



## *Rostratula australis* Australian Painted-snipe

### Taxonomy

*Rostratula australis* (Gould, 1838)

The species was previously lumped with the Greater Painted Snipe (*Rostratula benghalensis*) of Asia and Africa. It is now treated as a full species since Baker et al. (2007) demonstrated substantial divergence from Greater Painted Snipe in morphology and mitochondrial DNA.

### Current conservation status

Listed as Endangered under the *Environment Protection and Biodiversity Conservation Act 1999*.

Listed as threatened under the *Flora and Fauna Guarantee Act 1988* as *Rostratula benghalensis*

Categorised as Critically endangered in the 2013 Advisory list of threatened vertebrate fauna in Victoria (DSE 2013).

### Proposed conservation status

Critically Endangered in Victoria

Criteria A2bc+4bc

### Species Information

#### Description and Life History

Painted Snipe are a secretive shorebird of inland wetlands, largely recorded from eastern and northern Australia. The taxon nests in temporary freshwater wetlands receding after flooding (Rogers et al. 2005). It disperses widely when not breeding, probably with some north-south migration from southerly regions such as Victoria in spring and summer towards northern Australia in autumn and winter (Marchant and Higgins 1993, Jaensch et al. 2004, Black et al. 2010). Snipe occur singly, in pairs or (especially during post-breeding dispersal) in small flocks; it typically spends much of day in low cover beside wetlands, venturing onto mudflats or into shallow water to forage at dawn, dusk and at night (Marchant and Higgins 1993, Rogers et al. 2005).

#### Generation Length

The generation length of Painted Snipe is suspected to be 8.6 years. This is from Garnett et al. (2011, p. 177). There is no direct evidence of generation length for Australian Painted Snipe, but long lifespan and low productivity are expected on the basis of small clutch sizes and analogy with other (similar) shorebird species. Garnett et al. (2011, p. 176) also note that the figure is '...derived from an average age at first breeding of 1.0 years and a maximum longevity in the wild of 16.2 years, both extrapolated from the mean of other shorebirds.'

#### Distribution

Australian Painted Snipe occupy a broad range through eastern, northern and inland Australia (with occasional records from south-western Australia), but within this broad area distribution is patchy and unpredictable. They occur on the fringes of fresh or well-vegetated brackish wetlands and often move in response to changing water levels. There are no known sites where the species occurs on a regular or annual basis but there are preferred regions in which the majority of sightings have been made. These include the Murray-Darling Basin, wetlands of south-western Victoria and adjacent south-eastern South Australia, coastal plains of the Fitzroy Basin of central

# Rostratula australis

## Australian Painted-snipe

Queensland, Queensland Channel Country, and the south-western Kimberley (Marchant and Higgins 1993, Hassell and Rogers 2002, Jaensch et al. 2004, Jaensch 2009, Black et al. 2010).

### Habitat

All breeding records are from shallow, temporary or infrequently filled wetlands with receding water levels following flooding: these habitats have a combination of patches of low dense vegetation, open mudflats, complex shorelines and small islands (Rogers et al. 2005). This is likely to be the preferred habitat at all times, but such conditions are not always available and non-breeding birds have been recorded in a variety of other wetland habitats, including samphire wetlands, claypans, sewage farms, dams, bores and irrigation waters. There is recent evidence of extensive use of rice fields (Herring and Silcocks 2014), though it remains unclear if such habitats are suitable for breeding.

### Threats

The decline of Australian Painted Snipe is thought to have been driven by loss of their specialised breeding habitat (Rogers et al. 2005). The main threat to this habitat is thought to be loss and degradation of wetlands, especially the loss of temporary flooding regimes, or much less frequent flooding, in floodplain wetlands of much of the Murray Darling basin through water diversions for agriculture. Prolonged drought (potentially exacerbated by climate change) also reduces potential breeding area. Alterations to water management (e.g. conversion of temporary wetlands into permanent irrigation storages or sinks) also make wetlands unsuitable for Australian Painted Snipe.

Several other threats to Australian Painted Snipe have been suggested, but these propositions have been based on general ecological principles rather than direct evidence for Australian Painted Snipe. Being a ground-nester, the species may be vulnerable to predation by introduced foxes and cats; weed invasion may lead to wetlands becoming too thickly vegetated to Australian Painted Snipe; the long-term effects of grazing on habitat suitability around inland wetlands has not been investigated (Rogers et al. 2005).

### 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>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

# Rostratula australis

## Australian Painted-snipe

### Evidence:

#### Eligible under Criterion A2 as Critically Endangered

The population reduction over the past 27 years is inferred to be 80 to 90%, based on (b) and (c) above.

Declining reporting rates suggest populations of Australian Painted Snipe in 2005 were only 10% of the population present in the 1970s (Rogers et al. 2005). This approach is imperfect due to unquantifiable changes in search effort over time. Nevertheless it is striking that reporting rate of Australian Painted Snipe has declined more severely than any other Australian Waterbird species.

The causes of the reduction may not have ceased, be understood or be reversible.

#### Eligible under Criterion A3 as Vulnerable

The population reduction over the next 27 years is suspected to be 10 to 45%, based on (b) and (c) above.

The loss of breeding habitat is likely to decline, as a result of increasing recognition of conservation value of temporary wetlands, and more regulation of water extraction for irrigation. But incremental loss of habitat is still likely to be problematic. This is uncertainty about this; the reduction could be strongly influenced by droughts (bad) or floods (good), and potentially by success or otherwise in managing key habitat.

#### Eligible under Criterion A4 as Critically Endangered

The population reduction over any 27 year period, including both past and future (up to 100 years in the future), is estimated to be 70 to 85%, based on (b) and (c) above. The causes of reduction may not have ceased, be understood or be reversible.

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:

#### Eligible under Criterion B as Endangered

The Area of Occupancy (AoO) is estimated to be 360 km<sup>2</sup>, based on 2 x 2 km grids derived from accepted, post-1970 records in the Victorian Biodiversity Atlas (VBA).

It has a continuing decline in (iii) and (v) above. It is inferred to have extreme fluctuations in the AoO. This is likely to be in years when flooding is widespread and most adults breed, and drought years when virtually no birds nest in Victoria, resulting in birds emigrating to wetter regions or going elsewhere until next set of flood conditions.

The loss of breeding habitat is likely to decline, as a result of increasing recognition of conservation value of temporary wetlands, and more regulation of water extraction for irrigation. But incremental loss of habitat is still

# Rostratula australis Australian Painted-snipe

likely to be problematic. This will depend on whether droughts continue to increase, as seems likely under climate change scenarios.

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 C as Endangered

It is estimated that there are 37 to 380 mature individuals. Since records began in the 1800s, 487 of 3049 (15.9%) of records of Australian Painted Snipe have come from Victoria (Birdlife Australia, Australian Painted Snipe database, unpublished). Assuming the Victorian population estimate to be ~15% of the national population, and accepting the national population estimate from TSSC (2013), the Victorian population is likely in the range of 37-370 Australian Painted Snipe. The real value is probably at the lower end of this range, given that Victorian wetlands are probably more intensively surveyed than wetlands in larger and less densely populated states. Excluding duplicate records from sites where repeated surveys were carried out in a season, the highest number of Australian Painted Snipe recorded in a single year within Victoria is 24 birds in 2004 (spread across 3 sites) and 2006 (spread across 6 sites; VBA). These were years in which focussed Painted Snipe surveys were carried out with a similar survey effort in other states. In these years Victorian records of Australian Painted Snipe comprised 15-30% of the national total. These surveys were far from complete (e.g. few surveys on private land; much of the range too remote to be accessed). The National population is estimated at between 250-2500 mature individuals (TSSC 2013).

There is an inferred continuing decline, and the percentage of mature individuals in each subpopulation is 100%.

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>



# *Rostratula australis* Australian Painted-snipe

## Evidence:

### Eligible under Criterion D as Endangered

It is estimated that there are 37 to 380 mature individuals.

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

## References

Baker, A., Pereira, S.L. and D.I. Rogers (2007) Mitochondrial-DNA evidence shows the Australian Painted Snipe is a full species, *Rostratula australis*. *Emu* 107: 185-189.

Black R, Houston, W. and Jaensch R (2010) Evidence of regular seasonal migration by Australian painted snipe *Rostratula australis* to the Queensland tropics in autumn and winter. *Stilt* 58: 1-9.

DSE (2013) *Advisory List of Threatened Vertebrate Fauna in Victoria 2013*. Department of Sustainability and Environment, Melbourne

Garnett, S.T., Szabo, J. and Dutton, G. (2011) *The Action Plan for Australian Birds 2010*. CSIRO Publishing, Melbourne.

Hassell, C.J. and Rogers, D.I. (2002) Painted snipe nesting at Taylor's Lagoon, near Broome, north-western Australia. *The Stilt* 41: 14-21.

Herring, M. and Silcocks, A. (2014) The use of rice fields by the endangered Australian Painted Snipe (*Rostratula australis*): a rare opportunity to combined food production and conservation? *Stilt* 66: 20-29

Jaensch, R. (2009) *Floodplain wetlands and waterbirds of the Channel Country*. South Australian Arid Lands Natural Resource Management Board. Viewed: 11 May 2012 Available on the Internet at: [http://www.saalnrn.sa.gov.au/Portals/8/Publications\\_Resources/Project\\_Reports/SAAL-Report\\_Water\\_Floodplain\\_Wetlands\\_And\\_Waterbirds\\_Of\\_The\\_Channel\\_Country-022009.pdf](http://www.saalnrn.sa.gov.au/Portals/8/Publications_Resources/Project_Reports/SAAL-Report_Water_Floodplain_Wetlands_And_Waterbirds_Of_The_Channel_Country-022009.pdf)

Jaensch, R., McCabe, J., Wahl, J. and Houston, W. (2004) Breeding by Australian Painted Snipe on the Torilla Plain, Brigalow Belt, Queensland. *The Stilt* 45: 39-42.

Lane, B.A. and Rogers, D.I. (2000) The Australian Painted Snipe *Rostratula (benghalensis) australis*: An endangered species? *Stilt* 36: 26-34.

SAC (2002). Flora and Fauna Guarantee Scientific Advisory Committee: Final Recommendation on a Nomination for Listing. Nomination No. 543 *Rostratula benghalensis*.

Thomas, E. (1975) Painted Snipe breeding at Barham, NSW. *Australian Bird Watcher* 6: 133.

TSSC (2013) Commonwealth Listing Advice on *Rostratula australis* (Australian Painted Snipe). Threatened Species Scientific Committee. Department of Sustainability, Environment, Water, Population and Communities. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/77037-listing-advice.pdf>. In effect under the EPBC Act from 15-May-2013.