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A RE-EVALUATION OF *CASSIA OLIGOPHYLLA* VAR. *SERICEA* SYMON (CAESALPINIACEAE)

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Abstract

In Randell (1989) *Cassia oligophylla* F. Muell. var. *sericea* Symon was synonymised with *Senna artemisioides* (DC.) Randell subsp. *oligophylla* (F. Muell.) Randell. However, field experience in the Northern Territory and Western Australia indicates that the taxon is consistently recognisable. To assist those who wish to distinguish this taxon it is here reinstated under the new combination *Senna sericea* (Symon) Albr. & Symon.

Taxonomic history

Cassia oligophylla var. *sericea* was described by Symon (1966). The taxon appears to have been accepted by Australian herbaria until Randell (1989) reduced *C. oligophylla* var. *sericea* to a synonym of *Senna artemisioides* subsp. *oligophylla*. In the recent *Flora of Australia* account of *Senna* (Randell & Barlow, 1998) *Cassia oligophylla* var. *sericea* is included as a synonym of *Senna* form taxon '*oligophylla*' with no reasons given for the change.

Distinctiveness and rank

S. sericea has leaflets with a silvery or golden satiny indumentum, giving plants a striking appearance in both the field and herbarium. The leaflet indumentum is composed of persistent, dense, appressed hairs that completely obscure the underlying leaflet surface. Leaflet indumentum is the most diagnostic character separating *S. sericea* from its closest allies *S.* form taxon '*oligophylla*' and *S.* form taxon '*alicia*'.

S. form taxon '*oligophylla*' has a variable leaflet indumentum, which is presumably why Randell (1989) and Randell & Barlow (1998) include *C. oligophylla* var. *sericea* within it. Most specimens of *S.* form taxon '*oligophylla*' studied by the present authors could be sorted into one of two forms on the basis of leaflet indumentum—a form with short straight or curved hairs spreading from the leaflet surface, and a form with appressed hairs. In addition, a considerable number of specimens possess somewhat wavy hairs suggesting possible intergradation with *S.* form taxon '*helmsii*'. Of these forms, only the one with appressed hairs could be confused with *S. sericea*. Some specimens of this form have a thinly sericeous indumentum on new growth. However, in almost all cases it is readily distinguished from *S. sericea* by the thinner indumentum that becomes sparser as leaflets mature exposing the leaflet surface between hairs. *S.* form taxon '*oligophylla*' has 2–3 pairs of leaflets whereas *S. sericea* has 1–2 pairs of leaflets.

With regard to leaflet number and spacing, *S.* form taxon '*alicia*' resembles *S. sericea*, the former having 1–2 (rarely 3) pairs of leaflets, spaced 3–12 mm apart when 2 pairs of leaflets are present. The presentation of the leaflets, with the adaxial surface of opposing leaflets facing each other, considered by Randell & Barlow (1998) as a useful diagnostic characteristic of *S.* form taxon '*alicia*', is also sometimes found in *S. sericea*. However, *S.*

form taxon '*alicia*' has glabrous or sparsely hairy leaflets 5–12 (–15) mm wide, compared with (8–) 10–22 (–30) mm wide in *S. sericea*.

S. sericea occurs over a considerable geographic range and sometimes occurs with other taxa previously classified as subspecies of *S. artemisioides*. For example at 'The Granites' in the Tanami Desert, Northern Territory, *S. sericea* occurs with *S.* form taxon '*oligophylla*', *S.* form taxon '*helmsii*' and *S. symonii*.

Possible hybrids between *S. sericea* and *S.* form taxon '*oligophylla*' appear to be rare, though extensive field studies of mixed populations have not been undertaken

Given its large geographic range, distinctive indumentum and plant uniformity we have opted to recognise *S. sericea* at specific rank. The rank is congruent with the recent *Senna* treatment by Randell & Barlow (1998), where species rank is reserved for those taxa showing little or no evidence of intergradation.

Senna sericea (Symon) Albr. & Symon, *comb. et. stat. nov.*

Cassia oligophylla var. *sericea* Symon, *Trans. Roy. Soc. S. Australia* 90: 113 (1966), *basionym*.

Type: "The Granites", Northern Territory, 14.viii.1936, *J.B. Cleland s.n.* (holo: AD).

Distribution

This species occurs in the western parts of central Northern Territory and more extensively in arid Western Australia.

Habitat

Occurs almost exclusively on gravelly or rocky hills and rises, occasionally extending on to adjacent plains. The underlying parent rock at known sites includes chert, laterite, quartz, sandstone and limestone. In the Northern Territory associated species include *Acacia pruinocarpa*, *A. hilliana*, *Senna symonii*, *S.* form taxon '*oligophylla*', *S.* form taxon '*pruinosa*', *Triodia pungens*, *T. intermedia* and *T. spicata*.

Selected specimens (38 specimens examined)

WESTERN AUSTRALIA: *A. Mitchell*, 22.vi.1996, 79.8 km from Newman, 23°23'33", 120°31'16" (AD, PERTH).

NORTHERN TERRITORY: *P.K. Latz 11809*, 24.ix.1990, 3 km SSW of Tanami Bore (AD, DNA, MEL, MO, NSW, NT).

Acknowledgments

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References

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 Randell, B.R. & Barlow, B.A. (1998). *Senna*, *Flora of Australia* 12: 89–138. (CSIRO: Melbourne.)
 Symon, D.E. (1966). A revision of *Cassia* L. Caesalpiniaceae in Australia. *Trans. Roy. Soc. S.Aust.* 90: 73–151.

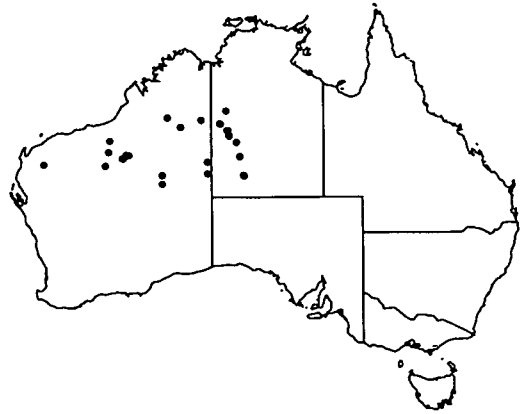


Fig. 1. Distribution of *Senna sericea*.