

SALICORNIA AND SARCOCORNIA

Salicornia is a very difficult genus (see *BSBI News* 53: 9-16). Accounts in recent years based on live material (it is usually impossible to identify dried specimens with any reasonable degree of accuracy) cannot be satisfactorily correlated either taxonomically or nomenclaturally, even in NW Europe. Further work is required.

A reductionist approach is used here. It should be possible to identify *Sarcocornia perennis* (*Salicornia perennis* Mill.), *Salicornia pusilla*, the diploid *Salicornia europaea* group and the tetraploid *Salicornia procumbens* group with reasonable confidence. Beyond this, experience is necessary for accurate determinations.

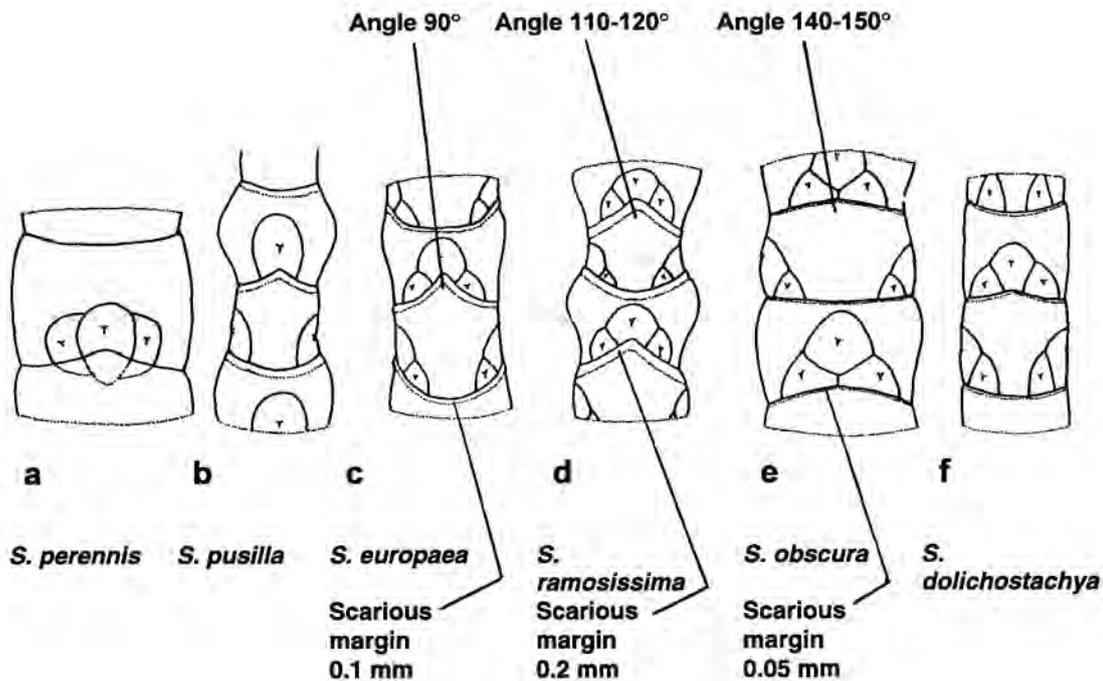
The *S. europaea* group consists of *S. ramosissima*, *S. europaea* and *S. obscura*. The specific limits within the group are obscure. Inbreeding is probably predominant, and this may account for a great deal of the local variation which occurs.

S. ramosissima is very polymorphic and, apart from erect tidal marsh variants of yellow, brownish or purplish suffusion, includes prostrate to decumbent, bright-red variants of saline mud or sand in non-tidal areas behind sea walls, and so far there is no agreement on how to divide it up; names proposed for the British plants (e.g. *adpressa*, *prostrata*, *smithiana*) appear to be invalid and to refer to plants from elsewhere in Europe. More experimental work is needed to see if any of the variants described have a genetic basis, or are merely environmental modifications.

There is less agreement about the *S. procumbens* Smith group. *S. fragilis* here includes *S. lutescens* P. W. Ball & Tutin and *S. emerici* Duval-Jouve (Stace's *New Flora* includes the latter under *S. nitens*). *S. fragilis* itself may be treated as a variety of *S. dolichostachya*.

Voucher specimens are best collected fresh; send several fresh plants in early fruit or later (typically August-September when the coloration has developed best). Photographs showing colour can be invaluable. Permanent collections are best pickled in spirit rather than dried.

Plant Crib



Fertile segments of *Salicornia* and *Sarcocornia* taxa (del. F. Rose).

- 1 Perennial with creeping rhizomes and some non-fertile shoots

Sarcocornia perennis (Mill.) A. J. Scott

- 1 Annual, easily uprooted; all shoots flowering, at least by August

2

- 2 Cymes 1-flowered (Fig. b)

Salicornia pusilla Woods

- 2 Cymes 3-flowered (plants with a mixture of cymes with 1-3 flowers are probably *S. pusilla* × *S. ramosissima*) 3

- 3 Anthers 0.2-0.5 mm, often not exerted; fertile segments with convex sides, usually strongly beaded (Figs. c-e); lateral flowers usually distinctly smaller than the central flower

(*Salicornia europaea* group) 4

- 3 Anthers (0.5-)0.6-1 mm, always exerted; fertile segments ± cylindrical (i.e. straight-sided), sometimes with slightly concave sides (Fig. f); flowers equal or subequal in size

(*Salicornia procumbens* group) 6

- 4 Plant deep shining green, becoming more or less reddish-purple or even deep rich red; fruiting segments strongly beaded with strong 'waists' between; scarious margin at apex of each segment broad (c. 0.2 mm) and clearly visible; angle made within apex of segment obtuse, 110-120°, apex of margin obtuse (Fig. d). Very polymorphic, usually much branched, erect to prostrate or decumbent in non-tidal saline areas; mainly in the closed communities of the middle and upper saltmarshes

Salicornia ramosissima Woods

- 4 Plant of a lighter, hardly glossy green, remaining that tint or sometimes reddening a little; fruiting segments only moderately swollen and not beaded or waisted; scarious margin at segment apex very narrow and not very obvious, only to 0.1 mm broad

5

- 5 Plant glaucous-green, matt, never reddening (except sometimes a little around the flowers); erect, primary branches short, scarcely exceeding half the length of the main stem, little branches never with tertiary branches; flowers not markedly unequal in size; scarious margins at apex of segments very narrow (0.05 mm) rounded, not forming a cusp; angle made (if any) within apex of segment very obtuse, 140-150° (Fig. e). On mud or sandy soil in open communities in lower parts of saltmarshes, below the *Puccinellia maritima* zone

Salicornia obscura P. W. Ball & Tutin

Plant Crib

- 5 Plants clear light green, not glaucous, becoming somewhat yellowish-orange, rosy or red with age; erect or more-or-less prostrate, primary branches of ten as long as the main stem, sometimes with tertiary branches; flowers very unequal in size; scarious margin at apex of segment moderately broad (0.1 mm) forming a definite acute, cuspidate point; angle within apex of segment c. 90° or less (Fig. c). On mud or sand, or in wet depressions between sand dunes, mostly in the upper part of saltmarshes with *S. ramosissima* and in the *Puccinellia maritima* zone *Salicornia europaea* L.
- 6 Lower fertile segments of terminal spike with a minimum diameter 2-3.5 mm; plant usually becoming light brownish- to orange purple *Salicornia nitens* P. W. Ball & Tutin
- 6 Lower fertile segments of terminal spike with a minimum diameter usually exceeding 3.5 mm; plant usually green or yellowish, rarely pale red or purple 7
- 7 Terminal spikes with 6-16(-22) fertile segments, ± cylindrical; spikes of the primary lateral branches cylindrical; plant dull green to yellowish-green, of ten becoming bright yellow in fruit
Salicornia fragilis P. W. Ball & Tutin
- 7 Terminal spikes with 12-30 fertile segments, distinctly tapering towards the apex; spike of the primary lateral branches tapering; plant dark, dull green becoming paler or dull yellow in fruit
Salicornia dolichostachya Moss

Author Based on an edited version of F. Rose's September 1984 key by J. R. Akeroyd.