



Hypochrysops ignitus ignitus Fiery Jewel Butterfly

Taxonomy

Hypochrysops ignitus ignitus (Leach, 1814)

Current conservation status

Listed as threatened under the *Flora and Fauna Guarantee Act 1988* (SAC 2003).

Categorised as Vulnerable in the 2009 Advisory list of threatened invertebrate fauna in Victoria (DSE 2009).

Proposed conservation status

Endangered in Victoria

Criterion B2ab(iii,v)

Species Information

Description and Life History

The adults fly rapidly and settle often. Males hilltop, landing on foliage a few metres above ground. Eggs are laid in clusters on the trunk at the base of the food plant, often close to an ant byre (Coconut ant, *Papyrius* sp. (*nitidius* group)). The food plants in Victoria include Daphne Heath, *Brachyloma daphnoides*, Black Wattle, *Acacia mearnsii*, Golden Wattle, *Acacia pycnantha*, and Spiked Sour-bush *Choretrum spicatum*. The larvae shelter during the day within the byre, close to the trunk of the host plant and often below ground. Feeding on the foliage occurs at night. Larvae can cause defoliation of small plants. Pupation occurs within the ant nest or byre, the pupa attached by anal hooks and a silken girdle.

Generation Length

The generation length of *Hypochrysops ignitus ignitus* is estimated to be 12 months, as there is only one generation a year with dormant larvae overwintering.

Distribution

There have been few records from central and southern Victoria since the 1950s. It can still be reliably found in the Little Desert NP and in the Big Desert Wilderness area near Red Bluff (Field 2013). The taxon occurs in all mainland States and NT as well as southern New Guinea.

Habitat

The taxon occurs in open eucalypt woodland and heathland including open mallee heathland.

Threats

The taxon has become extinct in a number of places e.g. Brighton, Lilydale, Research, Ocean Grove. It is currently threatened by habitat loss in central and southern Victoria. In the Mallee, it and its food plants may be impacted by more intense and frequent fires.

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IUCN Criteria

Criterion A. Population size reduction. Population reduction (measured over the longer of 10 years or 3 generations) based on any of A1 to A4			
	Critically Endangered	Endangered	Vulnerable
A1	≥ 90%	≥ 70%	≥ 50%
A2, A3, A4	≥ 80%	≥ 50%	≥ 30%

<p>A1 Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.</p> <p>A2 Population reduction observed, estimated, inferred or suspected in the past where the causes of the reduction may not have ceased OR may not be understood OR may not be reversible.</p> <p>A3 Population reduction, projected or suspected to be met in the future (up to a maximum of 100 years) [(a) cannot be used for A3]</p> <p>A4 An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the future (up to a max. of 100 years in future), and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.</p>	<p>based on any of the following:</p>	<p>(a) direct observation [except A3]</p> <p>(b) an index of abundance appropriate to the taxon</p> <p>(c) a decline in area of occupancy, extent of occurrence and/or quality of habitat</p> <p>(d) actual or potential levels of exploitation</p> <p>(e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites</p>
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Evidence:

Ineligible under Criterion A

The taxon has not undergone past or future declines sufficient to meet any thresholds under these criteria.

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Criterion B. Geographic range in the form of either B1 (extent of occurrence) and/or B2 (area of occupancy)			
	Critically Endangered Very restricted	Endangered Restricted	Vulnerable Limited
B1. Extent of occurrence (EOO)	< 100 km ²	< 5,000 km ²	< 20,000 km ²
B2. Area of occupancy (AOO)	< 10 km ²	< 500 km ²	< 2,000 km ²
AND at least 2 of the following 3 conditions:			
(a) Severely fragmented OR Number of locations	= 1	≤ 5	≤ 10
(b) Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals			
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals			

Evidence:

Eligible under Criterion B1 as Vulnerable

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 11,423 km², based on accepted, post-1970 records in the Victorian Biodiversity Atlas (VBA).

The taxon is suspected to be severely fragmented, as it has a disjunct distribution as a result of habitat loss and the fragmented distribution of its food plants (SAC 2003).

It has continuing declines in (iii) and (v) above, as the taxon's food plants continue to be under threat from increased fire frequency. There may be a decline in numbers as a result of habitat loss.

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 40 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA. As above, it is severely fragmented, and has continuing declines in (iii) and (v) above.

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Criterion C. Small Population size and decline		Critically Endangered	Endangered	Vulnerable
Number of mature individuals		< 250	< 2,500	< 10,000
AND at least one of C1 or C2				
C1	An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future):	25% in 3 years or 1 generation (whichever is longer)	20% in 5 years or 2 generations (whichever is longer)	10% in 10 years or 3 generations (whichever is longer)
C2	An observed, estimated, projected or inferred continuing decline AND least 1 of the following 3 conditions:			
(a)	(i) Number of mature individuals in each subpopulation	≤ 50	≤ 250	≤ 1,000
	(ii) % of mature individuals in one subpopulation =	90 – 100%	95 – 100%	100%
(b)	Extreme fluctuations in the number of mature individuals			

Evidence:

Ineligible under Criterion C

It is estimated that there are 500 to 5,000 mature individuals but other thresholds under this criterion have not been met.

Criterion D. Very small or restricted population		Critically Endangered	Endangered	Vulnerable
Number of mature individuals (observed or estimated)		< 50	< 250	< 1,000
D2. Only applies to the VU category Restricted area of occupancy or number of locations with a plausible future threat that could drive the species to critically endangered or Extinct in a very short time.		-	-	D2. Typically: AoO < 20 km ² or number of locations ≤ 5

Evidence:

Possibly eligible under criterion D as Vulnerable

It is estimated that there are 500 to 5,000 individuals. This criterion is only satisfied if the lowest bound is accurate.

Criterion E (Quantitative Analysis) was not addressed as the taxon does not have a detailed Population Viability Analysis.

References

DSE (2009). *Advisory list of threatened invertebrate fauna in Victoria - 2009*. Department of Sustainability and Environment, Melbourne.

Field, R.P. (2013) *Butterflies: Identification and life History* pp.232-233. Museum Victoria

SAC (2003). Flora and Fauna Guarantee Scientific Advisory Committee: Final Recommendation on a Nomination for Listing. Nomination No. 660 *Hypochrysops ignitus ignitus*