

Birdwing Butterflies

Fact Sheet



Female Cairns Birdwing. Image: QM, Bruce Cowell.

Introduction

The Wet Tropics are famous for their spectacular and conspicuous butterflies particularly the birdwings. They have earned this name because of their great size (one is the world's largest butterfly) and their strong, soaring flight. One of the scientific names used for birdwings is the genus *Ornithoptera*, from the Latin words for bird (*ornithos*) and wing (*pteron*). There are about 30 different species of birdwings ranging from the mainland of Asia through the Indonesian islands and New Guinea as far as Queensland and the Solomons. As well as the genus *Ornithoptera* (12 species) other birdwings belong in the genera *Trogonoptera* (2 species), *Troides* (18 species) and *Ripponia* (1 species).

Birdwings are much prized not only for their size, but also for their brilliant colouring and beautiful shape. Males are usually green, gold and black. However, in the northern Moluccas the males are orange, shot with green reflections (*O. croesus*), while in New Ireland and the Solomons a deep blue subspecies is found (*O. priamus urvillianus*). The females are always much larger than the males, but have more sombre colouring, usually being black with white and yellow markings.

Among the more famous birdwings is the Rajah Brooke's Birdwing (*Trogonoptera brookiana*), an exquisite, narrow-winged, green and black butterfly named after a white rajah of Borneo last century. Queen Alexandra's Birdwing (*O. alexandrae*) is a giant species with blue-green males. Its females reach a wingspan of 23 cm, giving them the distinction of being the world's largest butterfly. This species is found in just a few valleys near Popondetta in Papua New Guinea and is severely endangered by forest clearing. Named after a British queen is *O. victoriae*, and it ranges from Papua New Guinea to the Solomon Islands.



Left: Male Rajah Brooke's Birdwing. Right: Male Queen Victoria's Birdwing. Images: QM, Nicole Hoye.

Due to over-collecting and high black-market prices among collectors, all species of Birdwings are now listed by the Convention and International Trade in Endangered Species (CITES). This is a United Nations sponsored convention prohibiting the commercial import or export of species declared to be endangered. Birdwings are fully protected in Queensland,

as they are in many overseas countries. In Papua New Guinea and some other countries including Australia captive breeding programs registered with CITES encourage breeding of some species and specimens derived from these programs are traded internationally. This ensures a supply of perfect specimens, reduces illegal trade and protects wild populations. Details of the requirements for trading in birdwings can be found at:

www.deh.gov.au/biodiversity/publications/trade-use/factsheets/butterflies



Male Cairns Birdwing. Image: QM, Jeff Wright.

Australian Birdwings

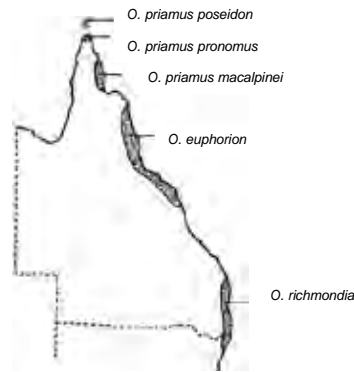
There are two birdwing species in Australia both belonging to the genus *Ornithoptera*: *O. priamus* and *O. richmondia*.

O. priamus, the Northern Birdwing, was first described nearly 200 years ago from specimens collected in Ambon, Indonesia. It is represented by about 18 subspecies ranging from the Moluccas through New Guinea, the Kai and Aru islands to the Bismarck Archipelago, the Solomon Islands and Australia. Four of these subspecies occur in Australia. There is some argument between authorities regarding the precise arrangement of these subspecies; the system followed here is that used by Michael F. Braby in *Butterflies of Australia* (see map).

The most northerly subspecies is *O. priamus poseidon*. It extends from the southern coast of New Guinea into the northern islands of Torres Strait, such as Moa, Murray, Yam and Darnley. The green bands on the male are usually wider than on its southern relatives. The next subspecies is *O. priamus pronomus*, which is found on the southern Torres Strait islands (including Thursday Island) and on the tip of Cape York north of the Jardine River. South of the Jardine River there is a belt of the Peninsula about 200km wide where no birdwings have ever been taken. South of that region, McAlpine's Birdwing (*O. priamus macalpinei*) occurs from the rich

rainforests of the Iron Range district south to the McIlwraith Range, Coen and the Stewart River. The males of these three northern subspecies of Australian birdwings all have a streak of green in the black area of the forewing and this distinguishes them from the birdwings further south.

The largest Australian butterfly is *O. priamus euphorion*. Males range in size from 11 to 13 cm with the bigger females being 14 to 16 cm across the wings. This birdwing is widespread in rainforest between Cooktown and Sarina and even occurs in some localities without rainforest, such as Magnetic Island. These butterflies are most common in summer and autumn but occasional adults can be seen on the wing throughout the year.



Distribution of Richmond Birdwing, *O. richmondia* and subspecies of the Northern Birdwing, *Ornithoptera priamus*.



Left: Flowers of *Pararistolochia praevenosa*. Right: Egg and first stage Cairns Birdwing caterpillar. Images: Nicole Hoye.

The most southerly Australian birdwing is the Richmond Birdwing (*O. richmondia*) which ranges from near Maryborough south through coastal Queensland into the extreme northern corner of New South Wales, along the Richmond and Clarence Rivers. It is rarer towards the northern limit of its range but is still fairly common in the Lamington, Tamborine Mountain and Burleigh Heads National Parks. Its flying period is from October to March, although on the Lamington Plateau the butterflies appear at the start of the summer rains in November or December. The best place to see these birdwings is along the edge of rainforest where they are particularly attracted to flowering lantana. In the early days when some rainforest still persisted along the banks of the Brisbane River the Richmond Birdwing was reportedly seen in the streets of Brisbane, but this has been a rare event in the last century.



Left: Fully grown Cairns Birdwing caterpillar. Right: Cairns Birdwing pupa. Images: Nicole Hoye.

Biology

All Australian birdwing butterflies have similar breeding behaviour. It begins with a spectacular mating dance in which the female flies slowly from place to place, occasionally resting on a leaf with wings outspread and flat. About 20 to 50 cm above her the brilliant male constantly hovers, hanging almost stationary in the air with quivering wings.

After mating takes place, the female searches for the correct food plant for her caterpillars. She constantly flies through the forest, landing on leaves and 'tasting' them with the chemical receptors in her forelegs. The host plants are vines belonging to the genera *Aristolochia* and *Pararistolochia* and these are the plants used for breeding by all species of birdwings from Asia to Australia. They are poisonous rainforest climbers with a pungent smell when broken. Because of the unusual shape of the flowers they are commonly known as 'Dutchman's Pipe' vines. One introduced South American species, *Aristolochia elegans*, is widely grown as a garden ornamental and has escaped into the bush in many areas. This is a tragedy for our birdwings because the leaves are toxic to their caterpillars.

The native vines used by our tropical Australian birdwings are *Aristolochia indica* in the lowlands and *Pararistolochia deltantha* in the mountain forests. The Richmond Birdwing uses *P. praevenosa* at coastal sites such as Burleigh Heads and *P. laheyana* at mountain localities such as Lamington. Some of these species are available from nurseries and by planting them in their gardens many people hope to encourage breeding populations of these lovely butterflies.

The female lays eggs singly usually on the underside of leaves. The hatching caterpillars are short, thick and coloured dark reddish brown with rows of prominent tubercles along their backs. Some have a saddle of paler colour, or several of the tubercles maybe contrastingly coloured. The caterpillars are sluggish and usually rest on the underside of leaves where they are easily overlooked. They have prodigious appetites and several may defoliate an entire vine.

When fully grown the caterpillar sheds its skin to become a pupa (chrysalis). Like all other members of the swallowtail family (Papilionidae) the pupa supports itself in an upright position by a thread of silk passed around its 'waist'. The larva may wander far from its original food plant to pupate; consequently pupae are very difficult to find in the field. Moreover, they resemble a dead leaf and are well camouflaged.

Further Information

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