

THE GRANITE BELT NATURALIST.

Monthly Newsletter of the Stanthorpe Field Naturalist Club.

No. 28

June 1972

P.O. Box 154, Stanthorpe.

Officers and Committee 1971 - 1972.

President	Mr. W. Cathcart	Ph. 812
Vice Presidents	Mrs. R. Harslett and Mr. T. Chapman	
Secretary	Mr. E. Walker	Ph. 888
Treasurer	Miss J. Westcott	
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Librarian	Mrs. R. Tremear	
Publicity Officer	Mr. F. Wilkinson	
Bushwalking Representative	Mr. R. McCosker	
Geology	Mr. P. Higgins	
Flora	Mr. B. Dodd	
Fauna	Mrs. Z. Newman	
Youth	Mr. G. Marsden	
Newsletter Sub-Committee	Mrs. B. Krautz and Mrs. W. Cathcart.	

Activities.

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

Annual Subscription.

Single \$1.50	Family \$2.00
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Programme.Field Outings:

<u>Place</u>	<u>Date</u>	<u>Leader</u>
Texas Caves	25th June	Mr. Bob Leisemann
Spicers Gap - Saturday camp-out	22nd - 23rd July	Mr. T. Chapman
Harslett's Area	20th August	Mr. J. Harslett.

Meetings:

<u>Subject</u>	<u>Date</u>	<u>Speaker</u>
Wild flowers of Western Australia	28th June	Mr. B. Dodd
Australian National Parks	26th July	Mr. T. Ryan
"Remember Last Year"	23rd August	Film Night.

THE GRANITE BELT NATURALIST.Minutes of General Meeting held 24th May, 1972:

Twenty-five members were present with eleven apologies being received.

Minutes of Previous Meeting: Moved Mrs. Wiseman, seconded Mrs. Stevens that the minutes of the April Meeting be confirmed. Carried.

Inward Correspondence: (i) Newsletters from other Nats. Clubs.
(ii) Press releases from D.P.I. Brisbane.
(iii) The Queensland Hosteller.

(iv) Letter from Girraween National Park Ranger expressing inability to lecture to our club on the 28th June, 1972.

Outward Correspondence: (i) Letter to Adult Education with details of our June Outing and Meeting.

(ii) Letter to Ranger of Girraween National Park requesting a lecture to our club on the 28th June, 1972.

(iii) Letter to Mr. P. Grant expressing our desire for his speedy recovery from illness.

(iv) Letter to Mr. E. Sutton with details of our club activities etc.

Moved Mr. F. Wilkinson seconded Mrs. F. Tremeer that the inward correspondence be received and the outward adopted.

<u>Treasurer's Report:</u>	Balance	\$39.50	
	Received	6.00	
		<u>\$45.00</u>	May Balance.

Moved Miss J. Westcott, seconded Mrs. Marsden that the Treasurer's Report be received. Carried.

Business from Minutes: Nil.

General Business: A discussion was held regarding the erection of signs to, and along the Mt. Norman Road.
It was suggested that we may contact the newly formed Tourist Association in a couple of months to seek their assistance in co-operation with the Main Roads Dept.

The Magazine co-editor Mr. D. Pfrunder enquired re ordering more magazine covers. He suggested we obtain 1,000 covers.

The President welcomed Mr. & Mrs. Devaney from the Brisbane Nats.

The Club extended best wishes to the McCosker family for their forthcoming trip to Ayers Rock and the Centre.

A new member was welcomed to the club, Mr. John de Roo.

Outings Reports: The President reported on the Mystery Campout weekend to Kelvin Falls.

The next outing on the 25.6.72 will be to the Texas Caves.

The meeting was closed at 8.30 pm. when Mr. P. Higgins lectured to the club on "Basic Geology".

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Did you know: There are approx. 500 species and varieties of the genus EUCALYPTUS which grow almost anywhere on the Australian continent from the wet coastal forests and the arid interior to above the snow line. They dominate 90% of all the continent's forest land and are the World's tallest hardwoods.

---oOo---

THE GRANITE BELT NATURALIST.BASIC GEOLOGY - Theories on the Formation of Granite:

My talk to-night concerns what is termed The Big Block Series. This term is used to cover the commencement of the depositing of the sediments, which led then to the formation of rocks and ores, and thus to the formation of granite. This, I am sure, is of particular interest to us all.

To gain a grasp of this, it is necessary to go far, far back in time to that Period known as the Pre-Cambrian, put by geologists as somewhere around 600,000,000 years ago. In this period there is no record of any life forms having existed, but in the succeeding era, known as the Palaeozoic, life forms seem to have appeared and then faded out. The reason for this is not known, and traces of these forms are the only record left to us.

The period when no forms of life existed seems to have extended over some millions of years, then at some later time in the Palaeozoic life forms again appeared. Huge fossils, mainly shells, of this time have been found. Why fossils of the life forms existing then should have been preserved, when those existing previously vanished leaving only mere traces, is a mystery for which no theory has been advanced.

Another lull when no forms of life existed with the exception of a type of coral, then seems to have occurred. It is interesting to note that this coral form was strong enough to carry over, but seems to have barely existed for all that.

Still later in the Palaeozoic Era, (which is considered to have extended over some 225,000,000 years, and the last period of which is known as the Permian) life forms had again built up to the extent of vegetation existing, and such animals as the giant dinosaur.

Beside this history of the emergence of Life, which takes us to the Permian Period of the Palaeozoic Era, the process of layer upon layer of sediments being laid down had been happening, but it is considered that this ceased when the Permian commenced. It is important to remember that these layers of sediments were laid down in a roughly horizontal manner.

Now, following on from the Permian, that is the point in time when vegetation and animal life had appeared, after the more or less horizontal layers of sediments had been laid down, what is known as the GEOSYNCLINE occurred. This, to put it as simply as possible, is a shifting of the land masses, which may be said to have ultimately resulted in the formation of the granites.

This is, of course, putting it very simply indeed, but in stating it as a shifting land mass, I think a mental picture will be conveyed of what happened, and give some idea of the terrific pressures exerted, and what that brought about.

The formation of granite can be said to be one of the results of the Geosyncline, and it is this formation I want to get on to to-night. The question of how granite was formed was, I might point out, the subject of long and bitter controversy over the centuries, but particularly in the period 1930 to 1960.

There were two major schools of thought about it, one of which favoured Differential Crystallisation, which, broadly inferred that other elements crystallised from basaltic magma (Magma being a hot mixture of minerals) and floated off, leaving a residuum of granite. (An example of this type of thing is skimming the scum off wine). This approach was principally a laboratory and theoretical one.

THE GRANITE BELT NATURALIST.

BASIC GEOLOGY = Theories on the Formation of Granite Cont.:

The other was field observation approach. Holding this view, it was maintained that the theory of differential crystallisation was in error because the granite liquid mixture, or magma, represented only about 25% of the original basaltic magma, and quite plainly there was just too much granite around; in other words, this school of thought wanted to know where on earth the other odd 75% was.

These are thus opposing principles, which had to be resolved as both had factual evidence to support them. Professor Bowen, of America, entered the controversy. Incidentally this had waxed so hot, that what the learned gentlemen said to, and about, each other would make the Australian bullocky emerge as an angel!

Bowen in his studies reversed the theory that the melting basalt, or sedimentary rocks, had thrown off a granite magma and his contentions are spoken of as the Modern Theory. In this theory Bowen maintains that granite was not a primary magam at all, which was quite contrary to the rpreviously held views, but was, in fact, a secondary magma formed by the heating of existing rocks. Working on this idea he found that most rocks in fact when heated initially produced a magma with a similar chemical composition to that of granite.

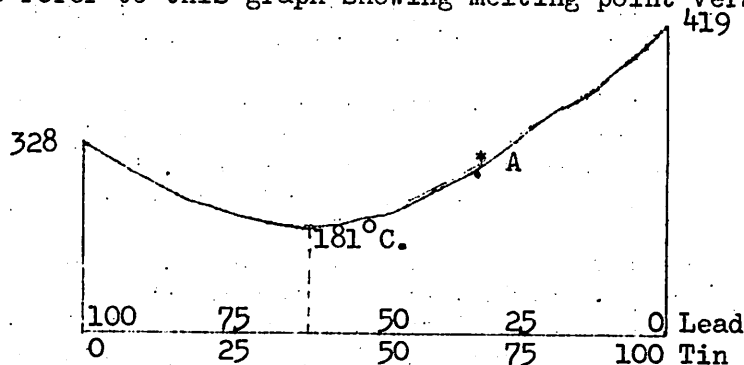
To help us in grasping this theory it helps to realise some fundamental principles, particularly the fact that mixing elements usually lowers the melting point of the mixture below that applying to the particular elements making up that mixture.

Other work on trace elements, much of it done in Canberra and Armidale tends to confirm Bowen's theory. However, not all of it fits in, and thus there is still some points to be answered.

THE ORIGIN OF GRANITE - Modern Theory (Bowen)

...Bedore we can really study this, we need to grasp some fundamental principles, particularly the fact that mixing elements usually lowers the melting point of the mixture below that of either element making up the mixture. The classic case of this is solder, where we mix tin and lead to produce solder with a lower melting point than either tin or lead. There are many complex variations on this theme, but this simple case will suffice to illustrate the principle involved.

Let us refer to this graph showing melting point versus the composition of solder:



It is apparent that the 63 - 37% mixture has a very much lower melting point at 181 deg.C. than Lead at 328 deg. or Tin at 419 Deg.C. This point is known as THE EUTECTIC POINT.

THE GRANITE BELT NATURALIST.BASIC GEOLOGY - Theories on the Formation of Granite.Cont.

From this simple case we need to observe the effect of heating and cooling of a mixture with a composition other than that corresponding to the eutectic point. For example let's consider the case of a mixture of 75% Tin and 25% Lead: A liquid cooling, drops in temperature to Point A when solidification begins. However, we have to observe how this begins. It does not as with a pure element, such as ice, revert to a solid of the composition 25-75. Instead tin alone solidifies, producing a liquid with little crystals of tin floating about in it. As the tin separates out so the composition of the liquid changes - differential crystallisation. This continues until we reach the Eutectic Point when the liquid solidifies. At this point it is important to realise that the liquid has a composition of 60-40.

If this were done very slowly then it would be possible for the tin to float to the top and be separated off. This is the basic idea of Bowen's original theory.

OBVIOUSLY THE CHEMISTRY INVOLVED IN BASALT IS MUCH MORE COMPLEX THAN THE SIMPLE SOLDER CASE, BUT THE PRINCIPLE OF THERE BEING A FIXED COMPOSITION OF THE REMAINING LIQUID AT THE EUTECTIC POINT REMAINS. EXPERIMENTS SHOW THAT THIS COMPOSITION CORRESPONDS TO THAT OF GRANITE.

Let us now consider what happens when we heat solid solder with the same 25-75 composition. At the eutectic point, a liquid of the composition 60-40 appears, and as we apply more heat we, in effect, only melt the remaining tin.

It was by applying this approach that Bowen developed the modern theory.

From an address by P. Higgins.

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OPEN SEASONS FOR WILD DUCKS:

An Order-in-Council issued last week declared open seasons in Q'ld. for wild duck. The open seasons do not, however, apply to sanctuaries.

The Primary Industries Minister (Mr.Row) said the open seasons for wild duck had been declared on a regional basis.

The following was a broad outline of the various open seasons, but intending shooters should make specific inquiries regarding their own districts as it was not possible to define accurately in a general manner the exact boundaries. In south-east and south west Q'ld. the open season would extend from June 10 to August 26, while in central west, north and north west Q'ld. the season would open on July 1, and extend until September 30.

The maximum number of duck which may be taken by one person in 24 hours had been fixed at 15 for this season. The only wild ducks that may be hunted were black duck, grey teal, pink-eared duck, white eyed duck, maned wood duck, grass-whistling duck and water-whistling duck.

--oOo--

You may talk of your whisky or talk of your beer,
I've something far better awaiting me here;
It stands on that fire beneath the gum-tree,
And you cannot much lick it - a billy of tea.
So fill up your tumbler as high as you can,
You'll never persuade me it's not the best plan,
To let all the beer and the spirits go free
And stick to my darling old Billy of Tea.

Anon.

--oOo--

THE GRANITE BELT NATURALIST.MYSTERY CAMP-OUT REPORT:

Unfortunately the unsettled weather we had been experiencing prior to the weekend of the camp-out no doubt persuaded many people to stay at home, however for the members who braved the elements the week-end proved most rewarding.

Instead of being able to leave with the main party on Saturday morning, I had to go to work, Error Walker met the campers and sent them merrily on their way.

The first stop was at Dalveen, where Noel Butler took control of the party and escorted them on a very interesting trip via the back roads to the Mystery Camp-out site at Kelvin Falls.

I arrived at the Camp site at approx. 8 pm. I was pleased to find an enthusiastic group of campers with a beaut camp fire going. I was greeted with a steaming hot cup of tea and hot buttered toast. The night was cool, clean and crisp, every one was in fine fettle and good singing voice.

We spent a most enjoyable time, telling stories and singing round the camp fire. One couldn't help feeling sorry for the people unable to attend.

With the coming of the dawn the day was beautiful and clear without a cloud in the sky. The only thing that marred a perfect morning (apart from the cup of tea and toast in bed that I requested but didn't receive) was an early rising bird (BUTLER Noel) who woke before dawn either because the early worms were biting or he didn't have sufficient feathers, he spent his time chirping and yodelling, I'm sure in an endeavour to wake everyone up. One by one - some more reluctant than others - we all emerged to greet one another and the new day. Another member who also thought that he was a bird (JACKSON Ian) amused everyone by taking a bird bath in the creek, he challenged one and all to do the same. He soon found out that we were all only a bunch of chickens!

Just after breakfast we were pleased to welcome members (10 in all) who came down to spend the day with us. We were especially pleased to welcome Mr. & Mrs. T. Devenany from the Brisbane Nats. Club. They spent both the Saturday and Sunday with us and took a very keen interest in our activities.

Under the guidance of Noel Butler we then hiked some distance to a gorge which proved to be of immense interest. The gorge was full of interesting plants and rock formations which were somewhat different from what we see in the Stanthorpe district.

Our bird watchers, Vice President Jean, Mr. & Mrs. Davenany had a field day and spent a most enjoyable time identifying all the birds in the area. (We all had a most enjoyable time removing burrs from sox, pants, shirts etc.!?)

After lunch we broke camp and said a reluctant farewell to Kelvin Falls and proceeded back towards Dalveen. On the way back we called in at "Brooklands", the property of Mr. M. Aspinall. Mr. Aspinall was only too pleased to show us areas of interest on his property, first we went to some granite caves then went to a large Granite causeway, this area proved to be most interesting and everyone was most reluctant to leave.

I think that a further visit to this area will certainly be warranted.

Unfortunately like money (and birds) time flies and we had to say our good-byes and depart for home.

We are indebted to Noel Butler for making all the necessary arrangements, thereby making our Camp-out an enjoyable and interesting weekend.

WAL CATHCART.

THE GRANITE BELT NATURALIST.BIRD NOTES FROM THE KELVIN FALLS CAMPOUT WEEKEND:

Since I only took part in the Campout Weekend on the Sunday, the story of the birds seen will not be very complete. A few of us benefitted by the knowledge and enthusiasm of Mr. & Mrs. Tom Devaney, Tom is treasurer of the Brisbane Nats. Club, and they happened to be visiting the district over this period and joined us in the outings. It helped to make it possible to add a couple of birds not previously recorded, to our local list. Tom's careful observation, infinite patience and intimate knowledge of the detail of each bird made it interesting to see him in action. No doubt many years of observing provides this skill. All members, particularly when they paused to rest in the climb up the valley, were conscious of the number of birds about.

Rather than list all birds observed on Sunday, which numbered over 40 species, I will deal with a couple of the interesting finds. Both at Kelvin Falls and at the stop we made at Aspinall's property, much closed to Dalveen many Stringy-bark Gums were in blossom, attracting large numbers of Honeyeaters. Indeed, it could be called a real "Honeyeater Day". They ranged in variety from the smaller White Plumed Honeyeater, Yellow Faced Honeyeater, Fuscous Honeyeater, White Eared Honeyeater, Lewin Honeyeater, Striped Honeyeater, Noisy Miner, Little Wattle Bird, to the Red Wattle Bird, the largest of the mainland Honeyeaters. The Striped Honeyeater is a rarer visitor here, and is usually first noticed by its clear, beautiful and melodious call which is unmistakable. They seemed attracted to a prevalent scale on the Busaria shrubs. Several of the larger honeyeaters were present this day and an interesting discussion took place as to why the Striped Honeyeater should design such a beautiful and neat nest and decorate it with wool and coloured feathers, while their other larger cousins made such a rough and ready platform in which to domicile their broods. One would expect to find the Striped Honeyeater further west.

Here, too, where the scale was present we saw the Lewin Honeyeater, a handsome olive green bird with a yellow ear patch, not unlike our White Eared Honeyeater. However the later is a more striking bird, the clear voice of which rings out through the valleys in the Granite Belt and is such a characteristic sound. The Lewin Honeyeater is described as a bird of the Coastal scrubs and the Rain forests of the adjacent Ranges. On a previous Nats. outing to Mt. Cordeaux and Morgan's Lookout we saw this bird. However, this recording is in the much drier country, and a good deal further removed from rain forest.

At the next stop near Dalveen many honeyeaters were actively feeding in the Stringy-bark blossoms. These at first we took to all be White Plumed Honeyeaters, but it suddenly became apparent that there were two distinct calls. The second call belonged to the Fuscous Honeyeater (*Meliphaga fusca*), the name 'jusca' meaning brown. This seems a little misleading to me, for the impression is not of brown, but pale olive green. Actually, Brigadier Officer in his book says, 'For those who know the White Plumed Honeyeater the Fuscous is a sombre imitation of that bird'. I found them quite difficult to discern. It differs from the White Plumed Honeyeater in having a pale yellow plume, with a slight dark marking above it.

Two days later, while again with the Devaneys, we found, by coincidence, a dead specimen near the Severn River Falls, this gave us an excellent opportunity to really examine it and also gave the distribution of the Fuscous Honeyeater quite a wide range in this district. I do not think it has been listed from the Granite Belt before.

The notes could hardly be complete without saying what pleasure, a rose Robin, in perfect plumage, and a rare visitor, gave to a number who saw it.

THE GRANITE BELT NATURALIST.THE TEXAS CAVES AND PIKE CREEK DAM:

Introduction: The Texas Caves are threatened by the proposed Pike Creek Dam. A case is presented for preserving the caves on conservation principles, and for rejecting the proposed dam on economic and conservational grounds.

Alternatives are suggested for irrigation development.

Description of the Texas Caves: The caves are located about twenty miles east of Texas on Por. r. l. Parish Mingoola. They are about three miles up-stream from the Pike Creek damsite. There are eight caves in the Viator system and two more in the Glen Lyon system which exceed 100 feet in length and there are several smaller caves. The total passage length of the caves is about 4,500ft.

The largest cave in the Viator system is the Russenden cave which has an abundance of travertine formations, including stalactites, stalagmites, flowstones, canopies, gours, columns and shawls. One shawl in particular would be a credit to any tourist cave in Australia - its translucent folds stand out fully two feet from the ceiling of the cave, and it is delicately shaded in yellow and orange. Other formations range in colour from pure white to a rich rusty red, and these contrast well with the red earth of the cave floor, the pastel grey ceiling and reddish-brown colours of the cave walls.

Another cave at Viator, the main cave, has a great cavern, impressive through its very size, even without the decorations which are most active in this cave. The cave is very easy to explore and has often been visited by the local people.

Across the creek from Viator hill, the Glen Lyon caves possess a permanent underground river, the only one in Queensland. The beauty of this cave lies in the graceful arching form of the cave itself, the sculptured walls and the quiet running water.

The Application of the Conservation Concept to the Caves: A fundamental rule of conservation is that representative areas of all environments be left in the natural state. In this region the Texas Caves are all the caves there are that still represent the natural state.

The Border Rivers area is a pleasant one, but generally speaking it lacks the waterfalls, forest, heath and rock outcroppings which provide the Granite Belt with scenery worth exploring on foot. The Texas Caves are the great exception.

Even without the caves, the land-forms and natural parkland around the Glen Lyon system and the remarkable shingle banks of Pike Creek are outstanding features worthy of preservation. Many consider the valley of Pike Creek in this area to be the most beautiful in the Border Rivers district.

The Glen Lyon caves are an important roost for the protected bat species Miniopterus schreibersii, which is an important control on insect pests. The journey to this cave from the breeding colony is the first and most dangerous overland flight made by the young bats. The destruction of these caves would be an interference with a vital part of the animals habitat.

The Texas Caves are already often visited by Spelaeologists from Brisbane and also by local residents, and the caves would receive more attention from the public were they aware of their existence. These caves are the only worthwhile caves readily accessible from Brisbane. Spelaeology is well established in all Australian states except Queensland, and ranks nearly as high as mountaineering in Europe. For this activity to survive in Brisbane these caves must be preserved. Cave explorers have always tended to become spelaeologists through finding that a deeper interest in caves was actually more rewarding. A spelaeologist has much the same attitude to the caves as a marine biologist has to skindiving.

THE GRANITE BELT NATURALIST.THE TEXAS CAVES AND PIKE CREEK DAM Cont.

It is conceded that some people will benefit from the lake, but while they have other dams in the district to go to we have no other caves.

The application of the general concept of conservation to the caves brings us to this conclusion:

This is a place which warrants preserving regardless of any pressure for destructive development. Of all places in the Border Rivers area, this is the one most worthy of preservation as a scenic reserve. The destruction of the caves would offend not one but all of the prohibitions which conservation places on development. It is considered that the Texas Caves should be preserved intact as a National Park.

University of Q'ld. Spelaeological Socy.

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Footnote: There are increasing reports that irresponsible visitors to the caves have done considerable damage to the cave formations.

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OUTING TO TEXAS CAVES:

The Club's next outing will be to the Texas Caves on Sunday 25th June. Assembly will be at the park in time for departure at 9.30 am.

Important: Wear clothing that will not be spoilt by dust as exploring some of the caves may prove dirty work!

Leader for the outing will be Mr. Bob Leisemann.

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THE GRANITE BELT NATURALIST.ANNUAL GENERAL MEETING - Election of Officers and Councillors:

The Annual General Meeting of the Club this year will be held on Wednesday, 26th July, C.W.A. Rooms at 8 pm.

At this Annual meeting the Officers and Committee for the 1972-1973 Club year will be elected.

The Constitution and Rules of the Club require that nominations for Officers and five Councillors (Representatives for Bushwalking, Geology, Flora Fauna and Youth), shall be signed by a member making the nomination and accompanied by the nominee's written consent to serve; and that the nominations shall be delivered to the Secretary not later than the date of the June General Meeting, which this month will be held on Wednesday Night 28th June, 1972, C.W.A. Rooms at 8 pm.

So members, don't forget: if you wish to make nominations for Officers and Councillors for 1972-1973, please have your written nomination signed by yourself and your nominee in the hands of the Secretary not later than Wednesday night 28th June!

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NANKEEN KESTREL: (Kestrel, Sparrowhawk)

Falco cenchroides.

Range and Habitat: Australia generally and Tasmania, in open forest, grasslands and urban areas.

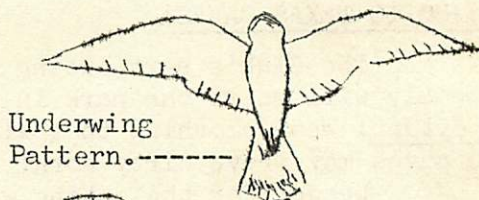
The male grows to a length of approx. 12" and the female approx. 14".

Calls: Excited chattering notes Kak-Kad-Kak-Kak.

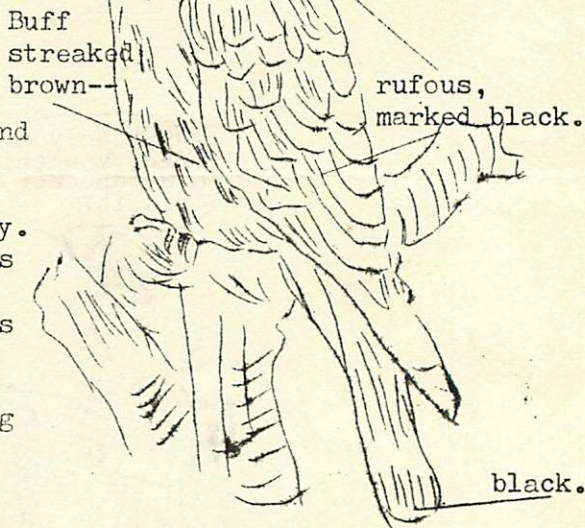
Quite common throughout this district, often seen perched on telephone wires along roads. Its food consists of Grasshoppers, dragonflies, small birds, mice and small reptiles. It hovers on quivering wings over cultivated lands, when it will suddenly drop to earth to procure its prey.

Breeding: Like parrots and cockatoos, this species usually nests in a tree hollow.

The four buff-coloured, reddish-brown eggs are laid on decayed wood. It sometimes lays its eggs in a disused Crow or Magpie nest. The breeding season is early Spring to early summer.



Underwing
Pattern.-----



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Did you know: Approximately 2% of our members have submitted original contributions to the Newsletter during the preceeding year?

--oOo--

REMEMBER THE OUTING TO THE TEXAS CAVES NEXT SUNDAY LEAVING THE PARK BY 9.30am.

--oOo--