SM19

Blysmus rufus salt-marsh community

Blysmetum rufi (G. E. & G. Du Rietz 1925) Gillner 1960

Synonymy

Juncus gerardii-Carex extensa Association Birks 1973 *p.p.*

Constant species

Blysmus rufus, *Agrostis stolonifera*, *Glaux maritima*, *Juncus gerardii*, *Triglochin maritima.*

Rare species

Blysmus rufus.

Physiognomy

The *Blysmetum rufi* is a species-poor association, generally dominated by *Blysmus rufus* but often with abundant *Agrostis stolonifera*, *Glaux maritima* and *Juncus gerardii. Triglochin maritima*, *Festuca rubra*, *Plantago maritima* and *Carex extensa* are all frequent but rarely present in quantity. Some stands may have an extensive algal mat and certain bryophytes may be abundant: *Amblystegium riparium*, *A. serpens*, *Calliergon cuspidatum*, *Campylium stellatum*, *C. polygamum*, *Drepanocladus aduncus* and *Cratoneuron filicinum*. Cover may be somewhat open, especially on gravelly or rocky substrates, and stands are usually small (10–20 m^2), though at a number of Scottish sites the association covers hundreds of square metres.

Habitat

The association occurs on a variety of substrates but sites are often either poorly-drained or subject to flushing by brackish or fresh-water. The characteristic situation is in small depressions in the upper marsh. In some cases, the *Blysmetum* may develop in old upper-marsh pans, especially where these have a shingle base, and it is sometimes present along path edges (Gillner 1960, Tyler 1969*b*, Beeftink 1977*a*). In west Scotland, small stands are widespread within rocky flushes in the salt-marsh/mire transition on raised beaches and also among coastal rocks (Gillham 1957*b*, Birks 1973, Adam *et al.* 1977). The majority of occurrences are on grazed salt-marshes, although *B. rufus* itself does not appear to be much eaten.

Zonation and succession

Although *B. rufus* sometimes occurs as scattered shoots within the *Juncetum gerardi* (notably at Caerlaverock NNR, Dumfries & Galloway; Martin 1977), stands of the *Blysmetum* are usually rather sharply defined from the *Juncetum gerardi* which is the usual surrounding vegetation. Freshwater flushing over gravel sometimes allows the association to develop at fairly low levels in the marsh but it is unlikely that the *Blysmetum* plays any role in succession.

Distribution

B. rufus is one of the very few species constituting a northern element in the British salt-marsh flora (Ratcliffe 1977) and the association is locally distributed along the west coast from mid-Wales northwards, being commonest in west Scotland. Its generally small stands render it vulnerable to local extinction following habitat disturbance but, though there is some evidence for the loss of *B. rufus* in the southern part of its range (Perring & Walters 1962, Martin 1977, Ratcliffe 1977), there is nothing to suggest a large-scale contraction in distribution.

Affinities

The *Blysmetum rufi* is not discussed in the early descriptions of British salt-marshes which were mainly concerned with communities in south-east England. It has, however, been referred to in more recent accounts from northern and western Britain (Gillham 1957*b*, Greenwood 1972, Birks 1973, Adam *et al.* 1977) and the association is widely described on the Continent, where it is especially widespread in southern Scandinavia.

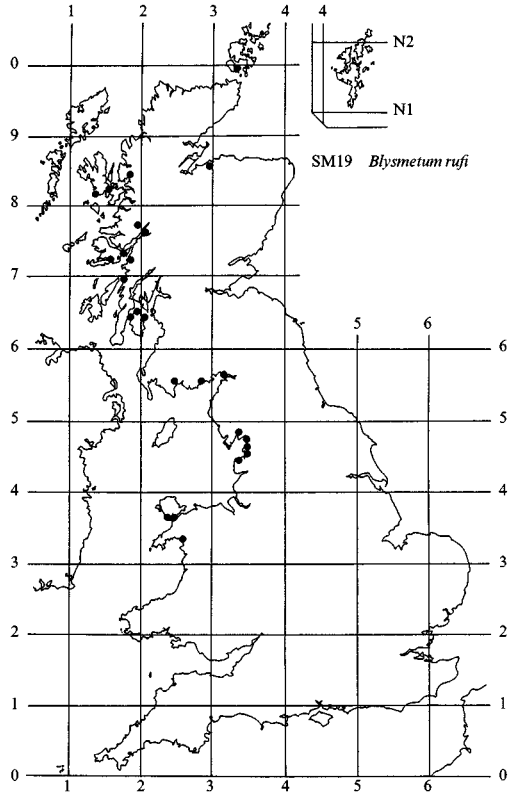
The *Blysmetum* shows clear affinities with the *Juncetum gerardi* and some accounts of the community

regard it as part of that association (e.g. Birks 1973) or as a closely-related association within the Armerion maritimae (e.g. Beeftink 1965, 1977*a*). An alternative treatment is to place the association alongside the *Eleocharitetum uniglumis*, which is similar in its physiognomy and its habitat to the *Blysmetum*, and which is itself the centre of a separate alliance, the Eleocharion uniglumis (Siira 1970, Tyler *et al.* 1971).

There are some ecological similarities between the *Blysmetum* of the Scottish raised-beach flushes and certain of the Caricion davallianae communities *sensu* Wheeler (1980*b*).

Floristic table SM19

Blysmus rufus	V (3–9)
Agrostis stolonifera	V (2–7)
Glaux maritima	V (2–7)
Juncus gerardii	V (2–6)
Triglochin maritima	IV (1–5)
Festuca rubra	III (2–6)
Plantago maritima	III (2–5)
Carex extensa	III (2–5)
Aster tripolium (rayed)	II (2–3)
Armeria maritima	II (2–5)
Algal mat	II (3–7)
Trifolium repens	II (2–5)
Juncus articulatus	II (1–6)
Eleocharis uniglumis	II (4–9)
Alopecurus geniculatus	I (3–5)
Potentilla anserina	I (2–3)
Leontodon autumnalis	I (2–3)
Eleocharis quinqueflora	I (5)
Triglochin palustris	I (2–3)
Amblystegium riparium	I (3–4)
Amblystegium serpens	I (2–4)
Carex nigra	I (3–4)
Calliergon cuspidatum	I (3–7)
Cochlearia anglica	I (2)
Campylium polygamum	I (2–5)
Oenanthe lachenalii	I (3)
Puccinellia maritima	I (1–4)
Carex lepidocarpa	I (2–3)
Campylium stellatum	I (3–5)
Number of samples	23
Mean number of species/sample	10 (5–17)
Mean vegetation height (cm)	17 (6–25)
Mean total cover (%)	90 (50–100)



https://doi.org/10.1017/CBO9780511541834.023 Published online by Cambridge University Press