

NSW SCIENTIFIC COMMITTEE

Pultenaea elusa (J.D. Briggs & Crisp) de Kok (Fabaceae)

Review of Current Information in NSW

August 2008

Current status:

Pultenaea elusa is currently listed as Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act* 1999 (EPBC Act). The NSW Scientific Committee recently determined that *Pultenaea elusa* meets criteria for listing as Critically Endangered in NSW under the *Threatened Species Conservation Act* 1995 (TSC Act), based on information contained in this report and other information available for the species

Species description:

Pultenaea elusa is described in de Kok and West (2004) as follows: “straggling shrub, branches up to 0.5 m long; branchlets sparsely to densely hairy, hairs appressed. Leaves alternate, 5-16 x 0.6-2 mm, ratio 5.5 – 12.5, linear, straight, widest point at or above the middle, smooth; apex acute, pungent, recurved; base attenuate to cuneate, midrib prominent only; upper leaf surface glabrous, lower leaf surface sparsely to moderately hairy; hairs appressed, grooved. Petioles not decurrent. Stipules 5-9 mm long, appressed. Inflorescences dense, determinate, the few inflorescence-subtending bracts forming a lax involucre, flower-subtending bracts scale-like, persistent. Pedicel 1-1.2 mm long. Calyx 4-4.5 mm long, moderately to strongly hairy; lobes all straight, upper lobes apex acute, lower lobes apex acuminate. Bracteoles 3- 3.5 mm long, boat-shaped to linear, placed on the calyx tube. Standard 5.5-7 mm long, yellow to orange; wing 5-6 mm long, yellow to orange; keel 5-5.5 mm long, red to purple. Pods 4-4.5 mm long, ration 1.6-1.8; seeds not seen”.

Taxonomy:

This species was first described in 1994 by J. D. Briggs & M. Crisp as *Pultenaea parrisiae* subsp. *elusa* from a specimen collected in 1938. They found it to be most closely related to *P. paleacea*, and the subspecies *elusa* differed from subspecies *parrisiae* in having shorter calyx lobes, shorter pedicels, longer floral bracts, which terminate in two lobes with conspicuously villous central awns (Briggs & Crisp 1994). de Kok & West (2004) found that *Pultenaea parrisiae* subsp. *elusa* to be sufficiently distinct from *P. parrisiae* s.s. to justify its recognition at specific rank. This species is now recognised as *Pultenaea elusa*.

Distribution and number of populations:

Pultenaea elusa has only been recorded twice, on private property at Penrose and Wingello, on the Southern Tablelands. The two collections were made in successive months (September and October) in 1938 by the same collector, W. F. Blakely (NSW NPWS 2001).

This species is not known from any current locations ((NSW NPWS 2001; expert advice).

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Survey effort to date: A brief search for the species (of about one day) was made of swamps in the Penrose area in the late 1980s. A swamp on Barbers Creek (Wingello) and another between Penrose and Bundanoon at the headwaters of Paddys River were searched in late September 1998 (NSW NPWS 2001).

Although many small wetlands in the Penrose - Wingello area have been drained and many have been well-surveyed botanically, there are wetlands in that area in good condition that have not been searched (on private and public land) (NSW NPWS 2001).

The survey effort undertaken is probably not adequate enough to infer that *P. elusa* has gone extinct (expert advice). In addition, this species could be overlooked because of its small size and superficial similarity to other leguminous species, especially if not in flower. However based on experience from previous searches, and the low quality of much of the unsearched habitat (as a result of grazing), the probability of finding it would be low (expert advice).

Ecology:

Key habitat requirements

Both collections of the Elusive Bush-pea record the habitat only as a 'swamp'. There are a number of swamps in the vicinity (e.g. Hanging Rock Swamp, Stingray Swamp). The vegetation of these swamps commonly comprises scattered trees with a heath / sedge understorey (NSW NPWS 2001).

Life history

Little is known about this species. Flowering has been recorded in September and October (NSW NPWS 2001). The generation length (IUCN 2008) has been estimated to be six to 15 years based on the generation length of similar leguminous species (expert advice).

Number of mature individuals:

The unsuccessful searches for *P. elusa* suggests the current population (if any) is not large, however, no data are available to estimate the number of mature individuals.

Threats:

Some swamps in the Wingello – Penrose area have been cleared and/or drained for development of pastures and/or plantations. Sand mining occurs in the vicinity of some swamps and may affect the hydrology of swamps (NSW NPWS 2001). Much of the remaining of the (potential) suitable swamp habitat in the Penrose - Wingello area is on private land that is being degraded by overgrazing of domestic livestock. However, until populations are found the threats to this species remain unknown.

Extreme fluctuations:

There is no information/evidence of this species experiencing extreme fluctuations.

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Population reduction and continuing declines:

There are no recent records of the species. Only two specimens collected 70 years ago have ever been recorded. Many of the swamps that could contain (potential) suitable habitat for this species continue to be degraded through overgrazing of domestic livestock and some swamps may have been drained. These pressures on the habitat suggest a continuing decline in the species. Although the reduction in the population is difficult to quantify, it could be as high as 100%, based on lack of recent records despite searches and a reduction in habitat area and quality.

Extent of Occurrence (EOO) & Area of Occupancy (AOO):

The two known locations are separated by less than 5 km² (Hogbin 2002, Atlas records). Therefore if this species still exists, the AOO and EOO are likely to be no greater than 8 km², based on 2 x 2 km grid cells, the spatial scale of assessment recommended by IUCN (2008).

Severe fragmentation:

The habitat of *P. elusa* has been fragmented by clearing for development of pasture and plantations. Overgrazing by domestic livestock and possible draining of wetlands to maximise farmable land, has resulted in the degradation and fragmentation of (potential) suitable swamp habitat for this species.

References:

- Briggs JD, Crisp MD (1994) *Pultenaea parrisiae* (Fabaceae: Mirbelieae), a new species from south-eastern Australia. *Telopea* **5**, 647-655.
- de Kok RPJ, West JG (2004) A revision of the genus *Pultenaea* (Fabaceae). 3. The eastern species with recurved leaves. *Australian Systematic Botany* **17**, 273–326.
- Hogbin P (2002) 'Review of the *Threatened Species Conservation Act* Flora Schedules: Recommendations to the Scientific Committee.' NSW NPWS, Hurstville.
- IUCN (2008) 'Guidelines for using the IUCN Red List Categories and Criteria. Version 7.0.' (Standards and Petitions Working Group of the IUCN Species Survival Commission Biodiversity Assessments Sub-committee: Switzerland)
(<http://intranet.iucn.org/webfiles/doc/SSC/RedList/RedListGuidelines.pdf>).
- NSW NPWS (2001) 'Approved Recovery Plan for the "lost" threatened flora of south-eastern NSW.' NSW NPWS, Hurstville.

Explanatory note

Between 2007 and 2009 the NSW Scientific Committee undertook a systematic review of the conservation status of a selection of plant and animal species listed under the Threatened Species Conservation Act. This species summary report provides a review of the information gathered on this species at the time the Review was undertaken.

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The Scientific Committee's report on the Review of Schedules project and final determinations relating to species that were either delisted or had a change in conservation status can be found on the following website: www.environment.nsw.gov.au .

The Committee gratefully acknowledges the past and present Committee members and project officers who ably assisted the Committee in undertaking the Review of Schedules Project. Information on the people involved in the project can be found in the Acknowledgement section of the project report entitled "Review of the Schedules of the Threatened Species Conservation Act 1995. A summary report on the review of selected species" which is available on the abovementioned website.

This species summary report may be cited as:

NSW Scientific Committee (2008) *Pultenaea elusa*. Review of current information in NSW. August 2008. Unpublished report arising from the Review of the Schedules of the Threatened Species Conservation Act 1995. NSW Scientific Committee, Hurstville.