

# The North-Eastern Naturalist

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**IT IS THE MISSION OF THIS CLUB to encourage the study, appreciation and preservation of our natural and cultural environment, the animals, plants, geology and landforms, including those of the coastal and marine areas in the North East region of Tasmania.**

**The Club conducts outings on the second Saturday of the month.**

**JUNE 9**

**MT. SCOTT.**

Similar in difficulty to Mt. Stronach, different forest types though. Walking on marked track: grade 'medium'. Meet 10am. at South Springfield Forest Park. Contact: Jill van den Bosch.

**JULY 14**

**WATERHOUSE.**

We saw Waterhouse lake from Hardwickes Hill. On this outing we will explore the property of Mandy and Tim Gunn who farm the area below the hill, and have fenced many areas of environmental significance including the Lake, Tobacco Hill and Yambi. A day packed with interest, easy walking and the guarantee of a sheltered place for lunch. Meet at 10am. At the junction of Waterhouse and Homestead Roads [signposted] approx. 27kms east of Bridport. Contact person: Jill van den Bosch .

**AUGUST 11**

**AGM - LUNCH - GUEST SPEAKER - 20 EDWARD ST., BRIDPORT.**

Our AGMs are always convivial, social occasions. Our guest speaker is Roy Skabo; he will talk about how he came to botany and some of his experiences as a "citizen botanist". Bring lunch to share.

**SEPTEMBER 8**

**EVERCREECH FOREST RESERVE + MT. YOUNG.**

We are trying to find places to explore closer to our East Coast friends. Easy walking at Evercreech, then a short scramble up Mt. Young [this is optional] after lunch under Lesley Nicklason's guidance, then the possibility of a visit to Mathinna Falls after that. Meet 10am at Evercreech Forest Reserve [signposted from Mathinna] Contact: Lou Brooker.

**OCTOBER 12, 13, 14.**

**FEDERATION WEEKEND - MT. CAMERON FIELD STUDY CENTRE**

We have this rare opportunity to visit Tree Point which is a part of the Cape Portland property that was fenced off and protected after botanists realised its value during the early stages of the Wind Farm Project. Many rare and vulnerable plants exist in the heath-lands out there. Hydro Tasmania will provide a bus from Gladstone. There will be informative talks throughout the weekend and the company of field naturalists from other clubs. Only for those staying the weekend. Look out for email with more details in September.

**NOVEMBER 10**

**CASCADE RIVER:** Exploring the area between the Cascade Dam and the Mt. Paris Dam site, where in Revel's words ... "there's a wealth of old disturbances - remnants of Chinese habitation, "shop" at Ah Coon's store". Although this walk is only 3-4km's on flattish country, some agility will be needed, as there are no tracks through this rainforest regrowth. So, this outing is graded medium to hard and is for the adventurous. Co-leaders Revel Munro 0448 542254 and Trevor Smith, a most knowledgeable Branhholmite. Meet Branhholm Cemetery, Tasman Highway 10am.

## Outing to Waterhouse Conservation Area : May 12, 2012.

Report by Mike Douglas.

Conditions were not congenial for coastal walking, with a strong westerly wind and dark, scudding clouds. Nevertheless, the small group of ten field naturalists had a rewarding day.

The first objective was the top of Hardwicks Hill, reached after a short walk from the gate up the she-oak lined road to the Telstra enclosure. This hilltop provides a birds-eye view of the reserve and associated features such as Waterhouse Island. The linear Pleistocene dunes formed during the last glacial advance, at its peak 20 000 years ago, are clearly discernable. Sea level was 120 metres lower, and much of Bass Strait was a cool windy desert.

The 'fossilised' dunes are quite distinct from the younger, fringing coastal dunes and sand sheets which were formed after the ice melted 12 000 years ago and the sea level rose.

Hardwicks Hill was named for Charles Browne Hardwicke, 1788-1880, who came to Van Diemens Land in 1816 and was probably the first grazier at Waterhouse in the early 1830s. The hill is an excellent place to view the structural 'bones' of the North East. Clearly delineated are the lower coastal erosion surface—a plain with monadnocks\* such as Mt. Cameron, Mt. Horror, Mt. Stronach and the Sideling Range; remnants of the St. Clair erosion surface such as the Blue Tier and, in the background, the high block mountains, mostly dolerite capped, of the N.E. Highlands - representing the lower and higher plateaux erosion surfaces.

The main objective of the day was to look at salt resistant plants-halophytes-on the shore between Herbies Landing and Waterhouse Point. Most of these plants belong to the saltbush family, Chenopodiaceae, and the pigface family, Aizoaceae. Of particular interest was ice plant, *Tetragona implexicoma*, a member of the Aizoaceae. It is seen as sprawling masses of herbage, sometimes crawling up into the surrounding tall shrubbery of swamp paperbarks. Another name for this herb is bower spinach. New Zealand spinach, *Tetragona tetragonoides*, is a similar plant but with a prostrate habit. It is uncommon on this part of the coast.

Other names for these edible ice plants are Botany Bay spinach and Captain Cook's cabbage. These epithets reflect their consumption by the early explorers and colonists. *Tetragonia* species have rather succulent leaves covered with small vesicles which accumulate salt. These cells sparkle in the sunlight, hence the name iceplant. This reflection of sunlight helps to reduce water loss by transpiration—an important adaptation in the harsh, coastal environment.

Many succulent plants, including the iceplants and the pigfaces, have an alternative method of photosynthesis. At night, they absorb the carbon dioxide created during respiration and use it to synthesise organic acids. In daylight, these acids are broken down to release CO<sub>2</sub>, thus obviating the need for the leaf pores [stomata] to open to take in atmospheric CO<sub>2</sub> - the risk of desiccation during difficult conditions is greatly reduced. This biochemical pathway is known as crassulacean acid metabolism [CAM]

During Captain James Cook's first South Seas voyage, 1768-71, his crew assuaged a desperate need for greens by eating boiled iceplant collected from the coasts of New Zealand and New Holland. Cook's botanist, Joseph Banks, took seeds to England. The plants were grown at the famous botanic gardens at Kew and became a well regarded part of high society cuisine.

In 1779, the House of Commons examined the respective merits of West Africa and New South Wales for a penal colony. Banks made a submission in which he emphasised the importance of ice plants on the NSW coast as a source of nutritious greens.

There is no evidence that the Aborigines ate ice plants. The raw leaves have a sharp, salty taste which is removed by boiling in water—a cooking method not used by the indigenes. The Tasmanian aborigines certainly ate the native pigface; the fruits were a delicacy and they cooked the leaves on coals and ate them with their roasted meats.

\* Monadnock—a hill or ridge of resistant rock rising above a surrounding plain.

Provide link to 'Nowhere Else on Earth' PDF..

Tasmania's Marine Natural Values Comprehensive report prepared for Environment Tasmania. Pictorial and in layman's language. From the point of view of the wilderness below. Hitherto not such a priority as our wilderness and forests. Ocean planet newsletter

## Mt. Horror : February 11.

Mt Horror features in the landscape from just about any position one stands in the North East. Its shape from a distance isn't unusual, like say Mt. Victoria or Mt Saddleback and it might be possible to overlook it as just a "big hill", but it did play a significant role in the early story of the timber industry of the North East. It was this big hill that caused James Scott's early exploring team to get the "horrors" as they attempted to get from Blessington, through the valley of the St. Patrick's River to Ringarooma and then to a shepherds hut they knew of out on the coast.

The story of the this expedition and the history of the timber industry in the North East is well documented and our visit here happened shortly after a major exhibition of photos from those times, but Mt. Horror is important for another, little known reason and that is what we are here to experience. Our guide is Sean Blake who is a retired Assessor for Forestry Tasmania. His connections have allowed us access to the summit.

On the southern face of the mountain is a relict of rainforest refugia that survived the last ice age. As we enter the rainforest, we shelter from the wind to hear some information about the different types of rainforest. Callidendrous rainforest is where the trees are tall and the floor is open. Thamnisc contains a shrubby understorey. Implicate forest has shorter, denser tangled vegetation. Montaine is the open mountain forest type present at high altitudes. Each forest type has different groups of species in it.

Although we didn't walk to the bottom this day, there is a reserve consisting of 32 more hectares of wet gullies and misty forest we could have seen. Later, on the Warrentinna Road at the base of Mt. Horror, we explored the site of the IXL / Henry Jones sawmill which operated from 1911 until 1945.

### A Walk in the Mist

Jenny Bicanic very kindly wrote this piece about her impressions of the rainforest walk. It makes this otherwise ordinary report come to life. Dee Mills provided the photographs. Thanks to them both.

**30th May: I have observed Mt. Horror everyday for a week now and at dusk have noticed the heavy mist cloud that shrouds the summit. It reminded me that the forest we walked through is also called a "mist forest". Because of the local climate, there is a persistent mist on the top of the mountain. This forms "fog drip" which, after settling on leaves, condenses and drips to the ground producing a wetter environment than for the vegetation there.**

How lucky were we to experience this small area of ancient relict mist rain-forest? It was awe inspiring to know there are very few examples of mist rain-forest in the east of the state. However, once we stepped down into the forest, it was a feast for the senses. Immediately, the air was moist, cool and fresh and the overall vision was of green and green and green. The low cloud added to the shadowy effect caused by the substantial foliage of the myrtle canopy. We found that every surface we touched was damp. As we slipped and slid, scrambling up and down around the side of the hill, and clutched a branch or tree for support, we found hands, knees and even bottoms were soon wet. The scent was of dampness but not dank.

There were a myriad of lush greens. While in some places there were quite long vistas of tall brown myrtle trunks in the mist, for most of the forest, the close up view of the myrtles was a covering of many small green sprigs of leaves growing out of the smooth bark.

The man-fern trunks and any fallen trees were clothed in a variety of thick green lichens and ferns. Everywhere there was a range of ferns from the dark green of the majestic *Dicksonia* down to the pale green of a delicate variety unknown to me.

Once, our narrow path took us close to a white quartz-like rock face which was semi-covered in light green lichen. The occasional sassafras boasted bright green shiny leaves (and that sweet fresh perfume) and the old man's beard drooped yellowy-green tresses. Towards the end of the walk, the sun briefly broke through the clouds, sending narrow shafts of light down through the spaces in the canopy, momentarily changing all the multi-greens to brighter shades of themselves.

In contrast to the greens, we scored occasional glimpses of the ruddy wood of the fallen myrtle, a stark reminder that all of the fecund greens masked that beautiful deep pinky-red of the hidden internal timber.

Then, suddenly, we came out from under the tall trees and into sunshine and a low forest of the beautiful pepper-berry trees. .... an experience to remember!

Heading into the rainforest with guide, Sean Blake.



The rainforest canopy of myrtle and Sassafras.



Pepper-berries seen on the edge of the rainforest.





## The Blue Layer.

All these things happened within a week of each other, in February, and are so serendipitous I thought I'd write about them.

On a morning walk along a beach at Bicheno, we came upon a patch of blue creatures. They were all lying on a small span of beach no longer than a hundred metres, just near where the sea comes from both sides of Diamond Island and meets at a sort of causeway.

Amongst these blue creatures was *Janthina*. I'd seen these little purple snail shells on other occasions. Fragile little shells frothing gelatinous bubbles from their aperture, this froth allowing them to float on the surface of the ocean. *Janthina* spends its days floating beneath this raft of bubbles and because of its delicate look, there is no hint of its fearless eating habits. When necessary, it can abandon its bubble raft to feed on the Portuguese man-o-war, *Physalia physalia*, and its close but innocuous relative, the By-the-wind-sailor, *Velella velella*. It was washed up here too in its dozens, looking fairly insignificant, its sail having deflated and looking just like a very small blue disc.

By far the most interesting creature amongst this planktonic community was, again, blue and tiny [about a centimetre long] There was only one. It was obviously damaged. It had the most striking symmetrical shape and because of this, we could see that one of its lobes was missing. It appeared fairly "sluggish" in the sense of being still alive but only just, and as we put it into a rock-pool to see if we could revive it, something was shed from its body, the parts so minuscule though, we were uncertain what.

Once home, I went straight to W.J. Dakin's *Australian Seashores* where I thought I had once seen a picture. Here, I learned that what we had seen was a nudibranch or "sea slug" by the name of *Glaucus*. This planktonic gastropod - strange and beautiful - was here described as "one of the most beautiful of all sea creatures".... "a floating nudibranch which has the ability to devour coelenterates", the other creatures described above. One of the most amazing things the *Glaucus* can do is to pass the stinging thread cells of these other creatures through their stomachs, unaffected, store them in tiny sacs at the tips of each of the cerata around the body, and use them for their own protection. *Glaucus* favours feeding on *Velella* and *Physalia*.

There are reports of children in N.S.W. swimming close to the water's edge and being stung when the only visible creatures being washed ashore were *Glaucus*. On examination of the samples of *Glaucus*, nematocysts from *Physalia* were found in the cerata and the jars in which the nudibranchs were stored contained thousands of discharged cells. This is a possible explanation for what we observed.

The top few centimetres of the ocean is sometimes called the Blue Layer. Many of the larger species in this blue layer have floats and are exposed to both sea and air. The community of organisms occupying it is referred to as **neuston**. **Check this!** Special nets have been devised catching only the occupants of this narrow zone of the ocean, and some of the other occupants are fish larvae, arrow worms, small copepods, crustaceans and other members of the plankton.

The following week, after seeing this beautiful display on the beach at Bicheno, I read a report by Jay Wilson entitled "Bluebottle Stinger found on Adams Beach". Here was another blue floating creature—the curse of those who swim and surf in N.S.W.—washed up on the beach at Bridport. Usually, all that remains is the floating gas-filled bubble and some feeding polyps, but in the tropical and sub-tropical seas, it trails tentacles below these polyps which may reach 15metres in length, and it is them which contain the stinging cells.

The sightings of all these elements of the Blue Layer may have something to do with the fact that we had a very long and enjoyable swimming season this year in Tasmania: warm currents sweeping down from the north. A link.

I told you these things happened in the same week. At the end of the week, I bumped into Lily Sutton and Stuart Mears who joined our club a year ago and was talking about Stuarts boat, which is moored in the Huon River. Its name is *Velella*. And then to finish off the whole serendipitous week, Ann Scott turned up with a couple of purple shells she'd brought as a gift. All that blue!!

▼ *Janthina*



▼ *Glaucus*



## Black Sugar-loaf, Birralee. March 10.

This weekend had been long anticipated. Ron and Sarah had issued the invitation to visit them at Black Sugar-loaf a couple of years ago and we had finally made it happen. In the descriptor for the walk we had said the focus would be birds - yes, fungi - well that was to be expected, and slime moulds - hmm !!

I didn't ask any of the nine Field Nats. who came along on this outing whether they knew anything about slime moulds. It's probably pretty safe to say the name itself had put people off being too curious. Nevertheless, here we were traipsing along up the hill enjoying the forest, noting the little hollows and scrapes made by the pirouetting button quail, listening to yellow-throated honeyeaters and golden whistlers, and generally chatting about the world, the universe and everything. At the tree with the pink tape, we turn off into the bush looking for the slime moulds. What followed was a funny site as we got down awkwardly on hands and knees, straining our eyes trying to get the tiny fruiting bodies to come into focus, for

Now, I don't intend to write a paper with all you need to know about the slime moulds. Much of what I write here was written by Sarah on their website : [disjunctnaturalists.com](http://disjunctnaturalists.com)

..... " They were once placed in the same kingdom as fungi but are now in their own kingdom: Protoctista. At one stage of their life they are a single cell amoeba, then they combine with others of their kind to form either a plasmodium or a pseudoplasmodium.

Of the three types of slime moulds those most easy to see are the plasmodial slime moulds or myxomycetes. One of the other types is obscure, the other microscopic.

There have been only about 1000 species of slime moulds recorded worldwide (in comparison, there are believed to be approximately one million fungi). They reach their peak of abundance in temperate forests and can be found on living and dead trees, rotting logs and other coarse woody debris, leaf litter, herbivore dung and bryophytes. There is even one record of a slime mould growing on a living lizard! Most slime moulds are not slimy, nor do they look like mould; rather, many are exquisitely shaped and quite beautiful.

In the summer, the slime mould appears on rotting logs and stumps. They are moist and quite often brightly coloured. They have names like 'dog vomit', 'scrambled egg', 'wolf's milk' and one in Mexico is called 'moon's excrement'.

Later on, as the spores develop, the fruiting bodies appear and gradually harden. Many fruiting bodies first appear as bright yellow plasmodia, or a collection of small beads or stalked cylinders of jelly. As with fungi it is only when these fruiting bodies mature, that their identifying features become obvious."

It was Sarah's collection of fruiting bodies I was most impressed with. She has collected many different types and included a piece of the substrate on which they were found. They are named and stored in matchboxes and ready to be observed in the microscope. And how exciting it is to enter that microscopic world !

\*Thanks to Sarah for allowing me to use her picture and information from the Dysjunct Naturalists website. Other photos from the www.

