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## SM9

### *Suaeda maritima* salt-marsh community

### *Suaedetum maritimae* (Conrad 1935) Pignatti 1953

#### Synonymy

*Suaeda maritima* nodum Adam 1976; *Salicornietum* auct. p.p.

#### Constant species

*Suaeda maritima* is a variable taxon within which a number of distinct forms have been recognised. These are sometimes treated as varieties (e.g. Chapman 1947, Clapham *et al.* 1962) or as species. Ball (1964) has a single sub-species *S. maritima maritima* to include all British material. This is the only constant taxon of the community.

#### Physiognomy

This is a species-poor community, generally open, though always dominated by *Suaeda maritima* the density of which is normally high. There is sometimes a little annual *Salicornia*, *Puccinellia maritima*, *Spartina anglica*, *Halimione portulacoides* and *Aster tripolium* var. *discoideus*. An algal mat is quite common and Chapman (1947) lists seven different algal assemblages associated with abundant *Suaeda maritima*.

#### Sub-communities

Variation within the community is continuous, though the predominance in particular stands of different forms of *Suaeda maritima* has been used by some (e.g. Géhu 1975) to assign such stands to different communities. However, diagnosis is often difficult and there seem to be few consistent ecological differences between the taxa.

#### Habitat

*Suaeda maritima* is an annual and it is tolerant of a wide range of soil types subject to various submersion regimes: Chapman (1947) reported it dominant on Norfolk marshes with between 290 and 430 submergences/year. Like the annual *Salicornias*, its growth appears heavily dependent upon sediment nutrients, especially nitrogen (Pigott 1969, Stewart *et al.* 1972), and it is particularly characteristic of open situations free of competition from established perennials. On the lower marsh it is especially distinctive of rather gravelly mud

where it forms mosaics with stands of annual *Salicornias*. Fragmentary stands are found around the base of the shell banks which occur at low levels in a few sites. Pure stands of *S. maritima* are a distinctive feature of disturbed situations such as the piles of sediment dumped on marshes during the construction of sea walls and drainage channels. Creek sides can also carry the community. Two further distinctive habitats are the accumulations of drift litter that occur at the foot of sea walls where dense stands can exploit the release of nutrients upon decomposition of the litter (see Beeftink 1966) and brackish areas behind sea walls where prostrate forms of *S. maritima* are common.

#### Zonation and succession

The habitat diversity of the community makes it difficult to generalise about the successional status of the community. In situations subject to repeated disturbance it can recur every year but increased stabilisation leads to replacement by the community appropriate for the particular level of the marsh.

#### Distribution

The community is widespread but many stands are fragmentary. It is most frequent in south-east England and very local in west Scotland.

#### Affinities

Although sometimes considered as part of a *Salicornietum*, stands dominated by *Suaeda maritima* are sufficiently distinctive to be worthy of considering as a separate community. Certain authors (e.g. Beeftink 1962, 1965, 1977a; Westhoff & den Held 1969) consider the nitrophilous character of the vegetation warrants placing the community with the ephemeral driftline associations of the Cakiletea but the floristic affinities to that class are few. The low-marsh occurrences are seen by others (e.g. Géhu 1975, Géhu & Delzenne 1975) as indicating a similarity to the communities of the Thero-Salicornieta which then becomes the class for all ephemeral chenopod-dominated vegetation types of the low marsh.

Floristic table SM9

<i>Suaeda maritima</i>	V (6–10)
<i>Salicornia</i> agg.	IV (2–7)
<i>Puccinellia maritima</i>	II (2–4)
Algal mat	II (5–8)
<i>Spartina anglica</i>	II (2–3)
<i>Halimione portulacoides</i>	II (1–4)
<i>Aster tripolium</i> var. <i>discoideus</i>	II (1–3)
<i>Aster tripolium</i> (rayed)	I (2)
Number of samples	18
Mean number of species/sample	3 (2–8)
Mean vegetation height (cm)	27 (8–50)
Mean total cover (%)	69 (30–100)

