OV2
Briza minor-Silene gallica community

Synonymy
Airo multiculmis-Arnoseridetum minimae (Allorge 1922) R.Tx. 1950 *sensu* Silverside 1977.

Constant species
Anagallis arvensis, *Briza minor*, *Rumex acetosella*, *Silene gallica*, *Trifolium dubium*.

Rare species
Briza minor, *Silene gallica*, *Trifolium suffocatum*.

Physiognomy
In the *Briza minor-Silene gallica* community, common annuals like *Anagallis arvensis*, *Trifolium dubium*, *Aphanes microcarpa* and *Vicia sativa* ssp. *nigra*, together with *Rumex acetosella*, are very common constituents of the open cover. However, the more striking feature here is the constancy of the two nationally scarce annuals *Silene gallica* and *Briza minor*.

Other diminutive ephemeral grasses also figure with some frequency: *Bromus hordeaceus* ssp. *thominei*, *Vulpia bromoides*, the scarcer *V. myuros*, *Aira caryophyllea* (including plants sometimes distinguished as ssp. *multiculmis*) and *A. praecox*. There are also typically sporadic elements of the swards within which this assemblage develops, like sparse fronds of *Pteridium aquilinum* pushing up into open ground, and occasional *Anthoxanthum odoratum*, *Hypochoeris radicata* and *Plantago lanceolata*.

Other occasionals of the community include *Geranium molle*, *Chrysanthemum segetum*, *Sherardia arvensis*, *Veronica arvensis*, *Myosotis ramosissima*, *Ornithopus perpusillus* and sometimes naturalised representatives of the bulb crops among which this vegetation often occurs, like *Allium triquetrum* and *Gladiolus byzantinus*. The nationally rare *Trifolium suffocatum* has been recorded here and three naturalised introductions that can occur are *Briza maxima*, *Phalaris minor* and *Bromus diandrus*.

Habitat
The *Briza-Silene* community is confined to disturbed sandy soils in the extreme oceanic climate of the far south-west of Britain where it now occurs most characteristically among the bulb fields of The Scillies.

Like the *Viola-Aphanes* community, this assemblage is typical of disturbed acid sands and includes some species like *Vulpia bromoides*, *V. myuros* and *Aphanes microcarpa* which show a widespread distribution through the warmer southern parts of Britain. More distinctive is the constancy of *Silene gallica*, a plant which was once also found widely on sandy soils across this part of the country but which shows some limitation by low winter temperatures: it is a winter annual, germinating mainly in autumn, but its seedlings are killed by temperatures of −10 °C (Stewart *et al.* 1994), so it tends to favour most equable climates. Much more confined by the cold season, perhaps again because of frost sensitivity, is *Briza minor*, an introduction from the Mediterranean and western Europe which has always been confined to the more oceanic fringes of south-west England in its extent here.

Occurring together in this very striking community, these species benefit from the virtually frost-free climate typical of The Scillies (*Climatological Atlas* 1952) where the growing season is effectively year-long (Smith 1976) and where summer and autumn rains provide sufficient moisture to encourage good germination before the cooler season. The other characteristic of this area is that the particular form of arable agriculture there still provides congenial situations for these species to reappear year by year. Many of the annuals of this community have shown shrinking ranges as more traditional agricultural practices have given way to intensive arable or abandonment to heath and woodland: the present limitation of *Silene gallica* to the sub-maritime zone is probably due to such shifts (Stewart *et al.* 1994).

In the past, such vegetation as this was more widespread because of considerable cereal cultivation in the south-west. Now, although its species survive fragmentarily along tracks and roadsides, it is in bulb fields that the community is most often seen. The bulbs are typically cultivated in widely-spaced rows so there is ample light for the numerous poor competitors of this assemblage.

Also, Silverside (1977) pointed out that, because weed control is usually delayed until the bulbs are lifted in late May, there is ample time for many of the annuals to flower, fruit and disperse their seed before their herbage is killed by the herbicides: *B. minor*, for example, flowers from March onwards in The Scillies (Stewart *et al.* 1994).

Zonation and succession

On somewhat more fertile soils, like sandy loams, and where the ground is a little moister, the *Briza-Silene* community can give way to the *Cerastium-Fumaria* vegetation. Both *B. minor* and *S. gallica* remain frequent there but *Cerastium glomeratum*, *Fumaria muralis* ssp. *boraei*, *Juncus bufonius* and *Ranunculus parviflorus* become more common.

This assemblage depends on repeated disturbance for an opportunity to re-establish itself on areas of open ground and any possibility of succession is prevented by renewed cultivation.

Distribution

The *Briza-Silene* community occurs only on The Scillies.

Affinities

Vegetation of this kind was first described as the *Airo multiculmis-Arnoseridetum* (Allorge 1922) R.Tx. 1950 and seen as a replacement for the *Teesdalio-Arnoseridetum* (or *Sclerantho-Arnoseridetum*) in the south-west of Europe. Certainly, this community shows some floristic links with this part of the Continent.

Floristic table OV2

Silene gallica	V (2–5)
Anagallis arvensis	V (2–3)
Trifolium dubium	V (3–5)
Briza minor	V (2–3)
Rumex acetosella	IV (2–7)
Bromus hordeaceus thominei	III (2–8)
Pteridium aquilinum	III (1–3)
Vulpia bromoides	III (2–9)
Vulpia myuros	III (5–8)
Aphanes microcarpa	III (2–5)
Aira caryophyllea	III (3–5)
Vicia sativa nigra	III (2–3)
Plantago lanceolata	III (2–5)
Anthoxanthum odoratum	II (2–5)
Aira praecox	II (2–5)
Hypochoeris radicata	II (2)
Chrysanthemum segetum	II (3–5)
Geranium molle	II (2–3)
Aira multiculmis	II (3–5)
Sherardia arvensis	II (2)
Veronica arvensis	II (2–3)
Myosotis ramosissima	II (2)
Ornithopus perpusillus	II (3)
Allium triquetrum	II (2–5)
Gladiolus byzantinus	II (3)
Sagina apetala	I (5)
Plantago coronopus	I (2)
Cerastium fontanum	I (2)
Trifolium repens	I (5)
Cerastium glomeratum	I (2)
Spergula arvensis	I (2)
Daucus carota	I (2)
Holcus lanatus	I (3)
Juncus bufonius	I (2)
Briza maxima	I (5)
Ornithogalum umbellatum	I (2)
Taraxacum officinale agg.	I (2)
Montia perfoliata	I (2)
Oxalis articulata	I (1)
Phalaris minor	I (2)
Eurhynchium praelongum	I (5)
Geranium dissectum	I (2)
Myosotis discolor	I (4)
Ranunculus ficaria	I (2)
Rumex obtusifolius	I (2)
Brachythecium velutinum	I (2)
Ranunculus muricatus	I (3)
Ranunculus repens	I (2)
Trifolium arvense	I (3)
Anthriscus caucalis	I (5)
Carex arenaria	I (2)
Desmazeria marina	I (3)
Papaver dubium	I (2)
Ranunculus parviflorus	I (2)
Senecio vulgaris	I (2)
Sonchus oleraceus	I (2)
Valerianella locusta	I (3)
Bromus diandra	I (5)
Polycarpon diphyllum	I (3)
Montia fontana	I (2)
Trifolium subterraneum	I (3)
Trifolium suffocatum	I (2)
Number of samples	8
Number of species/sample	22 (14–33)

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