SOUTH AUSTRALIAN BUTTERFLIES
Data Sheet

Jalmenus lithochroa Waterhouse (Lithochroa Hairstreak)

Interesting aspects: This is the only butterfly believed to be totally endemic to South Australia. The butterflies occur in small colonies, which seem to be transitory and most of the older monitored colonies no longer exist. The butterfly belongs to the endemic Australian Theclinae, which have a very strong association with ants.

Historically the butterfly has been recorded as two mega-populations. One in the Adelaide Plains Region and the other in the Mid North - Flinders Ranges - Olary Regions. There may have been a continuous population but the intervening plains area was thoroughly cleared for agricultural purposes very early during European settlement in the years succeeding 1836. The southern mega-population is now presumed extinct with the last living adult recorded about 1959. Remaining colonies in the northern mega-population are totally dependent on *Acacia victoriae* as a larval hostplant and on the large ferocious meat ant as a larval attendant ant. Both the ant and the hostplant are reasonably common which would make one believe that the butterfly should also be more widespread and stable. However, the low number of active colonies would suggest that some other control is either keeping the butterflies at a low population level or is causing a slow decline, which is not perceptively obvious.

The butterflies usually remain very near to the colony. The males are the most active as they fly about the hostplant looking for newly emerged females.

Life History

Larval food-host: ***Acacia pycnantha*** (golden wattle), ***A. victoriae victoriae*** (elegant or bramble wattle) (Leguminosae/ Mimosoideae). The larvae eat the leaves and flower buds of the hostplant.

The southern mega-population used *A. pycnantha* as a hostplant, and was reported to be attended by small black ants. The northern mega-population only uses *A. victoriae* as a hostplant and is only attended by meat ants.

Larval attendant ant: Larvae near Adelaide are believed to have been attended by numerous small black ants ***Iridomyrmex*** sp. In the northern areas the larvae are attended by large meat ants ***Iridomyrmex purpureus*** and ***I. viridiaeneus***.

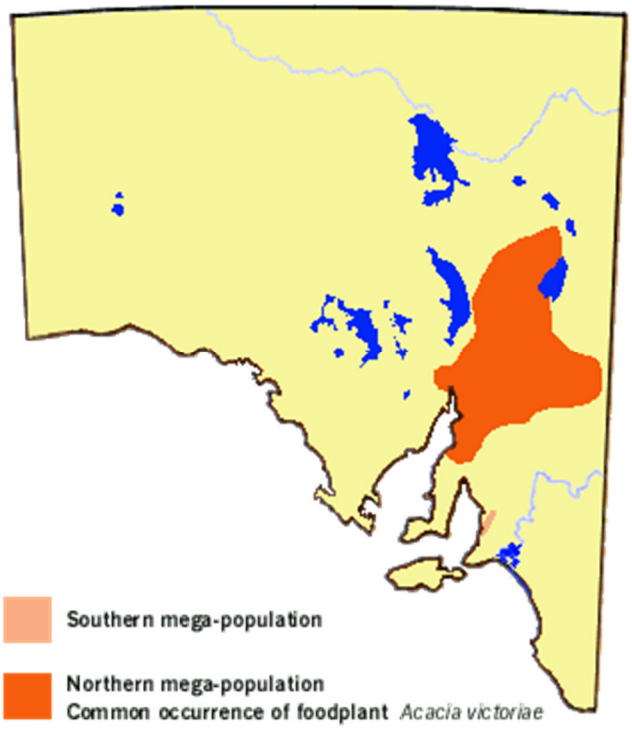
Eggs:

Larvae: Mature larvae 20-25mm long.

Pupae: 11-12mm long.

Flight period in S.A.: It flies during the warmer months from late September to April. The colony over-winters mainly as eggs, which hatch in September and October. There are also some over-wintering pupae, which produce an early spring flight. There are then continuous broods over the warmer months, which can be completed in about 8 weeks, when it is usually possible to find all stages of development within the colony.

Distribution: Historically the butterfly has been recorded as two mega-populations. One in the Adelaide Plains Region (now urban Adelaide) and the other in the Mid North - Flinders Ranges - Olary Regions. There may have been a continuous population. Even though both hostplant and attendant ant are widespread and common in semi-arid Australia, this butterfly has suffered considerably during the recent drought (2000-2010), and is now only known from one small area.



Habitat: A plains butterfly, utilising very open shrub and woodland with a grassy understorey. It presently occurs in either semi-arid pastoral land, or in degraded agricultural land.

Conservation Status in S.A.: Endangered. Only a dozen colonies have been historically documented for the northern mega-population, and only one of these is known to be currently active. This colony is stressed and suffers from disease, parasitoids and active collecting. The hostplant still occurs in a high density in the northern Flinders Ranges and Olary Regions and the butterfly may be stable in those regions, although recent reconnaissance surveys have not recorded the additional presence of the butterfly.

Threats: It occurs in small discreet colonies, which are highly vulnerable to any detrimental process, particularly grassfires, periodic droughts and the application of aerial insecticides. Its northern habitat is also a prime breeding ground for the plague locust and the butterfly has likely been decimated by the toxic spray programs adopted by the Locust Control Board. The bramble wattle hostplant is very prickly and largely inedible to stock, and is sometimes treated as a woody weed in agricultural and pastoral areas, and destroyed. (The only reason the wattle is left standing is that the over-grazing stock have already eaten everything else). State authorities are still giving permission for its clearance and it is likely important remnant colonies of this butterfly have been destroyed at the same time. This wattle also produces large seed and is presently targeted by the 'bush-tucker' industry, and the manner in which the seed is collected is fatal to any early stages of the butterfly present on the foliage of the hostplant.

Conservation Strategy: A dedicated survey is required in the northern area to determine the true population numbers and distribution of this butterfly. As there is a very strong association with ants, there is probably not a lot that can be done in the way of re-

establishing the butterfly in vegetation remnants lacking the butterfly, and as the butterfly is threatened it is probably best not to upset the active colonies and to let the butterfly make its own colonies. Habitat in pastoral areas needs to be managed in an ecologically sustainable manner, and known butterflies colonies in areas of agriculture and urban development need to be monitored for detrimental processes. Specific habitat may have to be conserved for the long term survival of the butterfly. Hopefully, new technology through the use of a *Metarhizium* fungus to control the plague locust should see a lasting improvement in the native grassland environment if the fungus is used. Seed collectors in the 'bush-tucker' industry need to be educated on the best way to collect the seed without destroying the butterfly colonies.