



# Conservation of the Bulloak Jewel Butterfly

## The Bulloak Jewel Butterfly

The Bulloak Jewel butterfly (scientific name *Hypochrysops piceatus*) is a small butterfly (wingspan 23-25 mm) that lives in the canopy of tall (8-12 metres), old (100 year+) Bulloak trees (*Allocasuarina luehmannii*) in southern, inland Queensland. The wings of males above are dark purple, and of females are pale blue. Beneath, both sexes of the Bulloak Jewel have a pattern of red bands edged with metallic green and dotted with black spots. The name 'jewels' is also given to related blue butterflies with similar patterns beneath the wings. Two other species of 'jewels' (*H. ignitus* and *H. cyane*) occur at the same localities as the Bulloak Jewel but their larvae feed on different plants.

The Bulloak Jewel only lays its eggs on stems of the Bulloak trees when a particular ant (*Anonychomyrma sp. itinerans* species-group) is present. After hatching from eggs, the caterpillars feed at night on Bulloak leaves and shelter by day in the hollow branches. They continue to grow until ready to transform into the chrysalis stage. Bulloak Jewel caterpillars have a mutual relationship with the ants. The ants are attracted by the caterpillar's secretions and in return the ants ward off would-be predators or parasites attempting to attack the caterpillars.

## Conservation Concerns

The Bulloak Jewel only occurs west of the Darling Downs in southern Queensland where small fragments of its habitat have survived clearing and burning of native vegetation for farming and urban development. The habitats are undisturbed 'old growth' Bulloak trees growing on flat, alluvial soils where the ant is present.

## The Butterfly Survives

Currently, the Bulloak Jewel is only known from several small patches of predominately casuarina vegetation near Leyburn and Goondiwindi. It originally occurred at Mt Emlyn, near Millmerran but has not been seen there since 1967. Two protected areas, Ellangowan Nature Reserve, near Leyburn, and Bendidee National Park, near Goondiwindi, contain habitats where colonies of the butterfly are managed as secure breeding sites. Other small habitats are in a State Forest and on privately-owned land where management arrangements are being made to protect the Bulloak trees and surrounding vegetation.

Reports of possible sightings elsewhere, in Kubarilla State Forest, and in Braemar State Forest near Cecil Plains, have not yet been validated with specimens.

**THREATS:** Old Bulloak trees survive mostly among roadside native bushland remnants but they are often cut down or cleared for road widening. Removal of fallen logs for firewood can destroy ant nests, and burning of the undergrowth destroys the leaf litter necessary for the ants that attend the caterpillars. Only 'old' Bulloak trees are suitable as regrowth does not support the butterfly and it is rarely occupied by the 'right kind' of ant.



# Prevent the Bulloak Jewel from Becoming Extinct

## What Is Being Done

Conservation of the Bulloak Jewel depends on protection and management of habitats known to be occupied by the butterfly. The search for new habitats by experienced entomologists continues, encouraged by the Queensland Parks & Wildlife Service.

Progress towards recovering the Bulloak Jewel followed development of a Draft Recovery Plan by the Queensland Parks and Wildlife Service (QPWS) and establishment of the roadside Ellangowan Nature Refuge specially for protection of the butterfly. Despite inclusion of about 1.5 sq.km of the Leyburn habitat in the Ellangowan Nature Refuge, threats have continued to affect its habitat from tree felling and other disturbance. Plans to extend the Refuge to include most breeding trees are being supported by the Main Roads Department, and by the Clifton and Warwick Shire Councils.

In 2001 a Threatened Species Network Community Grant was awarded to The Hut Environmental and Community Association Inc. (THECA) for a project titled "A Community-Based Recovery Plan for the Bulloak Jewel". The Project carried out surveys, conducted field days and seminars, circulated newsletters and participated with local community groups. Clifton High School began growing Bulloak trees for replanting degraded areas.

The Bulloak Jewel is currently listed as 'Endangered' and is protected under the Queensland Nature Conservation (Wildlife) Regulation (QPWS 1994, and Amendment Regulation No. 1, 2001). A *Species Management Plan* (Borsboom, A and DeBaar, M, 2002) was published by the Queensland Parks and Wildlife Service. The status of 'Endangered' was recommended for the Bulloak Jewel in *The Butterfly Action Plan* (Sands, DPA and New, TR, 2002, Environment Australia, Canberra). People wanting to collect specimens for study must hold a Scientific Purposes Permit issued by QPWS.

## Acknowledgments

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## What You Can Do

- Protect old Bulloak trees (>15 cm diameter) and surrounding native vegetation in areas bounded by Millmerran, Cecil Plains, Goondiwindi and Leyburn. The roadside trees on the Gore Highway, Toowoomba-Karara Road and Karara-Goondiwindi Road are especially vulnerable to clearing and spraying.
- Avoid burning undergrowth near and under stands of old Bulloak trees.
- Don't remove fallen logs from under the Bulloak trees. They provide the nesting sites for ants that attend caterpillars of the Bulloak Jewel.
- Keep a look out for small butterflies flying and settling among the Bulloak tree canopies (10 m or more above the ground). It is easy to overlook them as they are similar to several other common species! Much can be done to protect this butterfly against extinction if new habitats can be discovered and protected.
- Work with local Landcare and other environmental groups to promote the protection of roadside remnants of vegetation containing Bulloak trees. Remember that native roadside vegetation also provides an important resource for conserving birds, animals and those beneficial organisms ready and waiting to control pests on farms!



Native Bulloak trees and butterfly habitat



**Queensland Government**  
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The Threatened Species Network is a community based program of the Australian Government's Natural Heritage Trust and WWF Australia.