

CHENOPODIUM

A number of the less well-known *Chenopodium* species such as *C. murale*, *C. opulifolium* and *C. urbicum* may be declining, under-recorded as this is a difficult genus, or both. Leaf outlines of species perhaps passed over as variable / polymorphic *C. album* (cf. Cole 1961) or *C. rubrum* are given below to help with search images. In the field *C. glaucum* L., *C. hybridum* L. and *C. vulvaria* L. do look obviously different from common species.

The orientation of the seeds in the fruiting perianth is an important character to learn (horizontal = short and fat - Fig. a; vertical = ovate-obovate - Fig. b). It is not difficult to see with a lens in fruiting plants, but is difficult to use in plants without seed. As seed characters (colour, size, patterns on the surface of the testa) are important for identification, vouchers should preferably have ripe seed, with colour notes on the parts of the plant.



(a) Horizontal



(b) Vertical

1. *Chenopodium chenopodioides* / *C. rubrum*

Chenopodium chenopodioides (*C. botroydes* Smith) is an annual of bare, open, seasonally exposed, dry, brackish mud in ditches, hollows and poached turf on saltings and grazing marshes, mostly in SE England (*Scarce Plants*). It is easily over-looked, partly because of its similarity to *C. rubrum* with which it often grows, and partly because of its often small size and late flowering season.

Plants should be looked for in the above habitats including recently exposed mud where ditches have been cleaned out. The characteristic reddish coloration develops most strongly in September-October, making this a fruitful time to look for it and it is probably not worthwhile looking for it before July. It varies in abundance from year to year and has a good seed bank so it may reappear in old sites; full population details of this Red Data Book species should be recorded.

Plant Crib

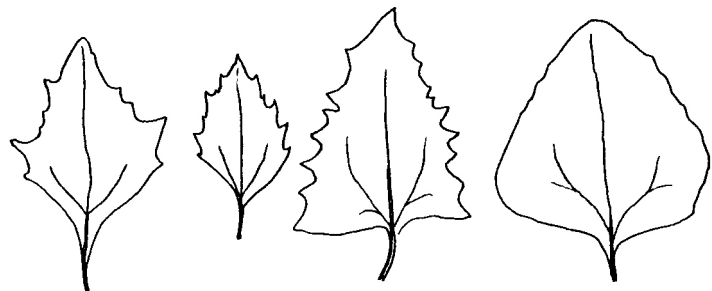
	<i>C. chenopodioides</i> (L.) Aellen	<i>C. rubrum</i> L..
Habit	Prostrate to decumbent, deep vermilion	Erect, bright red, often scarlet or orange
Leaves	Noticeably thick and fleshy, tinged reddish underneath when young, the lower very blunt, almost rounded, un-toothed (weakly toothed in robust specimens)	Relatively less fleshy, strongly to weakly toothed
Calyx on lateral flowers	Closed over the fruit to hide seeds (fused to \pm apex)	Fused to c. $\frac{1}{2}$ way revealing seeds

Author R. FitzGerald, January 1998.

2. *Chenopodium urbicum* / *C. rubrum*

C. urbicum L. may be under-recorded or declining, or both. It looks rather like *C. rubrum* being tall and \pm glabrous with lobed leaves (cf. illustrations below) but is usually green (not red-flushed) and has horizontal black (not brown) seeds.

Leaves of *C. urbicum*

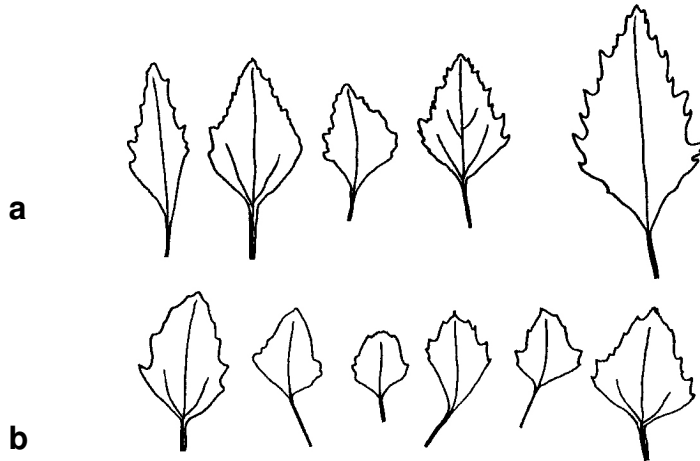


3. *Chenopodium murale* and *C. opulifolium*

C. murale L. and *C. opulifolium* Schrader ex Koch & Ziz may be under-recorded (over-looked as *C. album*?) or declining, or both. Leaf outlines of both species are given below to help with search images.

Compared to *C. album*, *C. murale* tends to have more deeply toothed leaves and is darker green and often decumbent at the base. *C. opulifolium* is very mealy and has ovate to broadly-ovate leaves compared with ovate-lanceolate leaves in *C. album*.

Plant Crib



Leaves (a) *C. murale* (b) *C. opulifolium*

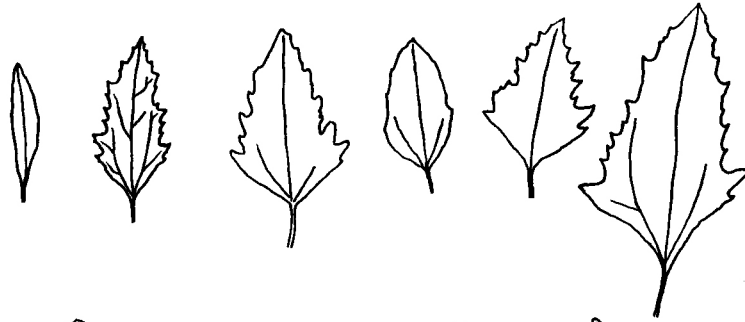
4. *Chenopodium ficifolium* / *C. album* / *Atriplex patula*

Once the distinctive oblong shape of the leaves with large basal lobes is known, it is relatively easy to pick out *C. ficifolium* Smith from the ubiquitous but highly variable *C. album* L.. Examine leaves on the middle stem of the plants. In fruit, *C. ficifolium* has close radially elongate pits on the testa, whilst *C. album* has smooth or faintly striate pits (see photomicrographs in Stace's *New Flora*). It is also easy to mistake *Atriplex patula* L. for *C. ficifolium* when young leaves only are present (the latter tends to have acute lobes and ovate leaves).

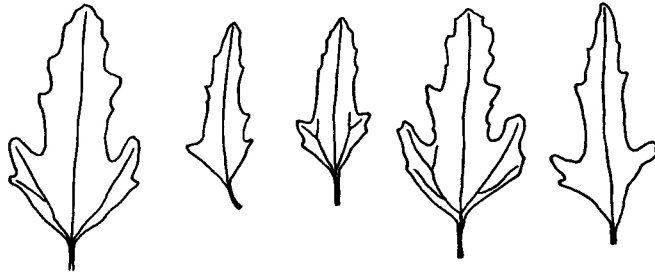
The highly clumped distribution map in the original *Atlas* coupled with the more recent widespread recording suggests that *C. ficifolium* was significantly under-recorded for the *Atlas*. It occurs in very similar places to *C. album*.

Plant Crib

*Chenopodium
album*



*Chenopodium
ficifolium*



] 1 cm

Atriplex patula

