

Threatened Species Assessment



Oreixenica latialis theddora Small Alpine Xenica Butterfly

Taxonomy

Oreixenica latialis theddora Couchman, 1953

Current conservation status

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

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

Proposed conservation status

Critically Endangered in Victoria

Criteria B1ab(ii,v)+2ab(ii,v)

Species Information

Description and Life History

The larval food plant is Snow grass, *Poa hiemata*. Adults fly in open areas close to the ground near grass tussocks and readily feed at alpine daisies. During the late afternoon adults will often roost in large clusters on the grass tussocks. The adults fly in February to March. Eggs are dropped onto the tussocks as females settle on leaf blades. Larvae feed openly both during the day and night. The pupa lies loose amongst the grass. Eggs laid in March hatch in the autumn but it is not known if larvae develop much during the winter as their habitat is generally under snow.

Generation Length

The generation length of *Oreixenica latialis theddora* is inferred to be one year. This is based on observations and literature review (Field 2013).

Distribution

This Australian endemic species is confined to the alps of NSW and Victoria. Two subspecies occur in Victoria. *O. latialis theddora* is restricted to the Mt Buffalo plateau. Its inability to move across valleys is attributed to its failure to colonise the Mt Baw Baw plateau.

Habitat

The taxon is confined to alpine meadows of Mt Buffalo.

Threats

Climate-change induced warming may be detrimental to the taxon's survival as the butterfly cannot disperse to higher altitudes across valleys. The habitat is threatened by bushfires. It may also be threatened by increased development for winter sports and diversifying summer tourism.

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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 past population reduction does not meet the threshold for eligibility under criterion A2, and the future population reduction does not meet the threshold for eligibility under criterion A3.

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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 Critically Endangered

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 16 km², based on accepted, post-1970 records from the Victorian Biodiversity Atlas (VBA).

It is estimated to have one location, as all key identified threats apply across its range and can rapidly affect all individuals of the taxon present. It has a continuing decline in (ii) and (v) above, based on the impact of the identified threats. If winter temperatures continue to rise there may be a critical point at which decline could occur rapidly.

Eligible under Criterion B2 as Critically Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 4 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA. As above, it has 1 location and has a continuing decline in (ii) 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:

Eligible under Criterion C2 as Endangered

It is estimated that there are 1,000 to 5,000 mature individuals. The taxon is abundant in meadow grassland during March. There is an inferred continuing decline in the number of mature individuals. The percentage of mature individuals in one subpopulation is 100%.

Criterion D. Very small or restricted populations		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: A.O. < 20 km ² or number of locations ≤ 5

Evidence:

Eligible under criterion D as Vulnerable

The taxon is inferred to be very restricted.

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.164-165. Museum Victoria



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Sand. D.P. A and New.T.R.(2002) *The Action Plan for Australian Butterflies*, Environment Australia, Canberra.

SAC (2003). Flora and Fauna Guarantee Scientific Advisory Committee: Final Recommendation on a Nomination for Listing. Nomination No. 649 *Oreixenica latialis theddora*