

Castlemaine Naturalist

May 2017

Vol. 42.4 #453

Monthly newsletter of the
Castlemaine Field Naturalists Club Inc.



Jewel Spider, Smiths Reef - photo Noel Young

New research into bat behaviour

At the April meeting, members were treated to an enthusiastic talk by local PhD student Emmi van Harten, on her particular species study and on bats in general.

After graduating, Emmi studied Powerful Owls before embarking on a PhD on the Southern Bent-wing bat. Her initiation into micro-bats was attributed to Lindy Lumsden's talk to the Newstead Landcare group about two years ago, which I also attended. It was an inspiring address, with live bat encounters, a demonstration of bat call recordings transferred to our hearing range, and in the evening, a harp - trapping exercise. This encounter resulted in Emmi changing her post grad. direction to studying bats. She describes it as her transition to "Batgirl".

Bats are most plentiful in the tropics where they probably evolved, and some have become adapted to cooler regions by using interesting methods of survival such as winter hibernation.

Emmi introduced the subject with the classification of the bats as two sub-orders of Chiroptera. Fruit bats (flying foxes) are represented in the south by one species, the Grey headed. They are threatened, as they are forced into urban areas due to habitat destruction. A colony has taken up residence in Rosalind Park, Bendigo. The second group (Microchiroptera) comprises the numerous micro-bats. Over a quarter of Australia's mammals are bats. Most micro-bats are insect eating, with one or two carnivorous species, and many will eat up to half their body weight in a night; tons of insects are being "silently" eradicated as we sleep. But it would be far from silent if our hearing range extended to that of the shrill echo-location screams of bats closing in on their prey. Only one local species can be heard at the high end of our range – the White-striped Free-tail bat.

Emmi's specific subject of study is the Southern Bent-wing bat, which is critically endangered and rapidly declining in numbers. Weighing about 15 grams it depends exclusively on caves for roosting and breeding, so does not occur in this

area, though its close relative, the Eastern Bent-wing bat may, because it will use mine workings of which we have plenty.

So the Southern species, because of lack of insects in the winter, roosts on the ceiling of a suitable cave and goes into a state of torpor, lowering body temperature to within one degree of ambient, and heart rate to about 5 per minute. In summer they need to occupy maternity sites or nurseries to rear the pups. Each mother has one pup, and they congregate closely together in a cave with a domed ceiling. This environment can increase the temperature by 10 degrees, and together with the increased humidity protects the hairless pups in early growth. Mating takes place in the autumn, and during the winter torpor the female preserves the sperm for self-impregnation in the spring after regeneration from fat loss over winter. The dependence on appropriate sites in a cold climate clearly makes them quite vulnerable compared to their tropical cousins. Care is taken by researchers not to disturb them during winter as waking them burns energy they cannot afford.

Being confined to the south-west of Victoria and south-east of South Australia conveniently narrowed the search area for Emmi. They appear to occupy two main sites – Bat Cave near Naracoorte and another cave near Mt. Gambier. With a number of volunteers she has micro-chipped 2000 bats to track their movements. An antenna set up inside the cave registers each chipped bat as it flies past, and each individual can be identified from its chip. Interpretation of the preliminary data at Bat Cave led to the discovery of the second summer roosting cave, and the movements of bats between the two locations. After tracking equipment was set up in the second cave, it was discovered that bats could travel the 70 km between caves in five hours of one night.

Numerous harp traps were used to capture the bats for micro-chipping which involves inserting a small chip under the skin of the back. Apparently micro-chipping has not been used in this way before because the detection range was insufficient, but the technology used here can pick up fast flying bats up to a metre away, and has proven successful. Other innovative techniques include infra-red cameras and missile tracking software to estimate total numbers and rates of movement etc. Sonic “bat detectors” are useful away from the caves as individual species can be identified by their calls.

After this winter Emmi will be collating a huge amount of data and writing up the results, but is already talking about following up with a revision of the micro-bats of the Box-Ironbark forests. She points out that existing references are already out of date. For example, the Southern and Eastern Bent-wing bats are currently listed as sub-species, but they will soon be accepted as separate species, as it has been shown that they don't interbreed, and have other differences. So if you can supply any information on local bats including roosting locations, Emmi would like to hear from you.

Noel Young

Have you paid your subscription?

Please check – outstanding subs will no longer receive a newsletter.

Smiths Reef Dam excursion, 8/4/2017

Rita Mills

The only thing I noticed that was the same as when I visited the dam back about 1963 with a large group of friends including a lot of children armed with fishing rods, was that there was water in the dam. There were even a few very small Redfin caught, but I doubt if many years of drought have added to the population. At one visit there were more saplings than water – in fact I don't remember any water that time, and the bush was very dry.

Despite some fairly recent rain the bush still looked rather dry from the car and I wasn't expecting to see very much at all, but even before I opened the car door, I spotted the distinctive pair of white petals of Parsons Bands, *Eriochilus cucullatus*. As the photographers arrived they had a great time trying to photograph these small orchids. Even when I was doing quite a bit of photography I found it very difficult to get a good image. I still haven't succeeded.

Later someone found a Midge Orchid species, and over on the hill on the other side of the dam, someone found some Red-tipped Greenhoods, still *Pterostylus* sp. affin. *parviflora* I wonder?

One of the things I found most encouraging were the numerous seedlings of shrubs and trees we kept finding. It will be wonderful if we have a wet enough winter for them to become well enough established to survive next summer.

This time of course there was some water in the dam, and there were numerous small frogs including one that one of the girls had found that had a rather blunt face and was quite 'dumpy'. I was set to join the youngsters looking for frogs, but some rolls of thunder soon had most of us scurrying back to the vehicles, after what I found to be a very interesting afternoon. As my first excursion for a long time it was a real joy for me.



Parson's Bands – worth magnifying to see the gargoyle face, which has a different expression on each flower. Midge Orchid on the right. - Noel Young, Smiths Reef

Another Autumn Orchid – and a fire-threatened rare local Rosemary and Peter Turner

We were unable to attend the excursion to Smiths Reef to look for Autumn Orchids, so were delighted when Richard Piesse offered to guide us there on the following Friday. Richard was successful in finding examples of Parson's Bands, Midge Orchids and the Inland Red-tipped Greenhood – all new to us. Then, searching higher up the hillside, Rosemary found several groups of the Large Autumn Orchid *Pterostylis revoluta*, which she had seen before in Kaweka reserve. A splendid Greenhood.



We moved on to Tatt Town Track. The area burnt in 2009 (?) east of the track is flourishing – but still no signs of recovery of the Flame Heath, *Astroloma conostephoides*. To quote from Ern Perkins' *Wild Plants of the Castlemaine District*, in our area this is "Rare. Known locally from Smith's Reef where extremely localised, and Walmer (a single plant).....About half of the Smiths Reef population was subject to a fuel reduction burn. None of the burnt plants has regenerated. Its continued survival in the local area seems to be unlikely."

There are healthy specimens on the west (unburnt) side of the track. This is a challenging example of the impacts (positive and negative) of planned burns. Lets hope that the unburnt area remains unburnt.

Observations For May George Broadway

We have been noting what readers were sending in to Mr Crosbie Morrison for identification seventy years ago, i.e. In 1947.

Unfortunately my collection of Wildlife magazines has a few gaps. (Too many actually, sadly). May 1947 is one of those missing. So for a few months I am resorting to Wildlife in 1941. What were people noticing in May 1941 ?

We start with some spider specimens. Note that some of these keep cropping up.

1. From several localities, including Kyneton, the “Bird Dropping Spider” *Celaenia excavata*. Seen previously by us.

2. Again from several localities, the Orb Spinner or garden spider. Harmless and useful in that it catches night-flying insects which could be harmful in the garden. The web is spun on a still night when insects are likely to be on the wing, and destroyed again by morning.

3. Gisborne: Grey Wolf Spider A hunter which does not spin a web but lives in holes in the ground without trapdoors. Not normally dangerous, although the bite has been known to cause some discomfort, especially if the victim was not in the best physical condition. Sometimes called the “Nursemaid Spider” because of its habit of carrying the young around on its back. (I remember camping in an area where these spiders occurred where we went out with torches. When the light was directed down the hole, one could see the eyes reflected in the beam.)

4. Geelong: Possibly a trapdoor spider but the description would suggest a Grey Wolf.

5. Several places: The Spiny Spider, a small spider with a circular body equipped with spikes, which are harmless. The colour is usually an enamelled mosaic of yellow, black and white, although some may be entirely black. (There are many to be seen in the bush around Castlemaine right now as noted on our last outing.)

6. Trapdoor spider, not particularly large as these spiders go. Has large fangs although not considered dangerous. Mr Morrison notes that he would not like to risk being bitten however.

7. Warburton and Brighton: Satin-back Nephila spider, one of several species, all building strong webs. Large but not dangerous, (although some of our members found it unpleasant recently to blunder into a web while walking through the bush, probably with eyes down looking for orchids.)

8. Swan Hill and two other states: The Red-headed Trapdoor Spider, small as Trapdoor Spiders go. All specimens males. Another spider, a large heavily built, black trapdoor spider is thought to be the female. The former is named *Eriodon rubrocapitatum*, the latter *Eriodon occatorium*. (This was 1941, they are now accepted as one species)

9. Ivanhoe: An Attid Spider, one of the non-spinning, jumping type, which leap upon their prey. The sender reported a swelling and numb feeling after a bite, this would be very unusual. Believed that the temporary discomfort may have been due to some sensitive condition of the victim.

Other Critters

10. Welshmans Reef; Long-horned Grasshopper or Tree Cricket. The “stiletto” at the back is not a sting but an egg placer, for inserting the eggs deeply into the ground. The strong jaws could give a good healthy bite, but are used for chewing on lunch, which is firewood. Also Toolern Vale

11. Wonthaggi: Metallic Blue Leaf Beetle, very destructive in the bush and the garden. Suggested that the strawberries and the Godetias be sprayed with Arsenate of Lead. Also clear up any rubbish. (In 2017 the advice might be to use Carbaryl or Folimat instead of arsenic)

12. Chewton: A Click Beetle. One had been sent in recently and the click broadcast, no more needed.

13. Tewanin (Q): Australian Stick insect, *Estatosoma tiaratum* , no common name. specimen was a female. Male wings are larger. Feeds on leaves.

14. Currie (King Is). Grey-headed Fruit Bat, *Pteropus poliocephalus*. A stray from the mainland, probably the first record from King Island.

15. Eddington: Purple and gold Jewel Beetle, *Stigmodera saturalis*. Larvae are wood-borers, adults feed on blossoms, *Anthelid* Moth, no common name; hairy caterpillars feed on leaves.



Wolf Spider



Leaf Beetle larva



Bird Quiz

Last month's bird was the Nankeen Night Heron, sometimes called the Rufous Night Heron. The adult bird is distinctively coloured, with a cinnamon back, buff underparts and a black crown. It has a short neck and appears hunched over. It will normally find trees to roost in near water and can often be found roosting in trees around the Expedition Pass reservoir. In the breeding season the male displays three plumes on the back of its head. The juvenile birds are heavily streaked and remain so for two or three years.

I will leave you with the bird for next month.

- Nigel



Observations

- ◆ Blue-faced Honeyeaters seen in Diamond Gully road March; also Bonnie from Connecting Country saw one in the area recently. [As reported earlier, a friend living in Martin st. has had them regularly visiting his bird bath – they disappeared in early April – ED]
- ◆ Marli saw the Powerful Owl family (2 adults and 1 juvenile) in the CM gardens at 5.30pm on March 23 in a Stone Pine
- ◆ Geoff saw four Sugar gliders emerge from a hollow in an old Yellow Box on his property
- ◆ Geraldine – obs at bird bath (in one session) 8 sp.of Honeyeater; Fuscous Black-chinned, Brown-headed, New Holland, White-plumed, White-naped, Yellow-faced and Yellow-tufted. Also Blue wrens, Choughs, White-browed Babblers, Peaceful Dove, Red-browed Finches, Galah, Crimson and Eastern Rosella, Grey Shrike-thrush, Willie Wagtail, Red Wattlebird and Dusky Woodswallows.

Speaker for MAY – Jason Edwards on New Guinea

From the remote and pristine reefs of West Papua and Raja Amat, to the headhunters of the Asmat; the friendly tribes of the Trobriand and the fire frenzy of the Baining people of Papua New Guinea. This Expedition travelled the southern coast of New Guinea from the west to the far east exploring the seas and peoples of this remarkable region.

Below -

This juvenile Brown Goshawk was seen on March 29 at Ocean Grove Nature Reserve and photographed by **Joy Weatherill**.



Left -

This moth attached itself to the fly-screen at our back door, where we found it one morning recently. It did not want to clamber onto the small stick I offered, but flew off at some stage early

in the evening. Marilyn Hewish identified it from the images as a female Boisduval's Autumn Moth *Oenosandra boisduvalii*, and is apparently quite common during Autumn across Victoria. But a new one for us. - **Rosemary and Peter Turner**



Disclaimer: The opinions expressed in this newsletter are those of the contributors and not necessarily those of the club

Castlemaine Field Naturalists

Coming events

Fri May 12 meeting: speaker JASON EDWARDS (National Geographic photographer) will talk about his experiences on a journey through New Guinea

Sat May 13 field trip: Eureka Reef

Thursday* May 18 – Roadside cleanup - 9am start at cnr. Golf Links rd. on Pyrenees Highway – organiser Geoff Harris

Takes 1 – 2 hrs., Wear sturdy footwear and gloves. Garbage bags and reflective vests will be supplied. Please note KABC rules prohibit anyone under 16 from working on the roadside.

Sat /Sun May 20/21 Swift Parrot search

Fri June 9 meeting: speaker to be confirmed

VISITORS ARE WELCOME AT CLUB ACTIVITIES

General meetings - (second Friday of each month, except January) are held in the Uniting Church (UCA) Hall (enter from Lyttleton St.) at 7.30 pm.

Field Trips - (Saturday following the general meeting) leave from the car park opposite Castle Motel, Duke Street at 1.30pm sharp unless stated otherwise. BYO morning and/or afternoon tea. Outdoor excursions are likely to be cancelled in extreme weather conditions. There are NO excursions on total fire ban days.

Business meetings - third Thursday of each month, except December, at George Broadways; 24a Greenhill Ave., at 6.00 pm. Members are invited to attend.

Club website (Web master: Chris Timewell) - <http://castlemainefnc.wordpress.com/>

Subscriptions for 2017

Ordinary membership: Single \$30, Family \$40

Pensioner or student: Single \$25, Family \$30

Subscription includes postage of the monthly newsletter, Castlemaine Naturalist

2017 Committee

President: George Broadway 5472 2513

Secretary: Peter Turner 5470 6891

Treasurer: Geoff Harris

Nigel Harland 5474 8246 Richard Piesse 0448 572 867

Cheryl Taylor Noel Young (Editor) 5472 1345

[email newsletter material to: noel.young@optusnet.com.au]

**Castlemaine Field Naturalists Club Inc. PO Box 324, Castlemaine, 3450.
Inc #A0003010B**