The Natural News

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Dickins' Bush Flowers

by John Wilson

Browsing at the Latrobe Sunday market recently, I chanced upon a little treasure of a book with a beautiful, brightly coloured plate of native ground orchids glued to its dusty, worn cover. The artist's name was clearly printed on the base of the plate - Herbert Dickins, and the date of the work was 1914. The book was entitled *The Native Flowers of Victoria*.

As I was standing there, savouring one of those classic collector's moments and absorbing the beauty of this postcard-sized pictorograph of '*terrestrial orchids*' that had been bunched together in the wild style of Tasmania's late great colonial water colourist Louisa Meredith, I was struck by how many of these little native ground orchids I have seen on my walks here in Tasmania in the Tarkine, Kelcey Tier, St. Helens and Shearwater, such as the yellow donkey orchids with their funny flappable ears, duck orchids that rise like Mountain Ducks frozen in flight, truly gorgeous blue and pink sun orchids and amazingly delicate spider orchids that look at first glance like real spiders.

The book I was holding was published by Australian publishing house George Robertson & Co. and undated; hard-covered, and comprised of the familiar thick pulpy paper of most pre-World War One publications. The author Edward Edgar Pescott FLS, FRHS from the School of Horticulture was elegantly introduced by Professor Alfred J. Ewart, a man who had so many initials after his name that the printers put '*etcetera*' after the first three, the Victorian Government Botanist and Professor of

Plant Pathology at the University of Melbourne. All of the black and white photographs used, as well as the common plant names were selected by the Plant Names Committee of the Victorian Field Naturalists Club (VFNC), for which due recognition and acknowledgments were all given.

My interest however was keenly focused on the plate, for which there was only a brief mention that '*Mr. Dickins is also responsible for the coloured illustrations which faithfully reproduce the natural colours and form of the typical flowers depicted*' (p.13).

I was intrigued, and then delighted to find that there were four more of Mr. Dickins' coloured plates of native flowers (one a duplicate of the cover) contained inside, all signed and dated 1914. As I parted with my $6, I was already asking myself '*who was Herbert Dickins?*'

Dickins is listed as an illustrator by the Council of Heads of Australasian Herbaria. He was born Herbert Peabody Dickins (Victorian Birth Register #25736) in 1872 to parents Frederick Dickins and Harriet (nee Free) who lived in the working class suburb of Richmond, Melbourne. He was the youngest of seven children, with 2 sisters (Helen and Agnes) and 4 brothers (George, Charles, William and Frederick). There were also Aunts, Uncles and cousins by the name of Free living in Geelong and Ballarat.

Dickins was 42, and a member of the VFNC when Pescott's book was published. The VFNC was an active social group, being the province of learned gentlefolk and academics interested in the natural sciences. Indeed, one had to be nominated into the membership. So obviously only those persons with the right attributes could take part in the Club's excursions, exhibitions and meetings.

One of our local Tasmanians, Forthside's Kate Cowle (a gentlewoman, later to become Mrs.Gustav Weindorfer of Cradle Mountain) was a member of VFNC for 3 years from

1902. According to her biographer, Sally Schnackenberg, it was a paper called "Notes of a Visit to Mount Roland" that she read to a meeting of Club members in August 1903 and later published in the Club's journal *The Victorian Naturalist*, as well as her botanical expertise, that aroused the interest of Weindorfer, a graduate of the Fransisco-Josephinum agricultural high school near Vienna and fellow field naturalist, in visiting the alpine regions of Tasmania.

The 1914 publication was situated at the cusp of a profound change in Anglo-Australians' ideas about their gardens, which were hitherto mostly designed to remind folk of far away England. Yet there were few books on Australia's wild flowers and plants, despite an increasing interest in cultivating and showing native plants.

As Pescott himself observed:

The teaching of Nature Study in schools, the holding of Nature Study Exhibitions, the increased attention being given in our Botanic and Public Gardens to the cultivating and segregating in groups of our native flora, the propaganda work of Forest Leagues and Wattle Day Leagues are all helping to popularize our native flowers. It is therefore pleasing to note, as a result, that many nurserymen are increasing their stock and variety of these plants, and thus by their catalogue and in other ways, making many desirable plants available to the public that were previously quite unprocurable. (p.12)

Dickins continued to pursue his interest in painting native flowers, and he generously supported a number of popular books about Australian native plants with his illustrations. He also became President of the prestigious Royal Victorian Horticultural Society (RHSV), an organisation which helped the State of Victoria to become widely recognized as 'The Garden State' and which greatly assisted the development of the Society for Growing Australian Plants.

The RHSV had been established in 1848 with Charles La Trobe, the Colony's Superintendent, as Patron and the Mayor of Melbourne, Henry Moor, as the inaugural President. In 1885, it was granted a Royal Charter by Queen Victoria. In 1956, the society published a comprehensive collection of Dickins' wildflower paintings, entitled *One Hundred Australian Wildflowers with Botanical and Vernicular Names Collected and Painted by H.P. Dickins*. It was the greatest compliment its members could give.

Dickins died in Camberwell in 1963, aged 91. I suspect his paintings of bush flowers will live on, cherished by those who discover his work, as I have done, on some second-hand book stall at the Sunday markets.

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A Return to King's Run

by Jim Nelson

In the spring of 1998 four members of the CNFN (then the Deloraine Field Naturalists Group) visited Geoff King's property on the West coast north of the Arthur River. The objective was to document natural values as part of Geoff's plans to manage the property as a conservation area. We put together lists of flora and fauna (including 115 species of plant, 43 bird species, 2 butterflies, one seal, three frogs, three freshwater crayfish and one unidentified female dung beetle), and in the process we were simply stunned not only by the property's sheer natural beauty, but also by its importance to Aboriginal history. Thus, when a return visit was offered to see how Geoff's dreams for the area have progressed, it was an opportunity not to be missed. Sarah, Ron and I (who were part of the original visit) jumped at the opportunity, and seven others decided to make the long trek to the West Coast with assurances that it would be worth it. Fingers were crossed for good weather, which is never guaranteed in the area.

The property (known as King's Run) has been in the King family's hands since 1880. The 800 acres consists of heath, grasslands and shrubby woodlands, along with the coastal vegetation verge. The property has a conservation covenant put in place by Geoff for protecting its wonderful natural values along with its very significant archaeological sites.

We met Geoff near Arthur River and were led onto the property via a new entry road. The land looked wilder than I remembered, the result of the removal of cattle, with the native herbivores now solely allowed to keep the grassy areas under control. The extensive shrubby areas were expanding and could eventually cover the grasslands without some intervention. The Aboriginal people used fire to keep areas open, and Geoff sees this as a tool to be used with care along with observations of the results. Certainly, the mix of shrubby cover along with the grassy, sedgy areas allows the current rich mixture of animal and bird life to flourish, and it seems

most desirable to maintain this diversity. Cool burns are perhaps the only viable alternative not only for maintaining diversity, but also for avoiding a conflagration. Fire is never pretty, selective nor without consequences, and is always something of a double-edged sword when used for conservation management.

I was particularly keen to see how the freshwater crayfish I had identified on our first visit were getting along. *Engaeus lengana* is a west coast endemic burrowing crayfish with a distribution that extends south of Macquarie Harbour; it is also found on Hunter Island. I was quite excited the first time I found this crayfish at Birchs Inlet, because I hadn't realised any *Engaeus* extended so far south. But of course when I looked at Dr Pierre Howitz's distribution map, he had the species recorded at Birchs Inlet and even further south. Nevertheless, *E. lengana's* stronghold is the north-west, with Rocky Cape being the furthest extension to the east that has been recorded. I suspect they may extend to Sisters Creek but I have yet to set eyes on the elusive *Engaeus* there. It is not a priority to extend their distribution a few kilometres eastward where they are in a safe place, so until I find some carapace parts, or find one under a log, their identity remains an intriguing mystery.

It was good to see that the *E. lengana* at King's Run were showing recent activity in the area where I had previously found them. The other freshwater crayfish in the area is one I identified as *Geocharax insignis*. This crayfish is found in the Bass Strait Basin, and its taxonomy has recently been revised (Hanson 2006). It occupies ephemeral bodies of fresh water only on the northwest coast in Tasmania. It is quite active in the springtime, with burrows having pellets of soil loosely found around them. It is quite usual to find either dead crayfish, or parts of them, around the edges of the water. Since these ephemeral ponds dry up by summer, the crayfish presumably burrow down to the water table, and appear to remain there until the next spring.

Other wildlife we saw included two species of wallaby, a huge, quite dark-furred wombat, as well as a large echidna. The bird life was rich, with both bush birds and coastal birds. As well, a pair of Wedge- tailed Eagles came for a look at us.

A particularly intriguing frog with strange, orange colouring was discovered by Sarah while pitching their tent. From the photos I believe it to be a brown tree frog. It has the characteristic dark stripe extending through its eyes, and tiny pads can just be discerned on its toes. The brown tree frog was the only frog I heard calling at night.

brown tree frog (*Litoria ewingi*)

The history of the original inhabitants is written large in the landscape beyond the areas kept open through the use of fire for hunting and movement. There are many middens near the shore of huge size and significance, with stone tools still lying where they were last used.

There are also hut depressions still visible in the ground a little further back from the shore. George Augustus Robinson described in his journals the huts built over these depressions using sticks and hides, along with the people living in them. He also described the depressions in the rocks close to the sea in which they used to hide while hunting seals. Amazingly, these depressions too are still visible. Surely this area must be one of the richest sites in Tasmania, and Geoff is serious in his efforts to maintain its significance.

Marrawah Skipper (*Oreisplanus munionga*)

For many years, off road vehicles have travelled this coastline with impunity, heedlessly trashing middens and coastal vegetation. Efforts are now in place to bring this 'traditional abuse' to a halt, and the authorities are finally beginning to participate in protecting this important area. Geoff vigorously discourages the vandalism which consists of driving over the middens, and gradually the message is getting across that Kings Run is off limits.

We were privileged to have a demonstration by Geoff of his Tasmanian Devil viewing program, which is a part of Kings Run Wildlife Tours (see www.kingsrun.com.au). The Devil viewing takes place in a dedicated building near the shore. It has a large window for viewing the sensitively lit area containing a road kill carcass that has been dragged through the grassland to leave a scent trail for the Devils to follow to the site. We didn't manage to see a Devil, but Geoff kept us well entertained with food and wine and stories of how the business was established through the advice and assistance of Nick Mooney. He keeps detailed records and is careful not to habituate the Devils.

Geoff's vision and efforts at King's Run are admirable, and his commitment to conserving this important area needs recognition and support. When visitors to Tasmania want to see something special in the way of our natural history, Kings Run has much to offer them.

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Richard's Pipit

Case Moths

by Sarah Lloyd

There is something fascinating about animals that make their own shelters.

In the wet forest at Black Sugarloaf, Bitralee, the slender conical cases (approximately 20 mm long) made of finely woven silk dotted with tiny fragments of bark and lichen are often observed attached to the trunks of dogwood (*Pomaderris apetala*) where the animals graze on algae or crustose lichens; the micro-epiphytes that create patterns on the dogwood trunks. In other higher rainfall areas in Tasmania a group of related species graze on the smooth-barked wet forest species including sassafras (*Atherosperma moschatum*), silver wattle (*Acacia dealbata*) and musk (*Olearia argophylla*).

The species responsible are case moths currently in the genus *Narycia* (subfamily Taleporiinae). There are at least eight and possibly up to 25 species of Taleporiinae species in Tasmania. Unlike some case moths that have wingless females that never leave their larval cases female *Narycia* case moths are fully winged. Many are yet to be scientifically described and named, a process made difficult because the small adult moths are rarely attracted to light traps and because many of the adults emerge in late winter and thus avoid detection. Many *Narycia* species are weak flyers and are on the wing in the late afternoon especially on relatively mild, wind-free evenings in the winter months between May and August; other species fly in late spring. When at rest most *Narycia* species roll their wings around their body and appear very twig-like.

20mm long case moth (*Narycia* sp.) with emerging pupal shell

three of the approximately 100 tiny case moths (<10mm) seen on dead *Olearia lirata* in March 2012

In mid summer many of the 20mm long cases were attached to the rough bark of banksias, dead understorey plants and even some rusty wire on an old fence post. Some did not appear to be alive, (around 50% of case moth cases are parasitised by brachonid or ichneumonid wasps) while others had the pupal shell visible at the posterior end indicating the successful emergence of the adult moth.

In late January two tiny animals barely 10mm

long were seen moving along the leaves of cutting grass (*Gahnia grandis*) and during a CNFN trip to Black Sugarloaf in early February numerous of these tiny cases were seen on the bark of the dogwoods. This lead to some discussion as to whether the small cases were young animals yet to attain their full length or whether they were a different smaller species. (Most adult *Narycia* species have a wingspan of between 12 and 20mm. A smaller species with a wingspan of only 9mm has been collected in Tasmania as has a larger species with a 25mm wingspan.) A different species (photo on front cover) with a similar but longer case of approximately 30mm decorated at the anterior end with tiny twigs was observed on a banksia one evening but has not been seen again.

What make these animals intriguing is not only what species they are, but how they construct their cases and what goes on inside them.

The cases have two openings. In the tiny case moths seen on the cutting grass the head of the larva could be seen protruding from the anterior end as it made its way down the leaf. Another small animal seen a few weeks later caught in a spider's web was making desperate attempts to escape its fate and it too was visible. Once the animals find a suitable location they use silk to secure the anterior end of their case to a branch or trunk where they feed or collect material to attach to their case. When they are about to move to another location the larvae cut the silken threads. Faecal pellets are expelled from a small opening at the posterior end of the case.

Some species of case moths lay large numbers of eggs (a West Indian species *Oiketicus kirbyi* lays about 13 000 eggs). When the eggs are laid inside the case the first instar larvae use silken threads to lower themselves through the posterior opening. They spin silk and probably use some of it like a balloon to be carried by a breeze to a new plant. The larvae then fashion a conical silken case to which they attach

this case moth (Narycia sp.) with emerging pupal shell makes an untidy case of tiny twigs

fragments of plant, lichen or detritus. As the larvae grow they enlarge the anterior end of the case by attaching various materials characteristic of the species.

Just before ecdysis (i.e. shedding of exoskeleton) the larvae secure the case to a twig or other object and close the aperture with silk. How many times the larvae undergo ecdysis is difficult to determine because they eat their shed skins. But based on how many times the larvae close their case for ecdysis, observations of the aforementioned species *Oiketicus kirbyi* suggests that they undergo 12-14 instars.

When the larvae mature they tie the anterior end to a twig or similar object, close the anterior aperture and spin a dense cocoon within the case. Before pupation the larvae reverse themselves in the cocoon to direct the head towards the posterior opening.

Before the final ecdysis (known as eclosion) the pupa (in both sexes of the Taleporiinae and the males of Psychinae) protrudes from the posterior opening of the larval case. The females of some species sit on the outside of the case awaiting copulation.

Unlike the Taleporiinae species that feed mostly on lichens, Psychinae case moths are often polyphagous and feed on herbs, shrubs and fruit, ornamental and forest trees. Some of

the more common and visible species belong to the genus *Clania*. *C. tenuis* makes a cylindrical case to which it attaches twigs of a similar length cut from its host plants including *Eucalyptus*, *Callistemon* and *Leptospermum* species. Another *Clania* species use twigs of a similar length except for one longer twig. *Hyalarcta nigricans* makes a silken case with prominent longitudinal ribs.

We thank Peter McQuillan for providing information about the *Narycia* species and identifying the species on the orchid flowers as possibly *Helioscoma* species.

References page 15.

Lepidoscia sp.

parasitic wasp ovipositing into a case moth

Clania tenuis

Clania sp.

Hyalarcta nigricans

Case Moths Feeding on Orchid Flowers

by Phil Collier

In the course of a spring season, we inspect thousands of orchid flowers. Most of them are just flowering, but very occasionally we find interactions with other organisms. Probably the most common is finding a case moth larva feeding on the flower. Insects somehow manage to attach quite strongly to the "bud", which is often a sun orchid flower that is awaiting the right conditions to open fully. The larva (caterpillar) inside the case is able to graze through the flower bud, probably targeting the column and its nutritious pollen. There appears to be at least three species involved:

† This case includes some prominent pointed leaves from *Epacris impressa*, or *Epacris lanuginosa*, with other plant material including buds, petals etc. This specimen is grazing on *Thelymitra arenaria*.

† This case (presumably silk inside) is decorated with a mass of anthers. The anthers probably come from a wind pollinated source, given the quantity involved, but how they are sourced by such a small larva is unclear. This specimen is grazing on *Thelymitra spadicea*.

† Case with plant material and "earrings" formed of male flowers of *Leptocarpus tenax*. This may be a variant of the above species when pointed leaves are not available. This specimen was thought to be on a bud of *Thelymitra polychroma* or *Thelymitra erosa*.

Lepidozia serrulata - A new liverwort for Tasmania

by Tom Thekathyil

Lepidozia serrulata is a fairly recent addition to the genus as it was only described in 2004 from Stewart Island in New Zealand and considered endemic to that country. More recently it has been identified from New South Wales and now from Tasmania.

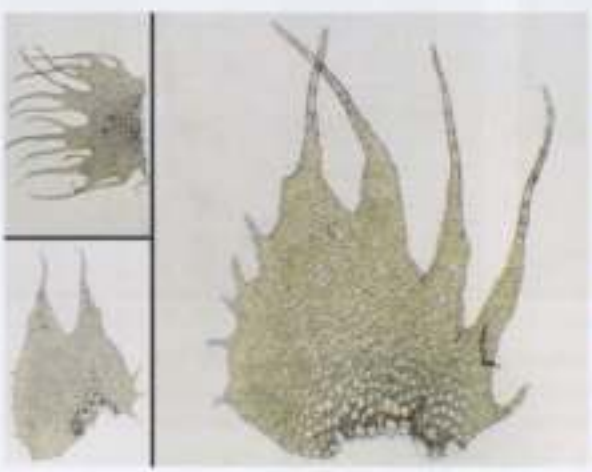
Engel & Glenny (2008) provide a description of the species so these notes are additional to that.

Both specimens were collected above 700m altitude at the Blue Tier. The first specimen was sterile, and growing on usually damp soil beside a roadside stream in the open although it was shaded partially by overhanging *Leptospermum* trees. It was semi-erect and growing in tufts.

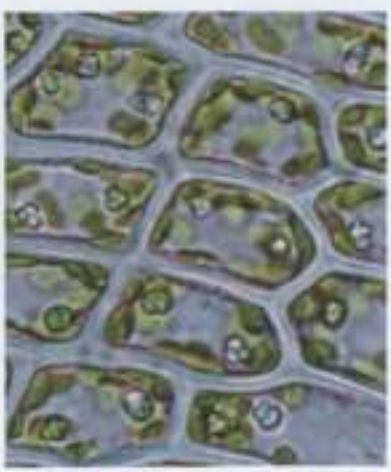
Lepidozia serrulata growing with *L. procera*

The second fertile specimen was prostrate, growing over rotting logs under protected permanent shade mainly of *Nothofagus cunninghamii*. Engel & Glenny state that no androecia or gynoecia had been sighted without mentioning if fruiting had been observed. We saw several populations fruiting around mid-November.

Leaves were 4-fid with lobes entire on some specimens but the others had teeth off the lobes. Likewise the underleaves were 4-fid with minimal branching on some and split into 3 spinose teeth in others.



L. serrulata leaves



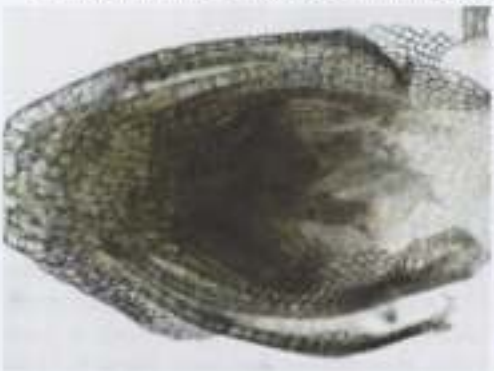
L. serrulata cells

We returned to the sites in mid-February and collected a few shoots with gynoecia from the shaded site. The sample included some perianths from the previous season. There were a few androecia on distal parts of flagellate branches almost devoid of leaves as well as a single main stem with a pair of ventral androecia.

A collection from the open site yielded androecia on flagellate branches. Antheridia had uniseriate (arranged in one row) stalks and spermatozoids were free swimming when the image was taken.

This constitutes a new record for Tasmania; fertile specimens have been lodged with the Tasmanian Herbarium.

I'd like to thank E Brown for confirming identification of the sample. References page 15.



↑ gynoecium (plural gynoecia) - 'female house'

This includes the archegonia (see below), paraphyses (if present) plus surrounding modified leaves.

↑ androecium (plural androecia) - 'male house'

This includes all of the antheridia, paraphyses (if present) and surrounding leaves.

← antheridium (plural antheridia) male reproductive organ of a bryophyte.

When mature, the antheridium is a sac containing many sperms (also called antherozoids or spermatozoids) in a single-layered jacket on a short stalk.

Archegonium (plural archegonia) female reproductive organ of a bryophyte. Flask-shaped at maturity, with a long neck and swollen base containing an egg. Cells blocking the neck canal disintegrate, the tip splits open and sperms swim down the neck guided by a chemical attractant secreted by the egg or neck canal cells. After fertilization the archegonium protects, nourishes and influences the growth of the young sporophytes.

Paraphyses (singular paraphysis) sterile, septate, (i.e. divided by cross walls) hairs usually uniseriate (arranged in one row); some club-shaped or coloured intermixed with sex organs in most mosses and some liverworts.

Perianth in some liverworts, a tube-like structure formed of fusion of 2-3 leaves that protects developing sporophyte. (Definitions from Malcolm 2006)

Ovipositing fly

by Sarah Lloyd

This fly (~8mm long) was photographed on a farming property south of Cressy. It belongs to the Platystomatidae family and is possibly a *Rivellia* sp. Members of this genus are similar in appearance to *Lamprogaster* species (see *Wings* page 76) but they have long transverse bands on their wings rather than the usually thicker, triangular shaped bands of *Lamprogaster*.

Adult flies are often seen on or near the dung of mammals on which they feed. But the biology of these flies–as with many invertebrates–is not well known.

The habitats of the larval stage of Platystomatids are varied. They occur in living and dead vegetable matter and in Europe have been found in graves. Some live in plant trunks damaged by other insects or fungi, or in the tunnels made in fallen logs by beetles. *Rivellia* species are almost cosmopolitan and some *Rivellia* larvae live in bacterial root nodules on leguminous plants, probably including *Acacia* species. Larvae of another platystomatid species *Elassogaster linearis* have been found consuming the eggs of a locust; they also live in decaying vegetables. Larvae of *Lenophila* species have been found in damaged trunks of *Xanthorrhoea* species and adults are commonly found on the foliage.

There don't appear to be any records of platystomatids ovipositing into grass stems. The grass may be the host for the larvae, but it also may be a safe place for the larvae to hatch before they move to their host. Many fly larvae actively seek out their hosts so the females only need to deposit eggs in the general area.

We thank Tony Daley who identified the fly from the photographs and supplied information about its biology. He also identified the stilt fly *Metopochetus (Seva) bivittatus* (Micropezidae) on the back cover.

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Walks and other events:

April 1st - Notley Fern Gorge
May 4th & 5th - Fungimap at Corinna
June 3rd - Warrawee Reserve, Latrobe
July 1st - Jim's place at 68 Dynans Bridge Road, Weegena
August 5th - TLC Reserve at Liffey

Please see insert or CNEN website for more details
www.dispectinaturalists.com/

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