SM24

Elymus pycnanthus salt-marsh community *Atriplici-Elymetum pycnanthi* Beeftink & Westhoff 1962

Synonymy
Agropyretum pungentis Perraton 1953; includes *Agropyron pungens-Juncus maritimus* nodum Adam 1976.

Constant species
Elymus pycnanthus.

Physiognomy
The association is invariably dominated by the stiff clumps of *Elymus pycnanthus* and this may be the sole species. Usually, however, there are a few associates though these are somewhat varied and individual stands may be rendered distinctive by the abundance of (a) particular species. Sometimes there is a patchy or extensive understorey of *Halimione portulacoides*, *Artemisia maritima* and/or *Puccinellia maritima*. In other cases, *Atriplex prostrata* and/or *Festuca rubra* may be conspicuous. *Juncus maritimus* is sometimes abundant though stands with this species are not worthy of distinction as a subcommunity (cf. Adam 1976, 1977). Other stands have a prominent umbelliferous element with *Conium maculatum*, *Foeniculum vulgare* and *Smyrnium olusatrum* and, more locally, *Petroselinum segetum* and *Sison amomum*.

Habitat
The *Atriplici-Elymetum* is an upper-marsh community occurring on a variety of substrates including organically-enriched clay, sand (where *Festuca rubra* is often abundant) and shingle. Substrates are generally well-drained and there is often considerable free calcium carbonate derived from inwashed shell fragments. The pH is generally above 7.0. The association also occurs on older, partly decayed drift litter, where *Atriplex prostrata* flourishes, but in many stands there is little litter except at the seaward edge.

The association may be confined to a narrow strip around the tidal limit or form extensive stands in the upper marsh; occasionally it forms mosaics with other communities. It may extend down the marsh on creek levees and reach above the tidal limit, sometimes covering unmown sea walls where unbellifer-rich stands are characteristic.

Most stands occur on ungrazed or cattle-grazed marshes. Where sheep are admitted to sites with established stands, these are avoided by stock (Cadwalladr & Morley 1973) but the rarity of the association on marshes with a long tradition of sheep-grazing suggests that establishment may not be possible under such a management regime.

Zonation and succession
The association often terminates the zonation at the upper limit of British salt-marshes. A common pattern, seen on many Essex salt-marshes and around the Exe in Devon (Proctor 1980), runs from *Spartinetum townsendii* or *Asteretum tripolii* through *Halimionetum portulacoidis* to the *Atriplici-Elymetum*. The largest stands of the association appear to have developed from the *Halimionetum*.

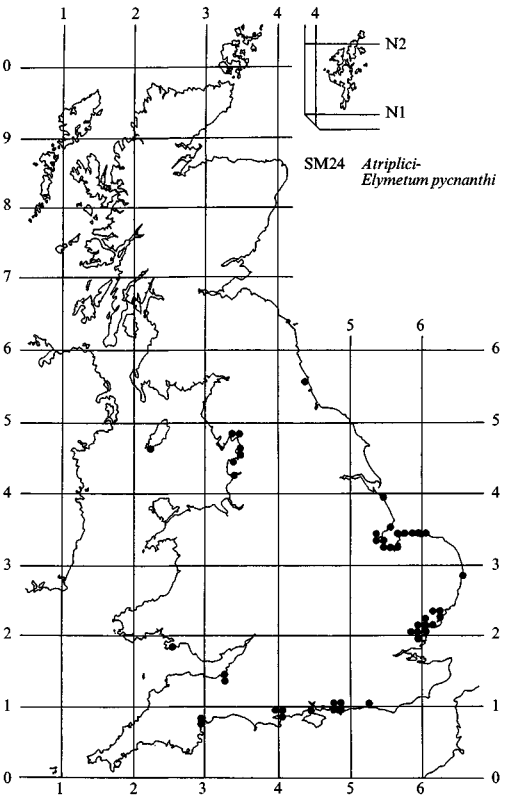
On creek levees, the association may develop from the *Artemisietum maritimae* or, more locally, the *Spartinetum townsendii*. On high-level drift, there is sometimes a succession from the *Atriplex* strand-lines to the association. In sites inundated by only very exceptional storms, the association may be invaded by shrubs and trees but succession to woodland is likely to be prevented by the occasional subjection to saline waters.

Distribution
The association is most abundant in south-east England and stands on the west coast are local and small. *Elymus pycnanthus* reaches its northern limit in Britain at the Solway.

Affinities
Westhoff & den Held (1969) emphasise the nitrophilous character of the *Atriplici-Elymetum* by assigning it to the Angelicion litoralis in the Artemisietea but the similarities here are weaker than those between the association and other clearly maritime communities of the upper marsh and strand-line. A better solution is to place the association with the *Elymo pycnanthi-Suaedetum verae* in the Elymion pycnanthi of the Elymetea (Géhu & Géhu 1969).

Floristic table SM24

Elymus pycnanthus	V (2–10)
Halimione portulacoides	III (1–8)
Festuca rubra	III (1–9)
Atriplex prostrata	II (1–5)
Glaux maritima	II (1–5)
Puccinellia maritima	I (2–7)
Juncus maritimus	I (2–8)
Agrostis stolonifera	I (3–8)
Artemisia maritima	I (2–7)
Suaeda vera	I (1–7)
Juncus gerardii	I (2–5)
Limonium cf. *L. vulgare*	I (1–5)
Plantago maritima	I (1–5)
Armeria maritima	I (1–4)
Beta maritima	I (1–3)
Atriplex littoralis	I (1–3)
Sonchus arvensis	I (2–3)
Parapholis strigosa	I (2–4)
Potentilla anserina	I (2–3)
Aster tripolium var. *discoideus*	I (1–3)
Aster tripolium (rayed)	I (1–3)
Galium aparine	I (2–3)
Phragmites australis	I (2–6)
Ammophila arenaria	I (1–6)
Hypnum cupressiforme var. *lacunosum*	I (4–6)
Number of samples	110
Mean number of species/sample	6 (1–16)
Mean vegetation height (cm)	61 (30–100)
Mean total cover (%)	98 (75–100)



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