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***SENNA PHYLLODINEA* A NEW COMBINATION IN *SENNA* (CAESALPINIACEAE)**

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Abstract

The combination *Senna phyllodinea* (R. Br.) Symon is made to facilitate the use of the name for those who wish to distinguish it from *Senna artemisioides* ssp. *petiolaris*.

Introduction

The presence of agamospermy, polyploidy and hybridity (Randell 1970) has resulted in a bewildering array of morphological forms in *Senna* in our arid areas. The discovery of abundant polyembryony (Symon 1956) led Randell (1970) to examine its causes and with this new understanding to present a new taxonomic account of the genus in Australia (Randell 1988, 1989, 1990).

The division of the genus *Cassia* L. into three genera *Cassia* L. s.str., *Senna* Miller and *Chamaecrista* Moench has been widely accepted. It is almost solely in Australia in *Senna* ser. *Subverrucosae* that the taxonomic problems are acute. Randell (1989) has grouped the variants under three core taxa, *S. glutinosa*, *S. cardiosperma* and *S. artemisioides*, and one can agree with much of this grouping with some particular misgivings.

A problem

Under *S. artemisioides* ssp. *petiolaris* Randell has grouped all the variants that possess a flattened petiole. Within this grouping are three widespread entities that may be summarised as follows:-

1. A form with relatively broad phyllodes, green in aspect, straight or slightly curved, pubescent with minute appressed hairs, the lamina readily visible, glabrescent, sometimes pruinose, often with generally short, flattened, terminal leaflets. The pods are (6-) 7 (-9) mm wide, straight or slightly curved.
2. A form with narrower phyllodes, green in aspect, straight or weakly curved, sparsely pubescent with minute hairs and with longer linear or near terete leaflets. The pods are (7-) 8 (-9) mm wide, straight or nearly so. This form has numerous variants and separation from the first is often difficult.
3. A form with phyllodes that are generally falcate, lack terminal leaflets, are densely appressed sericeous tomentose, the lamina only visible on old weathered phyllodes. The pods are 10–13 mm wide and are strongly curved to form one third to half a circle.

In contrast to the previous two forms, intermediates between this and the other taxa of *Senna* are rare. Amongst the numerous sheets of '*petiolaris*' s.l. at AD herbarium the following three might be considered intermediates: *Hilton 1382*, The Frome plain, with narrow curved phyllodes and narrow pods; *Robinson 118*, Glenorchy Station, with densely tomentose phyllodes but with rare lateral leaflets (no pods) and *Badman 132*, Algebuckina, with narrow phyllodes and long terminal leaflets (no pods).

These few intermediates are in marked contrast to the numerous intermediates found in the first two listed above and which have made separation of them so difficult. In addition

the last form is generally ecologically separated and is found in some of the most extreme environments of the Lake Eyre basin.

In view of the reliable features separating this taxon the following new combination is proposed.

Senna phyllodinea (R. Br.) Symon, *comb. nov.*

Basionym: *Cassia phyllodinea* R. Br. in C. Sturt, 2(1849) *Botanical Appendix* 78. "In Herbario D. Sturt specimen exstat nulla stationis aut loci indicatione, sed eandem speciem ad fundum sinus Spencer's Gulf dicti in sterilibus apricis anno 1802 legi". Relevant specimens are at BM, K, E and MEL and of these Randell (1989) has selected the lectotype, "R. Brown [4253] 'Inlet XII, South Coast in arenos steril versus montes' at the BM with isolectotypes at MEL, E, K.

A woody bush shrub, commonly 1.5 × 1.5 m, spreading, often somewhat flat topped. Bark grey becoming dark and rough. Phyllodes falcate, hoary with dense, appressed, silvery hairs with leaflets only in juvenile phase. Flowers not distinctive from *S. artemisioides*. Pods to 13 mm wide (broader than *S. artemisioides*) and curved to 1/3 to 1/2 of a circle.

S. phyllodinea is found on stony landscapes in the Lake Eyre basin in South Australia and extends to SW Queensland and NW New South Wales. It also occurs in the Northern Territory north and east of the Simpson desert.

This account was completed before the revision of *Senna* by Randell & Barlow appeared in Volume 12 of the *Flora of Australia*. However, that does not persuade me to change the proposal above.

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