



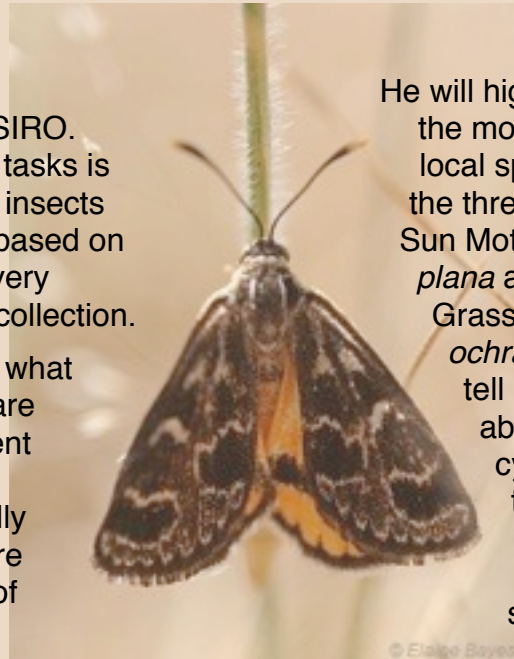
**MEETING THURSDAY 3rd FEBRUARY**  
**7:30 pm Australian National University**  
Meeting details back page

# Insects of the ACT

Speaker: Mr Kimberi Pullen  
CSIRO Ecosystem Sciences

Kim Pullen is an entomologist at CSIRO. One of his current tasks is to compile a list of insects found in the ACT, based on specimens in the very extensive CSIRO collection.

Kim will talk about what insects are, what are some of the different groups (orders) of insects found locally and why insects are an important part of our ecosystems.



He will highlight some of the more interesting local species, including the threatened Golden Sun Moth *Synemon plana* and the Perunga Grasshopper *Perunga ochracea*. He will also tell us something about their life cycles and why there have been so many butterflies this summer.

Photo: Golden Sun Moth Eilane Bayes under a creative commons licence.  
[http://bird.net.au/bird/index.php?title=Golden\\_Sun\\_Moth](http://bird.net.au/bird/index.php?title=Golden_Sun_Moth)

## Contents

	Page
Outing - Catching Insects at Night - 8:00pm Friday 11th February	2
ANBG Lunchtime Talks	2
Friends of Aranda Bushland AGM	2
A Message From Our President	3
Orange hawkweed	4-5
Has infectious cancer doomed Tasmanian devils to extinction?	6
Devil Ark	6
Crystal Clear Concert	7
Tammar Wallaby Mortality	7
Contact details and map	8
Membership application	8

## Outing - Catching Insects at Night

### 8:00pm Friday 11th February

For the February outing, Kim will show us how to catch insects at night using a light to attract them and a sheet to catch the falling insects. Come and see what is flying around at night. We will meet in the car park by the CSIRO Discovery Centre at 8:00 pm on Friday 11 February. The outing will last until around 10:00 pm.

Contact Tony Lawson: 6161 9430.

### ANBG Lunchtime Talks

(12:30 – 1:30 pm, Thursdays – from Feb to Nov)

These excellent lunchtime talks are held in the theatrette at the Botanic Gardens from 12:30 to 1:30 pm every Thursday. Forthcoming talks are:

3 Feb	Lana Mitchell	Trials and Tribulations of Growing Flannel Flowers
10 Feb	Ray Brown	A Tragic of Ellis Rowan
17 Feb	Val Wiseman	Finding Wildflowers in WA
24 Feb	Rosemary Purdie	Plants of Mongolia
3 March	Greg Whitbread	An Update on Ibis
10 March	Heino Lepp & Chis Cargill	Launch of Lichen Website
17 March	Liz Truswell	Antarctica, Glossopteris & a sexual revolution
24 March	Brad Pillans	The New National Rock Garden

### Friends of Aranda Bushland AGM

7:00 - 10:00 pm, Thurs 24 Feb

FoAB invites you to their Annual General Meeting at the Southern Cross Club, Catchpole Street near Jamison Centre. After drinks and the AGM at 7:30 pm, Jean Geue will give a talk on 'Hawthorn eradication – an Aranda Bushland story'.

Jean's photographic presentation shows how FoAB demolished a 300 x 100 metre hawthorn thicket in 1992 revealing an iconic eucalypt woodland. Continued diligent followup with hawthorn hunts, tackled infestation in the adjoining rural lease and opened the way for the natural regeneration of diverse bushland. You will see weed control techniques, trials and tribulations, fun work parties and, most of all, how they . made a difference.

Contact Jean Geue 6251-1601 or [www.friendsofarandabushland.org.au](http://www.friendsofarandabushland.org.au)

## A Message from our President

Welcome to the New Year, which again will contain interesting speakers and outings. One proposal is to have a photographic workshop in October.

Only rarely does a natural event occur right in front of you when your mind is on other things. When I was thirteen I remember trudging home on a hot Melbourne day when a flock of about 200 swans took off slowly to the air flying almost over my head.

Many years later I walked out from a neighbour's backdoor to have a letter-winged kite hovering a few metres above me with the sun 'shining' through the wings. Then last week when walking to the shops about four yellow-rumped thornbills fed on the grass nature strip right in front of me. Their cooperation with one another reminded me about an article I had just finished reading, written by the late Stephen Jay Gould, called "*Kropotkin was no crackpot*".

Peter Kropotkin (1842 - 1921) was a Russian prince, geographer, and self-proclaimed anarchist, who gave up wealth and a privileged lifestyle in exchange for one of scientific discovery and political activism.

Kropotkin considered that cooperation within a species has been a factor in the development of social institutions and the avoidance of competition greatly increases the chances of survival and raises the quality of life. He contended that mutual aid is a factor that is both biological and voluntary in nature, and is an enabler of progressive evolution. Without it, life as we know it could not exist. This can be seen in the animal kingdom. Wolves and lions gather to hunt, while bees and ants work together in many different ways. Mutual support is an established fact within the feathered world, with eagles, pelicans, vultures, sparrows, and others collectively searching for and sharing food. Some species of birds even gather together to sleep at the end of the day.

Kropotkin acknowledged that struggle plays a central role in the lives of organisms. But Kropotkin holds that struggle must not be viewed

as a unitary phenomenon. It must be divided into two fundamentally different forms with contrary evolutionary meanings. with opposite import: (1) organism against organism of the same species for limited resources, leading to competition; and (2) organism against environment, leading to cooperation.

Kropotkin does not deny the competitive form of struggle, but argues that the cooperative style has been underemphasised and must balance or even predominate over competition in considering nature as a whole:

*"There is an immense amount of warfare and extermination going on amidst various species; there is, at the same time, as much, or perhaps even more, of mutual support, mutual aid, and mutual defence.... Sociability is as much a law of nature as mutual struggle."*

Thus my tiny yellow-rumped thornbills reminded me of mutual support, each relying on the others for protection from the harsh ACT suburb where dogs and cats abound.

Reference

<http://libcom.org/library/kropotkin-was-no-crackpot>

Chris Bunn



Photo: Amin Gerlach

<http://news.ninemsn.com.au/national/8195243/frog-hitches-ride-with-snake-to-flee-floods>

Above: A frog hitches a ride on a snake. A recent example of co-operation during the Queensland floods. Many unlikely animals assist each other during times of emergency. Margaret Kalms. Editor.

## Orange hawkweed (*Hieracium aurantiacum*)

During the first week of the 2011 New Year, I packed my Kosiuszko walking gear (for wet, cold, hot and windy conditions) and travelled to the small town of Khancoban, to take up the call by NPWS for volunteers to search for the extremely invasive Orange Hawkweed.

Jo Caldwell, the NPWS Orange Hawkweed Project Officer, produced a flyer which describes what the weed looks like.

‘Orange hawkweed is a perennial that grows up to 400mm high and has bright orange flowers and hairy stems and leaves. Each flowering shoot consists of 5-30 flower heads, 10-20 mm in diameter ... The leaves are 100-150 mm long, dark green on the upper surface and light green underneath, forming in rosettes close to the ground. The stems contain milky sap and are covered in short stiff hairs. The plants are capable of flowering, seeding and reflowering within 10-12 days.’



Almost a decade ago, in 2002/03 researchers in the Bureau of Rural Science, had identified

Orange Hawkweed as one of a number of major ‘agricultural sleeper weeds in Australia’. They were on the cusp of what was soon to be identified and spread in Kosciuszko National Park. As many of you remember in 2003 intense wildfires swept through large parts of Victoria, New South Wales and the Australian Capital Territory. The resulting bloom and recovery of native species has been spectacular, despite the ongoing effects of a 10 year drought. To my knowledge no species was lost.

However, in 2004 park workers identified a small outbreak of Orange Hawkweed adjacent to the Round Mountain Fire Trail in Kosciuszko National Park. It has been monitored and treated ever since, but the rationale behind its arrival and potential spread has been recently retested, and appears to be at odds with the earlier hypothesis. No blame, no shame is intended, all persons were on new ground, and it was a great credit to NPWS staff that it was even identified,

treated and monitored from that time.

Currently ‘Orange hawkweed is on the *Alert List for Environmental Weeds*, a list of 28 non-native plants that threaten biodiversity and cause other environmental damage. Although only in the early stages of establishment, these weeds have the potential to seriously degrade Australia’s ecosystems.’ (The Department of the Environment and Heritage and the CRC for Australian Weed Management)

‘Orange hawkweed is a potential threat in the alpine country and the temperate tablelands of

eastern Australia. It was probably introduced to Tasmania as a garden plant early in the 20th century but was not recorded in mainland Australia until much later. Hawkweeds are extremely invasive overseas; ten species have already become weed problems in New Zealand and several hundred species are known worldwide.’ Hawkweeds have the potential to change the biomass of large regions. By 1991 in the South Island of New Zealand Hawkweed covered 500,000 ha (Kompas and Chu 2010). Twenty years on the problem is immense.

'In alpine areas orange hawkweed can outcompete native plants and disturb local ecosystems. It fills the spaces between grass tussocks that are necessary for the regeneration and survival of native species.' (DEH and CRC for AWM)

Jo Caldwell, with the support of NPWS and DECCW managers, has instigated a program for identifying and treating sites. My little group of three volunteers from Kosciuszko Huts Association, found 8 additional sites. The next week another team identified another 8 sites. Last week a huge site measuring approx. 200m x 50m was found further down the side of Fifteen Mile Ridge, where I was credited with finding a site. Obviously this is just the beginning of what will be a long program. Jo is GPSing all sites, and recording numerical and other scientific data, to enable a full report on the spread, geographical trajectories, and various control methods.

Summer is an optimal time for identification as Orange Hawkweed is in flower. Some people are better than others at identifying the plant, but all agree a crop of bright orange flowers is much easier to see. The volunteers search in the Round Mountain/Fifteen Mile Spur area, through swamps, up and down slopes, through regrowth, and sometimes across open terrain with spectacular views to Jagungal.

#### Sources:

David C. Cunningham, Gemma Woldendorp, Mellissa B. Burgess and Simon C. Barry, Prioritising sleeper weeds for eradication, Selection of species based on potential impacts on agriculture and feasibility of eradication, Bureau of Rural Sciences, Commonwealth of Australia 2003.

The Department of the Environment and Heritage and the CRC for Australian Weed Management, the Orange hawkweed (*Hieracium aurantiacum*) weed management guide. (Department of Sustainability, Environment, Water, Population and Communities).

Tom Kompas & Long Chu, 2010. "A Rule of Thumb for Controlling Invasive Weeds: An Application to Hawkweed in Australia," Environmental Economics Research Hub Research Reports 1070, Environmental Economics Research Hub, Crawford School, Australian National University.

There is much yet to be identified, and a sound scientifically based report on work to date, will assist NPWS and Governments across Australia, on how best to control this potentially extremely damaging threat.

My hypothesis, on a very limited 4 days in the field, is that Orange Hawkweed has been in KNP for some time. It may have been brought in as hardy bright flowering plant, to one of the hydro camps. The mathematics of epidemics shows that a catalytic event is often the trigger for change from a relatively dormant state to that of exponential growth or epidemic outbreak. Overwhelmingly my group's sightings were on or close to disturbed sites, fire trails, roads, quarries, temporary towns/camps, even an airstrip. All areas had been subject to intense burns in the 2003 fires.

The call to NPA members and others is to learn what Orange Hawkweed looks like and be able to identify it and GPS its location. Do not pick the flower or try to pull up the plant. Contact: Jo Caldwell, Project Officer Orange Hawkweed, NPWS Khancoban, NSW. Phone: 02 6079373, Mobile: 0428 103 800.

Dianne Thompson  
Member, Southern Ranges Region Advisory  
Committee  
25 January 2011

## Has an infectious cancer doomed Tasmanian devils to extinction?

Are Tasmanian devils (*Sarcophilus harrisii*) doomed to extinction in the wild? The infectious cancer known as devil facial tumor disease (DFTD) has killed off as much as 90 percent of the world's Tasmanian devils since it was first observed in 1996 (up from 70 percent when we [last wrote about the species](#) nine months ago). Scientists now estimate that only 2,000 of these iconic creatures remain in the wild.

DFTD is highly infectious. Once it appears, the cancer destroys the animal's mouth, filling it with tumors that make it impossible for the animal to eat. Starvation and death follow within three to six months. Transmission is easy, because devils frequently bite one another on the mouth during mating or while fighting for territory.

No DFTD cure or vaccine exists, despite intensive research to try to stop the spread of the disease. It has apparently now mutated into 13 different strains, according to a report from [Sky News](#).

Right now, the animals' only hope lies in isolating disease-free captive populations. A few such sanctuaries have been built in the last couple of years. The newest of these isn't even on the island of Tasmania: The 500-hectare Devil Ark in Barrington Tops opens this week in mainland Australia, and could eventually house up to 1,000 devils. The first 15—five males and 10 females—arrived at the new conservation site on Tuesday.

Devil Ark founder John Weigel told the [Newcastle Herald](#) that only the first stage of the project has been funded, and more money will be necessary to keep it operational and build more housing for additional devils. The [first \\$350,000](#) to fund the program was allocated through the Australian government's [Save the Tasmanian Devil Program](#), which also provided grants to two programs on Tasmania.

Australia's [Healesville Sanctuary](#), located 65 kilometers from Melbourne, already has one of the world's the largest breeding populations of captive Tasmanian devils, with 66 healthy (DFTD-free) animals. The sanctuary had 24 devil births last year and hopes to increase its population to 120 animals by the end of 2012. The devils at the site are all kept in pens, although larger, free-range enclosures are being built.

"If we keep on breeding these guys and maintaining their genetic diversity, we will hopefully be able to release them back into Tasmania one day," Healesville's Annalise McLeish told [The Age](#). "If they do become extinct in the wild, the idea is that those in captivity can go in and get the population up and running again."

From: [http://www.scientificamerican.com/blog/post.cfm?id=cancer-tasmanian-devils-extinction-2011-01-18&WT.mc\\_id=SA\\_WR\\_20110120](http://www.scientificamerican.com/blog/post.cfm?id=cancer-tasmanian-devils-extinction-2011-01-18&WT.mc_id=SA_WR_20110120)



Photo: Tasmanian Devil Joeys  
Margaret Kalms

Devil Ark is exciting news for Tasmanian Devils. Devil ark are building a healthy population safe from DFTD with enough space to expand and prosper. If devils become extinct in Tasmania, then presumably, DFTD will also become extinct. Healthy devils can then be re-introduced.

This is a bold project worthy of our support. For more information, visit;

<http://www.devilark.com.au>

Margaret Kalms - Editor



# Crystal Clear Concert

## Carey's Cave Wee Jasper



The next Crystal Clear Concert will be held at Carey's Cave, Wee Jasper at 5:00pm on Saturday February 12th.

This is a great experience for those interested in geology or simply to enjoy an interesting concert.

"We take great pleasure in presenting the original compositions of The String Contingent. Fresh from a tour of the UK, Holly, Chris and Graham perform exciting instrumental pieces that draw inspiration from celtic, classical, jazz and bluegrass music. Their dynamic approach to violin, guitar and double bass will transport you into a different world within our underground environment."

For bookings go to: <http://www.weejaspercaves.com/crystalclearconcerts.html>

---

## Tammar Wallaby Mortality

Mortality events have been reported in captive Tammar Wallabies (*Macropus eugenii*) in the Canberra (ACT) and Newcastle (NSW) region over the past 2 months.

Location: 1 reserve and 2 research and breeding facilities in Canberra, ACT and 1 research and breeding facility at Newcastle, NSW.

Mortality rates: ranging from 25 - 40% of total populations, ongoing mortality in some populations, no obvious age or sex predilection.

Population husbandry: No recent changes in husbandry for any of the populations concerned, multiple large enclosures affected, only tammars effected despite co-location with other macropods in some instances, reportedly high incidence of mosquitoes, midges and rats in some locations.

Clinical signs: sudden death, moribund and paddling (rare).

Tammar Sudden Death Syndrome (TSDS) has been documented in multiple outbreaks of mortality in Tammar Wallabies from NSW, QLD and ACT since 1998.

The causative agent has been identified as a virus from the Orbivirus genus. Orbiviruses may be spread by midges and mosquitoes and mortality events are associated with the increase in biting arthropods following periods of high rainfall.

Submitted by Chris Bunn.



Photo: Tammar Wallaby Gerry Pearce;  
<http://www.australian-wildlife.com/Kangaroo%20Island.htm>

**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 the member application below and send it with your subscription to the FNAC Treasurer, GPO Box 249 Canberra, ACT 2601:

**President:** Chris Bunn, Ph: 02 624 2968  
Mob: 0417 407 351

**Secretary:** Tony Lawson, Ph: 02 6161 9430  
[fieldnaturalist@yahoo.com.au](mailto:fieldnaturalist@yahoo.com.au)

**Website:** <http://www.fieldnatscanberra.com>

**Newsletter editor:** Margaret Kalms [margaret@ecospirit.com.au](mailto:margaret@ecospirit.com.au)  
Mob: 0414 652 567

Published and distributed by Bob Lehman.



**Monthly meeting venue:** Division of Botany and Zoology, Building 116, Daley Rd, Australian National University. Park (occasionally at the adjacent Building 44).

Meetings start at 7:30 pm and are followed by refreshments.

**MEMBERSHIP APPLICATION OR RENEWAL**

Family name: ..... First name: .....

If a family membership, please include the first names of other members of the family:

.....

Postal address: .....

Suburb: ..... State: ..... Postcode: ..... Home phone: .....

Work phone: ..... Email address: .....

Subscription enclosed: \$.....(Single/Family \$25) Donation: \$.....

How did you hear about FNAC? Please circle: FRIEND? OTHER? Please specify: