

SOUTH AUSTRALIAN BUTTERFLIES

Data Sheet

Ogyris olane (Hewitson) (Olane Azure)



Female

Interesting aspects: Probably the drabest member of the Ogyrini tribe of Lycaenid butterflies. It belongs to the group of *Ogyris* which associate with small ants, and members of this group have distinctive eggs and early stages that typify the group. *O. olane*, along with *O. barnardi* and *O. oroetes* form the isolated *O. olane* Species Subgroup within this group, as these three butterflies all have clubbed antennae, whereas in all other *Ogyris* butterflies the antennae are not clubbed. *O. olane* is very similar in appearance to *O. barnardi*. The former flies in temperate, higher rainfall areas in South Australia, whereas the latter occurs in low rainfall, semi-arid areas. In South Australia, the two butterflies do not normally occur together. Females are similar in both species, but in the males, the purple colouration on the wing uppersides has a much reduced expanse in *O. olane* compared to *O. barnardi*. Like all Lycaenids, the adults are sexually dimorphic in morphology on the wing uppersides. In this species the difference is not so distinct, as the extent of the purple and blue areas on the wing uppersides is similar in both sexes. The males are dull purple coloured, whereas the females can vary from blue, to bluish purple or purple. The extent of the blue-purple areas in the females is also variable.

The butterflies are rarely seen in flight. The male butterflies are usually active about the tops of the tall *Eucalyptus* mistletoe host trees some 10-20 m above the ground, but also spend a lot of their time settled with wings closed on a bare branch or twig near the top of

the tree. There they will wait for newly emerged females to show up for mating. These butterflies become invisible when settled, as like all other *Ogyris* species, they have cryptically marked undersides that make the butterflies indistinguishable from the rough bark of trees and bushes when they are settled. Sometimes they imitate a blackened dead leaf still attached to the bare twigs. Periodically however, the males will fly off to patrol an area by circling a few different trees harbouring the mistletoe hostplant in a given area, then settle again for a while before repeating the patrol exercise. The males will also patrol or congregate on hill tops near the hostplant. On the hill tops there are often territorial battles between rival males seeking a prime waiting position. The females are slower in flight, and when not feeding on the flowers of the mistletoe, they spend much of their time searching for places on the mistletoe to lay eggs. Usually only a few flying butterflies occur on any one tree at any time.

A pair of binoculars is usually necessary to get close to this butterfly. The butterflies sometimes fly with *Ogyris genoveva*, as larvae of both butterflies feed on the same mistletoe. They can be easily differentiated by their size, with *O. genoveva* being significantly larger than *O. olane*.

Life History

Larval food-host: The mistletoes *Amyema miquelii* (box mistletoe) and *A. pendula pendula* (drooping mistletoe) (Loranthaceae). The larvae eat the flower buds, flowers, leaves and soft stem parts of the mistletoe, but are particularly fond of the flower buds. The mistletoes usually associate with *Eucalyptus*, although *A. pendula* will also parasitise *Acacia melanoxylon*, particularly in the Lower Southeast Region of the state.

Larval attendant ant: Larvae are attended by a few ants including a small black *Anonychomyrma* sp, a small *Crematogaster* sp, small dark brown, black or orange and black *Iridomyrmex* spp, a small black *Ochetellus* sp, *Podomyrma adelaidae* a brown ant with two yellow spots on the abdomen, the sugar-ants *Camponotus consobrinus* and *C. terebrans*, and rarely *Papyrius* sp (*nitidus* group). The presence of the conspicuous *Podomyrma adelaidae* on a eucalypt harbouring the mistletoe host is usually a sure sign that the butterfly is also present in the area. In the eastern states, early stages are also known to be attended by *Froggattella kirbii* and *Monomorium* sp.

Eggs: Small, dark grey to black, hemispherical shape, basally flattened, the top is domed. The sides are coarsely reticulated in a hexagonal pattern that continues to the small pale coloured, depressed micropylar area at the apex of the egg. At each reticulation intersection there is a small raised blunt projection. The egg is typical of the eggs for the *O. olane* Species Subgroup. They are usually laid singly, on the leaves, stems and bole of the hostplant, and sometimes on the adjacent host plant.

Larvae: The first instar is pale greyish yellow, later becoming pale brown after eating the young leaves of the hostplant. Long onisciform shape, with scalloped lateral edges. The posterior dorso-lateral organs are not developed. The head is large, smooth, brownish yellow, hidden beneath the body. There are long dark peripheral and dorsal setae, which are longest anteriorly, posteriorly and dorsally. Dorsal setae occur in two pairs, one pair being long and recurved, the other pair being short, recumbent and directed to the

rear. Intermediate instars gradually lose the long dorsal setae and gain the posterior dorso-lateral organs, and are onisciform (slater shaped). They are usually brown coloured.

First instar larvae remain exposed on the leaves of the mistletoe. Subsequent instars hide during the day, and feed at night. They shelter during the day beneath bark at the base of the mistletoe or on the adjacent host tree, or in crevices in the mistletoe host, or in borer holes or ant tunnels in the mistletoe or mistletoe host, but always as near as possible to the mistletoe. If there is no bark near the mistletoe, then they will shelter beneath the nearest available bark below the mistletoe on the host tree. The young larvae initially eat the young tips of the mistletoe, but quickly graduate to older leaves and flower buds. There are usually only two or three larvae present on a mistletoe that is actually being utilised by the butterflies, but sometimes they can be more prolific. Larvae will aggregate together if the shelter is large enough.

The fifth (final) instar is about 20-24 mm long, usually dark purplish brown coloured, but those from the Southeast Region can be yellowish dark brown, there are pale yellow dorsal chevron markings and other indistinct subdorsal markings, the chevrons on abdominal segment 6 are usually joined together to form a yellow triangular mark, the anterior and posterior extremities are usually free of pale markings, the prothoracic and anal plates are greyish, and the spiracles are yellow rimmed black. Onisciform shaped with a thoracic dorsal furrow, the lateral edges are scalloped, and the anterior and posterior areas are flattened, and there are some short peripheral hairs that are longer anteriorly and posteriorly. The body is covered in pale and dark coloured, minute secondary setae, which are recumbent, club shaped and rough in appearance, set on a protuberant, angular and ridged base. The secondary setae impart a scabrous appearance to the larvae. The posterior dorso-lateral organs are well developed. The head is small, smooth, brown, hidden beneath the body. Near pupation the larvae acquire an emerald green tinge.

Larvae normally take five instars to fully develop, but sometimes they will take more although this is usually indicative of the larvae having physiological problems, due probably to agricultural chemicals affecting the environment.

Larvae will sometimes cohabit with larvae of *O. genoveva* in the galleries of the large *Camponotus* ants that have been made for the larvae of *O. genoveva*. There they will behave as if they were *O. genoveva* larvae.

Pupae: Short cylindrical, rounded anteriorly and posteriorly, about 13-16 mm long, brown to dark brown coloured, with a darker dorsal line and other darker cryptic markings, although the dorsal thoracic and anterior dorsal abdominal areas are noticeably paler. There is usually a pair of large, dark brownish black dorsal spots above the head. The surface of the pupa is without hairs, but bears a very fine reticulated pattern (similar to the eggs) that produces a very fine scabrous surface, and which includes tiny specialised secondary setae that are more common around the spiracles. The pupal period is variable, depending on the time of year, being about 25-32 days in spring, 12-18 days in summer and early autumn, and about 29 days in late autumn.

Pupation normally occurs well away from the mistletoe near the base of the host tree (usually *Eucalyptus*), within a metre of the ground, but sometimes larvae will pupate in the final larva shelter near the mistletoe. Larvae usually pupate singly, but occasionally if there is a large enough population they will pupate gregariously near each other or next to an

empty pupa shell. Pupating larvae will sometimes surround themselves with a loosely webbed, silken cocoon-like shelter, which presumably helps hold the loose bark onto the host tree, or affords some protection from larger predators, or perhaps from other *Ogyris* larvae which can cannibalise soft pupating larvae. There is normally space within the silk webbing for the small attendant ants to pass through to attend to the live pupae. Pupae are attached to the silked substrate by anal hooks and a central girdle.

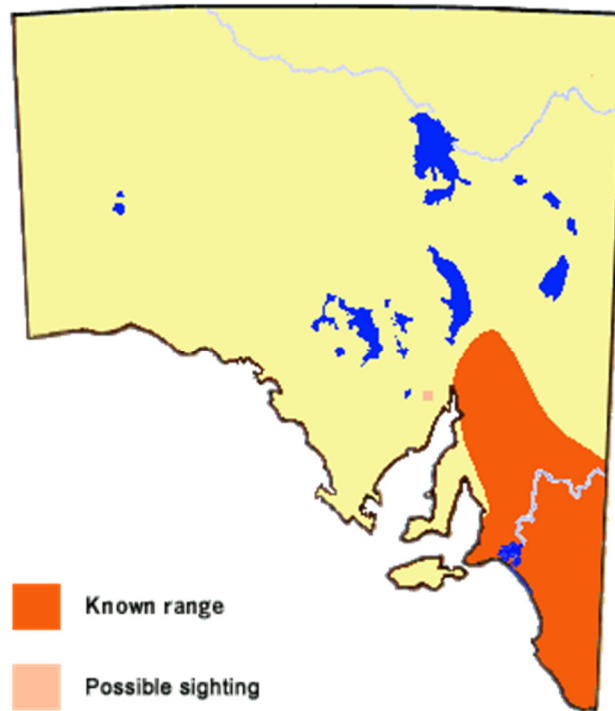
Like many Lycaenidae that are attended by ants, but particularly many of the *Ogyris*, the butterflies emerge with the body covered in large quantities of fluffy grey 'down', which is discarded when the butterfly first flies. This down helps protect the butterfly from being attacked by over-zealous attendant ants, or even other small predators, while the butterfly is expanding and hardening its wings in readiness for first flight.

The pupae are known to stridulate, making a series of audible clicks, which are believed used as a means of communicating with the attendant ants. There is usually at least one ant in attendance with a pupa.

Flight period in S.A.: The butterfly flies throughout the warmer months, but with the greatest activity during the flowering of its mistletoe hostplants, which are used for nectaring purposes by the adults. The flight starts earlier in the northern areas. Most of the activity finishes by early autumn, but there are odd records into early June. A summer brood can be completed in about 11 weeks. Larvae can go into a torpid (semi-hibernation) state over winter.



Distribution: In South Australia the butterfly usually exists wherever its mistletoe hostplants occur in habitat having annual rainfall in excess of about 300 mm. There is also a record of the butterfly at Iron Knob, but this needs confirmation as the habitat there is probably too arid for its existence. It does not occur on southern Eyre Peninsula or Kangaroo Island, due to the absence of its hostplants, and has yet to be recorded from northern Yorke Peninsula even though its hostplants are present. The butterfly also occurs in the eastern states in higher rainfall temperate and subtropical habitat.



Habitat: Occurs in temperate woodland and forest, both open and closed, and is one of the few *Ogyris* that will occur in the urban environment.

Conservation Status in S.A.: The butterfly is rare in flight but widely distributed. It can sometimes form communal breeding colonies that are heavily affected by diseases, parasitoid wasps and other small invertebrate predators like 'museum' beetle (*Anthrenus* sp).

Threats: Not generally under threat except in larger urban areas, where its mistletoe hostplants are usually considered pests and often removed from their hosts.

Conservation Strategy: In urban areas a public education process is required for the *Amyema* mistletoe. Healthy trees are able to support this mistletoe, and there is usually a self-induced balance between the tree host and the mistletoe. If there appears to be an imbalance then it should not be a problem to thin out some of the mistletoe. An active *Ogyris* colony will help keep the mistletoe pruned. Harlequin mistletoe (*Lysiana* sp) can be invasive and this mistletoe should not be confused with the *Amyema* mistletoes.

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