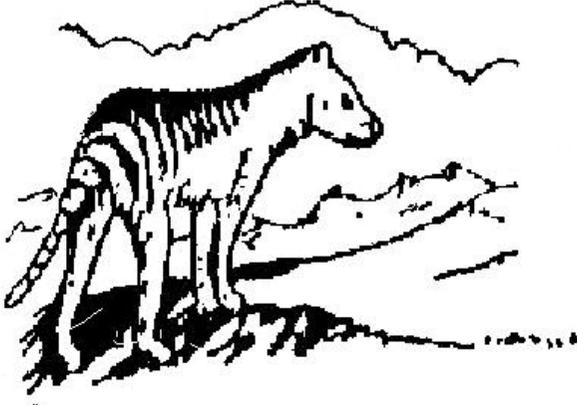


THE LAUNCESTON NATURALIST

Issued to members of the Launceston Field Naturalists Club as a contribution to club activities.



The aim of the Launceston Field Naturalists Club is to encourage the study of all aspects of natural history and to support the conservation of our natural heritage

Volume XLIX No. 3

February/March 2016

Patron	:	Professor Nigel Forteach
President	:	Mr T Treloggen, 68 Mulgrave St Launceston, 0408 341 397
Vice President	:	Ms J Handler, 52 Entally Rd Hadspen, 6393 6603
Hon. Secretary	:	Mr N Manning, 46 Robin St Newstead, 6344 2277
Hon.Treasurer	:	Ms K Manning, 46 Robin St Newstead, 6344 2277
N'letter Co-ordinator	:	Ms K. Manning
Librarian	:	Ms T McGlynn
Committee	:	Ms Campbell, Ms McGlynn, Mr Geeves, Mr Ralph, Mr Elliott, Mr Warren

Meetings 1st Tuesday of month, Feb-Dec at Scotch-Oakburn College, Penquite Rd Newstead

PROGRAM

APRIL

- Tuesday 5 **General Meeting ~ Guest speaker Kathryn Pugh ~
*Water monitoring***
- Tuesday 12 **Field Trip ~ East Beach at Low Head ~ Rockpools
and beachcombing**
- Saturday 23 **Fungi at Skemps with Genevieve Gates and David
Ratkowsky**
- Saturday 30 **Skemp Day ~ Water monitoring**

MAY

- Tuesday 3 **General Meeting ~ Guest speaker Megan Dykman ~
*Coral of the Tamar Estuary***
- S **Field Trip ~ To be advised**
- Saturday 28 **Skemp Day ~ Fungi and Social day**

JUNE

- Tuesday 7 **John Skemp Memorial Lecture ~ Guest Speaker
Dr Jennifer Lavers ~ *Plastic pollution in our oceans***
- S **Field Trip ~ To be advised**
- Monday 20 **Social Evening ~ Christmas in June ~ venue to be
advised**
- S **Skemp Day ~**

To see the full January to June 2016 program visit

<http://www.lfnc.org.au/meetings.htm>

Skemp Report February/March 2016

There has been little growth in the grass at Skemps, although enough for Grant to take the mower out, and if nothing else, make the walking tracks through the grassed areas stand out.

A spring broke on the ride on mower and replacement was proving difficult until Peter Warren stepped in and repaired it. Thanks Peter. The outside toilet was damaged by a falling tree and this has been repaired by a combined effort from many people. Neighbour Murray moved the building out into the paddock, John did most of the structural work, Rob felled the trees that threatened the building in the future and Rob and I replaced the roof. The roof is mostly iron with a strip of polycarbonate sheeting up the middle thanks to a donation of the material by Peter Ralph. Again thanks Peter. Thanks to Murray the building was moved back into position with amazing skill and little damage to the structure especially after some careful and skilful work by John.

Although I am trained to use a chain saw, I prefer if others handle the machine and thanks to Rob and Roy and their chainsaw skills many track blockages have been cleared. These include three from the Forest Track to the Bottom Falls, two from there to the Top Falls and three on the Zig Zag track. On the last couple Roy was assisted by Louise.

Two successful Skemps Days saw much work done around the Centre. On Saturday 20 February work done included painting by John, the foam cleaning of the carpet, the much needed washing of cups and glasses by Kath and Geraldine, some impressive cleaning by Andrew in preparation for painting and many other tasks by those in attendance. On Sunday 20 March the work concentrated on track maintenance as above in the Skemp Report. Other attendees spread out to clear bracken and other undergrowth from the tracks, and reported areas too dense for hand tools. John made a great start on the slashing of many of the tracks on the following Tuesday.

On Tuesday 22 March, I cleared the drain pipe at the Centre end of Skemps Road while Rob and I cleared the drain along the driveway. Later in the day saw a visit to Skemps by Kerry and Keven, who will quote on the digging of a better drain along parts of Skemps Road to improve water runoff, especially during heavy rain.

Over the Easter weekend internal doors in the building were painted and a lighting issue was sorted out and a second looked at for future work.

Please note any track blockages that you have encountered in the 'Problems Book' so that they can be followed up.

Noel Manning

Puggle

February ~ John showed members a slide of a coastal area with an island in the background and asked them to say where it was. While Louise suggested it was in the north west of Tasmania, Karen correctly identified it as the shore near Rocky Cape and it was agreed that we could not identify the small island. This led John to his other picture which was of *Banksia serrata* which only grows in this area in the wild.

March ~ Louise asked members to identify the two frogs on the screen and to say how many Tasmanian native frogs there are. Using her iPad she let us listen to their familiar calls and they were soon identified as the brown tree frog, *Litoria ewingii*, and the eastern banjo frog, *Limnodynastes dumerilii*, and it was correctly stated that there were 11 frogs native to Tasmania. John, Prue and Lynne answered individual parts of the question and Lynne will be presenting the next Puggle.

Sightings

February ~ Tina told us that, for a small urban waterway, Queechy Lake was an excellent place for birds. She had seen swamp harriers looking for prey in the area and saw one trying to take a dead cormorant away. Lois had seen three sea eagles at Legana, Peter (W) a possum for the first time at Ben Lomond, Tom (T) had seen a grey goshawk and Judith said that her son Nick had seen a white lipped snake. Peter (L) told us that January had been good for all sightings and that he had seen a tawny frogmouth, white goshawk and an eastern barred bandicoot. John told members that Grant had seen a red spotted jezebel butterfly and the identity had been confirmed by Nigel Forteach.

March ~ Tina noted that one baby royal spoonbill has gone from the nest, presumed dead, and there is a cormorant in there while the other baby spoonbill is doing well. Tina also saw three nankeen night herons at the lake. Karen reported a mountain dragon at Mt Roland. John had seen two new holland honeyeaters on correa here at Scotch Oakburn and Lynne tadpoles near the surface of water in Machens reserve during rain. She wondered why they were on the surface surmising that maybe there was more oxygen during rain after the dry spell. There were frogs as well and she said these were the same as those in the Puggle. Mike saw 100 plus sulphur-crested cockatoos near home and Tom (T) suggested these were not native. Prue and John both added that there was some doubt about this and that they may be natives not seen much during early settlement. Numbers greatly increased soon after due to European agriculture.

Library Report ~ Tina reported that the Club had received newsletters from other clubs and had the new edition of *Skulls* published by the QVMAG and a copy of *Health, wealth and tribulation: Launceston's Cataract Gorge* had been secured.

General ~

The Year That Was ~ Prue asked that members provide images following each field trip. Could you please reduce the images to 200-400KBs in Photoshop or made to "documents" size in Microsoft Office Picture Manager. They can be emailed to Prue at redgum101@gmail.com or given to her on a USB at a meeting or field trip.

2017 Calendar ~ Winners of the photo competition in December 2015 and other members who submitted entries, are requested to forward a copy of their image to John for consideration for inclusion in the calendar. They can be emailed to him at john_elliott_10@hotmail.com or given to him on a USB.

Fungi Foray with Genevieve Gates and David Ratkowsky ~ **Saturday 23 April**

Genevieve and David are hiring Skemps over the long weekend in April for a fungi foray with a student. They have extended an invitation to our members to join them on Saturday commencing at 10am sharp.

We will be collecting specimens prior to lunch followed by an afternoon workshop to draw and describe the fungi collected with the help of our hosts. This is a wonderful opportunity to meet specialists in the field and learn from them about fungi.

GENERAL MEETING FEBRUARY ~

GUEST SPEAKER ~ Dr Frances Mowling ~

Soft sediment coasts, sandy shores, sand dunes, marshland and estuarine shores

Judith introduced Frances whose talk would look at the impact of climate change on the soft sediment coasts of Tasmania. The talk was titled *Soft sediment coasts, sandy shores, sand dunes, marsh lands and estuarine shores* and Frances started by telling us that she had been involved in a coast line assessment looking at the effects of sea level rise from Cockle Creek all the way through to Greens Beach covering the NRM South and NRM North areas. She considered Tasmania vulnerable due to the amount of coast and the tendency for the soft sediments to retreat. She described both sandy shores and dunes as prime habitats and dunes are a buffer modifying the land to the lee of them.

The key influences on soft sediment coasts are the exposure to wave energy and the prevailing wind speed and direction as well as the availability of sediment and its grain size and that it is vulnerable to rising sea levels. A survey by Davies in 1978 sampled 500 beaches around Tasmania and on this information he produced seven sediment compartments.

There are predominant south west ocean currents around Tasmania and Frances pointed out that there is an accumulation of material to the lee of King and Flinders Islands resulting in shallower waters. The prevailing currents move north on the east coast forming small shallow embayments up to Freycinet.

A description was given of soft landforms as embayments, beach embayments, beach sediment, transgressive, parallel and fore dunes, spits, tombolo and isthmus. All are repetitive, regular geometric landforms formed in response to the influences mentioned. Waves are a factor in soft sediment coast building and Frances told us that the length of the fetch influenced the wave energy and the amount of sediment deposited. Fetch was the clear distance the wind drives across an expanse of water building energy as it goes. Southern areas with sheltered coasts include Dripstone Point to Woodbridge to Snug and Port Cygnet, Egg and Bacon Bay to Gardners Bay while swell dominated coasts with good sediment source included Cloudy Bay, Adventure Bay North, Seven & Nine Mile Beaches, Wine Glass & Courland Bays and Red Bill Beach.

Frances spoke of the swell dominated coast line of Tasmania and said that some areas are protected by being on the lee of the dominant swells producing large sheltered, shallow water bodies. This happens to the lee of Bruny Island while the east coast of Bruny is dominated by the large swell and has areas of sheer cliffs with little deposited sediment. Frequent changes in sea level and the dominant swell produce the many areas of tessellated pavement on the east of Bruny and in that south eastern corner of Tasmania.

Frances described the large scale coastal landforms as follows; **spit** – a narrow accumulation of beach and dune deposits with one end connected to land and the other extending into a large body of water, **tombolo** – A bar or spit connecting an island to the mainland, **isthmus** – A narrow spit connecting two areas of land, **river delta** – fluvial sediment transport and deposition., **estuary** – Members nominated the Tamar as a local example, **tidal delta** – marine/tidal sediment transport and deposition, typically at the ends of a tidal channel, **lagoon** – a body of water impounded, intermittently or permanently separated from the sea or a body of water tidal connected to the sea by an open tidal channel, and other **areas subject to inundation** – areas above

the high water mark and/or back shore, generally refers to marshy wetlands.

Frances then described the types of dunes we encounter along our coast starting with the **foredune**, the dune at the back shore of the beach while parallel or **secondary dunes** are those behind the foredune and **transgressive dunes** are the mobile dunes which require an abundance of sediment and strong onshore prevailing winds.

Her slides showed pictures of coastal areas from Tasmania and pointed out the features she had previously described before moving onto coastal dune management.

Frances started by repeating that dunes act as a buffer protecting the hinterland and we viewed slides showing the causes of erosion and were then told of the human impact. Of particular interest were the introduced grazing animals, prolonged drought from climate change, off road vehicles and the alignment of access tracks to the beach (pedestrian and vehicle).

Frances then spoke of dune mobility and described the *dune mobility status chart*, starting with 100% vegetation cover produces a fixed dune, 30% to zero vegetation cover will see it as an actively mobile dune while less than 100% down to 30 % the dune is described as transitory.

Government policy is to not allow development in the area of mobile dunes and we were told that due to present development many dunes do not have anywhere to retreat to.

Further slides showed the vulnerability of coastal areas to climate change and Frances had an anecdote of a visit to Port Lincoln and watching as a king tide put the Esplanade under water and during another visit she noted the lack of adequate drainage to go with further development since the previous visit.

There followed around 14 minutes of questions, answers, anecdotes and general chat. Tina gave the thanks and members showed their appreciation. Noel Manning

SALTMARSH SURVEY DAY ~ Saturday 13 February

Four representatives from the LFNC attended a second survey and demonstration day organised by Megan Dykman of NRM North. We met at George Town at The Monument carpark with 20 plus participants who had travelled from many locations around the Tamar Estuary.

In attendance was Vishnu Prahalad, the UTAS researcher leading the project, who provided some background information on the project and the survey methods, and also handed out checklists to record the birds, plants and human impacts that were observed during the survey. Vishnu stressed the importance of the saltmarsh wetlands as a buffer zone between the water and the land, as an important habitat for birds in particular and as a fish nursery in our cold climate, the equivalent of mangroves in the warmer parts of northern Australia.

We proceeded along the river edge walkway and surveyed in an area called the Long Tom Reef Saltmarsh Cluster. We were encouraged to use the checklists provided to get a feel for them, as in the future information we provided from areas we visited needed to contain details as set out in the checklist for data collation. The survey can also be completed via a mobile phone app and many of us downloaded it at the time. The app uses the GPS on the phone to record the co-ordinates of each area to add to the data.

Birds were observed and recorded as we walked the length of the saltmarsh area then, gathering off the walkway on a mudflat we spent some time looking for and identifying the many grasses and saltmarsh plants.

On our return to the carpark, Vishnu located a *Limonium australe*, the rare yellow sea-lavender in flower and called the find “the icing on the cake” for the day.

With other saltmarsh areas within the Tamar estuary to be included in the project, Megan took names of participants who were interested to help.

Finishing later than expected some of us chose to lunch at George Town before heading home.

N & K Manning

Flora ~ *Apodasmia brownii*, coarse twinerush; *Atriplex prostrata*, creeping orache (i); *Austrostipa stipoides*, coast speargrass; *Carpobrotus rossii*, native pigface; *Distichlis distichophylla*, Australian saltgrass; *Ficinia nodosa*, knobby clubssedge; *Gahnia filum*, chaffy sawsedge; *Hemichroa pentandra*, trailing saltstar; *Juncus kraussii*, sea rush; *Lawrenzia spicata*, candle saltmallow; *Limonium australe*, sea-lavender (r); *Melaleuca ericifolia*, coast paperbark; *Phragmites australis*, southern reed; *Plantago coronopus*, slender buckshorn plantain (i); *Rhagodia candolleana*, coastal saltbush; *Samolus repens*, creeping brookweed; *Sarcocornia blackiana*, thickhead glasswort; *S. quinquefolia*, beaded glasswort; *Selliera radicans*, shiny swampmat; *Senecio* spp., groundsel; *Spergularia tasmanica*, greater seaspurrey; *Suaeda australia*, southern seablite; *Tecticornia arbuscula*, shrubby glasswort; *Tetragonia implexicoma*, bower spinach; *Wilsonia backhousei*, narrowleaf wilsonia
(i) = introduced (r) = rare

Birds ~ *Cygnus atratus*, black swan; *Egretta novaehollandiae*, white-faced heron; *Haematopus longirostris*, pied oystercatcher; *Larus dominicanus*, kelp gull; *L. novaehollandiae*, silver gull; *L. pacificus*, pacific gull; *Microcarbo melanoleucos*, little pied cormorant; *Pelecanus conspicillatus*, Australian pelican

Reptiles ~ *Tiliqua nigrolutea*, blue tongue lizard

FIELD TRIP ~ Butterflies and plants at 'Dunbarton' ~ Sunday 14 February

Roy Skabo organised this field trip to Peter Riggall's property Dunbarton at Nabowla as a follow up to the Australian Plant Societies plant survey of last year. Peter had suggested this time of year as there were quite a few species of butterflies on the property.

A joint field trip was held today with 21 members of either the APS or LFNC attending. Simon Fearn who specialises in insects was there to help with the identification of butterflies and insects that we found.

The morning started with Roy introducing the owner Peter who talked about the history of the property, including reading from the original deed of title with its amusing old language. He told us of the original house being built in 1895, his parents moving from Bridport in the 1960's to take up ownership and the property being transferred to him and his wife Lorraine in 2000. When the Riggall's wanted to covenant their property they found it was necessary to include his sister's share of the inheritance on the other side of the river to meet the minimum size requirement. The CAR (Comprehensive, Adequate and Representative) values were

Eucalyptus amygdalina, *E. ovata* and *E. viminalis*.

Heading out along a vehicle track the first butterfly caught was identified as the shouldered brown. Walking down to the flats along the river, Simon was lifting every fallen limb and was finding lots of beetles. At the flats, the grasshoppers and locusts were all about us. From here we headed in different directions noting the plants or trying our luck with the nets to get a better look at the flying insects. There was a light wind which made taking photos a problem. At the Little Forestier River, one of the property boundaries, the gentle sounds of the flowing river and the beautiful display of ferns along the riverbank, gave it the feel of a very special place.

All the groups met up on the flats below the homestead for a last search for plants and insects and for Simon a fruitless search for snakes before the lunch break. While we enjoyed the sculptured garden junior member Abbie was determined to get wet in the small water feature. From an old seat especially positioned at the end of the feature, you were able to see a reflection of the house in the water.

In the afternoon we looked over an area of the property across the road, where there were a couple of dams. Around the second dam we found many autumn orchids, *Eriochilus cucullatus* and a hyacinth orchid, *Dipodium roseum*, and Roy found a yellow flowering bladderwort, *Utricularis* sp in the dam. Continuing along the hill we saw dogwood and wattle species before we took a turn which returned us to the roadway. Here we proceeded up a track onto a hill with trees that towered over us and very little undergrowth. The usual bird calls could be heard echoing overhead, although with no 'birdos' on hand, their identity remains a mystery. A dam which was full of reeds came into view as we got back on to flat ground, along the length of the dam wall an attractive coral fern was growing profusely.

We had a gentle climb back up another hill to return to the homestead, where we helped our host disassemble a tent and stack the outdoor furnishings he had put out for our use. The day was a success with Simon identifying a large number of insect species and it was suggested that we return for another look.

Dicots ~ *Acacia dealbata*, silver wattle; *A. melanoxyton*, blackwood; *A. stricta*, hop wattle; *A. terminalis*, sunshine wattle; *A. verticillata*, prickly moses; *Acaena novae-zelandiae*, common buzzy; *Acrotriche serrulata*, ants delight; *Allocasuarina littoralis*, black sheoak; *Argentipalium dealbatum*, white everlasting; *Banksia marginata*, silver banksia; *Billardiera longiflora*, purple appleberry; *Bossiaea cordigera*, wiry bossiaea; *Bursaria spinosa*, prickly box; *Centipeda elatinoidea*, spreading sneezeweed; *Clematis aristata*, mountain clematis; *Coprosma quadrifida*, native currant; *Epacris lanuginosa*, swamp heath; *Gonocarpus micranthus*, creeping raspwort, *G. teucroidea*, forest raspwort; *Goodenia lanata*, native primrose; *Hovea heterophylla*, winter purplepea; *Hypericum gramineum*, small st johns-wort; *Leptomeria drupacea*, erect currantbush; *Leptospermum lanigerum*, woolly teatree; *L.scoparium*, common teatree; *Mazus pumilio*, swamp mazus; *Melaleuca ericifolia*, coast paperbark; *M. squarrosa*, scented paperbark; *Olearia lirata*, forest daisybush; *Oxalis perennans*, grasslands wood sorrel; *Parsonia brownii*, twin-ing silkpod; *Persoonia juniperina*, prickly geebung; *Pimelea drupacea*, cherry riceflower; *Pomaderris apetala*, common dogwood; *P. elliptica*, yellow dogwood; *Sprengelia incarnata*, pink swampheath; *Stellaria flaccida*, forest star-wort; *Utricularis ? gibba*, bladderwort

Monocots ~ *Austrostipa rudis* ssp *australis*, southern speargrass; *Carex appressa*, tall sedge; *Cyperus lucidus*, leafy flax sedge; *Dianella tasmanica*, blue flax lily; *Dipodium roseum*, hyacinth orchid; *Eleocharis sphacelata*, tall spike rush; *Empodisma minus*, spreading rope rush; *Eriochilus cucullatus*, autumn orchid; *Gahnia grandis*, cutting grass; *Isolepis* sp., clubsedge; *Lomandra longifolia*, sagg; *Microlaena stipoides*, weeping grass

Ferns ~ *Asplenium flabellifolium*, necklace fern; *Blechnum watsii*, hard water fern; *Dicksonia antarctica*, manfern; *Gleichenia dicarpa*, pouched coral fern; *G. microphylla*, scrambling coral fern; *Polystichum proliferum*, mother shieldfern; *Pteridium esculentum*, austral bracken

Mosses ~ *Sphagnum austral*, sphagnum moss; *Selaginella* sp., club moss

Birds ~ *Petroica multicolor*, scarlet robin

Insects ~ *Asura cervicalis*, spotted lichen moth; *Backobourkia heroine*, orb-web weaving spider; *Bobilla* sp., grassland pygmy cricket; *Bombus terrestris*, bumble bee; *Dasybasis* sp., march fly; *Deuterodiscoelius* sp., potter wasp; *Dichrochile* sp., ground beetles; *Echthromorpha* sp., parasitic wasp; *Gastrimargus musicus*, yellow winged locust; *Gryllotalpa* sp., black mole cricket; *Heteronympha merope*, common brown; *H. penelope*, shouldered brown; *Latrodectus hasselti*, red-back spider; *Myrmecia forficata*, inchman; *Myrmecia pilosula*, jack jumper; *Onthophagus* sp., native dung beetle; *Phaulacridium vittatum*, wingless grasshopper; *Tenodera australasiae*, purple winged mantis; *Tinganina dimorpha*, shield bug; *Vespula germanica*, European wasp

SKEMPS DAY ~ Late spring clean ~ Saturday 20 February

In wonderful late summer weather, 12 members, accompanied by two junior members, cleaned and spruced up the Centre. The plastic chairs stored outside were washed, interior and exterior of the building was de-cobwebbed, windows painted and the toilet doors cleaned and painted. The cups and glasses in the cupboard were washed, windows were cleaned inside and out, the area around the BBQ tidied up, the carpets foam cleaned and vacuumed and although it no doubt performs no better, the exterior of the combustion stove looks clean and tidy.

The effort put in by all members in attendance was fantastic and much appreciated. At lunch the BBQ was fired up and all took time out to cook their food and sat outside to eat while enjoying each other's company.

The day was long but we got a lot of work done, however much is still to be done on Tuesday by the volunteer group, who will have to put all the furniture back in place, as the carpet should be dry by then.

Karen Manning



***Tinganina dimorpha*, shield bug seen at Dunbarton**



***Sarcocornia quinqueflora*, beaded glasswort seen at many locations during saltmarsh monitoring**



Some of the Federation participants ready to walk around Lake Dove



***Phaeolus schweinitzii* fungus at Skemps,
Tina thought it was a beret**

GENERAL MEETING MARCH ~ Members Night

The member presentations started with a slide show by Rob and as usual it was accompanied by pleasant background music. His presentation titled *Lake Pedder, Then and Now* started with images of the lake prior to the flooding.

We saw the familiar pink Quartz sandy beach blending into the shallow, tea coloured, waters of the lake and in the background the two nearby mountains, Scott's Peak and Mount Solitary, which would become islands after the flooding. We saw human activity on and around the lake including planes on the ground and on the wing.

Rob considered the original lake too shallow and he preferred the new version and although it is known for having a constant water level, due to it being an impoundment and diversion lake, Rob had seen it rise about a metre after 3 days of rain.

His images, old and new, all showed cloudy skies and choppy water as he said that in all his trips to the lake he had only seen a few hours of sun shine.

The last part of the slide show was the new lake, the surrounds, including magnificent mountain views, and the flora of the area.

Members showed their approval and Judith prepared her presentation.

Judith started with images of Devils Gullet from a bush walking trip there some years ago and a recent field trip where we encountered snow. This was followed by internet images used under the Creative Commons licence and we saw the devastation of the recent fires. The Club had planned to visit the area to look for the changes in vegetation as we moved through various micro habitats on the road up to the lookout.

This was out of the question as, not only is the road closed, much of the area has been badly damaged by fire and it had been suggested it may not recover.

Aerial pictures showed considerable damage and a blackened earth while through the close up images we saw that all was destroyed except for a little green in a few button grass plants remaining.

For her second presentation Judith told us of the hormone disruption being noted in animals, including humans, fish and fish eating predators, over the last ten years and tentatively attributed this to around 800 chemicals known to or suspected of being capable of interfering with hormones.

There is an increase in endocrine-related disorders in humans, endocrine-related effects in wildlife populations and the identification of chemicals with endocrine disrupting properties linked to disease outcomes in laboratory studies were the three pieces of evidence for this problem.

For humans some countries are seeing an increase in low semen quality in young men, genital deformity, adverse pregnancy outcomes, neuro-behavioural disorders in children associated with thyroid disruption, an increase in endocrine-related cancers, a trend towards early onset of breast development in young girls and an increased prevalence of obesity and Type 2 diabetes.

She mentioned reproductive problems and immune system compromise being noted in various animal populations including seals, otters, and dolphins, black, brown and polar bears, white footed mice, meadow voles, cotton rats, birds, including raptors and fish eaters and molluscs and fish as well.

She noted that some of the effects are subtle and the changes may not show up till the second generation. It had been noted that countries which did not ban the early

anti fouling chemicals for ships hulls still showed signs of these changes to animals in their waters while those countries where the chemicals were banned had shown an improvement. Members showed their appreciation.

As we headed off for supper, Tom invited members to head outside and check out the strange glow in the dark just off the veranda. Prue had set up a black light under a tree on a white sheet. Members stood around, chatting and watched as a variety of ants, flying insects and a cricket were attracted to the area.

Noel Manning

FEDERATION WEEKEND ~ GOWRIE PARK **Friday 11 - Monday 14 March**

Representatives from the Central North, North Eastern, Tasmanian and Launceston Field Naturalists groups travelled to the Gowrie Park Wilderness Village for a weekend of meeting and socialising with other naturalists and to explore the plant communities in nearby alpine areas.

After the evening meal Judith outlined our program over the weekend and a departure time was set for the next morning. Before we headed to bed, Erika Cox gave a talk on Lyme Disease.

Erika introduced herself as a microbiologist with an interest in Rickettsia and told us that tonight she would talk on Lyme disease. Both Lyme Disease and Rickettsia are passed from the host animal to humans by ticks. She also stated that she had previously spoken to us on the Flinders Island Spotted Fever, a rickettsia disease hosted by reptiles, first diagnosed on Flinders Island.

Referring to notes she told us that Lyme disease was not considered to be in Australia although cases had been diagnosed here in a patient recently arrived from overseas.

Erika went on to describe the various symptoms, starting with the erythema migrans, an expanding area of redness around the bite site, which is neither painful nor itchy. It is also known as a bull's eye rash as it can have an inner and outer circle reminiscent of a bull's eye.

Other early symptoms include fever, headache and feeling tired while lack of treatment can lead to more severe symptoms such as paralysis of the face, joint pains, severe headaches with neck stiffness or heart palpitations. Joint pain and swelling may occur months or years later, and occasionally, people develop shooting pains or tingling in their arms and legs. Some people have joint symptoms and tiredness even after appropriate treatment. The variation and drawn out onset of symptoms makes diagnosis difficult and the disease can be confused with other medical problems.

The disease is caused by the borrelia bacteria of the northern hemisphere. Eric's told us that there were three types of borrelia bacteria in Europe and that one of these occurred in North America.

The talk was peppered with questions from the audience and was well received and those present showed their appreciation. N Manning

Up early the following morning we headed to Cradle Mountain and due to the many visitors converging on the area, our group of seventeen, caught a shuttle bus

to the Dove Lake carpark where we commenced the six kilometre circuit of the lake. The morning was quite warm and doing as our bus driver suggested headed toward the boatshed walking anti-clockwise around the lake. As the track wound up and around the hills, we broke into smaller groups, the fast walkers, slower walkers and the photographers. At a high point on the track we stopped and had lunch, the views here were great, we could see Cradle Mountain, Marions Lookout as well as down and across the lake.

The plants changed as we made our way around the circuit, the most spectacular area was the Ballroom Forest where we saw ancient myrtles and deciduous beech trees, and old twisted trees and logs covered in mosses and lichens.

From the Ballroom Forest the walking track was pretty much all boardwalk, with an occasional area of gravel. The walk back to the carpark was much easier with the consistent walkway rather than traversing areas of washed out track, which we had encountered earlier.

The shuttle bus was a much sort after commodity late in the afternoon so we stood at the bus stop to ensure the remainder of our group returned to our personal transport together. Returning to Gowrie Park, Bob Mesibov had arrived to have tea with us prior to his evening talk. He was very helpful around the barbecue with the large number of wasps wanting our meal. Salads were made to share and members chatted over meals and after meal drinks awaiting Bob's talk.

Bob started with 'Just to remind you what we taxonomists do is we discover and document forms of life and we classify them and we give them scientific names as you can see there. And then we give them another scientific name, and then another one, and another one, and another one. So we are not real popular with naturalists.'

He was pointing to a slide showing a name which, for various reasons, had been frequently changed and at one stage reverted to an earlier name. The slide and his comments greatly amused his audience.

He told us that taxonomists were very focused on a particular group and known for going to strange and exotic places to look for their special organisms. Even so he pointed out that a lot of this work is done by working through museum collections and maybe once a year finding something 'just fantastic', perhaps a new species.

Bob then told us what taxonomists actual do and of the well established procedures for getting a new name up, including a code for nomenclature 'which reads like a lawyer's text book, which tells us how we should go about describing and naming a new species.'

If you have a new species or wish to rename an existing species you have to publish and there are only certain ways of doing that and Bob described the lengthy procedure. You write your paper and described the bug (in his case), you added beautiful illustrations and send the whole lot off to the editor of a scientific journal and they send it off for peer review. After maybe six months you would get the reviews back and revise the paper according to the comments. Another year might pass before the next edition of the journal. This slow process still exists and is used by many to this day.

Bob said that zoological taxonomy had changed 'out of site' in the past 15 years and this is what he would explain to us. The first change is online journals dedicated to rapid publication and the first came in 2001. It was the

New Zealand publication Zootaxa which gets the peer review done quickly and publishes 2,500 papers per year at this stage. The taxonomist can pay for open access allowing their paper to be accessed by anyone online, for it to become part of zoological taxonomy as quickly as possible.

Another publication, Zookeys by Pensoft Publishers of Sofia Bulgaria, first appeared in 2008 and Bob described this as the most advanced scientific publishers in the world. All their papers are open access and include any data and images. This online publication is in html, xml and as downloadable pdf. All of the papers are archived for future reference and the images are available through Wikimedia Commons so that anyone, anywhere, can use them. All papers are rapidly indexed and abstracted and have Facebook, Twitter, Mendeley, Google+, anything to let people know.

According to Bob this is a 'cutting edge publisher, great people to work with and now they have gone even further'. With his Powerpoint presentation he showed us images of the online facilities of Pensoft to submit a paper, starting with the various templates to write your abstract, introduction and references. If the references are already in the Pensoft data base you simply add the link.

The submission exists 'in the cloud' and you can keep a copy on your desk top. You can also collaborate on the paper, allowing more than one person to work on it online. When the submission is completed the peer reviewers log on to look at the work and submit comments. You then change the document and when the reviewers, author and publisher have agreed on the final content it takes only seconds from then to publish.

There were questions at this stage about how the physical evidence was reviewed before Bob told us of another advance in online taxonomy. He noted that with a GPS, modern smart phones and even digital cameras the location of each specimen was accurately known. However in the past the coordinates were often in text and it was difficult to wade through these to note each find. Many publishers demand that the data be in a spreadsheet allowing much easier access. Your positional data can be uploaded to the Global Biodiversity Information Facility (GBIF), which first appeared in 2004, 'and which is acting as a giant, freely available, encyclopaedia of where everything is on the planet.' This data can also be uploaded to the Atlas of Living Australia and all this is independent of the paper you submitted.

In 2005 the Biodiversity Heritage Library (BHL) process was started which digitised and made available online and free much of the old taxonomical literature with up to 94% available up to 100 years ago. Rather than visit a library with a needed resource, or hope that it can be borrowed, much of the information is online and the library will digitise literature you may need if it is available for free.

Bob next spoke of the advances in digital photography to present new finds to the world. First, using freely available software, multiple images of a specimen at different focal lengths could be combined to show the entire animal in focus.

He next spoke of the type specimen, the original specimen first described and stored in a museum somewhere. You may think you have the same species but that is just your opinion according to Bob. To complete your research the type specimen may have to be shipped to you

at great expense and risk to the specimen. Modern digital imaging has replaced this process and Bob told us that an entire draw of specimens could be on the web in such high resolution that you could zoom in on an individual one for a closer examination.

Bob told us of the online site BowerBird where you can upload images of nature with a date, location and time and from here it may end up on the Atlas of Living Australia. He gave an example of an image of a millipede uploaded to BowerBird which he eventually identified as one from Toowoomba now established in a park in the Canberra area.

In 2012 the official body that regulates zoological taxonomy and nomenclature, the International Commission of Zoological Nomenclature (ICZN), started to recognise the online publication of taxonomy. In order to publish and have a species named you need to be registered with the ICZN run Zoobank and Bob used a slide to show that the first naming of a new millipede was recognised as being published online in September and the paper version the following February. Based on the principle of priority, the first describer of this millipede gets to name it. The September online publication is recognised as the official version.

Sounding like a TV commercial Bob again told us 'But there's more' as he described, and demonstrated with a video, the ability of software to create a 3D image of a type specimen that could be seen from any angle from the comfort of his home in Tasmania. From a member question he told us that there were maybe only 100 images involved to get this virtual specimen online. The next slide showed a micro CAT scan of the specimen so that the important internal features could be seen as well which allowed a virtual dissection of the animal.

Bob finished his talk by telling us that although the web publication of taxonomy was super-efficient and fast it also highlighted the lack of taxonomists in the world. Australia and the USA had no university offering a dedicated taxonomy course, while one place in Adelaide and one in Armidale offered one week intensive courses. He also noted that museums were becoming entertainment centres and not replacing research staff who left.

Another issue he highlighted was that real expertise required decades in the field and that he had noted that the most productive years of entomology taxonomists were when they were in their sixties.

Bob next described his rediscovery of two millipedes first discovered in the late 1800s and the 1930s, making these interesting and exciting stories.

There followed over 10 minutes of anecdotes and questions before Judith thanked him and the members showed their appreciation with the usual acclamation.

Noel Manning

On Sunday morning there was a light shower and fog, or low cloud. We travelled to the Lemonthyme Lodge where we walked along the No Name Falls track to the 'Big Tree' loop. Bob accompanied us this morning and told us that the dry conditions were not ideal to find millipedes. Bob told us that although millipedes prefer damp conditions the leaf litter remained damp in ground hollows and at the base of trees. He stood with his back pressed to a large eucalypt and said that he often became wet as the water ran down the tree during the rain. The first scoop of leaf litter produced a millipede and even in these dry conditions Bob had only a few failures as he searched

for his quarry.

Many species of fungi were found during our walk before we returned to the Lodge picnic area for a leisurely lunch. This was followed by the Fernglade walk which took us down to the river through rainforest. Again we found quite a few species of fungi along the river, the sun finally come out as we headed back for a pre-arranged afternoon tea in the Whispering Woods restaurant. We were provided with a cheese platter and three varieties of muffin which we thoroughly enjoyed, washed down with our hot drinks. During the return trip to Gowrie Park, three car loads dropped in to visit the Lake Cethana lookout.

We had an evening meal together at the Black Stump Restaurant located up the road behind the accommodation village. The Ralph's who were unable to join us during the day, came along for the evening. Noel thanked everyone for attending the get-together and then handed over to Tasmanian Field Naturalists Club for the next get-together. Discussion followed regarding the future of the Federation weekends and some suggestions were put forward which will be sent to other clubs for further consideration.

On Monday morning we cleaned up the accommodation, said our goodbyes to fellow naturalists and headed home after an enjoyable weekend in great company.

Lake Dove Circuit

Flora: *Anodopetalum biglandulosum*, horizontal; *Atherosperma moschatum*, sassafras; *Athrotaxis cupressoides*, pencil pine; *A. selaginoides*, king billy pine; *Baeckea gunniana*, alpine heathmyrtle; *Banksia marginata*, silver banksia; ? *Bauera rubioides*, wiry bauera; *Bellenden montana*, mountain rocket; *Billardiera macrantha*, highland appleberry; *Boronia citriodora*, lemon scented boronia; *Cenarrhenes nitida*, native plum; ? *Cyathodes straminea*, spreading cheeseberry; *Eucalyptus coccifera*, snow peppermint; *Eucryphia lucida*, leatherwood; *Hakea sp.*, needlebush; *Leptecophylla sp.*, pink mountain berry; *Leptospermum sp.*, teatree; *Nothofagus cunninghamii*, myrtle beech; *N. gunnii*, deciduous beech; ? *Oxylobium ellipticum*, golden rosemary; *Persoonia gunnii*, Gunn's geebung; *Phyllocladus aspleniifolius*, celery top pine; *Planocarpa sp.*, cheeseberry; *Richea pandanifolia*, pandani; *R. sprengeioides*, rigid candleheath; *Stylidium graminifolium*, trigger plant; *Tasmania lanceolata*, mountain pepper; *Telopea truncata*, tasmanian waratah; *Trochocarpa sp.*, purpleberry; *Utricularia dichotoma*, fairies aprons.

Ferns: *Blechnum watsii*, hard water fern; *Gleichenia alpina*, alpine coral fern; *Grammitis ? magellanica sp.*, finger fern; ? *Rumohra adiantiformis*, leathery shield fern

Bryophyta: *Bunodophoron sp.*; *Cladia retipora*; *Cladina confusa*; ? *C. aggregata*; *Sphagnum austral*

Fungi: *Aurantiporus pulcherrimus*, strawberry fungus; *Fuligo septica*, 'dog's vomit'; *Hygrocybe chromolimonea*

Grass: *Astelia alpina*, pineapple grass; *Garnia grandis*, cutting grass; *Gymnoschoenus sphaerocephalus*, buttongrass

Fauna: *Austrelaps superbus*, copperhead snake; *Crinia tasmaniensis*, Tasmanian froglet; *Rhipidura albiscapa*, grey fantail

Lemonthyme

Flora: *Acacia dealbata*, silver wattle; *A. melanoxylon*, blackwood; *Atherosperma moschatum*, sassafras; *Clematis aristata*, mountain clematis; *Coprosma quadrifida*, native currant; *Eucalyptus delegatensis*, gumtopped stringybark;

Nothofagus cunninghamii, myrtle beech; *Olearia argophylla*, musk daisybush; *Pittosporum bicolor*, cheesewood; *Pomaderris apetala*, common dogwood; *Telopea truncata*, tasmanian waratah

Ferns: *Blechnum nudum*, fishbone waterfern; *B. wattsii*, hard waterfern; *Dicksonia antarctica*, soft treefern; *Histiopteris incisa*, batwing fern; *Hymenophyllum flabellatum*, shiny filmyfern; *Microsorium pustulatum* subsp *pustulatum*, kangaroo fern; *Polystichum proliferum*, mother shieldfern; *Pteridium esculentum* subsp *esculentum*, bracken

Bryophyta: *Hypopterygium didictyon*, moss; *Marchantia* sp., liverwort

Fungi: *Amauroderma rude*; *Armillaria novae-zelandiae*; *Calacera* sp; *Chlorocibiora aeruginascens*; *Fistulina hepatica*, beefsteak fungus; *Laccaria* sp; *Leucocoprinus* sp; *Marasmius elegans*; *Mycena* sp; *M. viscidoeruenta*; *Oudemansiella gigaspora*, rooting shanks; *Scleroderma cepa*, puffball

Millipedes: *Amastigogonus* sp., big black millipede; *Lissodesmus perporosus*, pale flat back; *Gasterogramma psi*, 'harlequin' pattern; *Paredrodesmus taurulus*, tiny pale cylindrical millipede

Annelid: *Fletchamia sugdeni*, canary worm;? *Philaemon pungen*, leech

SKEMPS DAY ~ Sunday 20 March

Eight members travelled to the property for a social day, with some track clearing on the agenda. Over a coffee and due to query from Roy about the Club's herbarium, we looked at the albums put together many years ago by the late Geoff Martin. The dried plant material were specimens of plants on the property which had remarkably kept their colour.

Knowing there were a couple of trees down above the Bottom Falls, Noel and Roy headed off with the chainsaw to clear them up. They also walked to the Bottom Falls then to the Top Falls finding more chainsaw jobs along the way. Tina and Louise walked the Zig-Zag track clearing bracken and branches. They also found an active wasp nest when they got a little lost and went off the marked trail which they reported along with a tree down that needed chain-sawing.

Karen walked the Watergate, Power and Little Forest tracks mainly clearing bracken and branches. There was however an area on each that still required additional attention. Twenty or more, foxglove plants were removed on the Watergate Track.

Tom McG and Irmgard stayed close by the Centre to direct late arrivals to places not already covered by others. When Prue arrived she headed to the Forest track and cleared bracken and broken branches, but stopped when she got to the section where batwing and bracken fern grows over a long section every year. Another job for the Tuesday boys.

The gas barbecue was lit for lunch with only three cooking their meal. While we continued our meals, Louise and Roy finished their sandwiches and took the chainsaw to clear the blockage on a board walk near the big tree. Prue, Tina and Karen headed off to the Tyre track and spent considerable time clearing bracken fern and dead tree fern fronds. We didn't get very far along the flat when we came to a tree blocking the way along with an impassable growth of ferns, so headed back to the Centre for a last chat and coffee.

We also now took the time to investigate the large fungus growing on the driveway. Most of us hadn't seen it on the way in, "how could you have missed it" was what we were asked. Tina thought it was a rusty coloured beret when she first saw it.

It was 22cm wide and about 8cm high, velvety with a central stem. Looking through our fungus books we found a couple of images that looked like our fungi, but the information did not match.

Prue sent two sets of images to Genevieve Gates who has advised that the fungi is a *Phaeolus schweinitzii*, commonly known as velvet-top fungus.

SALTMARSH MONITORING

Over the summer, five club members (Roy, Tom, Noel, Prue and Karen) accompanied Megan Dykman from NRM North to locations on the Tamar Estuary to assist with the saltmarsh monitoring project. Along with other community members, we participated in an additional six visits including a follow up to Long Tom Reef at George Town at high tide, Swan Point, Kelso opposite the rivulet, West Arm North from Massey's Creek and West Arm South from Anderson's Creek.

In each area we observed and recorded the different bird species and the number of each species on the mudflats or rocky outcrops. The saltmarsh plants and grasses along the shoreline were recorded as well as any visible human impacts in these areas. The whole process takes about 100 minutes and involves a short walk on relatively flat ground, although it can be boggy.

This is an ongoing program which should show trends in about 10 years if these areas are being affected by rising sea levels or changes to the inundation regime. The next round of monitoring will not be till the spring. Contact the secretary if you are interested in helping and you will receive e-mail updates as they arrive.

AUSTRALIAN PLANT SOCIETY MEETINGS

LFNC members are welcome to attend APS meetings held on a Tuesday at Max Fry Hall, Gorge Road Trevallyn at 7.30 pm. The next meeting will be on:

April 19 ~ Guest speaker Lee Adamson Ringk ~ '*Plants of Killiecrankie*' private property

May 17 ~ Guest speaker Tom May ~ '*Knowing Australian fungi - from mushrooms to the mycobiome*'. This talk is one of the public events advertised below.

FUNGIMAP ~ Public events ~ Tuesday 17 to Sunday 22, May 2016

Walks, talks and workshops will be held in the north and north-west of Tasmania during the above dates. North-west events are based at or leave from Elma Fagan Hall at Waratah, bookings are essential for walks and workshops.

Visit Fungimap's website for the full program,
<http://fungimap.org.au/index.php/events/fungimap-northern-tasmania-2016>

Additional Information

Club Outings:

1. All outings depart from Inveresk carpark (near Museum entrance) at 9 am unless otherwise specified. Internet site updated regularly to reflect short notice changes. Saturday all-day parking cost is \$3.00. Sunday parking free.
2. You need to provide your own food and drinks for the outing unless otherwise specified.
3. When travelling by car in convoy, each driver is responsible to ensure that the vehicle behind is in sight immediately after passing each cross road or fork in the road.
4. When car pooling, petrol costs should be shared between all the passengers, including family of the driver, and based on other clubs the Committee suggested \$11 per 100 km. This is a guideline only.

Name Tags: Name tags are to be worn at meetings and on outings.

Tea/Coffee: A levy of 50c is currently charged for supper provided at meetings.

Field Centre: All members have access to the John Skemp Field Centre, but should contact our booking manager, John Elliott on 6344 9303 or skempbookings@yahoo.com.au regarding availability and keys.

Field Centre Phone Number - 6399 3361

Postal Address: PO Box 1072 Launceston 7250

Internet site : <http://www.lfnc.org.au>

E.mail : secretary@lfnc.org.au