OV25
Urtica dioica-Cirsium arvense community

Constant species
Cirsium arvense, *Urtica dioica.*

Physiognomy
The *Urtica dioica-Cirsium arvense* community typically has a rather open or patchy cover of *U. dioica*, usually grown tall by mid-summer but not so densely developed as to exclude other associates. Among these companions, large thistles and coarse grasses are the most conspicuous, with *Cirsium arvense* and *C. vulgare* both occurring frequently, and often in some abundance, and *Dactylis glomerata*, *Elymus repens*, *Holcus lanatus* and *Arrhenatherum elatius* very common in various of the sub-communities. *Galium aparine* is occasional, its shoots sprawling over the taller herbs, and there can be scattered plants of *Lamium purpureum*, *Leucanthemum vulgare*, *Epilobium hirsutum* and *Carduus acanthoides.*

Sub-communities

***Holcus lantus-Poa annua* sub-community.** *Elymus repens* and *Holcus lanatus* with, somewhat less frequently, *Poa annua* and *Agrostis stolonifera* give a distinctly grassy look to this vegetation and there is often some *Sonchus asper*, *S. oleraceus*, *Senecio vulgaris*, *Daucus carota*, *Rumex obtusifolius* and *Echium vulgare*. Locally, *Pteridium aquilinum* can figure. Smaller associates in more open places among this tall and coarse herb cover include *Cerastium fontanum*, *Trifolium repens*, *T. pratense* and *Myosotis arvensis* and *Vicia sativa* is an occasional climber.

***Rumex obtusifolius-Artemisia vulgaris* sub-community.** *Elymus repens*, *Dactylis glomerata* and *Arrhenatherum elatius* are frequent here, along with the nettle and thistles, but the most distinctive feature is the common occurrence of *Artemisia vulgaris* and *Heracleum sphondylium* with occasional *Calystegia sepium*, *Malva sylvestris* and *Conium maculatum.*

***Lolium perenne-Papaver rhoeas* sub-community.** *Dactylis* and *Arrhenatherum* remain common in this sub-community but more striking is the frequent occurrence of *Lolium perenne* and *Papaver rhoeas* along with occasional *Bromus mollis*, *B. sterilis*, *Matricaria maritima*, *Silene vulgaris*, *Sisymbrium officinale* and *Anthriscus sylvestris. Rubus fruticosus* agg. can be patchily abundant and stands among fens may have *Phragmites australis.*

Habitat
The *Urtica-Cirsium* community is characteristic of disturbed areas of nutrient-rich loamy soils within badly-managed pastures and leys, on abandoned arable land, waysides, verges and waste ground, and woodland clearings.

The most obvious floristic difference between this kind of nettle vegetation and the *Urtica-Galium* community is the more consistent frequency and abundance here of the two thistles, *Cirsium arvense* and *C. vulgare*, and this reflects some contrast in the characteristic habitats of the two assemblages. These thistles both get a hold and thrive best on open areas of bare soil as on molehills in pastures, places where long-lying dung pats have smothered grassy swards, on newly-seeded verges, on abandoned ground and dumped soil, and on derelict land.

C. arvense produces seed where can germinate in the autumn after flowering, although the warming and fluctuating temperatures of spring are especially favourable to its establishment. The first tap root quickly puts out laterals on which buds produce new vertical vegetative or flowering shoots: these can thus give rise to a patch of thistles and horizontal spread can occur with formidable speed, up to 12 m or more in a single season. With such a successful form of vegetative establishment, it matters less that the flowering heads of single individuals or clones are usually functionally dioecious and the inflorescences sterile. When both male and female plants occur in close proximity, however, viable fruits are freely

produced and readily dispersed by wind (Salisbury 1964).

C. vulgare is a biennial when its life cycle proceeds unhindered, and it reproduces entirely by seed, though predation by herbivores can thicken up clumps where stock or rabbits devour flowering stems and stimulate the production of secondary shoots (Klinkhamer & de Jong 1993). In fact, the prickly vegetative shoots are unpalatable to most stock and grazing of surrounding vegetation can greatly help establishment on small areas of bare ground by keeping potential competitors to the thistle rosettes in check.

Both *Cirsium* spp. can colonise soils of varying texture and moisture content although they perform best on circumneutral loams that are free-draining but not prone to drought. Growing together here with *Urtica dioica*, the favoured situations are nutrient-rich, such as fertilised pastures and arable land and disturbed top soil.

The various sub-communities are characteristic to some extent of different habitats although the details of the particular conditions of each are uncertain. The *Lolium-Papaver* type occurs on verges and derelict pastures which have been disturbed, on dumped soil and waste ground and in the fairly early stages of colonisation of abandoned arable land. The *Elymus-Artemisia* sub-community is seen on waste ground and in disturbed woodland clearances or young plantations. The *Holcus-Poa* type is characteristic of dumped soil and waste ground.

Zonation and succession

The community occurs typically with other weed vegetation or among various grasslands and scrub communities. Invasion by brambles, shrubs and trees can continue or restore a succession to woodland.

Among neglected, disturbed or ill-managed pastures and leys, this kind of vegetation can occur very fragmentarily around molehills and patches of broken ground, passing sharply to the *Lolio-Cynosuretum* or Lolio-Plantaginion leys. On grassy waysides and verges, stands can be larger and the context is usually communities like the *Lolium-Dactylis* assemblage or the *Arrhenatheretum*. Along road edges, it can give way to the *Poa-Matricaria perforata* community.

On wasteland, the *Urtica-Cirsium* community can occur with a variety of other weed vegetation like the *Matricaria perforata-Stellaria* or *Stellaria-Capsella* assemblages, in various sub-communities of which both stinging nettle and thistles can remain prominent. Such vegetation types can precede the development of the *Urtica-Cirsium* community on abandoned arable land or waste ground. Subsequent stages in succession can be seen where ground remains undisturbed or unmanaged. Then, *Rubus fruticosus* agg. can become more patchily prominent among the *Urtica-Cirsium* vegetation, thicken up into *Rubus-Holcus* underscrub and this in turn progress to *Crataegus-Hedera* scrub. Mosaics of such communities are a common feature of abandoned waste ground and grossly-disturbed woodland clearings and margins. Eventual development of *Quercus-Pteridium-Rubus* or *Fagus-Rubus* woodland is the likely culmination of such succession on the kind of soils where the *Urtica-Cirsium* community occurs.

Distribution

The community is ubiquitous through the British lowlands.

Affinities

This kind of vegetation presents various general features characteristic of a number of associations recognised in other parts of Europe where *U. dioica* plays a prominent role: the *Urtico-Convolvuletum sepium* Görs & Müller 1969, the *Urtico-Aegopodietum podagrariae* (R.Tx. 1963) Oberdorfer 1964 in Görs 1968 and the *Urtico-Cruciatetum laevipedis* Dierschke 1974. It comes closest in some ways to the last type, though lacks many of the woodland fringe taxa characteristic there. These associations are variously grouped in the Galio-Alliarion (Oberdorfer 1957) Lohmeyer & Oberdorfer in Oberdorfer *et al.* 1967 or the Aegopodion podagrariae R.Tx. 1967, alliances now placed in the Galio-Urticetea Passarge ex Kopecký 1969.

Floristic table OV25

	a	b	c	25
Urtica dioica	IV (1–4)	IV (3–6)	IV (2–4)	IV (1–6)
Cirsium arvense	V (1–6)	IV (2–6)	IV (3–6)	IV (1–6)
Elymus repens	IV (3–5)	V (3–8)		III (3–8)
Dactylis glomerata	II (2–4)	IV (3–5)	IV (3–4)	III (2–5)
Holcus lanatus	IV (2–5)	I (4)	I (4)	II (2–5)
Sonchus asper	III (1–3)	II (3)	II (2–4)	II (1–4)
Agrostis stolonifera	III (4–7)		II (3–4)	II (3–7)
Poa annua	III (2–5)			II (2–5)
Cerastium fontanum	III (2–3)			I (2–3)
Vicia sativa	II (1–3)		I (2)	I (1–3)
Daucus carota	II (1–5)		I (1)	I (1–5)
Trifolium repens	II (3)		I (3)	I (3)
Echium vulgare	II (4–5)			I (4–5)
Pteridium aquilinum	II (5–6)			I (5–6)
Trifolium pratense	II (3–5)			I (3–5)
Sonchus oleraceus	II (1–3)			I (1–3)
Myosotis arvensis	II (1–5)			I (1–5)
Senecio vulgaris	II (2–4)			I (2–4)
Rumex obtusifolius	II (3)	III (1–4)	I (3)	II (1–4)
Artemisia vulgaris		III (4–8)	I (2)	II (2–8)
Heracleum sphondylium		III (3–4)		II (3–4)
Calystegia sepium	I (3)	II (2–5)		II (2–5)
Conium maculatum		II (3–5)	I (7)	I (3–7)
Malva sylvestris		II (2–7)	I (3)	II (2–7)
Arctium minus		I (3–10)		I (3–10)
Beta vulgaris		I (3–5)		I (3–5)
Lolium perenne	II (4–5)	II (3–4)	V (3–6)	III (3–6)
Arrhenatherum elatius	I (4)	III (2–4)	IV (2–6)	III (2–6)
Papaver rhoeas	I (3)		IV (2–6)	II (2–6)
Bromus hordeaceus hordeaceus		I (4)	II (3–7)	II (3–7)
Matricaria maritima	I (3)		II (3–4)	II (3–4)
Silene vulgaris		I (3)	II (3–4)	II (3–4)
Sisymbrium officinale		I (2–3)	II (3–4)	II (2–4)
Bromus sterilis		I (3)	II (2–6)	II (2–6)
Hordeum murinum		I (3)	II (3–5)	I (3–5)
Rubus fruticosus agg.		I (5)	II (2–3)	I (2–5)
Capsella bursa-pastoris	I (3)		II (2–3)	I (2–3)
Anthriscus sylvestris		I (2–4)	II (4)	I (2–4)
Silene dioica			II (2–3)	I (2–3)
Ranunculus repens			II (3–5)	I (3–5)
Geranium dissectum			II (3)	I (3)
Potentilla reptans			II (3–8)	I (3–8)
Phragmites australis			II (3–4)	I (3–4)
Achillea millefolium			II (2–3)	I (2–3)

https://doi.org/10.1017/CBO9780511541834.094 Published online by Cambridge University Press

Dipsacus fullonum			I (2)	I (2)
Amaranthus albus			I (5)	I (5)
Carduus nutans			I (3)	I (3)
Malva neglecta			I (4)	I (4)
Cirsium vulgare	II (3–4)	II (3–4)	II (3–4)	II (3–4)
Lamium purpureum	II (1)	II (3–4)	I (4)	II (1–4)
Galium aparine	II (3–4)	I (3)	II (2–3)	II (2–4)
Leucanthemum vulgare	I (3)	I (3)	I (3)	I (3)
Centaurea scabiosa	I (4)	I (3)	I (3)	I (3–4)
Atriplex prostrata	I (3)	I (5)		I (3–5)
Epilobium hirsutum	I (2)	I (4–5)		I (2–5)
Carduus acanthoides		I (2–4)	I (5)	I (2–5)
Plantago lanceolata		I (3)	I (4)	I (3–4)
Geranium molle	I (3)		I (3)	I (3)
Senecio jacobaea	I (1)		I (3)	I (1–3)
Aster tripolium	I (2)		I (4)	I (2–4)
Avena fatua	I (3)		I (4)	I (3–4)
Glechoma hederacea	I (3)		I (2)	I (2–3)
Number of samples	8	11	8	27
Number of species/sample	16 (9–31)	11 (8–19)	17 (10–31)	14 (8–31)

a *Holcus lanatus-Poa annua* sub-community
b *Rumex obtusifolius-Artemisia vulgaris* sub-community
c *Lolium perenne-Papaver rhoeas* sub-community
25 *Urtica dioica-Cirsium arvense* community (total)

https://doi.org/10.1017/CBO9780511541834.094 Published online by Cambridge University Press