

OV9

Matricaria perforata-*Stellaria media* community

Synonymy

Tripleurospermum inodorum stands Kay 1994 p.p.

Constant species

Matricaria perforata, *Polygonum aviculare*, *Stellaria media*.

Physiognomy

The *Matricaria perforata*-*Stellaria media* community comprises annual vegetation dominated by mixtures of *Stellaria media*, *Polygonum aviculare* and *Matricaria perforata*. Also quite frequent overall but variously represented in the different sub-communities are *Poa annua*, *Elymus repens*, *Bilderdykia convolvulus* and *Sonchus asper*. Occasionals of the community include *Cirsium arvense*, *Atriplex patula*, *Raphanus raphanistrum* and *Urtica dioica*. Acrocapous mosses are sometimes conspicuous on bare ground, *Bryum rubens*, *Barbula unguiculata* and *Dicranella staphylina* being recorded most commonly.

Sub-communities

***Anagallis arvensis*-*Viola arvensis* sub-community.** The vegetation here tends to be quite species-poor but enlivened by the pretty flowers of *Viola arvensis* and *Anagallis arvensis*.

***Poa annua*-*Galeopsis tetrahit* sub-community.** *P. annua* shows its peak of frequency here with *Galeopsis tetrahit*, *Cerastium fontanum* and *Elymus repens* also frequent, *Aphanes arvensis* and *Juncus bufonius* occasional.

***Elymus repens*-*Potentilla anserina* sub-community.** *E. repens* and *Poa annua* both remain frequent in this sub-community but *Agrostis stolonifera* also becomes common, along with *Potentilla anserina* and *Equisetum arvense*. Also more frequent, though showing their peak of occurrence in the next sub-community, are *Bilderdykia convolvulus*, *Chenopodium album*, *Capsella bursa-*

pastoris, *Chamomilla suaveolens*, *Trifolium repens* and *Veronica persica*. *Lamium purpureum*, *Bromus sterilis*, *Tussilago farfara* and *Ranunculus arvensis* are more distinctive occasionals.

***Bilderdykia convolvulus*-*Veronica persica* sub-community:** *Lycopsietum arvensis* (Raabe 1944) Passarge 1964 *sensu* Silverside 1977; *Alchemillo*-*Matricarietum chamomillae* R.Tx. 1937 *emend.* Passarge 1957 *sensu* Silverside 1977. The vegetation here has much in common with the last sub-community but *B. convolvulus* and *V. persica* become especially common and there is also frequent *V. arvensis*, *Rumex obtusifolius*, *Plantago major*, *Senecio vulgaris*, *Solanum nigrum* and *Taraxacum officinale* agg. *Matricaria recutita* and *Anchusa arvensis* are distinctive preferentials that are quite common in this sub-community.

Habitat

The *Matricaria*-*Stellaria* community is found widely throughout the British lowlands on disturbed and nutrient-rich, well-drained, circumneutral soils in arable fields, market gardens, farmyards and waysides.

This is the most widely distributed type of weed vegetation in which *M. perforata* is prominent, showing no climatically-related confinement to the warmer and drier parts of the country. What is limiting to its development throughout the lowlands is the texture of the soil because *M. perforata* (Kay 1994) and another important species here, *Stellaria media* (Sobey 1981), are both intolerant of poorly-drained profiles. These annuals can germinate in both autumn and spring, so early establishment of this community in autumn-sown cereals and other crops is common.

In fact, *S. media* can germinate throughout the growing season and seems especially well-adapted to take advantage of congenial conditions for its establishment here. Its seeds have been shown to be especially widespread in arable fields (Roberts & Stokes 1966) and display highly variable germination requirements.

Reserves of seed with uniform needs for temperature and light conditions can germinate prolifically more or less simultaneously while more variable elements of the seed bank are able to respond sporadically to particular different situations (van der Vegte 1978). Both *S. media* and *M. perforata* are also especially responsive to nitrogen additions, so the heavy fertilising associated with modern arable cultivation is very encouraging of luxuriant growth here (Sobey 1981, Kay 1994).

Neither of these species, nor the other constant, *P. aviculare*, which usually germinates in the spring, has any special dispersal mechanism but seeding is prolific and re-establishment very ready. As in other communities where it is well represented, *M. perforata* can show a second flush of flowering here in autumn where stubble is left unploughed because the bases of plants remaining after cereals have been cut can produce vigorous new shoots. Elements of this community can therefore last a full year.

The particular habitat relationships of the various sub-communities are unclear but the *Bilderdykia-Veronica* type only gains its full complement of species in spring-sown crops or disturbed places on sandier or light chalky soils where there is space for establishment at the start of the growing season. The *Elymus-Potentilla* sub-community extends the occurrence of the *Matricaria-Stellaria* vegetation to damper soils in gateways to arable fields, farm tracks and waysides.

Zonation and succession

In arable fields and market gardens, the *Matricaria-Stellaria* community can occur patchily among the crops or around the field margins, alone or in patchworks with other weed communities characteristic of lighter, fertile soils. Along tracks through fields and in gateways, the community often gives way to the *Polygonum-Chamomilla* assemblage which is more tolerant of trampling.

Stands of the *Matricaria-Stellaria* community on disturbed waysides can have a fringe of the *Poa-Matricaria* vegetation, occur with other eutrophic tall-herb communities like the *Urtica-Cirsium* assemblage or give way to closed Lolio-Plantaginion swards or the *Arrhenatheretum* on verges.

Regular disturbance in arable fields prevents any successional developments but where the community occurs on abandoned ground, it can progress to Lolio-Plantaginion grassland and Rubion sub-scrub.

Distribution

The community occurs widely throughout the lowlands of Britain wherever suitable soils and disturbance occur. The *Bilderdykia-Veronica* sub-community is more common in eastern England.

Affinities

This community corresponds closely to some of the arable weed vegetation tabulated in Kay's (1994) study of *Matricaria perforata*, termed there *Tripleurospermum inodorum*. It includes the *Lycopsietum arvensis* (Raabe 1944) Passarge 1964 as characterised by Silverside (1977), a syntaxon which, as described by Oberdorfer (1983) and Pott (1992), has more ephemerals of acid sands than is usual in the community described here. In this scheme, too, the *Matricaria-Stellaria* vegetation also includes much of what Silverside (1977) grouped in the *Alchemillo-Matricarietum* R.Tx. 1937 *emend.* Passarge 1957, an association recognised by Oberdorfer (1983) as including widely occurring weed vegetation in central and eastern Germany (see also Heinrich & Weber 1979) but which Westhoff & den Held (1969) subsumed in the *Papaveretum argemones* Libbert 1933 *emend.* Kruseman & Vlieger 1939. In this somewhat broader conception, the *Matricaria-Stellaria* community is best accommodated in the Polygono-Chenopodion alliance.

Floristic table OV9

	a	b	c	d	9
<i>Polygonum aviculare</i>	V (2–4)	V (1–5)	IV (1–10)	V (1–5)	V (1–10)
<i>Stellaria media</i>	IV (2–5)	III (1–5)	IV (1–5)	IV (1–7)	IV (1–7)
<i>Matricaria perforata</i>	IV (2–4)	IV (1–7)	III (1–7)	IV (2–5)	IV (1–7)
<i>Anagallis arvensis</i>	IV (2–5)	III (1–3)	I (1)	II (2–3)	II (1–5)
<i>Viola arvensis</i>	IV (1–3)	II (1–3)	II (1)	III (1–3)	II (1–3)
<i>Hordeum vulgare</i>	I (2–3)				I (2–3)
<i>Epilobium angustifolium</i>	I (2–3)				I (2–3)
<i>Symphytum officinale</i>	I (2–3)				I (2–3)
<i>Poa annua</i>	II (1–3)	V (2–8)	III (1–3)	IV (1–3)	III (1–8)
<i>Galeopsis tetrahit</i>		III (1–5)			I (1–5)
<i>Cerastium fontanum</i>		III (1–2)		I (1–2)	I (1–2)
<i>Aphanes arvensis</i>	I (2–4)	II (1–5)			I (1–5)
<i>Juncus bufonius</i>		II (1–3)			I (1–3)
<i>Elymus repens</i>		III (1–5)	IV (1–7)	IV (1–8)	III (1–8)
<i>Agrostis stolonifera</i>		II (2–3)	IV (2–5)	IV (2–10)	III (2–10)
<i>Potentilla anserina</i>		II (2–3)	III (1–4)		II (1–4)
<i>Equisetum arvense</i>	I (3)	I (1)	III (1–3)		I (1–3)
<i>Lamium purpureum</i>			II (3)	I (3)	I (3)
<i>Bromus sterilis</i>			II (3–4)		I (3–4)
<i>Tussilago farfara</i>			II (1–3)		I (1–3)
<i>Ranunculus arvensis</i>			II (1–3)		I (1–3)
<i>Bilderdykia convolvulus</i>		II (1–2)	III (1)	V (2–5)	III (1–5)
<i>Chenopodium album</i>	I (8)	I (1)	III (1–3)	IV (1–5)	III (1–8)
<i>Veronica persica</i>	II (2–8)	II (1–3)	II (1–5)	IV (1–5)	III (1–8)
<i>Capsella bursa-pastoris</i>	II (2–5)		III (1–3)	IV (1–5)	II (1–5)
<i>Chamomilla suaveolens</i>	I (2–4)	II (2–5)	III (1–3)	IV (1–5)	II (1–5)
<i>Trifolium repens</i>			III (2–5)	IV (1–5)	II (1–5)
<i>Plantago major</i>	I (2)	II (1–3)	I (3)	III (1–7)	II (1–7)
<i>Veronica arvensis</i>	I (2)	II (1–2)	I (3)	III (1–4)	II (1–4)
<i>Rumex obtusifolius</i>		II (1–3)	I (1)	III (1–3)	II (1–3)

Floristic table OV9 (cont.)

	a	b	c	d	9
<i>Senecio vulgaris</i>	I (3)	I (1–2)	II (1)	III (1–3)	I (1–3)
<i>Taraxacum officinale</i> agg.		I (1)		III (1–3)	I (1–3)
<i>Solanum nigrum</i>				III (1–5)	I (1–5)
<i>Crepis capillaris</i>		I (1–2)		III (1–3)	I (1–3)
<i>Anchusa arvensis</i>	I (3)			III (1–4)	I (1–4)
<i>Holcus lanatus</i>		I (2)		II (2–5)	I (2–5)
<i>Chamomilla recutita</i>				II (1–3)	I (1–3)
<i>Sisymbrium officinale</i>				II (1–3)	I (1–3)
<i>Rumex acetosella</i>				I (1–2)	I (1–2)
<i>Mercurialis annua</i>				I (1–5)	I (1–5)
<i>Papaver dubium</i>				I (2–3)	I (2–3)
<i>Misopates orontium</i>				I (1–2)	I (1–2)
<i>Sonchus asper</i>	II (3)	II (1–2)	III (1–2)	III (1–5)	III (1–5)
<i>Cirsium arvense</i>	I (2)	III (1–3)		III (1–3)	II (1–3)
<i>Atriplex patula</i>	I (5)	I (1)	III (1–7)	III (1–2)	II (1–7)
<i>Raphanus raphanistrum</i>	II (1–2)		II (1)	II (1)	II (1–2)
<i>Urtica dioica</i>		I (1)	II (1–2)	II (1–3)	II (1–3)
<i>Bryum rubens</i>		II (1–3)	I (1)	II (2–5)	II (1–5)
<i>Fumaria officinalis</i>	I (3–5)	I (3)	I (3)	I (8)	I (3–8)
<i>Rumex crispus</i>		I (1–3)	I (1)	I (1)	I (1–3)
<i>Agrostis capillaris</i>	I (3)	I (3)	I (4)		I (3–4)
<i>Poa trivialis</i>		I (2)	I (1)	I (3)	I (1–3)
<i>Artemisia vulgaris</i>	I (2)	I (2)	I (3)	I (1–3)	I (1–3)
<i>Sonchus arvensis</i>		I (1)	I (1)	I (1)	I (1)
<i>Barbula unguiculata</i>		I (1–2)	I (1)	I (1–2)	I (1–2)
<i>Dicranella staphylina</i>		I (3–5)	I (2)	I (1–5)	I (1–5)
<i>Lolium perenne</i>		I (2)	I (3)	I (1–3)	I (1–3)
<i>Papaver rhoeas</i>	I (2)		I (3)	I (2)	I (2–3)
<i>Filaginella uliginosa</i>	I (1)	I (2–3)	I (1)	I (1)	I (1–3)
<i>Myosotis arvensis</i>	I (2)	I (1–2)	I (1)	II (1)	I (1–2)
<i>Lamium hybridum</i>	I (1)			I (3)	I (1–3)
<i>Polygonum arenastrum</i>	I (2)			I (2–5)	I (2–5)

<i>Polygonum persicaria</i>		I (1–5)		I (1)	I (1–5)
<i>Atriplex prostrata</i>	I (3)			I (2)	I (2–3)
<i>Sherardia arvensis</i>	I (3)			I (2)	I (2–3)
<i>Chrysanthemum segetum</i>	I (5)			I (7)	I (5–7)
<i>Holcus mollis</i>		I (2)	I (3)		I (2–3)
<i>Arrhenatherum elatius</i>			I (1)	I (1–2)	I (1–2)
<i>Plantago lanceolata</i>	I (2)			I (1–3)	I (1–3)
<i>Geranium molle</i>	I (3)			I (2–3)	I (2–3)
<i>Epilobium montanum</i>		I (1)		I (1)	I (1)
<i>Lapsana communis</i>		I (1–5)		I (1)	I (1–5)
<i>Dactylis glomerata</i>		I (2)		I (2)	I (2)
<i>Trifolium pratense</i>		I (2)	I (1)	I (2–3)	I (2–3)
<i>Eurhynchium praelongum</i>		I (2)		I (1–3)	I (1–3)
<i>Pottia intermedia</i>		I (2)		I (1–2)	I (1–2)
<i>Riccia sorocarpa</i>		I (1)		I (3)	I (1–3)
<i>Phascum cuspidatum</i>		I (1)		I (1–2)	I (1–2)
Number of samples	11	12	9	25	57
Number of species/sample	10 (6–15)	18 (6–32)	14 (8–18)	26 (9–51)	19 (6–51)

- a *Anagallis arvensis*-*Viola arvensis* sub-community
b *Poa annua*-*Galeopsis tetrahit* sub-community
c *Elymus repens*-*Potentilla anserina* sub-community
d *Bilderdykia convolvulus*-*Veronica persica* sub-community
9 *Matricaria perforata*-*Stellaria media* community (total)