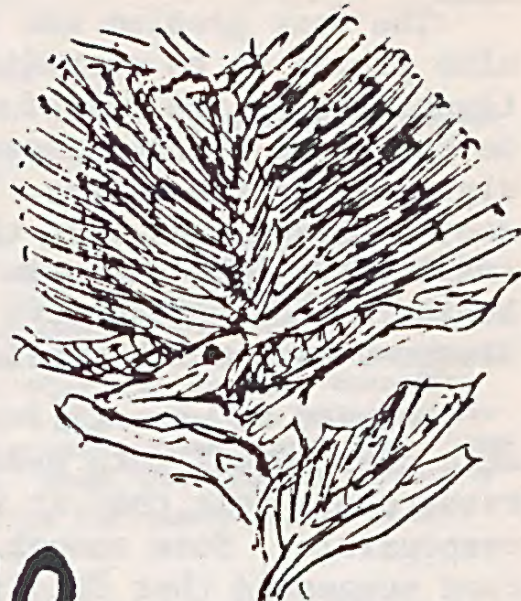


CASTLEMAINE NATURALIST



MARCH '86

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GUM LEAVES BAD FOR KOALAS ?

G. Broadway

Recent research by zoologists from Monash University has raised the interesting proposition that the Koalas' favourite food may be partly responsible for the spread of an infection which causes infertility in female koalas.

During the past year or so it has become evident that some koala populations were suffering from some kind of infection which can cause blindness and leave the females infertile. This disease received so much publicity overseas that the American Express Company donated \$200,000 to be spent over the next two years on a survey of the problem and research into the cause. Much of this money has been used to fund the work of two Monash researchers who had been investigating the koala problem for some time.

Tracking down the cause of the problem proved to be not easy. At first it was thought that lower fertility might be related to nutrition when a low breeding rate was discovered among a population of koalas at Walkerville near Wilsons Promontory, where the animals had reached a population level that was causing the defoliation of their food trees. However at about the same time it was discovered that among a group of big, healthy, well-fed koalas from Phillip Is. the reproductive rate was down from the normal 65-70% to only 10%. At this stage, along came a researcher from the University of Queensland who had developed an X-ray technique for studying koala reproductive tracts. When the Phillip Is koalas were investigated it was found that 90% of the females were diseased, some with cysts near the ovaries as big as oranges.

The next problem was to isolate the actual infecting organism. This also proved to be very difficult as the only bacteria which could be identified in the reproductive tract were ones which were unlikely to be the cause of the disease as they were normally present in the digestive system anyway. This time the tip-off came from a vet at the zoo, who suggested that the infection might be caused by Chlamydia, a small virus-like bacteria which is responsible for infections in the human female reproductive tract. A study of blood samples from the diseased and healthy koalas tended to confirm this hypothesis.

However it was still not clear why some koalas were able to breed at a near normal rate even when infected while others were not. The researchers felt that it was perhaps something in the food which was responsible. Sure enough, a search through some old papers on koala food suggested that Eucalyptus oils contained a substance like the female sex hormone Oestrogen, to which koalas are very susceptible. Research on sheep has shown that oestrogen in the diet can affect the cervix of the uterus, reducing its ability to prevent the entry of infection. A survey of animals on Phillip Is showed that animals which fed on Blue Gum tended to be less fertile than those which fed on the Manna Gum. So it looks as though those koalas would have done well to have read those books which said that they should always stick to Manna Gums.

To find out more about the disease and how it affects koalas and how it is affected by diet, the researchers intend to focuss their attention on the koalas of the Brisbane Ranges. The aim is to eventually come up with a plan for managing koalas. It appears that the infection has been in the koala population for perhaps thousands of years and they have generally been able to cope with it. Some populations are able to breed at a rate which would easily sustain their numbers despite infection, while other populations are completely disease-free. It seems therefore that in spite of recent publicity predicting doom for the koala, Australia's best loved symbol is not yet in danger of extinction.



EX CAMPBELL'S CREEK
(Or " A REPORT FROM FORREST CREEK"?)

from Terry Collins

Having reported to you from Campbell's Creek for some time about the great variety of native plants, birds, etc., it comes as a great shock to be domiciled (temporarily) in the Carracourt Caravan Park at the bottom end of Barkers Street. Our numerous walks around the Town centre and Victory Park reveal a poor total of native birds. Three weeks sightings total two magpies, four thornbills (Victory Park) and one wattle bird (Caravan Park). However, the droves of introduced birds amaze me. Nearly 150 pigeons live between the roof of the old mill and the railway bridge over Forrest creek where they camp at night, keeping up an incessant noise all night. Then the creeper covering the south wall of Duggans Motors is the roosting site for hundreds of starlings, so many it seems like "Standing Room Only".

Hundreds of sparrows claim the various palms in Lyttleton Street for their abode. I do not know where the hundreds of blackbirds camp.

These imports have certainly taken over our Australian urban areas which is sad as our feathered friends are so much more desirable. Even the City planting of native trees and bushes would not reverse the invasion but could encourage some of our own back.

P.S. The new owners of our block inform us that all is well, with the birds being fed, plus the Bluetongue lizard, so that is a relief as we thought we might be letting our "Friends" down.

CASTLEMAINE FIELD NATURALISTS CLUB Inc.

Treasurer's Annual report for 1985.

We began the year 1985 with a balance of \$2.26, and ended it with the balance at \$45.61. Throughout the year funds seemed only just adequate, so it is gratifying to have a satisfactory balance to end the year's activities.

Many members contributed generously to make this possible. Five of our members paid the supporting members subscription of \$10 per annum.

We are indebted to Geoff Sitch who donated plants month by month so making the raffles a good source of income for the Club, and we thank those members who so readily bought raffle tickets.

Suppers supplied \$25.50 over and above expenses.

Members are reminded that car-stickers, publicising W.V.F.N.C.A, are still available from the treasurer. Please buy one for your car; we have not yet recouped the cost of these.

Signed: *Stan Burton*

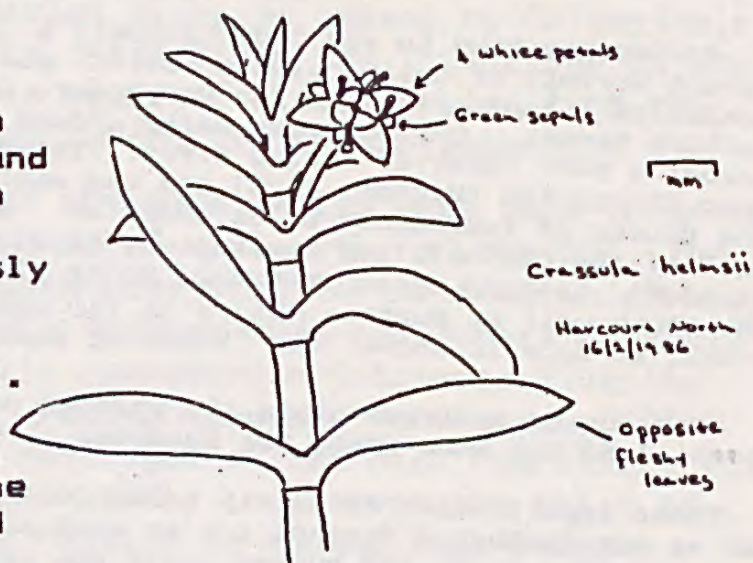
HARCOURT NORTH RESERVOIR

The February excursion of the Club was to Harcourt North reservoir to look at pond life and water birds. We didn't see much of the pond life, but had a fine look at a number of swamp birds. Highlight of the excursion was however, some of the plants growing at the edge of the reservoir.

SWAMP CRASSULA

Although this is quite common in the swamps and creeks around Castlemaine, it is less often seen flowering, and the specimens that I have previously seen have been growing in water; here they were well above the present water level.

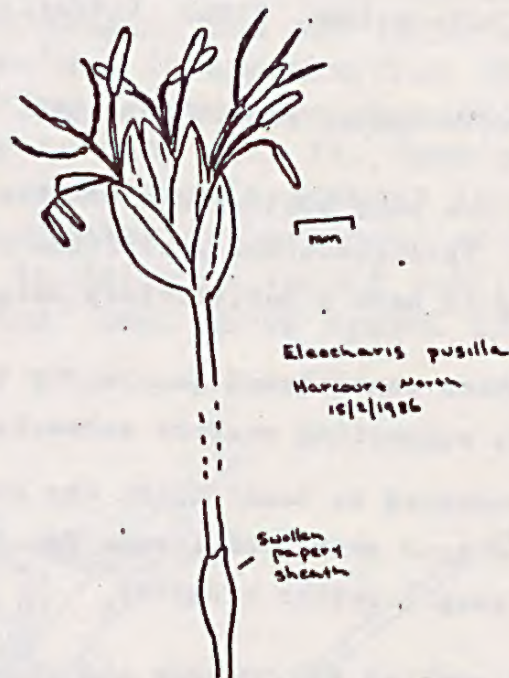
The flowers are quite white and have a starry appearance. Like the other stonecrops, the leaves are rather fleshy, and in the Swamp Crassula are in pairs, each pair being at right angles to the preceding leaves.



SMALL SPIKE-RUSH

Those who went on the excursion to Fryers Ridge last year will remember the very large Spike-rushes growing in the dam near the tower. Spike-rushes are so called, not because they have sharp ends, but rather because the flowers grow around the stalk in a rod-shaped arrangement.

However the Tiny Spike-rush has only a few flowers and it is not easy to see at a glance that it is a spike-rush. Perhaps it should be called the Spikeless Spike-rush. A close examination of the flowers shows that many features are very similar to the other Spike-rushes.



The whole plant is very small compared with other spike-rushes, and grows to less than 10 centimetres.

This is the first record that I know of for the Castlemaine, district.

The scientific name (*Eleocharis pusilla*) is very suitable. *Eleocharis* means, in Greek, [a marsh + I delight in], and *pusilla* means puny, weak and slender.

AUSTRAL MUDWORT

The Austral Mud-wort was one of two tiny plants seen growing on damp mud. The height would be only a few centimetres, but it sends out tiny runners that root into the mud, so that a single plant can cover quite a large area.

The Mudwort has tiny white flowers. The petals are equally sized, but the stigma is at one side of the flower tube and the anthers are black.

Small and muddy are two suitable words to describe this plant, so once again the scientific name (*Limosella australis*) is very appropriate. The Latin *limosus* means muddy, and the *-ella* ending relates to smallness.

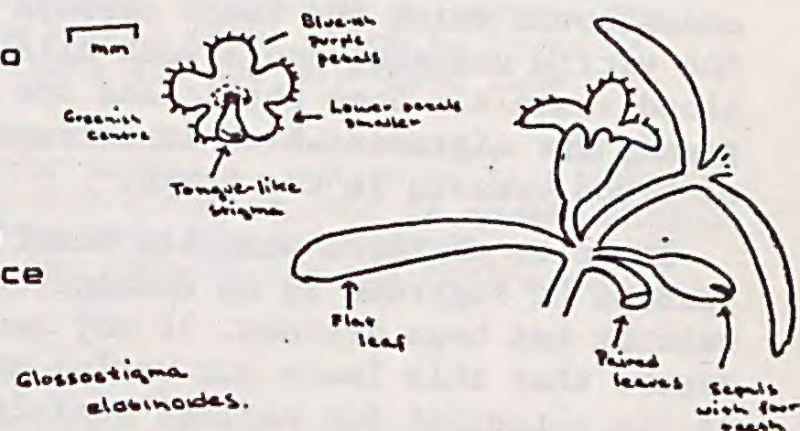
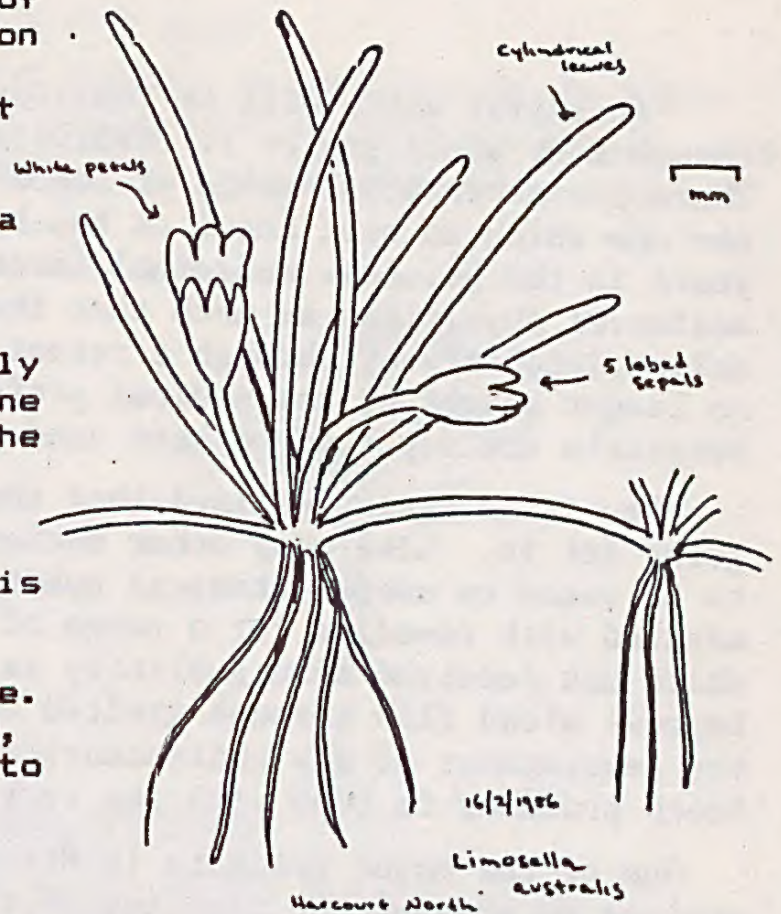
SMALL MUD-MAT

This is another tiny mud plant. It was in full flower with tiny (about the size of a pin's head) bluish flowers. In some parts a square metre or more was covered with Mud-mat, so that the ground seemed to be covered with a bluish haze. To see the flowers in any detail however, a close look, and a magnifier is essential.

Mud-mat is closely related to Mud-wort. An obvious difference is the rather large strap-shaped stigma of this plant. The scientific name reflects this. *Glossostigma* means tongue-stigma, and the species name *elatinoides* means that it resembles a mud-wort.

This is a new record too for the Castlemaine Plant List.

(This account of unusual plants for Harcourt North will be continued in another issue. E. Perkins)



WETLANDS HAVE THEIR USES

(And not only as a place to breed ducks)

G. Broadway

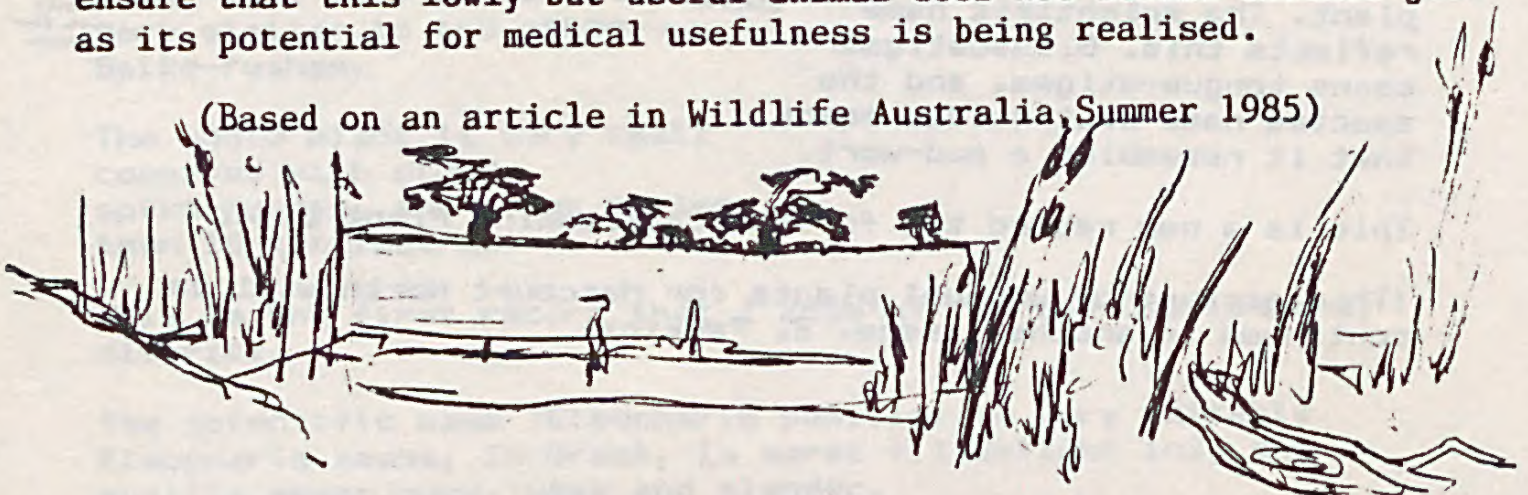
An animal which will be familiar to most Field Nats and Birdos although most would prefer it otherwise, is the creepy-crawly leech. There are about 650 species of leech known throughout the world, but the one which is best known as has been known and used for hundreds of years is the European medicinal leech, *Hirudo medicinalis*. Used by mediaeval physicians so much that they became known as leeches themselves, leeches went through a recent period when their services were no longer sought by the medical profession. As recently as 1863, London hospitals are reported to have used seven million leeches.

Now it is again realised that the leech treatment had something going for it. Like many other ancient treatments which have been found to be based on useful chemical substances, leeches today are providing mankind with remedies for a range of complaints. One use of leeches which has received some publicity is their use by plastic surgeons to improve blood flow through grafted tissues. Other applications involve the development of new pharmaceuticals from the chemicals which the leech produces to cope with its very specialised diet.

One of the major products is Hirudin, the substance the leech employs to prevent the clotting of the victims' blood, which is why leech-caused wounds continue to bleed after the leech has been removed. Hirudin is now being employed in salves and suppositories to treat haemorrhoids, rheumatism, thrombosis, contusions, thrombophlebitis and juvenile acne. Other biochemicals include hyaluronidase, an enzyme which digests the cement which keeps different cells together, a local anaesthetic which the leech employs to render its bite painless to keep the victim unaware, and a vaso-dilator which enlarges the diameter of blood vessels. Some physicians see in this last substance a possible remedy for migraine which is believed to be caused by the constriction of blood vessels in the brain.

In spite of these possible benefits, the medicinal leech should perhaps be regarded as an endangered species as so much of its natural habitat has been drained. It may now be necessary to take steps to ensure that this lowly but useful animal does not become extinct just as its potential for medical usefulness is being realised.

(Based on an article in Wildlife Australia, Summer 1985)



PEREGRINE BIRD TOURS

A leaflet from the above tour company is available on the table. the tours are mainly overseas, to places such as India and Nepal, Malaysia, Kenya, Peru etc. Perhaps one of these is just the tour you've been dreaming of!

" In England during the drought of 1976 some dandelions grew roots more than two feet long."

Better Gardening
Robin Lane Fox.
(Penguin Books)



FRANK ILLIDGE SANCTUARY



The owners of the above sanctuary, the Victoria Conservation Trust, have been offered 126 acres of bushland adjacent to the sanctuary, and are undertaking to raise the \$30,000 required. They had \$11,000 by February. Potoroos and Rufous Bristle birds are found in the sanctuary and are two significant species which require the dense ground cover which is found in sanctuary and the adjoining land.

An opportunity will be made at the meeting for people to donate to this appeal, as a Club donation, but if anyone should wish to make a private donation, which

is tax deductible for \$2 and over, the address of the fundraising secretary is - S. Duffield
123 Daltons Road,
Warnambool. 3280.

(Having spent several very pleasant hours in the Sanctuary itself, and having seen the adjoining properties, I certainly would recommend this appeal to you.

Ed.)

Present Bank Balance - \$150-79.

(But remember, 1986 Subs are now due. Geoff Sitch, our new Treasurer is ready and willing to accept them!)

CASTLEMAINE F.N.C. AGENDA

Excursions leave promptly at the times shown.

Fri 14 March. WESTERN AUSTRALIA with George Broadway. Find out about the Broadways' recent trip to the west. High School (room 309) at 8.00 p.m.

Sat 15 March. BELLS SWAMP & LAANACDOORIE. A summer excursion to look at birds. Meet SEC building, Mostyn St at 1.30 p.m.

Fri 11 April ROADSIDE & RAILWAY RESERVES with Mr Keith Watson - Linear Reserves Project Officer with the State Forests and Lands Service. High School at 8.00 p.m.

Sun 13 April CHEWTON GOLD RELICS with Ken McKimmie. Meet at SEC, Mostyn St at 1.30 p.m.

Sun 12 Oct. SALOMON GULLY & JACKASS FLAT with Bendigo and Maryborough F.N.C. Leave SEC at 9.25 or Salomon Gully at 10.00. Picnic lunch.

CASTLEMAINE FIELD NATURALISTS CLUB INC.

Pres: E. Perkins, Box 212
Treas: G. Sitch, Muckleford

Sec B. Maund, 51 Campbell St
Newsletter ed. R. Mills,
Articles for the Magazine can
be left at Tonks, Barker St.

Subscriptions for 1986 are

Pensioner/student	\$3	Single	\$5
Family	\$8	Supporting	\$12

Red-necked Avocet at Harcourt

A single Red-necked Avocet was seen at Harcourt North Reservoir on 2/3/86, and is the first record for the Club's bird list. The bird is very distinctive white bird with a chestnut-red head and neck, and a long slender upturned bill.

Although the first record for the bird list, it is unlikely that this is this bird's first visit to our area. The Bendigo Field Naturalists Club lists it as "Rare - seen occasionally near swamps at Tandarra"

Has any other Club member seen it here?

EP

CHICORY AT HARCOURT

Chicory is one of the most attractive exotics, and dense patches have been flowering at Harcourt this season. The road past the school to North Harcourt has a fine display. The root of chicory is sometimes used as a coffee substitute. With the recent escalation in coffee prices, could Chicory give the raw material for a local industry?

EP