europe is not purple. Makes it rather confusing for the bird watchers. Again my thanks to Michael O'Reilly and Jim Leggate of Weipa for showing us to perfection this strange coloured bird and to Mr. Fred Smith for solving the problem.

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AN APPARENT CASE OF ALTITUDINAL DISPLACEMENT BETWEEN TWO FROGS OF THE  
GENUS SPHENOPHRYNE (ANURA : MICROHYLIDAE) IN NORTH-EAST QUEENSLAND.

by GREGORY V. CZECHURA

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INTRODUCTION

During the period December 1976 - January 1977, field investigations into frogs of the pelodryadid genus Nyctimystes were undertaken in north-east Queensland. Concurrent with these studies, were the recording of observations made on reptiles and amphibians sympatric with Nyctimystes in rainforest. The following report deals with a possible case of altitudinal displacement involving two microhylid frogs of the genus Sphenophryne.

LOCATION AND DESCRIPTION OF AREA

Observations were made on the eastern escarpment of the Atherton Tableland in the vicinity of Mt. Bartle Frere, Bellenden Ker Range (17°23', 145°48').

An altitudinal transect was conducted along this escarpment on the night of 29 December, 1976. This transect commenced at approximately 480m. asl, at one of the streams forming the headwaters of the Russell River, and terminated at an undefined point, approximately 720m. asl. The survey was commenced at sunset and was completed at 2230 hours on the same night.

The vegetation along the transect consisted of three forms of rainforest. Vegetation data is taken from Tracey and Webb (1975, 1976).

- a. Complex mesophyll vine forest (1a)
- b. Mesophyll vine forest (2a)
- c. Complex mesophyll vine forest (1b)

Methods

Regular stops were made during the traverse. Frog choruses were noted (if present), then identification of species composing the chorus was undertaken on the basis of call recognition and location of calling animals. Several of these choruses were recorded on a portable cassette-tape recorder for reference purposes.

Approximate elevations have been calculated by reference to the Topographic Survey 1:100,000 map, sheet 8063 (Edition 1) Series R631.

Taxonomy

The two taxa observed in the field belong to the microhylid genus Sphenophryne. However, the taxonomy of Australian microhylids is unclear as both intraspecific and interspecific variations have not been fully reviewed. Using the data contained in Zweifel (1962, 1965) and Cogger (1975) the taxa observed have been tentatively placed in Sphenophryne pluvialis Zweifel and Sphenophryne fryi Zweifel.

## Field Observations

Sphenophryne were regularly encountered throughout the forest. Males were found calling from under debris, in leaf litter and amongst the roots of trees.

The two forms were easily distinguished on the basis of colouration and call. The call of S. pluvialis was a loud, high-pitched, wavering note while the call of S. fryi consisted of a series of loud, high-pitched notes.

At the lowest point of the transect (approx. 460m. asl.) only S. pluvialis was encountered. The vegetation in this area was complex mesophyll vine forest (1a) (this frog had been previously encountered during December 1976 in similar forest at 120-200m. asl. on the western slopes of the Bellenden Ker Range). S. pluvialis was regularly noted in choruses until about 580m. asl. Between (560-580)m. asl. it was found with S. fryi. There appeared to be a relatively narrow band where the two frogs coexisted.

The width of this band ranged from 30-50 metres approximately. Both frogs were regularly heard calling from within the band, which appeared to extend along the escarpment, rather than forming an isolated, discrete area. The vegetation type in this area was mesophyll vine forest (2a).

Above this band only S. fryi was recorded. It was very common in complex mesophyll vine forest (1b) - mesophyll vine forest (2a) at altitudes greater than 580m. asl. S. fryi was later recorded at numerous localities on the Atherton Tableland.

Other frogs recorded during the traverse were, Nyctimystes sp., Litoria rheocolus, L. nyakalensis, L. infrafronata, L. lesueuri, Taudactylus acutirostrus, Cophixalus ornatus and Cophixalus sp. (cf. exiguus).

## Discussion

Specific altitudinal distributions have been noted in African (e.g. Schmidt and Inger 1959; Schiøtz 1967), Neotropical (e.g. Savage and Heyer 1969; Myers 1969; Duellman 1970) and Papuan frogs (e.g. Tyler 1968; Menzies 1975). I refer the reader to these papers for discussion of the factors producing such distribution patterns.

The relatively abrupt interface between the two Sphenophryne may reflect a change in environmental tolerance and/or competition between S. fryi and S. pluvialis. Although further studies are required to investigate the interaction, the distribution pattern exhibited here parallels a case noted by Diamond (1975) involving birds in the New Guinea area. He pointed out that where the parrot Vini placentis existed in an area with a congener "V. placentis is confined to low elevations, the congener to high elevations, and there is little or no altitudinal overlap elevations."

Further studies on this Sphenophryne interaction should involve,  
a. quantification of environmental parameters, and  
b. determination of spatio-temporal relationships between S. fryi and S. pluvialis.

## Acknowledgements

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CONUS TEXTILE (Linnaeus 1758)

by BARBARA COLLINS

This mollusc can be an attractive aquarium subject; ours was kept successfully for about nine months. I feel it may have died from starvation as the only other molluscs left for it to feed on were a pair of Murex brunneus, which are pretty well armour plated.

Cones are largely a tropical waters inhabitant and the majority of species come from the Indo-Pacific region. Environmental conditions play a great part in the development of specimens, and comparison shows coastal mainland specimens to be much darker in colour than those from a coral reef. Colour pattern can also be diverse, and water depth has a bearing on the shell shape and thickness. Cones are carnivorous and fall into three categories: piscivorous (fish feeders - dangerous to man); molluscivorous (mollusc feeders, including other cones - also dangerous); vermivorous (marine worm feeders). The Textile is in the molluscivorous class and has caused injury and reported death to man.

The radula tooth of the cone has been modified into a venomous dart which is ejected through the proboscis to paralyse or kill its victim. The shell should not be handled after collection because the animal becomes very active and can extend its flexible proboscis containing the dart beyond the shoulder of the shell. The shell should be picked up only from the broad end and should not be put in a pocket or close to your person. The shells are usually found under rocks or coral slabs and the colour pattern is easily distinguished through the thin periostracum.

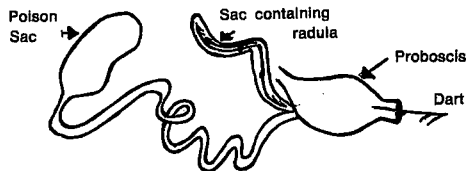
Our Textile was responsible for the deaths of Conus parvulus, C. capitaneus and a C. magus. The last was a surprise as C. magus is piscivorous and I would have thought more venomous than C. textile. A comparison between the venom sacs of C. magus and C. terebra showed C. magus to be almost four times that of C. terebra. The Textile also killed and partially ate our two Phalium areola.

The animal of C. textile is quite striking. Basically mottled with reddish brown, it has black, white and red banding on its siphon, a suitable 'do not touch' signal.

TEXTILE CONE



POISON APPARATUS



THE ORIGIN OF GENERIC NAMES OF QUEENSLAND RAINFOREST TREES Part VI

by JAMES A. BAINES

Note: STCN = Standard Trade Common Name  
PCN = Preferred Common Name (likely to become standard name).

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Cassia. Gk kassia, name for a leguminous plant, probably senna (species of Cassia from the dried leaves of which comes the well-known pharmaceutical product). Q. has a number of species. Fam. Caesalpinaceae.

Castanospermum. Gk kastanos, chestnut tree; sperma, seed; because the large seeds resemble chestnuts. C. australe, STCN Black Bean or Bean Tree, is also known as Moreton Bay Chestnut. Fam. Papilionaceae or Fabaceae (Faba, bean).

Castanospora. Gk kastanos, chestnut; spora, seed or spore; probably in allusion to the downiness of the inside of the pericarp (outer covering of the capsule) reminding Mueller, who named it, of chestnuts. Fam. Sapindaceae.

Cedrela. Diminutive of Lat cedrus, cedar (from Gk kedros). C. toona var. australis is now Toona australis, Cedrela being confined to the cedars of Mexico and tropical South America, with Toona for the Asian and Australian relatives. They are in fam. Meliaceae and related to the White Cedar, Melia azedarach var. australasica.

Celtis. Gk keltis, name for another tree of unknown identity (according to 'A Gardener's Dictionary of Plant Names' by Smith & Stearn); or from Lat celtis, an African species of lotus (according to 'A Source-book of Biological Names and Terms' by Jaeger. The Q. species is C. paniculata. A North American species, C. occidentalis, is Hackberry or Beaverwood, another is Sugar-berry. Fam. Ulmaceae.

Ceratopetalum. Gk keras, horn (genitive keratos); petalon, petal; because in one species the petals resemble horns. C. succirubrum, STCN Satin Sycamore or Blood-in-the-Bark, and C. virchowii, STCN Pink Sycamore or Dogwood (one of the many quite unrelated spp. of plants called by this misleading common name in Australia) are N.Q. species. C. apetalum, STCN Coachwood or Scented Satinwood, of N.S.W. reaches Q. in the Macpherson Range. C. gummiferum is the N.S.W. Christmas Tree. Fam. Cunoniaceae.

Cerbera. Named by Linnaeus after Cerberus, the 3-headed dog that guarded the entrance to Hades beyond the River Styx; its bite was poisonous, the fruits of these trees being narcotic and poisonous. Two N.Q. species are both known as Grey Milkwood. Fam. Apocynaceae, the type genus of which is Apocynum, Dogbane (Gk apo, away; kyon, dog; because poisonous to dogs).

Choricarpia. Gk choris, separate, apart; karpos, fruit; alluding to the individual fruits which, though occurring in heads, are more or less free from each other. C. subargentea, STCN Ironwood Box or Giant Ironwood, was placed in Syncarpia by C.T. White but transferred to Domin's Choricarpia by Sydney botanist L. Johnson in 1962. Fam. Myrtaceae.

Chrysophyllum. Gk chrysos, gold; phyllon, leaf. C. antologum, Brown Pearwood or Silky Hornbeam, C. pruniferum, Plumwood, and C. chartaceum are Q.'s 3 species, all with STCN Plum Boxwood. Fam. Sapotaceae.

Cinnamomum. Gk kinnamomon, the cinnamon tree. The English word cinnamon shows change of second m to n, due to the speech tendency evident in the common mispronunciation of cardamom as cardamon and pantomime as pantomine. Q.'s species are known as kinds of sassafras and camphorwood. Fam. Lauraceae.