

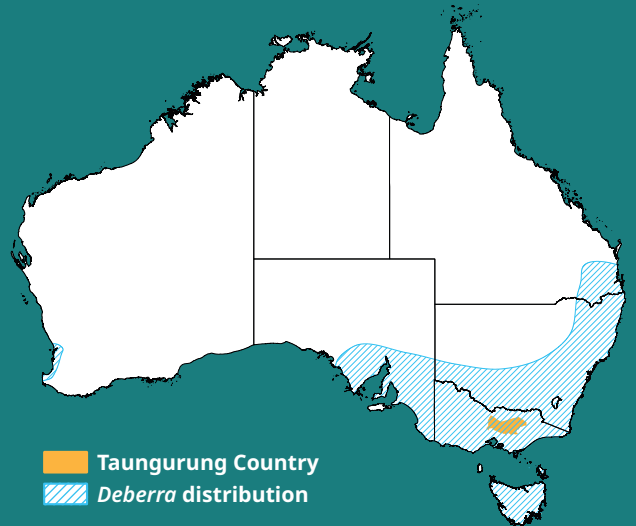
Deberra (Bogong moth) on Taungurung Country

© Matt Shanks, Taungurung

Common name: Bogong moth

Scientific name: *Agrotis infusa*

Language name: *Deberra*



Status



Deberra was considered for national listing under the EPBC Act, but in February 2025, it was deemed that there was '[insufficient scientific evidence](#)' to support a threatened species listing.

Description

Deberra are a well-known Australian insect. They are about 3 cm long, with a black stripe on each wing with two spots on top (the top spot is round and the bottom one is kidney-shaped).

In south-eastern Australia they undertake an annual, long-distance, nocturnal migration to the Australian Alps in the summer months to aestivate (hibernate), then return to their breeding grounds each year (they can travel up to 1000 km). They can sense the Earth's magnetic field and use it in conjunction with celestial cues landmarks to navigate¹.

They are a vital food source of the threatened Mountain pygmy possum and they also play an important role in pollination of sub-alpine and alpine ecosystems.



Deberra. Photo: Andrew/stock.adobe.com

Distribution

Deberra have a wide migratory range across southern Australia. Core distribution areas include from the Darling Downs (southern Queensland) through to Victoria and west of Adelaide in South Australia. There is also an isolated sub-population in south-west Western Australia.

Habitat

Deberra breeding habitat includes shrublands, heathlands, grasslands, woodlands and forests in temperate areas. They also occur on agricultural land (on which juveniles may be crop pests).

Aestivation areas include rocky alpine habitats, including boulder fields and caves.

Threats

Key likely threats to *Deberra* identified as part of the [DCCEEW listing](#) process include:

- **Climate change**, including increased droughts and rising temperatures
- **Inappropriate fire regimes**, leading to destruction of food plants, and degradation of foraging habitat
- **Use of agricultural chemicals**, such as pesticides, and non-host specific biological control agents
- **Agricultural and urban development**, leading to habitat loss and disruption to migration pathways
- **Predation by feral animals**, such as foxes, pigs and the European wasp.



Cultural Connections

Deberra are not just a moth, they show us the connectedness of all things. The lowland breeding grounds that nurture their young, in turn are recipients of the energy and nutrient that flows off the mountains. Their arrival, often heralded first by the gathering of crows around rocky outcrops, is anticipated by human and non-human entities, some of which are highly dependent on this ongoing cycle. As a result, soil is nourished and built and waters flow from healthy high places into the rivers at the heart of Taungurung *Biik* (Country).

High elevation places in Taungurung *Biik* are described as *Deberra Biik* (Bogong moth Country), indicating the significance of this entity as a biocultural keystone for Country and culture. *Deberra Biik* is associated with deep cosmological knowledge and is a source of new ceremony. *Deberra* reminds us that Country, knowledge and kin cannot be separated, and the health and seasonal movements of entities within Country speak to us all.



Views from *Geebarr* (Mt Torbeck), a *Deberra* aestivation site on Taungurung Country. Photo: Taungurung Land and Waters Council.



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Cultural Values

Country

Debbera Biik represents a deeply spiritual part of Taungurung **Biik** where **Debbera** form an integral part of the biocultural relationships that sustain life. This cultural landscape is both tangible and intangible, encompassing the high-altitude mountain tops that connect to **durt Biik** (sky Country), and the Lore, ceremony and cultural practice held there. **Debbera Biik** embodies living cultural practice, the interdependent relationships between **Debbera** and other entities, and the continual flow of energy and clean water down to the lowlands and beyond. The health of **Biik** is inseparable from the cyclical abundance of **Debbera** and from the health of biocultural relationships and practices that nurture and sustain it.

“When Debbera travel, human and non-human entities follow. They support energy flows of many kinds.”

Matt Shanks, Taungurung



Taungurung Rangers undertaking on-Country **Debbera** monitoring at **Geebarr** (Mt Torbreck). Photo: Taungurung Land and Waters Council.

Knowledge

Today we read **Debbera Biik**, healing and strengthening our knowledge and ceremony, revitalising language and practice, and sharing our cultural knowledge with the next generation. There is much to be learnt from **Debbera** – in their behaviour, movement and the important relationships they hold within Country. Knowledge of **Debbera** includes the biocultural relationships between **Debbera** and other entities, the seasonal indicators of **Debbera Biik**, the important places connected to their migration along songlines, and the cultural protocols and ceremony that guide how we relate to them.

“They tell us about who we are as humans on Country. We can draw principles from that and apply it today.”

Matt Shanks, Taungurung

Kin

Debbera hold intergenerational knowledge of **Biik**. Following seasonal indicators such as wind and relying on the health and abundance of certain species, they move between places to access resources, gather together and escape the heat of summer in low Country. This is the same for Taungurung and our obligations to care for **Debbera** are embedded in the Lore of **Biik**.

Debbera show us the interconnectedness of all things, of people, land, sky and water. Since the onset of colonisation, many changes to **Biik** have disrupted these relationships. There is still much to be learnt to heal and care for **Biik**. We have an obligation to care for **Debbera** and all the relationships that sustain our practice, relationships and us as people.

“They are high in fat and were prepared in a number of ways, from cooking on a fire to grinding down into a protein-rich paste, which was roasted in cakes or smoked to preserve it for weeks ahead.”

Matt Shanks, Taungurung

Results of Poor Management

Decline in numbers

Taungurung are worried about declining *Deberra* numbers and the flow-on impacts for *Biik*. *Deberra* used to arrive on *Biik* each year in large numbers.

“Taungurung could go into caves and brush them off with incredible ease.”

Matt Shanks, Taungurung

Since the 1980s there has been a gradual decline, but a widespread population crash occurred from 2017 to 2019 as a result of a severe and prolonged drought. Climate change is likely to lead to warmer temperatures in the Alps reducing aestivation habitat suitability into the future. Agricultural practices such as increased rice and cotton monocultures and pesticides are also of concern in other parts of Australia where they breed.

Many alpine places on Taungurung *Biik* include already threatened stands of Snow gum and Alpine ash that have experienced repeated extreme fire events. The decline in *Deberra* and the associated reduction in the flow of energy and pollination services are further risks impacting on the health of *Biik*.

More than just a moth

Taungurung biocultural knowledge, together with Western knowledges, provides a pathway for the holistic planning and management of entities such as *Deberra*. Healing relationships to *Deberra Biik* means upholding obligations to Country. Current laws, policies and processes that frame *Deberra* and other significant entities only as threatened species limit the ability to care for the biocultural relationships they sustain, and that sustain them, on Country. The Taungurung Nation is the voice for *Biik*. Collaborative management approaches grounded in the concept of Cultural Landscapes provide the pathway to enable the Taungurung Nation to speak for *Biik* and for *Deberra*.

Taungurung Vision

Understanding *Deberra*

Through Reading Country, Taungurung are healing and strengthening biocultural knowledge and cultural practice to support the care of *Deberra* in the face of human-induced threats to Country. To protect them, we need to understand them better. We want to walk in the footsteps of our old people – welcoming the arrival of moths on *Biik*. We get young people out exploring these areas with Elders or knowledge holders. We are looking at seasonal changes and associations with other species, mapping different knowledges to help us better understand the biocultural relationships between Taungurung *Biik* and *Deberra*, and pathways for better management.

“We’re sensing, we’re smelling and we’re feeling the winds that come through and that’s a really important part of connecting to Country and understanding our Country.”

Matt Shanks, Taungurung

A pathway to collaborative governance

Deberra connect Nations far from each other and highlight our obligations to other Countries and entities. Caring for *Deberra* cannot be undertaken in isolation because its story is written across vast areas of Country. This brings opportunities to think about *Deberra* along songlines that connect many parts of Australia. Monitoring for and planning decisions about *Deberra* require collaborative governance, across First Nations and government agencies and research institutions that are grounded in biocultural knowledges held and spoken for by respective First Nations communities. *Deberra* connect many layers of Country, including people. We have much to learn from *Deberra*.



National Environmental Science Program

¹ Dreyer, D., Frost, B., Mouritsen, H., Günther, A., Green, K., Whitehouse, M., ... & Warrant, E. (2018). The Earth's magnetic field and visual landmarks steer migratory flight behavior in the nocturnal Australian Bogong moth. *Current Biology*, 28(13), 2160-2166.



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