SM11

Aster tripolium var. *discoideus* salt-marsh community
Asteretum tripolii Tansley 1939

Synonymy
Asteretum and Creek *Asteretum* Chapman 1934; *Aster tripolium* var. *discoideus* nodum Adam 1976; descriptions of Great *Aster* marsh, Scolt Head, Norfolk.

Constant species
Aster tripolium var. *discoideus*, *Puccinellia maritima*, *Salicornia* agg.

Rare species
Arthrocnemum perenne.

Physiognomy
The association is dominated by the rayless *Aster tripolium* var. *discoideus* which is especially distinctive in the late summer–early autumn flowering season when its stems may attain a height of about 1 m; at other times the vegetation is 10–20 cm tall. The stands are generally rather species-poor though there is usually some *Salicornia* agg., *Puccinellia maritima* and *Suaeda maritima*. The substrate surface is frequently dissected by small drainage runnels threading between the *A. tripolium* rootstocks and locally may be carpeted by free-living fucoids, mainly *Fucus vesiculosus* ecad *caespitosus* and *Pelvetia canaliculata* ecad *libera*.

Although there is a floristic gradation between low-level stands with abundant *Salicornia* agg. and those at higher levels with abundant *Puccinellia maritima*, no sensible subdivisions can be made within the association. The floristic disinctions catalogued by Chapman (1934) between a low-marsh *Asteretum* and a Creek *Asteretum* are not borne out in the samples.

Habitat
The association occurs as an extensive zone in the low marsh or on creek sides at varying levels in the marsh. At its lower limits, the association seems able to tolerate upwards of 500 submergences/year (Chapman 1960*a*) with a maximum development around 350 submergences/year (Clapham *et al.* 1942). The sediments are predominantly firm clays or silts low in organic matter but with a high proportion of fine shell fragments and a pH between 7.0 and 8.0. Most of the sites are ungrazed or only lightly cattle-grazed.

Zonation and succession
In the low marsh the association forms a distinct zone above the *Salicornietum europaeae* or the *Spartinetum townsendii* or, occasionally, at the most seaward limit. Upwards it passes into the *Puccinellietum maritimae* or the *Halimionetum portulacoidis*. Landward boundaries are diffuse and patches of the association are frequently found in the lower part of the zone above.

Although *A. tripolium* var. *discoideus* can grow at lower levels on the shore than many salt-marsh species, it is not a successful primary coloniser. Gray (1971) has suggested that it has spread in recent years, possibly following *Spartina anglica* invasion of bare substrates, but the evidence for this is inconclusive. At Scolt Head, Norfolk, Chapman (1959) has shown the association developing from the *Salicornietum europaeae* in about 25 years.

Distribution
The association is predominantly south-eastern in its distribution, being frequent in The Wash, north Norfolk and Essex. Old records have *A. tripolium*-dominated communities on Canvey Island (Carter 1932) and in the Humber (Good & Waugh 1934). It is local on the south coast and in the Bristol Channel (but see Thompson 1922, 1930) and its general absence from the west may reflect climatic limitations, the scarcity of muddy marshes or the higher incidence of grazing there.

Affinities
The position of the association in the salt-marsh zonation places it between the annual communities of the Salicornietea and the perennial communities of the Asteretea but the perennial nature of *A. tripolium* var. *discoideus* itself suggests that it is best seen alongside the *Puccinellietum maritimae* and the *Juncetum gerardi* of the latter class.

Floristic table SM11 & SM12

	11	12a	12b
Aster tripolium var. *discoideus*	V (4–10)	III (4–7)	
Puccinellia maritima	V (1–9)	V (3–7)	
Salicornia agg.	V (3–9)	III (2–4)	
Suaeda maritima	III (2–8)	III (2–4)	
Algal mat	II (2–8)	I (6)	
Halimione portulacoides	II (1–5)		
Arthrocnemum perenne	I (1–5)		
Fucus vesiculosus ecad *caespitosus*	I (5–8)		
Pelvetia canaliculata	I (4–9)		
Bostrychia scorpioides	I (3–7)		
Aster tripolium (rayed)		V (5–8)	V (7–10)
Spartina anglica	II (1–6)	IV (2–3)	
Plantago maritima	I (4)	III (2–6)	
Spergularia media	I (3–4)	III (4–6)	
Triglochin maritima		II (5)	
Puccinellia distans			V (3–4)
Spergularia marina			III (1–3)
Atriplex prostrata		I (5)	III (2–3)
Scirpus lacustris tabernaemontani			II (2–7)
Juncus bufonius			II (2–3)
Number of samples	53	7	9
Mean number of species/sample	5 (3–8)	6 (4–9)	4 (2–6)
Mean vegetation height (cm)	28 (5–150)	43 (15–80)	68 (60–100)
Mean total cover (%)	80 (45–100)	81 (50–90)	99 (90–100)

11 *Aster tripolium* var. *discoideus* salt-marsh
12a Coastal stands of rayed *Aster tripolium*
12b Inland stands of rayed *Aster tripolium*

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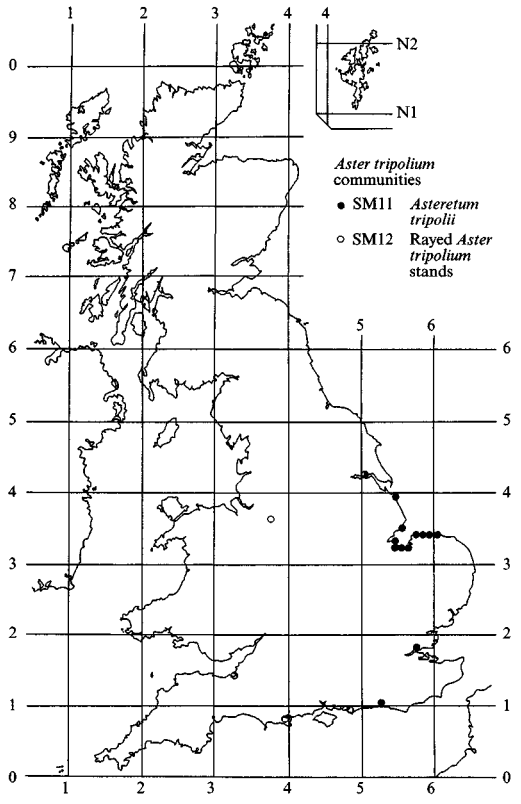

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