

Protecting Eltham Copper Butterfly from Extinction

2023-28



Australian Government

The butterfly, the plant, and the ant

The nationally endangered Eltham copper butterfly (ECB) is a small butterfly with bright copper colouring on the top of its wings, and an amazing story.

Thought to be extinct in the 1950s, it was rediscovered in the 1980s and is totally dependent on a three-way relationship between the *Notoncus* ant and sweet bursaria plants to survive.

ECB are very elusive and can only be seen during summer when they emerge as an adult for a few days, and only when conditions are hot and still.

The rest of the year, ECB caterpillars live underground coming out only at night.

Adult butterflies lay their eggs on or at the base of sweet bursaria plants that host the ant colony. Once hatched, the ants guide the caterpillars into a special chamber in the ant nest where they are tended and guarded. Although the ants are not nocturnal, some of the colony work night-shift to protect the caterpillars.

The ants lead the caterpillars out at night to feed on the sweet bursaria and defend them from predators.

This amazing service is achieved through a mixture of tricks and treats.

The caterpillar tricks the ants into believing it's one of their own, mimicking ant brood hormones and making sounds that pacify ant aggression.

They also treat the ants with sugary secretions they love to eat.

The caterpillars overwinter in the ant nest, pupate in or near the nest and emerge as adult butterflies during the warmer months. The butterflies feed on nectar of flowers, especially



sweet bursaria, before they lay their eggs at the base of the plant, and the cycle begins again.

ECB are devoted to an area, sometimes returning to the same sweet bursaria plant they hatched on to lay their eggs. They rarely move more than 150m from a habitat patch.

As they are dependent on sweet bursaria plants, it is easier to first find the plant then look for the adult butterfly. Areas of dense bursaria patches are used as indicators of good habitat.

The *Notoncus* ant also needs to be present for the lifecycle to work. Even if the plant and the ant are present, there is only a 26 per cent chance the ECB are. The reason for this is unknown.

Threats

ECB was once widespread in dry open forests from Melbourne to Western Victoria.

Land clearing for urbanisation, farming, climate change, and planned burns have resulted in only three known populations in Victoria – Bendigo/Castlemaine, the Wimmera, and near Eltham in Melbourne.

The Bendigo/Castlemaine population is found mostly within National Parks and public reserves.

Climate change and rising temperatures heighten the risk of wildfires and may necessitate more planned burns for asset protection.

Trampling and compaction by vehicles, people and pest animals can also impact on sweet bursaria plants and reduce recruitment of seedlings.

Herbivore grazing, especially rabbits, can also impact on sweet bursaria seedlings.

Sweet bursaria generally likes dry conditions and can't grow in damp areas. Altered hydrology can impact this, such as urban development increasing runoff and changing vegetation types.

Habitat fragmentation and isolated populations can lead to reduced genetic diversity. This can limit a population's ability to adapt, making them more susceptible to disease and environmental changes.

ECB is a basking butterfly; they love to sit in the sun. Weeds and introduced trees and shrubs can reduce sunshine availability and reduction in available habitat.

Project goals

Our aim is to help the ECB avoid extinction. Over the next four years we'll work with local communities to help them understand more about the species and what can be done to save it.

We'll work with land managers to develop site management plans and improve the quality of habitat through weed control, revegetation, fencing/bollards and signage.

We can't protect them if we don't know where they are, so we'll monitor known populations and search for potential habitat and new colonies.

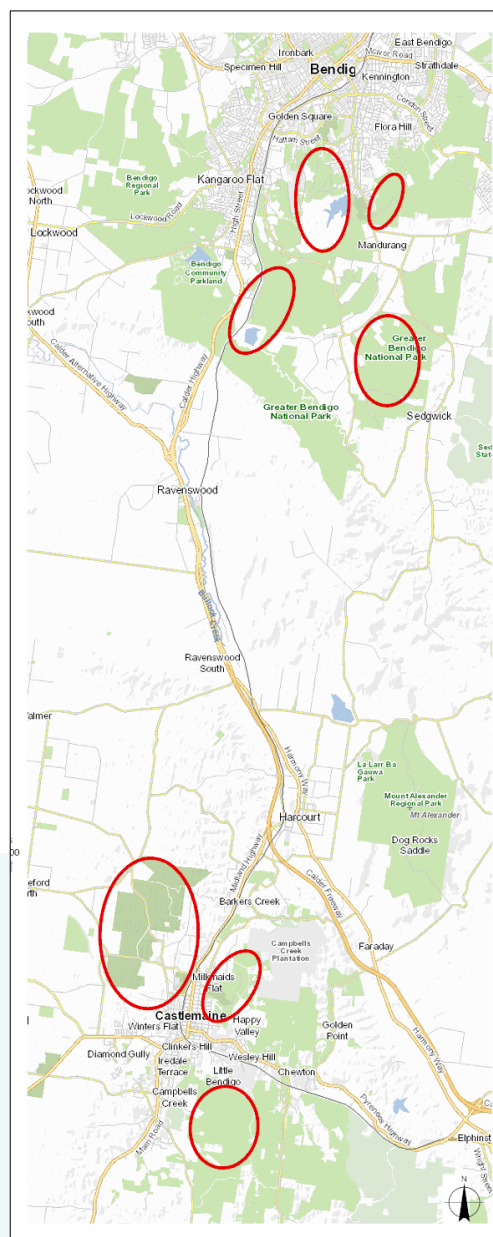
We will raise awareness of the species through workshops, communication materials and community events.



This project is funded by the Australian Government's National Heritage Trust and delivered by the North Central CMA, a member of the Commonwealth Regional Delivery Partners panel.

How you can help

- Retain, restore, and plant native vegetation on your property, especially sweet bursaria
- Ensure plants don't escape your garden and invade bushland
- Don't dump rubbish or plant material in bushland or roadsides
- Keep your pets on your property and dogs on leash in parks and reserves
- Travel on formed roads and tracks
- Notify us of any dense patches of sweet bursaria, it could host an unknown ECB colony.



Known Eltham copper butterfly habitats

For more information

Telephone 03 5448 7124 or visit www.nccma.vic.gov.au

