The Natural News

Central North Field Naturalists

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Introduction

Living as we do with remnant bush that we manage for its natural biodiversity, we take a great interest in what grows naturally. We also take an interest in what grows un-naturally, that is the pesky weeds and introduced animals. As far as possible we try to remove weeds, especially in areas of past disturbance, which we aim to rehabilitate by encouraging indigenous species to re-colonise.

Our home and shed are built on concrete slabs, leaving only our gravel driveway as the only unnatural habitat on our property. This was created on the last day of our home building project by excavating to bare sandy soil, spreading a "road base" gravel foundation and then top-dressing with the remnants of other gravel piles that had been used for different purposes during the building project.

Our drive has the crimch and sweep associated with stately homes, but lacks the manicure! On the third season after the driveway was created, higher plants were growing quite extensively in the driveway gravel, with considerable diversity of species. The hand weeding of earlier years was apparently having minimal impact. Cariosity led to the question: how many species could be found in such an un-natural habitat?

Method

The gravel driveway was walked every morning and evening when opening and shunting the gate. Occasional weeding activities enabled a close-up examination of areas with denser growth of plants.

All observations were casual, sometimes deliberate but not systematic. Plants were noticed from late winter 2010 to early autumn 2011, and any unfamiliar plants followed-up with examination, GPS recording, collection and/or photography. With experience, many species were able to be identified in the infertile state, but some plants were left to flower if identification was not clear. Species were

counted if they occurred in gravel close to the toad edge or near the house. A small part of the driveway is relatively shady to the south of the house where water also tends to pool temporarily after heavy rain, but most of the drive is open to plenty of sunshine.

Results

Seventy-two plant species were recorded growing in the gravel drive during the observation period, (see list pages 3 & 4)

31 of these species are introduced "weeds", while the remaining 41 species are narive to the site, but still considered to be weeds in the gravel! Two species have not been seen elsewhere on the property: the introduced Spergularia rubra and native Cravula tieberiana subsp. tieberiana. 67 of the species were predominantly growing from seed. Three species are assumed to have persisted from rootstock that was overtopped during driveway contraction: Business cinerea, Lomandra longfolia and the only bracken in the list Pteridium esculentum. A further two species had predominantly invaded from the nearby bushland by rhizomes. 59 of the species are herbs, 12 are shrubs, and Eucalyptus awegdalina is the only tree species to have germinated in the gravel. 28 species are annuals and the remaining 44 species are perennials.

Conclusion

The flora list for Rubicon Sanctuary stands at approximately 265 native higher plant species and 108 introduced species, including those restricted to the roadside. Approximately 19% of these species have at least tried their luck growing in our driveway. It would be interesting to benchmark this against other similar sites.

The summer of 2010-11 was very wer, with weed growth continuing all summer. This quite likely encouraged more plants in total and may have accounted for a larger number of plant species found. Despite repeated urging from the owners, no orchid species have yet been observed to grow in the driveway. This is by far the most underrepresented family, given that approximately 40 species of orchid have been observed flowering elsewhere on the property for the last three years.

Family	Species name	Common name
ASTERACEAE	Euchitum sullimus	common cudweed
ASTERACEAE	Euchiton spharicus	globe contonlesf
ASTERACEAE	Gamochaeta calviceps	grey cudweed (i)
ASTERACEAE	Helichrysum luteoalhum	jeney cudweed
ASTERACEAE	Hypochoeris glahus	smooth catsest (i)
ASTERACEAE	Hypachorris radicara	rough catsear (i)
ASTERACEAE	Leantodon tanaxaceides	hairy hawkbit (i)
ASTERACEAE	Olearia ramulma	rwiggy daisybush
ASTERACEAE	Senecia minimus	shrubby fireweed
ASTERACEAE	Senecio prenanthoides	common fineweed
ASTERACEAE	Sonehus asper	prickly sowthistle (i)
ASTERACEAE	Vellereophyson deathasum	white cudweed (i)
BRASSICACEAE	Cardamine birsuta	hairy bittercress (i)
CAMPANULACEAE	Wahlenbergia gravilenta	annual bluebell
CAMPANULACEAE	Wahlenbergia gracilis	sprawling bluebell
CARYOPHYLLACEAE	Ceratium fontanum subsp. vulgare	common mouse-ear (i)
CARYOPHYLLACEAE	Cerestium glomeratum	sticky mnuse-ear (i)
CARYOPHYLLACEAE	Moenchia evecta	erect chickweed (i)
CARYOPHYLLACEAE	Polycarpon testaphyllum	fourleaf allseed (i)
CARYOPHYLLACEAE	Sagina apetala	annual pearlwort (i)
CARYOPHYLLACEAE	Sagina procumbens	spreading pearlwort (ii)
CARYOPHYLLACEAE	Spergularia rubra	greater sandspurrey (i)
CRASSULACEAE	Crassula decumbens van decumbens	spreading stonecrop
CRASSULACEAE	Crassula sieberiana subsp. sieberiana	rock stonecrop
DILLENIACEAE	Hibbertia acicularis	prickly gaineaflower
DILLENIACEAE	Hibbertia procumbens	spreading guineaflower
ERICACEAE	Erica lustranica	Spanish heath (i)
FABACEAE	Boaises cineres	showy bossia
FABACEAE	Lorus suaveolens	hairy birdsfoor-trefoil (i)
FABACEAE	Trifolium dubium	suclding clover (i)
HALORAGACEAE	Gonicarpus micranthus subsp. micranthus	creeping raspwort
LOGANIACEAE	Mitrasacme pilose xur. pilosa	hairy mitrewort
MYRTACEAE	Eucalyptus amygdalina	black peppermint (e)
MYRTACEAE	Енгуопутка патоліціта цьбер, реозглаза	creeping beath-myrde

MYRTACEAE	Leptospermum scoparium san scoparium	manuka
PITTOSPORACEAE	Rhysidosporum procumbens	marys flower
PLANTAGINACEAE	Plantago coronopus	buckshorn plantain (i)
PROTEACEAE	Banksia marginata	silver banksia
ROSACEAE	Acaena mwae-arlandiae	common buzzy
RUBIACEAE	Copruma repens	mirrorbush (i)
RUBIACEAE	Galium munale	small bedstraw (i)
RUBIACEAE	Opercularia varia	variable stinkweed
SCROPHULARIACEAE	Kicksia spuria	bluntleaf toodflax (i)
SCROPHULARIACEAE	Wronica arrenió	wall speedwell (i)
STYLIDIACEAE	Stylidium graminfolium	grass triggerplant
CENTROLEPIDACEAE	Centrolepis strigosa subsp. strigosa	hairy hristlewort
CYPERACEAE	Ficinia malnia	knobby dubsedge
CYPERACEAE	Gahnia grandis	cutting grass
CYPERACEAE	Isolopis levynsiana	fan clubsedge (i)?
CYPERACEAE	liolepis marginasa	little clubsedge
CYPERACEAE	Schoenus apogon	common bogsedge
TRIDACEAE	Romulea rosea var. australis	lilac oniongrass (i)
JUNCACEAE	Juncus bufonius	road rush
JUNCACEAE	Junear capitatus	capitate rush (i):
JUNCACEAE	Juneus pallidus	pale zush
LILIACEAE	Caesia parviflora var. parviflora	pale grandily
POACEAE	Aira elegantissima	delicate hairgrass (i)
POACEAE	Aira praecon	early hairgrass (i)
POACEAE	Austrodanthonia ietacea	brintly wallabygrass
POACEAE	Austratipa flavescens	speargrass
POACEAE	Bromus bordeaceus	soft brome (i)
POACEAE	Depracia quadriura	reed bentgrass
POACEAE	Dichelachne sp.	plumegrass
POACEAE	Digitaria sanguinalis	summergrass (i)
POACEAE	Holeus lanatus	yorlohire fog grass (i)
POACEAE	Lachnagoustis filiformis	common blowngrass
POACEAE	Microlaena stipoides nav. stipoides	weeping grass
POACEAE	Pod annua	winter grass (i)
POACEAE	Tetrarehena distichophylla	hairy ricegrass
POACEAE	Vulpia myuros forma myuros	rationall fescue (i)
XANTHORRHOEACEAE	Lomandra longfidia	sagg
DENNSTAEDTIACEAE	Pteridium esculentum	bracken:



Created from Chuos – a geological trail of 100 sites in Tasmania by Peter S. Manchester, Self-published 2010.

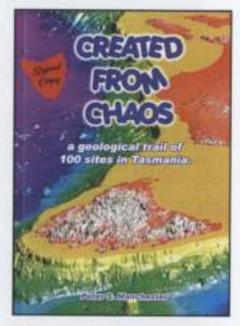
Were you to wander into a local bookshop, pick up this book and read the back cover to see what it's about, you would immediately encounter the following sentence:

Tasmania, its landscape, rocks and tectonic structures is the most misunderstood and less celebrated aspect of the state. [sic]

If you are somewhat of a grammatical pedant (a category in which I fear I must be included) you would probably replace it instantly upon the shelf. However if you also have a strong interest in Tasmanian geology and have been keeping an eye out for something to help you unravel its complexities (another category which includes me) you would probably be willing to open it up to see what it's like inside. After all, the front cover has a wonderfully dramatic picture.

First you might read the Forward [m] by Professor Ross Large, which encourages you to keep the book in your glove box. Then you might note that the list of contents is also a list of the 100 localities of the geological trail, which includes a pleasingly strong representation of places in the north of the state – places whose geology has often interested and confounded me.

Continuing through the Introduction and a section on "What makes Tasmania's geology and landscape different like no other?" you will gain the strong sense that the author is both passionate and knowledgeable about his subject. The passion comes through with sentences in italics and/or bold type with up to 3 exclamation marks and some very strangely placed commas. The knowledge comes through with quite a few geological terms which are not explained. As the author himself suggests, you will need a basic geological dictionary to help you interpret this book. A glossary, it seems to me, would have been a much better idea.



OK - so on to the "chaos sites" themselves. Leafing through to page 25: "...Mt Barrow"

Mount Barrow is a Jurassic dolerite capped plateau with widespread block fields with a sharp summit ridge at the north-east end. Local relief on Mount Barrow is about 60 m and taken the form of lower rounded hills of almost bare dolerite. As with the formation of Ben Lomond, the eastern margin of the Launceston-Basin and involves a series of Northwest – Southeast aligned faults which caused the basin to be downthrown by 300 m (not Mount Barrow uplifted). [sie]

I was doing OK with this explanation until that last sentence. And it's not just the pedant in me that has trouble with disentangling the grammatical mess in order to uncover the meaning. Unfortunately this is not an isolated occurrence – such sentences occur all through the book which has obviously been neither proof-read not edited. Take another example about Eddystone Point on page 63:

This coastal extremity is part of the Eddystone Point coarse-grained biotite adamellite of the Musselroe Suite (S-type) of the Eddystone Batholith.

All confusing (!!!) in context to its identity! most observable people understand it as a granite which is bright red.

It's not just the grammar. It's the constant and thoroughly incomprehensible use of dots, commas, bold type, italies, wildly varying font sizes and constant changes in margin indentation that make this the perfect example of how not to self-publish a book,

This is a great pity as the idea behind the book is a good one, the diagrams are well-drawn and helpful (if sometimes a little small), and the information is generally there if one is willing to negotiate the extremely rugged grammatical and syntactical terrain. Since Darwin's visit Tasmania has fascinated geologists with its uniqueness and complexity, and while there's not much else around to guide the interested amateur in an understanding of this extremely important subject, maybe this book will just have to do!



Highland invertebrates

Twice a year members of Tasmania's field naturalists groups get together for a Federation of Field Naturalists weekend. The different groups take it in turn to organise accommodation and activities.

In early January the Launceston club invited Elizabeth, Tony and Alan Daley to spend the weekend identifying insects at Ben Lomond. Elizabeth (author of Wings: an introduction to Tasmania's winged insects) gave a talk on Friday evening. On the following day approximately thirty field nats collected live insects which were identified by Elizabeth and her son, Tony. Each specimen was photographed before being returned to the field, (see insert and page 8)

Our thanks go to Elizabeth, Tony and Alan Duley and members of the Launceston Field Naturalists Club for organising a very enjoyable and informative event.

Mystery object (page 9)

During the CNFN field trip to the highlands in January we failed to reach our intended destination, Rats Castle. However, Ron and I went there on March 3rd and discovered it is well worth visiting.

While in the area we saw two 30mm long structures (see page 9) about 30 cm apart suspended by webbing in a *Ocothamnus bookeri*. Both structures had identical spokelike decorations at their base.

We checked the structures again during a subsequent visit on March 16th. One of the structures had gone but the webbing was still intact; the other structure was still there.

Please contact me if you know the identity of this 'mystery' object.

Based on the body form, wing venation, and length/thickness of the autennae Tony Daley identified the insect on the object as a psyllid.





(1) fly (Hydrellia cf. victoria) feeding on a chironomid that has failed to properly emerge from its pupae (2) water treading spider approaches (3 &4) spider feeds on chironomid — Ben Lomond January 2011







Northern Snow Skinks - by Sarah Lloyd

Tamania's climate is not conducive to reptilian activity; the relatively few species (18 species of lizard and three species of snake) that occur here are wonderfully adapted to the cool conditions and none more so than the snow skinks.

During a CNFN field outing to the central plateau on January 2nd most of us who had driven from warmer lower altitudes (and especially the visitors from Queensland) added a few layers of clothing before we started walking to Pine Lake. By 11 o'clock with the sun fairly high in the sky, conditions were still chilly but warm enough for a skink to be out basking, its body flattened against the rock to absorb any skerrick of warmth.

The Northern snow skink (Niveotetnew greent) is one of three endemic skinks that dwell in Tasmania's alpine and sub-alpine habitats. It lives in the rocky outcrops of the high country and its great agility enables it to negotiate the vertical and overhanging faces of the dolerite boulders.

In areas of the central highlands where northern snow skinks co-occur with southern snow skink (N. microlepidotus), they occupy the boulder fields while their southern cousin keeps to areas of heath. They have the reputation of allowing close observation, something we witnessed at Pine Lake, a well visited site where they must be used to a constant stream of people passing on the boardwalk. They even tolerate numerous field naturalists taking close up photographs, but to accept food from the hand was something we had not anticipated. When we returned to Pine Lake later in the afternoon we observed one skink snapping unsuccessfully at the numerous mosquitoes buzzing around its head - no wonder it accepted the offered insect!

Northern snow skinks feed mostly on invertebrates including grasshoppers, flies, heetles and winged bullants. Like the other alpine skinks they also take plant material: they have been observed eating the berries of Podocorpus lawrencei and to take nectar from the flowers of Richest app.

The Richess (Family Epacridaceae) are an interesting group of plants that have an unusual adaptation to Tasmania's alpine conditions where most of them occur. Their corollas are ovoid or conical in shape and the lobes do not open like normal petals but form an operculum, a lid-like structure that encloses the reproductive parts of the plant. While this provides protection from the cold, it prevents entry to pollinating insects.





Riches sprengeloides. Left: opercula are lid-like structures that protect the reproductive flower parts of Riches species. Right: all opercula have been removed to expose the stamens to pollinating insects.

As some of us discovered, the opercula, especially the mature dark coloured ones, are full of deliciously sweet necrar. Numerous animals are known to remove these opercula to obtain the nectar, thus exposing the stamens to pollinators.

In a study on Mt Wellington near Hobart (Nature Australia Vol 27 No. 3 Summer 2001-2002) it was found that southern snow skinks assist in the pollination of honeybush (Richea teoparia). They feed voraciously on the nectar after teating open the opercula and unwirtingly exposing the flower parts. On a recent TV programme David Attenborough described the endemic Black Currawong performing a similar function at Cradle Mountain. As the northern snow skink also takes advantage of this food source it too probably plays a role in the pollination of the Richeat.



stag beetle (Lucanidae) feeding on nectar of Riches supparia at Ben Lomond



Northern snow skink (Niseucineas grant)

Keeping the common birds common - Sarah Lloyd

The feathered tribes of Van Diemen's Land are numerous ... The land birds, generally speaking ... are all of them curious and beautiful. The number of the various kinds of parrots and paroquets [sic], clothed in the most beautiful plumage, are almost beyond description ... The pigeons are by far the most beautiful birds on the island ... The birds that may be called game are very numerous, with the exception of the emu ... The quail of which there are three kinds are far more numerous in many parts of the island than the partridge in England ... Snipes are found in great abundance from September to March in the lakes and wet valleys. (J. Büchoff 1832)

The above quote, written by naturalist James Bischoff in 1832, gives an inkling of the abundance of birds in Tasmania not long after the British arrived. More recent writings by ornithologists Michael Sharland and Bob Green also suggest abundance. In 1958 Sharland



The endemic Swift Parrot, a hollow-nesting species only breeds when there is an abundance of flowers on blue gums (Eucaspeus globulus) or swamp gums (E. mara).

described Swift Parrots as 'very common'. It was not known at the time whether they bred around Hobart, or even if they migrated. Now we know that Hobart and other areas in the southeast are breeding hotspots for this bird, and that they do indeed leave Tasmania for the Australian mainland, undertaking the longest migratory flight of any parrot species in the world. Tragically, we now know that they are among the rarest birds in the country.

In 1995 Bob Green described Flame Robins as 'the most widespread robin in Tasmania'. Five years later they were included in The Action Plan for Australian Birds 2000 (Garnett & Crowley 2000) because the frequency of observations declined substantially at the edges of their non breeding range; the reporting rate for Flame Robins more than halved in the twenty years between the first Atlas project run by Birda Australia in 1977-81 and the second, on-going, Arlas.

In 1986-87 extensive surveys of the endemic Forty-sported Pardalote found that the population was approximately 3,520 birds. In 1993-97 Sally Bryant, when reassessing the colonies, concluded that they were secure, indeed flourishing, in certain areas such as Maria, Bruny and Flinders Islands. By 2009-2010 during another assessment, the colonies had crashed. With so much attention focussed on the other species in the growing list of threatened plants and animals in Tasmania "Nobody seemed to notice that the Forty-spotted Pardalote had started to slip away.' (Bryont & Tzaros) But they had. Ecologist Matt Webb detected significant declines during his studies in:2005-2007.

My experience of 'Forty-spota' was virtually non existent until I started surveying birds at Murrayfield on Bruny Island in December 2008. I was keen to check the several colonies known to occur on this large property. At McCrackens Gully, where a thriving population had been observed during previous surveys, I detected only one bird.

As is usually the case, the decline of a species can usually be attributed to more than one factor. The Forty-spotted Pardalote may be one of the first species in Tasmania to succumb to the changing climate. Southern Tasmania seemed to suffer more than other regions during the recent drought; many of the scattered white gums, with which the forty-spots have a very close association, were either dead or dying.

For five years I have been conducting bird surveys at a large farming property at Cressy in the northern midlands and more recently I started surveying birds at a property near Ross. One of the questions I am frequently asked after doing a survey is 'did you find anything rare' Finding rare and threatened species may be the emphasis of a botanical survey, but when doing a bird survey my main objective is to find all the bird species that abould be there.

For any given area in just about any eucalypt forest in Australia there is a range of bird species - a bird assemblage - that should be present. For example, there will be at least one species of fairy-wren (the Superb Fairy-wren in Tasmania). Other birds that you would expect to see include ground foraging species such as scrubwiens and robins; mid storey birds such as thornbills and whistlers, and canopy feeders such as pardalotes and honeyeaters. All these birds have important ecological roles. To paraphrase Nick Mooney who spoke eloquently at the recent Bruny Island Bird festival, it is the common birds that drive the system. They are the ones that consume copious quantities of insects, they are the ones that pollinate the plants and they are the ones that disperse the seeds. (Of course many other species: bass, insects, spiders etc are also involved in these tasks.)

One of my major concerns is that the conservation emphasis on the reservation



Forty-Spotted Pardalote near its nesting hollow on Bruny Island

of vegetation communities (particularly the presence of certain eucalypt species or rare and threatened plants) rather than looking at the whole biota, may be having an adverse impact on the bird species hitherto regarded as common.

This conservation emphasis probably dates back to the introduction of wood chipping in Tasmania and was further exacerbated during the Regional Forest Agreement.

In the early 1970s reserves were based on scenic rather than scientific values. After the publication of Conservation of Major plant communities in Australia and Papua New Guinea by Specht et. al. in 1974 there was an attempt to reserve representative vegetation communities at different altitudes and on different geological substrates. This came about because of the signing of a Memorandum of Understanding between the State and Commonwealth governments which was a condition of Tasmania being granted continuing woodchip licences (Jones et. al. 1999). The Regional Forest Agreement

further attempted to protect under-reserved vegetation communities in a Comprehensive, Adequate and Representative (CAR) reserve system.

But are these reserves adequate for the maintenance of bird diversity? At Connorville south of Cressy I have been surveying bird since 2006. One area, which is classified as 'grassy woodland' has a wonderful array of rare and rhreatened plants, including rare orchids. When I began the surveys it had a reasonably good bird fauna including all four cuckoo species that occur in Tasmania, three species of robin (Flame, Scarlet and Dusky); numerous aerial feeding insectivorous birds such as Tree Marrins and Dusky Woodswallows, But honeyeaters, particularly the common and widespread Yellow-throated Honeyeater and the dry forest inhabiting Black-headed Honeyeater were conspicuous by their absence. Last spring (2010) there were no woodswallows and no robins at this survey site. The area is heavily grazed by introduced and native herbivores (sheep, deer and wallaby) and the vegetation lacks structural diversity i.e. layers; there is very little dense understorey. In fact, the most valuable dense understorey that provides safe nesting sites for fairy-wrens and thornbills is gorse. The landowner, to his credit, is conscientious about the eradication of this invasive plant and between the first and second surveys large patches were eliminated. But this left no habitat for the fairy-wrens.

Another survey site on the property has a conservation covenant because black peppermint (Eucalyptus amygolalina) on sandstone is under-reserved. But the area has very little mid storey and understorey vegetation, the eucalypts are dying and the area is dominated by Noisy Miners, a large aggressive native honeyeater. Consequently it has note of the smaller birds that should occur in such a habitat. My prediction is that this

area will continue to deteriorate because of the absence of these species.

In stark contrast, the healthiest site on the property has no formal protection. It supports a rich bird fauna because it has structurally complex vegetation with many layers present. These layers of vegetation provide birds with places to forage, shelter from inclement weather and predators and safe nesting sites. Birds are not concerned whether plants are rare or threatened, they simply need them to be present!

Not only is there an emphasis on reserving plant communities but also on particular plant species. I came across the following in a paper written in 2003:

The occurrence of endangered plant species has been shown to be unrelated to general remnant condition (Kirkpatrick & Gilfedder, 1995) and these species may require special management that must take precedence over any efforts to improve habitat for non-threatened birds. (Macdonald & Kirkpatrick 2003).

Who is deciding what species are 'nonthreatened'. As far as I am aware, apart from about twelve people who contribute regularly to Birds Australia's ongoing Atlas project, there is very little on-going monitoring of terrestrial species in Tasmania apart from the Sound Idea project and my farm surveys mentioned above. Based on my observations made in the field and by listening to recordings, I would be very reluctant to classify any bird as non-threatened, especially given the rapidly changing agricultural landscape, driven by the unrealistic desire for Tasmania to be the Yood bowl of the nation' and the continuing forestry operations which seem to accelerate whenever there is mention of stopping logging in old growth or high conservation forests.

The history of white settlement in Taimania

is one of exploitation of our natural resources, It is no coincidence that the areas richest in birds and other biodiversity were those areas that were cleared and farmed. By 1830 there were one million hard hoofed animals (mostly sheep) grazing on land mostly in the midlands.

Towns and cities are usually situated near waterways and productive land, so they too coincided with areas of greatest bird diversity. Information gathered during the Sound Idea acoustic bird monitoring project demonstrates that some of the serrled areas retain a rich bird fauna. In fact semi-urban areas within the St Helens township for example now support more native bird species than semi-cleared farmland in the northern midlands.

A recent survey I conducted in the Eastern Tiers near Ross gave me cause for cautious optimism. Sheep, long used as a 'conservation tool' for the preservation of threatened plant species in the midlands, no longer have access to the bush. The eucalypt regeneration after just four years of their exclusion is remarkable; the bird fauna is encouraging.

But I will keep in mind the sentence:

'Nobody seemed to notice that the Fortyspotted Pardalote had started to slip away.'

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Scarler Robin: another species believed to be declining

