Plant Crib

GALIUM

1. *Galium uliginosum* / *G. constrictum* / *G. palustre*

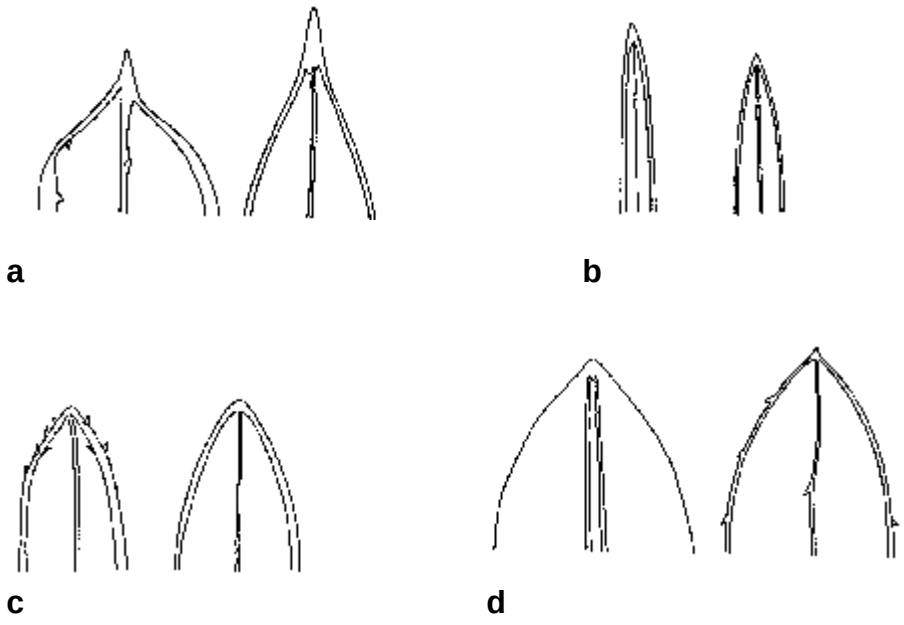
G. constrictum (*G. debile* Desv.) is rare in southern Britain; it may be overlooked elsewhere.

1 Leaves cuspidate or mucronate (Fig. a), plant often rough with backward-directed hairs ***G. uliginosum*** L.

1 Leaves blunt to acute or apiculate, never cuspidate or mucronate (Figs. b-d), plant glabrous or with a few hairs 2

2 Pedicels not spreading in fruit; fruits tuberculate; leaves linear to linear-lanceolate, acute to apiculate (Fig. b); flowers pale pink in bud ***G. constrictum*** Chaub.

2 Pedicels spreading widely in fruit; fruit mostly smooth; leaves narrowly to broadly oblanceolate, blunt to subacute (Figs. c, d) ***G. palustre*** L. *sensu lato*



Leaf tips of *Galium* taxa. (a) *G. uliginosum*, (b) *G. constrictum*, (c, d) *G. palustre*. Not to scale.

Author J. M. Mullin, March 1988.

2. *Galium palustre* aggregate

The *G. palustre* aggregate forms a polyploid series in Britain. Work in Holland (Kliphius *et al.* 1986) has suggested that when all ploidy levels are present there is no way of certainly separating them, apart from chromosome number, due to the intermediate position of the tetraploids. The tetraploids appears to be an allopolypoid derived from the diploids *G. palustre* and the closely related species *G. constrictum*.

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Sell & Murrell (2006) treat the different chromosome races as subspecies, which can be separated morphologically as below. They look different to the eye in the field, but are all probably ± ubiquitous and occur in similar habitats though only one tends to grow in any one location.

	Subsp. *palustre*	Subsp. *tetraploideum* A. R. Clapham ex Franco	Subsp. *elongatum* (C. Presl.) Arcang.
Leaves	4-10(-12) × 0.8-2 mm	10-16(-20) × 1.5-4 mm	12-30(-40) × 3-8(-10) mm
Flowers	2-3.5 mm diameter	3.5-4 mm diameter	3.5-5.5 mm diameter
Fruits	1.2-1.5 mm long	2-3 mm long	2.5-3.5 mm long
Ploidy	2n = 24, diploid	2n = 48, tetraploid	2n = 96, 144, polyploid

Reference Kliphuis, E. K., Heringa, J. & Hogeweg, P. (1986). *Acta Bot. Neerl.* **35**: 383-392.
Sell, P. D. & Murrell, G. (2006). *Flora of Great Britain and Ireland, volume 4.* Cambridge University Press, Cambridge.

Author Based on pers. comm. with P. D. Sell, 1995. Minor updates, 2012.

3. *Galium ´ pomeranicum* (*G. verum ´ G. mollugo*)

Galium × *pomeranicum* Retz. is intermediate between the parents in leaf shape, inflorescence shape and flower colour, and instantly stands out in flower as a robust, pale yellow-flowered plant showing hybrid vigour. It is less fertile than the parents and shows some back-crossing. It does not blacken on pressing.

It seems to have been rarely recorded in recent years, although Stace's *New Flora* describes it as frequent. It should be looked for in flower when it is most conspicuous.

A very robust alien variant seems to be planted on some road verges; please collect material.

4. *Galium mollugo* aggregate

This aggregate is extremely variable; the cytological and morphological variation in Europe is described in Krendl (1967). Although the distinctions are not always clear, plants can usually be divided into two taxa - *G. mollugo* and *G. album* in Europe. In Britain, the status of the taxa is questionable (see Stace's *New Flora*), and all British materials may be *G. album*. The differences may be summarised as below. However, many intermediates occur.

	G. mollugo L.	*G. album* Mill.
Panicle	Broad, elongated and spreading	Narrow, oblong, branches short, erect-ascending
Flowers	White or cream, *c.* 3 mm in diameter, corolla 2-3 mm	Clear white, never cream, *c.* 4 mm in diameter, corolla 3-5 mm
Fruiting pedicels	Reflexed or widely spreading	Erect or at most spreading
Cymes	Many flowered, compact	Comparatively few flowered, lax

Reference Krendl, F. (1967). *Österr. Bot. Zeitschr*. **114**: 508-549.

Author J. M. Mullin, February 1988.

5. *Galium sterneri* / *G. saxatile,* vegetative

In weakly calcareous limestone grassland and on rocks in N and W Britain and Ireland, these two species may grow mixed together, possibly with hybrids. Vegetatively the parents can be distinguished as below. Hairs may rub off in older leaves, but at least some can usually be found towards the apex of the younger leaves. A simple way to remember the direction of the prickles is to think that only backward botanists cannot remember *sterneri* prickles go backwards.

G. sterneri Ehrend.: Leaves narrowly oblong to oblanceolate; prickles on margins of young leaves pointing backwards towards stem (x10 lens).

G. saxatile L.: Leaves oblanceolate to obovate; prickles on margins of young leaves pointing forwards towards apex.