



## *Antipodia atralba* Diamond Sand-skipper Butterfly

### Taxonomy

*Antipodia atralba* (Tepper, 1882)

### Current conservation status

Listed as threatened under the *Flora and Fauna Guarantee Act 1988* (SAC 2004).

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

### Proposed conservation status

Vulnerable in Victoria

Criterion D

### Species Information

#### Description and Life History

*Antipodia atralba* is a small butterfly with a wingspan of between 31mm (males) to 35mm (females). Adult butterflies are dark brown with several white spots on each fore wing. There is a suffused yellow patch on each hind wing. The males also have a black line near the centre of the upper surface of each fore wing. Underneath, the fore wings are black with a grey wing tip and several white spots. The hind wings underneath are grey with several outlined spots near the base, and a subterminal arc of outlined spots.

#### Generation Length

The generation length of *A. atralba* is estimated to be 1 to 2 years.

#### Distribution

The species is endemic to Australia and has a limited and patchy distribution in the semi-arid zone of north-western Victoria and southern South Australia. In Victoria it is known only from four discrete locations: Hattah, 40km north of Yanac in the Big Desert, 27km south-west of Rainbow and 18km west of Lake Albacutya.

#### Habitat

The taxon is restricted to open heathland and mallee woodland. Breeding colonies are very localised in Victoria, favouring low-lying sandy areas where the larval food plant *Gahnia lanigera* grows as a small sedge with tough and sharply pointed leaves (Braby 2000).

#### Threats

The taxon is threatened by habitat loss and fragmentation as a result of clearing for agriculture, and bushfire.

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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 style="text-align: center;"><i>based on any of the following:</i></p> <ul style="list-style-type: none"> <li>(a) direct observation [except A3]</li> <li>(b) an index of abundance appropriate to the taxon</li> <li>(c) a decline in area of occupancy, extent of occurrence and/or quality of habitat</li> <li>(d) actual or potential levels of exploitation</li> <li>(e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites</li> </ul>			

### 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 <sup>2</sup>	< 5,000 km <sup>2</sup>	< 20,000 km <sup>2</sup>
B2. Area of occupancy (AOO)	< 10 km <sup>2</sup>	< 500 km <sup>2</sup>	< 2,000 km <sup>2</sup>
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:

#### Ineligible under Criterion B

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 8,382 km<sup>2</sup> and the Area of Occupancy (AoO) is estimated to be 52 km<sup>2</sup>, but other thresholds under this criterion have not been met.

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 <u>C1</u> or <u>C2</u>				
<u>C1</u>	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)
<u>C2</u>	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 100 to 400 mature individuals, but other thresholds under this criterion have not been met.

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Criterion D - Very small or restricted population <sup>Ⓜ</sup>			
	Critically Endangered <sup>Ⓜ</sup>	Endangered <sup>Ⓜ</sup>	Vulnerable <sup>Ⓜ</sup>
Number of mature individuals (observed or estimated) <sup>Ⓜ</sup>	<50 <sup>Ⓜ</sup>	<250 <sup>Ⓜ</sup>	<1,000 <sup>Ⓜ</sup>
D2 Only applies to the VU category <sup>¶</sup> 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. <sup>Ⓜ</sup>	- <sup>Ⓜ</sup>	- <sup>Ⓜ</sup>	D2 Typically: <sup>¶</sup> AoO < 20 km <sup>2</sup> or number of locations < 5 <sup>Ⓜ</sup>

### Evidence:

#### Eligible under Criterion D as Vulnerable

The taxon is estimated to have 100 to 400 mature individuals. It is not common but can be reliably found at current locations.

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

### References

Braby, M. F. (2000) *Butterflies of Australia: Their Identification, Biology and Distribution*. Vol. 2. pp. 170-171. ANIC/CSIRO Entomology: Canberra. CSIRO Collingwood.

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. 92-93. Museum Victoria

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

SAC (2004). Flora and Fauna Guarantee Scientific Advisory Committee: Final Recommendation on a Nomination for Listing. Nomination No. 698 *Antipodia atralba*