OV10
Poa annua-Senecio vulgaris community

Constant species
Poa annua, *Senecio vulgaris.*

Physiognomy
The *Poa annua-Senecio vulgaris* community brings together a variety of weed assemblages which are distinctive in their combinations of common species rather than by the presence of striking differentials. *Poa annua* and *Senecio vulgaris* are the only constants throughout but *Lolium perenne* is very frequent and *Capsella bursa-pastoris* and *Cerastium fontanum* occur commonly in various sub-communities. Occasionals include *Cirsium arvense*, *Plantago major*, *Poa trivialis*, *Veronica persica* and *Urtica dioica*. The assemblages vary in their total cover and, though most of the more frequent species here are emphemeral, a perennial grassy element can be seen establishing in some sub-communities.

Sub-communities

***Polygonum persicaria-Ranunculus repens* sub-community.** The abundance of knotweeds and spurges is often the most striking feature here, with *Polygonum aviculare* and, more strongly preferential, *P. persicaria* both constant, *Euphorbia helioscopa* and *E. exigua* frequent. *Stellaria media* is also more common in this sub-community than elsewhere with *Ranunculus repens*, *Anagallis arvensis*, *Viola arvensis*, *Bilderdykia convolvulus*, *Anthemis cotula*, *Trifolium repens* and *Lapsana communis*. Preferential occasionals include *Sinapis arvensis*, *Raphanus raphanistrum*, *Spergularia arvensis* and *Fumaria officinalis.*

***Polygonum aviculare-Matricaria perforata* sub-community.** *P. aviculare* remains constant here with *P. persicaria* and *P. arenastrum* occasional, but more striking is the high frequency and often abundance of mayweeds: *Chamomilla suaveolens*,*C. recutita* and *M. perforata* are all common in this sub-community. *Chenopodium album* and *Coronopus squarratus* are also weakly preferential.

***Agrostis stolonifera-Rumex crispus* sub-community.** *Agrostis stolonifera* and *Holcus lanatus* are both frequent here in a patchy grassy cover with knotweeds and mayweeds figuring occasionally. More obvious, though, are docks and thistles, with *Rumex crispus* and *R. obtusifolius*, *Cirsium vulgare* and *C. arvense* all common. *Senecio squalidus* often accompanies *S. vulgaris* and *Taraxacum officinale* agg. is frequent. *Epilobium angustifolium* occurs occasionally, though not in abundance, along with *Tussilago farfara*, *Poa pratensis* and *Sonchus oleraceus. Bryum argenteum* is sometimes seen on bare earth.

***Dactylis glomerata-Agrostis capillaris* sub-community.** *Dactylis glomerata* and *Agrostis capillaris* are both frequent in this sub-community, sometimes at quite high cover, giving a grassier look to the vegetation. *Plantago lanceolata*, *P. media*, *Achillea millefolium*, *Medicago lupulina*, *Vicia sativa*, *Bromus sterilis*, *Rumex acetosa* and *Erodium cicutarium* are all quite common.

Habitat
The *Poa-Senecio* community is characteristically a pioneer weed assemblage of open cultivated or trampled ground, especially where fertile soils have become moist. It is ubiquitous through the British lowlands, being particularly frequent in arable land, gardens, ill-sown and badly-poached leys and recreational grasslands, waysides, gateways and freshly-dumped earth on building sites and roadworks.

This is one of a range of weed communities in which the success of *Poa annua* as a colonist of open, moist soils is very evident (Hutchinson & Seymour 1982). It is an extremely widespread species, successful on all but very acid, basic, impoverished or saline soils but it performs especially well on moister loams and clays where, through cultivation, trampling or the delayed establishment of perennials, the ground remains open. It shows peaks of germination in spring and autumn (Law 1981), light, alternating temperatures and high nitrate (Roberts

& Benjamin 1979) all enhancing germination conditions likely to prevail in spring- or autumn-sown cereals or other field crops under intensive arable cultivation. However, seeds will also germinate in the dark (Thompson *et al.* 1977) and among established swards where open ground appears. Though establishment is best in loose soil (Roberts & Stokes 1965), germination can occur at low oxygen concentration (Müllverstadt 1963) and the plant is noticeably tolerant of soil compaction, temporary flooding and waterlogging. All these, in fact, can help create opportunities for this assemblage to establish by hindering the development of perennials or destroying them where they occur in existing swards. Plants can survive warm summer conditions and *P. annua* often capitalises on droughty periods by appearing in gaps created in grasslands after the soil has been subsequently wetted.

Like *P. annua*, the seed of *Senecio vulgaris*, the other characteristic constant of the community, is able to germinate very quickly and other common species of this assemblage are all ready colonisers of open, fertile ground. The high frequency of *Lolium perenne* reflects the widespread occurrence of this plant along disturbed waysides and in gateways but also the common appearance of the *Poa-Senecio* assemblage within badly-managed pastures and leys.

Of the various sub-communities, the *Polygonum-Ranunculus* type is especially characteristic of arable and garden crops, poorly-sown leys and disturbed ground on heavier clay and clay-loam soils in the warmer and drier south-east of Britain. *Anthemis cotula*, a distinctive preferential of this kind of *Poa-Senecio* vegetation, is a plant with a more or less Continental distribution in Britain (Perring & Walters 1962, Kay 1971), most abundant where the July mean is above 15.6 °C and annual precipitation less than 880 mm or where, as in south-west England, high summer temperatures offset the impact of higher rainfall. It flowers from mid-June onwards but can show a second flush among unploughed stubble because the bases of shoots cut during harvest are able to produce vigorous new growth (Kay 1971).

Among the other sub-communities, all of which are more widespread in their occurrence, the *Polygonum-Matricaria* type is characteristic of lighter sands and loams, the *Dactylis-Agrostis* type of disturbed, somewhat improved pastures and waysides on slightly more acidic soils and the *Agrostis-Rumex* type of poorly-managed leys, pastures and recreational swards on neutral loams.

Zonation and succession

In arable fields, the *Poa-Senecio* community can occur patchily within or around the crop, alone or with other Polygono-Chenopodion assemblages typical of cereals, roots or vegetables, the *Polygonum-Matricaria* or, mostly in the south-east, the *Polygonum-Ranunculus* sub-community being the typical forms here.

In weedy leys or pastures, the *Agrostis-Rumex* sub-community often occurs among some Lolio-Plantaginion sward like the *Lolio-Plantaginetum*, sometimes with patches of *Urtica-Cirsium* vegetation. In very badly poached areas, these may give way to some sort of Bidention assemblage like the *Polygonium-Poa* community. Around drier gateways, there is often a sequence of *Polygonum-Chamomilla* and *Poa-Plantago* assemblages. On slighter more acidic and less eutrophic soils, the *Dactylis-Agrostis* sub-community replaced the *Agrostis-Rumex* type. This sort of *Poa-Senecio* vegetation can also be seen with *Lolium-Dactylis* grassland on disturbed waysides and verges.

Both *P. annua* (Hutchinson & Seymour 1982) and *S. vulgaris* (Salisbury 1964) are able to complete their life cycle very quickly and, where conditions do not remain congenial, this community can have but a fleeting existence. In arable fields or seasonally-poached leys, it may return year after year but, where swards close, it is typically replaced by some form of Lolio-Plantaginion vegetation like the *Lolium-Dactylis* community. This in turn may pass to the *Arrhenatheretum.*

Distribution

The *Poa-Senecio* community occurs throughout Britain, except for the *Polygonum-Ranunculus* sub-community where is more confined to the south and east of the country.

Affinities

This kind of impoverished weedy vegetation has attracted little attention and it is very difficult to define using the sorts of character species developed elsewhere in Europe. It should be seen as an extremely generalised assemblage transitional in floristics and habitat between the Polygono-Chenopodion and the Lolio-Plantaginion.

Floristic table OV10

	a	b	c	d	10
Poa annua	V (1–4)	V (2–5)	V (1–5)	V (2–4)	V (1–5)
Senecio vulgaris	V (1–3)	V (1–4)	V (1–6)	V (1–5)	V (1–6)
Polygonum aviculare	V (1–4)	IV (2–7)	II (3–4)	I (4)	II (1–7)
Stellaria media	V (1–4)	III (3–4)	III (1–5)	I (2)	II (1–5)
Ranunculus repens	V (1–4)		II (1–4)	II (1–2)	I (1–4)
Sonchus asper	V (1–4)	I (3)	II (1–5)	I (2)	I (1–5)
Anagallis arvensis	V (1–3)	I (1)	I (3)	I (3)	I (1–3)
Viola arvensis	V (1–4)	I (1–2)	I (4)	I (3)	I (1–4)
Polygonum persicaria	IV (2–3)	II (3–7)	I (1)		I (1–7)
Bilderdykia convolvulus	IV (1–3)	II (4–5)			I (1–5)
Anthemis cotula	IV (3–4)	I (3)		I (2–3)	I (2–4)
Trifolium repens	III (1–7)	I (1–2)	II (3–7)	I (2–3)	I (1–7)
Euphorbia exigua	III (1–3)				I (1–3)
Euphorbia helioscopa	III (1–4)				I (1–4)
Lapsana communis	III (1–3)				I (1–3)
Sinapis arvensis	II (1–2)	I (2)	I (1)		I (1–2)
Raphanus raphanistrum	II (1–2)	I (2)			I (1–2)
Spergularia arvensis	II (3–8)				I (3–8)
Fumaria officinalis	II (1–3)				I (1–3)
Chamomilla suaveolens	I (2)	III (3–6)	III (3–4)	II (2–4)	II (2–6)
Chenopodium album	II (1–3)	III (2–4)	II (1–3)	I (1–4)	I (1–4)
Matricaria perforata	I (1–4)	III (2–7)	II (3–5)	I (1–2)	I (1–7)
Chamomilla recutita		II (1–3)	I (1–3)		I (1–3)
Polygonum arenastrum		II (3–4)	I (3)		I (3–4)
Coronopus squamatus		II (2)			I (2)
Agrostis stolonifera	II (1–5)		IV (1–4)	I (3–4)	II (1–5)
Rumex crispus	II (2–4)	I (1)	III (1–3)	I (2)	I (1–4)
Holcus lanatus			III (1–5)	II (2–5)	I (1–5)
Senecio squalidus			III (3–5)		I (3–5)
Taraxacum officinale agg.			III (1–5)		I (1–5)
Rumex obtusifolius		I (2–4)	II (3–5)	I (1)	I (1–5)

Cirsium vulgare		I (1)	II (1–4)	I (3–4)	I (1–4)
Epilobium angustifolium		I (3)	II (2–3)		I (2–3)
Tussilago farfara	I (1)		II (2–5)		I (1–5)
Poa pratensis			II (2–3)	I (1–3)	I (1–3)
Bryum argenteum			II (1–3)	I (2)	I (1–3)
Sonchus oleraceus			II (1–3)		I (1–3)
Dactylis glomerata	I (3)	I (1–3)	II (1–3)	III (2–6)	II (1–6)
Plantago lanceolata		I (1)	II (1–4)	III (2–4)	II (1–4)
Agrostis capillaris				III (3–7)	I (3–7)
Achillea millefolium	I (2)			II (1–4)	I (1–4)
Medicago lupulina	I (1)			II (2–4)	I (1–4)
Vicia sativa	I (1)		I (3)	II (2–3)	I (1–3)
Bromus sterilis			I (1)	II (2–5)	I (1–5)
Rumex acetosa			I (1)	II (1)	I (1)
Plantago media				II (2–3)	I (2–3)
Erodium cicutarium				II (3–7)	I (3–7)
Alliaria petiolata				I (2–6)	I (2–6)
Festuca ovina				I (2–3)	I (2–3)
Erophila verna				I (1–3)	I (1–3)
Lolium perenne	IV (1–6)	II (2–6)	IV (1–6)	III (1–8)	III (1–8)
Capsella bursa-pastoris		III (2–3)	III (1–5)	II (2–3)	III (1–5)
Cerastium fontanum	I (4)		III (1–3)	III (2–3)	III (1–4)
Cirsium arvense	II (1–4)	I (1–4)	II (1–4)	III (1–6)	II (1–6)
Plantago major	III (1–2)	II (2)	III (2–5)		II (1–5)
Poa trivialis	II (2–4)	I (4)	III (2–5)	I (1–3)	II (1–5)
Veronica persica	II (3–4)	II (3–4)	II (1–3)		II (1–4)
Urtica dioica		II (1–5)	II (1–3)	II (3)	II (1–5)
Myosotis arvensis	II (1)		II (1–3)	I (2)	I (1–3)
Lamium purpureum		II (1–2)	II (1–3)		I (1–3)
Elymus repens	I (1–2)	I (1)	I (3)	I (6)	I (1–6)
Galium aparine	I (1)	I (1)	I (2)	I (4–5)	I (1–5)
Heracleum sphondylium	I (1)	I (2)	I (1)	I (1)	I (1–2)
Trifolium pratense	I (1–2)	I (1)	I (2–3)	I (1)	I (1–3)
Urtica urens	I (2)	I (8)	I (2)	I (2–3)	I (1–8)
Senecio jacobaea	I (1)		I (1–3)	I (2–3)	I (1–3)

Floristic table OV10 (*cont.*)

	a	b	c	d	10
Veronica polita	I (1)	I (2–3)		I (3)	I (1–3)
Aphanes arvensis	I (3)		I (1)	I (4)	I (1–4)
Veronica arvensis	I (1)		I (2)	I (2)	I (1–2)
Leucanthemum vulgare	I (2)	I (3–6)	I (1)		I (1–6)
Lamium hybridum	I (1)		I (1)		I (1)
Arctium minus agg.		I (1)		I (1)	I (1)
Veronica chamaedrys		I (3)	I (2)		I (2–3)
Atriplex prostrata		I (1)	I (3)		I (1–3)
Number of samples	7	10	18	12	47
Number of species/sample	29 (19–40)	12 (8–24)	20 (6–35)	19 (10–30)	22 (6–40)

a *Polygonum persicaria-Ranunculus repens* sub-community
b *Polygonum aviculare-Matricaria perforata* sub-community
c *Agrostis stolonifera-Rumex crispus* sub-community
d *Dactylis glomerata-Agrostis capillaris* sub-community
10 *Poa annua-Senecio vulgaris* community (total)