THE GENUS RHYNCHARRHENA (ASCLEPIADACEAE)

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ABSTRACT


The genus Rhyncharrhena F. Muell. was described in 1859 but has since been regarded by most authors as a synonym of Pentatropis Wight & Arn. or (erroneously) as a synonym of Doemia R. Br. (Daemia sphalm. auct.). Even Mueller himself apparently had doubts about its status: he (1882a) accepted the synonymizing of the genus under Pentatropis by Bentham (1869) and named a new species Pentatropis kempeana F. Muell., at the same time remarking that the species was 'with the other species of this genus readily transferable to Daemia.' Later that same year he (Mueller 1882b) transferred to Doemia the four species that he recognized. In this he was again following Bentham, who (in Bentham & Hooker 1876) commented that Pentratropis (including Rhyncharrhena) was scarcely distinct from Doemia. However, as pointed out by Brown (1907), Doemia R. Br. is a synonym of Pergularia L., which is a genus quite distinct from both Pentatropis and Rhyncharrhena.

The main distinguishing features of these three genera are set out in Table 1. The species of all three are herbaceous twining perennials.

Most Australian Flora-writers up to the present time have used Pentatropis, as did Bentham (1869) in Flora Australiensis, although some, e.g. Moore & Betch (1893), have used Doemia. The writing of the Flora of Central Australia, under the auspices of the Australian Systematic Botany Society, called for reconsideration of the status of Rhyncharrhena and the four species that have been recognized therein.

Such an examination had already been undertaken by the late Dr S. T. Blake in his studies of the family Asclepiadaceae. He concluded that Rhyncharrhena deserved recognition as a genus separate from Pentatropis and annotated material accordingly in various Australian herbaria, but unfortunately he never published on the subject.

Bullock (1955) gave a resumé of the nomenclatural history of Pentatropis, stating that he considered that genus to consist of two species, P. capensis (L. f.) Bullock (P. microphylla (Roxb.) Wight & Arn.) and P. spiralis (Forssk.) Decne., and that 'several Australian species and one from New Guinea . . . should be referred to another genus'. That other genus is Rhyncharrhena, as shown by his subsequent comments (Bullock 1965), when he selected R. atropurpurea as the lectotype for the genus.

Despite its lack of recognition in Australian Floras, Rhyncharrhena seems a well-characterized genus within the Asclepiadaceae, readily distinguished from the Afro-Asian Pentatropis by the linear-revolute leaves (as pointed out by Bentham, 1869) and by the form of the corona, as well as by the other characters set out in Table 1. It seems to be confined to Australia, despite Bullock’s mention of a New Guinea species of Rhyncharrhena. I have seen no specimens of Pentatropis novoguineensis Valeton but, from the corona features mentioned in the brief diagnosis given by Valeton (1907), this species belongs in Pentatropis rather than in Rhyncharrhena, and so has not been considered further here.
As well as reviewing the generic status of *Rhyncharrhena*, it has been necessary to consider specific limits within the genus. Four supposed species that may be assigned to *Rhyncharrhena* have been described: *R. atropurpurea* F. Muell., *R. quinquepartita* F. Muell., *Pentatropis linearis* Decne., and *P. kempeana* F. Muell. These were based on specimens from Queensland, New South Wales, Western Australia, and the Northern Territory respectively, so there has been little attempt by regional Flora-writers to compare them, apart from Black (1957) who considered three of them and then commented that ‘better acquaintance with these desert plants may prove that they are forms of a variable species’. Separation of the species of *Rhyncharrhena* has been on the basis of degree of division of the corolla, pubescence of the corolla lobes, follicle size, and slight differences in the corona. These characters (especially the degree of development of the inner corona appendages) do vary slightly in the specimens I have seen, but there is no clear or coherent pattern of variation. I consider this variation to be consistent with what could be expected in a single widespread but scattered species. Vegetatively, specimens from all parts of the range are very similar.

Accordingly, I am treating *Rhyncharrhena* as consisting of one rather variable species, *R. linearis*, which is spread throughout the drier regions of mainland Australia. The necessary specific combination is here made.

All specimens cited have been seen unless otherwise stated.

### TABLE 1

**Distinguishing features of Pentatropis, Pergularia and Rhyncharrhena.**

<table>
<thead>
<tr>
<th>Feature</th>
<th><em>Pentatropis</em></th>
<th><em>Pergularia</em></th>
<th><em>Rhyncharrhena</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaves</td>
<td>ovate with acute or obtuse apex (mucronate); base rounded or subcordate; somewhat fleshy; margins not revolute.</td>
<td>ovate with acute to acuminate apex; base cordate; not fleshy; margins not revolute.</td>
<td>linear to oblong, with acute apex; base long-tapering; not fleshy; margins usually revolute.</td>
</tr>
<tr>
<td>Stems</td>
<td>pubescent, becoming glabrous with age.</td>
<td>pubescent, prickly or hispid.</td>
<td>glabrous to minutely pubescent.</td>
</tr>
<tr>
<td>Unit inflorescences</td>
<td>umbell-like; subsessile.</td>
<td>umbell-like to racem-like; long-pedunculate.</td>
<td>umbell-like; short-pedunculate.</td>
</tr>
<tr>
<td>Corolla</td>
<td>rotate.</td>
<td>salver-form to funnel-form.</td>
<td>broad-campanulate to rotate.</td>
</tr>
<tr>
<td>Corolla-lobes</td>
<td>puberulous within.</td>
<td>densely pilose within.</td>
<td>glabrous to puberulous within.</td>
</tr>
<tr>
<td>Corona</td>
<td>single.</td>
<td>double.</td>
<td>double.</td>
</tr>
<tr>
<td>Follicle</td>
<td>fusiform; glabrous.</td>
<td>ovoid; echinate with long soft bristles.</td>
<td>fusiform; glabrous.</td>
</tr>
<tr>
<td>Illustrations</td>
<td>fig. 1a,b.</td>
<td>fig. 1c,d.</td>
<td>fig. 2a,b.</td>
</tr>
</tbody>
</table>
Fig. 1—*Pentatropis capensis* (L. f.) Bullock. (a) Portion of a branch \( \times \frac{4}{8} \); (b) Flower \( \times \text{c.} 8 \); from Wight 1545. *Pezzularia daemita* (Forssk.) Chiov. (c) Portion of a branch \( \times \frac{4}{8} \); (d) Flower \( \times \text{c.} 3 \); from Scheffler 21.
Rhyncharrhena linearis (Decne.) K. L. Wilson, comb. nov.

Basionym: Pentatropis linearis Decne. in Candolle, Prodr. 8: 536 (1844).

Holotype: Swan River, Drummond 667 (G—not seen). Isotype: MEL.


Fig. 2.—Rhyncharrhena linearis (Decne.) K. L. Wilson. (a) Portion of a branch × 3; (b) Corona × c. 8; from McKee 8674.
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VICTORIA: McCrackens Paddock, 2 1/2 miles [4 km] NNE. of Red Cliffs, Henshall 5.1968 (MEL).


SOUTH AUSTRALIA: Ernabella, Tindale & Hackett 6.1933 (BRI 216827); c. 3 km N. of Carl Dam tank, Commonwealth Hill Station, c. 120 km WNW. of homestead, Lay 530, 8.1971 (AD); Malboomba Outstation, c. 1 km S. of Lyons railway siding, Weber 2754, 9.1971 (AD); c. 25 km NE. of Maralinga, Shearer 10, 2.1972 (AD); Curriewerioo, Anderson (BRI 216829); Morroo Mine, c. 20 miles [30 km] W. of Lake Frome, Greenwood NSW 143629, 10.1915 (NSW).

WESTERN AUSTRALIA: 1.5 km N. of Sandy Point Outcamp, Dirk Hartog I, George 11540, 9.1972 (PERTH); “Mt Augustus” Station, Wittier 1113, 8.1973 (PERTH); “Woollen”, c. 345 km SE. of Carnarvon, Ashby 2565, 8.1968 (AD); 14 Mile Creek, Lake Violet, Bennett 7.1941 (BRI, PERTH); near White Cliffs HS., E. of Laverton, George 4533, 6.1963 (PERTH); near Elder Creek, 2 miles [3 km] W. of Warburton Mission, George 3926, 8.1962 (PERTH); 8 miles [13 km] SW. of Three Springs on Eneabba road, Chapman 10.1978 (PERTH); Coolgardie, Gardner 1746, 9.1922 (BRI, PERTH); 3–4 miles [5–6 km] above Northam, Salasoo 438, 10.1949 (NSW); Fraser Range, Helms NSW 143625, 10.1891 (NSW).

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REFERENCES


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