RICHMOND BIRDWING – A LANDHOLDER'S GUIDE

HAVE YOU SEEN ONE?

Acknowledgements

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DID YOU KNOW?

The Richmond birdwing is visually similar to both the Cairns birdwing and New Guinea birdwing. Slight differences in markings, and distinct geographic ranges, help distinguish the Richmond birdwing from others in the same genus.

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About this guide

This guide has been developed as a general reference to support volunteers, community groups and land managers who want to help care for the Richmond birdwing butterfly and its habitat. It provides practical information on the butterfly's biology, its native host plant, the habitat it relies on, and how people can contribute to its conservation.

Efforts such as habitat protection, restoration, vine planting and community involvement have helped stabilise, and, in some areas, rebuild birdwing populations. However, the species remains vulnerable and threatened by habitat loss, invasive weeds, fire and climate change.

Ongoing management and community action remain critical to maintaining this insect's population recovery.

Community action is central to the conservation of the Richmond birdwing butterfly and to ensuring it remains a living symbol of successful conservation.

SAVING AUSTRALIA'S fragile flutterers

The Richmond birdwing is found in south-eastern Queensland and north-eastern New South Wales, mainly in and around lowland subtropical rainforest.

The Richmond birdwing butterfly (*Ornithoptera richmondia*) is one of Australia's most spectacular and iconic insects. Once in serious decline, it has become a conservation success story thanks to long-term, collaborative efforts between government, researchers, and community groups such as Wildlife Queensland and the Richmond Birdwing Conservation Network.

Birdwing caterpillars are distinctive, varying in colour from black to pale brown with fleshy spines. Because caterpillars feed only on birdwing vines, (especially Pararistolochia praevenosa*) any decline in vine populations directly reduces the survival rate of caterpillars – and of the species as a whole.*

Conservation status

The Richmond birdwing is vulnerable in Queensland. While it is not currently listed nationally, its dependence on specific habitat and food plants means it remains sensitive to disturbance and ongoing habitat loss.

Appearance, habitat & LIFE CYCLE

Males are a vivid yellow, green and black.

Females are larger and less colourful than males.

Appearance

The Richmond birdwing butterfly is the largest butterfly in subtropical eastern Australia. Males have vivid green and black wings (slightly less green at the top than the Cairns birdwing) with a wingspan of up to 12.5 cm. Females reach 14 cm and are more subdued in colour, with brown, cream and yellow markings. Both sexes have a distinctive red patch on the thorax, which is visible from beneath.

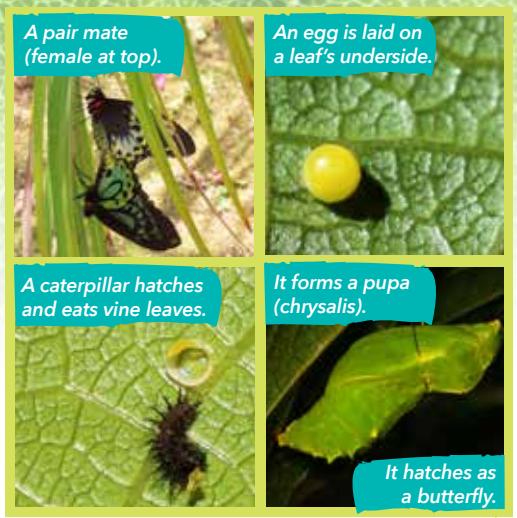
Habitat

The Richmond birdwing butterfly is most closely associated with lowland subtropical rainforest, particularly along damp gullies, creek lines and lower slopes. However, it is not restricted to rainforest and is often seen along forest edges, in adjoining open forest, and in nearby gardens and parks. These edge areas can be particularly important, providing nectar sources for adults, and pathways between breeding sites.

DID YOU KNOW?

Adult Richmond birdwings are strong flyers, often seen high in the canopy or moving purposefully across the landscape. Adults feed on nectar from a range of flowering plants, including eucalypts, lilly pillies and other native and exotic trees and shrubs.

The Richmond birdwing is most often seen from October to March.



Life cycle & breeding

The Richmond birdwing has a relatively long and complex four-stage life cycle — egg, caterpillar (larva), pupa and adult. Each stage depends on the presence of healthy native birdwing butterfly vines (*Pararistolochia* species). Females lay their eggs on these vines, and the caterpillars rely on them as their sole food source. Without healthy vine populations, breeding can't occur.

The birdwing butterfly vine (*P. praevenosa*) occurs naturally in lowland subtropical rainforest and along moist gullies and creek lines. As it faces many of the same threats as the Richmond birdwing butterfly, the vine is listed as near threatened in Queensland.

In higher elevation rainforest, particularly in the Queensland–New South Wales Border Ranges, the butterfly also uses a related species — the mountain aristolochia (*P. laheyana*).

Caterpillars

Birdwing caterpillars grow rapidly if vines are plentiful. A single caterpillar may eat several square metres of vine during its development! Younger caterpillars feed on soft new leaves, while older caterpillars can consume older, tougher leaves. Loss of vines, or increased leaf toughness during dry periods, can cause young larvae to starve.

Pupation & overwintering

Once fully grown, the caterpillar attaches to the underside of a leaf or sheltered surface and forms a well-camouflaged, emerald-green pupa. Depending on conditions, it may hatch after 22 days, but it can pupate for as many as 300 days if overwintering.

Adults may live for weeks in favourable conditions, with females searching for vines to lay eggs, while males patrol territories, looking for nectar and females.

Female butterflies lay single eggs on the underside of vine leaves. After hatching, the tiny caterpillar eats its eggshell before beginning to feed on soft vine leaves. As it grows, the caterpillar passes through five stages (instars), increasing rapidly in size before forming a chrysalis and hatching from it as a butterfly.

Richmond birdwings are most active from spring to autumn, with numbers in any given year influenced by rainfall, temperature and vine condition. In good seasons, up to three generations may occur in coastal areas. Sightings of eggs, caterpillars or pupae provide especially valuable information for conservation efforts.

Ragged wings are often a sign of an older butterfly.

The males' green and black dorsal surface makes them especially well hidden in dense rainforest habitat.

Changes in rainfall patterns, increasing temperatures, more frequent droughts and extreme weather place stress on both vines and butterflies.

A healthy birdwing vine

Conservation & THREATS

Dutchman's pipe

The long-term survival of the Richmond birdwing butterfly depends on healthy habitat at a landscape scale.

For this species, the most important action is to protect existing habitat. Clearing of lowland subtropical rainforest has been the greatest cause of decline for this butterfly. Preserving rainforest, controlling weeds, restoring connectivity, and avoiding damaging activities such as fire all contribute to more resilient butterfly populations. When habitat is fragmented into isolated patches, breeding populations are separated, making them more vulnerable to local extinction. Loss of connectivity also limits this butterfly's ability to find food plants or mates.

Birdwing vines are especially sensitive to fire and don't survive burning. Inappropriate fire regimes, burning too close to rainforest edges, or accidental fires can eliminate vines and destroy breeding sites.

Invasive weeds

Invasive weeds threaten both butterfly habitat quality and food plant availability. Of particular concern is the introduced Dutchman's pipe (*Aristolochia elegans*). This toxic, invasive vine is a serious ecological trap, attracting egg-laying females but killing caterpillars. Removing Dutchman's pipe and replacing it with native birdwing vines to restore safe breeding habitat is one of the most effective actions individuals and groups can take to help the Richmond birdwing. Hand-pull or dig out small plants (removing the roots). Cut larger Dutchman's pipe vines and immediately treat the stump with an approved herbicide.

Planting BIRDWING VINES

The Richmond birdwing butterfly depends on native birdwing vines for its survival. Planting several vines in or near connected habitat increases the chances of successful breeding.

Finding the right spot

Birdwing vines grow best in moist, sheltered, partially shaded sites. Natural drainage lines, gully edges and the margins of subtropical rainforest are ideal. Vines require the support of small trees, shrubs or trellises to climb and establish. They do not tolerate prolonged drought, waterlogging or frequent disturbance. Planting is inappropriate in dry, exposed sites or where ongoing care can't be provided. Small, isolated vines may be unable to support caterpillars to maturity, particularly in drought, when leaf growth is reduced.

DID YOU KNOW?
Protecting existing wild vines and nectar sources (especially from native plants) is just as important as planting new vines.

Birdwing vine fruit

Sourcing vines

Birdwing vines should only be obtained from reputable nurseries. Collecting wild seeds or cuttings is not appropriate and may be illegal. For a vine to support caterpillars, it must be well-established and producing new growth. Vines often climb into surrounding vegetation and form thick curtains. Healthy vines with multiple climbing stems and abundant leaves are more likely to be used for egg laying.

The Richmond Birdwing Conservation Network sells healthy birdwing vines that can be collected directly from the Wildlife Queensland head office.

Richmond birdwing vine is a climbing rainforest vine with large, glossy green leaves. It produces unusual tubular flowers and rounded seed capsules that turn yellow or orange when ripe.

Minimising disturbance

Young vines should be planted carefully to minimise root disturbance. Young growth is soft and finely hairy, which is preferred by egg-laying females and feeding caterpillars

Watering during dry spells, maintaining mulch, and controlling nearby weeds are important in the first few years. Avoid fertilisers that encourage excessive weak growth. You will also need to protect young vines from fire, trampling, and other damage.

For more detailed guidance, the RBCN has produced a **Cultivatation of the Birdwing Butterfly Vine** factsheet (scan the QR code below to read it).

How else you can help

Unlike many threatened insects, the Richmond birdwing is a species you can directly assist. Many of the most effective conservation actions are simple, practical and achievable at a local level. They include:

- protecting existing habitat and wild vines
- removing invasive Dutchman's pipe
- supporting habitat restoration and greater landscape connectivity
- recording sightings and sharing information
- advocating for the protection of bushland and rainforest
- sharing knowledge and coordinating efforts.

Planting is most useful where new vines link known breeding sites to habitat corridors.

Using iNaturalist

Community records have played a major role in improving understanding of this species. iNaturalist is an international citizen science platform that allows anyone to record wildlife observations with just a smartphone. Observations are shared with a global community and verified by others, improving data quality.

When using iNaturalist:

- upload clear photos
- include the location and date
- record what you saw (butterfly life stage or vine).

Records are made available to researchers and conservation organisations and contribute to long-term biodiversity datasets.

Have you seen a Richmond birdwing?

SCAN THE QR CODE TO REPORT BIRDWING SIGHTINGS OR VISIT bit.ly/4hfEnqr

Recording sightings of adult butterflies, caterpillars, pupae and vines provides valuable information for conservation and helps build a clearer picture of where the species exists, when breeding occurs, and how populations change over time.

The RICHMOND BIRDWING CONSERVATION NETWORK (RBCN) collects targeted records for conservation and recovery efforts. Sightings of vines, breeding activity, caterpillars, pupa and butterflies can be submitted using the QR code above or by visiting wildlife.org.au

Friends of Parks Qld – Fluttering Wings Project

The FLUTTERING WINGS project brings citizen science, education and conservation together to protect the Richmond birdwing and its food plant on the Gold Coast. Funded by the City of Gold Coast, the project supports citizen science surveys, habitat awareness and community engagement across parks, reserves and schools.

Richmond Birdwing Conservation Network (RBCN)

The RICHMOND BIRDWING CONSERVATION NETWORK is coordinated by Wildlife Queensland and brings together community groups, researchers, landholders and volunteers to support conservation of the Richmond birdwing butterfly and its food plants. The network provides information on habitat care, vine planting, reporting sightings and community involvement.

Richmond Birdwing Conservation Network

Wildlife Queensland | wildlife.org.au

Wildlife Preservation Society of Qld

wildlife.org.au

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Wildlife Queensland aims to advocate, protect and conserve Queensland's native terrestrial and marine animals and landscapes by educating and engaging communities, influencing decision-making, advancing solutions and connecting people and wildlife. **www.wildlife.org.au**