# THE GRANITE BELT NATURALIST.

Monthly newsletter of the Stanthorpe Field Naturalist Club.

No.44 November 1973 P.O. Box 154, Stanthorpe.

## Officers and Committee 1973 - 1974.

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|---|---|
| President | Mr. F.Wilkinson |
| Vice Presidents | Mr. R.Leisemann and Mrs.J.Harslett |
| Secretary | Mr. E.Walker Ph.888 |
| Treasurer | Mrs.G.Leisemann,Cwth.Bank Bus.Hrs. |
| Editors | Mr. I.Jackson and Mrs.D.Orr |
| Newsletter Sub-Committee | Mrs.B.Krautz and Mrs.W.Cathcart. |
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| Publicity Officer | |
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| Fauna " | Miss J.Westcott |
| Geology " | Mr.P. Higgins |
| Youth " | Mr. G.Marsden |
| Bushwalking " | Mr. R.McCosker. |

## Activities.

Meetings — 4th Wednesday of each month C.W.A.Rooms, 8 pm.

Outings — Sunday preceeding 4th Wednesday.

## Annual Subscriptions.

Single $1.50 Junior (full-time student)50c. Family $2.00

## Programme.

### Field Outings:

| Place | Date | Leader. |
|---|---|---|
| Quartz Mine, Tenterfield | 25th November | P.Ingram. |
| McCoskers' (Christmas Bar-B-Q. | December | Mr.& Mrs.McCosker. |

### Meetings:

| Subject | Date | Speaker. |
|---|---|---|
| "Off the Beaten Track" Outback Australia | 22nd November | B. & G.Leisemann |
| NO MEETING | DECEMBER. | |

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Did you know: North Queensland rain forests are the source of Maple, Walnut, red Cedar and other cabinet woods that are among the finest in the world?

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# THE GRANITE BELT NATURALIST.

Minutes of General Meeting held 24th October, 1973.

Sixty-four members were present with apologies being received from eight.

Minutes of previous meeting: Moved Mr.I.Jackson, seconded Mrs.R. Harslett that the minutes of September meeting be confirmed.

Inward Correspondence: (i) Newsletters from other Clubs.
(ii) Letter from Mr.Monteith accepting our invitation to lecture to our club on 27.2.74.
(iii) Letter from Adult Education confirming receipt of our letter seeking Lecture Fee etc. for Mr. Monteith.

Outward Correspondence: (i) Letter to Q'ld.Nats.Club seeking information Nats. car stickers.
(ii) Letter to Mr.Monteith requesting a lecture on 27.2.74.
(iii) Letter to Dr.Kirkpatrick seeking a lecture on 28.11.73.
(iv) Letter to Adult Education requesting a lecture fee for Mr.Monteith.
Moved Mr.W.Newman, seconded Mrs.W.Newman that the inward correspondence be received and the outward adopted. Carried.

Treasurer's Report:

| | | |
|---|---|---|
| Cr.Bal B/f. | | 61.72 |
| Subscriptions | | 15.00 |
| | | 76.72 |
| Postage, duplicating etc. | 7.86 | 7.86 |
| Credit Bal. | | $68.86. |

Moved Mrs.R.Leisemann, seconded Mrs.F.Wilkinson that the Treasurer's Report be accepted and accounts passed for payment. Carried.

General Business: It was suggested that the Nats.Club share the P.O. Box with the camera club to halve the cost of same. Moved Mr.W.Newman, seconded Mrs.D.Wiseman.
Mrs.R.Harslett brought to the notice of the meeting that 9 am. starts for Field Outings were too early for some people. It was accepted that for closer outing venues we should plan our departure time for 9.30 am.

Outings Reports: Mr.R.Leisemann reported on the extra outing to Mt.Doubletop.
Mr.F.Wilkinson reported on the usual outing to Leslie Dam with 24 members present.
The next outing will be to the Quartz Mine at Tenterfield.
The next meeting will feature Dr.Kirkpatrick from "The Hermitage".
The meeting closed at 8.30 pm. after which Mrs.R.Harslett showed slides of her overseas trip.

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Many excellent slides were used to illustrate the trip to England and Europe by Mrs. Harslett. Some of the highlights were the European 'signboards' used to tell the locals(and the tourists) what to do and what not to do. Although we are an outdoor country rugged and free, it seems a pity we have not captured some of the scenery from over the sea, but, then what would entice us to go there? We thank Mrs.Harslett for providing an insight into her tour and lighting the fire which will urge us all to go seek and find for ourselves.

A MEMBER.

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## THE GRANITE BELT NATURALIST.

### BASIC GEOLOGY PART II - on Granite Formation:

In a previous lecture I explained the idea that granite magma arose from the melting of previously deposited rocks and because this melting occured at an EUCTIC POINT, the composition of the initial magma or liquid was always much the same no matter what rocks were melted. The different constituents of such rocks that did not melt thus float up in the magma and will only melt if the temperature is raised.

You will remember, I drew an analogy with solder where the initial liquid produced at the EUCTIC TEMPERATURE POINT had the composition of 60 - 40, no matter what the original composition of the solder might be. The euctic point is thus the lowest temperature at which melting occurs, but in a mixture this does not imply total melting. (see Basic Geology in our Newsletter No. )

Now the temperature at which this melting occurs is in the range of 600°C. (round about that for aluminium 660°. For comparison iron melts at 1535° and gold at 1063° and water boils at 100°)

Let us then consider the tremendous mass of granite that we can observe from Stanthorpe down the New England, and you will suddenly realise that the amount of heat required to melt that lot is tremendous, and it is on this that I am basing this lecture. To do this, it is necessary to introduce two new ideas which are subjects in themselves. These are (i) The concept of the Geosyncline and (ii) the exciting idea of continental drift.

Let us first consider Geosyncline:

A syncline, as such, is a series of beds which have been folded downward to form a depression, and is the opposite of an anticline which is arched up. Thus a sheet of corrugated iron is a series of synclines and anticlines, with the water collecting in the synclines.

However, the geosyncline is a very much larger area and is simply described as a basin of rapid deposition of sediments. The general shape is that of a syncline, but the size of the basin would be something like that of the Barrier Reef or larger. To produce rapid deposition the basin must be sinking rather rapidly say 1 - 2 cm. a year and in the course of time a tremendous thickness of sediments develope and the sheer weight of these can produce very compact rocks and even a degree of metamorphisen in the lower or older strata. However, whilst it does not appear to be sufficient to melt the rocks, it does show how the rocks, which will be subsequently melted, arrive at the site.

The final phase in a geosyncline is one or orogeny (or mountain building) and stabilization. In fact, the east coast of Australia is the product of the Tasman geosyncline with thick sediments along the coast which were stabilized by the formation of the Great Dividing Range some 350 odd million years ago.

Let us now consider the theory of continental drift which, although not new has only recently received widespread acceptance.

The upper layer of the earth is now considered to be broken into seven large plates and some smaller ones which are moving across the earth.

over

# THE GRANITE BELT NATURALIST.

## BASIC GEOLOGY PART II - Granite formation:

Each plate is dominated by a land mass, these being:

(I) The African, considered to have remained stationary.
(2) The South American which has moved west across the Atlantic.
(3) The Eurasian, one of the first to split and move slowly north.
(4) The North American, again moving west from Eurasia across the Atlantic.
(5) Indian-Australian, moving north - east.
(6) The Antarctic moving south - east.
(7) The Pacific Ocean, rotating anticlockwise.

As the plates move, they must have junction areas. In the mid Atlantic, this is an area of spreading where basalic larva is being constantly extruded. The positioning dead centre is quite remarkable and one of the best documented facts supporting the theory. Other plates rub, notably the Pacific and North American along the San Andreas fait system. This movement is responsible for the disasterous earthquakes in San Francisco, Alaska and Montagua.

However it is the case where plates press against each other notably at the Himalayas that we are interested in. As the Plates move first we get a downward buckling at the edges - gravity assisting in the initial movement downward - which produces the geosyncline of rapid sinking. However eventually something has to give and one plate plunges under the other to gradually be absorbed into the earth's lower layer by melting. Where the two rub however, there is a tremendous quantity of friction produced heat which melts the rocks in the area and thus lubricates the junction, It is this melting which is the granite magma.

The edge of the upper plate is crushed and folded resulting in Orogony or mountain building and the Magma fluid moves into any spaces to form the core of the mountain chain. Gradually the movement moves away from this area as one plate overrides the other and the magma slowly cools to produce the granite stabilised range. For there an erosion takes over to finally expose the granite mass similar to that which we see today.

During this period of cooling, the granite mass contracts and it is this which is responsible for the joint pattern which in turn allows the passage of secondery fluids and their associated deposits such as pegmalites, applites, greisens and ores. I will deal with this in a subsequent lecture.

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## A NATURALIST'S PRAYER:

From all destroyers of natural beauty in this district and elsewhere; from all polluters of earth, air, and water; from all jerrybuilders, disfiguring advertisements, road-hogs and spreaders of litter.... from all foul smells, noises, and sights, good Lord deliver us.

W.M.D.

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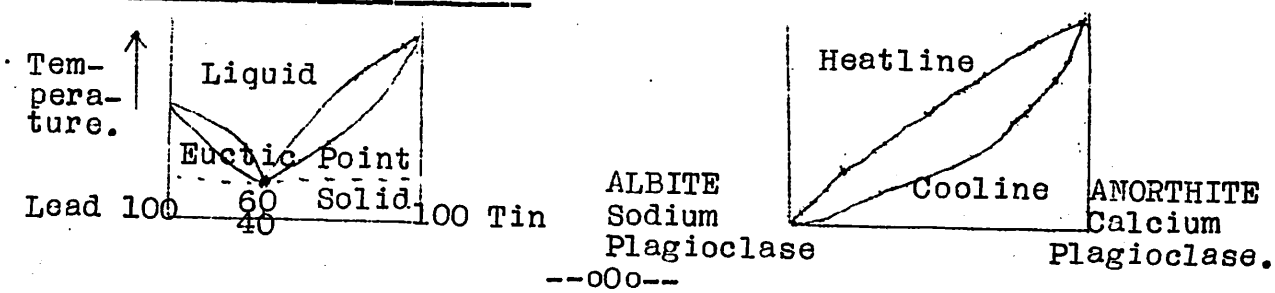
BASIC GEOLOGY ILLUSTRATIONS:

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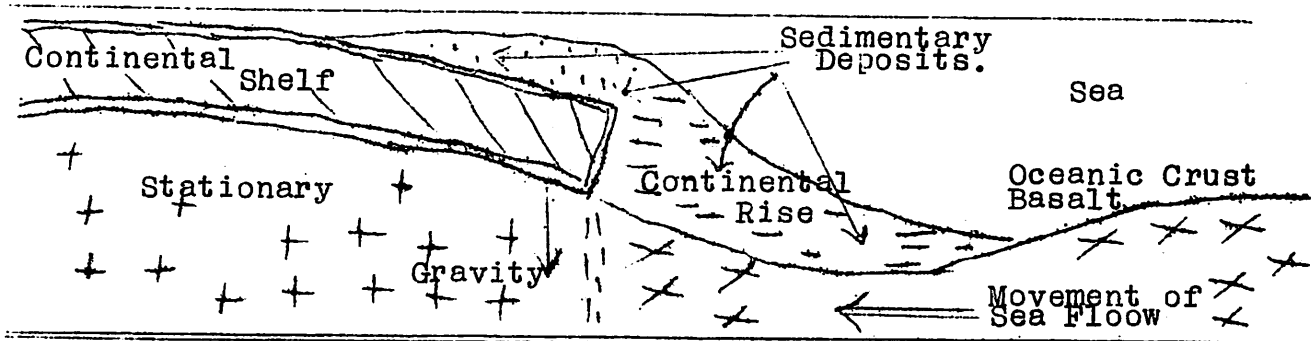
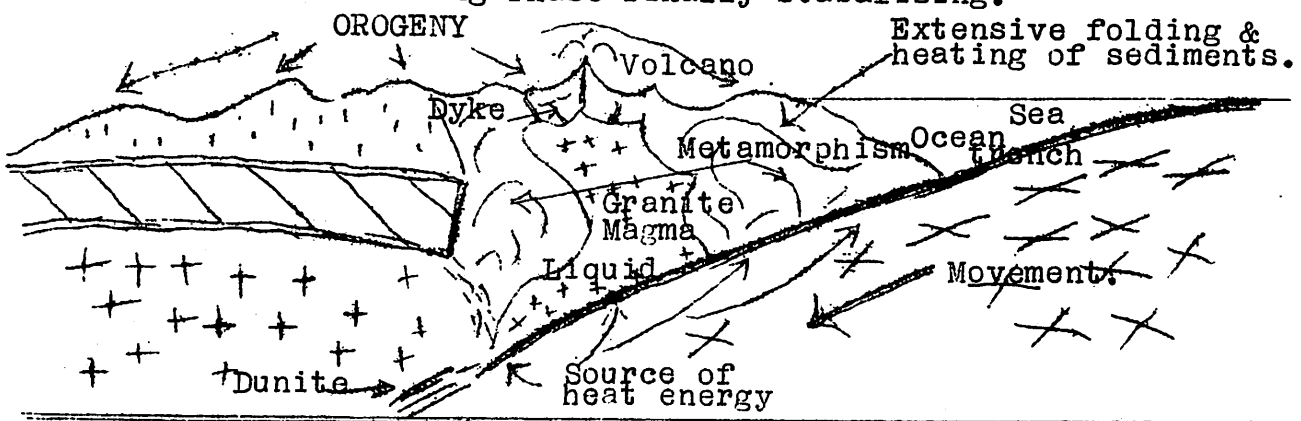
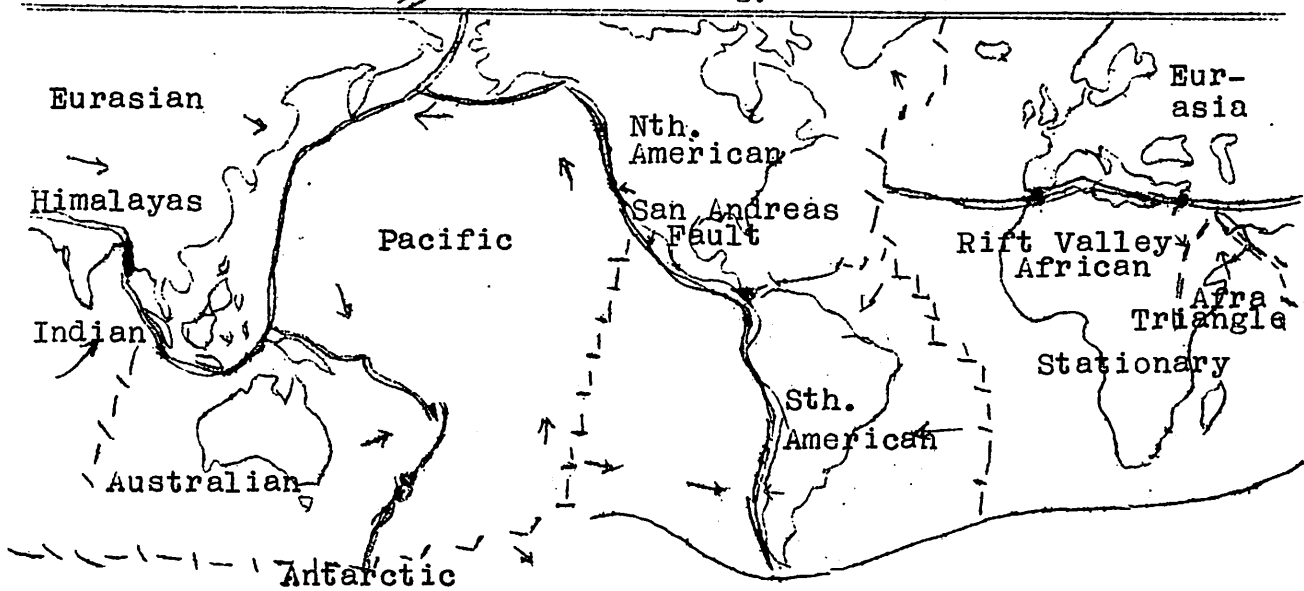
Final Phase of Geosynclinal Deposition.




Mountain Building Phase finally stabalising.



# THE GRANITE BELT NATURALIST.

## Report on Outing to Lyra 23.9.73:

After a wet start a total of 24 members travelled to Lyra for the September outing. The programme consisted of two short walks which demonstrated how wild flower flora can change in a short distance.

Morning Walk: First stop was a "rock garden" of STENANTHEMUM SCORTECHINII. This shrub, said to be confined to the Granite Belt, is becoming popular with gardeners. An area of KUNZIA CAPITATA was in full bloom, and nearby was PIMELEA LINIFOLIA, a small rice flower, of interest as it was first collected by Sir Joseph Banks at Botony Bay.

The main feature of this walk was ERIOSTEMON MYOPOROIDES in flower. The buds are deep pink opening white, and this local strain is more robust in appearance than the one grown in gardens. Also in this area was STYLIDIUM, trigger plant, which members discovered refused to trigger in the rain. Two orchids seen in bud the previous weekend had been dug out by wild pigs. OLEARIA GRAVIS, first recorded in Q'ld in 1956, was just coming into bloom with white daisy flowers up to 1½" in diameter.

Other flowers seen were: ANGUILLARIA DIOICA, CRYPTANDRA AMARA var.FLORABUNDA, PULTENAEA FLEXILIS, GLOSSODIA MAJOR, PHEBALIUM ROTUNDIFOLIUM, PATERSONIA SERICEA, DILLWYNIA, STYPANDRA GLAUCA, POMADERRIS FERRUGINEA, several species of ACACIA.

The Afternoon Walk was up the Docotr's Creek gorge to the falls, which are approx.40' high, and, like most falls in granite country, do not have a vertical drop.

A small tree of LOGANIA ALBIFLORA was outstanding, looking similar to white broom seen in Toowoomba gardens. A large area of PROSTANTHERA LASIANTHOS was in heavy bud, while BORONIA AMABILIS was in flower. This is the "Type" area for this species of Boronia, the area from which the species was originally described.

After examining two species of HAKEA growing side by side, we found an area of drumsticks, ISOPOGON PETIOLARIS. This small plant, barely 6" high and up to 12" across has attractive divided leaves. Its cone-like heads of blooms are covered with long yellow stamens, followed by a cone approx. ¾" in diameter.

Growing in a crack of rock right on top of the falls, is a find vine of PANDOREA PANORIANA, the wonga vine, well out of its climatic zone. Other plants growing in the gorge show that the local climate is much warmer than the surrounding country. These include the peach-leaf poison bush, strictly coastal, birdsnest ferns, and some species of rain forest creepers.

Returning on the southern bank of the creek we found a small gorge approx 20 yds.long, 10' wide and 30' deep, with its walls encrusted with the tongue orchid, DENDROBIUM LINGUIFORME. A considerable quantity of water ran over a rocky bar at the head of the gorge and disappeared into the sandybed.

In the falls area, we found two wildflowers of particular interest. LEUCOPOGON BIFLORUS, a showy member of a showy genus, was in full bloom. It is a rather upright small shrub with sparce foliage, and the small, white bell-shaped flowers hang down in pairs from each leaf axil. We saw the second Boronia for the day, a pale pink flowered species, doubtfully identified as BORONIA FALCIFOLIA, but perhaps a new species.

over.

Report on Outing to Lyra 23.9.73 Cont.:

HIBBERTIA ELATA, a soft looking small shrub with large yellow blossoms, grows in the most impossible looking situation- a crevice in a flat rock barely as big as a pencil will support a healthy plant. HIBBERTIA ACICULARIS is a larger shrub with spiky leaves, while HIBBERTIA STRICTA, looking rather similar to a small cypress pine, was also seen, but neither had blooms.

DODONAEA TRIQUETRA, with large green seed pods, was badly damaged by frost three winters ago. The common red hops, DODONAEA FILIFOLIA was also in evidence. Other plants in flower included: WESTRINGIA AMABALIS, CLEMATIS ARISTATA, three species of ZIERIA (COMPACTA, ASPALATHOIDES and LAEUIGATA), DIURIS AUREA (the yellow double-tail, or donkey orchid), BORONIA POLYGALIFOLIA, EPACRIS MICROPHYLLA, ACACIA JUNCIFOLIA (this species is quite rare).

The local lyre bird gave a concert within 200 yds. of the members, but kept out of sight. Evidence suggests that Alan Cunningham travelled down this valley during his return from the discovery of the Darling Downs.

The two areas seen are only half a mile apart, but support two almost entirely different flora.

BRIAN McDONAGH.

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NOTES ON THE LYREBIRD:

Prompted by the Lyrebird call heard on Brian and Jill McDonagh's property - at the Nats. outing in September.

This bird included in its mimicing a most interesting call, somewhat like an evening cricket, repeated at length.

Several years ago Mr. Norman Robinson, C.S.I.R.O., Canberra who is doing research on birds which mimic, visited this district. He has an extensive collection of records of the Lyrebird, and he made the interesting statement that The Superb Lyrebird, in its range from Vic. to Qld., showed very little variation in call or birds mimiced. I surprised him by saying there was distinct variation within this district, 3 in fact, which he was able to hear more or less on the spot from the excellent recordings which Mr. Bill Goebel and Mr. Mervyn Fletcher have made. Mr. Robinson was quite fascinated and has returned several times to the district to study this interesting occurence.

A few thinking points from Mr. Robinson's research:

1. Is the call for the breeding season only, or may it be advantageous to use mimicry for safety.
2. 80% of the Lyrebirds call is mimicry. However, if the recording is played back to the bird it is immediately attracted. If its own calls are deleted it is still attracted.
3. The chief birds mimiced are, the Black Cockatoo, Grey Thrush, Crimson Rosella, Currawong and Red Wattle Bird and Scrub Wren. Why these? Most are relatively large birds, all aggressive birds with loud calls, strongly directional in character.

The Albert Lyrebird has a very restricted repertoire. It never mimics the distinctive Whipbirds of its habitat and also a

NOTES ON THE LYREBIRD Cont.:

bird which breeds at the same time.

The West.Aust.Rufous Scrub Bird seems not to mimic in the breeding season, but rather as distress calls. If disturbed it will indulge in tremendous mimicry. Was the Lyrebird we heard disturbed by our party's movement?

Our Stanthorpe Lyrebird came under particular notice about 1919 -20. In 1920 my father returned on a visit to Scotland and at the request of Dr.Roberts (a well known Ornithologist, then residing in Stanthorpe) called on Mr. Alex Chisholm in Melbourne and reported this species. Mr. Chisholm immediately came to Stanthorpe decided it was a separate species, and because the Prince of Wales was visiting Stanthorpe, he called it MENURA edwardi in his paper "A new Menura, Prince Edward Lyrebird" published in "The Emu" 1921.

Briefly he stated,"This granite haunting bird lives in conditions pecular to itself and exhibits several various colour differences and slight variations in the tail feathers. Its habit of nesting in crevices in granite boulders is quite unique..".

In subsequent years, it has been decided by most authorities, but not all, that it is really just a form of the Southern Lyrebird, and not worthy of specific rank. Mr.Chisholm, I'm sure, would be interested in this latest discovery of varied calls!

--oOo-- JEAN HARSLETT.

October Outing:

Our outing for Oct. had to be changed as our scheduled leader, Noel, was tied up with the Carramar Carnival at Dalveen; however Ed.McCulloch came to our rescue and a 'most different' outing was enjoyed by the 24 members who journeyed to Warwick and met Ed and Mrs.McCulloch at the Park.

From here we went to Leslie Dam and were pleasantly surprised at the extensive tree planted lawns and conveniences for the use of visitors. Leaving our cars, we ascended many steps and came to the top of the Dam wall where we had a good view of the surrounding country and stored water on which many craft sailed gracefully and a number of speed boats ploughed the waters.

We then met an officer of the Irrigation Dept., who unlocked the grill door allowing us to enter the tunnels inside the dam walls where he escorted us right across the stream bed to the pumping station. The upper tunnel was our next objective and the many steps we mounted caused someone to remark on the similarity to the 'Opera House'. Going through the upper tunnels we found ourselves back on the side where we parked our cars. Here we had a spectacular example of the power of water pressure when a valve was opened and a rushing jet caused a huge water flower to open, and some cameras were seen in use. When the valve was first opened a mad rush occurred as most of us were a bit close and would soon have become wet!

The suction of the water rushing through caused some fish to be drawn along too and were ejected, becoming stunned on the adjacent rocks and 'rescued', examined and later released in a nearby pool. These fish were drawn through at a depth of about 30', we were told when the water was considerably lower a greater number were generally seen to be expelled, which suggest they favour the

October Outing Cont.:

upper levels.

Lunch was now eaten and on completion we all went around the southern end of the dam where the speedboats were and after watching a display put on for our benefit it was arranged for us to have a ride and off we went in batches to be thrilled by the speed and rushing water as our drivers manouvered their boats here and there.

We now moved off to the Aerodrome where four or five gliders were coming and going. We were shown the controls of these and the method of launching etc., and a lesson on the theory of gliding, the importance of the study of meteorology, the forming and behaviour of 'thermals' and their importance to the would-be glider etc. and after that our admiration of the Eagle, that master of the Thermals was indeed increased.

We are all indebted to Ed and Mrs. McCulloch for a very enjoyable day.

F.WILKINSON.

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NESTLING MORTALITY:

In their book"Tropical Queensland" the authors, Stanley and Kay Breeden suggest that in the lowland rainforest predators feasting on the eggs and nestlings of birds take a very heavy toll. They estimate that as many as 80% of eggs laid never result in fledgling young and that many of the young do not live to leave the nest. From recent observations it would seem that the same estimate could well apply to this district. A Buff-tailed Thornbill's nest containing young was found in the National Park area. When revisited, the domed nest thickly lined with gay, downy parrot feathers, had been ripped apart from the top and the nestlings were missing although the parents were still in the vicinity.

A Black-headed Pardalote's nest was found in an unusual location under the traffic bridge at Sunnyside in N.S.W. A round hole in the cement support was utilized and the usual domed nest made of grass or bark fibres was presumably placed in a tunnel in the soil behind this drainage hole. When found the next contained very vocal nestlings and older youngsters were also loudly begging for the food brought for the nestlings. Two days later all that remained of this busy and noisy family group were two dead nestlings in front of the hole and one parent bird. The predator in this case had to enter quite a small hole, probably less than 2" in diameter, to drag out and kill the nestlings although they had not been eaten.

Since then a deserted Yellow Robin's nest has been found containing an egg with a chick almost at hatching stage, and of three baby Willy Wagtails seccessfully hatched and reared to flying stage in a packing shed, only one now remains.

With Nature's contribution of violent hail, rain and wind storms and with so many natural predators to evade or outwit, it almost comes as a surprise that enough birds survive and manage to rear young so that there is another generation to carry on from year to year.

Z.NEWMAN.

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## THE GRANITE BELT NATURALIST.

### Proposed Outings for 1974:

| Month | Place | Leader. |
|---|---|---|
| January | Haynes, Ballandean | Mr.& Mrs.Flinn |
| February | Sugarloaf | T.Spiller. |
| March | Rivertree | R. McCosker. |
| April | Rocky River (Camp-Out) | R. Leisemann. |
| May | River Cave, Dr.Robert's Waterhole | W. Cathcart. |
| June | Boonoo Boonoo Crossing | H. Stevenson. |
| July | Back Creek Falls, Tenterfield | R. Leisemann. |
| August | Red Rock Gorge | G. Marsden. |
| September | Mt.Barney (Camp-out) | I. Jackson. |
| October | Gibralter Range National Park (Camp-out) | J. Harslett. |

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### Proposed Speakers for 1974:

| | | |
|---|---|---|
| January | | G. Hamlyn-Harris. |
| February | Natural History of Northern Cape York Pen. An Entmologist's View. | J. Monteith. |
| March | Australian Fauna | Dr. Kirkpatrick. |
| April | Historic Natureland | B. Moncrief. |
| May | "Off the Beaten Track" Overseas | D. Crostin. |
| June | "Off the Beaten Track" Tasmania | D. Bluhdorn. |
| July | "Remember Last Year"? | E. Walker and R. McCosker. |
| August | Across Sturts Stony Desert | N. & E. Bonner. |
| Spare lecture M. | Passmore. | |

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### YOORALA FAUNA SANCTUARY DECLARED:

A 293 acre property adjoining Girraween National Park, in the Stanthorpe District has been declared a fauna sanctuary.

The Acting Minister for Primary Industries, Mr.R.E.Camm, said that Mr.Ken Taylor the owner of the property, "Yoorala" had approached the Department requesting the area be set aside as a sanctuary. He said that "Yoorala" (an aboriginal word meaning "love") would be a particularly valuable sanctuary. The nature of the country prevented too much development, which would ensure the continued existence of natural habitat for fauna.

The only evidence of past development was an old sawmill, which closed down in 1928. Some of the less common species of fauna, such as wombats, echidnas and lyrebirds, could be found within the sanctuary. A noticeable feature was the large variety of flora existing in the area.

Dept.Primary Indst. Press Release
18.10.1973.

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