
SM26

Inula crithmoides on salt-marshes

Inula crithmoides is a maritime perennial largely confined to southern England and Wales: it is recorded from Essex round to Anglesey with an isolated station in south-west Scotland (Perring & Walters 1962). Although it occurs in maritime cliff communities throughout its range, occurrences in salt-marsh vegetation are restricted to south-east England from Essex to Hampshire.

Here it is an occasional in various associations but it is sometimes encountered in abundance, usually with *Halimione portulacoides* as a co-dominant. In the few available samples there is a distinction between stands where *Puccinellia maritima*, annual *Salicornia* spp. and *Limonium* cf. *vulgare* are constant in generally small amounts and those which have abundant *Elymus pycnanthus*. The former occur on low-marsh sites with coarse sand; the latter on moderately organic soils with much drift litter on the upper marsh.

Ranwell (1972; Ranwell & Boorman 1977) has correlated the distribution of *I. crithmoides* on salt-marshes with the occurrence of lime-rich freshwater influence and the presence of Chalk bedrock near the surface. Though this may be true, it is difficult to see the ecologi-

cal significance of the observation: most salt-marshes are alkaline to some degree and *I. crithmoides* may be climatically restricted to salt-marshes which are coincidentally particularly base-rich.

Within its limited range on salt-marshes, *I. crithmoides* tends to be more confined to high-marsh occurrences with *Elymus pycnanthus* in Essex (see Rose 1964, Rose & Géhu 1964).

The most obvious affinities of the *I. crithmoides* salt-marsh vegetation are with the *Halimionetum portulacoidis*. Vanden Berghen (1965a) has suggested that, along the Biscay coast of France, *I. crithmoides* and *Arthrocnemum perenne* characterise a southern variant of the *Halimionetum*. Stands with abundant *Elymus pycnanthus* will perhaps find a place within the *Atriplici-Elymetum pycnanthi* but could also be seen as the northern limit of the Mediterranean association *Elymo pycnanthi-Inuletum crithmoidis* Br.-Bl. 1952 (Molinier & Tallon 1974).

The rather striking difference in distribution between salt-marsh and maritime cliff communities with *I. crithmoides* points to the possibility of there being distinct ecotypes of the species in Great Britain.

Floristic table SM26

	a	b	26
<i>Inula crithmoides</i>	V (4–7)	IV (5–9)	V (4–9)
<i>Halimione portulacoides</i>	V (5–9)	IV (3–8)	V (3–9)
<i>Puccinellia maritima</i>	V (2–4)		III (2–4)
<i>Salicornia</i> agg.	V (3–5)		III (3–5)
<i>Limonium</i> cf. <i>L. vulgare</i>	V (2–5)		III (2–5)
<i>Plantago maritima</i>	III (3)		II (3)
<i>Armeria maritima</i>	III (3–7)		II (3–7)
<i>Suaeda maritima</i>	III (2–4)	I (3)	III (2–4)
<i>Arthrocnemum perenne</i>	II (3–5)		II (3–5)
Algal mat	II (5)		II (5)
<i>Spergularia media</i>	II (2)		II (2)
<i>Spartina anglica</i>	I (2)		I (2)
<i>Festuca rubra</i>	I (2)		I (2)
<i>Aster tripolium</i> (rayed)	I (4)		I (4)
<i>Elymus pycnanthus</i>		IV (5–9)	III (5–9)
<i>Bostrychia scorpioides</i>		II (4)	I (4)
Number of samples	6	4	10
Mean number of species/sample	8 (3–10)	4 (3–5)	6 (3–10)
Mean vegetation height (cm)	26 (8–50)	50 (35–60)	36 (8–60)
Mean total cover (%)	93 (80–100)	100	96 (80–100)

a Stands with *Puccinellia maritima*, *Salicornia* agg. and *Limonium* cf. *L. vulgare*

b Stands with *Elymus pycnanthus*

26 *Inula crithmoides* stands