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**A Buzz!**

  
Nillumbio



# Indigenous Plants that Maintain Biodiversity and Drive Ecological Process

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The Eltham Copper Butterfly, *Paralucia pyrodiscus lucida*. This species is entirely dependant on its larval food plant, Sweet Bursaria, *Bursaria spinosa* for its survival.  
Photo: Vicky Shukuroglou.

# Introduction

Have you ever been in a supermarket that is stocked with a vast array of items and still not been able to find what you want? Frustrating hey!

When we clear away or alter natural plant communities we create a similar situation for native insects and the many other species of invertebrate and vertebrate animals that depend on them for their survival.

A Spotted pardalote is not going to find any food (Lerp Psyllids) on the foliage of introduced and commonly grown Liquid Amber or Silver Birch trees!

# 1) Indigenous plants are major drivers and maintainers of biodiversity.

All indigenous plants have vital roles to play in ecosystem function. However, there are some that are major drivers and maintainers of biodiversity.

When in flower these plants provide nectar and pollen as food for a wide range of native insects, which in turn are key components of ecosystem function and health.

Within the Nillumbik Shire area some of the most important plants in this category are:

- 1) Sweet Bursaria, *Bursaria spinosa*
- 2) Prickly Tea-tree, *Leptospermum continentale*
- 3) Yarra Burgan, *Kunzea leptospermoides*
- 4) Messmate, *Eucalyptus obliqua*
- 5) Long-leaved Box, *Eucalyptus goniocalyx*
- 6) Box Mistletoe, *Amyema miquelii* (and other mistletoes)
- 7) Common Cassinia, *Cassinia aculeata*
- 8) Hoary Sunray, *Leucochrysum (Helipterum) albicans*

While flowering, these plants act as essential focal points for interaction within and between species.

Why is this important?

Ecological process!



## 2) Ecological process in action!



Ecological process in action! An Orange Assassin Bug, *Gminatulus australis* with a Bee Parasitizing Wasp, *Labium brevicorne* as prey that had been seeking nectar in the flowers of Prickly Tea-tree, *Leptospermum continentale*.

Photo: Fabian Douglas.

## Further examples: Various flies



Not all march flies are blood suckers! This is a Flower Feeding March Fly, *Scaptia auriflua* feeding on nectar in the flowers of Sweet Bursaria, *Bursaria spinosa*. Note the pollen grains adhering to its head and thorax.  
Photo: Fabian Douglas.



## Native bees



A Copper Metallic Bee, *Leioproctus clarki* gathering nectar and pollen from the flowers of Prickly Tea-tree, *Leptospermum continentale*.

Photo: Fabian Douglas.



## Various wasps



Female Golden Spider Wasps, *Cryptocheilus australis* like to visit the flowers of Sweet Bursaria, *Bursaria spinosa* to feed on nectar while taking a break from hunting large Wolf Spiders, family Lycosidae and Nursery Web Spiders, family Pisauridae. They pursue and paralyse these spiders by stinging to inject venom before dragging their immobilized prey away to stock their vertical tunnel nests with living but defenceless food for their larvae. Photo: Fabian Douglas.



## Butterflies and moths



A female Fairy Longhorn Moth, *Nemophora laurella*. The males have much longer antennae! This small but beautiful and extraordinary looking day flying moth is most frequently seen as it flies around and lands on the flowers and foliage of Sweet Bursaria, *Bursaria spinosa*, which is where this one was photographed.

Photo: Vicky Shukuroglou.



## Beetles



A female of *Castiarina thomsoni*, one of the many species of jewel beetles in the genus *Castiarina* that are collectively known as “Casts”. This individual was photographed at rest on the foliage of Sweet Bursaria, *Bursaria spinosa* just after it had finished feeding on nectar in the flowers of this plant. Photo: Fabian Douglas.





Another “Cast” jewel beetle, *Castiarina sexplagiata* and two Pintail Beetles, *Hoshihananomia dumbrelli* feeding on nectar provided in the flowers of Sweet Bursaria, *Bursaria spinosa*.  
Photo: Vicky Shukuroglou.





A Fiddler Beetle, *Eupoecila australasiae* feeding on nectar and pollen in the flowers of Sweet Bursaria, *Bursaria spinosa*. The larvae of this species are important recyclers of fallen timber. Photo: Fabian Douglas.





With its hind legs held aloft, a Punctate Flower Chafer, *Neorrhina punctatum* feasts on nectar and pollen from the flowers of Sweet Bursaria, *Bursaria spinosa*. As with the preceding species, the larvae of the Punctate Flower Chafer are important recyclers of rotting timber.  
Photo: Vicky Shukuroglou.





The One-banded Longicorn Beetle, *Obrida fascialis* is a diurnal species that is frequently seen while it visits the flowers of Sweet Bursaria, *Bursaria spinosa* to feed on nectar that the flowers provide. In a balanced and healthy ecosystem, the larvae of some species of longicorn beetles are important cullers of already sick or stressed trees and shrubs. The larvae of others are significant secondary recyclers of dead standing as well as fallen timber.

Photo: Fabian Douglas.



## Other invertebrates



A female Milky Flower Spider, *Zygometa xanthogaster* with a Common Hoverfly, *Melangyna viridiceps* as prey that had been feeding on nectar in the flowers of Prickly Tea-tree, *Leptospermum continentale*. More ecology in action!  
Photo: Fabian Douglas.



### 3) Other indigenous food and/or shelter plants for native insects.

Some other indigenous plants that are important as larval food and/or shelter for many native insects are:

Native grasses, especially Weeping Grass, *Microlaena stipoides*, Kangaroo Grass, *Themeda triandra*, Slender Tussock-grass, *Poa tenera*, Spear-grasses, *Austrostipa* species and Wallaby-grasses, *Rhytidosperma* species.

*Gahnia* species, especially Red-fruit Saw-sedge, *Gahnia sieberiana* and Thatch Saw-sedge, *Gahnia radula*.

*Lomandra* species, especially Spiny-headed Mat-rush, *Lomandra longifolia* (local form) and Wattle Mat-rush, *Lomandra filiformis*.

*Acacia* species, especially Black Wattle, *Acacia mearnsii*, Silver Wattle, *Acacia dealbata* and Blackwood Wattle, *Acacia melanoxylon*.

*Eucalyptus* species in addition to those listed earlier, especially Red Box, *Eucalyptus polyanthemos*, Yellow Box, *Eucalyptus melliodora*, Red Stringybark, *Eucalyptus machrorhyncha*, Candelbark Gum, *Eucalyptus rubida*, Narrow-leaved Peppermint, *Eucalyptus radiata*, Manna Gum, *Eucalyptus viminalis* and Swamp Gum, *Eucalyptus ovata*.

Hazel Pomaderris, *Pomaderris aspera*.



A male of the Yellow Jewel Butterfly, *Hypochrysops byzos*. Hazel Pomaderris, *Pomaderris aspera* is an important larval food plant of this species. Sketch by Fabian Douglas.



## Reference

Website: iNaturalist Australia.

N. B. The scientific and common names of plant and animal taxa that are used in this work follow iNaturalist Australia.