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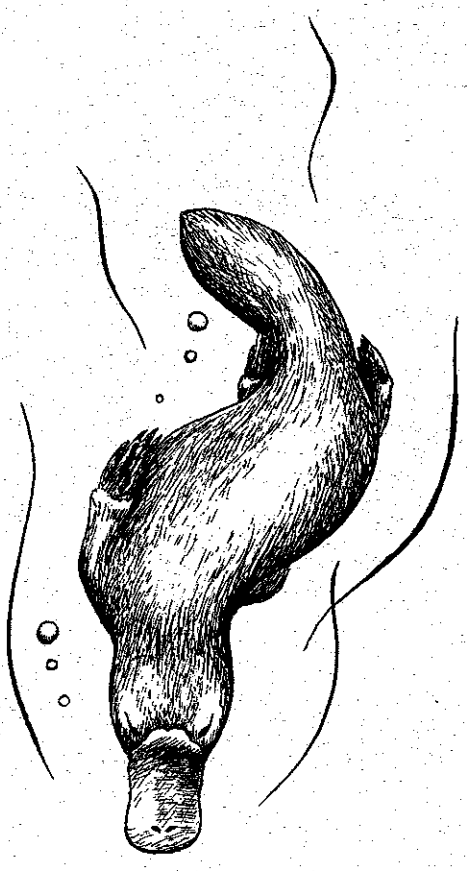

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SOME INTERESTING FUNGAL RECORDS FOR TASMANIA

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The following is an account of a few noteworthy records of fungi that either have never previously been reported as occurring in Tasmania or have not been reported in recent times, being known only from old herbarium records.

The first species is *Battarrea stevenii* (Libosch.) Fr., a 'stalked puffball' of worldwide distribution, known from the arid zones of mainland Australia but not previously reported from Tasmania. We knew that our fellow Field Naturalists Janet and Geoff Fenton were going to Swan Island, east of Cape Portland and north of Musselroe Bay in Bass Strait. As this is an area that is not easy for us to visit, we asked them to collect any fungi species that they might find. They turned up at the next Field Naturalists meeting with two specimens (Figure 1) of what looked like a thick stem of a grass, rush or sedge with a knob at the end, that they had collected among *Poa* tussocks on 29 April 2004. Although we had an inkling at the meeting that this might be *Battarrea stevenii*, neither of us had actually seen a specimen before, so we contained our excitement until microscopic examination at home showed that the specimen was indeed *Battarrea stevenii*.

It is certainly an unusual species, with a stem reported by Cunningham (1944) to be up to 35 cm tall and up to 15 mm diameter, tapering downwards and attached to the substrate by a distinct two-layered leathery or woody 'volva'. The diameter of the 'head' of the fungus, which rarely exceeds 6 cm, is disproportionately small compared with the length of the scaly stipe. The outer peridium is usually a mixture of sand particles and hyphae, soon disappearing to leave a tough, membranaceous inner peridium hiding the gleba, the spore-bearing tissue of the puffball. At dehiscence, little is left of the peridium. The spores are globose to subglobose, ca. 5-6 μm, with a surface that appears pitted when seen at x1000 magnification using oil immersion. A very unusual feature of this puffball is the presence of elaters amongst the spore mass. These cylindrical or cigar-shaped spiral thickenings are common in liverworts, where their function is to assist in spore dispersal, but they are rare in fungi, being present in only a few species. A colour photograph of this species appears in May *et al*. (2003, plate 61) and microscopic details of the spores and elaters are illustrated by Grgurinovic (1997, fig. 373). The climate of Swan Island is similar to that of Flinders Is-

land and other islands of the Furneaux group, and that of the coastal area north of St. Helens. Hence, annual rainfall is lower than in most other parts of Tasmania. This may be the first reported record of this species from Tasmania, but it is likely that it occurs in other coastal areas in the northeast.

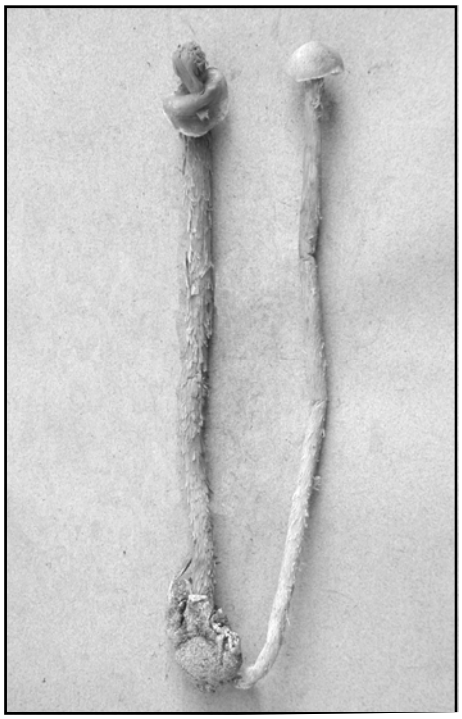

Figure 1. The two *Battarea stevenii* specimens collected by the Fentons from Swan Island, 29 April 2004.

The second species is *Laccocephalum hartmannii* (Cooke) Núñez and Ryvarden, known from Queensland and southeastern Australia, but not reported recently from Tasmania. Our first specimen was collected by Marc Gates, the 12-year old son of one of the authors, in dry sclerophyll bushland a few hundred metres south of their home in Taroona on 24 March 2004. It was growing near the root of a *Eucalyptus viminalis* tree. A photograph of this species appears in McCann (2003), p. 81. We have since found it in dry sclerophyll bush at Quarantine Point on Bruny Island on 9 May 2004.

Two closely related species to the above are *Laccocephalum tumulosum* (Cooke) Núñez and Ryvarden, and *Laccocephalum sclerotinium* (Rodway) Núñez and Ryvarden, which occur in recently burnt, native forests. Both of these polypores possess a sclerotium, a storage organ that enables the species to fruit abundantly after severe fire. We first found *L. tumulosum* during an outing to

Macgregor Peak, Forestier Peninsula, on 10 April 2004 on a walk through an area of recently burnt, wet eucalypt forest. Six weeks later, whilst surveying the start of the old Cape Pillar track (also wet sclerophyll), which was burnt early in 2004, we found it again (Figure 2). It is a fairly large species, with a medium brown pileus to 8 cm diameter and large, well-formed, soft, white pores measuring 1-2 x 1 mm. Microscopically, the elliptical, hyaline spores are 12-14 x 5-6.5 µm. In contrast, *Laccocephalum sclerotinium,* based on a Tasmanian type described by Leonard Rodway, is a much smaller species with a medium brown pileus to 3.5 cm diameter, marked by prominent concentric rings, much finer pores ca. 3-4 per mm, and much smaller spores, 5.5-6 x 2-2.5 µm. These two species are also illustrated by Fuhrer (2001), pp. 125-126.

Figure 2. *Laccocephalum tumulosum,* observed by the authors from the old Cape Pillar track, 1st July 2004.

Another species of *Laccocephalum* that may be encountered in Tasmania is *L. mylittae* (Cooke and Massee) Núñez and Ryvarden, commonly known as native bread because of its very large, fleshy sclerotium that may have been a food source for the Aborigines. It is the sclerotium that is usually brought into herbaria as a curio (see Bougher and Syme, 1998, p. 329, as *Polyporus mylittae* and Fuhrer, 2001, p. 123, for illustrations). Unlike *L. tumulosum* and *L. sclerotinium*, whose storage organ can best be described as a "false sclerotium", *L. mylittae* has a true sclerotium made up of marbled masses of fungal mycelia that can be up to 60 cm diameter and weigh as much as 18 kg (Robinson, 2001). In contrast,

the sclerotia of *L. tumulosum* and *L. sclerotinium* consist of a mixture of soil and hyphae. In *L. tumulosum*, the binding may be so hard that the sclerotium has a rock-like texture and appearance, earning its common name of stonemaker fungus. Some of these may reach a weight of 30 kg (Robinson, 2001). In *L. sclerotinium*, however, the false sclerotia are small and lie close to the soil surface.

ACKNOWLEDGEMENTS

Our thanks go to Geoff and Janet Fenton for their collection of *Battarrea stevenii* from Swan Island.

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The Tasmanian Naturalist (2004) **126:** 6-11

COMMON ELEMENTS IN THE FAUNA AND FLORA OF TASMANIA AND THE UK

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> "I'm standing on a bank watching the sun go down behind the reedbed bordering the river. 'Common reed' doesn't do justice to the beauty of this plant when seen *en masse* in the evening sunlight, its feathery seedheads nodding in the chill autumn breeze. It really sums up this place. High above, a peregrine falcon chases a flock of feral pigeons out over the fields. And then a swamp harrier appears, quartering low over the reedbed before dropping down to roost. This is a really special experience for me, my first swamp harrier and in the magnificent setting of the Norfolk countryside. It's October and soon, I know, the harrier will be heading south for the winter. I'm glad I saw it before it left."

Tasmania abounds with wild places and special wildlife experiences such as this. Except the observant reader will have noticed that I said Norfolk, not New Norfolk; I described October as autumn, and mentioned that the harrier would be migrating south for the winter, not north. My account relates to three species that are rightly thought of as typically Tasmanian, yet are also typically English. They represent a small sample of a much larger phenomenon that has fascinated me since moving from England to Tasmania: the two regions, though on opposite sides of the world, share a surprising number of native species in common.

Of course, despite its similarities, Tasmanian nature was seen as far too, well, *foreign* to be able to nourish the souls of the early Europeans, who pined for some more familiar reminders of the old country. The acclimatisation societies around Australia did much to shape the view that Australian nature was inferior and needed supplementing with European stock. Nowhere was this easier than in Tasmania, where a host of familiar European species from oak trees, holly and ivy to blackbirds, sparrows and starlings have readily 'acclimatised', some beyond the wildest dreams of the acclimatisers. A century or more later, a backlash now sees this acclimatisation as a threat to local nature. One of my points in writing this article is to remind the reader that there are species that naturally

occur in both regions and deserve our respect for being able to have colonised these global extremities without the hand of humans.

Perhaps the environment where species sharing is most apparent is in the oceans surrounding the islands of Tasmania and Britain. For species able to swim, or to drift on the currents, there are far fewer obstacles to global dispersal than there are for land-dwelling species. Species tolerant of a wide range of temperatures and/or salinities are almost born to disperse around the globe. Strong swimmers, such as dolphins and whales, have the clear advantage here. Bottlenose dolphins *Tursiops truncatus* are equally at home in Hobart's Derwent estuary as they are in the firths of Scotland, where they may encounter some of the same fish species, such as grey mullet *Mugil cephalus* and john dory *Zeus faber*. Orcas (killer whales) *Orcinus orca* keep the dolphins on their guard in both regions.

Four ocean surface drifters are as likely to be found by visitors to Tasmania's east coast are as they are on the southwest coast of England or Ireland, as each region lies in the path of warmer waters originating in the tropics. Three of these drifters are jellyfish relatives: the bluebottle or Portuguese man o'war *Physalis physalis*, the by-the-wind sailor *Velella velella*, and the porpita *Porpita porpita*. The first two of these have 'sails' to catch the wind. *Physalia* has a bag of carbon monoxide as a combined float and sail, while *Velella* has a stiff sail. But *Velella* has one advantage: they come in two different orientations, ensuring that sustained winds will drive those whose sails are orientated to the left of the body in one direction, while those whose sails are orientated to the right of the body end up sailing in another direction. What better mechanism could there be for global oceanic colonisation? The only problem for *Velella* is that, wherever they drift, the violet snail *Janthina janthina* (Figure 1) drifts too. It exudes a bubble raft and sails the oceans in the hope of bumping into one of these jellies, on which it feeds. Like the jellies, it occurs in eastern Tasmania, southwest England and most of the warm oceans in between.

Being able to drift or swim with the ocean currents also explains why three 'true' jellyfish, the moon jelly *Aurelia aurita*, the lion's mane jelly *Cyanea capillata* and the phosphorescent jelly *Pelagia noctiluca* are also found in both regions. They are joined by the ramshorn snail *Spirula spirula*, a squid relative whose shells are occasionally washed up in eastern Tasmania and in southwestern England, and the goose-barnacle *Lepas pectinata*, which hitches a ride on driftwood and is similarly well distributed. And just occasionally, trawlermen in both regions may net a leatherback turtle *Dermochelys coriacea*, the most cold-tolerant of the marine turtles but one common to both hemispheres. This is one species that sometimes falls victim to great white sharks (white pointers) *Carcharodon carcharias*. Tourism operators would have us believe that great whites

are as unlikely to be encountered in Tasmania or Britain as in the cool waters of the northeast US (where the film *Jaws* was set), but there are regular sightings from the east coast of Tasmania and one recent sighting from southwest England.

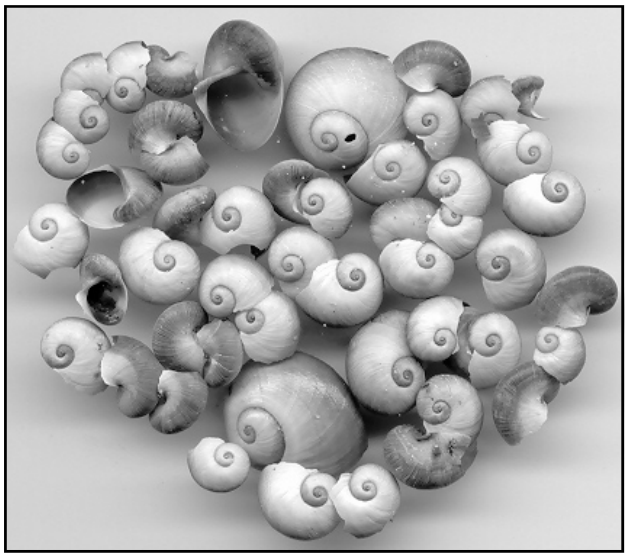

Figure 1. A collection of violet snails *Janthina janthina* collected by the author from Safety Cove, Tasman Peninsula, in summer 2002 following a spell of strong easterlies. The same species may be washed up on favoured British beaches following sustained southwesterlies.

But you don't have to spend your entire life swimming or drifting to conquer the world's extremities. Many invertebrates are sedentary as adults, but start life as planktonic larvae, and therefore have many of the same opportunities for travel as do the dedicated drifters. Thus it is that the common heart urchin of Tasmanian sandy beaches, *Echinocardium cordatum*, is the same common 'sea potato' found around Scotland and Ireland. One of my most prized Tasmanian seashells is a red rock whelk *Charonia lampas*, found on a Tasmanian Field Naturalists' trip to the Forestier peninsula earlier this year. It's not just that it's an uncommon shell in Tasmania, but more that it's a species I longed, as a child, to find in England, having read of its occasional occurrence there (it's commoner in the Mediterranean). Taxonomists have also now decided that the common blue mussel of Tasmanian rocky shores is the same species, *Mytilus edulis*, that is found along much of the coastline of Europe. Even the green intestine weed *Enteromorpha intestinalis* that carpets nutrient-enriched shorelines, and the velvet weed *Codium fragile* of slightly 'nicer' coastal reefs, has a foothold in both regions. Sadly Britain cannot claim the giant kelp *Macrocystis pyrifera*, but this species, a Tasmanian icon, is actually found around the Pacific, including New Zealand, Chile and California. While I'm on the subject of seaweed, the seaweed fly *Coelopa frigida* is another transglobal citizen, its larvae equally at

home munching through beachcast decaying giant kelp in southern Tasmania and in equivalent European settings.

Before I leave the oceans for the land, I should mention the shorebirds and waders that migrate from their northern tundra breeding grounds to spend the southern summer on Tasmania's beaches. Ruddy turnstone *Arenaria interpres*, bar-tailed godwit *Limosa lapponica* and whimbrel *Numenius phaeopus* are three such species whose more western populations are regular migrants in Britain, some of them on their way to or from summering in southern Africa. They are followed from their breeding grounds by Arctic skuas (jaegers) *Stercorarius parasiticus*, some of which pass through Britain on their way to the Southern Ocean, including offshore Tasmania. Meanwhile, the little tern *Sterna albifrons* migrates shorter distances but has somehow attained a presence as a breeding coastal bird in both regions. A few birds make the transequatorial journey in the opposite direction. Tasmania's iconic muttonbird or short-tailed shearwater *Puffinus tenuirostris* normally 'winters' in the North Pacific, but occasional sightings have been claimed for British Atlantic waters.

It is not surprising that birds, with their powers of flight, feature prominently in this essay. Species of wetlands seem particularly mobile, perhaps because their habitat is naturally ephemeral. I have already mentioned the swamp harrier *Circus approximans*, known as the marsh harrier in Britain. Tasmanian wetlands also share great crested grebe *Podiceps cristatus*, Eurasian coot *Fulica atra*, great cormorant *Phalacrocorax carbo* and little egret *Egretta garzetta* with those of Britain (and with many of the wetlands in between). The little egret is a recent colonist of England from further south; next on the list may be the black-winged stilt *Himantopus himantopus*, a species which has bred in England on more than one occasion and one that occasionally turns up in Tasmania too. One of the characteristic plants of wetlands in both regions is the common reed *Phragmites australis*. In British texts it used to be called *P. communis*, but somehow it seems it was described first from somewhere more southern in its near-global range, perhaps the great Southern continent, and its name now reflects this.

And so to the truly terrestrial species. There are fewer of these, at least on my list, probably because having a lifestyle adapted for dispersal between landmasses is a risky strategy. I should start with the species whose name says it all – the wanderer butterfly *Danaus plexippus*, known as the monarch in North America and the milkweed butterfly in the UK. This species is perhaps only truly native of the Americas, but with a little help from humans it has crossed the Pacific and occasionally turns up in Tasmania. It seems to have crossed the Atlantic unaided, and now breeds in Spain (on non-native milkweeds). Most years some are spotted by birdwatchers in southern England, usually following intense

autumn storms from the west. Another butterfly migrant from warmer climes, rare but increasingly sighted in both Tasmania and the UK, is the long-tailed (or pea) blue *Lampides boeticus* (Figure 2). In both regions it is attracted, like the wanderer, by non-native foodplants that have been introduced by humans. Strangely, in Tasmania it is associated with European broom (a species native to the UK), while in the UK it apparently prefers tree lupins. The convolvulus hawk-moth *Agrius convolvuli* is a nocturnal counterpart to these butterflies, since its global distribution has been extended polewards through human activities and now includes both the UK and Tasmania.

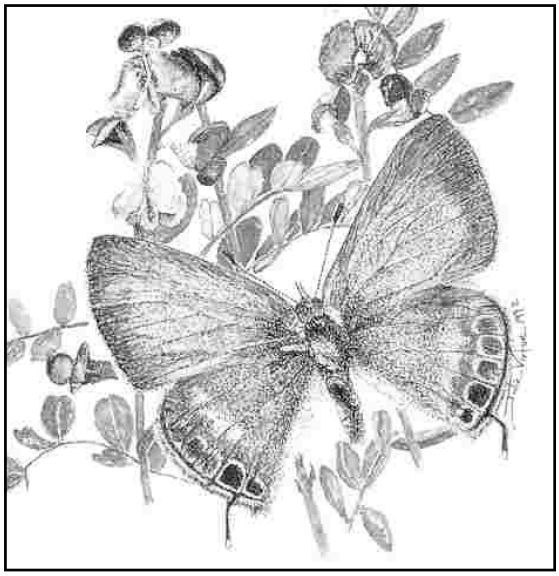

Figure 2. Julie Virtue's painting of the pea (long-tailed) blue *Lampides boeticus*, a migrant with a range encompassing Tasmania as well as the UK.. Reprinted with the artist's permission.

There is a surprising number of plants common to both regions. When I first arrived in Taroona, I was dismayed to see the grassland in the local park overrun with what I took to be an exotic weed, self-heal *Prunella vulgaris*. Only subsequently did I find out that it was native here as well as in the UK. Its presence in Australia troubled the early European botanists too: how it attained this disjunct distribution is anyone's guess. Couch-grass *Cynodon dactylon* is another weed lookalike, strangely native in both regions. It's easier to understand how sow-thistle *Sonchus oleraceus* could end up in both places: its seeds each bear a feathery pappus that it's possible to imagine facilitating transoceanic transport on the wind. But I still resent having to weed it out of flower-beds in Taroona, just like I had to do in the UK. Rather than relying on transoceanic winds, the sea-purslane *Portulaca oleracea* must benefit from oceanic currents instead to allow

for its disjunct distribution along seashores in both regions.

Spore-producing plants, not surprisingly, are sometimes able to disperse far and wide and there are many species in common between the UK and Tasmania. Fern examples include adder's tongue *Ophioglossum lusitanicum* (the specific name reflecting its southwesterly centre of distribution in Europe), moonwort *Botrychium lunaria*, and maidenhair spleenwort *Asplenium trichomanes*. Mosses are renowned for their wide-ranging spores, and the wetter forests of the UK and Tasmania share *Polytrichum juniperinum* and *Hypnum cupressiforme*, amongst others. As proficient spore-producers, fungi must outclass most organisms, and many species apparently have wide distributions. I say apparently because our understanding of what constitutes a fungal species is still developing, and cryptic species probably abound. It is telling, though, that one of the main identification texts used by our Tasmanian fungal experts Genevieve Gates and David Ratkowsky is a work on the fungi of Switzerland. The lawyer's wig or shaggy ink cap *Coprinus comatus* is just one familiar species whose fruiting bodies decorate autumnal lawns in Tasmania and the UK.

I could go on with further examples, but I think I have made my point. Despite the undoubted uniqueness of much of Tasmania's nature, there are some species that buck the trend. As a relatively recent arrival to Tasmania, having seen or heard of these species elsewhere in the world, they really stand out in the crowd. It's comforting to see familiar things alongside the new, and they provide a foundation on which to build new knowledge, new understanding. But perhaps the biggest lesson for me is how special a place Tasmania is because, give or take a few score prominent widespread species, much of Tasmania's nature really is unique.

The Tasmanian Naturalist (2004) **126:** 12-17

RECORDS OF BIRDS AND OTHER VERTEBRATES FROM TASMANIA'S FAR SOUTH-WEST COAST

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The following records of birds and other vertebrate species were collected during the course of an extended bushwalking trip undertaken by the author to the coastline of the South West Cape Region, in Tasmania's far south west corner. The visit was seen as an opportunity to gather such records from a part of the state which is relatively inaccessible and little visited by scientists or naturalists, although in recent years has become a popular bushwalking route. The duration of the bushwalk was of 10 days from 31st December 2003 to 9th January 2004. The start of the bushwalk was at the airstrip and settlement of Melaleuca on Bathurst Harbour. However, no records were taken in the vicinity of this site, partly because of the extensive history of visitation by wildlife management authorities and other people concerned with conservation of the orange-bellied parrot *Neophema chrysogaster*.

The route was from Melaleuca southwards to New Harbour, where the recording commenced. From here the track was taken westwards along the coast to South West Cape, then north westwards from Mount Karamu along the South West Cape Range to Window Pane Bay, and then further on to Noyhener Beach. Here a side trip was undertaken to Stephens Bay and Spain Bay. Finally the last leg of the journey involved going eastwards over the northern extension of the south West Cape Range and the Pasco Range to Horseshoe Inlet to join the Port Davey Track south of the Narrows of Bathurst Channel and returning to Melaleuca.

The habitat of the route and surrounding areas is diverse. The coastline consists mainly of exposed rocky and rugged quartzite rocky shores with intermittent bays of varying degrees of oceanic exposure and featuring beaches of fine whitish sand, and in some cases areas of pebble beach. Minor to moderate sized creeks enter the bays though these beaches. In two places the coast is more sheltered with tidal flats, these being Hannant Inlet (bypassed on this trip) and Horseshoe Inlet. South West Cape itself is comprised of granite. Offshore in places are a number of sea stacks, small islands and tidally exposed reefs. The vegetation of the hinterland is typical of the south west and west of Tasmania. This includes buttongrass moorland, characterised by the hummock sedge *Gymnoschoenus sphaerocephalus* and dominated by the families Restionaceae,

Myrtaceae, Epacridaceae and Proteaceae; wet scrub with similar familial floristics; wet sclerophyll forest and mixed forest dominated by *Eucalyptus nitida*; and thamnic rainforest in which *Eucryphia lucida* was abundant. The buttongrass moorland occurs mainly on poorly drained flats, slopes and ridges and is the most abundant vegetation type while the wet scrub and forest communities occur mainly on more fire-protected slopes, gullies and old sand dunes at the back of beaches. A narrow band of littoral scrub occurs immediately in from the wash zone of the sea and is comprised of restricted characteristic species such as *Correa backhouseana*, *Exocarpos syrticola* and *Persoonia muelleri* var. *densifolia* as well as some widespread species being particularly abundant such as *Leptecophylla juniperina*. Mesophyllous scrubs dominated by *Anopterus glandulosus*, *Pittosporum bicolour* and *Pomaderris apetala* occur in more sheltered places behind the shoreline.

Records were collected incidentally because of the time taken to get around the region and therefore with birds, audio records make up the majority, particularly in the case of "bush birds". Because most of the route can be defined as a series of bays and their hinterlands, separate lists were kept for each bay. The localities where the species were recorded are therefore listed as initials in brackets with each species, unless the species is particularly ubiquitous. The keys to the localities are as follows:

New Harbour (NH)	Mount Karamu (MK)	Noyhener Beach (NB)
Hidden Bay (HB)	South West Cape (SWC)	Stephens Bay (SB)
Ketchum Bay (KB)	South West Cape Range (SWCR)	Spain Beach (SpB)
Wilson Bight (WB)	Window Pane Bay (WPB)	Horseshoe Inlet (HI)

BIRDS

Nomenclature follows the complete list of Tasmanian birds on the website of the Parks and Wildlife Service of Tasmania: http://www.parks.tas.gov.au/wildlife/birds/tasbirds.html.

Black swan *Cygnus atratus* – flock of 4 seen at HI.

Teal species *Anas* sp. – a flock of 5 were seen to fly up from the outlet of a small freshwater stream on NB. The distance of the sighting precluded positive identification to species level, but the impression was that they were likely to be Chesnut teal *Anas castanea*.

Great cormorant *Phalacrocorax carbo* – (WB, WPB, NB) one individual seen at each locality either around rocky shorelines or on a stream.

Australasian gannet *Morus serrator* – several seen over the water at KB.

Goshawk species *Accipiter* sp. – one individual seen flying off through forest

with small prey in its talons, at NH. It was not ascertained whether it was brown goshawk *Accipiter fasciatus* or collared sparrowhawk *A. cirrhocephalus*.

Falcon species *Falco* sp. – a single bird seen briefly hovering on the updraughts above large sand dunes at SB. The impression was that it was a male peregrine falcon (*Falco peregrinus*), but the distance of the sighting precluded positive identification.

Pacific gull *Larus pacificus* – (NH, SWC, WPB, NB, SpB) recorded in small numbers at most bays as pairs or individuals, with the largest total, a flock of 5, being seen at NB.

Silver gull *Larus novaehollandiae* – seen in loose associations on the beaches at nearly all of the bays, with no populations numbering more than about 10 during the survey.

Caspian tern *Sterna caspia* – one seen at WPB and a pair at NB.

Pied oystercatcher *Haematopus longirostris* – (NH, KB, WB, NB, SB, SpB) occurs in one or two pairs on most of the beaches.

Sooty oystercatcher *Haematopus fuliginosus* – (NH, WB, WPB, NB, SpB) occurs on most of the beaches and adjoining rocky shores mainly as individuals or pairs. A flock of 20 was observed on NB, which is adjacent to a number of rocky offshore islands.

Masked lapwing *Vanellus miles* – a pair was seen on each of the beaches at NH and NB while an individual was seen on the beach at WB.

Hooded plover *Thinornis rubricollis* – (NH, WB, WPB, NB, SB) – seen in pairs or small parties, with a maximum of three pairs at NB.

Brush bronzewing *Phaps elegans* – heard at HB and HI, and one seen at WPB.

Yellow-tailed black cockatoo *Calyptorhynchus funereus* – recorded from the following places: a flock of 5 seen at KB; heard at WB; a flock of 3 at SWC; a flock of 9 seen at WPB; heard at NB and heard at HI.

Sulphur-crested cockatoo *Cacatua galerita* – one seen at NH, and heard at KB and HI.

Ground parrot *Pezoporus wallicus* – one seen north of WPB.

Green rosella *Platycercus caledonicus* – (KB, SWC, WPB, HI) – heard or seen in small numbers.

Southern boobook *Ninox novaehollandiae* – heard at KB; 2 heard in heathland at SWC; heard at NB.

Welcome swallow *Hirundo neoxena* – (WPB, SWC, NB, SB) – single birds only at each locality seen hawking over the beaches.

Tree martin *Hirundo nigricans* – (NH, KB, WB, WPB) – seen in small flocks or pairs, over the beaches or behind.

Bassian thrush *Zoothera lunulata* – recorded at HI.

Blackbird *Turdus merula* – a male individual was heard singing at SB at a moist soak site and was seen subsequently flying off having been disturbed.

Pink robin *Petroica rodinogaster* – (NH, KB, WB) – heard in coastal scrub and forests.

Olive whistler *Pachycephala olivacea* – widespread and heard at most localities in coastal scrub and forest.

Grey fantail *Rhipidura fuliginosa* – individuals seen at HB and WB.

Superb fairy-wren *Malurus cyaneus* – (KB, SWC, WPB, SB, SpB) – heard or seen in coastal scrub. At SWC a pair were seen attending a nest in low wind-swept heath.

Southern emu-wren *Stipiturus malachurus* – heard in heathland at SWC and in buttongrass moorland north of WPB.

Tasmanian scrubwren *Sericornis humilis* – (KB, WB, SWC, WPB, NB, HI) – heard or seen in coastal scrub.

Scrubtit *Acanthornis magnus* – heard at HI in wet sclerophyll forest.

Striated fieldwren *Calamanthus fuliginosus* – (MK, SWCR, SB, SpB) – heard in buttongrass moorland.

Thornbill species *Acanthiza* sp. – (KB, WB, WPB, NB, SB, HI) – heard in coastal scrub and wet sclerophyll forest forest. Likely to be the Tasmanian thornbill (*Acanthiza ewingii*) but identification to species level could not be established.

Yellow-throated honeyeater *Lichenostomus flavicollis* – (HB, KB, WPB, NB) – heard or seen in coastal scrub and wet sclerophyll forest.

Strong-billed honeyeater *Melithreptus validirostris* – (KB, WPB, HI) – heard at the first two localities and a flock observed at the latter, all in coastal wet sclerophyll forest.

Crescent honeyeater *Phylidonyris pyrrhoptera* – (KB, WB, SWCR, WPB, HI) – heard in scrub and wet sclerophyll forest.

New Holland honeyeater *Phylidonyris novaehollandiae* – (HB, WB, MK, SWC, WPB, NB, SpB, HI) – heard widely in coastal scrub and buttongrass moorland.

Eastern spinebill *Acanthorhynchus tenuirostris* – (KB, WB, WPB, NB) – heard in coastal scrub.

Silvereye *Zosterops lateralis* – heard in coastal scrub at WB and NB.

Beautiful firetail *Stagonopleura bella* – heard at HB and a pair seen south of Noyhener Bay, both records being from buttongrass moorland.

Black currawong *Strepera fuliginosa* – heard or seen in small numbers at most locations, in coastal scrub and wet sclerophyll forest.

MAMMALS

Tasmanian bettong *Bettongia gaimardi* – an adult and immature animal were seen at WB in coastal scrub; one adult was also seen at SB. Scats were observed at WPB.

Common wombat *Vombatus ursinus* – scats were seen in scrub at SWC and in buttongrass moorland north of WPB and at SB. Burrows were seen in *Eucalyptus nitida* forest at HI.

Quoll species *Dasyurus* sp. – scats attributed to one of the species of this genus were seen on a rock at SWC.

Rodent species – pale scats were observed in buttongrass moorland south of WPB.

Seal species – a beach-washed skull (species not identified) was noticed at the NB campsite, having been previously collected by another visitor.

Baleen whale species – a skull of a small baleen whale (species not established) was observed on the beach at SB.

REPTILES

White-lipped snake *Drysdalia coronoides* – one seen on MK in buttongrass moorland.

Skink species – small skinks were seen in buttongrass moorland on MK and in heathy habitat with granite boulders on SWC. The region and habitat suggest they were species of *Niveoscincus*.

AMPHIBIANS

Brown treefrog *Litoria ewingi* – heard beside the main creek at KB as it enters the beach.

Tasmanian treefrog *Litoria burrowsae* – heard at a pond in buttongrass moorland near the southern end of the SWCR.

Moss froglet *Bryobatrachus nimbus* – dozens heard calling after rain, in buttongrass moorland on the highest summit of the SWCR at around 690 m altitude. One individual was also heard calling in rainforest inland from HB.

Brown froglet *Crinia signifera* – a chorus was heard at a pond, in *Melaleuca – Lepidosperma* swamp near HI.

Tasmanian froglet *Crinia tasmaniensis* – heard calling at a pond in buttongrass moorland near the southern end of the SWCR.

FISH

***Galaxias* species**? – one small fish of about 14 mm length was seen in the main creek at WPB.

DISCUSSION

From the author's extensive experience with the habitats of the western half of Tasmania, the vertebrate species recorded are typical of the region, and represent a significant proportion of what can be expected to be encountered on such a visit.

Some points of interest include the apparent absence of the endangered orange-bellied parrot *Neophema chrysogaster* which occurs at nearby Melaleuca Inlet roughly 20 km to the east, despite the presence of apparently suitable habitat in the study area. The falcon species at Stephens Bay, if it proves to be the peregrine falcon, may represent a resident bird. The presence of a number of inshore islands with sea bird colonies may provide a significant food source for this species.

Most beaches had populations of hooded plover and oystercatchers, which would indicate an important breeding refuge for these species, free from the high levels of disturbance on beaches associated with the settled areas of Tasmania. The record of the introduced blackbird from Stephens Bay indicates the spread of this species around coastal South West Tasmania, but from the author's experience, it has not penetrated inland beyond the damp coastal scrubs in this region.

The two records of the moss froglet at Hidden Bay and on the South West Cape Range represent apparently new localities for this localised and recently discovered species. The nearest known locality was recorded by the author previously at the base of Mount Brock west of Melaleuca.

The Tasmanian Naturalist (2004) **126:** 18-19

BLUETONGUE ATTACKS HARE

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The following observation was made at the Chauncy Vale Reserve near Bagdad in November 2003 by Colin Vincent, caretaker of the reserve.

> "It was mid-morning and quite warm when I heard what I thought to be a bird call. The loud rasping squeal was new to my ear and was somewhat reminiscent of the sound of a distressed finch, so with curiosity aroused I embarked on an attempt to locate and perhaps identify the source of this unusual sound. Success came after a 50 m stroll through grass and scrub when I encountered a rather large blotched bluetongue engaged in an attempt to kill a leveret of approximately 12 cm in length. Initially the skink was mouthing and bearing down on the head and neck region, often gripping and forcefully rolling its body, crocodile-like, in attempts to dismember the prey. In one of these attempts an ear was removed and consumed. Eventually the skink concentrated its attention on the hind quarters and abdominal area, violently dragging and rolling the unfortunate mammal around amongst the grasses. The leveret made no attempt to escape and barely struggled, but continued its pitiful squealing throughout. I observed the ordeal for some 30 minutes before returning to my duties. The squealing continued for a total of 3-4 hours, but I was unable to carry out any follow-up investigation."

COMMENTS

The introduced brown hare *Lepus capensis* breeds in Tasmania from August to February, giving birth to a litter of up to five fully open-eyed young of about 10 cm in length. The young 'leverets' are fed morning and evening, spending their time alone in a 'form' constructed by the female in dense grass, where they remain until weaning at about four weeks of age. Considering its size, the unfor-

tunate individual observed by Colin was likely to have been only a very few days old and may well have been removed from the 'form' by its attacker.

The feeding strategy observed by Colin (crocodile roll) is typical of a blotched bluetongue *Tiliqua nigrolutea* (Figure 1) attempting to dismember food which it cannot swallow whole. The author has observed bluetongues removing nestlings and eggs from the nests of terrestrial breeding birds and also taking house mouse *Mus musculus*. However this new record is certainly the largest prey item ever brought to the author's attention. The author would be most interested to hear of any further unusual prey items observed to have been taken by this species.

ACKNOWLEDGEMENTS

My thanks to Nick Mooney for bringing this observation to my attention, and to Colin Vincent for recounting the event to me.

Figure 1. Blotched bluteongue lizard (Maria Island: Simon Grove).

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DISCOCHAROPA VIGENS (LEGRAND, 1871), A THREATENED TASMANIAN CHAROPID LAND SNAIL

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Abstract. This paper discusses the history of knowledge, identification, known distribution, ecology and conservation of *Discocharopa vigens* (Legrand, 1871), currently classified as Vulnerable at state level. The very few reliable records of the species come exclusively from wet and dry sclerophyll forests in the greater Hobart area in south-eastern Tasmania. The species may be locally extinct at some former localities, and may be susceptible to a range of side-effects of urban sprawl. The species' conservation status remains unclear, and comprehensive surveying will be required before its management can be effectively planned.

INTRODUCTION

Tasmania has a very diverse fauna of small land snails in the family Charopidae. Bonham (2003) recognised 66 species, about two-thirds of these undescribed. Subsequent searches and studies suggest at least another seven undescribed species (author's data). The charopids comprise approximately two-thirds of the state's known native land snail diversity, and are very diverse at genus level, with many apparently relict taxa and a high proportion of localised species.

The three Tasmanian taxa incorrectly placed together in the genus *Discocharopa* resemble each other by having small, loosely coiled, flat shells with very wide umbilici. All were poorly known for the majority of the twentieth century. *D. mimosa* (Petterd, 1879), a widely distributed species found on the trunks of a wide range of Tasmanian wet forest trees, was rediscovered in 1982 (Bonham, 1995) and is now known to be present statewide and relatively common, with records from over 50 known localities (author's records). The taxon originally described as *Helix lottah* (Petterd, 1879) has been formally considered a synonym of *D. mimosa* but is clearly distinct and redescription as a species is intended as soon as a correct placement at genus level is possible. It has been

recorded from five localities surrounding the Tamar Valley in central northern Tasmania, chiefly in wet forest.

The third member of the group, *D. vigens*, does not appear to have fared well following European settlement and is probably the state's most threatened known charopid. Known to late nineteenth century collectors as a rare species, it went unrecorded for most of the twentieth century. Following inclusion in a well-known field guide (Smith and Kershaw, 1981), records of *D. vigens* were occasionally made in the 1980s and 1990s, but the vast majority of these proved to be misidentifications, frequently of undescribed species. During this time, searches of several dozen localities in the Hobart area resulted in just one find of three dead shells. Under these circumstances, the species was listed as Vulnerable on the schedules of the *Tasmanian Threatened Species Act 1995* in 2002. The nomination (written by the author) commented that the species may qualify for Endangered status but more evidence was required. One living population has since been discovered, and at least one more is likely to exist, but the species still appears to be at a high level of risk and further research is required.

TAXONOMIC HISTORY

Published descriptions and reallocations of *D. vigens* and its synonyms are as follows:

Helix (Charopa) ammonitoides - Brazier, 1871 [non *Helix ammonitoides* Reeve, 1854]
Helix (Discus) vigens - Legrand, 1871 (sp. 30)
Helix (Charopa) bassi - Legrand, 1871 (sp. 50) [nom. nov. for *H. ammonitoides*]
Endodonta bassi - Petterd and Hedley, 1909 [*vigens* incorrectly considered junior synonym]
Discocharopa bassi - Iredale, 1913 [*vigens* incorrectly considered junior synonym]
Discocharopa vigens - Smith and Kershaw, 1979

Brazier (1871) described *H. ammonitoides* and gave the type locality as "Mt Nelson". Two lots of syntypes exist in the Australian Museum collection, AM C17975 and AM 63495 (2 specimens). Subsequently, Legrand (1871) renamed *H. ammonitoides* as H. *bassi* because the original name was preoccupied, but also described and figured *H. vigens* from "Mt Wellington". No type material of *H. vigens* is known and Legrand commented that the species was "badly figured". Petterd (1879) considered *H. bassi* and *H. vigens* identical, but incorrectly considered *H. bassi* to have priority.

Iredale (1913) erected the genus *Discocharopa,* which originally contained

both a Kermadec Island taxon and *D. vigens* (as *D. bassi*). Subsequently many other superficially similar charopids were added (Solem 1983) but all of these except for the three Tasmanian taxa and the type species *D. aperta* (Mollendorff 1888) have since been reallocated. As Solem comments, the Tasmanian taxa are incorrectly placed, because *D. aperta* is distinguished by the absence of spiral elements in the adult sculpture. Stanisic (1990) illustrated this feature. Furthermore the protoconch of *D. vigens* is dominated by strong radial ribbing, but the protoconch sculpture of *D. mimosa* is of weak spiral traces and that of *D. lottah* is smooth at x60 magnification. Protoconch differences of this sort are significant at genus level in charopids. Proper placement of these taxa to genus will require at least two new genera, perhaps three, but reallocation of *D. vigens* is not attempted at this stage. There is not sufficient live-collected material.

RECOGNITION

Specimens of many charopid species have sometimes been misidentified as *D. vigens*, including *Roblinella gadensis* (Petterd, 1879), *Planilaoma luckmanii* (Brazier, 1871), various species of *Pernagera* and an undescribed north-eastern Tasmanian snail known informally as Charopidae sp. "Skemps". However, Tasmanian charopids assigned to the genus *Allocharopa* Iredale, 1937 have caused the most problems. A significant radiation of such species occurs in the state, especially in the south-eastern quarter. At least 18 Tasmanian species are known (most of these undescribed), but more research may reveal many more. Tasmanian *Allocharopa* vary primarily in the degree of elevation of the spire, the density and coarseness of primary adult sculpture, shell size and number of whorls, and most significantly the width of the umbilicus. Undescribed *Allocharopa* spp. with wide umbilici have often been misidentified as *D. vigens.*

For such a rare snail, *D. vigens* is quite variable. Adult specimens usually have between 3.5 and 3.9 whorls and are 2.5-3.0 mm wide, but some specimens are larger. The Mt Wellington specimen figured by Legrand was "0.14 of an inch" (c. 3.6 mm) wide and had 4.5 whorls. In contrast, none of the potentially confusing "wide umbilicus" *Allocharopa* species have shells more than 2.4 mm wide, and a shell of even that size would be much more tightly coiled relative to its size (c. 4.5 whorls). The ratio of shell width to umbilicus width (D/U) in *D. vigens* is usually between 2.5 and 3.0, making it one of the most widely umbilicated Tasmanian charopids, but the sole known specimen from Poimena Reserve, Austins Ferry, only has a medium-wide umbilicus (D/U = 3.4). The shell is very flat (height/diameter ratio c. 0.3) and the aperture is in the plane of the body whorl or nearly so. The primary ribs are slightly curved, and vary between specimens in prominence and spacing, with between 80 and 130 ribs being present on the final whorl. The protoconch is dominated by strong radial riblets.

The shell is uniformly pale greyish white, yellow-grey or yellow-horn in colour. There are never any colour rays.

Figure 1 illustrates a dead-collected specimen of *D. vigens* from Romilly Street. Dead shells found in the field tend to have a very tatty appearance. The periostracum often peels, and many specimens have holes or are crumpled.

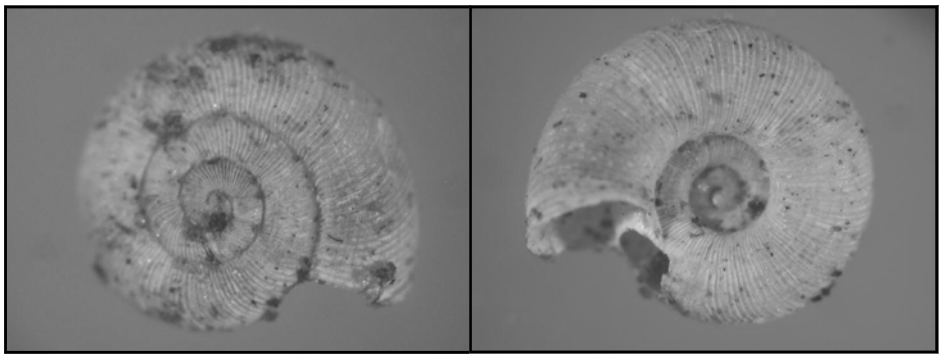

Figure 1. *Discocharopa vigens* shell from Romilly Street block. Shell width 2.4 mm.

DISTRIBUTION

The following are all the known records of *Discocharopa vigens*. All seven records come from the Hobart metropolitan area. Only one (Grass Tree Hill) is from east of the River Derwent.

"Mount Wellington. – Petterd" (Legrand, 1871). The term "Mt Wellington" was broadly used by nineteenth-century naturalists and could have referred to the lower, drier foothills of the mountain. No specimen labelled "Mount Wellington" is known in museum collections.

"Mount Nelson, Tasmania, under stones in moist places. – Petterd" (Legrand, 1871). Petterd and Hedley (1909) figure a specimen "in the Tasmanian Museum" from this locality. Three syntype specimens from Mt Nelson exist in the Australian Museum collections and the Tasmanian Museum specimen is lost (a vial with a matching label exists, but the vial is empty). Apart from these four nineteenth-century specimens, the species has not been found again on Mt Nelson despite very persistent efforts.

"Domain, Hobart Town (a single specimen)" (Petterd, 1879). There have been no further records from the Queens Domain and no specimen is known.

"Hillgrove". (Petterd, Queen Victoria Museum collection specimens, undated but probably between 1880 and 1900.) The most likely correct location of Hillgrove was only very recently determined – it is a large property established in the 1820s on the Channel Highway south of Taroona (GR 5273 2436). Petterd collected two specimens there. On 5 Aug 2004, the author found one freshly dead shell under a stone during a two-hour search in a gully very close to Hillgrove (GR 5275 2438). Considering the amount and condition of habitat available, it is likely that a population persists in the area, but this remains to be confirmed.

Grass Tree Hill, GR 5275 2621 (approx.) (author's records.) Three dead shells found on 26 May 1990, and one further dead shell on 26 May 2002. No specimens found during searches of Grass Tree Hill on 1 Nov 1995, 21 Dec 2000, or 5 Oct 2002. The four specimens found were within about 50 m of each other. All were under stones and all were in very poor condition. Total search time for these five samples was about ten hours, of which about six hours were spent searching within 200 m of the area where specimens have been found.

Pipeline Track near Romilly Street, South Hobart, GR 5247 2498 (author's records.) A dead specimen was found in soil in a track cutting on 2 Nov 2002, followed by another dead specimen nearby on 3 Nov 2002, two live specimens under the same rock on 5 Nov 2002, and a further dead specimen on 5 July 2003. The specimens found have been within about a one hectare section of a four hectare bush block and the total search effort in the area has been about five hours.

Poimena Reserve, Austins Ferry, GR 5199 2632 (author's records.) A single dead shell was found on 12 Dec 2003, after the species had not been seen on 13 June 1990 or 25 Jan 1991. The dead shell was bleached white and in poor condition, and had a small empty spider web inside it. A further search on 15 Dec 2003 was unsuccessful. Total search effort has been about six hours.

Figure 2 shows the locations of recent and historical records and unsuccessful searches for this species in the Greater Hobart region. Because the species is seldom found at all, and scarce where present, it may have been overlooked in areas outside Greater Hobart, for instance parts of the southern midlands.

ECOLOGY

Nothing is known of the habitat for the "Mount Wellington" record. Although Petterd (1879) comments that the species occurred "under stones in moist places" on Mt Nelson, he contradicts this elsewhere. Discussing *D. vigens*

and two other species, he writes:

> "All three are of the same habit, found on the under surface of boulders, generally in rather dry situations, and all are extremely rare." (p. 37)

There have not been any subsequent records on Mt Nelson despite a total of at least 30 hours' searching on Mt Nelson and gullies on its slopes (author's records).

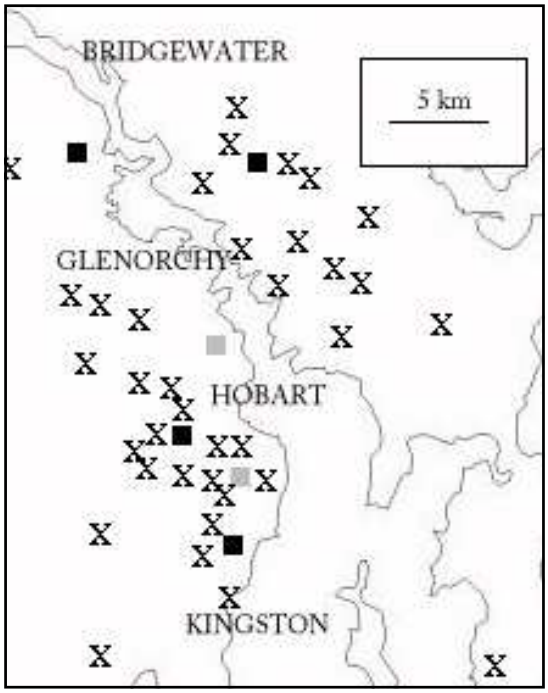

Figure 2. Greater Hobart area showing recent records (dark squares), nineteenth-century records (light squares) and post-1985 unsuccessful lowland searches in suitable habitat (X). The nineteenth century record from "Mt Wellington" is not shown as it is impossible to accurately determine where the observation would have been made.

The Queens Domain population is probably extinct. The Queens Domain is an enclosed area of mostly open dry woodland, some of which has been cleared for recreation, quarries, houses and the Hobart Botanical Gardens. It experiences high fire frequencies and its land snail fauna is now dominated by introduced species. *D. vigens* has not been recorded despite a total of seven hours' searching (author's records). Three other species recorded there by Petterd have not been recorded there since, but three species of *Paralaoma* persist.

The Grass Tree Hill specimens were found on a grassy rocky knoll in open dry *Eucalyptus globulus* woodland with an understorey of sparse *Olearia vis-*

cosa and other shrubs. There is a large proportion of bare soil on this knoll, and the undersides of the rocks there are usually very dry. The site was severely burnt in about 1993 and it is unclear whether a living population is still present.

The Poimena Reserve specimen was found in damp *Allocasuarina / Beyeria* scrub on dolerite very close to an area of wet *Pomaderris* scrub. This site has been burnt frequently, the last time being in about 1994, and there is no evidence of a living population. The fire frequency at Poimena Reserve has been reduced in response to the reserve's conservation values, increasing the survival chances of any population that remains.

Both the Romilly Street and Hillgrove finds were made in areas of short wet forest, again on dolerite. At Romilly Street this is dominated by *Eucalyptus globulus* but at Hillgrove no eucalypts were seen in the immediate area. The Romilly Street site was last burnt in 1967, and the gully at Hillgrove was only partially burnt in the most recent severe fire (1998).

It is not unusual for a Tasmanian native land snail to be found in a range of forest types. It is surprising that *D. vigens* occurs in both open dry and closed wet forest but is apparently absent from the great majority of well-searched suitable sites within its geographic range.

CONSERVATION

Prior to the confirmation of Petterd's Hillgrove record, the prognosis for this species was bleak, as the only known living population (Romilly Street) occupies a very small area of bush and is not necessarily secure even in the absence of any specific human impacts. The Hillgrove find occurred in one of several small gullies running from Albion Heights and Mount Nelson to Taroona. With the exception of Truganini Reserve (which has been extensively searched without any records of *D. vigens*) the remaining gullies have not been sampled for land snails.

Because of the small number of records and the large number of possible threats to the species, it is not possible to say what particular processes will eliminate the species. Bushfires are the most noticeable potential threat, but if bushfires have caused the demise of the Poimena and Grass Tree Hill populations, then dead shells have persisted for almost a decade. It is not known whether this is plausible in the conditions present at these sites. Other potential threats include habitat loss, habitat fragmentation (an especially serious potential issue for a species that occurs in small and localised populations) and competition or predation by exotic invertebrates, including snails (if such interactions occur). Control of the latter is impractical, but further fragmentation in areas of known habitat and overburning can both be avoided by appropriate planning by

councils and other landholders and planners.

The *Tasmanian Native Land Snails Recovery Plan* (in preparation) is likely to recommend a major survey for this species, with all or most populations identified by such a survey to then be protected. The efficiency of such single-species surveys in gathering invertebrate distribution data was questioned by Mesibov *et al.* (2002), but the unreliability with which this species occurs in apparently suitable habitats leaves no alternative to very comprehensive surveying. Protection measures for populations found on private land could include purchasing land for reservation, but would be more likely to include voluntary management agreements with landholders and/or agreements to place covenants on properties to prevent future clearing. Reservation alone may not be sufficient to secure the species, and impacts capable of crossing reserve boundaries will still require attention.

There is still not enough information to reassess the species' status of Vulnerable under the *Tasmanian Threatened Species Act 1995*. The species' unreliability of occurrence, scarcity where present and possible disappearance from former sites, all suggest that the species is not secure even if there are further records outside the species' currently known range. More research will be needed to establish whether Endangered status is warranted.

ACKNOWLEDGEMENTS

Dr Brian Smith (Queen Victoria Museum, Launceston), Liz Turner (Tasmanian Museum and Art Gallery, Hobart) and Ian Loch (Australian Museum, Sydney) assisted with museum material. Dr Peter McQuillan (University of Tasmania) assisted with specimen photography and mapping software. Robert Rands provided information on fire frequency at Romilly Street. Mike Bidwell (Glenorchy City Council) provided information on fire frequency at Poimena Reserve. I wish to thank Hobart and Glenorchy City Councils and Hobart Water for their interest in the conservation of this species.

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The Tasmanian Naturalist (2004) **126:** 29-30

A SPECIES OF JEWEL BEETLE (COLEOPTERA: BUPRESTIDAE) NEW TO TASMANIA

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The late David Cowie's *Jewel Beetles of Tasmania: a Field Naturalist's Guide* was published by the Tasmanian Field Naturalists' Club in 2001 to wide acclaim. It covered the fifty species of beetles in the family Buprestidae that David or others had recorded from Tasmania. To this list, we now add a further species, in the unusual subfamily Polycestinae. It is almost certainly *Helferella frenchi* (Théry, 1928), a species originally described by Théry from Victorian material but with more recent records from New South Wales (Williams and Weir, 1987). Its identity (Figure 1) was kindly confirmed on examination by Australian jewel beetle experts Dr Shelley Barker (South Australian Museum) and Dr Geoff Williams (Australian Museum).

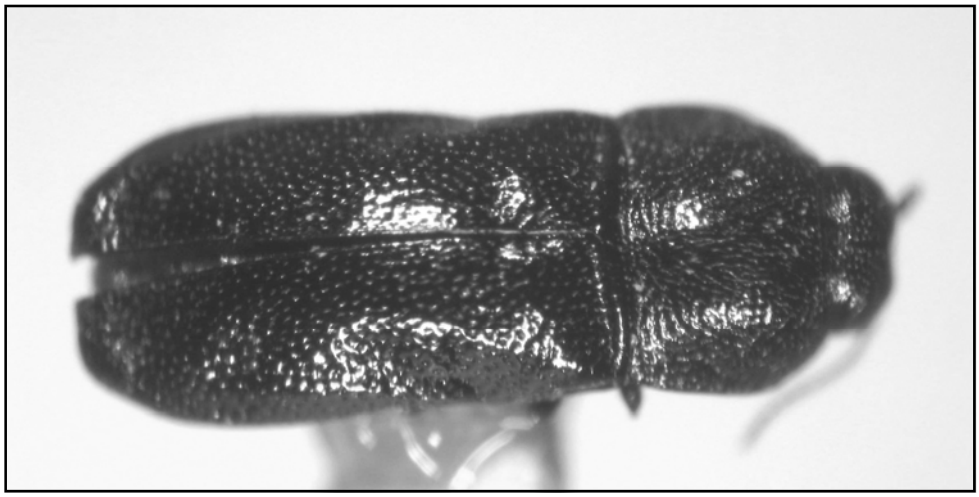

Figure 1. The specimen of *Helferella frenchi* collected by the authors in NE Tasmania. Body length about 2 mm.

The record arose out of a study of wildlife habitat strips and nearby continuous native State Forest in northeast Tasmania in 2003 (Grove and Yaxley, 2004), in which beetles were sampled with arrays of pitfall traps. These were operating

from 24th February and were collected on 24th March 2003. Only one jewel beetle was caught in the entire study, out of 2434 beetles collected in total. It was collected from a pitfall trap 100 m into continuous native forest in the Retreat forest block (FT coupe number RT216, approximate location 41.1236S x 147.165E). The forest here was classified as 'damp sclerophyll', and was dominated by *Eucalyptus amygdalina*, with a fairly extensive shrub layer and with a herb layer dominated by *Hypolepis amaurorachis* and *Gonocarpus teucrioides*.

Since jewel beetles are not known for their propensity to fall into pitfall traps, it seems likely that more targeted collection in this part of Tasmania might reveal further specimens. Geoff Williams reports that other Australian *Helferella* records tend to be associated with rainforest and vine scrub communities, so more heavily vegetated gullies in damp sclerophyll forest might be the place to look. The larval foodplant is unknown, but Dr Williams suggests that the larva is likely to be a leaf-miner of small stems or vines. At a mere 2 mm long, *Helferella* is tiny by jewel-beetle standards. The only other known Tasmanian jewel beetle with which it could be confused is the equally diminutive *Germarica lilliputana* (Thomson, 1879), which is illustrated in *Jewel Beetles of Tasmania*. Given these characteristics, it is possible that further specimens remain undetected in material collected in other studies.

The specimen has been lodged in the Tasmanian Forest Insect Collection, at Forestry Tasmania in Hobart.

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The Tasmanian Naturalist (2004) **126:** 31-34

REDISCOVERY OF THE MIENA JEWEL BEETLE (*CASTIARINA INSCULPTA* CARTER, 1934), FORMERLY LISTED AS EXTINCT

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INTRODUCTION

Tasmania has a jewel beetle fauna comprising about fifty species, including several with restricted ranges or poorly known distributions (Cowie, 2001). Jewel beetles belong to the family Buprestidae and most Tasmanian species frequent flowers and foliage as adults and are active only on bright hot days in late spring and throughout summer. Most buprestid larvae are borers of living tree stems with many known to prefer the lower stems and roots of native *Eucalyptus* and *Acacia* species. Many of the species recorded from Tasmania are endemic to the state and a number are only known from a few specimens and a few localities. In many cases it is unknown whether the species are truly rare, with a naturally small distribution, or whether they are now threatened, due to some human activity which is impacting upon their life style in some way.

One such species is the Miena jewel beetle, *Castiarina insculpta* Carter, 1934. This genus used to be considered a subgenus of *Stigmodera* (Baker, 1979, 1986, 1988; Matthews, 1985). Before other specimens came to light this year, the species was only known from two specimens and was listed as "presumed extinct" on Tasmania's *Threatened Species Protection Act 1995* (Bryant and Jackson,1999). The original specimen, on which the species description was based, is housed in the Natural History Museum, London. It was collected in the Great Lake district, on the Central Plateau, by Critchley Parker (Carter, 1934). (As an aside, it is strongly suspected, but not confirmed, that this was the same Critchley Parker (1911-1941) who advocated the establishment of a Jewish homeland in Tasmania in the 1930's and died in the wilderness of South-West Tasmania while researching the feasibility of this suggestion.) A second specimen was found in the Miena area of Great Lake in 1965 and is in the collections of the South Australian Museum (Cowie, 2001). Those listing the species as possibly extinct on the Threatened Species list in 1995 were probably not aware of this second find and assumed the species had not been recollected after the initial find.

Castiarina insculpta is a bright metallic green with three pairs of ovoid bright yellow blotches down the longitudinally grooved elytra. The elytra terminate posteriorly with a pair of short curved spines, which give a characteristic bat-like

shape. The jewel beetles all have ridged, highly sclerotised bodies and serrated antennae. The adult of this species has a total body length of about 12 mm and is about 4.5 mm wide. So far, all the specimens found have been females and all have been discovered flying on bright, warm sunny days in late January or early February.

OBSERVATIONS

A specimen, thought to be this species, was collected by Bill Thompson of Miena on February 14th 2004. He found it in the back of his ute after a short drive in the Miena area. He is sure that is wasn't there before the drive, and noticed it immediately on arrival. He recognised it as something he hadn't seen before and contacted both the Threatened Species section of Parks and Wildlife in Hobart and the Queen Victoria Museum and Art Gallery in Launceston. After describing the find, personnel from both bodies went to Miena to see the specimen and to try to find further specimens. This latter attempt failed.

The specimen was sent to the South Australian Museum, Adelaide, for comparison with the only known reference specimen in Australia and for the opinion of a leading jewel beetle specialist, Dr Shelley Barker. On confirmation, the specimen (Figure 1)was registered into the collections of the Queen Victoria Museum and Art Gallery - Registration Number : QVM:12:39824.

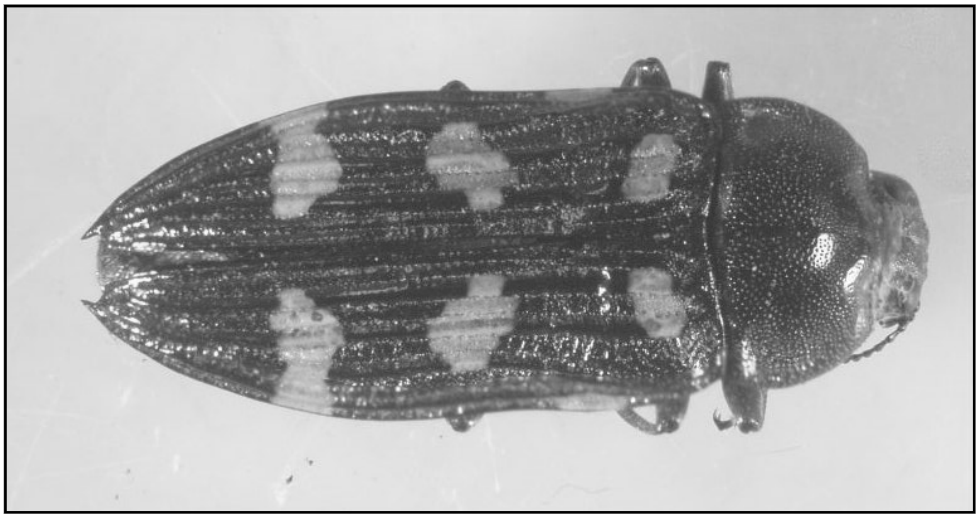

Figure 1. Dorsal view of the Miena jewel beetle *Castiarina insculpta* specimen found by Bill Thompson on February 14th 2004 near Miena on the Central Plateau (QVM:12:39824). Body length 12 mm.

Following some publicity of the find in the local press, the Museum was contacted by a local person who claimed to have a further specimen of this species. A number of such claims had been made at that time and, on investigation, all had proved to be to be erroneous. This specimen was brought in by John Stagg, who had been fishing at either Little Pine Lagoon or Lake Fergus, near Miena in mid-February. He had collected a number of flying insects at that time and put them into his fly-box. One of these turned out to be a further specimen of *Castiarina insculpta.* He donated it to the Queen Victoria Museum and it was registered into the collections – Registration Number: QVM:12: 43984. This was then also sent to Dr Barker in the South Australian Museum for his opinion. He referred it to this species but said that it was an unusually small specimen that might be considered different if more material were available.

DISCUSSION

This find of two specimens of the Miena jewel beetle *Castiarina insculpta* at least shows that the species is still alive in that area of the Central Plateau, along the southern shore of Great Lake. It shows that listing it as "presumed extinct" was premature, and it serves to illustrate the possibly equivocal status of many of the species now listed as rare or presumed extinct. This species is known from four individuals, all collected in late summer from approximately the same narrow area of country on the Central Plateau. The collections were spread over more than 75 years so there must be a viable population somewhere in that region. All were actively flying, but there are no records of any association with any particular plant species or micro-habitat. All the specimens are female, so no information is available about the status of the males or whether there is anything unusual about the reproductive biology of the species. We still don't even know much about the distribution of the species, as much of the country in that immediate area is not visited at all.

This list of negatives and question marks can equally apply to many of the invertebrate species described as Tasmanian endemics. Even within the approximately 50 described species of jewel beetles in the Tasmanian fauna, about 15 are listed as rare or of uncertain status and are known from less than a handful of records. There is still a long way to go in documenting the basic biodiversity of the state, and the importance of field naturalists and informed members of the general public in this work cannot be overstated.

ACKNOWLEDGEMENTS

Thanks are due to Bill Thompson and John Stagg for the donation of the specimens and for their continued interest in the natural world and their keen observation of it. We are also grateful to Dr Shelley Barker of the South Austra-

lian Museum for his assistance in confirming the identifications and to Dr Sally Bryant of the Threatened Species Unit and Dr Peter McQuillan of the University of Tasmania for their help in the initial find.

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CENTENARY EASTER CAMP 2004

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One hundred years of natural history endeavours by the Tasmanian Field Naturalists Club have now included 65 Easter camps, with the revival of such an event this year for the first time since 1975. Some members attending this year's camp had first enjoyed Easter camps more than 50 years earlier.

Unlike most previous camps where the focus was largely on a relatively localised area, the 2004 camp allowed access to much of the Forestier and Tasman Peninsulas, such is the luxury of modern transport. The 'camp' was actually the University field station, 'Tasman House', at Koonya. The main areas visited, on successive days from 9th to 12th April, were Lagoon Bay / Tasman Monument, MacGregor Peak, Roaring and Slopen Main Beaches and Mt Brown / Crescent Bay. Shorter walks to Clark's Cliffs and Waterfall Bay were also undertaken by smaller groups.

DAY 1, 9th APRIL 2004: LAGOON BAY AND THE TASMAN MONUMENT

Trip report, with notes on the Tasman Monument

Janet and Geoff Fenton

Our Easter excursion on 9 April 2004 was close to repeating history because Lagoon Bay on the Dunbabin property was where the TFNC held its 1934 and 1948 Easter camps. The spot was then called 'Wilmot Harbour', though Marjorie Wall informs us that the Dunbabin family always knew it as 'Lagoon Bay'. There were no Easter Camp reports published during the Depression years, so we have only scant records of the 1934 camp. However, it is interesting to note that expenditure for the camp included charges of £1.5.0 for making lantern slides and 5 shillings to the Hobart Gas Company for 'cleaning Camp Oven etc'. For a time following World War II, Easter Camp reports were printed in *The Tasmanian Naturalist*. Special reports on botany, birds and geology were provided for the 1948 camp by FA Peterson, Hugh Wilson and David Sargison respectively. Michael Sharland, in a general account, mentioned seeing three nests of the sea-eagle on the way to Cape Frederick Hendrick.

During our recent centenary Easter camp, a group of us made a day excursion from Lagoon Bay to Tasman Monument, as our predecessors did in 1948 – but

not before we had completed the ritual of the Easter Camp photo (Figure 1). Our party of seven headed north, crossing the neck of Cape Frederick Hendrick to Two Mile Beach in North Bay. Here we saw a number of dead penguins, a white-breasted sea-eagle and eight hooded plovers, including one juvenile.

Figure 1. Participants in the Tasmanian Field Naturalists Club 2004 Easter Camp, at Lagoon Bay, 9th April 2004.

Over lunch, Geoff Fenton upheld tradition by reading from Tasman's journal, as Professor King from the University's History Department did on the 1948 trip. The journal describes the Dutch expedition's landing in this vicinity in 1642 when the first white person set foot on Tasmanian soil. The journal describes landing on the 2nd and again on the 3rd December 1642. Although there is debate over the exact landing sites, they could have been in North Bay and in the more sheltered, cove-shaped Tasman Bay (formerly called Prince of Wales Bay). It is the latter spot where the Royal Society of Tasmania erected a concrete monument to commemorate the landing. The plaque is inscribed as follows:

> *At this spot the expedition under Abel Janz Tasman being the first white people to set foot on Tasmanian soil planted the Dutch flag on December 3rd 1642 as a memorial to posterity and to the inhabitants of this country. This stone was erected by the Royal Society of Tasmania 1923*

It must have been an adventuresome thing, landing on the shores of a totally foreign continent and having no idea what to expect. The landing party was well armed. 'Early in the morning we sent our pilot-major Francoys Jacobz in command of our pinnace, manned with 4 musketeers and 6 rowers, all of them furnished with pikes and side-arms, together with the cock-boat of the Zeehaen with one of her second mates and 6 musketeers in it, to a bay, situated north-west of us at upwards of a mile's distance' wrote Tasman.

Reading Tasman's journal demonstrates that the vegetation of the area has changed markedly in the intervening 362 years. The party reported that 'the land is pretty generally covered with trees, standing so far apart that they allow a passage everywhere, and a look-out to a great distance, so that when landing our men could always get sight of natives or wild beasts, unhindered by dense shrubbery or underwood, which would prove a great advantage in exploring the country.' They also mentioned the great size of some of the trees, measuring 'from 60 to 65 feet from the ground to the lowermost branches, which trees bore notches made with flint implements'. Today the eucalypts are smaller and understorey vegetation certainly prevents a 'look-out to a great distance'.

Tasman's shore party returned to the ship with vegetables suitable for use as pot-herbs, specimens of gum exuded from trees, and, dung-hunters even then, animal excrements they assumed were 'voided by quadrupeds'. They landed again next morning in search of water, and made another attempt in the afternoon but were caught by a stiff breeze which made the surf too high to land the boat. It was left to the carpenter to swim ashore, encumbered with a pole and the 'Prince-flag', to 'take possession of the said land as our lawful property'.

After photographing the monument, our 2004 party explored the steep shingle beach. Anchored on rocks in the shallows we found swimming anemone (*Phlyctenactis tuberculosa*) looking like giant brown raspberries. It is the largest anemone commonly found in southern Australian waters. In the daytime these large anemones attach to rocks and tuck their tentacles in, but at night they can move rapidly about in search of floating prey (Edgar, 1997). From the monument we watched another white-breasted sea-eagle, and on the marsupial lawns around North Bay we saw a tiny blue flowered *Eryngium*.

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Marine molluscs at Lagoon Bay and Two Mile Beach
Simon Grove

Shelling on these two beaches proved a rewarding experience. Though the total of 51 species was not great, the list (Table 1) included two highlights: the violet snail *Janthina janthina* (illustrated on page 8 of this issue) and the red rock whelk *Charonia lampas* (Figure 2). Both are widespread globally (see Grove, this issue, pages 7-8), but not commonly found in Tasmania. The violet snail is a warm-water oceanic surface drifter that in Tasmania is primarily washed ashore along north-eastern beaches, while the red rock whelk tends to live in deeper water and is seldom washed ashore. The one specimen found (by Marc Gates) still contained a dead (and very smelly) animal, and may have been left on the beach by a fisherman or diver.

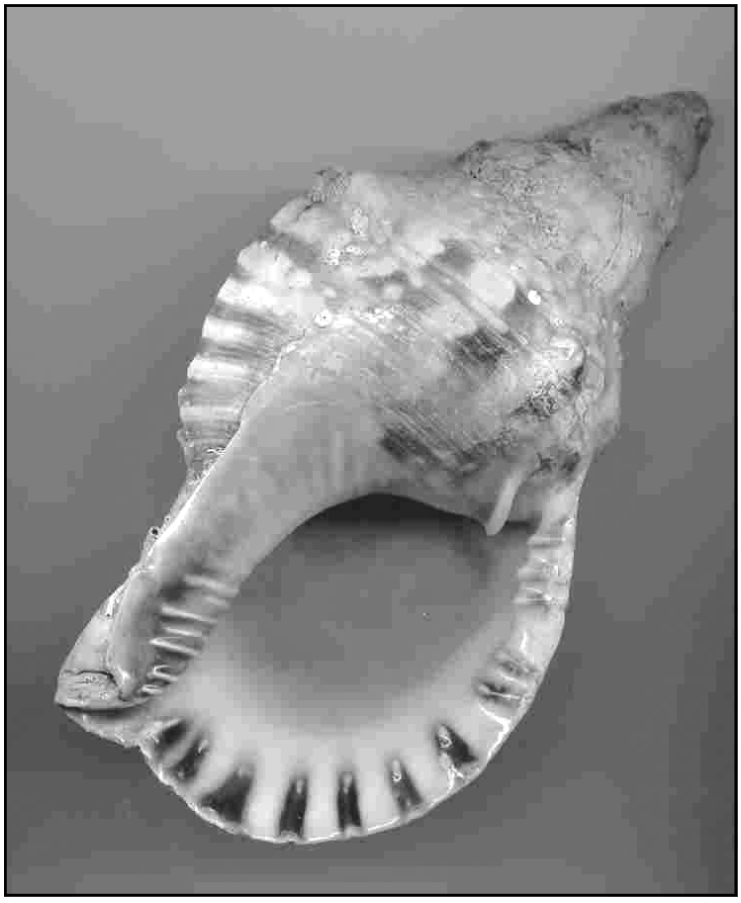

Figure 2. The red rock whelk *Charonia lampas* specimen collected at Lagoon Bay. Total length 180 mm.

Table 1. Marine mollusc shells recorded at Lagoon Bay and/or Two Mile Beach, 9th April 2004.

MYTILIDAE
Modiolus cottoni Laseron, 1956 Cotton's bearded horse mussel
OSTREIDAE
Ostrea angasi Sowerby, 1871 Common mud oyster
PECTINIDAE
Chlamys asperrimus (Lamarck, 1819) Doughboy scallop
TRIGONIIDAE
Neotrigonia margaritacea (Lamarck, 1804) Brooch shell
LUCINIDAE
Divalucina cumingi (A. Adams and Angas, 1863) V-marked lucina
CARDIIDAE
Fulvia tenuicostata (Lamarck, 1819) Thin-ribbed cockle
Nemocardium thetidis (Hedley, 1902) Thetis cockle
MACTRIDAE
Mactra rufescens Lamarck, 1819 Reddish trough shell
MESODESMATIDAE
Paphies elongata (Reeve, 1854) Narrow wedge shell
SOLENIDAE
Solen vaginoides (Lamarck, 1818) Southern razor shell
TELLINIDAE
Tellina albinella Lamarck, 1818 Little white tellin
PSAMMOBIIDAE
Soletellina biradiata (Wood, 1815) Double-rayed sunset shell
VENERIDAE
Bassina disjecta (Perry, 1811) Frilled venus
Placamen placida (Philippi, 1844) Placid venus
MYOCHAMIDAE
Myadora brevis (Sowerby, 1829) Short myadora
LOTTIIDAE
Patelloida insignis (Menke, 1843) Unmarked limpet
Patelloida profunda calamus (Crosse and Fischer, 1864) Delicate limpet
HALIOTIDAE
Haliotis rubra Leach, 1814 Black-lipped abalone
FISSURELLIDAE
*Macroschisma tasmaniae (*Sowerby, 1866) Tasmanian keyhole limpet

(continued next page)

Table 1 continued

TURBINIDAE
Turbo undulatus Lightfoot, 1786 Wavy turban shell
TROCHIDAE
Austrocochlea odontis (Wood, 1828) Chequered top shell
Bankivia fasciata (Menke, 1830) Banded kelp shell
Calliostoma armillata (Wood, 1828) Jewelled top shell
Clanculus aloysii Tenison Woods, 1876 Aloys' top shell
Clanculus limbatus (Quoy and Gaimard, 1834) Keeled top shell
Clanculus plebejus (Philippi, 1851) Plebeian top shell
Phasianotrochus eximius (Perry, 1811) Choice seaweed shell
NERITIDAE
Nerita atramentosa Reeve, 1855 Black nerite
TURRITELLIDAE
Gazameda gunnii (Reeve, 1848) Gunn's screw shell
Maoricolpus roseus (Quoy and Gaimard, 1834) New Zealand screw shell
PLESIOTROCHIDAE
Plesiotrochus monachus (Crosse and Fischer, 1864) Monk shell
LITTORINIDAE
Bembicium nanum (Lamarck, 1822) Striped-mouth conniwink
HIPPONICIDAE
Hipponix australis (Lamarck, 1819) Southern bonnet limpet
CALYPTRAEIDAE
Calyptraea calyptraeformis Lamarck, 1822 Shelf limpet
CYPRAEIDAE
Cypraea angustata Gmelin, 1798 Brown cowrie
NATICIDAE
Eunaticina umbilicata (Quoy and Gaimard, 1833) Umbilicated sand snail
Polinices conicus (Lamarck, 1822) Conical sand snail
Sinum zonale (Quoy and Gaimard, 1833) Zoned sinum
RANELLIDAE
Argobuccinum pustulosum (Lightfoot, 1786) Flag triton
Cabestana spengleri (Perry, 1811) Spengler's rock whelk
Charonia lampas (Linnaeus, 1758) Red rock whelk
Sassia eburnea (Reeve, 1844) Sand whelk
JANTHINIDAE
Janthina janthina (Linnaeus, 1758) Violet snail

(continued next page)

Table 1 continued

MURICIDAE
Dicathais orbita (Gmelin, 1791) Cartrut shell
BUCCINIDAE
Cominella lineolata (Lamarck, 1809) Lineated cominella
FASCIOLARIIDAE
Pleuroploca australasia (Perry, 1811) Tulip shell
VOLUTIDAE
Amoria undulata (Lamarck, 1804) Wavy volute
OLIVIDAE
Alcospira marginata (Lamarck, 1811) Margined ancilla
MARGINELLIDAE
Austroginella muscaria (Lamarck, 1822) Fly-like margin shell
SIPHONARIIDAE
Siphonaria funiculata Reeve, 1856 Corded siphon shell
ELLOBIIDAE
Marinula xanthostoma H. and A. Adams, 1855 Delicate air-breather

Land snails around Lagoon Bay

Kevin Bonham

The following eleven species were recorded, during 2 hours' searching in coastal dry sclerophyll forest and associated wet gullies and shrubby areas: *Caryodes dufresnii*, *Bothriembryon tasmanicus, Tasmaphena sinclairi, Thryasona diemenensis*, *Helicarion cuvieri, Laomavix collisi*, *Paralaoma* cf. *mucoides*, *Paralaoma* cf. *halli*, *Paralaoma caputspinulae, Pernagera officeri*, *Allocharopa legrandi* (Lagoon Bay form). A previous sample taken at this site, on a club trip on 8th October 1994, also produced eleven species.

Paralaoma cf. *halli* and *P*. cf. *mucoides* are new records for this locality. *P*. cf. *halli* is a new (but very unsurprising) record for the Forestier Peninsula. It had previously been recorded on the Tasman Peninsula and had only been overlooked on the Forestier because, until recently, all Tasmanian *Paralaoma* had been treated as *P. caputspinulae.*

The *Allocharopa* form present is larger (to 2.6 mm) and with more whorls (up to 5.1) than most *A. legrandi* and differs slightly in microsculpture details from other *Allocharopa* from the two peninsulas. Similar but less extreme specimens are known from Mt Jacob and Point du Ressac on the adjacent mainland. The genus *Allocharopa* is very diverse in Tasmania, including at least 18 species, of which most are undescribed. The forms classified as *A. legrandi* (the most wide-

spread species) are very variable and it is likely that unusual forms like the Lagoon Bay form will be recognised as different species in the future.

The *Tasmaphena sinclairi* form present here is unusually globose and with a slightly unusual colour pattern.

DAY 2, 10th APRIL 2004: MACGREGOR PEAK

Trip report

Genevieve Gates and David Ratkowsky

MacGregor Peak, at an altitude of 591m, is the highest point on the Forestier Peninsula. The peak was named after one of the convict guards at Eaglehawk Neck, Mr. MacGregor, who is said to have climbed the peak before breakfast (every day?).

The walk takes one through several different habitats including the largest remnant of rainforest on the East Coast.

Saturday 10th April was fine and mild, an ideal day to tackle this long but rewarding walk. We started off as a group of 22 after meeting at the car park at the end of the forestry road signposted Forestier State Forest, 5.2km southeast of Murdunna off the Arthur Highway. It didn't take us long to break up into the usual smaller groups progressing at different paces depending on whether we were bird watching, making botanical notes (Table 2) or collecting snails and fungi (Table 3). The first part of the track, after the very steep fire trail at the beginning, took us through wet sclerophyll forest, which had been burnt recently and was now very dry. The fungal pickings were lean which was a bit disappointing as we had along with us our mycological visitors from the Netherlands, Dr Machiel Noordeloos and his Ph.D. student, Ms Delia Co. We did find, however, in this burnt area amid the numerous fruiting bodies of *Laccaria* sp., a polypore with large well-formed pores that was unknown to David and me. It wasn't until six weeks later whilst visiting another burnt sclerophyll forest at the start of the old Cape Pillar track, when we found this same polypore a second time, that we connected the two findings with the burnt forest and came up with *Laccocephalum tumulosum*, a pyrophilous fungus with a large, stone-like underground sclerotium to which it is attached. The mycelium of this fungus grows from the wood it inhabits, into the soil and binds with the soil particles to form this often very large sclerotium. In response to fire, the sclerotium produces the mushroom-like fruiting body that is the obvious part of this cycle (see Gates and Ratkowsky, this issue, pages 2-5).

Back to MacGregor: After the fire tower was reached we continued over rocky ground with eucalypt dominants and some patchy stands of sassafras and *Bedfordia* growing in sheltered positions. Eventually we were in that beautiful

area known locally as the Magic Forest. With the light filtering through the canopy of a very old forest of gnarled and twisted sassafras, musk and native laurel imbuing a pale green light to the atmosphere it wasn't difficult to see why this forest was thus named. Furthermore the fungi were becoming more interesting and numerous among the tree ferns and mosses. Another rocky section and we had attained the highest point of MacGregor's, i.e. the trig point. One of the highlights of this walk is a vantage point where one can look down over Pirates Bay and see along the coast to those wonderful rock formations in the water known as the Lanterns. This panorama was at its best today, with blue sea and sky and a clear horizon. We left this impressive photographic stop and descended into a very strange rainforest, strange in that it contained no *Nothofagus cunninghamii*. The dominant species were sassafras, musk and huge *Pittosporum* trees. Celery top pine, *Dicksonia antarctica* dripping with water ferns and bryophytes, *Pomaderris apetala* and other rainforest species formed the understorey of this beautiful closed forest with its mossy floor.

The final leg of our walk was the 2 km stroll along Schofields Rd and then MacGregor Rd back to the car park. We found additional species of fungi on this section including the Northern hemisphere species *Lyophyllum decastes* - often associated with disturbance - as well as *Cortinarius*, *Amanita* and *Lactarius* species. Machiel was greatly impressed by an enormous *Phylloporus* being of a size such that he had never seen before in the Northern Hemisphere (Figure 3) and Warwick collected *Grifola colensoi*, which may turn out to be a significant find of interest to the edible mushroom industry.

Figure 3. Machiel sporting *Phylloporus* headgear, Schofields Road

Table 2. Vascular plant list for MacGregor Peak, 10th April 2004

APIACEAE
Hydrocotyle spp.
ASTERACEAE
Olearia argophylla
Olearia lirata
Olearia phlogopappa
Olearia ramulosa
Olearia stellulata
CUNONIACEAE
Bauera rubioides
ELAEOCARPACEAE
Aristotelia peduncularis
EPACRIDACEAE
Cyathodes glauca
Gaultheria hispida
Leptecophylla juniperina subsp. *parvifolia*
Richea dracophylla
FABACEAE
Pultenaea daphnoides
GOODENIACEAE
Goodenia lanata
HALORAGACEAE
Gonocarpus humilis
LAMIACEAE
Prostanthera lasianthos
LILIACEAE
Drymophila cyanocarpa
MIMOSACEAE
Acacia melanoxylon
Acacia riceana
Acacia verticillata
MONIMIACEAE
Atherosperma moschatum
MYRTACEAE
Eucalyptus delegatensis
Eucalyptus globulus
Eucalyptus obliqua
Leptospermum lanigerum
OLEACEAE
Notelaea ligustrina
ORCHIDACEAE
Chiloglottis reflexa
PITTOSPORACEAE
Billardiera longifolia
Pittosporum bicolor
PODOCARPACEAE
Phyllocladus aspleniifolius
RANUNCULACEAE
Clematis aristata
RHAMNACEAE
Pomaderris apetala
Pomaderris racemosa
ROSACEAE
Acaena novae-zelandiae
RUBIACEAE
Coprosma hirtella
Coprosma quadrifida
RUTACEAE
Correa reflexa
SCROPHULARIACEAE
Veronica formosa
THYMELAEACEAE
Pimelea drupaceae
Pimelea nivea
WINTERACEAE
Tasmannia lanceolata

Table 3. Fungus list from wet forest, MacGregor Peak, 10th April 2004. Names followed by an asterisk are Fungimap target species.

Agaricus sp.
Agaricus sp., 'brown speckles', with iodine odour
Amanita sp., grey with ring, no volva
*Anthracophyllum archeri**
Armillaria novaezelandiae
Austropaxillus muelleri
Bisporella sp., 'green-yellow'
*Boletellus obscurecoccineus**
Boletus sp., 'rosy brown'
Bovista sp.
Calocera sp.
Cantharellus concinnus
Clavaria amoena
Clavaria miniata
Clavaria zollingeri
Clitocybe semiocculta
Clitocybe sp., grey-brown
*Cortinarius rotundisporus**
Cortinarius sp., 'lilac and cream'
Cortinarius spp., four different brown spp.
Cortinarius with blue shaggy stipe and blue brown shaggy pileus
Crepidotus variabilis
Discinella terrestris
Entoloma procerum
Entoloma readiae
Entoloma sp., aff. *conferendum*
Entoloma sp., grey, frosty
Entoloma sp., large, blue
Galerina patagonica
Gymnopilus sp.
Gymnopus sp.
Hydnum repandum
*Hygrocybe lewellinae**
Hygrocybe mavis
Hygrocybe reesiae
Hygrocybe rodwayi
Hygrocybe sp., aff. *coccinea*
Hygrocybe taekeri
Hygrocybe astatogala
Hygrocybe aurantiopallens
Hygrocybe chromolimonea
*Hygrocybe graminicolor**
Hygrocybe lilaceolamellata
Hypholoma fasciculare
Hypoxylon diatrypioides
Inocybe sp.
Laccaria sp.
Laccocephalum tumulosum
Lactarius eucalypti
Lentinellus pulvinulus
Lepiota sp.
Lepista sp., white
Leucoagaricus sp.
Lycoperdon perlatum
Mollisia sp.
Mycena albidofusca
Mycena epipterygia
*Mycena interrupta**
Mycena mulawaestris
Mycena sanguinolenta
Mycena sp., 'yellow ochre with earth or fenugreek odour', on soil
Mycena toyerlaricola
Mycena vinacea
Pholiota multicingulata
Pholiotina sp.
*Plectania campylospora**
Polyporus melanopus

(continued next page)

Table 3 continued

Polyporus sp., 'frilly'	**Fire trail:**
Polyporus sp., 'sandy'	*Amanita ochrophylla*
Postia caesia	*Cortinarius archeri*
Psathyrella echinata	*Cortinarius* sp., 'memoria-annae'
Pseudobaeospora sp.	*Descolea recedens*
Ramaria ochraceosalmonicolor	*Grifola colensoi*
Rhodocollybia butyracea	*Hypholoma fasciculare* var. *armeniacum*
Russula albonigra	*Lacrymaria asperospora*
Russula lenkunya	*Lactarius stenophyllus*
Russula marangania	*Lyophyllum* aff. *decastes*
Russula neerimea	*Mycena subgalericulata*
Russula persanguinea	*Pholiota malicola*
Stropharia formosa	*Phylloporus* sp., very large
Tricholoma sp., grey	*Pluteus* sp.
Tricholoma sp., grey with odour	*Scleroderma cepa*
Tricholoma sp., with annulus	
Tricholomataceae - white, gelatinous on wood, unknown genus	

Land snails from the MacGregor Peak circuit

Kevin Bonham

Seventeen species were recorded during four and a half hours searching in wet eucalypt forest, mixed forest and rainforest*: Caryodes dufresnii, Tasmaphena sinclairi, Paralaoma* cf. *mucoides, Paralaoma* cf. *halli, Trocholaoma parvissima, Trocholaoma* cf. *spiceri, Pedicamista* sp. "Chisholm", *Discocharopa mimosa, Roblinella curacoae, Allocharopa legrandi* (Tasman/Forestier form), *Allocharopa sp. "*MacGregor*", Pernagera* sp. "Waterfall", *Thryasona diemenensis, Thryasona marchianae, Helicarion rubicundus, Helicarion cuvieri, Stenacapha hamiltoni.* Two previous trips to this locality, in 1990 and 1999, produced 13 species each with a combined total of 17 species.

Paralaoma cf. *halli, Discocharopa mimosa, Roblinella curacoae* and *Stenacapha hamiltoni* are all new records for this locality. *Roblinella curacoae* is a new record for the Forestier Peninsula. It has been recorded from the Tasman Peninsula at Tatnells Hill, but not from the adjacent Tasmanian mainland, so this record slightly extends the species' southern range.

The total of 17 species is one short of my highest ever one-day totals at a single locality (18 at Paton Park and Judds Creek Road). The total number of species for this locality (21) is among the highest totals for a locality yet recorded,

although still well short of the highest total (27 around the Springs, Mt Wellington).

On the 1999 trip (also a club outing), *Trocholaoma* cf. *spiceri* and *Allocharopa* sp. "MacGregor" were both found only in moss covering a single rock just north of the second and highest summit. On this trip the former was scattered in small numbers along the ridgeline, starting just past the first summit. The second was again only found in the area just north of the second summit, but specimens were present (and numerous) along about 70 m of track. The difference may be because conditions were slightly wetter on this trip than in 1999. This remains the only known dense population of *Allocharopa* sp. "MacGregor", which is currently known only from two areas on MacGregor Peak plus single specimens from Bellettes Creek (Forestier Peninsular) and Tatnells Hill (Tasman Peninsula).

DAY 3, 11th APRIL 2004: ROARING BEACH AND SLOPEN MAIN BEACH; CLARKS CLIFFS AND BEYOND

Roaring Beach trip report

Don Hird

Roaring Beach was approached from the car park as a squally SW wind and showers indicated a passing front. On the way to the beach proper heavy trampling of the dunes was evident. We observed a mass of large dolerite pebbles in a matrix of "ironstone clay", buried by dunes near the lagoon. A 2-3 metre swell was running, ensuring that the beach lived up to its name. We walked east along the beach to the headland.

The strand line was marked by slabs of conglomerate, and numerous stalks and debris of sea tulips were observed. Numerous egg-masses of the cartrut shell *Dicathais orbita* were also observed, as were some other egg-masses, similar to the above but light gold-brown and with cells 1.5-3mm diam. and 10 mm long. Decorator crab *Naxia spinosa* and *N. tumida* and surf crab *Ovalipes australiensis* carapaces were noted, along with draughtboard shark egg cases. A slightly slimy, greyish green sphere, about 4cm diameter was found. In section this had an outer layer about 5mm thick and a pungent smell that could easily have indicated an animate origin. Subsequent inquiry (thanks to Liz Turner at TMAG) indicated the likelihood of this being an oocyte of the alga *Codium* sp., otherwise known as a "sea apple". A beach-washed little penguin was found with a neat 5cm diameter incision in its chest; evidently its predator or a later scavenger had removed the pectoral muscle. In rockpools, green and smaller yellow anemones (*Aulactinia veratra* and *Anthothoe albocincta* respectively), and the

burgundy waratah anemone, *Actinia tenebrosa* were observed. Snorkelling revealed only curtains of bubbles and foam in the turbulence. In the lagoon, water boatmen, ostracods, amphipods and damselfly larvae were seen.

Land snails from Roaring Beach
Kevin Bonham

Two species (*Magilaoma penolensis* and *Pernagera officeri)* were noted from half an hour's searching of coastal shrubbery and dune scrub. This was the first serious search at this locality.

These are common coastal species. More surprisingly, a large population of what appear to be unusually large specimens of the saltmarsh snail *Marinula meridionalis* was present around the edges of a freshwater soak at the join between the dolerite and sandstone.

Slopen Main Beach trip report

Don Hird

From Slopen Main Beach, the headland to the southeast was visited as unregistered motorbikes roared up the beach in the other direction. The more placid wave action clearly indicated a lower energy coast than at Roaring Beach. Slumping sedimentary cliffs up to 10 m high were the backdrop to a shore of dolerite and sandstone boulders once the beach was left behind. At one point a bed of large mud oyster *Ostrea angasi,* and king scallop *Pecten fumatus* shells was beneath metres of overburden, but we concluded that they had been buried by subsiding cliffs rather than being deposited *in situ.* Along this shoreline the following were found: a claw of the half-crab *Petrolisthes elongatus; c*arapace fragments of the pebble crab *Philyra laevis;* a large mitre shell *Mitra glabra*; brown cowrie shells *Cypraea angustata;* wentletrap shells *Epitonium jukesianum and Clathrus minora?*; conical sand snail shells *Polinices conicus*; angel wing borers *Barnea australasiae*, in chambers bored into soft sandstone; pink-orange ovoid sponges up to 15cm long, possibly *Tethya* sp.; and a large (1 m) dead tiger snake *Notechis ater*, possibly a drowned migrant from the shearwater rookery on Slopen Island.

Land snails from Slopen Main Beach
Kevin Bonham

During one hour's search in coastal shrubbery and dry to damp sclerophyll forest, five species were found: *Paralaoma caputspinulae, Laomavix collisi, Magilaoma penolensis, Pernagera officeri, Caryodes dufresnii*. This was the first serious search at this locality. The first four species are a group of species very commonly found together in coastal environments. All *Caryodes* shells

seen were long-dead and bleached, and sometimes embedded in the eroded steep mudstone bank. These may represent relics of an extinct population or shells that had fallen from the dry forest above the escarpment.

Trip report for Clarks Cliffs and beyond

Genevieve Gates and David Ratkowsky

The mycological 'team', consisting of Genevieve, David, and their visitors Machiel and Delia, was supplemented by Warwick Gill and his wife Seung-Ah. We awoke to continuing light rain that had started to fall the previous evening and continued throughout the whole of the next day. After a very late start (ca. 1 pm), we descended to the bottom of Plummer's Creek on the Clarks Cliffs Track in search of species of *Entoloma,* which had been quite abundant (ca. 14 species, with many fruit bodies per species) a month or so before. The continuing rain showers made the foray a bit unpleasant, but we soldiered on. Alas, in the end we collected far more leeches than *Entolomas* but at least our visitors (Machiel and Delia) were able to see the habitat, and the conditions we sometimes have to operate in. We found some fungi of the other genera and families although the numbers of species were far less than we had hoped for (Table 4).

Table 4. Fungus list from Clarks Cliffs, 11th April 2004. Names followed by an asterisk are Fungimap target species.

Amanita grey with striate annulus, no volva
Amanita ochrophylla
Amanita sp., small grey
*Anthracophyllum archeri**
Armillaria novaezealandiae
Ascomycete - hollow buff brown with globose spores
Boletus aff. *Xerocomus subtomentosus*
Byssomerulius corium
Campanella olivaceonigra
Cantharellus concinnus
Clitocybula sp., large grey
Collybia eucalytorum
Cortinarius australiensis
Cortinarius rotundisporus group*
Discinella terrestris
Entoloma aromaticum
Entoloma rodwayi
Entoloma sp., 'blue-grey-pink'
Entoloma sp., 'callidermi'
Entoloma sp., 'orange splotch'
Entoloma viridomarginatum
Gymnopilus sp.
Gymnopilus austrosapineus
Gymnopus sp., 'brown frilly'
Hohenbuehelia sp.
Hydnellum sp., pink
Hypomyces chrysospermum
Inocybe sp.
Inocybe sp., 'brown with blue base'
Lactarius eucalypti

(continued next page)

Table 4 continued

Lentinellus pulvinulus	*Mycena sanguinolenta*
Lepiota sp., 'Fiona's Mystery'	*Mycena* sp., yellow ochre and earth odour
Lepiota sp., 'small grey'	*Mycena vinacea*
Leucocoprinus sp.	*Mycoacia subceracea**
Marasmiellus affixus	*Oudemansiella radicata**
Marasmiellus sp., with earth odour	*Podoscytha petalodes*
Marasmius sp., horsehair with close cream gills	*Polyporus melanopus*
Mycena albidofusca	*Porpoloma* sp., greyish-green
Mycena austrofilopes	*Postia caesia*
*Mycena austrororida**	*Rhodocollybia butyracea*
Mycena carmeliana	*Russula persanguinea*
*Mycena interrupta**	*Ryvardenia campyla*
Mycena kurramulla	*Tricholoma* sp., grey with odour
Mycena mulawaestris	

DAY 4, 12th APRIL 2004: MOUNT BROWN AND CRESCENT BAY; BLOWHOLE TO WATERFALL BAY AREA

Trip report for Mount Brown

Don Hird

On the road to Remarkable Cave, we saw kookaburras and cattle egrets. At Safety Cove there were yellow wattlebirds, New Holland honeyeater, superb fairy-wren and hooded plover. From the Remarkable Caves car park we set off to Crescent Bay, the weather having cleared to fine with a light SW breeze. Sooty oystercatchers were on Crescent Beach, while along the shoreline were noted swift-footed rock crab *Leptograpsus variegates*, brown cowrie shell *Cypraea angustata,* cartrut shell *Dicathais orbita*, wavy turban shell *Turbo undulatus*, orange-edged limpet *Cellana solida* and Spengler's rock whelk *Cabestana spengleri*. Fine views were admired: Cape Raoul and its seal haulout to the west, south-west to Bruny Island, coastal landforms such as Maingon Blowhole, out to sea, and from Mount Brown east towards Cape Pillar and Tasman Island. Australian fur seals were seen fishing off Remarkable Cave from Mount Brown; seabirds seen were silver gull, Australasian gannet, tern species and an albatross species. Mount Brown also produced ocellated skink *Niveoscincus ocellatus* and White's skink *Ergenia whitei*, and a range of birds including beautiful firetail, crescent honeyeater, Eastern spinebill, silvereye and feral pheasant. Short lists were prepared for vascular plants (Table 5) and fungi (Table 6).

Table 5. Vascular plant list for Mount Brown / Crescent Beach, 12th April 2004.

AIZOACEAE	FABACEAE
Carpobrotus rossii	*Aotus ericoides*
ASTERACEAE	*Bossiaea prostrata*
Chrysocephalum apiculatum	*Daviesia ulicifolia*
Olearia ramulosa	*Pultenaea* spp.
Ozothamnus reticulatus	MYRTACEAE
O. scutellifolius	*Calytrix tetragona*
CASUARINACEAE	*Melaleuca gibbosa*
Allocasuarina monilifera	*M. squamea*
CUNONIACEAE	PLANTAGINACEAE
Bauera rubioides	*Plantago* spp.
CYPERACEAE	POACEAE
Lepidosperma concavum	*Austrodanthonia* spp.
DILLENIACEAE	PROTEACEAE
Hibbertia procumbens	*Banksia marginata*
EPACRIDACEAE	*Hakea nodosa*
Astroloma humifusum	*Lomatia tinctoria*
Epacris impressa	RESTIONACEAE
Epacris spp.	*Leptocarpus tenax*
Leucopogon parviflorus	STYLIDIACEAE
Monotoca glauca	*Stylidium graminifolium*
Sprengelia incarnata	THYMELAEACEAE
EUPHORBIACEAE	*Pimelea nivea*
Amperea xiphoclada	HALORAGINACEAE
	Gonocarpus spp.
	XANTHORRHOEACEAE
	Lomandra nana

Table 6. Fungus list from Mount Brown and Crescent Bay, 12th April 2004. Names followed by an asterisk are Fungimap target species.

Amanita sp., large grey	*Cortinarius* sp., 'lilac'
Amanita sp., white	*Heterotextus peziziformis*
*Aseroe rubra** egg	*Hygrocybe* aff. *coccinea*

Land snails from Crescent Bay and Safety Cove

Kevin Bonham

Four species were recorded during one hour's search in coastal shrubs and woodland: *Pedicamista* sp. "Southport", *Pernagera officeri, Laomavix collisi, Thryasona diemenensis*. This compares with four species recorded at Safety Cove in three samples in 1986.

Laomavix collisi and *Pedicamista* sp. "Southport" are new records for this area. *Pedicamista* sp. "Southport", which was found at the north end of Crescent Bay, is a new record for the Peninsulas entirely. It was discovered at Southport Bluff in 1990 and all subsequent confirmed reports have been from Bruny Island (Cape Bruny, Courts Island, and Fluted Cape on South Bruny and Mars Bluff on North Bruny). The species occurs in dense populations in coastal habitats. *Magilaoma penolensis*, which has a similar shell form and habitat preference, has never been found within these populations.

On the same day, S*tenacapha hamiltoni* was recorded from tea tree scrub surrounded by heath at Koonya.

Trip report for Blowhole to Waterfall Bay area

David Ratkowsky

Warwick and Seung-Ah had to return to Hobart on Sunday evening so the mycological team was reduced to the basic component of Genevieve, David, Machiel and Delia. As president, Genevieve felt her duty was to remain with the main party, which visited Remarkable Cave, Mount Brown and Crescent Beach (see report above). David remained at the Field Station until close to 11 am, as the visitors wanted to finish working on their collections of the previous day. While at the Field Station, he recorded a few fungi: *Amanita* sp. 'shiny grey', *Austroboletus occidentalis*, *Discinella terrestris*, *Marasmius* sp. and *Strobilomyces floccopus*.

David thought it would be nice to show the visitors some of the tourist scenery accessible from near Eaglehawk Neck, so they drove to the Blowhole and walked the little track over the eroding cliffs that give rise to that geological feature. After ice creams, they then looked at Tasman Arch and Devil's Kitchen, before driving to the end of the Waterfall Bay road to start a little foray for fungi. The track to Waterfall Bay did not yield many fungus species and they arrived at Waterfall Bay at about 1 pm, to have their lunch before setting off up Tatnells Hill, where David promised them the fungi would be better. Fortunately for David's credibility, the fungi *were* better (Table 7), and Machiel got a number of good photos of some of our interesting Tasmanian species. They learned that some of the species that we have been calling *Collybia* are really *Gymnopus*, that another species we were calling *Marasmius* is really a *Marasmiellus* closely

reminiscent of a European species, and that another Tricholomataceous species is a *Micromphale*. More importantly, Machiel pointed out that what we and other Australians were calling *Hypholoma sublateritium* was definitely *not* that species and that *H. fasciculare* in the sense of Down Under is misapplied, as the species we have appears different from that of the Northern Hemisphere. The day was completed with a visit to the Tasmanian Devil Park at Taranna, where Machiel, Delia and David were able to see some Tasmanian wildlife that are more often observed as road kills. The visitors from The Netherlands were most impressed with the Tasmanian natural scenery, and thought our bush was delightful to any kind of botanist, whether they were interested in flowering plants, ferns, bryophytes, or whatever.

Table 7. Fungus list for Waterfall Bay area, 12th April 2004. Names followed by an asterisk are Fungimap target species.

Agaricus sp.
*Anthracophyllum archeri**
Austroboletus occidentalis
Austropaxillus muelleri
Cantharellus concinnus
Clitocybula sp., 'Notley Yellow'
*Fistulinella mollis**
Gymnopus sp.
Hydnellum sp., pink
Hygrocybe aurantiopallens
Hypholoma fasciculare var. *armeniacum*
Hypholoma sp., aff. *sublateritium*
Lactarius clarkeae
Lactarius eucalypti
Lactarius stenophyllus
Lepiota sp., 'Fiona's mystery'
Marasmiellus aff. *rameales*
Marasmiellus affixus
Mycena albidofusca
Mycena austrofilopes
*Mycena viscidocruenta**
Peziza aff. *vesiculosa*
Psilocybe brunneoalbescens
Russula lenkunya
Russula marangania
Russula neerimea
Tricholoma sp., viscid, buff pink
Trogia sp.

Orchid report

Kevin Bonham

The Easter camp report from 1926 describes Easter simply as "a bad time for orchids". We saw little to contradict this assessment, but the MacGregor Peak circuit produced *Genoplesium nudum* in the burnt country just above the fire-tower, a nice late showing of *Pterostylis decurva* right at the summit, and a single *Chiloglottis reflexa*. *C. reflexa* was also present at Safety Cove, along with *Acianthus pusillus*.

Land snail report: general biogeographical comments

Kevin Bonham

The searches made during this camp raise the total number of land snails recorded on the two peninsulas to 29. Twenty-six species have been recorded on both peninsulas, while two species have been recorded at a single locality on the Tasman Peninsula (*Pedicamista* sp. "Southport" and *Elsothera ricei*) and one species has one locality record on the Forestier (*Tasmaphena ruga*). Three species are endemic to the peninsulas (*Helicarion rubicundus, Allocharopa* sp. "MacGregor" and *Pernagera* sp. "Waterfall") but all three are apparently absent from most of the Tasman, with known records being solely from the north-east corner close to Eaglehawk Neck. There is no evidence that Eaglehawk Neck itself is a significant biogeographical divide for snails.

The two most obvious comparison points for the snail faunas of the two peninsulas are the adjacent mainland to the north (the area from Wielangta south to Dunalley) and the mainland to the west (Hobart, D'Entrecasteaux Channel and North Bruny Island). Of the 26 species present on the peninsulas but not endemic to them, 20 occur both to the north and west. The remaining six have been recorded to the west but not to the north. From this perspective, the peninsulas are more similar to the distant mainland to the west than the adjacent mainland to the north. However, many species present on the mainland to the west (including the common species *Pernagera kingstonensis, Mulathena fordei* and *Cystopelta bicolor*) are absent from both peninsulas, while relatively few species present immediately to the north are absent (*Tasmaphena* cf. *quaestiosa* is one example). Two species (*Planilaoma luckmanii* and *Allocharopa* sp. "Barossa Hill") are present both to the north and west but have not been recorded from either peninsula. This may be because of a relative lack of searching in dry forests on dolerite on the peninsulas. More sampling, particularly in the wet forests in the hills around Dunalley, is needed, but it appears that the Tasman and Forestier Peninsulas snail fauna is moderately diverse, and more similar to the highly diverse Hobart area fauna than the less diverse southern east coast fauna.

The Tasmanian Naturalist (2004) **126:** 55-58

NESTS OF THE PLATYPUS *ORNITHORHYNCHUS ANATINUS* IN A TASMANIAN CAVE

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BACKGROUND

Platypuses *Ornithorhynchus anatinus* are known to occasionally frequent cave systems in Tasmania (Lichon, 1999) and when two nest-like mounds were photographed in a stream cave, platypuses were thought to be responsible. It was difficult, however, to identify the 'nests' from the photographs. Besides the platypus, the common ringtail possum and the Tasmanian devil were suggested as being responsible. The cave was visited to further examine the 'nests' and to try and locate any indirect signs (e.g., tracks, scats, hair) that would assist in identifying the occupier.

OBSERVATIONS

The first nest (Figure 1) was located about 160 m upstream of the cave outflow, the only known entrance to this cave. It was situated in a dry recess, approximately 70 cm above the water level, on the true left bank of the stream (facing downstream). The outer surface of the nest was approximately 59 cm across. The nest appeared to have a lid of the fibrous roots and associated hairs that commonly form a wiry thatch on the outer trunk of *Dicksonia antarctica.* This would suggest deliberate stripping of the roots at the base of *Dicksonia* trunks, as they do not make up a large proportion of the litter on the forest floor (Fred Duncan, pers. comm.). When the lid of the nest was removed there was an inner core of 20-30 dry *Acacia melanoxylon* phyllodes (leaf-like organs). Small amounts of leaf material from a eucalypt (probably *Eucalyptus obliqua*), *Pittosporum bicolor*, *Nematolepis squamea*, *Pomaderris apetala* and *Eucryphia lucida* were also identified. A few branchlets of the moss *Thuidium furfurosum* were also present. All species are common in wet forest and riparian environments in the general area. An inner depression of about 16 cm across, lined with dry leaves and phyllodes, was found in the base of the nest on top of a platform of roots and *Dicksonia* 'thatch'. There appeared to be a smooth defined 'platypus slide' about 200 cm long, running from the nest to the stream. However, apart from this 'slide' there were no other visible tracks or scats.

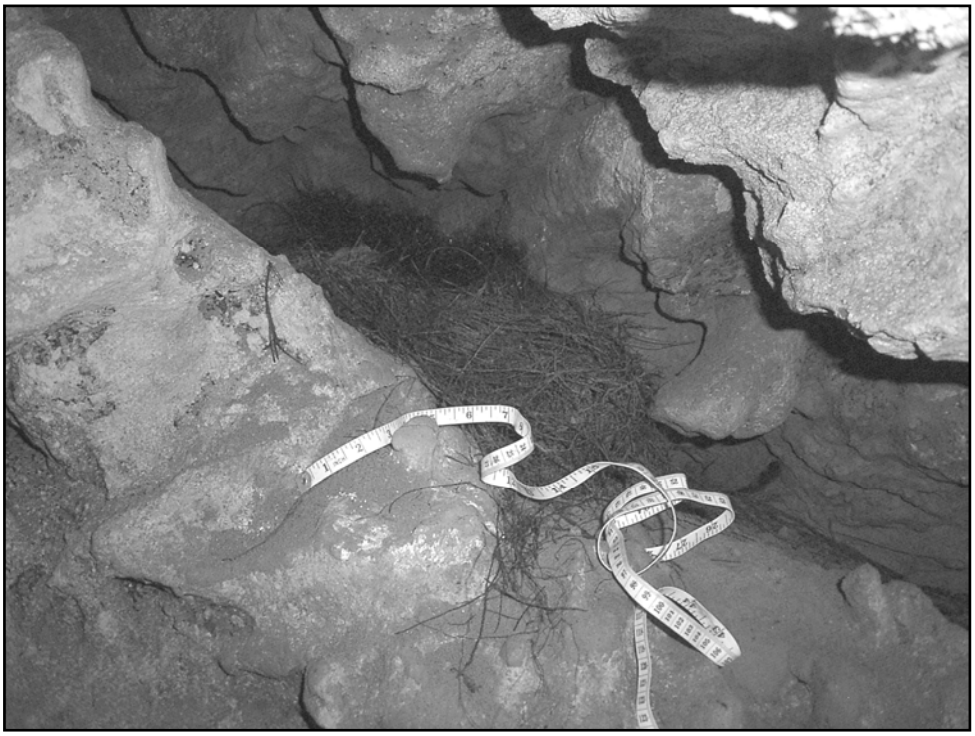

Figure 1. The first nest. Units on the measuring-tape are in inches and cm.

The second nest (Figure 2) was located further upstream, approximately 200 m from the cave outflow. The nest material was more scattered and appeared older than the first. The nest was located on the true right bank of the stream (facing downstream), on a shelf approximately 1 m above the water level. There also appeared to be a platypus 'slide' about 400 cm long, running from the nest to the water (Figure 4). The nest material was similar to the first nest. The 'lid' material was scattered over the ledge; however, the inner depression lined with leaves and the underlying platform of roots and *Dicksonia* ' thatch' was still intact.

DISCUSSION

The location and structure of the nests indicate that they were constructed and used by the platypus,rather than a more terrestrial animal. This conclusion is supported by the presence, at both nest sites, of the distinctive platypus 'slides' made by the animals' ventral surface dragging along the ground as they travel to

and from the nest, and by platypus hair. The structure of the first nest, in particular, was similar to the description of a nest in a platypus natal burrow at Upper Esk, monitored in collaboration with the ABC (Munks, Spencer and Parer, unpublished data).

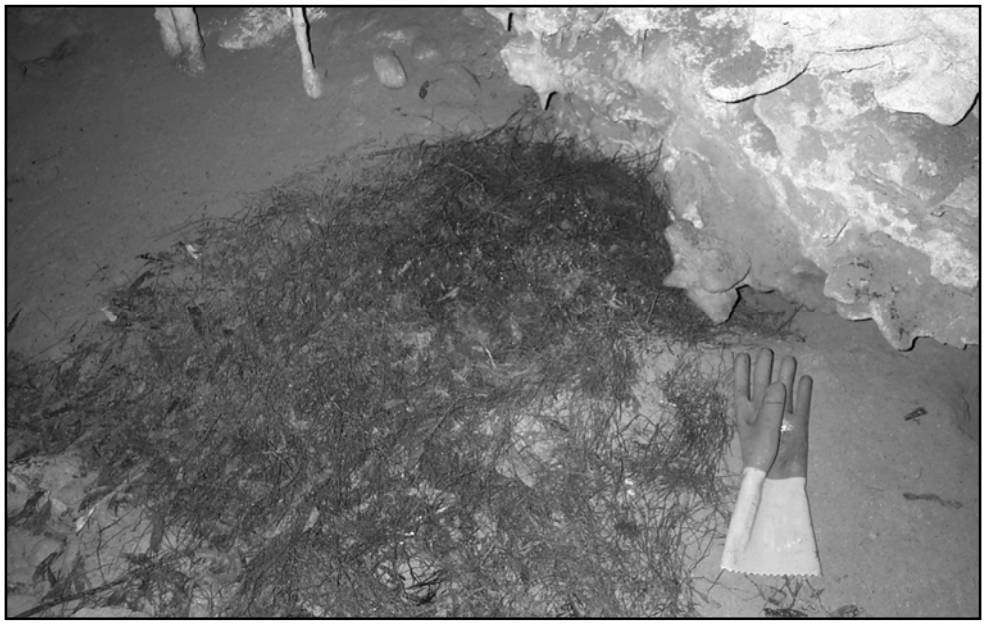

Figure 2. The second nest.

The Tasmanian platypus has always been felt to be slightly 'different' to its mainland relatives. Studies have shown that it is bigger and, at a sub-specific level, is genetically distinct from its mainland counterpart (Munks and Nicol, 2000). It appears to be more opportunistic in its choice of burrow sites than has previously been reported for mainland individuals (Otley *et al*., 2000) and has been reported caving, snowboarding and surfing (Radick *et al.*, 2001). With regards to breeding, the nests described in this paper and the anecdotal report of a similar nest structure in Gunns Plains Cave (Nick Mooney, pers. comm.) indicate that female platypus will select sites other than the more traditional burrows within consolidated earth banks, to rear their young.

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OBSERVATIONS ON A NESTING HOLLOW OF YELLOW-TAILED BLACK COCKATOO, AND THE FELLED TREE THAT HOSTED IT, IN NORTH-EASTERN TASMANIA

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INTRODUCTION

The yellow-tailed black cockatoo (*Calyptorhynchus funereus* Shaw, 1794) is one of Tasmania's most familiar birds, its common name aptly describing its distinctive black plumage with yellow undertail. The species is gregarious and is usually seen in family groups or small parties and occasionally congregates in large flocks (Forshaw and Cooper, 1981). In north-eastern Tasmania, large flocks are a familiar sight and sound in areas of extensive softwood plantation.

The yellow-tailed black cockatoo is native to Tasmania and is widely distributed throughout the State (Brown and Holdsworth, 1992). It is nomadic and covers large distances in search for food, which comprises seeds, nuts, fruit or berries from a wide range of native trees and shrubs such as eucalypts, banksias, acacias and hakea but also a large range of insects and larvae, and seeds and nuts of introduced flora such as pines.

There are few reported observations of breeding behaviour of the yellow-tailed black cockatoo in Tasmania (Brown and Holdsworth, 1992) but the species is known to use large hollows in over-mature (often dead) eucalypts, in (primarily wet) sclerophyll forests. Haseler and Taylor (1993) provide information on a nest tree from dry sclerophyll forest in north-eastern Tasmania. Here we present observations of yellow-tailed black cockatoos using a tree hollow near Scottsdale in north-eastern Tasmania in 1999.

OBSERVATION

On 18th January 1999, on a mild clear day, in the early afternoon, a yellow-tailed black cockatoo was observed flying into a large hollow in a stag in riparian forest in north-eastern Tasmania. The bird emerged at the hollow entrance a few moments later and perched on a bole about one metre above the hollow entrance for several minutes. Two adult birds then flew onto the scene and started "attacking" the perched bird with their claws. The perched bird did not depart

but the two adult birds flew off and did not return in the observation period (30-45 minutes).

About one year later (on 3rd February 2000), the nest tree was found felled (presumably for firewood collection based on the type of cross-cutting that had occurred post-felling). Most of the tree was undamaged (apparently the felled tree was not suitable for firewood as it contained a significant amount of dry rot), which provided an opportunity to record the specific details of the hollow that had been observed in use the previous year (fortunately the tree had fallen hollow side up).

The details of the site, the tree and the hollow are provided below. The appearance of the tree and the hollow are shown in Figure 1.

Location details
Site: Ruby Creek south of Jensens Road about 5 km ENE of Scottsdale.
Grid reference: Scottsdale Tasmap (5444) 548700m E 5445100m N (AGD).
Vegetation: *Eucalyptus obliqua*, *E. ovata* and *E. amygdalina* over dense *Melaleuca squarrosa*, *Acacia verticillata* and *Todea barbara.*
Topography: Gently-sloping riparian zone in a north-east flowing stream.
Altitude: Approximately 170 m a.s.l.

Tree characteristics (see Figure 1)
Tree species: unknown (entirely dead) but most likely to be *Eucalyptus obliqua* (the dominant eucalypt in the riparian zone).
Condition of tree: Dead.
Tree height: Approximately 40 m.
Diameter at breast height over bark: Approximately 120 cm.
Height at base of hollow: Approximately 26 m.
Aspect of hollow: southwest.

Hollow characteristics (see Figure 1)
External (max.) height: 56 cm.
External (max.) width: 30 cm.
Diameter of bole at lowest point of hollow: 72 cm.
Diameter of bole at midpoint of hollow: 80 cm.
Wall thickness (where measurable near hollow entrance): 12.5 cm, 9.5 cm, 5.5 cm, 13 cm, 12 cm.
Depth of hollow: difficult to measure exactly due to condition of tree (part disintegrated on felling) but a minimum of 65 cm below lowest external point of hollow.

Appearance of hollow entrance: natural shape with evidence of beak marks.
Internal appearance: base of hollow filled with dry crumbly rotten wood, evidence from chainsaw crosscuts below hollow indicates that much of the trunk below the hollow was filled with dry rot.

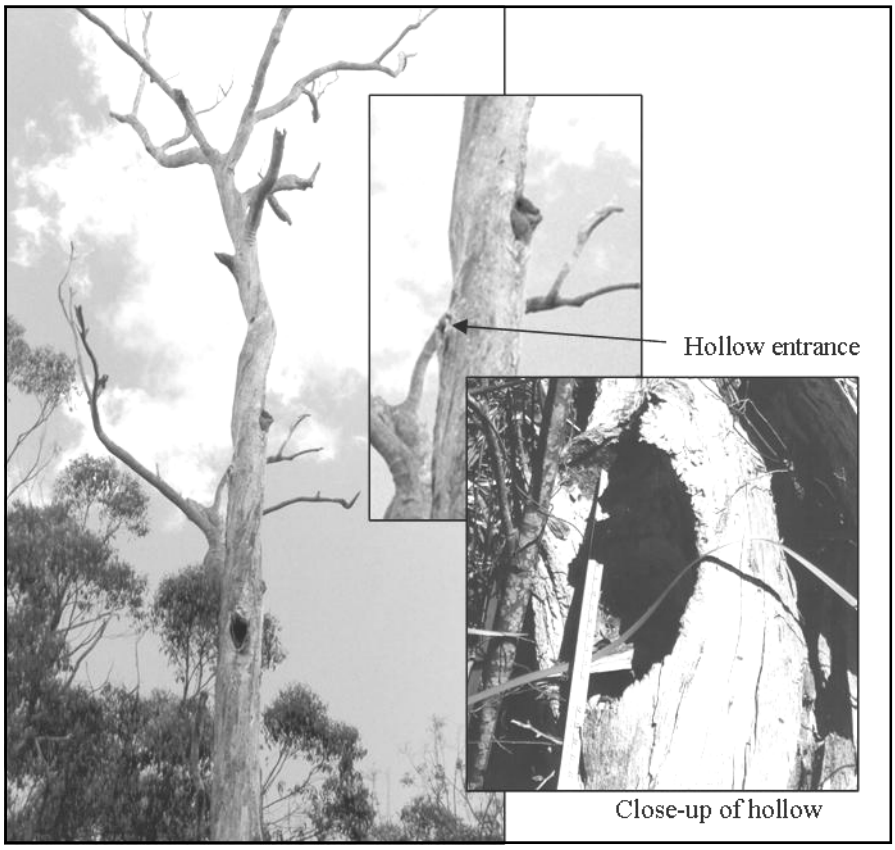

Figure 1. The tree and its hollow occupied in 1999 by a yellow-tailed black cockatoo near Scottsdale, north-eastern Tasmania.

DISCUSSION

The yellow-tailed black cockatoo is one of the largest members of the tree hollow-dependent fauna in Tasmania. It uses large hollows in over-mature eucalypts and it is likely that nest trees are greater than about 150 years old (Nelson and Morris, 1994; Higgins, 1999). Hollow-dependent fauna are particularly susceptible to the potential effects of forestry activities that can result in a reduction

in the number and distribution of suitable hollow-bearing trees (Gibbons and Lindenmayer, 2002). In the case of the yellow-tailed black cockatoo, aspects of its breeding biology may exacerbate the potential impacts of forestry activities that reduce hollow availability. These include the fact that there may be only about 90 breeding pairs within north-eastern Tasmania (Fox and Brereton, 2004), the species is long-lived with a slow rate of reproduction and low mortality (Forshaw and Cooper, 1981), and they may return to traditional breeding areas annually (Higgins, 1999) and attempt to breed, even after major disturbance (Saunders, 1982).

Firewood harvesting is a significant activity in Tasmanian forests, and has been identified as a significant threat to hollow-dependent fauna (Bryant, 2002). Both commercial and domestic firewood collection often target the types of trees used by hollow-dependent fauna (i.e. over-mature trees or standing dead trees). While commercial firewood collection must occur in accordance with the provisions of the *Forest Practices Code 2000* (Forest Practices Board, 2000), which includes provisions to manage "habitat trees", our observation highlights the potential impact of illegal or opportunistic firewood collecting on sensitive species such as the yellow-tailed black cockatoo (for which there are few known nest sites).

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The Tasmanian Naturalist (2004) **126:** 64-65

THE LOCALS
(Mole Creek)

A series of poems by Adrienne Eberhard

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1.
All day thrushes have tapped at the windows,
a spoken hieroglyph, bird cuneiform,
sharp rat-tat like typewriter keys or morsecode
- mesmeric insistence! - we rush from room to room
catching the quick roll of their eyes,
beaks moving like hammers, the mushroom-grey
of their chests, (we freed one yesterday, tried
to calm its fast heart felt through the soft spray
of breast feathers - it seemed a giant moth
lumbering into walls, desperately
seeking fluid air, flight's freedom, new breath),
is this a desire for captivity,
a bird-Narcissus preening in the glass,
or noisy thanks ricocheting off our house?

2.
When we shone the torchbeam at the vast
sprawl of the gum stump and let it dance
skywards, making the blackwood leaves
glisten and swell in the evening rain, we
spotted the ghost-grey of a tawny frogmouth.
He sat solemn, silent - a damp branch - only
the swivel of his head signalling his presence.
We'd heard him every night, calling forlornly
from the bush, and there he was, turning
his tawny eyes towards us, our children
absorbing him until their breath seemed stilled,
like owl babies pretending absence.

3.
The quiet sky is stormed
as a crew of maniacs slews through air,
dark wings veering,
great gawps of sound rolling and dropping
like shredded seedpods.
They flock in the tall gums:
a bikie gang, black, extravagant,
leering and coughing,
the sleek jet of their feathers
hauling rain.

4.
A pair of kookaburras haunts this grassy space,
alighting on branches, limestone outcrops,
and often, the clothesline
spinning slowly, turning their heads
at the last minute, the way dancers do.

They are puffed, fat with fluff,
warm as stones absorbing sun,
the turquoise of their wing-
feathers, brilliant
and shocking as laughter.

The Tasmanian Naturalist (2004) **126:** 66-67

MEMBERS' OBSERVATIONS, AUGUST 2003-JULY 2004

Compiled by Simon Grove

Editor's note: This section of *The Tasmanian Naturalist* is intended to provide a means of summarising some of the more pertinent observations that have been recorded over the previous year in the members' observations book that circulates at the monthly meetings of the Tasmanian Field Naturalists Club. It does not attempt to list every observation, but highlights some of those with wider or longer-lasting significance. This year's list is entirely zoological, but this does not mean that future lists must be too. For this section to continue in future years, observers are encouraged to record their name and observations in the book LEGIBLY and IN FULL.

CONTRIBUTORS

Amanda Thomson (AT); Betty Moore (BM); Don Hird (DH); Genevieve Gates (GG); Geoff Fenton (GF); Kevin Bonham (KB); Janet Fenton (JF); Kylie Qug King (QK); Rosemary Gales (RosG); Robyn Gates (RobG); Simon Grove (SG).

OBSERVATIONS

Polyxenidan millipede. Found in dry leaf litter near Bend 6 in Lambert Park; first record for group from Hobart area, January 2004 (KB)

Oceanic 'jellyfish'. *Physalia*, *Velella* and *Porpita* washed up on Taroona beach, 30th January 2004, following several days of strong easterlies (SG)

Short-tailed shearwater. One sitting on the road on Regent Street, Sandy Bay, 4th May 2004 (QK)

Wedge-tailed eagle. A pair at Gunners Quoin, 17th August 2003 (AT); one over Mount Wellington Summit, 20th August 2003 (SG); a pair above the Timbs Track, 27th March 2004 (GG); one juvenile over Olinda Avenue, Mount Nelson, May 2004 (DH)

White-bellied sea-eagle. One soaring above Bedlam Walls, 31st March 2004 (GF)

Grey goshawk. One displaying over Taroona, early July 2003 (SG); one killed a caged duck by pecking head through the mesh, near Geeveston, 1st May 2004 (BM)

Swift parrot. Fifty or more in the Taroona Park and foreshore area most days, October and November 2003 (SG)

Tawny frogmouth. One sitting on wires outside house in Taroona, 6th May 2004 (SG)

Masked owl. One in tall eucalypts at Wiggins Road, Longley, June 2004 (JF)

Eastern quoll. One (roadkill) 3 km SE of Copping on Tasman Highway, 3rd May 2004 (DH); another roadkill quoll (presumably Eastern) 1.5 km S of Copping on Arthur Highway, 17th May 2004 (DH)

Fox. One trotting across farmland at West Gawler Creek, south of Ulverstone (RobG)

Seal species. One off Taroona, evening, 3rd September 2003 (AT)

Dolphin species. Seven off Taroona, morning, 11th September 2003 (SG)

Whale species. One off boatshed beach, Taroona, close to shore, evening, 5th October 2003. Described as having a somewhat sickle-shaped dorsal fin. Perhaps a pygmy right whale? (RosG)

BOOK REVIEW

Frogs of Tasmania. Fauna of Tasmania Handbook No. 6.

By Murray Littlejohn, edited by Roy Swain and Michael Driessen
Published by the University of Tasmania, 2nd Edition 2003. 80 pages

Reviewed by Sue Baker

Frogs of Tasmania is another great little handbook from the *Fauna of Tasmania* series. The guide is extremely well researched and contains a lot of scientific information. However, because of the format, it is suitable for use both by people who can use identification keys and by the broader public, who can flick through the photographs and species descriptions in order to make an identification. The guide contains a one to two page description of each of Tasmania's eleven frog species. These include color photographs of the adults and also of egg masses for some species, a distribution map, and descriptions of adults, eggs, tadpoles, calls, and habitat details.

For the more enthusiastic user, there are good keys to species for adults, the calls of adult males, eggs, plus a trickier key that separates tadpoles into four groups (1 species, 2 genera, 1 subfamily). Although the keys to adults and tadpoles use scientific jargon, this is generally well explained by the accompanying labelled diagrams and glossary.

As well as an identification guide, roughly a third of the book consists of a broad ranging review of frog ecology and behaviour, including tips on approaches to studying them, taxonomy and conservation. The bibliography of references is a good starting point for more in-depth reading on the subject. Since frog decline is a serious threat to frogs worldwide, Murray Littlejohn's handbook will serve to encourage the interest of Tasmanians in conserving frogs and their habitat.

BOOK REVIEW

Sea Dragons: Predators of the Prehistoric Oceans

By Richard Ellis
Published by the University Press of Kansas, 2003; ISBN 0- 7006-1269-6

Reviewed by Jim Patterson

No, this is not a book about Tasmania's seahorse relatives, but about the marine cousins of the dinosaurs. Much has been written about the dinosaurs but their marine cousins have not been given a great deal of attention in our literature. Richard Ellis is a research associate in vertebrate palaeontology at the American Museum of Natural History who has published widely on whales, sharks and the oceans. In this fascinating book he has gone some considerable distance to address the subject with an understandable text, but he has also given the reader a visual treat with his carefully drawn illustrations.

Sherlock Holmes would have been a quite successful palaeontologist. Palaeontology, like geology, is an intriguing whodunit which has fascinated scientists for centuries. New finds and new theories were often regarded by others in the same field with suspicion, scorn or outright hostile opposition. Ellis gives some amusing examples of this animosity, in one case citing Cope and Marsh, where "Marsh, in an uncharacteristic burst of generosity, named a Masosaur *copeanus,* with Cope in mind", adding that maybe combining Cope and anus was not so generous after all!

Most people have a fossil or two lying about the house, but some, like Dr. Gideon Mantell, become compulsive collectors. His wife left him, Ellis tells us, "because there was no more room left in their house...among other reasons".

Early in the book the author explores some of the imponderables, for instance, when all there is to work on are a few bones and a tooth and a fossil impression in a piece of Jurassic rock 150 million years old. From these clues it is possible to reasonably accurately reconstruct a plesiosaur, but the colour of its skin or whether it screeched, roared or grunted will never be known.

Why did these creatures die out? Ichthyosaurs were amongst some of the most highly developed reptiles that ever lived. We can only speculate. These are not my words. This is a reflection by Richard Ellis at the end of the chapter on ichthyosaurs. But that doesn't stop the experts hypothesising. Ichthyosaurs were to the oceans what the carnivorous dinosaurs were to the land, and for a similar span of time.

Well, one hundred million years gives plenty of scope for change. For change

to occur in the hunters as well as the hunted. If the hunted develop ploys to outwit the hunters and the hunters don't adapt quickly enough, they'll starve and eventually become extinct.

There's tremendous scope for serious detective work here and there's plenty of thought one could give to our own species – a Johnnie-come-lately on the world scene. What changes will we make to ensure our survival and dominance of the food chain? Will we end up as fossil remains for a future life-form to marvel and puzzle over? One hundred million years is a long time to stay on top. Will we make the grade or is our global greed already foretelling our extinction?

Ellis has an endearing appreciation of plain language, as far as it is possible when referring to these animals. He refers to a doctoral thesis on "intracorporal force transmission in plesiosaurs", remarking that "these elaborate arguments for 'a force transmission system' are completely incomprehensible to me. I have included them under the assumption that others might be able to understand what she is talking about". It is time that informed writers took the view that readers really want to understand what they are reading about and the best way to do this is to stop using phrases like "ventral elements of plesiosaurs are able to accommodate asymmetry of force direction and magnitude in anterior as well as bilateral wing pairs, intermobility of bony elements or distortion of the body as a whole". Phew! Why do some people have to say large ventral body mass, instead of simply saying gut?

The imagination is taxed picturing one of these predators cruising up your favourite estuary and opening its huge gob to snaffle two or three adult dolphins; or with its head the size of a truck stuck in your bedroom - and the rest of its one hundred tonne bulk stretching out to the mail box.

Overall, a delightful book.

BOOK REVIEW

The Secret Life of Wombats

By James Woodford
Published by Text Publishing, Melbourne, 2001

Reviewed by Don Hird

As an undergraduate zoology student in the early 1970s, wombats were the doyen of favoured animals for further study by the few of us would-be marsupial biologists. At that time there were few published studies on common wombats, but neither did the cryptic habits of wombats recommend them for naturalistic research. Three decades after such quixotic days, several scientific treatises have emerged, followed by *Secret Life.*

Rather than restricting itself to science, *Secret Life* deals as much with human interest in wombats and reflects the author's background as a journalist who is also credited with a book documenting the discovery and biology of the Wollemi Pine.

A strength of *Secret Life* is that not only does it summarise scientific studies of wombats but gathers information from wider and more general sources such as vernacular and historical accounts and marsupial palaeontology of wombats. An example of this is Woodford's tracking down of Peter Nicholson, the author of a school-project study of wombats based on crawling into burrows and detailing their architecture and habitation. They retrace the latter's steps to his study area in the foothills of the Victorian alps, even to identifying particular burrows of common wombats more than 30 years after they were originally visited. Quotes from Nicholson's study are used as chapter themes throughout *Secret Life.*

Other chapters are based around excursions to significant sites for wombats and discussions with local experts on wombats. These include visits to the famous fossil site of Riversleigh; Timbertop School with Peter Nicholson; the isolated and forlorn habitat remnant of the Northern hairy-nosed wombat in Queensland; and Narawntapu National Park in northern Tasmania, renowned for its diurnal wombats. Efforts to employ remote controlled and sensing technology, both elaborate and borrowed from cheap toys, to explore burrows are recounted. Photographic plates notably include a juvenile wombat riding on its parent's back in snow.

Secret Life provides a readable ramble across wombat biology and cultural significance. Its shortcomings include a largely anecdotal approach; this has its

narrative advantages but *Secret Life* includes mistakes of detail like the omission of some of the Victorian populations and the apparent inclusion of Bruny Island in common wombat distribution maps. Citation omissions include John McIlroy's work, *Tasmanian Naturalist* wombat records and the inclusion of references to the discredited "anthropology" of Aldo Massola. The Tasmanian chapter diverts somewhat into devil biology, doesn't mention 1080 targeting of wombats and could easily have included useful information like secondary use of wombat burrows by Eastern quolls. Serious conservationists may prefer more strategic consideration of the issues and less of the "crikey" factor but that's not always what sells books.

Secret Life is nonetheless recommended, not so much for being a comprehensive and thorough account of wombats but as "selected highlights" (and some low points) in human knowledge of the world's largest burrowing animal.

ADVICE TO CONTRIBUTORS

The Tasmanian Naturalist publishes articles on all aspects of natural history and the conservation, management and sustainable use of natural resources, with a focus on Tasmania and Tasmanian naturalists. Articles need not be written in a traditional scientific format unless appropriate for the content. A wide range of types of articles is accepted. For instance, the journal will publish articles that: summarise or review relevant scientific studies, in language that can be appreciated by field naturalists; stimulate interest in, or facilitate in identifying, studying or recording particular taxa or habitats; record interesting observations of behaviour, phenology, natural variation or biogeography; stimulate thinking and discussion on points of interest or contention to naturalists; put the study of natural history today into context through comparisons with past writings, archives, etc.; or review recent publications that are relevant to the study of Tasmanian natural history.

Submission of manuscripts

Manuscripts should be sent to the editor, Simon Grove, preferably electronically (email: groveherd@bigpond.com) as Word documents. Alternatively they can be mailed to 25 Taroona Crescent, Taroona, Tasmania 7053. Graphs, illustrations or maps should also be provided electronically by preference, generally in TIFF or EMF format. Articles can be written in either a formal or an informal style, depending on content. Informal articles need not fit any particular format. Formal articles should follow the style of similar articles in recent issues. An abstract need only be included with longer, more scientific papers. Formal articles are normally sent to at least one independent referee for comment. This is undertaken to try to ensure accuracy of information and to improve the quality of presentation. The editor is willing to assist any prospective authors who have little experience in writing articles.

References cited in the text should be listed at the end of the paper in the following format:

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Tasmanian Field Naturalists Club
G.P.O. Box 68, Hobart, Tas. 7001

Founded 1904

OBJECTIVES

The Tasmanian Field Naturalists Club aims to encourage the study of all aspects of natural history and to advocate the conservation of our natural heritage. The club comprises both amateurs and professionals who share a common interest in the natural world.

ACTIVITIES

Members meet on the first Thursday of each month, at 7.45 pm in the Biological Sciences Building at the University of Tasmania at Sandy Bay. These meetings normally include an illustrated talk by a guest speaker. An excursion is usually held on the following weekend to a suitable site to allow field observations of the subject of that week's talk. The Club's committee coordinates input from members of the Club into natural area management plans and other issues of interest to members.

THE TASMANIAN NATURALIST

The Club publishes the journal *The Tasmanian Naturalist*. This annual journal provides a forum for the presentation of observations on natural history, and views on the management of natural values, in both formal and informal styles.

MEMBERSHIP

Membership of the Tasmanian Field Naturalists Club is open to any person interested in natural history. Members receive *The Tasmanian Naturalist* annually, plus a quarterly bulletin with information covering forthcoming activities; the Club's library is available for use. Enquiries regarding membership should be sent to The Secretary, at the above address, by phoning Genevieve Gates on (03) 6227 8638, or by visiting our web site at http://www.tasfieldnaturalists.org.au.

Membership rates

Adults	$30
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