

Threatened Plants Tasmania Newsletter December 2016

News flash.

Threatened Plants Tasmania has recently been awarded a Certificate of Appreciation from the Cradle Coast Community Awards.



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Editor: Douglas Clarke

From the President

Inger Visby, December 2016

Time flies, we are already half way through our 2016-17 field trip program. Almost 60 of you have participated in our trips so far this season. If you are not one of them, please don't forget to have a look at the rest of the program in the back of this newsletter, as there are plenty of interesting trips still to come. If you *are* one of the 60 volunteers who have come on one or more trips so far, thank you! We can only do our threatened species work with you involved. We are always keen to hear what you think about our trips, both what you like, and what you think we can do better. Any feedback can be sent to me directly (president@tpt.org.au).

Our spring trips went really well, despite a couple of cancellations due to poor weather, with exciting new finds. This included the aquatic herb *Ruppia tuberosa* that was found at Lauderdale, after not having been seen in Tasmania for nearly 40 years; finding more flowering *Prasophyllum milfordense* than in any previous year; locating big numbers of *Calandrinia eremaea* on two properties in the south east, which may end up affecting the proposed listing of this species; and the unexpectedly large number of *Thelymitra atronitida* that were found at The Neck on Bruny Island, to mention just a few.

TPT trips are not always a gentle stroll in the sunshine, and it is worth remembering that when signing up for a trip, also make sure that you read the trip flier thoroughly. Of course the weather can catch us by surprise, but this is Tassie and we all know that here we can experience several seasons in a single day, and we always need to be prepared for that. Also the terrain can be tough. We often go off-track, in fact we mostly do, and sometimes it is harder than at other times; as the poor volunteers that scrub-bashed in thick teatree on Bruny Island for several hours found out, or the very steep ascent to Mt Amos (and bum-sliding down!). The TPT committee recognises that we need to be as clear as we possibly can about what volunteers can expect on any given trip, and in turn we ask volunteers to be realistic about their own capabilities. That way we can all have fun!

See you out there.

Summer regards, Inger Visby

TPT in the Field

Tolosa Park mapping, 17 September 2016

Inger Visby and Richard Schahinger

The main aim of the day was to map the distribution of the vulnerable shrub *Epacris virgata* (**Kettering**) and assess the status of the population with respect to mapping undertaken for the Wellington Park Management Trust back in 2005. The site itself is very much a northern outlier for the species, the nearest extant site being in the Longley area. The species was found to occupy much the same area at Tolosa Park as in 2005, though plants had been badly affected by the combination of drought and browsing by native animals, with fire a compounding issue for part of the site. A fire trail essentially bisects the population, with about 1300 plants to the north of the road and 200 to the south. Those to the north were typically up to a metre high (albeit spindly), whereas those to the south were mostly less than 20 cm high, the latter a consequence of the area having been burnt in 2007 (a planned burn designed to get on top of spanish heath infestations) &

plants struggling to recover in the interim due to drought and browsing pressure. The species has a flowering peak in mid-October, though a few plants had an occasional open flower making ID a tad easier!

We were fortunate in having Axel von Krusenstierna from the Wellington Park Management Trust along on the day, as well as Stuart Pengelly from Glenorchy City Council (who provided perhaps the most exotic morning tea yet). Discussions are continuing between Threatened Species Section and the land managers as to the best way forward in enhancing the species' habitat and its survival into the longer term.

Coles Bay, 24-25 September 2016

Kerri Spicer and Richard Schahinger

The Freycinet trip had a more non-orchid focus this year and the weather gods weren't on our side, providing one of the wetter TPT trips. We scaled Mt Amos hunting for the endangered *Philothea freyciana* (freycinet waxflower) finding it hidden in granite boulder crevices and on the edges of precipices where there is less browsing pressure. We revisited a number of known plants collecting data on the size and condition of the plants and the number of flowers and buds. One plant was found to have had died from drought stress since the mid 2000s, though this loss was offset by the presence of a seedling at the same site (the first seen!), and also the discovery of two large healthy plants at the base of a nearby granite slab. Less than ideal weather meant we didn't explore as much as we hoped and we missed out on the beautiful views of Wineglass Bay. The Mt Amos track gave us some other threatened flora to admire, including *Epacris barbata* (bearded heath), *Caustis pentandra* (thick twistsedge) and *Lepidosperma tortuosum* (twisting rapiersedge). A smaller group headed off late afternoon and checked on the Lonny Creek *Philothea freyciana* known site on the Hazard Beach Track, relocating some of the known plants and also finding a couple of new ones growing in association with *Lepidosperma* rather than in granite crevices. After a soggy day, the group was grateful for the fire at the Coles Bay backpackers to dry wet gear and a communal indoor BBQ was enjoyed.

The second day dawned fine but there was one last shower to make us all re-don our wet weather gear. We carried on from the work undertaken by TPT in 2013 that had surveyed the *Conospermum hookeri* (Tasmania smokebush) in The Fisheries area (near the walking tracks car park). Following a fire 10 years ago there has been great regeneration and in numbers not previously recorded for this species. TPT's survey work in 2013 produced an estimate of 16,000 plants in a 1.3 ha area, making it the biggest subpopulation yet recorded in Tasmania. How this subpopulation survives and declines post the fire-disturbance is of interest. We trialled the use of a running-mean density transect methodology, although it wasn't found to be especially useful for this population due to the patchiness of plants. Details on the site and vegetation were recorded to better document this threatened flora location, including extension surveys by Richard & Inger of areas not covered in 2013; plants were recorded over an area 6 or 7 ha, including in vegetation dominated by tall tea-tree. Interestingly, *Conospermum hookeri* is still recruiting 10 years after the fire with a number of young plants counted. Some plant death was evident — a presumed consequence of infection by *Phytophthora cinnamomi* — but not in great numbers.

As the day cleared up we went and checked on a known *Philothea freyciana* plant at Cape Tourville and took in the glorious views. A quick explore of the surrounding area didn't produce any additional

Philotheca freyciana plants but the threatened *Brachyloma depressum* (spreading heath) and *Zieria littoralis* (downy zieria) were found.

And a Freycinet trip wouldn't be complete without an orchid hunt, this time focused around the Coles Bay Waste Transfer Station in the hope of finding some *Caladenia caudata* (tailed spider-orchid) or *Caladenia filamentosa* (daddy longlegs). No threatened orchids were found but the *Glossodia major* (wax-lip orchid) and *Diuris pardina* (leopard orchid) were putting on a beautiful display, a solitary *Lyperanthus suaveolens* (brown beaks) was found, and we got to see the threatened *Acacia ulicifolia* (juniper wattle) and *Euphrasia collina* subsp. *deflexifolia* (eastern eyebright), both out in flower. Despite the weather, a most enjoyable time was had in this beautiful part of the world and we collected some good data to help monitor two key threatened flora species.



Philotheca freyciana - photo by Kerri Spicer



Conospermum hookeri monitoring photo by Kerri Spicer

Bagdad, 8 October 2016

Alison Van den Berg and Richard Schahinger

October 8 was a bright day and 8 volunteers set out with Richard Schahinger to a covenanted property at Bagdad to look for ephemeral flora species including *Brachyscome perpusilla* (tiny daisy), *Calandrinia eremaea* (small purslane) and *Hyalosperma demissum* (moss sunray) in the low black peppermint woodland on sandstone, a vegetation community listed as threatened under the Tasmanian Nature Conservation Act 2002. We headed to McGrady's Gully, hopeful that the good recent rains would bring out these species if they were there. We formed into three groups so we could cover as much area as possible and when we met up at the end of the day the result was that the target *Brachyscome* or *Hyalosperma* had not been spotted by anyone, however each group reported finding good numbers of *Calandrinia* but as there was very little flowering material (too early) the identity of many plants remained uncertain, being either *Calandrinia calyptata* or *Calandrinia eremaea*. This prompted a follow-up visit by Richard Schahinger when the plants were in flower in October, and he found solid patches of both *Calandrinias* flowering.

There were other positive outcomes of the field trip; as Richard Schahinger's group climbed and scampered along and up the sandstone gullies they kept a running species list as they went. Matching their list with the survey work done by Kerri Spicer in 2006, 46 additional flora species were added, bringing the total for the property to nearly 150. One of the species added was quite unexpected, the rare annual herb *Parietaria debilis* (shade pellitory) found along McGrady's Gully

where it was growing in deep shade hanging off a precipitous sandstone cliff. This species is typically associated with near-coastal sites on the Bass Strait islands, the Arthur-Pieman and the north, as well as a few sites in the far south and the nearest known site to the McGrady's Gully occurrence is some 20 km to the south at Mount Direction. Another notable find was a discrete patch of woodland dominated by *Eucalyptus tenuiramis* (silver peppermint) on the slopes above McGrady's Gully, a vegetation community listed as threatened under the Tasmanian Nature Conservation Act 2002.

Good outcomes resulted from this trip; as well as adding species information to the Natural Values Atlas, the owners now have a more comprehensive flora report for this covenanted property.



Calandrinia eremaea (pink flowers) Photo Alison Van den Berg

Badger Head Road, 15 October 2016

Robin Garnett and Phil Collier

Twelve TPT volunteers gathered at Ian Mackenzie and Charmian Eckersley's conservation property that adjoins Narawntapu National Park. Our goal was to look for small wetland ephemeral plants but we were a little early them. Their lagoons were brimming with water, so mostly we surveyed damp tracks, edges and scrapes. Ian and Charmian have invited us to return to search again later in the year when the water has had time to recede.



Gail Dennet standing in the wetland where we had hoped to survey for rare ephemeral plants

In the afternoon we moved on to survey for the Shiny grasstree, *Xanthorrhoea bracteata*, in the nearby block owned by the Tasmanian Land Conservancy. We found a small area that had some *X. bracteata* plants, in a very overgrown sedgeland. There was no sign of flower spikes and it was quite difficult to detect plants amongst the thick vegetation. We did a line count of roughly the same informal quadrat twice. The density came out at 1 plant per 8.4 sq. m. and 1 plant per 7.75 sq. m. respectively. It would take a separate day trip to re-confirm area occupied boundaries and densities, which could be any time of year.



Philip Milner, Roy Skabo and Phil Collier looking for *Xanthorrhoea bracteata* in dense sedgeland

Lauderdale, South Arm, Calverts Lagoon, 15 October 2016

Inger Visby (with input from Richard Schahinger)

It was a lovely warm Saturday to be wandering around saltmarshes, something many TPT volunteers seldom do. One of the target species for this trip was the rarely seen aquatic herb *Ruppia tuberosa* (tuberous sea-tassel), currently listed as rare on the TSP Act. *R. tuberosa* is known from only three sites in Tasmania, and was last recorded in the Lauderdale area by our favourite Dr. Winifred Curtis in October 1977. Other target species included *Cotula vulgaris* var. *australasica* (slender buttons) and *Cuscuta tasmanica* (golden dodder).

It became quite an educational day – in our search for the *Ruppia* we learned about coiled flower stems, sickle-shaped turions, and white nodules that turned out to be galls, and we got very excited when, in small saltmarsh ponds, we located what we hoped was *Ruppia tuberosa*. But it was impossible to tell on the day, as the window of opportunity to identify this *Ruppia* sp. is very brief, and we were a few weeks out – we had to wait to find out. It took a follow-up trip a fortnight later to collect ripe fruiting material to allow for a definitive ID to be made of our find – YES it was *Ruppia tuberosa* – first positive ID in about 40 years!

Other successes on the day included extension of the known ranges of *Cuscuta tasmanica* (which strangely really does look like plastic!), and *Triglochin minutissimum*. It was a great day out, thanks Richard.



Left: Volunteers resting next to large patch of *Cuscuta tasmanica* (photo by I. Visby). Right: Coiling stems of the *Ruppia tuberosa* (photo by G. Carle).

Conara and Epping Forest, 22 October 2016

Doug Clarke and Richard Schahinger

Well, we had a good look at the covenanted Vaucluse property east of the Midland Highway, but none of our target *Caladenia* were spotted (*anthracina*, *lindleyana* or *pallida*), this despite the wildfire of November 2014 having burnt almost the entire area and the good winter & spring rains of 2016. *Caladenia clavigera* was found here & there, but the area was surprisingly poor in terms of orchid diversity. All the rain meant that the lagoons on the property were so full that the ephemeral herbs of interest were also thin on the ground, though we did record the occasional *Isoetes drummondii* and *Haloragis heterophylla* (both listed as rare on the TSP Act), as well as the rare annual daisy *Siloxerus multiflorus*.

Much better luck at Tom Gibson Nature Reserve (aside from the unfortunate incident with third-party vehicles at the end of the day), with the dolerite rock pavements near the shearing shed smothered in *Siloxerus multiflorus* (the best I've seen them there), with the rare *Aphelia pumilio* and endangered *Hyalosperma demissum* also present in good numbers. Also stacks and stacks of *Caladenia gracillis* orchids on the way in from the Barton Road entrance, including a four-flowered *Caladenia gracillis*.

So a mixed bag really. Given the past survey efforts on the Vaucluse property by TPT & others, it's fair to say that the chances of finding *Caladenia lindleyana* or *Caladenia pallida* there in the future are extremely slim.

Beechford Road, 23 October 2016

Robin Garnett and Phil Collier

A group of twelve, clean TPT members set out to survey a covenanted property north of Georgetown where there were past records of spider orchids. They emerged six and a half hours later, blackened but buoyant after finding several Paterson's Spider Orchids, *Caladenia patersonii* and more than 25 Tailed Spider Orchids, *Caladenia caudata*.



Tailed Spider Orchid, *Caladenia caudata* (left) and Paterson's Spider Orchid, *Caladenia patersonii* (Photos: Phil Collier)

There were scattered *C. caudata* in places that had been burnt the year before as well as in unburnt places, and a few *C. patersonii* amongst the *C. caudata* at two burnt sites. We also found masses of *Phyllangium divergens* growing in the understory of burnt *Eucalyptus amygdalina* woodland. The wetlands appeared to be dominated by perennials, with little space for wetland ephemerals, but after such a wet year we were probably too early for ephemerals in the wetter places.



Blackened but buoyant: TPT volunteers after a successful survey for spider orchids (Photo: Robin Garnett)

Arthur-Pieman, 22 October 2016

Robin Garnett and Phil Collier

Thanks again to everyone who turned out to survey for *Prasophyllum* sp. Arthur River. We found about the same number of plants as last year at both sites: approx. 75 off-road and 24 on the road side. There is a third site across the road which we will keep an eye on in future years.

On the day Phil had a permit to collect type specimens and duplicates, in order to complete a full formal description of this new species. There were two surprising things: firstly, the fleshy “roots” are a little unusual compared with Nicholls paintings of other *Prasophyllum* spp. in the old “Orchids of Australia”.



TPT survey for *Prasophyllum* sp. Arthur River. Photo Phil Collier

But the biggest surprise for Phil is that the anterior lobe of the column is present in some flowers and absent in others ON THE SAME SPIKE. The anterior lobe does not feature in the description of the genus *Prasophyllum* and appears to be unique to this species. Also the unornamented labellum is unique in *Prasophyllum*.

Phil will keep working on the description, and hopefully will be able to submit the paper by the end of the year.

Pontville, 29 October 2016

Viv Muller and Richard Schahinger

It was an amazing growing season after the rainfall this year during winter and spring, and Pontville was no exception. The Pontville site was burnt earlier in the year (unplanned) and the following wet winter and spring resulted in an impressive array of both native and introduced species.

Our group of 6, led by Richard Schahinger from DPIPWE, first assessed recovery of the threatened species *Cryptandra amara* (pretty pearlflower) and *Pultenaea prostrata* (silky bushpea) along the transects established back in 2009. Following the reasonably hot fire, the *Cryptandra* appears to be re-sprouting well from the old plants, with a few probable seedlings occasionally apparent.

Unfortunately most of the old *Pultenaea* plants appear to be dead, but often with a few adjacent seedlings emerging. Whether the seedlings survive will no doubt depend on future conditions.

Jordan Nature Reserve is also home to the only reserved population of the endangered *Hibbertia basaltica* which is recovering very well post fire.

Grant and Sabine surveyed for ephemeral species, and found *Isoetes graminifolia* at previously recorded sites. They also relocated the solitary *Triptilodiscus pygmaeus* site on the far north side.

The endangered lichens *Xanthoparmelia amphixantha* and *X molliuscula* were also observed. Richard Schahinger thought it

“ the ‘best’ year I’ve experienced at Pontville for a range of ephemerals, viz., *Arthropodium minus*, *Bulbine glauca*, *Drosera sp.*, *Isoetopsis*, *Thelymitra*. (& the soon-to-be-nominated *Calandrinia eremaea* also present in good numbers & flowering well)

...several species new to the reserve were recorded (mostly thanks to Grant’s eagle-eye), four of them in a small ‘artificial’ pond in the reserve’s east:

Anthosacne scaber (formerly *Elymus scaber*)

Limosella australis

Elatine gratioloides

Eleocharis acuta

Galium ciliare

Isolepis marginata

Leontodon rhagadioloides (exotic)

Lythrum hyssopifolia



Calandrinia eremaea Photo Viv Muller

Of course the downside was the lush growth of introduced grasses and the re-emergence of a few weed threats. The work TPT had done (or sponsored along with NRM South) controlling woody weeds in the past, has paid off, as there were very few of



Carol and Priscilla amongst the *Bulbine* lilies. Photo Viv Muller

those re-emerging. (Carol, Viv and Richard removed a few gorse seedlings, and some re-sprouting rose, blackberry and box thorn.) However herbs such as *Reseda* sp (mignonette) and Cape Weed (*Arctotheca calendula*) are new threats taking off, with fumitory and thistles also in abundance.

Township Lagoon, 16 November 2016

Kerri Spicer and Richard Schahinger

After the initial trip was cancelled due to forecast bad weather, three of us reconvened the following Wednesday when the sun was shining for a great day of threatened plants - five threatened orchids plus a plethora of other threatened species, not a bad tally for a day out. We started the day at the Campbell Town Golf Course to determine the growth stage of *Prasophyllum olidum* (pungent leek orchid) to help guide timing for the monitoring of this species in December. There was plenty of the threatened *Prasophyllum incorrectum* (gaping leek orchid) also out in flower at the golf course to admire and for the first time, *Prasophyllum incorrectum* was found growing in the same area as *Prasophyllum olidum*. We had a quick stop at the Campbell Town Cemetery to check on the one *Prasophyllum taphanyx* (graveside leek orchid) in flower this year to see how it was progressing towards fruiting.

Then it was down to the stunning Tunbridge Lagoon where after all the wet weather the lagoon was full of water and the highest numbers of *Prasophyllum tunbridgense* (Tunbridge leek orchid) were recorded in many years. Richard Schahinger had hoped to re-score the threatened plant transects, particularly given the great flowering year, but given there were only three of us this task wasn't possible. We checked on the *Pterostylis commutata* (midland greenhood) and confirmed there were a number of buds coming on this year. The *Leucochrysum albicans* var. *tricolor* (grassland paperdaisy) continues to expand its extent and the *Vittadinia gracilis* (woolly new-holland-daisy) and *Brachyscome rigidula* (cutleaf daisy) were putting on a stunning show of purple flowers. We checked on the recent slashing to reduce seed set of a new weed, white weed found in the central drainage line. And we finished our full day with a little bit of cut and paste on some of the sweet briar on the southern boundary.

The reduction in weeds at Tunbridge Lagoon continues to be amazing. TPT should be proud of all they have achieved in protecting and enhancing this amazing gem in the Midlands. Of course, that would never have happened without Viv and Richard Schahinger's drive and passion and all the help of the TPT members who've got down on their knees to cut and paste.

Bruny Island Neck Game Reserve, 29 November 2016

Viv Muller and Magali Wright

On this occasion we had seven volunteers, along with Magali Wright of NRM South, for the great *Thelymitra atronitida* hunt! Following an initial report in 2015 from an alert bushwalker, Richard Schahinger had supplied us with maps and recommended target areas. We split up into three groups and trawled through some very scrubby terrain, which dictated much of the timing and area surveyed during the few hours we had available. But we surveyed a good representative sample of our target areas. The experts are still wondering about several column variations in the plants queried as 'possible' *T atronitida*, but we did come up with at least 50 confirmed 'classic' *Thelymitra atronitida*. It was a very enjoyable trip, which supplied valuable survey data for NVA, in a new area for the species.



Discussing strategy Photo Viv Muller



One of the potential hybrid *T. Atronitida* column variants Photo Viv Muller

Arthur-Pieman, 3-4 December 2016

Grant Daniels & Viv Muller

Supported by the Threatened Flora Link MOU, Dr Grant Daniels has recently been able to complete a survey of the target species and areas in the Arthur Pieman Conservation Area, originally scheduled for a bumper volunteer weekend on November 12-13, which was cancelled due to a dire weather forecast. However Janine and Vicky were still able to accompany Grant on some of his survey.

At Possum Banks, Grant was able to locate *Vittadinia australasica*, but somewhat surprisingly they were quite sparse and were recorded in lower numbers than our previous count in 2010. Once again no *Euphrasia collina* subsp *tetragona* was seen, but Grant did find about 166 *Scaevola albida* plants (seedlings only), in contrast to 2010 when we didn't find any.

The other major TPT target species had been *Prasophyllum secutum*, which Malcolm Wells thought he might have found in previous weeks, albeit not yet in flower. Grant re-located these plants with Janine and Vicky, and they were found to be still in bud, but it's thought possible that they are *Prasophyllum australe*. So we are still looking for *Pr secutum*...

For those of you who follow Tasmanian Native Orchids group on Facebook (<https://www.facebook.com/groups/447398148693222>), Grant also visited Craig Broadhurst's *Perostylis cucullata* site to collect some habitat notes. And, after the exciting find at Lauderdale earlier in the season, also checked Rebecca Lagoon near Temma for *Ruppia* sp, but without any luck.

Many thanks to Grant for completing this survey.

Weeding and survey at Amy Street, 4 December 2016

Sabine Borgis and Viv Muller

On Sunday 4 December 2016 six TPT volunteers met at this urban reserve to progress with weeding and also to rescore the populations of *Velleia paradoxa* (spur velleia). The weather was absolutely perfect for this. We were delighted that Harry Andrews from Glenorchy City Council came along to see our work and also to get an idea of the extent of weed infestation

in the reserve. While three of our group and Harry went to resurvey the *Velleia paradoxa* populations, the other three knuckled down to weed.

Although the above-average rainfall this winter and spring had produced vigorous growth, especially in exotic annual weeds, it was heartening to see a diversity of natives in flower – besides the target species *Velleia paradoxa* – including *Clematis gentianoides*, *Goodenia lanata*, *Bulbine* sp., *Arthropodium strictum* and *A. milleflorum*, and *Wahlenbergia* sp.

The total number of *Velleia paradoxa* plants counted was about 800, although many of those were not in flower. TPT counts in 2011 and 2012 revealed about 2300 and 2500 plants, respectively, with numbers in 2013 and 2014 thought to be similar. However, numbers were estimated to be down in 2015 (see the December 2015 TPT newsletter), with the 2016 figure suggesting a continuing downward trend as the vegetation continues to thicken up after the last fire. It was noted, however, by Geoff Carle in the survey team that in this year's count 'numbers of *Velleia paradoxa* plants may have been underestimated as there were many small, young, non-flowering *Velleia paradoxa* plants growing throughout the main sites. These were difficult to accurately count as we did not want to damage them by walking through/on them.' This potential issue may need some discussion to inform future management of this threatened population and to ensure survey accuracy.



Velleia paradoxa Photo Geoff Carle

Many thanks to Annabel for her excellent management of the data on the day, and to Inger for entering it into the Natural Values Atlas.

As usual, there were plenty of weeds, dominated by boneseed seedlings, cotoneaster seedlings and regrowth, and blackberry regrowth. There were also a lot of small ivy seedlings, often under perching trees and easy to miss. We decided to concentrate our weeding efforts in the south-eastern end of the reserve, which is also where the *Velleia* populations are concentrated. We scoured up to about 30 metres into the reserve from the grassy track leading from the oval downslope to the north-eastern boundary. There was a patch of larger blackberries along this boundary, which we suggested be tackled by Glenorchy council and/or its contractors.

We discussed the possibility of extending this working bee to a full day again, or even twice a year, to be able to get more weeding done. This could be considered at next year's field

trip planning meeting, as well as the survey issue raised above. The interest and support from both Stuart Pengelly and Harry Andrews of the Glenorchy City Council is much appreciated, as are their efforts in managing this urban reserve which faces some quite different challenges to other, more remotely located, reserves (such as littering, dumping and burning cars – there were three, soon to be removed – and other arson, tree damage). We look forward to further collaboration to ensure the survival of *Velleia paradoxa* and other native flora at Amy Street Reserve.



Inger and Annabel surveying *Velleia paradoxa* Photo Geoff Carle



John and Sabine weeding Photo Viv Muller

Heathy Hills Nature Reserve, 10 December 2016

Magali Wright and Viv Muller

TPT has received two grants (from Foundation for National Parks and Wildlife, and from NRM South's Naturally Inspired Grants program) for the purpose of gorse removal from Heathy Hills Nature Reserve near Elderslie in the south of the state. The general area is very badly infested with gorse and other weeds, but this particular patch was encroaching on part of the only known population in Tasmania of *Mirbelia oxylobioides*. Over the past two years contractors have been employed for careful removal of gorse and other weeds around this population.

Access to the reserve is through private land, and permission for this was arranged with the landowner. This trip on 10 December was TPT's third field trip to the site, fortunately again with assistance from Magali Wright of NRM South, in order to monitor the progress of the weed work (including photo point recording) and to remove any small gorse. On this occasion, the wet winter and spring has resulted in a lush growth of grasses, and activation of a massive thistle, mignonette (*Reseda luteola*) and hemlock seedbank, as well as the gorse seedbank. The contractors, pakana, had recently been in and had treated large patches of the thistles and *Reseda* and regrowing gorse, as well as hand-weeding regrowing gorse in close proximity to the *Mirbelia oxylobioides* population. They have also done further primary removal of a small patch of gorse remaining in the target area. We removed further regrowing gorse and *Reseda* northwards along the river bank, which was still easily pulled by hand. The *Mirbelia oxylobioides* population looks to be in excellent condition, with most plants covered in seed. Although no new *Mirbelia* recruitment was observed in the weeded area, seedlings were observed further into the reserve, which is an unusual event without fire. In the weeded area amongst the resurgent herby weeds were small *Bursaria spinosa*, *Acacia dealbata*, *Acacia melanoxylon*, native grasses, sedges and herbs. A formal weed management plan, future vigilance and regular follow-up are required to manage the very weedy fringe of this reserve, and control weed incursions into the main reserve.

Under the guidance of DPIPWE's Richard Schahinger, part of the group surveyed the reserve for *Calandrinia eremaea* (small purslane), a succulent annual known to like dry rocky areas in the State's south. We found the species in very good numbers over at least a 700 m distance, making it the most extensive population yet recorded, with a very high likelihood of it being present in similar habitat in other parts of the reserve. Less luck with the rare *Parietaria debilis* (shade pellitory), a species with a preference for very shady sites ... possible habitat along the major gully running through the reserve proved to be a bit too open, though along with a sea of thistles we did get to see some very impressive rock formations!



2014 gorse obscures log and *Mirbella*



10Dec 2016 gorse removed, *Mirbella* covered in seed pods



The Calandrinia search party at Heathy Hills



Calandrinia eremaea

Orchid Monitoring Program

Caladenia saggicola monitoring, September 2016

Kate Shaw and Richard Schahinger

The weather was perfect on the day! As Richard indicates below we recorded the greatest number of flowering plants since monitoring began in 2008.

Flowering plant numbers across the site in 2016 turned out to be the 'best' since we started recording in 2008, thanks no doubt to the good autumn and early winter rains. Interesting changes over time in the various burn units, with (an apparent) continued expansion in unit 4 (burnt in 2009), counter-balanced by plants taking a while to recover to their previous numbers in the recently burnt unit 5. Within the fenced area we've 'lost' a fair chunk of potential habitat to large woody debris (thanks to periodic storms since 2009), but all-in-all things continue to tick along very nicely. Thanks again to all those who came along at such short notice ... much appreciated. The data is summarised below



Caladenia saggicola photo Doug Clarke

Caladenia saggicola:

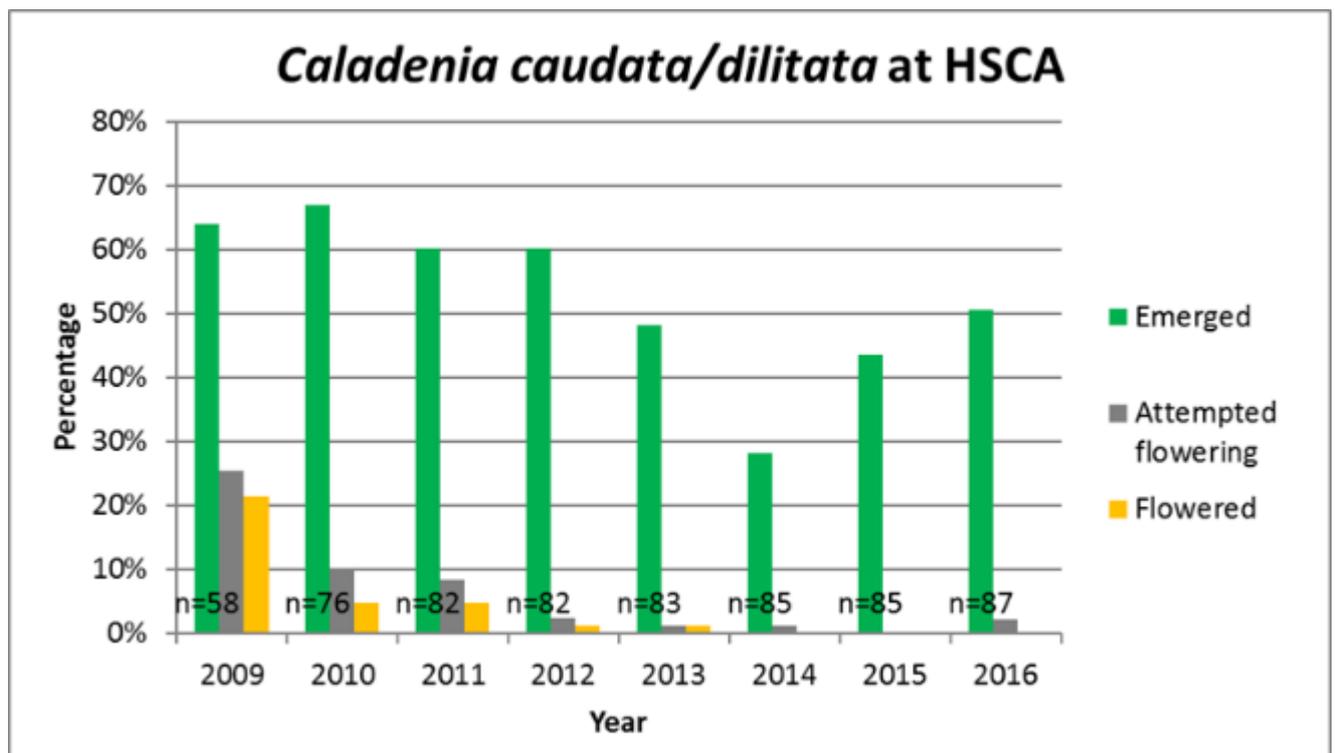
Burn Unit	2008	2009	2010	2011	2012	2013	2014	2015	2016
1	0	168	86	141	203	123	173	21	159
2	0	3	0	0	0	0	0	0	0
3	0	35	1	9	6	3	14	0	34
4	0	0	0	36	66	54	41	34	183
5	0	222	35	119	100	92	200	2	114
6	0	0	0	0	0	0	0	0	0
Total	c. 120	438	122	305	375	272	428	57	490

Fire History: Unit 4 was burnt in April 2009, unit 3 in April 2013, and unit 5 in April 2015.

Caladenia caudata monitoring at Henry Somerset, 11 November 2016

Phil Collier

Thanks to all those who participated at Henry Somerset. The results of the monitoring were better than we may have expected, so far as leaves were concerned. The chart below shows percentages of “recaptured” plants; the recaptured plants are plants that had been tagged in a previous year. Keren recorded two small buds, which almost certainly will be *C. dilitata* although both previously were recorded with unknown ID. These buds show up as attempted flowering in the chart. Keren also recorded about 4 new leaves that we didn’t formally “capture”, but we have details in note form if we see them again next year



It now appears that 2014 was a glitch in the data set, for no obvious reason. There can be multiple factors interacting in this data set, apart from 'years since disturbance', that we are deliberately manipulating, and it takes many years to tease them apart. The one thing that remains is little or no flowering of the threatened *C. caudata* in recent years. Let's hope that the planned burn can happen in autumn 2017, and hopefully we'll see some renewed flowering. Even in the absence of further disturbance it is nice to know that plants are still alive and producing small leaves.



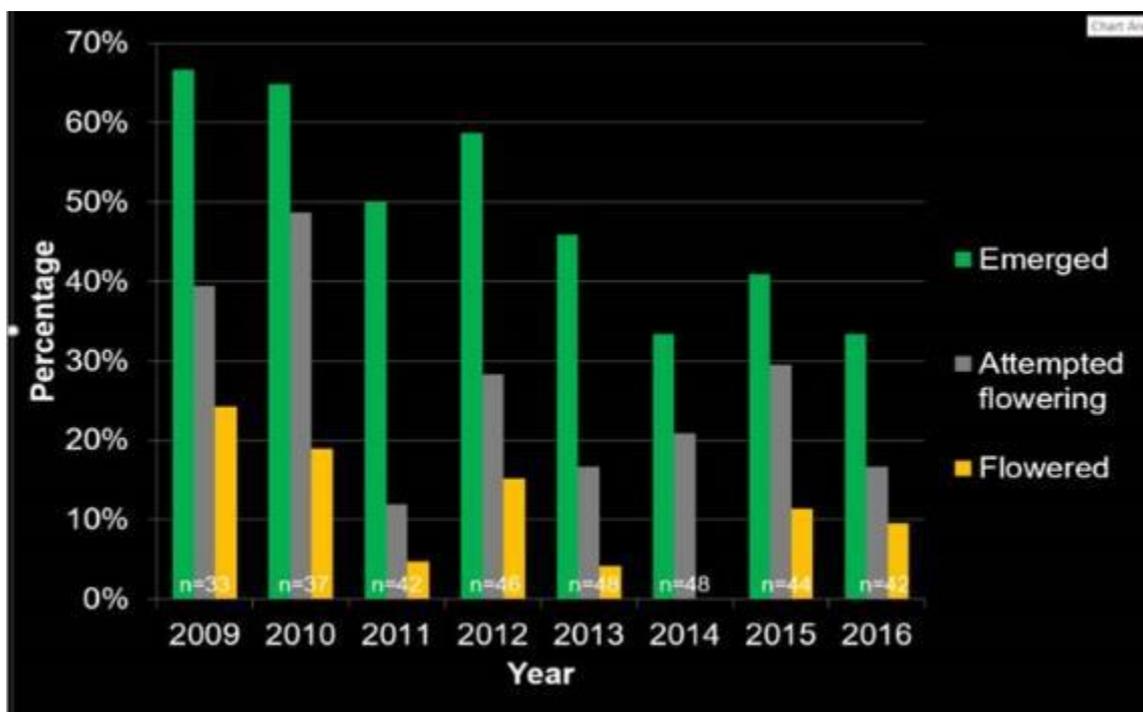
Caladenia caudata photo Phil Collier

Caladenia tonellii monitoring at Henry Somerset, 12 November 2016

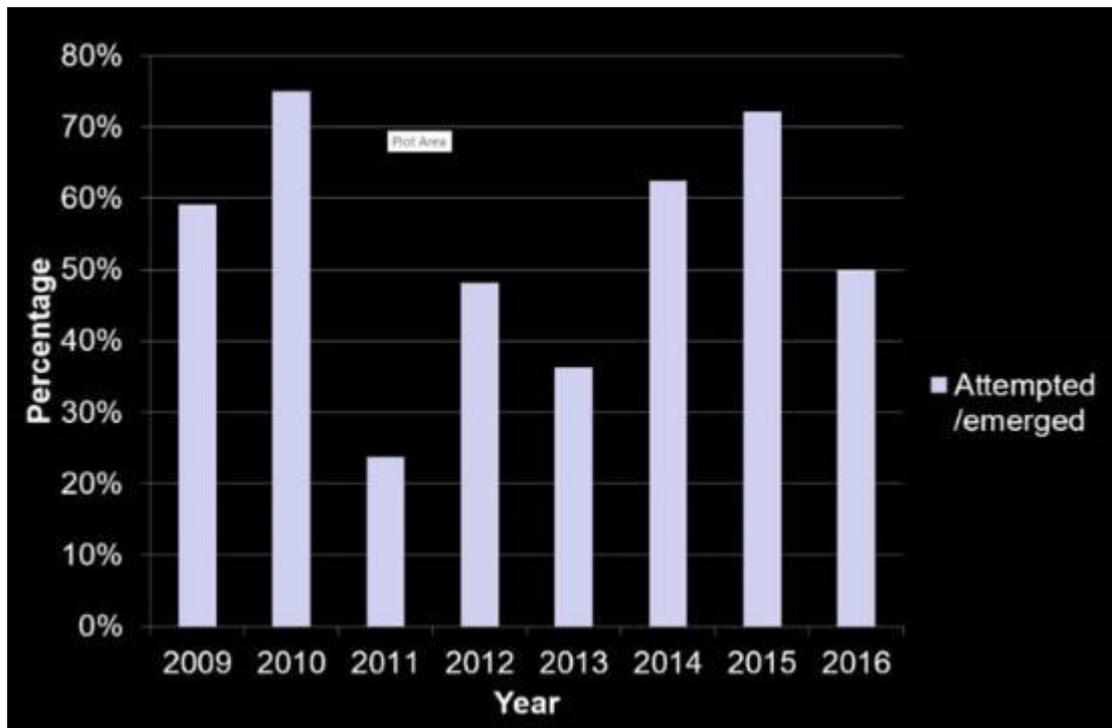
Phil Collier

Once again thanks to those who helped with this monitoring. The data had now been processed and related to the previous years of data. This needs to be interpreted in context of burns in 2008-ish, (whole of HS), and 2013/14 on either side of the foot track in successive years.

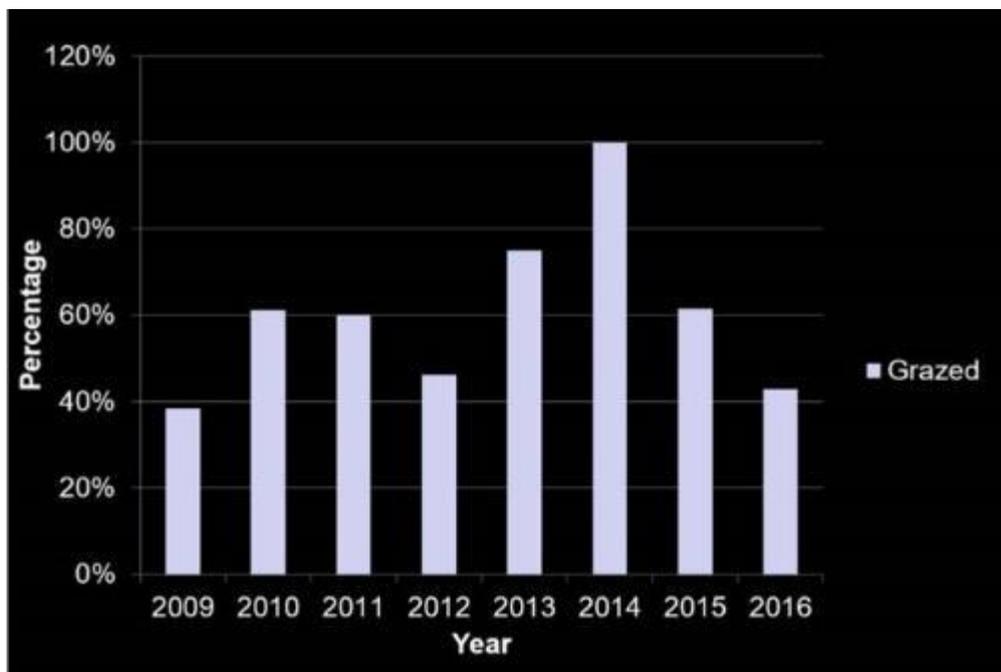
Firstly the overall percentages of recaptured (i.e. excluding newly marked) plants emerged, attempting to flower and actually flowering. This doesn't present a very clear picture, in particular 2012 seems quite anomalous. One problem is that the number of living plants is probably declining over time.



One way to overcome the problem of plant death is to start with the plants that have emerged, all clearly alive! The percentage of emerged plants that attempt to flower is more interesting.



This shows peaks in attempted flowering a year or two after a burn, which is probably what we would expect. Analysing the grazing of flowering stems also illustrates an effect that was very obvious after the 2013/14 burns.



All of the flowering plants were grazed in 2014, just after the burns on either side of the transect. The effect is less in 2009/2010, but this was after a burn of the whole reserve, and we have seen at Surrey Hills that the grazing is less when the area burnt is larger.

It's nice to find some things we can understand in the analysis, but of course there are probably other things going on that tend obscure the story we hope to tell, or try to tell a more interesting story if only we were looking!

On 7 December Robin and I returned to the transect to check on the flowering plants. Of the 16 flowering plants, only two had fertile capsules present, and 10 of the flower spikes had been grazed or vanished. In our wider experience, *Caladenia* spp. seem to suffer from low rate of fruiting.



Caladenia tonellii Photo Phil Collier

***Prasophyllum milfordense* monitoring at Milford, November 2016**

Doug Clarke and Richard Schahinger

As noted back in September, things were booming at Milford following the good winter and spring rains. This was reflected in plant numbers for *Prasophyllum milfordense*, with the highest total number since we began systematic surveys back in 2009 (c. 350 cf. up to 230 in the past). However, there were some differences across the burn units, with numbers up 2 or 3-fold in units 1 (= the fenced-off area with the transect), 3 and 4, but well down for unit 5; the latter was burnt in autumn 2015 & was followed by very dry conditions, so we can only surmise that the plants in that area are taking a while to recover (with those that were up & about relatively small). It will be of interest to see if the *Prasophyllum* sp bounces back in unit 5 in following years. Also of note was the detection of several plants in unit 4 to the north of unit 5 ... a first for that area (though it's impossible to say if this is simply a survey artefact).



Prasophyllum milfordense
Photo Doug Clarke

All in all then, a reassuring result after last year when only 13 plants were observed!

Prasophyllum milfordense

Burn Unit	2008	2009	2010	2011	2012	2013	2014	2015	2016
1		55	26	19	72	45	39	9	202
2		0	0	0	0	0	0	0	0
3		16	12	6	13	5	0	1	42
4		2	0	0	18	26	7	0	47
5		126	12	16	124	122	19	3	55
6		0	0	0	0	2	1	0	1
Total	0	199	50	41	227	200	66	13	347

Fire History: unit 4 was burnt in April 2009, unit 3 in April 2013, and unit 5 in April 2015.

Campbell Town and Township Lagoon Nature Reserve, 29 November 2016

Viv Muller and Richard Schahinger

Our second trip to these locations was on 29 November, and this time the *Prasophyllum olidum* transect in Campbell Town was able to be re-scored for the first time since 2013. Richard Schahinger reports that we recorded 98 *Pr. olidum* plants, with 20+ of those still just at the bud stage, so given the difficulty in seeing them, one could easily add another 10 or 20 to the mix. This is pretty much the best year we've seen since 2009, and quite an improvement from zero plants in 2014 & 2015!! It's clear from the data, that a good proportion of the plants along the transect had survived in a dormant state for at least 2 to 4 seasons. Overall the condition of the grassland was relatively good compared with previous years where we'd seen areas dominated by the exotic sweet vernal grass and/or flatweeds, so the prolonged dry appears to have done some good.



Prasophyllum olidum transect at Campbell Town. Photo Viv Muller

Again we dropped in at Tunbridge but nothing further was done apart from quickly pulling a few *Reseda luteola* (mignonette). Thanks to Parks staff for slashing the white weed (*Cardaria draba*) too...great not to have all that seed set!

Training and Other Community Engagement

“Extinction Matters” Bioblitz: Hobart (Domain) 2-3 September and Latrobe (Bells’ Parade), 9-10 September

<https://www.facebook.com/extinctionmatters/>

www.extinctionmatters.com

Viv Muller

TPT took part in these two events which were organized by Lisa Cawthen of Hobart City Council and Clare Hawkins of UTAS, within a partnership comprising many different groups and agencies. This formed the TPT contribution to Threatened Species Day in September.

Joe Quarmby and Geoff Curry led the TPT ‘walks’ in Hobart, which were an opportunity to try to re-find some of the threatened flora on the domain. We had a few people along with us, and during our efforts Geoff Curry actually found a new site for *Hydrocotyle laxiflora* (stinking pennywort). In Latrobe, Phil Collier led the TPT effort, but reported little interest in flora! They ended up leading fungi forays instead...

We also had an opportunity to enter results in the app iNaturalist. Everyone’s results are there to look at under the project ‘Extinction Matters Bioblitz Hobart’ and ‘Extinction Matters Bioblitz Latrobe’

HCC Orchid Walk Waterworks Reserve, 4 December

Geoff Curry

In early December an Orchid Walk around the lower Water Works Reserve was conducted as part of the City of Hobart Bush Adventures programme. Although it was later in the flowering season we found enough orchids, 3 species in flower, to entertain the small group of interested local residents and interstate visitors. All member of the group learnt some of the basic skills required to find and identify orchids growing in urban parklands and finished the walk having found and seen orchids growing naturally for the first time.

GIS and mapping Training

Magali Wright

Over 4 sessions in April and May 2016, thirteen TPT volunteers attended training focused on collecting and manipulating GPS data for threatened flora observation data. This training was designed to support the new data manager role on TPT field trips. This role involves collating the GPS and species observation data collected during TPT trips and entering it on the Natural Values Atlas (NVA). The training was run by Magali Wright (NRM South) and Josie Kelman (Enviro-dynamics) and included using a GPS in the field, downloading GPS data, collating GPS data with species

observation data in NVA workbooks and making maps using freely available software (Google Earth Pro, list map and QGIS).

Similar training will be run over a weekend in 2017, so if you are interested and open to taking on a data manager role in the coming field session, stay tuned for an upcoming invite.

The Tasmanian Orchid Conservation and Research Program

Hosted by the Royal Tasmanian Botanical Gardens (Tasmania Seed Conservation Centre)

Viv Muller & Magali Wright

TPT is continuing the association with this project by providing volunteer labour in the orchid lab, along with the Friends of the RTBG. Currently we're creating germination plates for this year's batch of orchids *Caladenia anthracina*, *C. dienema*, *Pterostylis ziegelerei*, *Prasophyllum olidum*, *P.*

tunbridgense and many more using mycorrhizal fungal isolates shown to germinate these or closely related species. *Caladenia anthracina* and *Pterostylis ziegelerei* germination plates are already showing the early stages of germination, and our sterile technique has also been very good. (We're getting lots of practice!)

The orchids which emerged earlier in the year in the nursery are now in dormancy, resting in pots in boxes within specially made frames. This season we saw the fruits of our labours with the first flowers on plants we have grown in the lab with their mycorrhizal fungi.

The driving forces behind this project are Dr Magali Wright (NRM South) and Dr Nigel Swarts (Royal Tasmanian Botanical Gardens), who between them are able to work on this project 1.5 day a month. There have been some fantastic achievements to date, with growth conditions for four genera of our native orchids resolved and four of our nationally threatened orchid species represented in ex situ collections. To grow the project we continue to look for funding to apply what we have learnt systematically across a greater range of species.



Caladenia saggicola in flower 18 months after germination in the laboratory. Photo Lorraine Perrins

TPT Field Trips 2016/17

Threatened Plants Tasmania has an active field trip program mostly in spring and summer to survey, monitor and manage the habitat of threatened and endangered plant species. Dates and destinations of these trips may be altered due to weather or changing circumstances. Any updates and details of each trip are sent to the TPT email list and will be available about 2 weeks in advance on www.wildcaretas.org.au and www.tpt.org.au. All trips are led by botanists and data gathered

contributes to improved knowledge and management of the species. The following outlines the remaining trips in this program for 2016/17.

Date	Action	Site	Species
28 Jan	Re-survey	The Nut	<i>Leucochrysum albicans</i>
4-5 Feb	Census, survey	Mt William & possibly Cape Portland	<i>Cassinia rugata</i> , <i>Gratiola spp.</i> , <i>Wilsonia spp.</i> , <i>Zieria veronicea</i>
18Feb	Census	George Town	<i>Chorizandra enodis</i>
18 Feb	Monitor & cage modification	St Patricks Plain & Barren Tier	<i>Eucalyptus gunnii subsp. divaricata</i>
25 Mar	Survey	Arthur-Pieman	<i>Corunastylis brachystachya</i>
8 Apr	White gum trials	Bruny Island	<i>Eucalyptus viminalis</i> (40-spotted pardalote habitat)
22 Apr	Translocation	Pontos Hills	<i>Hardenbergia violacea</i>
10 Jun	Seedling protection (& weed control)	Calverts Hill	<i>Eucalyptus morrisbyi</i>

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