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## A NEW GYPSOPHILOUS *GOODENIA* (GOODENIACEAE)

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### Abstract

*Goodenia gypsicola* Symon a new *Goodenia* confined to consolidated gypsum is described and figured, six collections are known.

### *Goodenia gypsicola* Symon, *sp. nov.*

Herba perennis, radice palari fortique, brachyblastis multis brevibus apice confertis. *Folia* spatulata 8 × 1 cm, pleraque 5 × 0.5 cm, integra aut 2–3 lobis parvis, minute pubescentia comis simplicibus et glandulosis. *Inflorescentia* caudis erectis filo metallico similibus, simplex aut breviter ramosa. *Bracteae* anguste oblongae. *Pedunculi* filiformi et declinati, articulati 1 mm sub calice. *Lobi calicis* triangulares. *Corolla* 6 mm longa, lobi anguste alati, sublazulina. *Indusium* 1 × 1 mm bruneo-vinosum, orificio setis brevibus. *Capsula* globularis 1.5 mm diam. *Semina* plurima 0.25 mm longa, angulare-obovoidea et vitrea, ala obscura.

**Type:** Western Australia, Austin Botanical District 10.7 km NW of Menzies on Sandstone road. Common. Calcrete island in salt lake. *Casuarina* / *Grevillea* shrubland on powdery pale yellow brown loam. Small tufted perennial with very rigid inflorescences. Flowers very pale blue. 30.x.1993 R.J. Chinnock 8586 & G.S. Richmond (holo: AD, iso. (n.v.): PERTH, NSW).

Perennial herb with well developed tap root and numerous short shoots at ground level forming rounded tufts to 6 cm high and 8 cm diam., larger plants may have 100 leaves. Young growths minutely pubescent with simple and sessile glandular hairs (lens needed), mature leaves glabrescent or with a few hairs persisting on the lobe tips, longer white hairs persist in the leaf axils and may be conspicuous. *Leaves* spatulate, to 3 × 1 cm, commonly c. 5 × 0.5 cm, tapering to an indistinct petiole, apex acute or obtuse, entire or larger leaves with 2–3 blunt shallow lobes towards the apex. *Inflorescence* of erect wiry stems to 35 cm long commonly 20 cm, simple or shortly branched, up to 30 stems on a well grown plant. *Bracts* green, 10–30 × 1 mm, linear-oblong, each subtending a single flower. *Peduncles* filiform, 5 mm, deflexed, without bracteoles, articulation 1 mm below ovary. *Calyx* tube obconical, 1.5 mm long, adnate to the ovary, calyx lobes triangular, 1 mm long, adnate for c. 0.5 the length of the ovary. *Corolla* c. 6 mm long, the lobes narrowly winged, adaxial lobe wings unequal, pale blue, pubescent with simple hairs in the throat and on the lower parts of the corolla tube outside. *Filaments* 2 mm long, anthers 1 mm long. *Ovary* near globular; with c. 30 ovules in two rows in each locule, style 2 mm, indusium shortly oblong 1 × 1 mm, purple brown, some simple hairs above and below, orifice with longer bristles on the upper lip. Seeds numerous 0.25 mm long, angular obovoid, wing not obviously reduced to a subpapillose margin, the faces of the seed smooth, glossy, light brown.

### *Distribution & ecology*

This species has been collected from consolidated gypsum in the Serpentine Lakes area of South Australia and from a salt lake system in Western Australia.

### *Conservation status*

Although seemingly rare and confined to a specialised habitat the species does not seem under threat.

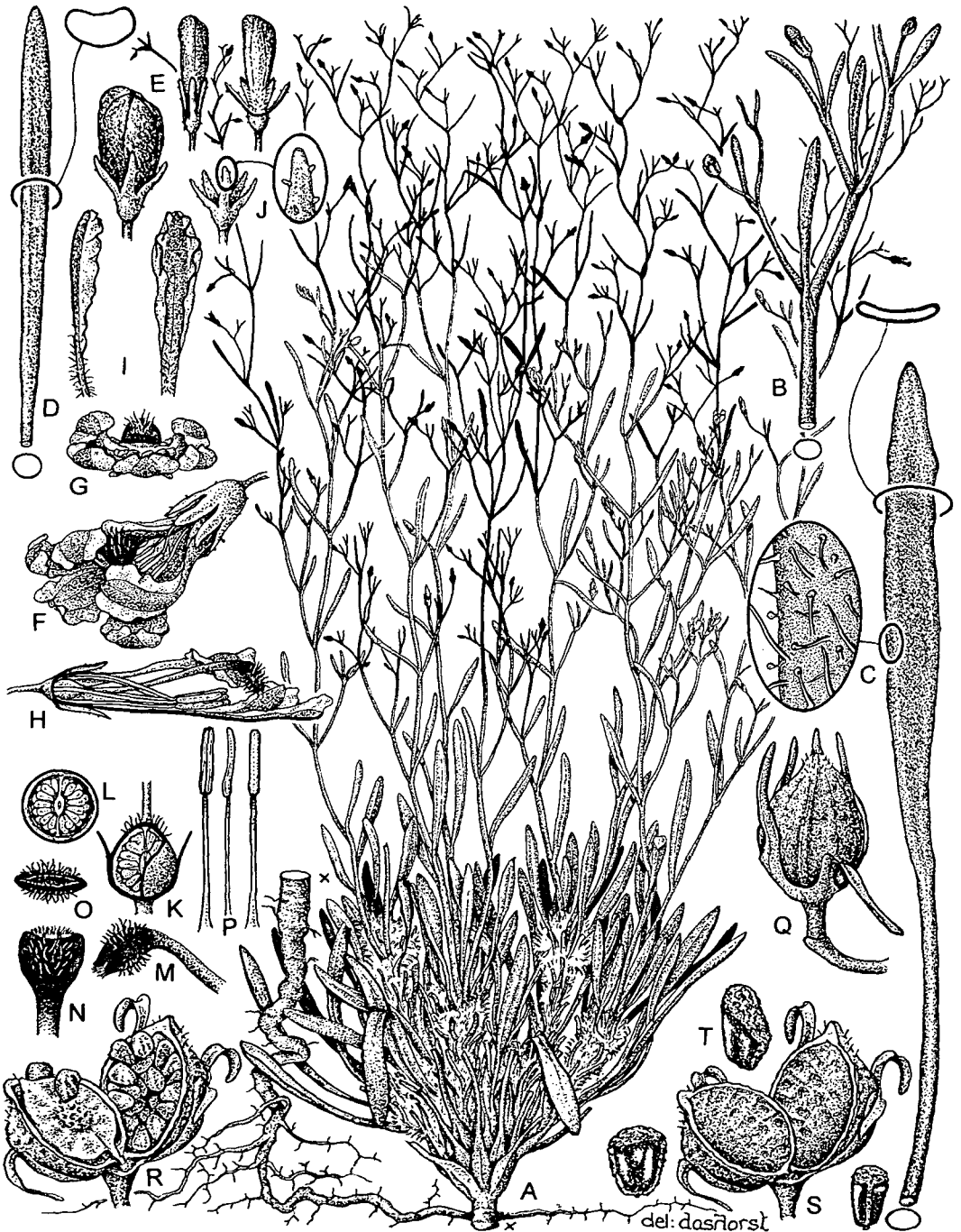


Fig. 1. *Goodenia gypsicola* Symon (A–T, R.J. Chinnock 8586 & G.S. Richmond). A, whole plant  $\times 1$ ; B, portion of branching  $\times 2$ ; C, lower leaf and margin  $\times 3$ ; D, stem leaf  $\times 5$ ; E, flower buds  $\times 6$ ; F, flower reconstituted  $\times 5$ ; G, flower end on  $\times 5$ ; H, flower lateral view  $\times 5$ ; I, corolla lobes  $\times 5$ ; J, calyx & lobe tip  $\times 5$ ; K, ovary  $\times 15$ ; L, ovary transverse section  $\times 15$ ; M, indusium lateral view  $\times 10$ ; N, indusium - upper surface  $\times 10$ ; O, indusium - orifice  $\times 10$ ; P, stamens  $\times 10$ ; Q, capsule mature  $\times 10$ ; R, capsule and seeds  $\times 10$ ; S, capsule empty  $\times 10$ ; T, mature seeds  $\times 25$ .

*Etymology*

The specific epithet is derived from the gypseous sites on which the species has been found.

The new species may be incorporated into the key to *Goodenia* in the *Flora of South Australia* 3 (1986) 1388 as follows:

**GROUP A**

1. Bracteoles present, leaves 10–25 cm long, 2–5 cm wide, serrulate to dentate .....*G. ramelii*
1. Bracteoles absent; leaves less than 10 cm long and 1 cm wide, entire or with a few small teeth.
  2. Leaves villous, lanceolate-elliptic, seeds flat with broad wing.....*G. vilmoriniae*
  2. Leaves glabrous with some axillary hairs, spatulate, seeds vitreous, unwinged .....*G. gypsicola*

*Specimens seen*

AUSTRALIA. WESTERN AUSTRALIA: *R.J. Chinnock 8586* & *G.S. Richmond*, 10.7 km NW of Menzies on the Sandstone Road, 30.x.1993 (AD, NSW, PERTH). *D. Nicolle 2671*, 185 km West of the WA-SA border towards Neale Junction on Anne Beadell highway 28°19'28", 127°19'31", growing on pure gypseous outcrops near small dry clay pans, with some *Eucalyptus concinna* and *Eucalyptus* aff. *leptophylla* on slightly less gypseous sites (AD, PERTH).

SOUTH AUSTRALIA: *C.R. Alcock 8289*, Great Victoria Desert, Nat. Cons. Soc. S. Aust. Survey, Camp 6, Serpentine Lakes, 164 km W of Vokes Hill junction, 25.xiii.1980 (AD). *D.E. Symon 12605*, Great Victoria Desert, banks of Serpentine Lakes where the road crosses the lake. Common on pure gypseous slopes, only plant in many places, no flowers anywhere, 28.viii.1980 (AD, PERTH, SYD-U). *G. White s.n.*, Serpentine Lakes. Bromeliad (sic) type plant inhabiting kopi slopes of Lakes region, 26.v.1993 (AD). *D. Nicolle 2660*, east bank of Serpentine Lakes on Anne Beadell highway, 28°30'06", 129°01'26". Growing on gypseous slopes with some *Casuarina pauper*. Very common here but not seen at all in red sand above this slope overlooking lake, 9.vii.1999 (AD, CANB, K, PERTH).

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