OV13
Stellaria media-Capsella bursa-pastoris community

Synonymy
Includes *Fumarietum officinalis* R.Tx. 1950 and *Fumarietum bastardii* Br.-Bl. 1950.

Constant species
Capsella bursa-pastoris, *Chenopodium album*, *Polygonum aviculare*, *Senecio vulgaris*, *Stellaria media.*

Rare species
Fumaria bastardii.

Physiognomy
The *Stellaria media-Capsella bursa-pastoris* community is an annual vegetation type dominated by mixtures of *Stellaria media*, *Capsella bursa-pastoris*, *Senecio vulgaris*, *Polygonum vulgare* and *Chenopodium album*. Also more or less frequent overall but rather unevenly represented in the various sub-communities are *Poa annua*, *Elymus repens*, *Chamomilla suaveolens* and *Urtica urens*. More occasional are *Sonchus asper*, *Cirsium arvense* and *Polygonum persicaria*. Scarcer associates in the community include *Rumex obtusifolius*, *Convolvulus arvensis*, *Solanum nigrum* and *Avena fatua*.

Sub-communities

Typical sub-community. Apart from the species mentioned above, there is little that is distinctive about the vegetation here. Occasionally, *Sinapis arvensis*, *Sisymbrium officinale* and *Lolium perenne* are seen.

***Matricaria perforata-Poa annua* sub-community.** *Poa annua* and, more particularly, *Matricaria perforata* are preferentially frequent in this sub-community along with common *Agrostis stolonifera.*

***Fumaria officinalis-Euphorbia helioscopa* sub-community.** A number of quite common community associates, like *Elymus repens*, *Veronica persica* and *Lamium purpureum* are especially frequent here, but more striking is the preferential occurrence of *Fumaria officinalis* and *Euphorbia helioscopa*. More occasional are *E. peplus*, *Sonchus oleraceus*, *Veronica agrestis*, *Mercurialis annua*, *Polygonum nodosum* and *Geranium dissectum*. Around the coastal lowlands of western Britain, this vegetation provides a locus for the nationally rare *Fumaria bastardii* and, at scattered localities in England and Wales, for *Chenopodium urbicum*, probably an introduced plant.

***Urtica dioica-Galium aparene* sub-community.** *Sonchus asper* and *Cirsium arvense* are somewhat more common here than in other sub-communities but more obviously preferential are *Urtica dioica* and *Galium aparine*, with occasional *Papaver rhoeas*, *Bromus sterilis*, *Polygonum convolvulus*, *P. lapathifolium*, *Cirsium vulgare*, *Brassica napus* and *Chenopodium bonus-henricus.*

Habitat
The *Stellaria-Capsella* community occurs widely on fertile loamy soils throughout the British lowlands, as weed vegetation among root, vegetable and salad crops, often even where these have been treated by herbicides, but also among cereals and on dumped topsoil and disturbed ground.

The most common species of this community all grow best on disturbed ground that is naturally eutrophic or, more commonly, where there has been some enrichment through fertilising, dumping of organic waste or disturbance (e.g. Sobey 1981, Hutchinson & Seymour 1982, Kay 1994). Many are prodigious seeders, able to remain dormant for some years and some, like *Poa annua*, *Stellaria media* and *Capsella bursa-pastoris*, show an intermittent germination pattern that enables them to take advantage of disturbance and opening up of the ground at any time through the growing season. Moreover, species such as *S. media*, *Bilderdykia convolvulus*, *Polygonum* spp., *Chamomilla suaveolens* and *Veronica persica* are all somewhat resistant to many of the herbicides that are in common use (Silverside 1977), so this kind of weed vegetation is one of the commonest assemblages

associated with intensive root, vegetable and salad crops on farms and market gardens, as well as in smallholdings and on allotments.

Such situations, and fertilised cereal crops, are most characteristic for the Typical and *Matricaria-Poa* sub-communities, while the *Urtica-Galium* type is more often found on disturbed and dumped soil, around manure piles and in derelict pastures. By contrast, the *Fumaria-Euphorbia* sub-community preserves a little more of the species diversity associated with less intensively cultivated arable crops. Over much of the British lowlands, certainly towards the east, *F. officinalis* is the typical fumitory but it is replaced in essentially the same vegetation in the west by *F. muralis* ssp. *boraei*, the commoner plant in western England and Wales, and down the western seaboard by *F. bastardii*.

Zonation and succession

The *Stellaria-Capsella* community replaces other weed assemblages on loamy soils as cultivation practices are intensified. Where stretches of crop are less effectively fertilised and sprayed, it can be found with the *Papaveretum argemones* and, on more obviously calcareous soils in the warmer and drier south-east, by the *Kickxietum spuriae*. On more sandy and less base-rich soils in eastern Britain it can give way to the *Urtica urens-Lamium* community and, in the far south-west, to the *Cerastium-Fumaria* community. More widely, in intensive arable landscapes, the *Stellaria-Capsella* community is found with the *Veronico-Lamietum*, the *Alopecurio-Chamomilletum* and the *Matricaria-Stellaria* community.

Continued cultivation effectively prevents any succession.

Distribution

The *Stellaria-Capsella* community occurs widely through the British lowlands with the *Fumaria-Euphorbia* type the most local.

Affinities

This is the most widespread weed community in Britain that has recognisable affinities with the Fumario-Euphorbion, the alliance of emphemeral vegetation types characteristic of less acidic loams and clays throughout western Europe. As such, it is equivalent to the *Fumarietum officinalis* R.Tx. 1950 or its various manifestations: the *Mercuriali-Fumarietum* Kruseman & Vlieger 1939 *emend.* J.Tx. 1955 (as in Westhoff & den Held 1969), the *Thlaspio-Fumarietum* Görs in Oberdorfer *et al.* 1967 ex Passarge & Jurko 1975 (as in Pott 1992) or the *Mercurialetum annuae* Kruseman & Vlieger 1939 *emend.* Th. Müller (as in Oberdorfer 1983). The *Fumarietum bastardii* Br.-Bl. in Br.-Bl. & Tx. 1952 was defined from Ireland on the basis of four samples, with Brun-Hool & Wilmans (1982) subsequently assigning some possible new samples to this syntaxon. However, the floristic differences among the British data seem insufficient to recognise this as distinct and even the *Fumarietum officinalis* is so poorly developed as to be hard to distinguish from its now much more widespread impoverished derivative. Such a problem is hardly unexpected when the *Fumarietum* is itself a community of naturally fertile loams, soils which now provide the bulk of the land for intensive vegetable cultivation. Among the Fumario-Euphorbion, these British stands are therefore transitional to the Polygono-Chenopodion. In fact, in The Netherlands, the Fumario-Euphorbion has been subsumed in this latter alliance (Westhoff & den Held 1969).

Floristic table OV13

	a	b	c	d	13
Capsella bursa-pastoris	V (2–7)	IV (1–5)	V (1–8)	V (1–3)	V (1–8)
Stellaria media	V (1–6)	V (1–7)	V (1–7)	III (3–5)	V (1–7)
Senecio vulgaris	IV (3–5)	V (1–3)	V (1–5)	III (2–4)	V (1–5)
Polygonum aviculare	IV (2–3)	IV (1–10)	III (3–5)	IV (3–5)	IV (1–10)
Chenopodium album	III (3–9)	V (1–5)	V (1–5)	IV (2–5)	IV (1–9)
Sinapis arvensis	III (2–4)	I (1–8)	II (1–5)	I (4)	I (1–8)
Sisymbrium officinale	II (1–4)	II (1–3)		I (3)	I (1–4)
Lolium perenne	II (3–4)				I (3–4)
Poa annua	II (2–7)	IV (1–8)	IV (1–3)	II (1–4)	III (1–8)
Matricaria perforata	I (1)	V (1–8)	II (2–3)		II (1–8)
Agrostis stolonifera	II (3–5)	III (1–5)	I (2)	I (4)	II (1–5)
Elymus repens	III (2–4)	II (1–5)	V (1–3)	IV (3–8)	III (1–8)
Veronica persica	III (2–7)	III (1–7)	V (1–5)	I (1)	III (1–7)
Lamium purpureum	III (1–5)	II (1–5)	IV (1–5)	I (3)	III (1–5)
Fumaria officinalis	I (3)	II (1–5)	III (1–5)		II (1–5)
Euphorbia helioscopa	I (1)	I (1–3)	III (1–4)		II (1–4)
Sonchus oleraceus	I (1)	I (1–3)	II (1–3)		II (1–3)
Euphorbia peplus		I (1–2)	II (1–4)		II (1–4)
Veronica agrestis			II (2–3)		I (2–3)
Mercurialis annua			II (1–8)		I (1–8)
Chenopodium urbicum		I (1–3)	II (1–4)	I (3)	I (1–4)
Polygonum nodosum		I (2)	II (3)		I (2–3)
Geranium dissectum	I (2)	I (1)	II (1–3)		I (1–3)
Fumaria muralis boraei			II (1–5)		I (1–5)
Fumaria bastardii			II (1–8)		I (1–8)
Sonchus asper	II (1–3)	I (1)	III (1–3)	V (2–5)	II (1–5)
Cirsium arvense	III (1–7)	II (1–5)	III (1–5)	IV (2–4)	II (1–7)
Galium aparine	I (2)	I (1–2)	I (3)	IV (2–5)	I (1–5)
Urtica dioica	I (4)	I (1)		IV (1–4)	I (1–4)
Papaver rhoeas		I (2)	I (1)	II (3–5)	I (1–5)
Bromus sterilis			I (2)	II (3–4)	I (2–4)
Polygonum lapathifolium		I (1)	I (1)	II (3–9)	I (1–9)
Cirsium vulgare			I (1)	II (2–5)	I (1–5)
Brassica napus				II (2–3)	I (2–3)
Chenopodium bonus-henricus				II (2–4)	I (2–4)
Chamomilla suaveolens	III (1–6)	II (1–5)	III (1–5)	II (2–6)	III (1–6)
Urtica urens	I (2)	III (1–8)	III (1–3)	I (1)	III (1–8)
Polygonum persicaria	II (2–4)	II (1–5)	II (1–7)	II (3)	II (1–7)
Rumex obtusifolius	I (2)	II (1–3)	I (1)	II (2–4)	I (1–4)
Convolvulus arvensis	I (2)	I (1)	II (3–8)	II (2–4)	I (1–4)
Solanum nigrum	I (1)	II (1–3)	II (1–2)		I (1–3)
Bilderdykia convolvulus	I (1–3)	II (1–3)	II (3–5)	II (3–5)	I (1–5)
Plantago major		II (1–3)	II (1–5)		I (1–5)
Avena fatua		II (1–3)	I (1)	II (3–4)	I (1–4)
Lamium album	I (9)	I (2)		I (2)	I (2–9)
Atriplex patula	I (4–6)	I (3)	I (5)		I (3–5)
Thlaspi arvense	I (2)	I (1)	I (3)		I (1–3)
Chenopodium rubrum		I (2–3)	I (1)	I (1)	I (1–3)
Rumex crispus	I (3)	I (1)		I (3)	I (1–3)
Atriplex prostrata	I (3)	I (1)	I (8)		I (1–8)
Coronopus squamatus	I (2)		I (2)	I (2)	I (2)
Calystegia sepium		I (2)		I (7)	I (2–7)
Poa pratensis		I (1–2)	I (1–4)		I (1–4)
Arctium minus agg.		I (3–5)	I (3)		I (3–5)
Sonchus arvensis		I (2)	I (5–7)		I (2–7)
Lamium hybridum		I (3)		I (2)	I (2–3)
Chamomilla recutita			I (1–2)	I (3)	I (1–3)
Spergula arvensis	I (5)	I (1)			I (1–5)
Trifolium repens		I (3)	I (1–2)		I (1–3)
Alopecurus myosuroides		I (3–5)	I (3)		I (3–5)
Veronica polita		I (2–4)		I (3)	I (2–4)
Number of samples	10	19	39	8	76
Number of species/sample	12 (5–20)	17 (11–32)	19 (6–39)	16 (12–20)	17 (5–39)

a Typical sub-community
b *Matricaria perforata-Poa annua* sub-community
c *Fumaria officinalis-Euphorbia helioscopa* sub-community
d *Urtica dioica-Galium aparine* sub-community
13 *Stellaria media-Capsella bursa-pastoris* community (total)

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