INTRODUCTION

In 2017, the Tasmanian Museum and Art Gallery (TMAG) launched its Expeditions of Discovery program with the aims of: building TMAG’s collections of flora and fauna from under-sampled parts of Tasmania; documenting the species of plants and animals recorded; discovering new or hitherto overlooked species; and highlighting the role that baseline species-discovery research plays in understanding and managing Tasmania’s remarkable biota. This initiative for TMAG was inspired by the Australian Government’s Bush Blitz species discovery program. TMAG has been a part of the Bush Blitz program over many years, collaborating in surveys in remote Tasmanian locations such as the Tasmanian Wilderness World Heritage Area, Flinders Island and the Tarkine region (Bauer et al. 2010, Commonwealth of Australia 2012, 2014a, 2014b, 2016, 2017a, 2017b, 2017c, Byrne 2017). Together these surveys recognised some 335 putative new species. In Tasmania, multidisciplinary flora and fauna studies, such as the Lower Gordon River Scientific Surveys conducted in the late 1970s (for example Bratt 1978, Hickman & Hill 1978, Hocking et al. 1978, Jarman & Crowden 1978, Rose 1978; the Warra Silvicultural Systems Trial (Neyland et al. 2012); and the Wilderness Ecosystems Baseline Studies (Driessen et al. 1998)) have generated a wealth of information and specimens that have led to the documentation of new species. However, apart from past Bush Blitz surveys, no previous work has aimed to document both the flora and fauna so comprehensively at a particular location or, most importantly, has been backed up with a more-or-less complete collection of the voucher material that is so critical for the identification process and which underpins future research (Huber 1998, Culley 2013). With estimates suggesting that approximately 70% of Australian organisms are yet to be discovered and described (Cassis et al. 2016), it is only to be expected that with concerted searches new species will continue to be found. Whilst this is not true for all groups of organisms, such as the well-documented and highly visible mammals, birds and flowering plants, it is still very much the case for lesser-known or less conspicuous groups such as lichens and invertebrates. Certainly, surveys of these organisms undertaken to date indicate that Tasmania is rich in novelties.

The Wind Song property on Tasmania’s East Coast was chosen for the first of these expeditions as it is known to contain a diverse range of habitats, it was readily accessible from Hobart, and the project had the enthusiastic support of the landowners. Drawing on the specialist expertise of TMAG staff and associates, the survey focused on vascular plants, bryophytes, lichens, butterflies, moths, beetles, snails and slugs; other taxonomic groups were also recorded opportunistically. Here we present an inventory and discussion of the plants, lichens and animals discovered. As well as offering an insight into a biodiverse corner of Tasmania, the results serve as a benchmark for future studies in other parts of Tasmania.

MATERIALS AND METHODS

The property

Wind Song is a 220 ha former farming property, situated at Little Swanport on Tasmania’s east coast (pl. 1). The property is bounded by Swanston Road along the northern margin, by Strip Road along the western margin, and by private property along most of its other boundaries. It is intersected by the intermittently flowing White Hut Creek. The property has a shallow elevation profile, with the flats along the course of White Hut Creek situated at approximately 10 m a.s.l., and the northwest corner at approximately 70 m a.s.l. Much of the wooded area is protected by a 42 ha private reserve (pl. 1).
Geologically, the property straddles the boundary between Triassic sandstone (with siltstone and mudstone), which underlies most of the property's surface, and Jurassic dolerite, which outcrops along the western margin (Calver et al. 2016). The sedimentary sequences are partly metamorphosed near the geological boundary, with patches of hornfels exposed near the northern edge of the property. Some of the northwesterly to southeasterly orientated spurs contain abundant pisolitic ironstone and represent relict Tertiary laterites.

The climate in central eastern Tasmania where the property is situated has a Köppen classification of Cfb (temperate, warm summer, without dry season (Peel et al. 2007)). Average temperatures in the nearby town of Orford fluctuate from a winter minimum of 3.5°C and maximum of 13°C in July, to a summer minimum of 12°C and maximum of 22°C in February. Rain is more common in late winter and spring, with an annual average of 668 mm (BOM 2018).

There is a history of sheep grazing and timber harvesting on the property, but these activities have largely ceased and stocking levels were greatly reduced approximately seven years ago. A small number of sheep and horses remain on a portion of the property and are used primarily for land management and recreational purposes. Occasional firewood collection continues.

Mapped vegetation types on Wind Song include the following: Eucalyptus globulus dry forest and woodland (DGL); Eucalyptus pulchella forest and woodland (DPO); Pteridium esculentum fernland (FPF); regenerating cleared land (FRG); and agricultural land (FAG) (Kitchener & Harris 2005).

Prior to this survey, limited data on the flora and fauna of the property were available in the form of an unpublished list (Lloyd unpublished), and via some records on the Atlas of Living Australia (Anonymous 2018). These data sources listed 120 vascular plant species, three invertebrates, three frogs, 34 birds and one reptile. Notable species previously recorded are the Critically Endangered Swift Parrot (Lathamus discolor) and the Endangered Chaostola Skipper (Antipodia chaostola leucophaea).

Expertise and timing

The project involved four botanists and three zoologists from TMAG staff, as well as two honorary zoologist researchers. The property was surveyed during 23–27 October 2017, with follow-up invertebrate sampling and trap-sample collection on 14 November and 12 December 2017, and further flora sampling on 7 March 2018 and 26 September 2018.

Site selection

Survey sites were selected in order to represent the major habitat types on the property. The sites were confined mostly to the de-stocked and regenerating portions. Areas with large infestations of Gorse (Ulex europaeus) and areas of primarily exotic pasture were largely excluded from the

PLATE 1 – Location of Wind Song, Tasmania: showing main collecting locations and private reserve boundary.
The flora and fauna of Wind Song, Little Swanport, Tasmania

Survey. A summary of the main collecting areas is given in Table 1 and Plate 1. Surveys for lichens and bryophytes were based chiefly on detailed examination of three sites (Ronnies Spur, Callitris Gully and its margins; and NW Corner), supplemented by a cursory scan of some other parts of the property. Invertebrate specimens were collected from many locations across the property, although general insect trapping focused on Callitris Gully and the vicinity of Paradise.

**TABLE 1 – Major collecting sites at Wind Song.**

| Site     | Latitude          | Longitude        |
|----------|-------------------|------------------|
| Ronnies Spur | 42°21'16.34''S  | 147°55'07.81''E |
| Callitris Gully | 42°21'00.81''S  | 147°55'06.28''E |
| NW Corner | 42°21'05.62''S   | 147°54'32.20''E |
| Paradise | 42°21'22.2''S    | 147°54'39.8''E  |

**Sampling methods**

Specimens of vascular plants, bryophytes and lichens were collected and lodged in the Tasmanian Herbarium (HO), with limited duplicate specimens distributed to other herbaria nationally and internationally under TMAG’s formal specimen exchange program. Several vascular plant taxa were recorded only by observation due to sampling difficulties (e.g., tall eucalypt trees) or lack of fertile material. All possible substrata for lichens and bryophytes, including rocks, soil, bark, wood and charcoal, were examined.

Moths were collected mainly by using ultraviolet light-traps. Both white sheets and bucket traps were used, but some were also collected from malaise traps (pl. 2A) set for general insect-sampling. Beetles, other insects and other arthropods were sampled through a mix of direct observation, hand collection, including the use of hand-nets and a beating-tray, and trapping, and as a by-product of light-trapping for moths; the traps employed were malaise traps, pitfall traps, trunk window traps and yellow pan traps (pl. 2A–D). Molluscs were recorded through hand-searching and collection. Other invertebrates and vertebrates were recorded incidentally while searching for and collecting target taxa. Specimens were lodged in the TMAG Zoology collections, with some mollusc specimens temporarily retained in the private collection of Kevin Bonham.

**PLATE 2 – Insect traps used at Wind Song.** (A) malaise trap. (B) pitfall trap. (C) trunk window trap. (D) yellow pan trap.
Specimen information from all survey material accessioned into the TMAG collection will be made available on the Australasian Virtual Herbarium and/or the Atlas of Living Australia in due course.

**Specimen identification**

Most specimens were identified with the aid of standard laboratory equipment and techniques. Where required, the reference collection of TMAG was used to check identifications. Lichens were identified in the laboratory by examination using low- and high-magnification of hand-cut sections of the thallus (vegetative tissue) and apothecia (reproductive structures), mounted in water, 10% KOH, 50% HNO₃, lactophenol cotton blue, ammoniacal erethrosin and Lugol’s iodine. Routine chemical analyses using thin-layer chromatography followed standard methods (Orange et al. 2010). Some moth specimens were identified using the reference collections of the Australian National Insect Collection (ANIC) (CSIRO, Canberra) and the Biosecurity Tasmania Insect Collection at the New Town Research Laboratories of the Department of Primary Industries, Parks, Water and the Environment.

**Nomenclature and distribution**

Vascular plant nomenclature follows de Salas & Baker (2017). Nomenclature of vegetation types and their acronyms follows TASVEG (Harris & Kitchener 2005). Nomenclature for mosses and liverworts is in accordance with the Australian Moss Name Index (ABRS 2018a), the Checklist of Australian Liverworts & Hornworts (McCarthy 2006) and Tropicos (Tropicos.org, 2018). Lichen nomenclature mainly follows McCarthy (2018). Nomenclature for land snails follows Stanisic et al. (2018). For all other vertebrate and invertebrate taxa identified to species, nomenclature follows the Australian Faunal Directory (ABRS 2018b).

Undescribed or new species of moths are annotated with a unique phrase-name such as, ‘Phaus sp. ’BBTarkFish12’. If specimens can be associated with previously collected material, already-existing epithets are adopted. Insect specimens that could only be identified to a taxonomic level higher than species are annotated with ‘unplaced’.

Moth distributions and rarity were determined, in part, by referring to specimens in ANIC.

**RESULTS**

**Diversity**

This survey resulted in 886 taxa being recorded from Wind Song. Sixty-three taxa (three butterflies, 48 vascular plants, 11 birds and one reptile) had been recorded previously from the property but were not observed during this expedition (Anonymous 2018; Lloyd unpublished). If these unvouched records are included then the total number of taxa for Wind Song is 949 (table 2, appendix 1). Several new species and new records for Tasmania, chiefly of lichens and invertebrates, were recorded and are detailed below.

One-hundred and three taxa were observed during this survey but were not collected. These taxa consisted of vertebrate fauna (40 birds, two frogs, five mammals and three reptiles), non-target invertebrates (39 taxa) and vascular plants (14 taxa).

Thirty-seven introduced species were recorded from the property. Twenty of these were vascular plants, five were birds and the remainder were invertebrate taxa referred to various groups.

**Vegetation**

The property comprises two broad habitat types – regenerating former pasture and woodland. Regenerating former pasture, once used for sheep grazing and largely devoid of trees, was typically associated with a ground cover of heavily grazed grasses and herbs, and dominated by sedges (including Galhnia spp., Lepidosperma spp., and Lomandra longifolia), copes of Silver Wattle (Acacia dealbata subsp. dealbata) and infestations of Gorse.

The following five vegetation communities occurred on the former pasture:

- dense sedgeland of Lomandra longifolia and Lepidosperma species with minor pasture grasses;
- Restionaceae- and Cyperaceae-dominated sedgeland in poorly drained areas containing species of Lepidosperma, Galhnia, Juncus, Baumea, Tetraria and Schoenus (pl. 3);
- pasture grassland comprising mostly exotic grasses (Aina caryophyllea, Anthoxanthum odoratum and Vulpia species) with occasional native species (Themeda triandra, Poa labillardierei and Rytidosperma species);
- Leptospermum scoparium-dominated sparse heathland;
- Ulex europaeus-dominated shrubland, in places forming an impenetrable thicket of almost 100% cover (pl. 4).

The remainder of the property consisted of Eucalyptus-dominated woodland with an understorey of low shrubs, tussock-forming monocotyledons and Silver Wattle, as well as small, discrete populations of Dogwood (Pomaderris spp.) and Oyster Bay Pine (Callitris rhomboidea).

Within the woodland, the following four main communities were recognised:

- Eucalyptus globulus and E. viminalis woodland, with an understorey of Acacia dealbata and A. mearnsii, occasional Banksia, Allocasuarina and Leptospermum, and a ground cover of Lomandra longifolia (pl. 5);
- Acacia dealbata- and A. mearnsii-dominated regenerating woodland with a sparse understorey and grass ground cover (one location supporting this habitat was called Paradise);
- Eucalyptus globulus gully woodland with a dense understorey of Callitris rhomboidea and Pomaderris apetala, occasional P. elliptica var. diemenica, Bursaria spinosa and Dodonaea viscosa subsp. spathulata, and a ground cover of Lepidosperma and Lomandra (the location supporting this habitat was named Callitris Gully) (pl. 6);
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**TABLE 2 – Overview of taxa recorded and collected from Wind Song.**

| Group               | Total species | Total specimens | Introduced species |
|---------------------|---------------|-----------------|--------------------|
| **Vascular Plants** | (190)         | 137             | 20                 |
| Dicotyledons        | 120           | –               | 14                 |
| Gymnosperms         | 1             | –               | –                  |
| Monocotyledons      | 59            | –               | 6                  |
| Pteridophytes       | 10            | –               | –                  |
| **Bryophytes**      | (53)          | 58              | –                  |
| Liverworts          | 13            | –               | –                  |
| Mosses              | 40            | –               | –                  |
| **Lichens**         | 170           | 212             | –                  |
| **Invertebrates – Lepidoptera** | 165 | 755 | 1 |
| **Invertebrates – Coleoptera** | 105 | 280 | 1 |
| **Invertebrates – Other Insects** | (165) | 414 | 2 |
| Blattodea           | 4             | –               | –                  |
| Dermaptera          | 1             | –               | –                  |
| Diptera             | 60            | –               | –                  |
| Hemiptera           | 32            | –               | –                  |
| Hymenoptera         | –             | –               | 2                  |
| Mantodea            | –             | –               | –                  |
| Mecoptera           | –             | –               | –                  |
| Neuroptera          | –             | –               | –                  |
| Odonata             | 2             | –               | –                  |
| Orthoptera          | 13            | –               | –                  |
| Phasmida            | 1             | –               | –                  |
| **Invertebrates – Other Arthropods** | (19) | – | 4 |
| Acari               | 1             | –               | 1                  |
| Araneae             | 13            | –               | –                  |
| Chilopoda           | 1             | –               | –                  |
| Diplodopa           | 1             | –               | 1                  |
| Isopoda             | 2             | –               | 2                  |
| Scorpiones          | 1             | –               | –                  |
| **Invertebrates – Gastropoda** | 15 | 30 | 4 |
| **Invertebrates – Other** | (3) | – | – |
| Annelida            | 1             | –               | –                  |
| Platyhelminthes     | 2             | –               | –                  |
| **Vertebrates**     | (63)          | –               | 5                  |
| Birds               | 51            | –               | 5                  |
| Frogs               | 3             | –               | –                  |
| Mammals             | 5             | –               | –                  |
| Reptiles            | 4             | –               | –                  |
| **Total**           | 949           | 1886            | 37                 |

- *Eucalyptus globulus* and *E. viminalis* tall woodland, with a highly reduced understory of *Allocasuarina littoralis* and *Exocarpos cupressiformis* and an extremely sparse vascular plant ground cover (the location supporting this habitat was called Ronnies Spur). Occasional plant fossils were found at this location (pl. 7).

Evidence of heavy grazing pressure from native marsupials was widespread, with many Bennetts Wallabies (*Macropus rufogriseus*) and abundant marsupial scats observed. Former pasture was dominated by tussocks of robust, fibrous and unpalatable sedges, whereas palatable herbaceous species (e.g., *Lobelia anceps* and *Geranium* spp.) were largely restricted to the shelter inside tussocks or under the branches of fallen trees, where they were physically beyond the reach of grazing animals.

Gorse was by far the most common and widespread naturalised plant on the property and formed very large and dense infestations at several locations. Other widespread and common introduced plants included Sweet Vernal Grass (*Anthoxanthum odoratum*) and the herbaceous daisies, Cat’s Ear (*Hypochaeris radicata*) and Hawkbit (*Leontodon saxatilis*).
PLATE 3 – Aerial view of a typical Restionaceae- and Cyperaceae-dominated sedgeland at *Wind Song*.

PLATE 4 – Formerly grazed pasture forming a mosaic of introduced grasses, *Ulex europaeus* (dark green shrubs), *Lomandra longifolia*, *Gahnia* and native grass tussocks and copses of *Acacia dealbata* subsp. *dealbata* and surrounded by neighbouring sheep grazing properties in the middleground.

PLATE 5 – *Eucalyptus globulus* and *E. viminalis* woodland with an understorey of *Acacia dealbata* and *A. mearnsii*, containing occasional *Banksia*, *Allocasuarina* and *Leptospermum* and an abundant ground cover of *Lomandra longifolia*. 
Lichens were well represented in the woodland communities, and especially in the *Callitris*-dominated gully. They were less abundant in sedgy and shrubby former pasture vegetation, with the exception of occasional clumps of species of *Cladonia*. However, large rock outcrops throughout the property, both in woodland and pasture, supported rich assemblages of lichens, chiefly crustose species or foliose members of the Parmeliaceae. In woodland communities, lichens colonised most available substrates except for the eucalypts. These tend to support very few species, except on their basal stockings of stable bark, or on old fire scars of bleached wood or charcoal. Open ground in woodland was colonised by patches of *Heterodea muelleri* (pl. 8A).

Two general habitats for bryophytes were identified: open, dry and exposed sites, where they were growing predominantly on soil and rock (e.g., Ronnies Spur); and damper habitats close to watercourses, where they grew mainly on soil, humus and rock (e.g., Callitris Gully). Conditions at *Wind Song* were generally too dry for epiphytic bryophytes. However, one species of moss, *Rhaphidorrhynchium amoenum* var. *amoenum*, was found on bark on the lower trunk of *Pomaderris* in a damp area next to the creek at Callitris Gully. Another moss that usually grows as an epiphyte, *Zygodon intermedius*, was found on rock at the same location. The liverwort *Telaranea tasmanica* was the only Tasmanian endemic bryophyte recorded.

**Fauna**

**Invertebrates – Lepidoptera (moths and butterflies)**
The Lepidoptera fauna was generally typical of species found during spring in dry sclerophyll woodland. For example, *Phelotis cognata* was commonly collected. This species feeds on Native Cherry (*Exocarpos cupressiformis*), a common tree in dry sclerophyll forest and widespread at *Wind Song*. No Tasmanian endemic species were recorded, probably because the vegetation types of the property were largely typical of the more general southern Australian flora.

Two sites with a high species diversity, with around 70 taxa each, were in eucalypt woodland (community type 1, see *Vegetation*, above) at NW Corner and Paradise. Many species at these locations feed on *Eucalyptus* and *Acacia*, host plants which have strong affiliations with Australian Lepidoptera.
PLATE 8 – (A) Heterodea muelleri, a characteristic ground-dwelling lichen in dry sclerophyll woodlands with a very open understorey and ground layer. When dry, this species is difficult to spot as it appears as inconspicuous, shrivelled, brownish clumps. When moistened, its lobes unfurl to form attractive, bright green, lettuce-like growths on the forest floor. (B) Usnea scabrida subsp. scabrida, one of several species recorded for the first time for Tasmania. It grows on the twigs of Oyster Bay Pine, and is known from a few scattered locations along the East Coast. (C) Caloplaca sp. Seen as dull orange fruiting bodies (arrows), this remarkable find represents a species new to science. It has a unique ecology, growing as a parasite on the lichen Tephromela atra, seen here as the whitish thallus with large blackish apothecia with a white rim. (D) Rinodina teniswoodiorum, a new species discovered and described as a result of the Wind Song survey.

Highlights of the survey included the collection of one new species (see below under ‘Novelties’) and several species that are uncommon in Tasmania. The southeastern Australian micromoth Gyphipterix cometophora, previously known from just one specimen in Tasmania, was collected several times. Three uncommon southeastern Australian tortricid species were also collected, including Thrincophora lignigerana (pl. 9A). The occurrence of this species in Tasmania is otherwise only documented from Freycinet Peninsula in 1963 (ANIC). The others, Euphona euphona and Anisogona mediana, appear to be quite widespread in Tasmania, but have not been recorded in the state since the 1960s (ANIC), except for two records of E. euphona from Bruny Island in 2016 (Byrne 2017). Collection of the undescribed crambid species Glaucocariris ANIC sp. 10 is noteworthy. This species is only known from collections dating from the late 1970s from Westbury (ANIC). The southeastern Australian undescribed Philobota sp. ANIC66 (pl. 9B) was widespread across the property. This taxon is considered widespread in Tasmania but has likewise not been collected since the 1970s (ANIC). Lecithocera terrigena is one of the few members of the Lethoceridae family that occur in southern Australia. Previously it was only known from two collecting events in Tasmania (Byrne 2017), but it was collected twice from Wind Song. One specimen of the poorly known and uncommon Antasia flavicapitata was collected.

Many large flying insects appear in Tasmania as a result of being transported by strong northerly winds from mainland Australia. Two species of strong-flying moths in this category were collected during the survey. Crioa hades is a species of catocaline moth (underwing moths) that is not known to breed in Tasmania. The second species, Aedia leucomelas (eastern alchemist), is a globally ubiquitous noctuid moth. Both species are thought to be vagrants in Tasmania.

Invertebrates – Coleoptera (beetles)
Most beetle species found during this survey can be regarded as typical of dry woodland, or of associated localised habitats such as creeksides and seasonal waterbodies. Two notable leaf-beetles present on the property are the Juncus-associated
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PLATE 9 – Rare species of Lepidoptera collected from Wind Song. (A) Thrincophora lignigerana (Tortricidae). (B) Philobota sp. ANIC 66, an undescribed species of Oecophoridae.

Eurispa alhipennis (pl. 10A) and the Acacia-associated Peltoschema oceanica. Several individuals of the former species were found in open pasture near a small dam close to the property's southeastern boundary on the inflorescences of their foodplant, Junceus. A single specimen of the latter species was swept from its foodplant, Acacia, in the same general area. Both species appear to be patchily distributed along the eastern seaboard of Australia but there are rather few Tasmanian records of either. One of the more common leaf-beetles on eucalypt foliage was the strikingly coloured Paropiaster nobilitata (pl. 10B). The saproxylic beetle fauna, normally a significant component of woodland beetle diversity, was rather limited, presumably because of lack of available habitat. The most frequently observed species was the darkling-beetle (Isoperon obscurum) (pl. 10C).

Invertebrates – Other insects
Many additional invertebrates outside of the target groups were also recorded and/or collected. These include cockroaches, termites, earwigs, true flies, true bugs, ants and bees, hanging-flies, lacewings and antlions, mantises, damselflies and dragonflies, grasshoppers and crickets, and stick-insects. The saproxylic stiletto-fly species, Agapophytus quattrens (pl. 11A), whose larvae are thought to be predators of other insect larvae living within logs, was recorded within the reserved section of the property. The males of this species gather in ‘leks’ on fallen logs, drumming their front feet as part of their display aimed at defending mating territories. Six species of beefly were recorded in areas of woodland with extensive open ground beneath (such as Ronnies Spur). Beefly larvae are parasitoids of other insects, particularly solitary bees and wasps. One such species, the strikingly marked Anthrax maculatus (pl. 11B), is saproxylic, being associated with exposed, often burnt, dead wood. The White-lined Cricket (Trigonidium albovittata), a species that favours lowland dry woodlands, was one of three orthopteran species found among leaf-litter (pl. 11C). The cryptically coloured groundhunter species Paratettix argillaceus was found among short-grazed damp grassy depressions where it is thought to graze on algae and lichens (pl. 11D).

Invertebrates – Other Arthropods
Eighteen non-insect arthropods belonging to a range of taxonomic groups were recorded from the property. These included mites, spiders, scorpions, millipedes, centipedes and Slateros. The tiny ant-eating spider, Euryopis splendens, was found in crevices of dry logs (pl. 12A).

Invertebrates – Gastropoda (snails and slugs)
The rather depauperate gastropod fauna, comprising eleven native and four exotic species, is consistent with the (formerly) disturbed and fragmented nature of much of the property.
PLATE 10 – (A) The Juncus-associated leaf-beetle *Eurispa albipennis*. Length: 11 mm. (B) The eucalypt-associated leaf-beetle *Paropsisterna nobilisata*. (C) The saproxylic darkling-beetle *Isopteron obscurum*.

PLATE 11 – (A) The stiletto-fly *Agapophytus quatiens*. (B) The beefly *Anthrax maculatus*. (C) White-lined cricket *Trigonidium albovittata*. (D) The groundhopper *Paratettix argilaceus*. 
Invertebrates – Other
Two species of terrestrial flatworm were found under rotting logs: one was provisionally identified as Anzoplan trilineata (pl. 12B) and the other as Artioposthia nichollii. Tiger Leeches (Philaemon grandis) were numerous in damp areas (pl. 12C).

Vertebrates
While vertebrates were not specifically targeted in this survey, many species were observed and recorded. These comprised three species of frogs, three species of lizards, five species of mammals and 40 species of birds. All three frog species had been recorded in previous surveys of the property. One species of snake and eleven species of birds had also been recorded in previous surveys but were not encountered during this survey.

Novelties

Flora
Botanical novelties were limited to the lichens, of which a significant number was recorded. These included several species new to science, two of which have been formally described: Anisomeridium disjunctum (McCarthy & Kantvilas 2018) and Rinodina teniswoodiorum (pl. 8D) (Elix et al. 2019a). Further undescribed species were found in the genera Caloplaca (a remarkable lichenicolous species; pl. 8C), Lecanora and Pertusaria, but these require additional research work and will be dealt with in the future.

Many lichens previously unrecorded for Tasmania (McCarthy 2018) were also collected in the course of the survey. Some proved, on further study, to have been collected previously, and resided amongst unidentified lichen specimens in the Tasmanian Herbarium, whereas others were genuine discoveries from the Wind Song survey. Nine such new records have been formally reported and discussed elsewhere: Buellia inturgenscens, B. schaeferi, B. subadjocta, B. suttonensis, Cyphellium trachyloides, Lecanora epibryon subsp. epibryon, Lepraria jackii, Ochrolechia africana and Rhizocarpon viridiatrium (Elix et al. 2019b).

A further ten are listed below, and additional new records that require further work for confirmation are highly likely to be found in the genera Candelariella, Hertelidea, Schaeferia, Schismatomma and Trapelia.

Aspicilia caesiocinerea. A cosmopolitan species, collected from dolerite rocks in a dry stream bed. Classified by some authors (e.g., McCarthy 2018) in the genus Circinaria.

Specimen examined: Tasmania: Wind Song property, Callitris Gully, 42°21’S 147°55’E, 40 m alt., 2017, G. Kantvilas 340/17 (HO).

Bacidia stenospora. A relatively widespread epiphytic species in Tasmania, although not formally cited previously in the literature. Also known from New Zealand and Kangaroo Island, South Australia.
Selected specimens examined: Tasmania: Chain of Lagoons river mouth, 41°40′S 148°18′E, 1973, G.C. Bratt 73/725 & J.A. Cashin (HO); southern slope of South Sister, 41°32′S 148°10′E, 640 m a.l., 2004, G.Kantvilas 377/04B (HO); summit of Mt Murray, 42°28′S 147°59′E, 315 m a.l., 2006, G.Kantvilas 190/06 (HO); Wind Song property, Callitris Gully, 42°21′S 147°55′E, 40 m a.l., 2018, G.Kantvilas 101/18 (HO).

*Caldophora rhomboidea*. This species is widespread on the Australian mainland. This species forms extensive, white, foliose thalli on rough bark on the lower trunks of mature eucalypts. It has been collected infrequently, probably because usually it lacks fruiting bodies.

Caloplaca lateritia. Widely scattered and locally very common on exposed rocks in paddocks, dry sclerophyll forest and heathland, especially in low rainfall areas. Similarly widespread on the Australian mainland.

Specimens examined: Tasmania: c. 3 km E of Broadmarsh, 42°41′S 147°09′E, 60 m a.l., 1993, G.Kantvilas 158/93 & J.Elix (HO); Gowan Brae, eastern side of Nive River, 42°02′S 146°25′E, 810 m a.l., 2014, G.Kantvilas 124/14, 133/14 (HO); Wind Song property, northern rim of Callitris Gully, 42°21′S 147°55′E, 60 m a.l., 2017, G.Kantvilas 310/17 (HO); Wind Song property, Ronnies Spur, 42°21′S 147°55′E, 30 m a.l., 2017, G.Kantvilas 263/17, 268/17 (HO).

Hypocenomyce tinderryensis. This species grows on eucalypt logs in dry sclerophyll forest together with the related and far more common and widespread *H. australis*. At *Wind Song* it was also found on old trunks of *Callitris rhomboidea*. Previously it was known only from mainland Australia.

Specimens examined: Tasmania: Bisdee Tier, 42°26′S 147°17′E, 640 m a.l., 2009, G.Kantvilas 227/09 (HO); Wind Song property, Callitris Gully, 42°21′S 147°55′E, 40 m a.l., 2018, G.Kantvilas 97/18 (CANB, HO, NY, UPS); Wind Song property, Paradise, 42°21′S 147°55′E, 30 m a.l., 2018, G.Kantvilas 119/18 (HO).

Lecanora casuarinophila. Hitherto known only from mainland Australia (Lumbsch & Elix 2004) and Kangaroo Island (Kantvilas 2019), this species grows abundantly at the Wind Song property on the trunks of mature *Callitris rhomboidea*. This species may have been overlooked previously in Tasmania since apothecia occur infrequently.

Specimens examined: Tasmania: Wind Song property, Callitris Gully, 42°21′S 147°55′E, 40 m a.l., 2018, G.Kantvilas 102/18 (HO).

Lecanora mobergii. Previously known from Western Australia and Kangaroo Island. This species is widespread in Tasmania on rocks in dry sclerophyll forest.

Specimens examined: Cherry Tree Hill along O Road, 41°58′S 148°08′E, 180 m a.l., 2012, G.Kantvilas 330/12 (HO); Hellfire Bluff, below summit of westernmost high point, 42°44′S 147°55′E, 150 m a.l., 2014, G.Kantvilas 373/14 (HO); Wind Song property, Callitris Gully, 42°21′S 147°55′E, 40 m a.l., 2017, G.Kantvilas 335/17 (HO); Wind Song property, Ronnies Spur, 42°21′S 147°55′E, 30 m a.l., 2017, G.Kantvilas 252/17 (HO).

Ochrolechia gyrophorica. Hitherto recorded only for mainland Australia. This species forms extensive, white, soredate thalli on rough bark on the lower trunks of mature eucalypts. It has been collected infrequently, probably because usually it lacks fruiting bodies.

Specimens examined: Tasmania: Kellys Road, c. 1 km E of Mt Hobbs, 42°30′S 147°36′E, 520 m, 2018, G.Kantvilas 46/18 (HO); Wind Song property, Ronnies Spur, 42°21′S 147°55′E, 30 m a.l., 2018, G.Kantvilas 117/18 (HO).

*Ramboldia arandensis*. This species is widespread on the southern Australian mainland (Elix 2009) where it grows on eucalypt wood. At *Wind Song* it was very abundant on the wood of *Callitris rhomboidea*.

Specimens examined: Tasmania: Wind Song property, Callitris Gully, 42°21′S 147°55′E, 40 m a.l., 2017, G.Kantvilas 360/17, 364/17 (HO); Kellys Road, c. 1 km E of Mt Hobbs, 42°30′S 147°36′E, 520 m, 2018, G.Kantvilas 50/18 (HO).

*Rinodina confusa*. This species was previously considered endemic to South Australia. It was collected from the bark of *Callitris rhomboidea*.

Specimens examined: Tasmania: Wind Song property, Callitris Gully, 42°21′S 147°55′E, 40 m a.l., 2017, G.Kantvilas 385/17 (HO).

Usnea scabrida subsp. scabrida. (pl. 8B) The genus *Usnea* poses many taxonomic problems in Australia and Tasmania, and the revision by Stevens (2004) did little to clarify the situation. These Tasmanian collections accord with Stevens’ interpretation of *Usnea scabrida* subsp. *scabrida*, a species that lacks asexual propagules and is characterised by containing usnic acid and scabrosins. Although not recorded for Tasmania (McCarthy 2018), it has been collected several times along the East Coast in dry sclerophyll woodland and coastal scrub. Several collections are associated with *Callitris rhomboidea*, as is the collection from *Wind Song*.

Specimens examined: Tasmania: Point Meredith, 42°05′S 148°13′E, 10 m a.l., 2002, G.Kantvilas 317/02 (HO); Yellow Sandbanks, Moult ing Lagoon, 42°05′S 148°11′E, 2 m a.l., 2004, G.Kantvilas 403/04 (HO); summit of Mt Murray, 42°28′S 147°59′E, 315 m a.l., 2006, G.Kantvilas 183/06 (HO); Buxton River at the old weir, 42°15′S 147°59′E, 25 m a.l., 2008, G.Kantvilas 136/08 (HO); S of Orford, 42°35′S 147°53′E, 130 m a.l., 2011, G.Kantvilas 238/11 (HO); Wind Song property, Callitris Gully, 42°21′S 147°55′E, 40 m a.l., 2017, G.Kantvilas 390/17 (HO).

Fauna

Many insect specimens collected remain unidentified or only partially identified (e.g., to family or genus level). It is possible that some of these represent undescribed species, but to determine this would require a significant amount of research, some with external collaborators. In addition to the three putative new taxa collected during the survey, eight species of Lepidoptera known to be undescribed were to the three putative new taxa collected during the survey, eight species of Lepidoptera known to be undescribed were recorded.

*Pateena* sp. *nigriplumatorius*. The specimens of this tiny jumping soil-bug (pl. 13) represent a putatively undescribed species not previously collected (Lionel Hill pers. comm.). Several specimens of this taxon were extracted from yellow pan-traps in Callitris Gully. *Pateena* species are generally associated with higher altitudes or much wetter habitats, so their presence at *Wind Song* is surprising (Lionel Hill pers. comm.).
The flora and fauna of Wind Song, Little Swanport, Tasmania

Specimens examined: Tasmania: Wind Song property, Callitris Gully, 42°21’S 147°55’E, 40 m alt., 2017, S.J. Grove, F47315, F47316, F47317 & F47318 (TMAG).

*Agriopha* BYRNE ’Wind Song sp. 01’ (Oecophoridae: Stenomatinae). This species of moth is likely to be new to science and was recorded from only one site. The larvae of many *Agriopha* species feed between joined leaves, mostly of *Eucalyptus*.

Specimens examined: Tasmania, Wind Song property, NW sector, 42°21’15.5”S 147°54’20.9”E, 2017, C.J. Byrne, F58472 (TMAG).

*Tasmathera* sp. This apparently undescribed species of charopid snail is the most significant mollusc species recorded. It was recorded on the basis of a single long-dead and very damaged shell, so its identity could not be confirmed. The shell has an unusually wide and deep umbilicus and does not resemble other east-coast *Tasmathera* specimens; indeed, it seems closest to *T. legrandi* (Cox, 1868) from western-shore Hobart dry forests. Charopid snails are more environmentally sensitive than other native snails overall, so this specimen may be a relict from a population that has since become extinct. Further sampling of other more intact areas nearby will be required to confirm its status as a new species.

Specimens examined: Specimens of various *Tasmathera* species in K. Bonham’s private collection; not yet registered into TMAG collections.

Threatened species
No formally listed threatened species of vascular plants, bryophytes or lichens were collected from *Wind Song*, although many of the non-vascular species are considered uncommon and could well qualify for listing.

The most notable threatened species observed during the survey was the Swift Parrot (*Lathamus discolor*), a species listed as Critically Endangered under the Commonwealth Environment Protection and Biodiversity Conservation Act (1999) and as Endangered under the Tasmanian Threatened Species Protection Act (1995). Individuals were seen or heard flying overhead on several occasions; they were also heard foraging in flowering Blue Gum (*Eucalyptus globulus*) trees on the property. It might nest on the property, although higher-quality nesting habitat probably exists elsewhere in the vicinity. The Wedge-tailed Eagle (*Aquila audax*) was also observed and may well nest on the property towards the eastern edge of the main woodland block where a nest was observed. This species is listed as Endangered under both Commonwealth and Tasmanian legislation.

The butterfly species of most note at *Wind Song* is the Chaostola Skipper (*Antipodia chaostola leucophaea*) which had been recorded previously through larval searches by Dr Phil Bell (pers. comm. Jane Teniswood). Since 2010, the species has been listed as Endangered under both Commonwealth and Tasmanian laws. Regrettably, no adults of this species were found, despite the first sampling period coinciding with the usual adult flight period; this is not atypical for populations of this species. However, the habitat appeared suitable, at least in places; the butterfly is associated with warm, open-grown but sheltered stands of *Gahnia* sedges chiefly *G. radula* (probably the larval food plant), generally on sandy soils. During the December visit, a small number of the Tasmanian Silky Hairstreak Butterfly (*Pseudalmenus chlorinda chlorinda*) (pl. 14) were found on older Silver Wåttles (*Acacia dealbata*) within the main woodland block. This species is listed as Rare under the Tasmanian legislation.
Exotic and pest species
The introduced vascular plants recorded for *Wind Song* consisted of species common to agricultural and urban areas of Tasmania. Two species, Gorse (*Ulex europaeus*) and Creeping Thistle (*Cirsium arvense* var. *arvense*) (pl. 15A), are declared weeds under the Tasmanian Weed Management Act (1999). These and the other species of introduced plants recorded are likely to have originated from the previous agricultural activities conducted on the property.

Several exotic insects, snails and other invertebrates were recorded: 11-spotted Ladybird (*Coccinella undecimpunctata*), European Honeybee (*Apis mellifera*), European Wasp (*Vespula germanica*), Cabbage White Butterfly (*Pieris rapae*), Cabbage Moth (*Plutella xylostella*), Gorse Spider-mite (*Tetranychus lintearius*) (pl. 15B), Portuguese Millipede (*Ommatoiulus moreleti*), European slaters (*Armadillidium vulgare* and *Porcellio scaber*), Hedgehog Slug (*Arion intermedius*), Garden Snail (*Cornu aspersum*), Striped Field-slug (*Lehmannia nyctelia*) and Garlic Snail (*Oxychilus alliarius*). Exotic birds recorded were: European Skylark (*Alauda arvensis*), European Goldfinch (*Carduelis carduelis*), Laughing Kookaburra (*Dacelo novaeguineae novaeguineae*, introduced to Tasmania from mainland Australia), Common Starling (*Sturnus vulgaris*) and European Blackbird (*Turdus merula merula*).

Ten native moth species considered to be agricultural pests were collected during the survey: Painted Apple Moth (*Orgyia anartoides*) (pl. 15C), Pantydia sparsa, Cherry Looper Moth (*Chloroclystis approximate*), Twig Looper (*Ectropis excursaria*), Variable Cutworm (*Agrotis munda*), Eastern Alchemist (*Aedia leucomelas*), Lightbrown Apple Moth (*Epiphyas postvittana*), *Epiphyas xylodes* and *Acropolitis rudisana*. The presence of such a high number of lepidopteran pests is most likely a result of the modified agricultural environment prevalent in this area.

DISCUSSION

Typical species

The broader characteristics of the flora (including bryophytes and lichens) and fauna of *Wind Song* were found to be consistent with past land use, where clearing, grazing, wood-cutting and frequent fires have rendered much of the site relatively species-poor and supporting only widespread, generally ecologically tolerant taxa. This applied particularly to non-wooded areas previously cleared for pasture, where the vascular flora was dominated by exotic weedy species, and unpalatable tussocks of native monocots and where ‘native’ constituents, for example the lichens, were restricted to outcropping boulders, small stones, and the intervening consolidated soil, or to remnant trees, stumps and wood fragments.

In general, all groups of fauna found at *Wind Song* constituted species typical of dry woodland or of associated localised habitats such as creek verges and seasonal waterbodies, such as occur widely in eastern Tasmania and south-eastern Australia. The seasonal lepidopteran fauna was typical of those species found during spring in dry sclerophyll woodland. This collection included approximately 16% of Tasmania’s known lepidopteran fauna, and equates to high species diversity for this area. However, any interpretations of diversity should be tempered with caution as comparative data on similar surveys are scarce. Also, surveys such as these can only account for a fraction of the fauna because moths and butterflies are seasonal, and only some spring-flying species were captured. Furthermore, weather has a large effect on the appearance of species; most lepidopteran adults will not fly during cold and/or windy conditions, as was the case for the first three days of the survey. The rather depauperate gastropod fauna is consistent with the disturbed and fragmented nature of much of the property.
Species-rich areas

Two of the areas studied during the survey were of particular interest. The first, Callitris Gully, is a corridor of standing, mature Oyster Bay Pine (*Callitris rhomboidea*) with numerous fallen logs. While Oyster Bay Pine is a widespread tree on Tasmania’s East Coast, ‘stands’ in which this species dominates are seen far less commonly. The stand at *Wind Song* is small and degraded, but was nevertheless of sufficient size to retain an interesting complement of lichen species on the oldest trunks and on some of the fallen logs. One of the new species described, *Anisomeridium disjunctum*, was found at this locality, as were several of the species newly recorded, notably the hitherto South Australian endemic, *Rinodina confusa*, as well as *Buellia schaereri*, *Ramboldia anandensis* and *Usnea scabrida* subsp. *scabrida*. Several of the lichens collected from this area are generally found in old-growth forest, not usually in dry sclerophyll communities. More than half of the moss species, and one third of the liverwort species, were found growing on rocks or soil in the damp conditions provided by the Gully. The tiny jumping soil-bug *Pateena* sp. *nt polyimitator* was also collected from this site. The *Callitris*-feeding geomorid moth *Coruda geometroides* was also abundant at this site. This was also the main collecting locality for the following uncommon moths: *Glyphipteryx cometophora*, *Lecithocera terrigena* and *Anisogona mediana*. More than one-third of the Lepidoptera fauna was collected at this location.

The second locality of high biodiversity was the dry Eucalyptus woodland at Ronnies Spur. This site features outcrops of tertiaries that provided habitat for a surprisingly large number of ground-dwelling bryophytes and saxicolous lichens. The newly described lichen species, *Rinodina tenisswoodiorum*, was collected here.

Management implications

Much of the *Wind Song* property has a history of extensive tree-clearing and grazing, and even the remnant areas retain a vegetation structure and species composition consistent with this past land-use. More recent fencing of the main blocks of woodland will have alleviated some of the grazing pressure from domestic stock; however, wallabies, occurring in high population densities within these fenced areas, have taken up much of the slack arising from de-stocking. Their abundance may be the chief reason for the relative lack of recent regeneration and recolonisation, particularly of palatable plant species. In turn, this limits the range of available feeding and nesting habitats and refugia for insects, birds (including Swift Parrot) and other animals. Historical firewood collection, involving the removal of fallen dead wood and the felling of dead or dying trees, also impacts on availability of present-day habitats. Dead wood, both on the ground and standing, is currently much sparser than would be the case in a less-impacted woodland, and this is reflected in the relatively depauperate associated fauna. The ecological recovery of these woodland blocks would be greatly aided by reducing the density of wallabies and by ceasing or limiting extraction of firewood. Further control of Gorse – at least limitation of its spread, and, if possible, its local eradication, is also highly recommended if considered feasible.

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APPENDIX 1

Flora and fauna of Wind Song (Taxa marked with * were observed during the survey but not collected; i signifies a taxon that is introduced in Tasmania; e signifies a taxon that is endemic in Tasmania; $ signifies a taxon not recorded during this survey but recorded in past surveys).

Appendix 1.1: Vascular plant taxa of Wind Song

PTERIDOPHYTES

ADIANTACEAE
$ Adiantum aethiopicum L.
Cheilanthes austrotenuifolia H.M. Quirk & T.C. Chambers

ASPLENIACEAE
Applenium flabellifolium Cav.

BLECHNACEAE
$ Blechnum nudum (Labill.) Mett. ex Luerss.

DENNSTAEDTIACEAE
Hypolepis glandulifera Brownsey & Chinnock
Pteridium esculentum (G. Forst.) Cockayne subsp. esculentum

GLEICHENIACEAE
Gleichenia microphylla R.Br.

LINDSAEACEAE
Lindsaea linearis Sw.

SELAGINELLACEAE
Selaginella uliginosa (Labill.) Spring

GYMNOSPERMS

CUPRESSACEAE
Callitris rhomboidea R.Br. ex Rich. & A.Rich.

MONOCOTYLEDONS

CENTROLEPIDACEAE
Centrolepis fascicularis Labill.

CYPERACEAE
Baumea acuta (Labill.) Palla
Baumea juncea (R.Br.) Palla
Baumea tetragona (Labill.) S.T. Blake
Carex breviculmis R.Br.
Gahnia radula (R.Br.) Benth.
Lepidosperma concavum R.Br.
Lepidosperma elatius Labill. e
Lepidosperma globosum Labill.
Lepidosperma gunnii Boeckeler e
Lepidosperma inops F. Muell. ex Rodway
Lepidosperma laterale R.Br.
Lepidosperma longitudinale Labill.
Schoenus apogon Roem. & Schult.
Tetragastra capillaris (F. Muell.) J.M. Black

IRIDACEAE
Diplarrhena montea Labill.
Paternitya fragilis (Labill.) Asch. & Graebn.

JUNCACEAE
$ Juncus griseoflorus L.A.S. Johnson
Juncus kraussii Hochst. subsp. australiensis (Buchenau)
Snogerup
Juncus pallidus R.Br.
Juncus subsecundus N.A. Wakef.

LILIACEAE
$ Arthropodium millosum (DC.) J.F. Macbr.
$ Dianella revoluta R.Br. var. revoluta
Hypoxis hygrometrica Labill. var. hygrometrica
$ Pauridia vaginata (Schldfl.) Snijman & Kocyan var. vaginata (Schldfl.) Snijman & Kocyan
$ Thyranotus patersonii R.Br.
$ Warmbea dioica (R.Br.) E.Muell. subsp. dioica

ORCHIDACEAE
Cyrtostylis reniformis R.Br.
$ Diuris pardinii Lindl.
* Diuris sulphurea R.Br.
Eriochilus cuscatus (Labill.) Rchb.f.
Glossodia major R.Br.
$ Microtis parviflora R.Br.
Pterostylis pedunculata R.Br.
Pterostylis curta R.Br.

POACEAE
Agrostis parviflora R.Br.
i Ara caryophyllea L. subsp. caryophyllea
i Anthoxanthum odoratum L.
i Austrostipa pubinodis (Trin. & Rupr.) S.W.L. Jacobs & J. Everett
Echinopogon osutau (G. Forst.) P. Beauv.
$i Dactylis glomerata L.
i Holcus lanatus L.
Lachnostis filiformis (G. Forst.) Trin.
Microlaena stipoides (Labill.) R.Br. var. stipoides
i Phalaris aquatica L.
$i Poa lebillardieri Steud. var. acris Vickery
i Poa lebillardieri Steud. var. lebillardieri
i Poa rodwayi Vickery
Rystidosperma pilosum (R.Br.) Connor & Edgar
Rystidosperma racemosum (R.Br.) Connor & Edgar var. racemosum
* Tetasureda distichophylla (Labill.) R.Br.
Themeda triandra Forssk.
i Vulpa bromoides (L.) Gray

RESTIONACEAE
Apodasmia brownii (Hook.f.) B.G. Briggs & L.A.S. Johnson
$i Balokumia australis (R.Br.) B.G. Briggs & L.A.S. Johnson
Empodisma minus (Hook.f.) L.A.S. Johnson & D.F. Cutler
$i Hypolaena fastigiatata R.Br.
Leptocarpus tenax (Labill.) R.Br.

XANTHORHOEACEAE
Lomandra longifolia Labill.

DICOTYLEDONS

APIACEAE
Hydrocotyle hirta R.Br. ex A. Rich.

ASTERACEAE
Brachyscome spathulata Gaudich.
Cassinia aculeata (Labill.) R.Br. subsp. aculeata
* Chrysocephalum apiculatum (Labill.) Steetz subsp. apiculatum
i Cirsium arvense (L.) Scop. var. arvense
*i Cirsium vulgare (Savi) Ten.
$ Coronidium scorpionoides (Labill.) Paul G. Wilson
$e Chaspedia glauca (Labill.) Spreng.
Appendix 1.1 cont.

Eucalyptus sphyroclada (Sieber ex Spreng.) Druce
Epacris lanuginosa (Labill.) Ruark
Epacris impressa Labill.
Epacris subulata Hook.
Hibbertia hirta Hook.
Hibbertia prostrata Hook.
Hibbertia riparia (R.Br. ex DC.) Hoogland
Drosera subulata Backh. ex Planch.
Drosera pygmaea DC.
Hypericum gramineum G.Forst.
Dichondra repens J.R.Forst. & G.Forst.
Caesalpinia decapetala R.Br.
Leucopogon virgatus (Labill.) R.Br. var. virgatus
Linanthus striatus (Sm.) R.Br. subsp. subulata (R.Br.) J.M.Powell
Styphelia adscendens R.Br.
Amperia xiphoclada (Sieber ex Spreng.) Druce var. xiphoclada
Begonia viscosa (Labill.) Miq.
Posostigma microphylla Brongn.
Bassia cinerea R.Br.
Bassia prostrata R.Br.
Daviisia ulicifolia Andrews subsp. ulicifolia
Glycine clandestina J.C.Wendl.
Gompholobium huegelii Benth.
Hovea heterophylla A.Cunn. ex Hook.f.
Indigofera australis Willd. subsp. australis
Kennedia prostrata R.Br.
Pultenaea dentata Labill.

$ Pultenaea juniperina Labill.
Pultenaea pedunculata Labill.
Sphaerolobium minus Labill.
$ Ulex europaeus L.

GENTIANACEAE

Geranium potenilloides R.H. ex DC. var. potenilloides
Geranium insolens Carolin

GOODENIACEAE

Goodenia lanata R.Br.

HALORAGACEAE

Gonocarpus microanthus Thunb.subsp. microanthus
Gonocarpus tetragonus Labill.

$ Gompholobium huegelii Benth.

LINACEAE

Linum marginale A.Cunn.

MIMOSACEAE

Acacia deblatula Link subsp. deblatula
Acacia mearnsii De Wild.
Acacia melanoxylon R.Br.
Acacia mucronata Willd. ex H.L.Wendl. subsp. mucronata
Acacia myrtifolia (Sm.) Willd.
Acacia terminalis (Salisb.) J.Macbr.
Acacia verticillata (L'Hér.) Willd. subsp. verticillata

MYRTACEAE

Eucalyptus amygdalina Labill.
Eucalyptus globulus Labill. subsp. globulus
Eucalyptus ovata Labill. var. ovata
Eucalyptus pulchella Desf.
Eucalyptus viminalis Labill. subsp. viminalis
Leptospermum nutans (Sol. ex Aiton) Sm.
Leptospermum scoparium J.R.Forst. & G.Forst.
Melaleuca gibbosa Labill.
Melaleuca viridiflora Craven

ONAGRACEAE

Epilobium billardiereanum Ser. ex DC. subsp. billardiereanum

OXALIDACEAE

* Oxalis perennata Haw
Oxalis rubens Haw

PITTOSPORACEAE

Bursaria spinosa Cav. subsp. spinosa
Rhytidodorum procumbens (Hook.) F.Muell.

PLANTAGINACEAE

Plantago coronopus L. subsp. coronopus
Plantago varia R.Br.

POLYGALACEAE

Comperperma volubile Labill.

PRIMULACEAE

Lyssimachia arvensis (L.) U.Mans & Anderb.

PROTEACEAE

Banskia marginata Cav.

RANUNCULACEAE

Clematis gentianoides DC.

RHAMNACEAE

Pluotamia apetala Labill. subsp. apetala
Pluotamia elliptica Labill. var. diemenica N.G.Walsh & Coates
Pluotamia pilifera N.A.Wakef. subsp. pilifera

ROSACEAE

Acacia nova-zelandiae Kirk
Acacia ovina A.Cunn.
Rubus parvifolius L.
Appendix 1.2: Bryophyte taxa of *Wind Song*

**MOSSES**

| Family       | Species                                                                 |
|--------------|-------------------------------------------------------------------------|
| BARTRAMIACEAE| *Breutelia affinis* (Hook.) Mitt.                                        |
| BRYACEAE     | *Bryum clavatum* (Schimp.) Müll.Hal.                                    |
|              | *Bryum microrhodon* Müll.Hal.                                           |
|              | *Orthodontium lineare* Schwägr.                                          |
|              | *Rosulabryum billardierei* (Schwägr.) J.R.Spence                        |
| DICRANACEAE  | *Campylopus insititius* Hook.f. & Wilson                                |
|              | *Campylopus introflexus* (Hedw.) Brid.                                  |
|              | *Campylopus torquatus* Mitt.                                            |
| DITRICHACEAE | *Ceratodon purpureus* (Hedw.)Brid.                                      |
|              | *Eccremidium pulchellum* (Hook. & Wilson)                               |
| FISSIDENTACEAE| *Fissidens oblongifolius* Hook.f. & Wilson                              |
|              | *Fissidens tenellus* Hook.f. & Wilson                                    |
| FUNARIACEAE  | *Entosthodon subnudus* (Taylor) Fife var. gracilis (Hook.f. & Wilson) Fife |
| GRIMMIACEAE  | *Grimmia palaeinata* (Hedw.) Sm. var. africana (Hedw.)                  |
|              | *Griminia trichophylla* Grev.                                           |
|              | *Schistidium apuscarum* (Hedw.) Bruch & Schimp.                         |
| HEDWIGIACEAE | *Hedwigia ciliata* (Hedw.) P.Beauv.                                     |
|              | *Hedwigiodium integrisulcum* (P.Beauv.) Dixon                            |
| HYPNACEAE    | *Hypnum cupressiforme* Hedw.                                            |
| LEMBOPHYLLACEAE| *Lembophyllum clandestinum* (Hook.f. & Wilson) Lindb. ex Paris          |
| ORTHOTRICHACEAE| *Zygadenus intermedius* Bruch & Schimp.                                 |
| POLYTRICHACEAE| *Polytrichum juniperinum* Hedw.                                         |
| POTTIANCEAE  | *Barbula calycina* Schwägr.                                              |
|              | *Snytrichia antarctica* (Fampe) R.H.Zander                             |
| SCROPHULARIACEAE| *Mazu pumilio* R.Br.                                                      |
|              | *Verbascum thapsus* L.                                                   |
| STYLIACEAE   | *Stylium graminifolium* Sw.                                              |
| URTICACEAE   | *Urtica urens* L.                                                        |
| VIOLACEAE    | *Viola hederacea* Labill. subsp. *hederacea*                             |

**LIVERWORTS**

| Family       | Species                                                                 |
|--------------|-------------------------------------------------------------------------|
| AENEURACEAE  | *Riccardia* sp.                                                          |
| AYTONIACEAE  | *Asterella drummondii* (Hook.f. & Taylor) R.M.Schust. ex D.G.Long       |
| CEPHALOZIELLACEAE| *Cephalozia viridissima* (Steph.) R.M.Schust.                           |
| FRULLIANIACEAE| *Frullania falciformis* (Hedw.) Bruch & Schimp.                         |
| GEOCALYCEAE  | *Cheirophora novae-zelandiae* (Lehm. & Lindenb.)                        |
|              | *Cheirophora perpusilla* (Hook.f. & Taylor) J.J.Engel                   |
|              | *Cheirophora semiteres* (Lehm. & Lindenb.) J.J.Engel                    |
|              | *Cheirophora knightii* (Steph.) Grolle                                  |
| LEPIDOZIACEAE| *Kurzia* sp.                                                             |
|              | *Telaranea centipes* (Taylor ex Gottsche, Lindenb. & Nees)              |
|              | *Telaranea tasmanica* (Steph.) J.J.Engel & G.L.Sm.Merrill               |

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Appendix 1.3: Lichen taxa of Wind Song

Acarospora serotina (A.Massal).
Anisomeridium disjunctum P.M.McCarthy & Kantvilas
Arthonia sp. [HO 589535]
Aspicilia caesiocinerea (Nyl. ex Malbr.) Arnold
Austroparmelina concolorata (Hale) A.Crespo, Divakar & Élix
Austroparmelina laevosa (Zahlbr.) A.Crespo, Divakar & Élix
Austroparmelina pseudorelicina (Jatta) A.Crespo, Divakar & Élix
Bacidia bagliettoana (A.Massal.) & De Not. (Jatta)
Bacidia stenospora
Bacidia labrosa
Bacidia C. Knight
Bacillifera xylophila
Bryobilimbia australis
Bapalmuia buchananii
Baculifera lateritia
Baculifera barlettii
Caloplaca
Caloplaca wilsonii
Caloplaca lateritia
Caloplaca erythrosticta
Caloplaca bartlettii
Calicium victorianum
Calicium glaucellum
Byssoloma adspersum
Buellia xanthonica
Buellia suttonensis
Buellia subadjuncta
Buellia schaereri De Not.
Buellia menstruata Élix & Kantvilas
Buellia homophylia
Buellia mesospora
Buellia procellarum
Buellia reagenella
Buellia disciformis
Candelariella
Cladonia capitellata
Cladonia capitellata
Cladonia schizopora
Cladonia aggregata
Chrysothrix xanthina
Carbonicola foveata
Carbonea latypizodes
Candelariella xanthostigmoides
Cladonia floerkeana
Cladonia confusa
Cyphelium trachylioides
Cladonia tenerrima
Cladonia rigida
Cladonia ramulosa
Cladonia praetermissa
Cladonia pleurota
Cladonia paeminosa
Cladonia virens
Cladonia floerkeana
Cladonia capensis
Cladonia pleurota
Cladonia paeminosa
Cladonia multicornis
Cladonia flos-cuculi
Cladonia palmata
Cladonia pyxidata (L.) Hoffm.
Cladonia ramulosa (Withr.) J.R.Laundon
Cladonia rigida (Hook. f. & Taylor) Hampe var. rigida
Cladonia tenerrima (Ahti) S.Hammer
Cladonia verticillata (Hoffm.) Schaer.
Cyphelium trachylioides (Nyl.) Erichsen ex Keissel.
Diplophistis sticticola (Körb.) Müll.Arg.
Flavoparmelia bayoniensis (C.W.Dodge) Hale
Flavoparmelia rustiola (Hook. f. & Taylor) Hale
Halecania subglaucous (Müll.Arg.) van den Boom & H.Mayrhofer
Hertelidea sp. [HO 589588]
Hertelidea pseudobryoptera R.C.Harris, Ladd & Printzen
Heterodea muelleri (Hampe) Nyl.
Hypocenomyce australis Timdal
Hypocenomyce scalaris (Ach.) M.Choisy
Hypocenomyce tinderrensis Elix
Hypogymnia billardierei (Mont.) Filson
Hypogymnia pulvurata (Nyl.) Élix
Hypotrachyna revoluta (Flörke) Hale
Lecanora casuarinophila Lumbsch
Lecanora epiphyron (Ach.) Ach. subsp. epiphyron
Lecanora epiphyron subsp. brocchia (Nyl.) Lumbsch
Lecanora farrinacea Fée
Lecanora galactiniza Nyl.
Lecanora mohergiana Lumbsch & Élix
Lecanora saligna (Schrad.) Zahlbr.
Lecanora wilsonii Müll.Arg.
Lecanora sp. [HO 589520]
Lecidea atmororiana C. Knight
Lecidea capensis Zahlbr.
Lecidea fuscoatra Nyl.
Lecidea ocelluress Pers.
Lecidella flavovirens Kantvilas & Élix
Lecidella sublapiicida (C. Knight) Herrel
Lecidella xylageena (Müll.Arg.) Kantvilas & Élix
Lepraria caesidóba (de Lesd.) J.R.Laundon
Lepraria finkii (B. de Lesd.) R.C.Harris
Lepraria jackii Tönsberg
Lepraria sp. [HO 590136]
Lepogonium pecten E.Wilson
Lepogonium victorianum E.Wilson
Megalaria grossa (Pers. ex Nyl.) Hafellner
Megalaria melaloma (C. Knight) Kantvilas
Menegazia subhexta P.James & D.J.Galloway
Micaëra cf. interscellulare (Stirt.) Coppens
Micaëra melanica (Nyl.) Coppens
Monorelea calida (Fr.) Kalb
Myoscilium victoriae (C. Knight ex E.Wilson) Tibell
Neophilius melanocarpa (E.Wilson) E.Wilson
Ochrolechia africana Vain.
Ochrolechia blándior (Nyl.) Darb.
Ochrolechia gyrophórica (A.W.Archer) A.W.Archer & Lumbsch
Pannoparmelia angustiata (Pers.) Zahlbr.
Pannoparmelia wilsonii (Räsänen) D.J.Galloway
Paraporpidia leptocarpa (C.Bab. & Mitt.) Herrel & Rambold
Parmelaria crumarum Kurok.
Parmelietella nigrocinerea (Mont.) Müll.Arg. s. lat.
Parmelinopsis afrorevoluta (Krog & Swinscow) Élix & Hale
Parmotrema perlatum (Huds.) M.Choisy
Parmotrema reticulatum (Taylor) M.Choisy
Pertusaria lophocarpa Körb.
Pertusaria pertractata Stirt.
Pertusaria sp. [HO 590069]
? Pertusaria sp. [HO 598371]
Physcia neonubila Élix
Physcia sp. [HO 589330]
Porphia soredioides (Lamy) Knoph, Herrel & Rambold
Pseudocyphellaria neglecta (Müll.Arg.) H.Magn.
Psora caesidóba (Taylor) Müll.Arg.
Punctelia pseudocyphellaria (Gyeln.) Élix & Kantvilas
"Ramboldia" sp. [HO 590067]
Ramboldia arandensis (Élix) Kalb, Lumbsch & Élix
Ramboldia blástidata Kantvilas & Élix
Ramboldia brunneocarpa Kantvilas & Élix
Ramboldia laevis (Stirt.) Kalb, Lumbsch & Élix
Ramboldia petrosoides (Nyl. ex C.Bab. & Mitt.) Kantvilas & Élix
Ramboldia plicatula (Müll.Arg.) Kantvilas & Élix
Ramboldia pseudocyphellaria (Gyeln.) Élix & Kantvilas
"Ramboldia" sp. [HO 589330]
Ramboldia sp. [HO 589371]
Appendix 1.3 cont.

Ramboldia sorediata Kalb
Ramboldia stuartii (Hampe) Kantvilas & Elix
Ramboldia subnebula (Sirt.) Kantvilas & Elix
Rhizocarpon geographicum (L.) DC.
Rhizocarpon reductum Th.Fr.
Rhizocarpon viridatum (Wulfen) Körb.
Rinodina asperata (Shirley) Kantvilas
Rinodina confusa H.Mayrhofer & Kantvilas
Rinodina obscura Müll.Arg.
Rinodina teniswoodiorum Elix & Kantvilas
Rinodina thiomela Schlosser [HO 591822, 591824]
Schismatomma occultum (C.Knight & Mitt.) Zahlbr.
Schismatomma sorediata Kalb & Elix
Tepromela atrata (Huds.) Hafellner
Tepromela graminaris Kantvilas
Tepromela sorediata Kalb & Elix

Appendix 1.4: Invertebrate taxa of Wind Song

**ARTHROPODS**

**BLATTODEA (COCKROACHES AND TERMITES)**

*Calodema* unplaced

**BLATTIDAE (COCKROACHES)**

*Platyzosteria melanaria* (Erichson, 1842)

**ECTOBIDAE (COCKROACHES)**

*Ectobiidae* unplaced

**TERMITOIDAE (TERMITES)**

*Termiotidae* unplaced

**COLEOPTERA (BEETLES)**

*Adelinae* unplaced

**BELIDAE (BELID WEEVILS)**

*Rhinonima bimaculata* (Pascoe, 1871)
*Rhinonima haemoptera* Kirby, 1819

**BUPRESTIDAE (JEWEL-BEETLES)**

*Agrilus assimilis australis* Thomson, 1879

**CANTHARIDAE (SOLDIER-BEETLES)**

*Chauliognathus lugubris* (Fabricius, 1801)
*Chauliognathus tricolor* (Castelnau, 1840)

**COLEOPTERA (BEETLES)**

*Heteromastix* unplaced

**CARABIDAE (GROUND-BEETLES)**

*Adelotopus* unplaced
*Agonochila* unplaced
*Anomotarsus illawarae* (Macleay, 1873)
*Hypharpax pernini* (Castelnau, 1867)
*Notiobius quadricollis* (Chaudouré, 1878)
*Sarothrocrepis* unplaced
*Scopodes* unplaced

**CERAMBYCIDAE (LONGHORN-BEETLES)**

*Ancita croceogaster* (Boisduval, 1835)
*Betitremus diversicorne* (White, 1846)
*Cerambycidae* unplaced
*Stavroderus concolor* W.A. Macleay, 1826
*Teiswarmma undatum* Newman, 1840

**CHRYSOMELIDAE (LEAF-BEETLES)**

*Arispoda* TFIC sp. 02
*Cadmus cucricolidis* (Boisduval, 1835)
*Dictyopus subnebulae* Chappuis, 1875
*Ehoo viridula* (Erichson, 1842)

**ELATERIDAE (CLICK-BEETLES)**

**CURCULIONIDAE (WEEVILS)**

Curculionidae unplaced
*Gonipterus scutellatus* Gyllenhal, 1833
*Gonipterus* unplaced
*Melaenoaescu occidentalis* (Pascoe, 1873)
*Merinnetes oblongus* (Blanchard, 1853)
*Orthorhinus klugii* Boheman, 1835
*Poropterus* TFIC sp. 04
*Scotornus carinirostris* Boheman, 1842

**CRYPTOPHAGIDAE (SILKEN FUNGUS-BEETELS)**

**ELATERIDAE (CLICK-BEETLES)**

**CRYPTOPHAGIDAE (SILKEN FUNGUS-BEETELS)**

**COCCINELLIDAE (LADYBIRDS)**

*Coccinella transversalis* Fabriicus, 1787
*Coccinella undecimpunctata* Linneaus, 1758
*Harmonia conformis* (Boisduval, 1835)
*Rhyzobius* TFIC sp. 09
*Pterostichus* unplaced

**Corylaphidae (Minute Hooded-Beetles)**

**Corylaphidae** unplaced

**CRYPTOPHAGIDAE (SILKEN FUNGUS-BEETELS)**

**CURCULIONIDAE (WEEVILS)**

Curculionidae unplaced
*Gonipterus scutellatus* Gyllenhal, 1833
*Gonipterus* unplaced
*Melaenoaescu occidentalis* (Pascoe, 1873)
*Merinnetes oblongus* (Blanchard, 1853)
*Orthorhinus klugii* Boheman, 1835
*Poropterus* TFIC sp. 04
*Scotornus carinirostris* Boheman, 1842
*Scotornus carinirostris* Boheman, 1842

**Elateridae (Click-Beetles)**

*Agrypnus impressipennis* (Elston, 1923)
*Agrypnus pictipennis* (Candèze, 1857)
*Conoderus balsaei* (Gyllenhal, 1837)
*Conoderus euretics* (Candèze, 1859)
*Conoderus* unplaced
*Elateridae* unplaced
*TFIC sp. 10
*Elateridae* unplaced
### Appendix 1.4 cont.

**EROTYLIDAE (PLEASING FUNGUS-BEETLES)**
- *Thallis vinula* Erichson, 1842

**LATRIDIIDAE (MINUTE BROWN SCAVENGER-BEETLES)**
- *Corticariinae unplaced*

**LEIODIDAE (ROUND FUNGUS-BEETLES)**
- *Zeadolopus unplaced*

**MELANDRYIDAE (FALSE DARKLING-BEETLES)**
- *Orchesia minuta* Lea, 1908
- *Orchesia TFIC sp. 01*

**MORDELLIDAE (PINTAILED BEETLES)**
- *Hoshihananomia leucosticta* (Germar, 1848)
- *Mordella TFIC sp. 04*
- *Mordellidae unplaced TFIC sp. 04*

**NITIDULIDAE (SAP-BEETLES)**
- *Carpophilus TFIC sp. 02*

**OEDEMERIDAE (FALSE BLISTER-BEETLES)**
- *Dohrnia miranda* Newman, 1851

**PHALACRIDAE (SHINING FLOWER-BEETLES)**
- *Phalacridae unplaced TFIC sp. 05*
- *Phalacrus uniformis* (Blackburn, 1891)

**PTINIDAE (DEATHWATCH-BEETLES)**
- *Deltocryptus unplaced*
- *Lasioderma serricorne* (Fabricius, 1792)
- *Ptinus exulans* Erichson, 1842

**SALPINGIDAE (NARROW-WAISTED BARK-BEETLES)**
- *Neosalpingus hybridus* (Erichson, 1842)

**SCARABAEIDAE (SCARAB-BEETLES)**
- *Automolius depressus* (Blanchard, 1850)
- *Diphucephala colaspidoides* (Gyllenhal, 1817)
- *Heteronyx hirtuosus* Blackburn, 1890
- *Liparetrus convexus* Boisduval, 1835
- *Onthophagus australis* Guérin-Méneville, 1838
- *Onthophagus fuliginosus* Erichson, 1842
- *Onthophagus pronus* Erichson, 1842

**SCRAPTIIDAE (FALSE FLOWER-BEETLES)**
- *Scraptiidae unplaced*

**SILPHIDAE (CARRION-BEETLES)**
- *Ptomaphila lacrymosa* (Schreibers, 1802)

**STAPHYLINIDAE (ROVE-BEETLES)**
- *Aleocharinae unplaced*
- *Oxytelinae unplaced*
- *Phloeocharinae unplaced*
- *Pselaphinae unplaced*
- *Tachyporinae unplaced*

**TENEBRIONIDAE (DARKLING-BEETLES)**
- *Adelium brevicorne* Blessig, 1861
- *Ateuchus bicolor* (Blackburn, 1893)
- *Coripera deplanata* (Boisduval, 1835)
- *Isopteron obscurum* Erichson, 1842
- *Lepispilus sulcicollis* (Boisduval, 1835)
- *Meneristes australis* (Boisduval, 1835)
- *Pemanea tasmanica* (Carter, 1915)

**THROSCIDAE (FALSE CLICK-BEETLES)**
- *Aulonothroscus elongatus* (Bonvouloir, 1859)

**TROGOSITTIDAE (BARK-GNAWING BEETLES)**
- *Leperina decorata* (Erichson, 1842)

**DERMAPTERA (EARNWIGS)**

**LABIDURIDAE**
- *Labidura riparia* (Pallas, 1773)

**DIPTERA (TRUE FLIES)**

**ACROCERIDAE (SPIDER-FLIES)**
- *Ogodes flavescens* White, 1914

**ASILIDAE (ROBBERFLIES)**
- *Cabasa pulchella* (Maquart, 1846)
- *Cerdistus unplaced*
- *Daptoleles limbipennis* (Maquart, 1846)
- *Laphria rufjennorata* Maquart, 1846
- *Leptogaster unplaced*
- *Neoscleropogon unplaced*
- *Zosteria alcatas* (Walker, 1849)

**BOMBYLIIDAE (BEEFLIES)**
- *Aleucosia atherix* Newman, 1841
- *Anthrax maculatus* Maquart, 1846
- *Docidomyia puellaris* White, 1916
- *Euechymypopion unplaced*
- *Staurostichus unplaced*
- *Villa fuscicosta* (Maquart, 1846)

**CALLIPHORIDAE (BLOWFLIES)**
- *Calliphora stygia* (Fabricius, 1782)
- *Calliphora unplaced*
- *Calliphorinae unplaced*
- *Calliphorini unplaced*

**CHLOROPIDAE (FRUIT-FLIES)**
- *Genex unplaced*

**DITOMYIIDAE (DITOMYIID FUNGUS-GNATS)**
- *Ditomyiidae unplaced*

**DOLICHOPODIDAE (LONG-LEGGED FLIES)**
- *Heteropilopus cingulipes* (Walker, 1835)
- *Heteropilopus ingenuus* (Erichson, 1842)
- *Medetina unplaced*
- *Nasheenis spinipes* Bickel, 1994
- *Dolichopodidae unplaced*

**DROSOPHILIDAE (VINEGAR-FLIES)**
- *Drosophilidae unplaced*
- *HYBOTIDAE (DANCE-FLIES)**
- *Hybotidae unplaced*
- *EPHYRIDAE (SHORE-FLIES)**
- *Ephyridae unplaced*

**FANNIIDAE (LESSER HOUSEFLIES)**
- *Fanniidae unplaced*

**KEROPLATIDAE (KEROPLATID FUNGUS-GNATS)**
- *Keroplatidae unplaced*

**LAUXANIIDAE (LAUXANIID FLIES)**
- *Lauxaniidae unplaced*

**LIMONIIDAE (LIMONIID CRANEFLIES)**
- *Gynoplistia unplaced*

**MUSCIDAE (HOUSEFLIES)**
- *Helina unplaced*
- *Pygophora apicalis* Schiner, 1868
- *Muscidae unplaced*

**NEMESTRINIDAE (TANGLE-VEINED FLIES)**
- *Trichophilalina unplaced*

**PIPUNCULIDAE (BIG-HEADED FLIES)**
- *Pipunculidae unplaced*

**PLATYSTOMATIDAE (SIGNAL-FLIES)**
- *Dunomyia decorata* (Maquart, 1846)
- *Rivellina unplaced*

**RHAGIONIDAE (SNIPE-FLIES)**
- *Atherimorpha vernalis* White, 1914
- *Rhagionidae unplaced*

**SARCOPHAGIDAE (FLESH-FLIES)**
- *Metopia nudibasis* Malloch, 1930

**STRATIOMYIDAE (SOLDIER-FLIES)**
- *Beroeoides tasmanensis* Berri, 1922
- *Leconyia caerulea* (White, 1914)
- *Odontomyia unplaced*
The flora and fauna of Wind Song, Little Swanport, Tasmania

Appendix 1.4 cont.

SYRPHIDAE (HOVERFLIES)
Exomerus argyroneuropsis Ferguson, 1926
Exomerus latipes Macquart, 1846
Melangyna viridiscens (Macquart, 1847)
Pseudaletes unplaced
TABANIDAE (MARCH-FLIES)
Dasybasis unplaced
TACHINIDAE (BRISTLE-FLIES)
Chaetophthalmus similis (Walker, 1853)
Heterometopia argentea Macquart, 1846
Rutilia unplaced
Senostoma unplaced
Trigonospila unplaced
Tachinidae unplaced
THEREVIDAE (STILETTO-FLIES)
Agapophytus quatiens (Erichson, 1842)
Trigonospila unplaced
Peirates unplaced
Pseudopantilius australis (Erichson, 1842)
Deraeocoris unplaced
Bacterius unplaced
Siphanta unplaced
Siphanta tasmanica (Erichson, 1842)
Adrisa atra (Erichson, 1842)
Evansomyia phyciformis (Erichson, 1842)
Dasybasis unplaced
Psilota unplaced
Microsoma unplaced
Eumerus latipes (Erichson, 1842)
Eumerus argyrogaster (Erichson, 1842)
Cicadellidae unplaced
Tachysphex unplaced
Sphodrotes unplaced
Tachyphecom unplaced
Crabronidae unplaced
EVANIIDAE (HATCHET-FLIES)
Vanini unplaced
FORMICIDAE (ANTS)
* Amblyopone australis (Erichson, 1842)
Anoplolepis carinata Linnaeus, 1758
Anoplolepis rostrata Linnaeus, 1758
Anoplolepis squamipes (E. André, 1896)
* Camponotus consobrinus (Erichson, 1842)
Camponotus hartogi Forel, 1902
Camponotus unplaced
Hypoestes unplaced
Myrmecia unplaced
Myrmecia pilosula Smith, 1858
Myrmecia unplaced
Pheidole unplaced
Pheidole unplaced
Rhytidoponera tasmaniensis (Macquart, 1846)
Myrmecia unplaced
Euander lacertusus (Erichson, 1842)
Schizopteridae (jumping soil-bugs)
Patena sp. nov polymitarihill, 1980
HYMENOPTERA (ANTS, BEES AND WASPS)
AMPLICIDAE (Cockroach-Wasps)
Amphilictidae unplaced
APIDAE (Honeybees and Allies)
i Apis mellifera Linnaeus, 1758
Eocenea biicolor Smith, 1854
BETHYLIDAE (Bethylid Wasps)
Bethylidae unplaced
BRACONIDAE (Braconid Wasps)
Braconinae unplaced
Braconidae unplaced
CHRYSIDIDAE (Cuckoo-Wasps)
Chrysidinae unplaced
Chrysidinae unplaced
COLLETIDAE (PLASTERER-BEES)
Hylaera perhumilis (Cockerell, 1914)
CRABRONIDAE (Crabronid Wasps)
Bembix furcata Ericsson, 1842
Crabronidae unplaced
Ponerinae unplaced
Podagriinae unplaced
Sphodrotinae unplaced
Tachyphecom unplaced
Crabronidae unplaced
GASTERUPTIDAE (Gasteruptid Wasps)
Gasteruptidae unplaced
ICHNEUMONIDAE (Ichneumon-Wasps)
Ichneumonidae unplaced
Ophioninae unplaced
Crabroninae unplaced
Ichneumon promissorius (Erichson, 1842)
Netelia unplaced
Opinionae unplaced
 Ichneumonidae unplaced
MUTILLIDAE (Velvet-ants)
Odontomyrme cordiferae Lelej, 1983
Pompilidae (Spider-Hunting Wasps)
Turneromyia unplaced
Ageniellini unplaced
Chrysidinae unplaced
Pompiliidae unplaced
SPECIDAE (Thread-Waisted Wasps)
Prioryglossus unplaced
TIPHIIDAE (Flower-Wasps)
Diamesa biolor Westwood, 1835
Tachyglossus abdominalis (Guépin-Ménéville, 1842)
Thynnida macquartii Turner, 1912
VESPIDAE (Potter-Wasps and social wasps)
Australopoea tasmaniensis (Giordani Soika, 1969)

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Appendix 1.4 cont.

Lepidoptera (Moths and Butterflies)

Anthelidae (Australian Lappet Moths)
- *Anthela cneus* Turner, 1921
- *Anthela repleta* (Walker, 1855)

Carposinidae (Fruitworm Moths)
- *Carposina* species inquirenda

Cosmopterigidae (Cosmet Moths)

Cosmorhina unplaced

Crambidae (Grass Moths)
- *Crambus* species inquirenda

Erebidae
- *Cicadaea* (Lower, 1903)
- *Halois sejuncta* (R. Felder & Rogenhofer, 1875)
- *Orygia anarasia* (Walk., 1855)
- *Pantyda sparsa* (Gueneé, 1857)
- *Philenora* species inquirenda
- *Praxix edwardsii* (Burmeister, 1858)
- *Rhabita* species inquirenda
- *Spolusoma glathei* (Le Guillou, 1841)
- *Thallarcha jocularis* (Rosenstock, 1885)
- *Trigonomia aristops* Meyrick, 1902

Elachistidae (Grass-Miner Moths)

Elachis unplaced

Euglossidae

Gelechiidae (Twirler Moths)

Anarasia unplaced

Geometridae (Loopers, Inchworms)
- *Anochlodes uncinata* (Gueneé, 1857)
- *Antarsia flavipennis* (Linnaeus, 1758)
- *Capsana senile* Walker, 1857
- *Calseis farinalis* (Rosenstock, 1885)
- *Calseis melanopus* Rosenstock, 1885
- *Chloroclystis approximata* (Walker, 1869)
- *Chloroclystis filata* (Gueneé, 1858)
- *Chloroclystisichel aurata* (Gueneé, 1857)
- *Chloroclystisichel aurata* (Gueneé, 1857)
- *Chloroclystisichel aurata* (Gueneé, 1857)
- *Circopeta obtusata* (Walker, 1860)
- *Corola geometroides* Walker, 1856
- *Cypsephona ocellata* (Donovan, 1805)
- *Cynoephalpa wilsoni* (Felder & Rogenhofer, 1875)
- *Dichromodes confusaria* (Gueneé, 1857)
- *Dichromodes stibiata* (Gueneé, 1857)
- *Dichromodes uncinata* (Walker, 1860)
- *Doxomeria australis* (Gueneé, 1857)
- *Ectropis bispinaria* (Gueneé, 1857)
- *Ectropis despicata* (Walker, 1860)
- *Ectropis excursaria* (Gueneé, 1857)
- *Ectropis fractaria* (Gueneé, 1857)
- *Casbia tetramera* Lower, 1894
- *Epipactia hypenaria* (Gueneé, 1857)
- *Epipactia subsimilis* (Gueneé, 1857)

Gracillariidae (Leaf Blotch Miner Moths)

- *Anisia angustata* (Oberthür, 1875)
- *Aricia crista* (Gueneé, 1857)
- *Aricia margarita* (Gueneé, 1857)
- *Aricia plumata* (Gueneé, 1857)
- *Aricia pomona* (Gueneé, 1857)
- *Aricia ramentaria* (Gueneé, 1857)
- *Aricia ramentaria* (Gueneé, 1857)
- *Aricia ramentaria* (Gueneé, 1857)
- *Aricia ramentaria* (Gueneé, 1857)

Hesperiidae (Skippers)

- *Antipodia caleta* (Linnaeus, 1758)
- *Hesperilla donana* (Waterhouse, 1827)
- *Pararguda rufescens* (Gueneé, 1857)

Lycaenidae (Copper, Hairstreak and Blue Butterflies)

- *Antipodia chaostola* (Lewin, 1805)
- *Parnassius rufescens* (Gueneé, 1857)

Noctuidae (Owlet Moths, Cutworms, Armyworms)

- *Adria leucum* (Linnaeus, 1758)
- *Agrotis exclamationis* (Gueneé, 1857)
- *Agrotis ipsilon* (Gueneé, 1857)
- *Bathyrichia truncata* (Gueneé, 1936)
- *Dacognatha sp. ANIC01*

Otididae (Prominents)

- *Hobartina afra* (Turner, 1931)
Appendix 1.4 cont.

Neola semiamureata Walker, 1855
Psalidostetha banksiae (Lewin, 1805)
Sorana bicolor Walker, 1855

NYMPHALIDAE (ADIRAL AND BROWN BUTTERFLIES)
* Geitonygia klugii (Guérin-Méneville, 1830)
* Heteronympha merope (Fabricius, 1775)
* Junonia villida (Fabricius, 1787)
$ Vanessa itea (Fabricius, 1775)
$ Vanessa kershawi (McCoy, 1868)

OECOPHORIDAE (CONCEALER MOTHS)
Agriophara BYRNE 'Wind Song sp. 01
Agriophara unplaced'
Barea unplaced
Euchaeis incepetella (Walker, 1864)
Eulocemia meloeella (Newman, 1856)
Oxytyla crystallina Meyrick, 1885
Oecophoridae unplaced
Oecophorinae genus nr Polilomphae unplaced
Oecophorinae sp. 01 CB Wind Song
Oecophorinae unplaced
Oxythycta hiruglyphica Meyrick, 1885
Philobota sp. ANIC66
Philobota unplaced
Phryganeutis unplaced
Statobomopa cephalaea Meyrick, 1897
Statobomopa chalcotypa Meyrick, 1897
Statobomopinae unplaced
Thalerotricha mylitta Meyrick, 1884
Zacorus unplaced

PIERIDAE (WHITE BUTTERFLIES)
* Pieris rapae (Linnaeus, 1758)

PLUTELLIDAE (DIAMONDBACK MOTHS)
Plutella xylostella (Linnaeus, 1758)

PYRALIDAE (SNOUT MOTHS, GRASS MOTHS)
Ctenomeristis almella (Fabricius, 1775)
Ctenomorpha marginipennis

SATURNIIDAE (EMPEROR MOTHS)
Opodiphthera helena (White, 1843)

SPHINGIDAE (HAWK MOTHS)
Hippotion scrofa (Boidinval, 1832)

TINEIDAE (FUNGUS MOTHS)
Tineinae unplaced

TORTRICIDAE (LEAFROLLER MOTHS)
Acrolophus radiatus (Walker, 1863)
Antygena mediana (Walker, 1863)
Austeroppycha unplaced
Capua sp. AT21
Constrictana constrictana (Walker, 1866)
Epiphyas postvittana (Walker, 1863)
Epiphyas sylodes (Meyrick, 1910)
Eugrammia insculata (Meyrick, 1881)
Eucomis unplaced
Euphypta euphyta (Meyrick, 1910)
Holoclea triangulana Meyrick, 1881
Holoclea unplaced
Olethreutinae unplaced
Triericophora lignigerana (Walker, 1863)
Tortricidae unplaced
Tortricinae unplaced

YPONOMEUTIDAE (ERMINE MOTHS)
YPonomeutinae unplaced

ZYGAENIDAE (FORESTERS)
Pollenia viridipulverulenta (Guérin-Méneville, 1839)

MANTODEA (PRAYING MANTISES)
MANTIDAE
* Tenodera australasiae (Leach, 1814)

MECOPTERA (HANGING-FLIES AND ALLIES)
BITTACIDAE
Harpodittacus australis (Klug, 1838)

NEUROPTERA (LACEWING AND ANTIONS)
HEMEROBIIDAE (HEMEROBID LACEWINGS)
* Hemerobidae unplaced
MYRMELEONTIDAE (ANTIONS)
Myrmecoleon acer Walker, 1853

ODONATA (DRAGONFLIES AND DAMSELFLIES)
LESTIDAE (SPREAD-WINGED DAMSELFLIES)
* Austrolestes psyche (Hagen, 1862)
LIBELLULIDAE (SKIMMER DRAGONFLIES)
* Orthetrum caledonicum (Brauer, 1865)

ORTHOPTERA (GRASSHOPPERS AND CRICKETS)
ACRIDIDAE (GRASSHOPPERS)
* Austroicetes vulgaris (Sjöstedt, 1931)
* Geniacia australiastea (Leach, 1814)
* Phyalacracidium vitatum (Sjöstedt, 1920)
* Tasmaniacris tasmaniensis (Bolivar, 1898)
* Acrididae unplaced

GRYLLACRIDIDAE (RASPY-CRICKETS)
Keneana ambulans (Erichson, 1842)
RHAPHIDOPHORIDAE (CAMEL-CRICKETS)
Parvoetettix domesticus Richards, 1970
TETRIGIDAE (GROUNDHOPPERS)
Paratettix argilaceus (Erichson, 1842)
Tetrigidae unplaced
TETTIGNIONIIDAE (BUSH-CRICKETS OR KATYDIDS)
Caedicia simplex (Walker, 1869)
Zaproschius australis (Brulle, 1835)
TRIGONIDIDAE (SWORD-TAIL CRICKETS)
Bobilla unplaced
Trigonidium albivittata (Chopard, 1951)

PHASMIDA (STICK-INSECTS)
PHASMATIDAE
* Cenomorpha marginipennis Gray, 1833

OTHER ARTHROPODS

ACARI (MITES)
TETRANYCHIDAE (SPIDER-MITES)
* Tetanychus urticae (Dufour, 1832)

ARANEAE (SPIDERS)
ARANEIDAE (ORB-WEAVING SPIDERS)
* Dolophones convexus (Keyserling, 1886)
* Eriophora pusilla (Walckenaer, 1842)
* Plagiochila marliasi (Keyserling, 1887)

DESIDAE (HOUSE-SPIDERS)
* Badunna insignis (Walckenaer, 1842)
LYCOSIDAE (WOLF-SPIDERS)
* Tasmaniacris tasmaniensis (Bolivar, 1898)

SALTICIDAE (JUMPING-SPIDERS)
* Myrmarachne luctuosa (L. Koch, 1879)

SPARASSIDAE (HUNTSMAN SPIDERS)
* Delena cancriformis Walckenaer, 1837
* Neoparassus dians (L. Koch, 1880)

TETRAGNATHIDAE (LONG-JAWED SPIDERS)
* Tetragonathinae unplaced

THERIDIIDAE (COMB-FOOTED SPIDERS)
* Ariamnes patenenti Hickman, 1927
* Eurypops splendidus (Rainbow, 1916)
# Appendix 1.4 cont.

| Index Category | Taxa |
|----------------|------|
| THOMISIDAE (CRAB-SPIDERS) | *Diactea species*<br> *Hedana valida* L. Koch, 1875 |
| SCORPIONES (SCORPIONS) | *Ceratophyton squama* (Gervais, 1844) |
| DIPOLOPDA (MILLIPEDES) | *Ommatoiulus moreleti* (Lucas, 1860) |
| CHILOPODA (CENTIPEDES) | *Armadillidium vulgare* |
| ISOPODA (SLATERS) | *Armadillidium vulgare* |
| MOLLUSCA (SNAILS AND SLUGS) | *Armadillidium vulgare* |
| FROGS | *Crinia signifera* Girard, 1853<br> *Limnodynastes dumerili insularis* (Parker & Kershaw, 1940)<br> *Litoria ewingii* (Leach, 1815) |
| REPTILES | *Caryodes dufresnii* (Leach, 1815) |
| MAMMALS | *Caryodes dufresnii* (Leach, 1815) |
| BIRDS | *Caryodes dufresnii* (Leach, 1815) |

# Appendix 1.5: Vertebrate taxa of Wind Song

| Index Category | Taxa |
|----------------|------|
| FROGS | *Crinia signifera* Girard, 1853<br> *Limnodynastes dumerili insularis* (Parker & Kershaw, 1940)<br> *Litoria ewingii* (Leach, 1815) |
| REPTILES | *Caryodes dufresnii* (Leach, 1815) |
| MAMMALS | *Caryodes dufresnii* (Leach, 1815) |
| BIRDS | *Caryodes dufresnii* (Leach, 1815) |

# Appendix 1.6: Plant taxa of Wind Song