LOWER BLUE MOUNTAINS
WILDLIFE CONSERVATION
SOCIETY

LOWER BLUE MOUNTAINS
WILDLIFE CONSERVATION
SOCIETY

LOWER BLUE MOUNTAINS
WILDLIFE CONSERVATION
SOCIETY

SOCIETY ACTIVITIES

FILM NIGHT

The first public screening of films was made on the first Saturday of the May school holidays. The venue was the Springwood Primary School Assembly Hall. We are indebted to Mr. Mahoney of Warrimoo for his assistance in acting as projectionist, and to our own Secretary George Croghan for the organizing of the films.

The undertaking was a joint venture by ourselves and the Springwood P & C Association and though the night could not be called a financial success, considering all the effort, we may have started some of the children on the way to the appreciation of nature.

About eighty adults and 100 children attended the showing and all fully enjoyed the night. A special lucky door prize was arranged and this was won by a lad Steven Hill. (Keast's Window to the Bushland)

During and after the screening some constructive criticism was made on the program - a more diverse coverage of natural history (three of the five films were on birds) - the inclusion of cartoon type films - a larger entrance fee for adults. These points should be kept in mind when organizing any other film nights. (It has been suggested that we have a repeat performance during the September holidays).

Our Thanks go to Don Perrin for a fine poster, Peter Gregory for sterling work at the door ably helped by his wife Margery, Carmen Paish for delivery of the posters to the schools and to the many others that made this night a success. (The Committee would be obliged if any member has any constructive criticism to make on the night.)

SCHOOL PROJECT

It has been mooted that the Society, in accordance with its aims, hold a school project in the form of an essay and poster competition to be conducted during the second term, to be displayed and the prizes awarded during Conservation Week, the first week in August.

A panel of judges outside the Society will be commissioned to view the entries and prizes of books will be made available to the winners. It has been suggested that there be six prizes of books in a range from about $6 to $2 to be given. It would be appreciated if any of the members know of any business man who would be prepared to donate a prize or part thereof, would they get in touch with the Committee. To make this project a success we need the prizes.

BIRD OF THE MONTH - No. 3 of a Series.
RED-TAILED BLACK COCKATOO. Calyptorhynchus banksi ('hidden beak')
COLOUT: Black with a greenish sheen over all the body, the sides of the head are yellow and the tail has a broad band of vermilion red.
EGGS & NEST: The nest is made in a hollow tree or limb; the eggs are white, and the breeding season is from May to July.
FOOD: The food of the Black Cockatoo consists mainly of the seeds of the eucalypts, banksie and casuarinas. It also relishes the large white grub of the lingihorn beetle which it finds in the bark and timber of some trees.
NOTES: These grand birds have many tales told of their powers, one of the main stories being of its ability for forecast the arrival of rain. This story may have originated in the early days when the new settlers observed the natives in their rain dances - invariably the instruments used by the Aboriginal to placate the Rain God were decorated with the red barred feathers of this bird. In the western regions a flock of black cockatoos always indicated the presence of water.

One of the misguided impressions of the bird was that they were responsible for the wholesale destruction of forest trees - they have been observed tearing large pieces of bark off trees and the smaller limbs, and leaving the tree in an obviously semi-destroyed state. This tearing of the bark only occurs when there is food to be found under the bark - the Lingihorn Beetle Grub. This grub is only present in trees that are mature or damaged in some way (the grub is about the size of an adult's index finger and creates quite a hole in the wood of the tree). By destroying the grub the cockatoo prevents the spread of the beetle and so saves many mature trees from untimely destruction.

The bird usually moves in small flocks from two to fifty individuals and when feeding on the ground always have a sentinel bird to look out for intruders. The average length of the bird is about 27 inches with a wing span of up to three feet.

It is somehow good to see this big, grand bird lumbering about the gullies, its wild lost call echoing among the trees, to watch and wait to see if the legend of calling up the rain is really true. There were many flocks of these majestic birds in our area in the early days, but with the regular clearing of its habitat, and the little boy sport of shooting these inquisitive naive birds, it will not be long before we will have to travel to distant climes to see them, or else go to the zoo and see them confined in steel cages.

THE DESERTS BLOSSOMING.

Why does the desert blossom so luxuriantly after rain. The answer may be the vapour that rises from long dry rocks and clay giving the distinctive "smell of rain".

Researchers have distilled this essence of wet rock and have found some surprising qualities. They call it 'petricher', the "icher" or tenuous exhalation of rock or stone.

It is a very complex mixture of organic compounds of which about 40 different elements have been isolated and there are possibly another 40 to be found. The essence has been found to inhibit growth rather than accelerate germination and early growth. Under laboratory conditions minute amounts of the oily distillate was found to arrest the germination and growth of test seeds.

It is thought that a combination of some of the elements in the "petricher" are responsible for the retardation. But what are they? And if there is such a combination what process is it that causes the rapid upsurge of growth of plants on the release of the essence in the air after rain.

It is thought that the elements of "petricher" gather only in drysoil. When it rains the water displaces some of the volatile compounds and something else is formed which gives plant growth a boost.

All speculation as to the function of the substance will have to wait until the soil scientiests and organic chemists prove how the "petricher" itself is actually formed.

Whatever the outcome of the analysis, minerologists have recognised the existence of the substance since 1891 - the Australian work of "petricher" has been a major advance.

It could well be that some substance or element of the essence may be extracted and used as a stimulant to plant growth or as an inhibitant to weeds. However the only use man has found for the essence is as a perfume.

The use of this "petricher" has been used as the base for a perfumery industry near Lucknow, India. The vapours containing the odour are absorbed in sandalwood oil and sold as "matti ka attar' - translated is "earth perfume".

The desperate need for agricultural produce cannot allow this strange substance to remain a mystery.

It is necessary that we conserve samples of unspoiled land so that unsullied samples of soil are available for further experimentation in this field.

The experiments were carried out by the C.S.I.R.O.

THE INSTRUMENTS OF THEIR OWN DOOM.

Common aphids are being used to determine the food that they love best. They provide the tools that are finer than any scientists has ever had and use them with precision that man would find it hard to match.

Study of the feeding habits of the insects has taken on a new light and research workers have been trying to determine why the aphids select the parts of the new growth and ageing leaves, in preference to other parts. They know what parts the insects attack now they want to know why.

The scientists know it would be useless to analize the whole of the leaf because the aphids carefully select the tissues from which they draw up the sap through their slender mouth parts.

Each aphis is allowed to make his selection of the tissue from which he prefers to take the sap, and to thrust in his proboscis to drink. With the mouth parts well embedded the rest of the insect is cut away and the scientists can then drain the food that the aphis likes best.

Both entomologists and plant physiologists will learn through this new technique much that will help them in the battle against insect enemies of plants.

oooOOOOooo

'DIGGER'

The only grave of an Australian wallaby surmounted by a monument is not in Australia but in the gardens of Government House, Trinidad, British West Indies. In this grave are intered the remains of a pet wallaby.

The wallaby was presented to the then Prince of Wales when he visited Australia in 1920. He gave the name of 'Digger' and became so fond of the lively pet he decided to take him home to England on H.M.S. Renown.

Every care was taken to ensure that ample supplies of food were available but unfortunately the little marsupial contracted a mysterious disease just before arriving in Trinidad. The Royal master was so concerned with the welfare of his charge that he took him to Government House, but in spite of everything that the best doctors could do the little animal died.

The former Prince of Wales made all arrangements for the funeral and attended the ceremony himself and personally planted five palms around the grave. Before leaving the island he also made arrangements for a simple monument to be placed over the spot.

The monument is there to-day - a square block of granite which bears the inscription:

"Here lies Digger, a wallaby belonging to H.R.H. the Prince of Wales, which died at Government House, Trinidad, 18 September, 1920, on the way from Australia to England, in His Majesty's Ship Renown".

FIRE AND THE CONSERVATION OF NATURAL RESOURCES. (Part two)

The effect of Fire on the Soil. The assessment of damage on the timber in a forest stand is fairly readily made, the effects on the soil is hard to determine. One has to be a specialist in the science of soil conservation to fully grasp the damage done by fire. Examples of every hot fire can be seen, that have destroyed all the humus in the soil, while other cases will show the effect of heavy rain after a fire washing away vast areas of topsoil. The best evidence of the later is the massive silting of the MacDonald River east of the Colo which has virtually been sent underground by the deposition of sand washed from the fire ravaged slopes of the surrounding country - this has happened in living memory.

A fire affects the soil in three ways - biologically, chemically and physically. Plant and animal life contained within the humus, and which contribute to the breakdown of the litter in the soil.This life - fungi bacteria, insects, millipeds and earthworms are burned and destroyed in the litter.Further,the various forms of life in the actual soil under the litter will be destroyed by the heat of the fire.

Fire releases the nutriments in the soil owing to the excessive heat. Some of these nutriments remain available to the plants that survive the fire or to others that colonise immediately after the fire.Most of the mineral elements are lost, however, by leaching or, as in most cases,are lost to the plant by heavy storms, rains beating on the unprotected area and washing the elements into the streams.This quick release by the fire means that fewer nutriments are available to the plant life by the usual slow release by the natural processes of decomposition of the litter.Nitrogen,the element that is most deficient in the Australian soils is lost entirely by volatization into the atmosphere.

A fire that has sufficient heat to destroy the litter cover and humus from the upper layers of the soil also alters the texture of the lower strata of the soil horizons.This effect is to make the soil subject to more frequent fluctuations of temperature and to render the soil more liable to the effects of drying out.This contributes to a less favourable moisture regime and subsequently to a less productive and poorer vegetative cover.The texture of the soil is also affected by the lack of sufficient cover and the effect of rain is to cause puddling which closes the pore space and so reduces infiltration - without absorption the soil rejects the moisture and increased runoff is the result.

It will be seen that the careful control of fire is essential to the well being of the soil.

The Effects of Fire on the Vegetation : Changes in the vegetation of an area can be temporary or permanent,in most cases it is the latter and these changes can affect all or only part of the vegetation that the fire passes through.

The immediate effects of a fire depend on many factors such as the type of vegetation burned, the heat of the fire, past treatment of the area, and previous fires that have covered the site.For instance the

(continued from page (4)

repeated burning of grasslands can cause damage to the crown of the plant resulting in poor root growth and in time, the failure of the plant. After repeated burnings the sward develops into a cover of annual grasses (nature usually evolves along a line subject to the existing conditions.)

Some plant communities need more protection from fire than others, for instance the bog areas of the state situated on the stream beds in the alpine areas are natural reservoirs and release water to the streams in a steady flow - fed by snow or rain in the winter and so replenished these areas supply summer moisture to a vast area within the stream catchment and also, more important, are believed to maintain the water table of underground water at a steady level.Fire on the slopes feeding these complexes will increase the runoff with the resultant siltation of the depressions, this kills the bog vegetation and results, naturally, in the depletion of the moisture holding capacity of the area.Siltation will also, finally fill the natural depression and so deprive the area of its natural reservoir and its natural irrigation system.

The repeated burning of forest stands and timber areas in general continually scars the trees, degenerates the crowns which in turn debilitates the tree which in a very short period will die.In the meantime the continual burning kills any regeneration of the trees and eventually the area reverts to an open grassland, subject to all the elements of erosion.

Floods are usually caused by the runoff of storm water into long established runoff channels. It has been proven that the runoff from a catchment area is greatly reduced by vegetative cover.Forest growth intercepts the rainfall to an appreciable amount either on its leaves or in the litter cover of the forest floor.With reduced runoff the natural channels are not over taxed and siltation is reduced to a minimum.

The conclusions to be arrived at in the study of the effect of fire on the soil are as follows: The soil structure is damaged sometimes irrepairably, soil fauna is destroyed, soil humus is destroyed which in turn further degenerates the structure, the mineral elements are made more soluable and so subject to excessive leaching, continual burning results in massive soil erosion and eventually complete denudation of the area.The effects of fire on the vegetation is tied up in the soil debilitation and we see climax areas wasted to annual herbage, destruction of regeneration, lowering of the quality of cover, weak growth suffering from malnutrition, the gradual decline of the vegetative cover to a misshapen unattractive pauperized community.

Next issue we will discuss the apparent effects of fire on the areas of the Lower Blue Mountains.

FAITH IN THE FUTURE

On the 1st. of August will be Arbor Day.
The State legislature of Nebraska, U.S.A. offered prizes to local Organizations and individuals who planted the most trees on a certain date. Over a million trees were planted that year in response to the competition and from this small beginning the idea spread and became what we now call Arbor Day. (the date was 1872).

The day is usually celebrated in our schools - should the impetus be provided and enough interest is fostered - and run by the teachers of the school. It is somehow heartening to see the lads and lasses wielding shovels, very often twice their size, their sleeves rolled up, as they energetically and methodically plant shrubs and trees. Not one in a hundred of these children will return in middle age and see the tree they planted grown to maturity, but they will carry with them when they leave school the memories of the pleasant task of planting trees. They will accept the function and when the time comes in their adult life to think of this task it will be alright - 'they did it at school'.

There are many avenues along which the tree planting habit may be led and not quite a few may be aided by Government subsidy. The Forestry Commission provides expert advice and trees at low price to any school wishing to start a School Forest (these can be most lucrative one school clearing $1200 for the thinnings from 12 acres of Pinus radiata). There is no reason why some service organization should not help the children in establishing such a tree scheme.

Apart from the financial aspect of tree planting, there are many recurring occasions when trees could be plantedas a commemorative gesture - how much better a living growing thing of beauty than soon to be forgotten speeches. In the schools it starts the children in thinking about trees and forestry and their value to the community. It provides an activity, which is so much a part of the present day education system, It gives the schools an outdoor laboratory for their studies in ecology and conservation.

Each year the date is set and the teaching program takes on a new light. English literature lessons may be devoted to the poems on trees even History and Geography can find a link with this subject, and what Maths Teacher cannot use the mensuration of Forestry to drum up a few problems linked with trees. In this way the whole school is set eagerly awaiting the appointed day - it arrives and with much voice and enthusiasm the children sally forth, armed to the teeth with spades, rakes and other gear, rolling up their sleeves, digging holes with much more vim than art, and somehow without accident the trees are at last safely planted.

Many years later those same children may return to this site and see their own sons and daughters enjoying the shade of that tree and listen to the melody of the birds that have gathered to its blossom.

TREES OF VALUE.

One of the unique qualities of trees is their value to man in so many ways. In a previous article the Trees Prayer was outlined, which underwrote the various uses to which the tree was of value to man. There is field that that particular poem did not mention.

The Honey Tree

Honey is one of natures gifts to man that does not require the destruction of any form of life to produce. It is valued for its medicinal properties, and its food value. It is a continuing crop that would be termed as a sustained yield product - with judicial use a given area of trees will produce honey of a continuing quality and quantity for many years. There are two prerequisites for a honey crop - trees and bees

Trees that come to mind immediately are the Yellow-Box and the Mugga Ironbark of the Tablelands and the Western Slopes. These two species are world famed for their production of high grade honey - so much so that America and the U.S.S.R. have both imported large quantities of seed of these trees for plantation purposes.

Our own area is not backward in the growth of honey trees as some of the largest producers of honey are the Bloodwoods. Though the honey produced from these trees is not of such a high grade it is of excellent texture and highly regarded for blending purposes.

The second requirement for honey is bees. These community insects - the primary producers - have certain needs before they can work. They need protection (hives), sustenance - feeding of a nectar during the non-productive months (the honey collected is their bank for a rainy day), nectar produc ing trees. If these workers are supplied with all these requisites they will produce continuing quantities of honey and do a service for man other than feeding him.

No crop of lucerne, field of melons, pasture of clover, most of our fruit trees, would not produce at all if the bee did not perform its invaluable and irreplaceable function of pollination. Many overseas farms have to hire a group of hives if they wish their crops to succeed. The Department of Agriculture stresses that if it were not for this pollination service there would be no fat lambs, beefsteaks and practically no fruit or vegetables.

The crops mentioned do not provide a great percentage of nectar on which the bee feeds, but the pollen gathered is used to feed the young. The bee still needs the great honey producing trees to survive. Each honey produc ing tree that is destroyed means the loss of part of our bee population, this in turn will have a cumulative effect on the production of food stuffs which means man will have less to eat - our food animals will decrease, our gardens and bushland will gradually overmature, wither and fade away. The world will become a barren silent land covered with primitive vegetation which depends on the wind for the transfer of sperm and genes.

TREE OF THE MONTH - No. 3 of a Series By Don Perrin

SYDNEY PEPPERMINT - Eucalyptus piperits.

Surgeon Considene of the First Fleet in 1788, dispatched a sample of eucalyptus oil to London for testing as a remedy for certain "cholicky complaints". It was found to be more effective for this purpose than the English peppermint herb. The tree at Sydney Cove which was the source of the oil was consequently given the name Sydney Peppermint.

Thus Considene was not only responsible for one of the first exports from Australia, but started investigations into medicinal and other properties of eucalyptus oil which has been and still is a vast field of enquiry.

The eucalyptus oil is not, as is commonly thought, a single, simple oil, but is complex to the extreme, each of over 500 species giving a destinctive kind of oil i.e. composed of indentifiable component chemicals. Thus Sydney Peppermint gives piperitone and phellandrene, but a certain variety of the same species gives phelandrene, cineole, piperitone, and eudesmol.

Sydney Peppermint is very common on the Blue Mountains, a small to medium sizes tree with rough fibrous bark on the trunk, and smooth cream to white coloured limbs.

IDENTIFICATION: This tree is often a headache for the beginner in identification, for, though it is very common, it is variable and confusing; some trees bearing more smooth bark than others.

Three features of the tree which do not vary significantly are:

(a) Bluish-green mature leaves - a feature particularly noticeable when the sun is low in the morning or in the afternoon. Size of mature leaves 17 x 3 cm.

(b) The rough bark is of the peppermint type - fibrous and fairly even, not noticeably ridged as in the stringy-bark and ironbark.

(c) The "gum nuts" are the most reliable guide to indentification.

THE CAPSULES These are stalked, oval shaped to almost spherical with rather small opening which encloses the valves (through which the seed emerge) size of capsules .9 x .9 cm.

Those that get to know the Sydney Peppermint usually develop an affection for it. The writer is captivated by one in the backyard. Now in heavy bud, the yellow russet buds are a foil to the blue-green leaves. With its smooth white limbs beneath, the tree is altogether an unfailing delight.

GETTING TO KNOW SNAKES - IMPRESSIONS FROM A TALK BY MR. ORMSBY

The snakes of the world are divided into four classes. The stricture tupe of which out land has the representative of the Carpet or Diamond snake - this type have no true fangs or venom apparatus as we know it and is of a very primitive form. The blind snake lives most of its life underground and looks somewhat like a worm if it is dug up. The venomous group (of which the major proportion of out snakes belong) - these have a highly specialized salivary gland which has developed over the ages, the saliva being toxic - the vemon is injected by means of a channel down the back of the fang teeth. The vipers - these are an extremely specialized snake with the fangs in the form of a hollow needle through which the vemon is injected. Australia has none of this type.

Of the venomous type snakes, Mr. Ormsby considers the Brown Snake and the Death Adder, the two most dangerous of our mountain snakes. The Brown being dangerous because of its swiftness, and the Death Adder for its lethargy. However, in his experience most people that have been bitten have been actually handling the snake and he considers that the snake is merely defending itself.

Interesting highlights to the talk were a few facts on the ability of the snake to exist without food and water. It has been recorded that a black snake has gone without food and water, locked up in a box and forgotten for over 200 days. A Boa Constictor in a European zoo had lived for over two years without earing, it had then commenced eating and lived for many years without any visible effects from its fast.

The very nature of the snakes metabolism is such that it has a form of inbuilt protection against the usual forms of destruction. Its movements are governed by the surrounding temperature of its living place - when it's hot it moves quickly, when cold it virtually curls up and sleeps it through. As previously said, it can go long periods without food or water and its main aim in life seems to be to feed itself and keep out of the way of its enemies. The old adage that the snake is more frightened of you than you are of him is true, and any walker in the bush will find the snake doing everything possible to stay away from contact with you. After all he depends on his venom to subjugate his prey and to act as a digestive agent so why should he waste it on something he cannot eat - you?

The snake does no harm and is a factor in the biotic structure which has to be maintained if wildlife is to survive. By all means keep him away from your home but in his home, the bush, you go your way and he will go his.