



Australia's Tropical Rainforests


WORLD HERITAGE

F A C T S H E E T

Create your own butterfly farm

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The Cairns Birdwing is Australia's largest butterfly.

Attract them to your school or house by planting their favourite food!

 The Cairns Birdwing butterfly belongs to a group (genus) with the scientific name *Ornithoptera* which comes from the Latin words for bird (ornithos) and wing (pteron).

There are about 30 different species of birdwing butterflies from Asia, the Solomon islands and Queensland. They have earned this name because of their great size and their strong, soaring flight.

The largest Australian butterfly is the Cairns Birdwing. Males measure 11 - 13 cm across the wings, and the larger females are 14-15 cm across the wings.

The females are red, black and yellow while the males are a stunning metallic green and black. Like all butterflies, their wings are closed while resting and are well camouflaged.

The Cairns Birdwing is widespread in rainforests between Cooktown and Sarina (near Mackay) and even occurs in some places without rainforest, like Magnetic Island.

The butterflies are most common in summer and autumn but occasional adults can be seen on the wing all year.

Life cycle

The butterfly's life cycle begins with a spectacular mating dance in which the female flies slowly from place to place, occasionally



Male Cairns Birdwing

resting on a leaf with wings outspread and flat.

The male hovers about 20-50 cm above her, hanging almost stationary in the air with quivering wings.

The perfect dinner

After mating, the female begins the long search for the correct food for her caterpillars. She flies through the rainforest, landing on leaves and "tasting" them with the chemical receptors in her forelegs.

She is searching for the specific host plant for her caterpillar babies. All Birdwings from Asia to Australia use vines from the genus *Aristolochia*. Because of their unusual flower shape they are commonly called 'Dutchman's pipe'.

One introduced South American species, *Aristolochia elegans*, is widely grown as a garden ornamental and has escaped into the bush in some areas.

Free flight

Birdwings are prized not only for their size but their brilliant colours and beautiful shape.

Due to overcollecting and high black market prices among collectors, all species of Birdwing are now listed by the Convention on International Trade in Endangered Species (CITES). This is a United Nations convention which prohibits import or export of species declared to be endangered by commercial trade. The Cairns Birdwing and the Ulysses butterflies are also protected by Queensland laws.

Perhaps only a fellow butterfly collector could understand the feeling of Alfred Russell Wallace when after a three-month search in the Moluccas in 1858 he captured his first Golden Birdwing:

"ON TAKING IT OUT OF MY NET AND OPENING THE GLORIOUS WINGS, MY HEART BEGAN TO BEAT VIOLENTLY, THE BLOOD RUSHED TO MY HEAD, AND I FELT MUCH MORE LIKE FAINTING THAN I HAVE DONE WHEN IN APPREHENSION OF IMMEDIATE DEATH.

"I HAD A HEADACHE THE REST OF THE DAY, SO GREAT WAS THE EXCITEMENT PRODUCED BY WHAT WILL APPEAR TO MOST PEOPLE A VERY INADEQUATE CAUSE."

Millions of years in the making. Protected forever.



Aristolochia tagala

This is a tragedy for our Birdwings because its sap is so toxic that the caterpillars hatching from eggs laid on it by unsuspecting females die before reaching maturity. The native vine provided to your class is *Aristolochia tagala*. It is a fast-growing, sun-loving slender climber. The heart-shaped leaves can grow up to 10cm wide and 25cm long, a giant food source for growing caterpillars. Fossil Aristolochias have been found in north America beginning in the Cretaceous period,

140 million years ago. They could have had a relationship with Birdwing butterflies for a very long time.

A star is born

The female butterfly lays eggs singly beneath the leaf tips. The caterpillars which hatch are dark brown with long, fleshy spines that are orange with a black tip. The caterpillars are sluggish and when not eating, they usually rest on the underside of leaves. They grow up to 9cm long, so they are easy to spot. Their gigantic size is matched by a similar appetite and several of them may eat an entire vine. Fortunately, the vine grows back quickly. If crowded together large caterpillars may eat smaller ones. This cannibalism probably helps to limit the numbers that can



Cairns Birdwing caterpillar

survive on a single plant. When fully grown the caterpillar sheds its skin to become a pupa (chrysalis). The pupa supports itself in an upright position by a thread of silk passed around its 'waist'. The pupa can be difficult to find. The caterpillar may wander far from the original vine to pupate, and their camouflage pattern looks like a twig or dead leaves.

Warning

While some Aristolochias are used in herbal medicine, treat all plants as poisonous and do not eat the leaves or flowers.

1. Preparing the Perfect Feast

With the help of your groundskeeper, choose a sunny spot along a fence within reach of a hose or close to a water tap. Dig a deep hole and plant your *Aristolochia* seedling. Water the vine every second day (if it's not raining). Monitor the plant's growth by counting the number of new leaves which appear each week. Look out for butterflies being attracted to the vine. Check the vine for the tell-tale signs of butterfly eggs. Other butterflies and moths may also be attracted to your vine. Make sure you write down which day you first see caterpillars on the vine.

2. Measure your pet's growth

Once the caterpillars have hatched, monitor their growth by measuring and weighing them once a week. Don't forget to wash your hands before touching any insects.

Avoid the insect repellent sprays and make sure you handle them gently. Record when they start to form a chrysalis, and when the butterfly has emerged.

When you have observations for all stages of the life cycle, you can describe your Birdwing butterfly's life history. Present the information on a graph, using a computer printout or an illustrated poster.

3. Seasonal calendar

Create a seasonal calendar based on your observations of the weather/seasons/flowering and fruiting of the vine and the butterfly. (You may want to expand the calendar to include Aboriginal and Torres Strait Islander seasonal observations.)

4. Planting poster. Create a poster for your local nursery promoting planting native plants like *Aristolochia tagala*.

5. Letter to the editor. Write a letter to your local newspaper about your butterfly farm.

6. Birdwing art. Create a design using the colours and patterns of the caterpillar, male butterfly or female butterfly. What advantages would these butterflies have in being so easily seen?

Any questions?

If you have any questions or you need assistance with any insect-related issues, please phone Sue Hasenpusch on: (07) 4063 3860 or email: sue@insectfarm.com.au. The following websites are useful:

Australian Insect Farm

www.insectfarm.com.au

Queensland Museum

www.qmuseum.qld.gov.au

WTMA

www.wettropics.gov.au

