February 2008 Field Natter

Field Matter Newsletter of Field Naturalists Club of Canberra



OBJECTS: To foster an interest in an awareness and an understanding of nature

Meeting Thursday February 7, 2008

	Ellis Rowan	7	change	
How little we know 2 To start the year the February meeting will be a pot pourri Some animals of the Rockies	<u>.</u>	6	Wildlife diseases with emphasis on climate	
How little we know 2 To start the year the February meeting will be a pot pourri Some animals of the Rockies	The earths green carpet	4-5	Kangaroo Valley Weekend report	
To start the year the February meeting will be a not pourri	News Items	3	Some animals of the Rockies	
INSIDE THIS ISSUE:	How little we know	2	To start the year the February meeting will be a pot pourri	
	INSIDE THIS ISSUE:			

Cooleman Ridge- December outing

Due to the long periods of rain and the potential danger of driving along Brindabella road while wet, we visited Cooleman ridge instead, in December. A small group of 6 walked the Western edge. A new pamphlet has been produced and we discussed the style and Jean compared it to Aranda bushland. Near the entrance were good numbers of foreign birds (mynas). But as we moved further in we found wood ducks and bumped into good patches of bush tomatoes, kangaroo grass and bluebells. Moving up the hill we found a rufous songlark and nankeen kestrels. At the top of the ridge we investigated the 'cow enclosure' and looked at the great views of the mountain ranges. Jean showed us where the local Parkcare group had been weeding. We took a wrong turn and ended up walking through the suburb, which gave an interesting contrast in plants and birds.

Benj

NOTE: THAT DUE TO THE WEEKEND TRIP THERE WILL BE NO EXCURSION FOR FEBRUARY

Editor's note: I have indulged this month, with material written over 60 years ago (pages 4-5). Apart from the content it is beautifully written and I hope people will explore these writings— that relate to the emergence of the organic movement— further on the internet. The information on page 7 is a 'filler' but it does remind me, with the recent death of Isobel Bennett of the important contribution women have made over the years to field natting. Maybe atopic for the future

Thankyou for all the contributions

Chris Bunn, Editor

February 2008 Field Natter

Oh how little we yet know!

by Dierk von Behrens

A recent article in the Transactions of the Royal Society of South Australia highlights the abysmal state of our knowledge about certain life-forms with which we share this planet. The contribution by S Soronkin, J Fromont & D Currie, called Demosponge Biodiversity in the Benthic Protection Zone of the Great Australian Bight [(2007) 132 (2), 192-204] focuses on sponges - those simple animals that lack nerves, muscles, and obvious sensory structures. For years sponges were considered plants, as they share the plant-like

characteristic of being rooted to a single spot. However, all plants photosynthesise. Sponges do not. From a biological perspective sponges share only superficial characteristics with plants.

Australia, 'but this is considered a small component of the total Australian fauna....

Some 1416 sponge species are recorded from

mile wide strip, west of the head of the Bight, extending from 3 n miles off the coast out to 200 n miles. Bottom (or demersal) trawling is not permitted in this Zone.

Sixty-five sites were sampled by benthic sled (20 within the BPZ, 20 next to this zone and 25 others in the Eastern GAB). This yielded 351 species of sponge. Of these, 109 demosponge species from 32 families and 61 genera were found in the BPZ. The Demospongiae are the largest class in the phylum Porifera (sponges). Their "skeletons" are made of spicules consisting of fibers of the protein spongin, the mineral silica, or both. They contain 90% of all species of

> sponges. Only 27 of these taxa could be named down to species level, showing that research on sponge communities in SA is still at a 'discovery' stage.

The study found a reduction in the number of Demosponge species with increasing depth - a reduction that has not previously been reported in temperate Australia.

In typically restrained scientific fashion the authors, inter alia, conclude: 'In shallow water sponge studies, evidence is accumulating that many sponge species are "apparent endemics", i.e. found in a single locality... This local endemism has implications for management of biodiversity... It is, for example, unclear if the size of the BPZ affords sufficient protection for the region's sponge biodiversity.' A further 210 nominal species were found in the GAB, but outside the

Oh how little we yet know, let alone effectively protect!

Sponges alive today are considered useful models of the earliest multi-cellular ancestors of animals. Indeed, their feeding cells, called choanocytes, are likely to be of a cell type that corresponds in structure and in origin, though not necessarily in function (i.e. is homologous to) choanoflagellates a group of unicellular and colonial protists (members of the Protista, a division of simple organisms which exhibit characteristics of both plants and animals) that are closely related to animals.

According to the authors of the study some 1416 sponge species are recorded from Australia, 'but this is considered a small component of the total Australian fauna estimated to be in the order of 5000 species'.

Within the Great Australian Bight (GAB) a narrow Benthic Protection Zone (BPZ) has been set aside as a 20 nautical

From Carey's Cave, Wee Jasper.

From Geoff Kell, Wee Jasper (through Rosemary Blemings)

You have awaited with bated breath.... well it's happening! We are pleased to be able to offer a special tour during the coming Wee Jasper Naturally weekend (8-10 Feb).

This tour will be at 5pm on Saturday 9th February. By happy coincidence and popular demand our friends from Hazy Gates will also be on this special tour. (providers of traditional and original Celtic music)

As you probably know we experiment with our tour content and I hope most of you are aware that our armchair cave tours give you the opportunity to relax and take in the surroundings instead of rushing through on a walk-and-talk.

There will also be pre-tour light refreshments to get you there on time! There is a limit to the number we can comfortably accommodate Click on this link to the online booking form: > http://www.weejaspercaves.com/bookingform.html Don't delay as we expect tour to be fully subscribed

European wasps invade Canberra homes

(from ABC news stories)

Canberra residents are being asked to report any sightings of European wasps or their nests in and around their homes.

The Territory and Municipal Services Department (TAMS) says 35 new nests have been reported already, most being found in the wall cavities of

TAMS spokesman Dr Philip Spradbury says at this time of year a nest can have up to 1,000 adults and by the end of summer 2,000 to 3,000 more.

He says it is important people seek expert advice about removing any nests.

"A wasp in the house, a fly spray is certainly ade-

Regards Geoff

(Continued on page 3)

(Continued from page 2)

quate but to try and treat a wasp nest with a can of fly spray would be suicidal to be quite honest," he said.

"It is important to use the right product for the job and I would certainly urge everybody to treat nests with the aid of professionals."

Dr Spradbury says it is vital the pest is dealt with because it could cause quite serious ecological damage to the local environment. "Where you get large numbers of wasps as we do in Canberra from time to time and in different parts of the state, you end up with wasps actually cleaning out an area of all insect life," he said. "They're taking insects to feed their young so they literally catch every single insect and in the end there's no insects left and even things like insectivorous birds leave."



A wasp nest

MOTH (Minders of Tuggeranong Homestead) is a volunteer group who look after the heritage listed property of Tuggeranong Homestead, and work hard in the grounds as well as caring for the native woodland and vegetation. We are currently embarking on an ambitious program to clear out the weed-infested gully of the old Tuggeranong creek, and replant suitable native vegetation. We have recently been awarded \$7000 to help re-establish the grounds of the Homestead.

We are keen to have new members join our group but also any folk who would like to be involved in our planting/landcare program over the next year.

Contact MOTH chair, Jenny Horsfield on 6231 4535 if interested

Janet Edstein

Book review: Fishes of the Murray-Darling Basin: an introductory guide, by Mark Lintermann.

This is an excellent, well illustrated softcover book, published by the Murray-Darling Basin Commission. The introductory 20 pages to topics such as why fish populations have declined in the Murray-Darling Basin, what is being done to help native fish in the Basin, and how fish are grouped and named. There is a key to fish species in the Basin, followed by a description of native and alien species. Each species description includes a photograph and text about identification of the fish, information about its distribution (including a map) and abundance, biology and habitat. For each native species, potential threats are described, whereas for each alien species its impact on native fish is described. The book is free; to obtain a copy, contact the Commission, at PO Box 409, Canberra ACT 2601, phone 02-6279 0100.

Naarilla Hirsch

The favourite moment from David Attenborough TV shows can occur not far from home go to YouTube: www.youtube.com/watch?v=WuFyqzerHS8

A letter from our website, Can anyone help

Hello,

I am interested in the Mountain katydid grasshopper (*Acripeza reticulata*) with a view to taking some photos. I have read where it is apparently common at high altitude in the Snowy Mountains. I wonder if it may also occur in the hills around Canberra? Would any of your members know of any places where it occurs? I look forward to your reply.

Kind regards lan Menkins @optusnet.com.au



Page 4 Field Natter

The following is an extract from a book —"The earth's green carpet" — written in 1947. The author, Louise Howard, was the second wife of Sir Alfred Howard, the person considered to be the founder of organic farming principles. Her subject is nothing less than the life cycle studied as a whole, and this leads inevitably to the importance of a reformed agriculture for the health of the community. It also is beautifully written. The entire book and more is available at the following website: http://journeytoforever.org/farm_library.html#howard

The Wheel of Life

The first thing that strikes us about the. earth's green carpet is its variety. Though generations have passed and many thousands of books have been written since we began to take systematic note of the forms of vegetable life we are still engaged in this task. To describe merely the different colours and shapes of leaves and petals could fill volumes; the range of size from invisible bacteria to a vegetable organism of the stature of an oak is immense; differences in structure and habit are dramatic. This rich abundance of forms, shapes and values is insistent to our eyes and mind. What at first sight we do not remember is the extraordinary stability behind this natural variety. It is almost impossible to deflect Nature; it is quite impossible to throw her finally out of gear. This stability expressed is the very basis of natural law.

The earth's green carpet: for how many millions of years has it not continued? It may have changed; desert, swamp, forest may invade this or that sweep of country; long slow climatic alterations may have affected the vegetation of whole zones. But how unalterable it is in its essential nature! It is maintained generation after generation, unimpaired, not really controlled by any efforts on our part, with powers of defying us and powers of renewal which are a philosopher's commonplace -- the weed that springs on the deserted path, the ivy that invades the abandoned house, the ubiquitous blade of grass that inserts itself even into the smallest crevice of the close-set pavement. There is a power here, a continuity which laughs at us, which is so utterly superior to what we can build or make safe that it is quite beyond measurement in terms of human endeavor. It forms part of our existence: we accept it: we are sure it will not be destroyed.

The process repeated over millions of years of the dying-down of the green carpet and its renewal is something wonderful. It is secured only because Nature has the unalterable habit of returning to her soil -- whence all life springs -- all her wastes. This she never omits. Nothing in Nature's green carpet is thrown away; nothing is discarded. There is a regular and uninterrupted cycle which never stops. Nature practices complete continuity and complete conservation. We speak of the wastes of Nature, but there are no wastes; there are no dust bins, no sewers and no rubbish heaps; there is only a scattering of material, a fresh collection and a transformation.

When the higher organism as we know it -- the plant or animal -- dies, it does not cease to take its place in the natural cycle. The moment of death is the signal for a long series of changes in the materials making up its body; these changes are living processes. They signalize the breakdown from something highly intricate to simpler and simpler forms of life, but they are very gradual, through various forms of invertebrates to fun-

goid or bacterial existence, and thence again through many intermediate phases to the final mineralized or inorganic stage, from which at last a new ascent can begin via the sap of the plant, which is partly fed from the plant roots absorbing these minerals. Thus the cycle runs through many forms of physiological, chemical and mineral activity, a very wide, prolonged history, the breadth, depth and intensity of which it will be well to note even at this stage of our description.

This is the process on which is based the renewal of the earth's green carpet; we may call it the Law of Return.

Every phase of it is going on everywhere at all times, and it is this ubiquity and what we may term its non-stop character which pervades everything. The shocks and natural cataclysms which seem so violent -- storms, floods, eruptions, whatever they may be -- are trivial against this immense background. Such disasters stop nothing; they merely activate some special fresh phase of the natural round, which goes on unceasingly out of the enormous accumulation of materials. For the never ceasing character of the return of all wastes insures a stupendous margin of safety; a huge reserve system is another feature of Nature's working.

These reserves are stored in a number of ways. We know that the atmosphere holds unlimited volumes of oxygen and nitrogen, that the oceans, streams and clouds contain vast masses of water; and so on. There is a more intimate storing of reserve in our own bodies and in the bodies of animals; these reserves, which include organized food reserves, enable us to withstand shock and illness. Plants do the same thing; they store what they need to enable them to withstand drought, cold and starvation. They in their turn have obtained some of the raw materials for these from the vast reservoir which is present in the subsoil, between which and the topsoil there is a continuous circulation. There is a storage system right through Nature, and it may in effect be said that there is nothing natural existing which is not insured and reinsured many times over.

It is above all the top layer of the earth's crust which constitutes the pre-eminent reserve of Nature. Here are caught and held, and *transformed*, the substances which build up fertility, that particular soil factor of which we know the meaning and significance quite well, even though scientists declare themselves unable to give it an exact definition. The top layer of our earth is indeed the factor on which we must fix our careful attention if we wish to understand the working of natural law. These few precious inches of soil, to which we shall have frequent occasion to refer, are the very crux of the matter. They are the habitat of, they embrace and create the vast stores of original living material from which our planetary existence is derived.

February 2008 Field Natter Page 5

You may pitchfork Nature out

but back she'll come again.

-- Horace

It would almost appear as though Nature herself held this top layer very precious, so careful is she to anchor it firmly in its place. It is fixed without serious risk of destruction by the vegetation which springs from it -- the earth's green carpet. What is interesting is to see the adaptation undertaken to suit the character of the soils created. This is part of that principle of variety which we noted, a variety not capricious but carefully planned and calculated. We do not, in our country, perceive this at once, because Nature is seldom allowed a free hand. But where she is -- and she is forever escaping our controls -- it is obvious. A few years' neglect of a cultivated field will see, first, what we call weeds spring up; a little more, and the hedges will begin to grow out -- the hedgerow flowers themselves are an ever-present example of Nature's independent and both selective and varied choice of the smaller flora for a temperate zone. Then if neglect were continued, scrub

would cover the whole field, and finally forest. In temperate climates with good rainfall forest is what is known as the ultimate succession, i.e. the final covering which Nature would consider the most suitable to the cir-

cumstances. Elsewhere, for instance, where there are greater extremes of drought, we should find a grass covering -- the steppe; where there might run an accumulation of subsoil water, we should find marsh vegetation, in a desert we should find plants like the cactus. The adaptation also depends on elevation, as is very easily observed in ascending or descending the mountain-side.

These adaptations are very remarkable in their detailed singular perfection. Even a schoolboy will know that certain wild flowers and fruits will grow in one spot and not in another; they are a known factor in farming -- the farmer expects to reckon with the different capacities of his different fields. Adaptation is the result of Nature's fitting the instrument of the living plant to the living soil; for plant and soil are geared together -- they are a single world, and as such they must be throughout regarded by the true observer.

This law of adaptation applied to soil and vegetation is closely supplemented and indeed continued by another great principle -- the principle of mixed existence. Look at what appears to be a uniform bit of meadow grass -- there are dozens of different plants included in the making-up of the sward; within the space of a few inches a whole series of specimens may be found. They jostle and fight each other, and as the season advances fresh varieties appear; there is so great a pressure that often a week or two or even a few days only are allotted to each variety for its growth and blooming; it falls, and is instantly succeeded by something different. The competition is carried on by every type of plant; herbage, bush, creeper, tree, moss, lichen, fungus, orchid, all intermingling their manifold lives and simultaneous in their striving for their share of light and nourishment. At no moment is the victory to a single type. However uniform even the most monotonous forest or steppe may seem, there is always an abundant confusion of vegetation included in its apparent sameness, at first unsuspected but on the slightest examination amazing and rich.

The principle goes farther. Nature has laid down that there shall be no separate vegetable and animal existences; these two kingdoms are to be one kingdom. This is perhaps the most

important truth which we have to bear in mind in the course of our brief survey of natural law. It is too often ignored, but it is a fatal error not to realize how basic to all continued physical health and prosperity is the dwelling together of the vegetable and the animal. The animal, it is obvious, does not exist without the plant, which directly, or in the case of carnivorous animals indirectly, constitutes its food; but neither does the vegetable exist without the animal.

It is unheard of in Nature to attempt any type of vegetable growth without the enrichment supplied by animal existences. Such animal life may be in the form only of insects or invertebrates, but it is never omitted, and is usually most abundant. The most silent, the most deserted countryside is teeming with it. The mode of enrichment is to be noted. Both the excreta of the animal when living, and also its body when dead are abso-

lutely essential to the continuation of vegetable growth. In the aggregate the natural collection of these substances is of colossal proportions.

Perhaps the fact that the plant has to wait for its food materials may teach us something about yet another factor -- the working pace of Nature, her tempo, so to say. This may be described as unhurried or deliberate rather than actually slow. We are fairly accustomed to observe this; though the smaller simpler existences multiply sometimes at a terrific rate, it is more common for us to dwell on the time taken for growth even of a humble cabbage, while the life-period of a tree stretches out both behind and beyond our own lives. Animals illustrate the same law; they are mostly somewhat slow in their growth, and the higher their nature, the more noticeable this is; the long period required by man before he reaches physical maturity is a remarkable fact, and most vertebrate animals have a set period of infancy and youth, not so protracted as our own, but long enough. When we contemplate the major operations of Nature, where the quickening element of life is absent, we find great deliberation; the disintegration of rocks, or the opposite process, the building up of new land, are gradual processes, varying enormously, no doubt, in the time periods over which they consummate themselves, but seldom to be described as rapid.

This pace set by Nature is to be noted, because we shall presently have to consider how far it is within our powers to vary it; and we shall also have to consider how long Nature is going to take to make good the errors we commit when we are too impatient in doing so. There is nowadays much talk among scientists about accelerating natural processes; quick habits of growth and ripening are sought, and the idea has even invaded the animal field. The subject is, therefore, of importance, but the only point to be made here is to grasp the fact that natural processes have their own tempo, and that, on the whole, this tempo is not to be described as a quick one.

Infinite variety, a stability founded on the accumulation of reserves, an intimate gearing together, in the first place of the soil and the plant, in the second place of the plant and the animal, and a final return of everything, all processes carried on at an unhurried undeflected pace, these are the characteristics of the natural round, the laws which keep our world alive.

Species of the Month- Cherry Ballart (*Exocarpus cupressiformis*) By Benj Whitworth

This species is full of surprises, although it looks like a conifer, it is a flowering plant and its seeds/nuts are attached to large swollen stalks. These plants actually parasitise other plant's roots to gain food.

Description and Confusion species

A small tree (3-8m) (3, 4) with bright green, sometimes brown-green needle-like stems (leaves are small scales) and brown trunk (photo). It looks like a conifer, being bright green and shaped like a conifer, but is actually a flowering plant.

Distribution and habitat

This species occurs from Queensland to South Australia, including Tasmania. It tends to occur in dry and wet forests (4), particularly stringybark or scribbly gum-brittle-gum forests on ridges and slopes (up to 1200m), but may also occur in woodland.

Physical requirements

Exocarpus are semi-parasitic on other trees, particularly gum trees. Its roots tap into the roots of the Eucalypts. Exocarpus tend to occur in light soils on dry rocky slopes, but may also occur in loam soils in woodland.

Life cycle

The flowering time is variable, from Dec to May (4). The seeds are enclosed within a small nut, while the stalk swells and becomes red, looking like a 'fruit' and the colour attracts animals to eat it, such as birds,

humans and other mammals, and ants. The animals often eat the fruit and nut and then the hard seed is excreted out, in the meantime being transported to a new area.

Status and Threats

Fairy common (4), particularly in stringybark or scribbly gum-brittle gum forests. This species is more adversely impacted by drought when its host tree also suffers.

Uses

This species is known as the 'native cherry' or 'cherry ballart' because its 'fruit' can be eaten. Also, the sap from the plant was used as a cure for snake bite and the wood used for spear-throwers by Aboriginals (2). The wood is dense and can be used for furniture.

References

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What's in a Name?

By the late Bernard Fennessy, reproduced from the friends of the botanic gardens website

In the Australian National Botanic Gardens, the office of the Friends of the Gardens is housed in the Ellis Rowan Building, named in honour of a famous Australian wildlife artist. In the Friends' Lounge there is a set of prints from some of her original paintings, including the Kangaroo Paw.

Marian Ellis Rowan (1848 - 1922) was born in Melbourne. She was always known as Ellis. Her lifelong interest in wildlife painting was probably influenced by family tradition, as her maternal grandfather, John Cotton, was an artist and a naturalist and had written two books on English birds.

Her father Charles Ryan and his family lived at Mt Macedon, Victoria, in a home set in a spectacular 26-acre (10.5 ha) garden which was designed with advice from family friend Ferdinand von Mueller, the Government Botanist of Victoria. Ellis returned here regularly after her marriage in 1873 to Frederic Charles Rowan, and was living here at the time of her death.

Her husband was a British army officer who had fought in the Maori wars in New Zealand and later became a businessman in Melbourne. He encouraged Ellis to continue her wildlife paintings and to exhibit them.

An important botanical mentor and role model was the English flower painter and world traveller, Marianne North, whom the Ryans had met at Albany, W.A. She inspired in Ellis an ambition "to travel the world in search of flowers rare and wonderful". Ellis proposed to do this by painting from life to show flowers in their natural habitat. She embarked on a succession of major field trips. In 1887, for example, at the age of 39, she set out on an ambitious scheme to illustrate the flora of Queensland!

After the death of her husband in 1892, Ellis Rowan did much travelling overseas, including to New Zealand, London and the USA During her London stay of two years, three of her paintings were accepted by Queen Victoria, and Ellis wrote *A Flower Hunter in Queensland and New Zealand*. In the early 1900's she returned to Australia to continue her project to find and record every species of wildflower on the continent. Her subjects included, in addition to wildflowers, birds and insects of many countries. She exhibited her work in Australia, India, England, Europe and the USA and she was awarded many prizes.

In 1916-18 she twice visited Papua and New Guinea, finding and illustrating many higher to unclassified flowers, and on her second trip, searching for endangered birds of paradise. She painted 47 of the 52 known species. Throughout her painting career she sent Ferdinand von Mueller, the Government Botanist in Victoria drawings of the wildflowers she found, usually with samples of the flowers themselves. His annotations are to be found on the backs of many of her paintings.

Aged 70 and broken in health from malaria and fatigue, she returned to Australia and in 1920 held an exhibition of 1000 paintings in Sydney. The next year, in response to pressures from women's organisations, the Australian Government, under W.M. Hughes, agreed to purchase the collection. Argument in the Parliament about the price to be paid was still in progress when Ellis Rowan died in 1922. In 1923 the Bruce-Page Government bought 947 paintings for 5000 pounds. These paintings were possibly about one-third of her prodigious output.

The paintings are now in the National Library of Australia, Canberra. A selection of these has been published in *Flower Paintings of Ellis Rowan* by Helen Hewson (1982).

For more information on Ellis Rowan visit the national library site:

www.nla.gov.au/collect/treasures/ellis-rowan.html

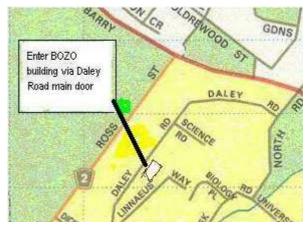
I would travel the world in search of flowers rare and wonderful, travel countries inaccessible, as well as those which offered difficulties only imaginary.

Field Naturalists' Association of Canberra

Who are the Field Naturalists?

The Field Naturalists' Association of Canberra (FNAC) was formed in 1981. Our aim is to foster interest in natural history by means of meetings and regular field outings. Meetings are usually held on the first Thursday of each month. Outings range from weekend rambles to long weekends away. Activities are advertised in our monthly newsletter. We emphasise informality and the enjoyment of nature. New members are always welcome. If you wish to join FNAC, please fill in the member application below and send it in with your subscription to the FNAC Treasurer at the address below:

President: Benj Whitworth, tel w 6272 3192 h 62544556 Secretary: Rosemary Blemings, tel 02 6258 4724 Website: www.geocities.com/fieldnaturalist/index.html Newsletter editor: Chris Bunn <chris_b@webone.com.au Tel 02 6241 2968. Member contributions welcome. Published and distributed by Philip Bell



Monthly meeting venue: Division of Botany and Zoology, Building 116, Daley Rd, Australian National University. Park (occasionally the adjacent building 44). Meetings start at 8 pm and are followed by refreshments.

FIELD NATURALISTS ASSOCIATION OF CANBERRA INC.

GPO Box 249 CANBERRA ACT 2601

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MEMBERSHIP APPLICATION OR RENEWAL

Family name: First name: .	
If a family membership, please include the first names of other mem	bers of the family:
Postal address:	
Suburb: State: Postcode:	Home phone:
W 1 1 P 11 11	
Work phone: Email address:	•••••
Subscription enclosed: \$(Single/Family \$20) Donation: \$	
Subscription encrosed: \(\psi\)\(\text{Omgre/1 annly}\(\psi\)20\) Donation: \(\psi\).	
How did you hear about FNAC? Please circle: FRIEND? OTHER	R? Please specify: