

THE GRANITE BELT NATURALIST

Monthly Newsletter of the Stanthorpe Field Naturalist Club.

No. 15

April 1971

P.O. Box 154, Stanthorpe

Officers and Committee 1970 - 1971

President	Mr. T. Chapman Ph. 232
Vice President	J. Harslett and W. Cathcart
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Committee	B. Dodd, I. Chapman, S. Wilnot, Z. Newman, R. McCosker
Publicity Officer	R. Tremeer
Magazine Sub-Committee	C. Van Klaveran and K. Roe

Activities

Meetings	4th Wednesday of each month C.W.A. Rooms 8 p.m.
Field Outings	Sunday preceeding 4th Wednesday

Annual Subscription

Single \$1.00

Family \$1.50

Programme

Field Outings

<u>Place</u>	<u>Date</u>	<u>Leader</u>
Tenterfield Area	18th April (N.B.)	P. Ingram
Mystery Weekend Campout	23rd May	E. Walker
South Bald Rock	20th June	John Harslett
Nundubbermere	25th July	Jean Harslett
Red Rock Gorge	22nd August	to be arranged

Meetings

<u>Subject</u>	<u>Date</u>	<u>Speaker</u>
<i>Fungi</i>	28th April	Mr. J. Harden
Film Evening	26th May	B. Masters (Warwick Travel Centre)
Australian Animals	23rd June	to be arranged
Selection of Slides	28th July	Meeting

Report on Field Outing to Dr. Dark's Property

General Report

On Sunday, 21st March, 45 persons, including several quite young-uns journeyed to Dr. Dark's property across the border on the Tenterfield road, some went in convoy, leaving at 9.50 a.m. from the Park, others came later, which reminds me, I must apologise about the shortage of signs.

We had a beautiful day for this outing, and on entering the property we followed the track which led us over Bookookarara Creek, past the house, stockyards and airstrip to a couple of gates, one of which we went through and travelled south along a fence for about a mile. Here we mounted Shank's Pony and turned east where eventually we came across some rain forest with its usual collection of leeches, ferns, birds, lizards, fungi, mosses, galls etc. A small creek, with crystal clear water tumbling over a rock to fall into a pool, enticed everyone to linger awhile.

Further on we examined a 'white ants nest', the termites were in occupation and here we observed something unusual, a green shrub growing on top of this ant hill. Hereabouts we were on the line of a change in granite forms, fine and coarse grained stones were inspected with a deal of interest.

On returning to our cars, lunch was taken and all are indebted to Peter Higgins for the bushell of apples he distributed around. After resting awhile, we retraced our way back to the abovementioned gates, leaving our cars to walk along the track through the second gate, we emerged on a hillside from where we had an extensive view of rolling hills, an eagle hawk soared nearby, and Boonoo Boonoo Falls, several miles away poured millions of gallons of water away to the lower valley.

Back to our cars again, more fungi and birds, lizards etc. being seen along the track, and after afternoon tea, our party split up, the 'rock-hounds' making for a section of the property where tin dredging had taken place, the balance driving about a mile north where some kangaroos were seen, also, alas, an area of forest flattened by bulldozers. A short walk brought us to another magnificent view, and as the day was drawing to a close, we retraced our way to the 'Blacksmiths Shop', where we inspected a very old and rather large bellows, still in use too!

Some Flora Noticed on Dr. Dark's Property

The first walk was to a creekbank where a small patch of rainforest occurred. Various epiphytes such as staghorns and clkhorns were seen. Just outside the rainforest, one yellow Hibbertia species bloomed freely plus old Solanum flowers, wild violets and two native logumcs. Perhaps the most noticeable feature was the profusion of wood rotting fungi. These were in all colours, white, pink, red and grey and a most unusual one with many tiny brilliantly green fruiting bodies. Sightings were clouded a little because a weather eye had to be kept on over friendly king size tiger leeches.

Some Flora Noticed on Dr. Dark's Property (Cont'd)

Other plants noticed on the afternoon walk to view Boonoo Boonoo Falls were odd purple Brachycome daisies, Banksias in bloom and some most attractive Casuarinas (she-oak).

Bird Notes from Dr. Dark's Property

Kookaburra	Noisy Miner
Maggie	Dollar Bird
Currawong	Sparwing Plover
Crow	Grey Shrike Thrush
Pied Butcherbird	Grey Fantail
Grey Butcherbird	Wonga Pidgeon (heard)
Crimson Rosella	Red Browed Finch
Eastern Rosella	Brown Thornbill
Wedgetailed Eagle	Scrub Wren
Mistletoe Bird	

Bird watching was somewhat restricted by the fact that the "official recorder" is one of those people who is reduced to hysterics by the sight and feel of a leech. Unfortunately these loathsome pests were the most common fauna recorded for the day.

One of the most interesting and attractive birds recorded was the tiny Mistletoe Bird, *Dicaeum hirundinaceum*. Although quite common, this bird is not often seen as it frequents bushy trees laden with mistletoe and its flight is usually high and swift. It has a close ecological association with mistletoe, the ripe berries forming its staple diet and it, in turn spreads the plants by voiding the seeds on tree limbs where they can germinate. It is found all over Australia with the exception of Tasmania where, it is interesting to note there is no mistletoe. The male bird is very beautiful - glossy blue-black above. Throat, breast and under tail crimson. Abdomen white with black centre patch. The female is grey above, whitish below and pink under the tail. "The nest is one of the neatest and prettiest of Australian birds' nests", says Neville Cayley. "It is pear-shaped, has a slit-like side-entrance, and is composed of various kinds of soft material from plants, woven and matted with cobweb into a felt-like product, and usually decorated with the brown castings of wood-boring insects or the dried brown heads of flowers". There are usually three eggs laid and the breeding season varies according to the fruiting of the mistletoe.

Report of Monthly Meeting Held on 24th March, 1971

This meeting was well attended as usual. The Secretary reported that newsletters had been received from the following Naturalist clubs: Queensland Nats. and Richmond Valley. He also said that Mr. J. Harden would be available for a talk on "micro-biology" for our meeting to be held on 28th April. (This will be instead of the evening on Birds which was planned. Ed.)

A letter has been written to the National Parks Association regarding the ownership of the Jolly Falls Area.

The treasurer reported a balance of \$5.00 in our funds.

Report of Monthly Meeting Held on 24th March, 1971 (Cont'd)

The President reported that the question of the Club joining the Youth Hostel Association had been thoroughly discussed by the committee. Details of the Association will be published in this magazine and a vote will be taken at the next meeting.

Mr. F. Wilkinson suggested that the Talgai homestead could be a venue for a future field outing.

The thanks of the club members will be formally written to Dr. Dark for a most enjoyable day spent on his property on our last field outing. A letter will also be written to Mr. L. Nielsen of North Tamborine with some advice on starting a Field Naturalist Club in that area.

After the formal business of the meeting was over, the President introduced Mrs. Jean Harslott who gave a fascinating illustrated talk on butterflies and insects of the Granite Belt. The wealth of knowledge and the very beautiful slides which Jean has, made this a most enjoyable and memorable evening.

NOTE: Please look at book before signing. You may well be caught out signing the C.W.A. visitors book !!!

Contributions

GALLS (Continued) - By kind permission of Mr. P. Grant

While all galls are of great interest there are two of which I would like to make special mention because of their surprising life histories.

Cystococcus pomiformis starts its life cycle as a tiny almost hemi-spherical mite twenty thousandths of an inch long. Having been transported to the branches of a bloodwood - *Euc. trachyphloia* - it buries its sucking beak in a twig and commences to feed on the new growth. This causes the bark of the twig to swell in a raised ring about the outline of the insect. This swelling enlarges till it eventually completely envelops the insect which now commences to grow. The process continues till the gall and its occupant are an inch or more in diameter at which time the insect is approaching maturity; at this time, also, it has become so much a part of its home that it is impossible to remove it from the cylindrical woody gall without injury. The forward or feeding end becomes embedded in the gall and only the rear abdominal section remains free and mobile. This part becomes armed with a hard chitinous plug which is used to seal or open an entrance which develops in the gall at this time. This is an urgent necessity as these galls are subject to the attentions of a fly - one of the parasitic Tachinidae - which has to be denied entrance. At the same time it is necessary to be able to admit males of the species and to allow exit

GALLS - (Cont'd)

of the young. Assuming the occupant remains unparasitised these are born in the inner cavity of the gall and an unusual change in the normal pattern of insect life takes place. Males grow quite rapidly, passing through several moults till adult and fully winged; while females remain unchanged in size. The final stage of the male's development is a remarkable extension of abdominal segments which elongate to more than double their original size, and upon which tiny females begin to cluster. At this stage mother gall withdraws the chitinous plug allowing the winged males, which are now mature and seeking mates to emerge and distribute each a load of immature females to ensure a supply of galls for next season. The tiny females have very limited locomotion and the means outlined allows for a distribution which would just not be possible for them unaided.

The second gall with an interesting life history is caused by a moth, the female of which deposits an egg on a twig axil of Tallow wood regrowth. The hatched larva bores into the growing tissue of the tree away from light, at the same time using the tissue as food. This continues during the caterpillar stage, the cavity enlarging while the tree endeavours to make good the loss. Thus the stem swells, a gall is formed and plant material beyond dies of starvation. About this time the feeding caterpillar is ready to change to the chrysalis stage and since the adult moth will have no biting parts urgent provision must be made for the moth's exit. The last act of the caterpillar then is to cut a neat trapdoor opening in the gall and fit a silken plug, which the emerging moth is able to push outwards, but which prevents a predator from pushing inwards to reach the helpless chrysalis. This is not completely effective however, as a small Brachonid wasp with a very efficient wood-boring ovipositor is able to pierce the outer case of the gall and lay an egg on the chrysalis. Assuming this hazard is avoided the chrysalis which is unattached within its gall has still to pull free of its case and this is accomplished by provision of a pair of hooklike appendages on the last but one segment of the chrysalis, which, as the moth splits its case and emerges, catch in the silken lining which covers the inside of the gall and allows the moth to pull free and head for the one way exit.

This small gall producing moth further surprises with still another adaption in its strange life history. The larval stage of moths is a caterpillar - a wholesale consumer of plant tissue with a commensurate by-product of droppings - quite a problem for a totally enclosed animal, which is looked after by the provision of a small carefully concealed disposal opening kept sealed and used only in the hours of darkness. Surely a remarkable adaptation by an insect with not even a remote affinity with the usual gall producers. The adult moth has a very swift flight and appears not to be attracted to light. The surest way to see one is to breed it out of its gall and hope it has not been visited by a Brachonid wasp.

I have elaborated somewhat on these two because of their curious life history but feel sure there are others just as interesting if we could delve into their private lives.

What Did Darwin Really Say? - M. Passmore

The subject of evolution is one which leads to hot argument from time to time, and in the author's experience when really questioned the opponent's theory and Darwin's version bear as much resemblance to each other as an Egyptian and Israeli version of a border incident. It would thus seem profitable to examine exactly what Darwin's Theory of Evolution proposed. It must first be realised that this is a theory, and as such only attempts to explain the observable facts. It does not claim to be a "Law" - a far more precise and definite statement.

One of Darwin's first proposals was that Lyell was correct "If you do not believe Lyell then you will not believe me." Sir Charles Lyell (1797-1875) was trained as a lawyer, but became a foremost authority on geology. His great strength lay in his powers of observation, and his brilliant field work and his thought was greatly influenced by James Hutton, a medical practitioner of Edinburgh, who developed the idea of uniformitarianism. In his day Hutton was largely overlooked, (mainly because of his ponderous and involved style of presentation) however, his thought was basic, and his central theme still stands as a guide to all scientific thinking today. His friend John Playfair summarised thus: "Amid all the revolutions of the globe, the economy of nature has been uniform, and her laws are the only things that have resisted the general movement. The rivers and the rocks, the seas and the continents have been changed in all their parts; but the laws which direct those changes, and the rules to which they are subject, have remained invariably the same."

Lyell found the evidence to support this proposal, and he proclaimed it loudly. His books were very influential and many editions were published. Lyell states his case for uniformitarianism thus: ".....in attempting to explain geological phenomena, the bias has always been on the wrong side; there has been a disposition to reason a priori on the extraordinary violence and suddenness of changes, both in the organic crust of the earth, and in organic types, instead of attempting strenuously to frame theories in accordance with the ordinary operations of nature."

In essence this school of thought was proposing that "the present is the key to the past", and that there has been sufficient time for the infinitely slow processes of nature to effect their major changes. At the time, these were radically new postulations, and it was against this background that Darwin made his observations and formulated his ideas.

Darwin's theory seems to have crystallised when the "Beagle" was in the Galapagos Islands, when he produced his now famous series of finches. In essence Darwin put forward four propositions:

- (1) A natural process is for a species to have a high reproduction rate that inevitably leads to population pressures on the environment.
- (2) Individuals all vary to some degree. There are no two individuals exactly alike and some are better able to cope with their environment.

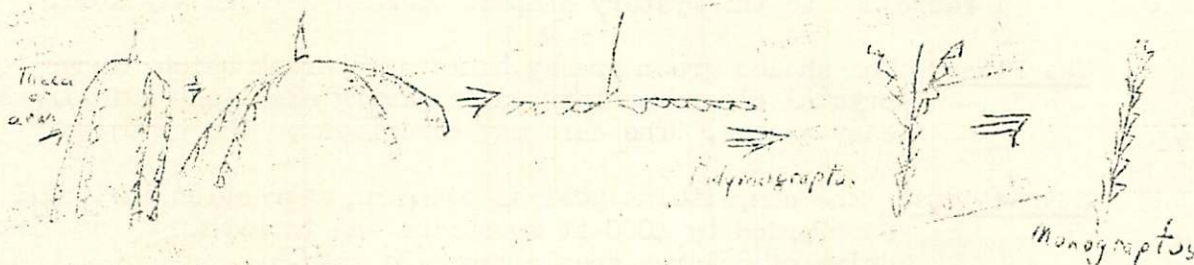
(These two postulations have never been questioned by even the most virulent opponents of the theory, and were, in fact, not in any way new to intellectual thought.)

What Did Darwin Really Say? (Cont'd)

- (3) The characters that make individuals different arise purely by chance. Thus there is random development over infinite time, and some individuals are not favoured for survival.
- (4) Those individuals best favoured by the environment are preserved and so allow the species to evolve, i.e. "the survival of the fittest".

It is interesting to note that Darwin did not attempt to explain "the arrival of the fittest", and it has been left to the advances of genetics to note the mechanisms of mutations etc. to qualify this point. Also there is no suggestion that all evolutionary changes are progressive. In fact some extinct classes owe their extinction to too much evolutionary mutation. When they reached their ideal they just did not appear to be able to stop. Notable in this respect are the Ammonites, a group of extinct coiled shellfish, related to the pearly Nautilus and a second cousin of the snails.

Other groups have shown quite rapid evolution along a line which does not appear to have served any useful purpose, but, alternatively, did not retard efficiency. Such a group is the very ancient Graptolites, a peculiar group that has representatives amongst the first fossils. They are characterised by thin "arms" which originally hung down in pendulous fashion, but they evolved rapidly to spread these "arms" or theca horizontally and then vertically, and to what advantage no one can hazard a guess.



This is not intended as a justification of the Theory of Evolution. There have been many books written on the subject, but it is meant to suggest that the next time someone holds forth on the subject, it might be advisable to ask what they are really "on about". Darwin's ideas do seem to have become somewhat distorted over the years, speaking generally, and although science thrives on argument, it is clearly desirable to know exactly what one is agreeing with, or disagreeing about.

Youth Hostels Association. - R. Tremeer

I must admit to a certain prejudice in favour of the Y.H.A! There was a period in my life when, as an impecunious student, I nevertheless managed to afford the annual sub. to the Y.H.A. in England. This enabled me to explore many of the off-the-beaten-track parts of the country, staying each night at strategically placed Hostels for the charge of a few bob. After a long day's hike, the simple comforts of these Youth Hostels were greatly appreciated, and the camaraderie of fellow hostellers, re-living the day's experiences round a campfire or over the evening meal, evokes nostalgic memories!

Youth Hostels Association. (Cont'd)

Yes, I'm biased! I like the Youth Hostels Association, and all it stands for. It seems eminently appropriate to me that our Naturalist Club should be considering joining the Youth Hostels Association of Queensland - under the Group Membership Scheme.

For a mere \$2 per 50 members, our Club could become registered with the Y.H.Q. Each individual member wishing to join would pay \$1 per annum Card fee and \$1 joining fee (the latter will rise to \$2.50 after 1st May). He or she will be issued with a Group Membership Card valid for the use of Hostels throughout Australia.

In the November 1970 issue of "The Granite Belt Naturalist", there was a description of our local Youth Hostel "Huntingdon". As group members, we could make use of this hostel and its grounds as a daytime rest and recreation area, as a home ground for bar-be-ques and other outdoor functions, and as a facility for use overnight during field activities or to house guests should the Naturalists' Club wish to play host to visiting groups. Anyone seeking further information about the Y.H.Q. and the Group Membership Scheme should contact Mr. Geoffrey Hamlyn-Harris, who is the Warden of the Huntingdon Hostel. The Club will discuss whether or not to take advantage of the Group Membership Scheme at the next general meeting. I hope that we will decide to take the plunge before 1st May.

How long since you last enjoyed a camp-fire - E. Walker

A few clues to the mystery campout weekend 22/23rd May 1971.

The Place: The shaded green grassy banks of a creek which always runs with crystal clear mountain water giving excellent swimming holes and easy access. The cars may be driven to the campsite.

Attractions: The campsite as well as being an attraction in itself is surrounded by 4000 ft mountains and is within a few minutes drive of a large scenic man made lake.

A most spectacular mountain is adjacent and it contains two gorges giving easy access to the summit. The gorges contain an abundant growth of piccabean palms which tower high above our heads to the sunlight at the lip of the defile.

A most interesting variety of coloured rocks will be found in these gorges of volcanic origin which cut deep into the mountain side and in some instances are only 10ft. wide.

The nearby lake will give excellent scope for photographers interested in both scenic and wild life photography.

To watch the sunset over this lake would alone be worth the trip.

Miscellaneous: This weekend can be as easy or as hard as the individual desires it. It is envisaged that we will leave Stanthorpe about 1.30 p.m. Saturday arriving at the campsite at 3.30 p.m. leaving plenty of time to set up camp.

N.B. If you could let me know two weeks before the outing as to whether you are joining, or would like to join the excursion, I will be able to arrange something for those who do not have much in the

How long since you last enjoyed a campfire? (Cont'd)

way of camp gear.

We want this to be a family outing so bring the children and let the whole family enjoy the thrill of a night out under the stars.

The weather in May can be cool but the location of the campsite is not much above sea level so the night should be fairly mild.

More details about suggested items to take on the trip will be published in the next magazine.

For more information, phone Stanthorpe 888. E. Walker.

Miscellaneous.

It is hoped that this new section will be a regular feature of our magazine. As you will see from the following contributions, it is intended to include questions and answers as well as snippets of information from members own experiences, readings or any other source. We hope that through this section many more people will feel able to contribute to our magazine.

Please address all correspondence to P.O. Box 154, Stanthorpe.

If you can answer any of the questions, I shall be especially grateful for your replies.
Ed.

1. Can anyone tell me?
2. Did you know?

Can Anyone Tell Me?

How does an Eagle Hawk prepare his catch for eating?

The question was asked when Peter Higgins reported watching three hawks riding the wind currents round Mt. Banca recently. One dived to earth and came up with a quite large and very active snake. The reptile was trying to tie itself into knots when its captor took it out of sight. It seemed an impossibly tough meal to eat on the wing, but the bird was not seen to drop it from a height to kill it as a Kookaburra might.

So can anyone speak from experience as to what happens?

I would also like to know the proper name of those very repulsive caterpillars that cluster on the Eucalypts and raise their heads to spit at you when disturbed. I've heard them called "spitfires" and "spitatchers" this last name being very apt, I think, if not very good English.

Would someone please give me their life cycle. J.W.

P.S. Does anyone know anything about BLUE worms? Ed.

Did you Know?

That a plant (Puya Raimondii) that grows in granite country in the South American Andes, is the world's tallest herb and a close relative of the pineapple. It does not flower until after it is 150 years old and then produces a 30ft. long spike bearing about 8,000 blossoms.

That snakes produce young by several methods. Most non-venomous species lay eggs which are usually abandoned as soon as they are laid and hatch by heat from the sun or from decaying vegetable matter. Pythons however coil around their eggs, either to brood or protect them or perhaps both. Most Australian venomous snakes give birth to living young, often in a thin membranous sac from which they break free. Some of our venomous snakes however, including the Common Brown and the Taipan lay eggs. Snake eggs are usually elongated with paper-like shell which swells with development. The young snakes are born with a tooth-like structure at the top of the nose to assist in breaking the shell. Young snakes usually appear in Feb. or March regardless of whether they are born alive or hatch from eggs. They are completely "on their own" from birth and have a very high casualty rate.

That Shining Bronze Cuckoos, natives of New Zealand and occasional visitors to Australia, fly 2,000 miles over the Pacific Ocean to their wintering grounds in the Solomon Islands. More amazing though is that their young follow the same route at a later time and find their way entirely by instinct.

Details of Field Outing - 18th April, 1971 to Tenterfield Area.
Leader - P. Ingram.

Cars will depart Stanthorpe Park at 9.30 a.m. and meet at Tenterfield (Lions Park near Swimming Pool, Junction of New England and Mt. Lindsay Highways.) at 10.30 a.m.

What To Do: Drive around Tenterfield to admire autumn tonings of trees, and a look at Ghost Gully. (Don't forget your Camera!) Then go to Mt. McKenzie Area, approx. 3 miles from Tenterfield where there is excellent scenery which can be seen from your car or by walking a short distance.

What to Bring: Lunch, Camera, Etc.

What to Wear: Casual Clothes and Rubber-soled Shoes or Boots.