OV1
Viola arvensis-Aphanes microcarpa community

Synonymy
Teesdalio-Arnoseridetum minimae (Malcuit 1929) R.Tx. (1937) 1950 *sensu* Silverside 1977

Constant species
Aphanes microcarpa, *Poa annua*, *Rumex acetosella*, *Viola arvensis.*

Rare species
Anthoxanthum aristatum, *Briza minor.*

Physiognomy
Both *Viola arvensis* and *Aphanes microcarpa* are constants in the open annual vegetation of the *Viola-Aphanes* community, although *Poa annua* often contributes much of the cover by early summer. The diminutive perennial herb *Rumex acetosella* is very frequent too, producing its annual tufts of shoots in the gaps among the other plants.

Frequent associates, usually at low cover, include *Matricaria perforata*, *Stellaria media*, *Veronica arvensis* and *Polygonum aviculare* with *Bilderdykia convolvulus*, *Trifolium dubium*, *Spergula arvensis*, *Ornithopus perpusillus*, *Viola tricolor*, *Chrysanthemum segetum*, *Alopecurus myosuroides*, *Scleranthus annuus* and *Anagallis arvensis* among the more common occasionals. This community also provides a locus for the introduced grass, *Anthoxanthum aristatum*, originally from the Mediterranean and spreading widely in southern England in the nineteenth century but now extremely rare (Salisbury 1964, Perring & Farrell (1977). *Briza minor*, another national rarity, has also been recorded here but it is more usually found now in other communities.

Areas of bare ground can have scattered plants of acrocarpous mosses such as *Bryum microerythrocarpum*, *B. rubens*, *Dicranella staphylina*, *Ceratodon purpureus*, *Phascum cuspidatum* and *Pleuridium subulatum.*

Habitat
The *Viola-Aphanes* community is typically found among arable crops on impoverished base-poor sandy soils in the more Continental eastern parts of Britain. The local occurrence of suitable soils and the prevalence of intensive cereal production make this a very scarce vegetation type now.

Most of the more frequent species of this assemblage have a widespread distribution through the British lowlands and are able to take advantage of any kind of disturbance on lighter soils. The more distinctive plants, however, like *Aphanes arvensis*, *Spergula arvensis*, *Scleranthus annuus* and *Anthoxanthum aristatum* are particularly associated with the sort of impoverished sands, especially acid sands, that are decidedly local in the lowlands of this country and usually now under woodland, heath or settlements. *Arnoseris minima*, a plant that has been extinct with us since 1971, but which was previously characteristic of this kind of vegetation, also showed such a habitat preference (Salisbury 1964). Moreover, species such as *S. annua*, *A. aristata* and *Arnoseris* are plants with a distinctly Continental distribution, associated with the hot droughty summers typical of the more south-easterly parts of Britain.

The uncertainty of the British climate, the local occurrence of suitable habitats and the intensive character of cereal cultivation in recent decades, using lime, fertilisers and herbicides to produce a congenial growing environment for the crops, has greatly reduced the extent of the habitat for the community. It was encountered by Silverside (1977) mostly in barley and fallow arable fields.

Zonation and succession
The community occurs patchily in arable crops or on bare sandy ground. In more enriched situations, it can be replaced by the *Matricaria perforata-Stellaria* community. Less disturbed sandy tracksides and gateways may have some kind of *Festuca-Agrostis-Rumex* grassland. Repeated disturbance for sowing crops effectively regenerates the community.

Distribution
The *Viola-Aphanes* community occurs very locally in southern and eastern Britain north to Angus (Silverside 1977).

Affinities

The *Viola-Aphanes* community can be seen as the fragmentary equivalent towards the north-west limit of its range of an assemblage variously described as the *Teesdalio-Arnoseridetum* (Malcuit 1929) R.Tx. (1937) 1950 or the *Sclerantho-Arnoseridetum* R.Tx. 1937. This is the most widespread association of base-poor sands in Continental parts of Europe, and has been described from The Netherlands (Westhoff & den Held 1969), Germany (Oberdorfer 1983, Pott 1992) and Austria (Mucina *et al.* 1993).

Floristic table OV1

Poa annua	V (1–8)
Aphanes microcarpa	V (1–4)
Viola arvensis	IV (1–4)
Rumex acetosella	IV (1–3)
Matricaria perforata	III (1–3)
Stellaria media	III (1–4)
Veronica arvensis	III (1–3)
Polygonum aviculare	III (1–5)
Bilderdykia convolvulus	II (1–3)
Trifolium dubium	II (1–3)
Chamomilla suaveolens	II (1–3)
Spergula arvensis	II (1–3)
Ornithopus perpusillus	II (1–2)
Anthoxanthum aristatum	II (1–6)
Viola tricolor	II (1–3)
Scleranthus annuus	II (1–3)
Chrysanthemum segetum	II (1–3)
Alopecurus myosuroides	II (1–3)
Anagallis arvensis	II (3)
Bryum microerythrocarpum	II (1–3)
Dicranella staphylina	II (1–6)
Trifolium repens	II (1–4)
Bryum rubens	II (1–5)
Agrostis stolonifera	II (3–4)
Bromus sterilis	II (1)
Ceratodon purpureus	II (1–5)
Pleuridium subulatum	II (1–3)
Phascum cuspidatum	II (1–3)
Holcus mollis	I (5)
Trifolium arvense	I (3)
Briza minor	I (4)
Myosotis arvensis	I (1)
Sinapis arvensis	I (1)
Anthemis cotula	I (1)
Senecio vulgaris	I (1)
Veronica persica	I (1)
Riccia sorocarpa	I (1)
Number of samples	8
Number of species/sample	19 (13–22)
Herb cover (%)	94 (30–100)
Bryophyte cover (%)	20 (0–80)

https://doi.org/10.1017/CBO9780511541834.070 Published online by Cambridge University Press