

TRIFOLIUM

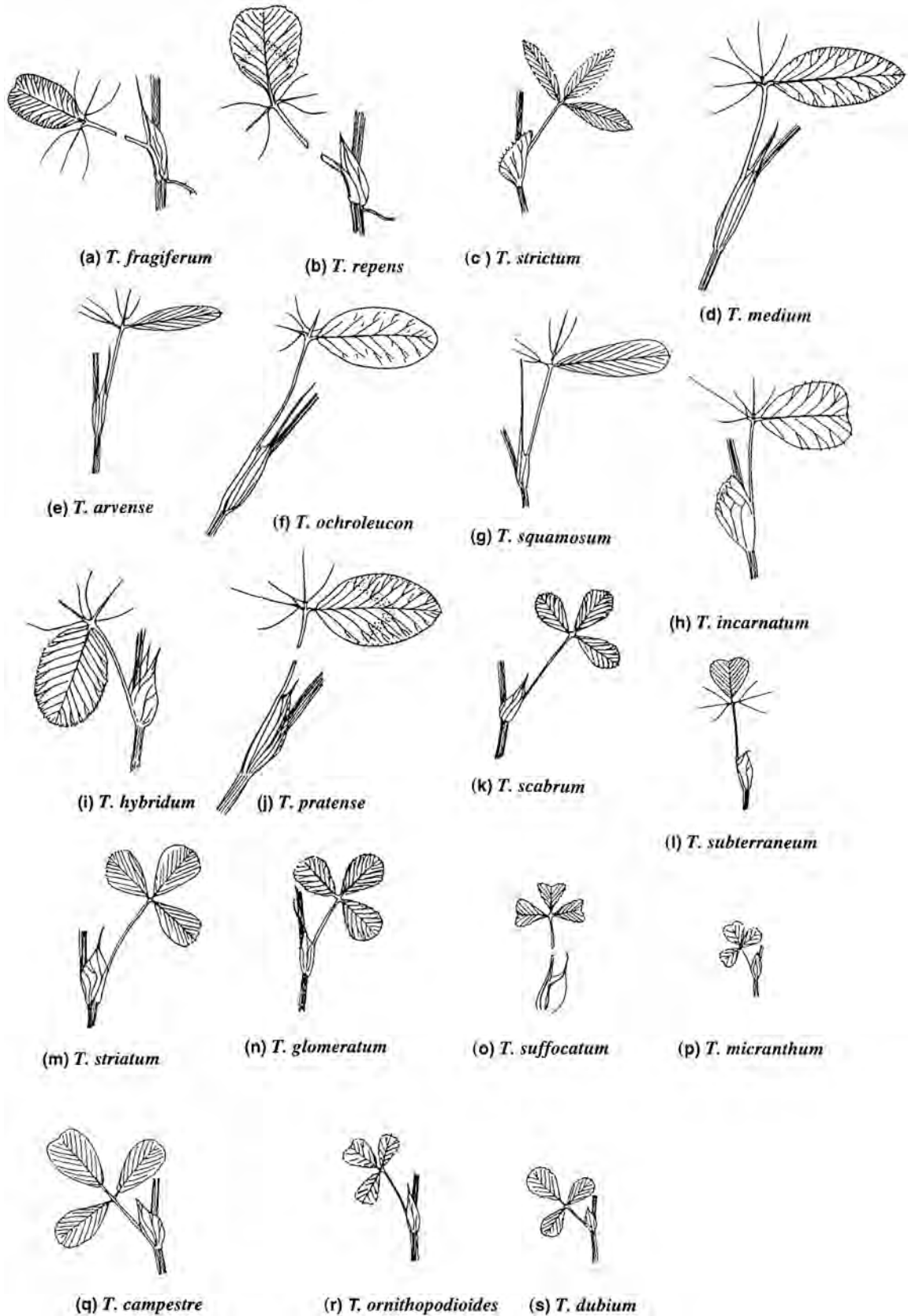
1. Vegetative identification of widespread *Trifolium* species

The following key to widespread species of *Trifolium* (e.g. excluding species restricted to the Lizard and rarer casuals) may help with vegetative identification. The problem with the interesting, annual clovers is that by the time you get your eye in they are dying and setting seed. Most seem to germinate in winter, so a vegetative key can help to extend the recording season. Of course you need to know you have an annual clover, or indeed that it is a clover, which may not be obvious at this stage.

The drawings are all to the same scale, but there is considerable variation within most species. All have been drawn from live or herbarium specimens in **BM**, **DOR** and **NMW**. I have paid particular attention to the leaf and stipule shapes and the arrangement of the veins, parts not usually given much prominence in many illustrated floras. These important features are impossible to describe adequately; it is a matter of jizz. In the interest of clarity I have often only drawn one stipule and leaflet, and have not attempted to show hairs.

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|---|---|-----------------------------|
| 1 | Perennial, creeping and rooting at nodes; glabrous | 2 |
| 1 | Annual or perennial, but not rooting at nodes; glabrous or hairy | 3 |
| 2 | Leaflets oblong; lateral veins curved, neat, frequent and thickened at end; no crescent marking present (Fig. a) <i>T. fragiferum</i> L. | |
| 2 | Leaflets obovate; lateral veins straight, not thickened at ends; white crescent marking present (see also <i>T. occidentale</i> below) (Fig. b) | <i>T. repens</i> L. |
| 3 | Leaflets ovate to lanceolate, at least some more than 2.5 × as long as wide | 4 |
| 3 | Leaflets ovate, obovate, obcordate, less than 2 × as long as wide | 8 |
| 4 | Stipules hyaline, fan shaped, the veins ending in glandular teeth (Fig. c) | <i>T. strictum</i> L. |
| 4 | Stipules narrow with a long awn (long leaved forms of <i>T. pratense</i> have ovate stipules with a short awn) | 5 |
| 5 | Free part of stipules awl-shaped, shorter than the rest; terminal leaflet more than 7 mm wide, elliptical (Fig. d) <i>T. medium</i> L. | |
| 5 | Free part of stipules filiform and longer than the rest; terminal leaflet less than 7 mm wide | 6 |
| 6 | Terminal leaflet less than 6 mm wide, longer than petiole, grey-green (Fig. e) | <i>T. arvense</i> L. |
| 6 | Terminal leaflet as long as or shorter than the petiole, mid-green | 7 |
| 7 | Leaflets 15-30 mm, elliptic to lanceolate, sometimes emarginate (Fig. f) | <i>T. ochroleucon</i> Huds. |
| 7 | Leaflets 10-20 mm, narrowly obovate, often apiculate (Fig. g) | <i>T. squamosum</i> L. |

Plant Crib



Trifolium, terminal leaflets and stipules

Botanical Society of the British Isles in association with National Museums & Galleries of Wales
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Plant Crib

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- 8 Large plants, annual or perennial; leaflets more than 10 mm 9
8 Small annuals; leaflets usually less than 10 mm 11
- 9 Stipules ovate, obtuse, dentate; leaflets obcordate; annual (Fig. h) *T. incarnatum* L.
9 Stipules ovate, entire; leaflets ovate to lanceolate; perennial (large forms of *T. subterraneum* may key out here but have entire stipules with an acute tip) 10
- 10 Stipules with long acuminate tip; leaflets unmarked, glabrous (Fig. i) *T. hybridum* L.
10 Stipules with setaceous point or awn; leaflets with white crescent, hairy at least below (Fig. j) *T. pratense* L.
- 11 Leaves with long silky hairs on both sides (*T. subterraneum* can have sparse, stiff hairs) 12
11 Leaves glabrous or sparsely hairy 14
- 12 Veins on leaflets markedly thickened and recurved at ends (best seen when held up to light) (Fig. k) *T. scabrum* L.
12 Veins straight or slightly curved throughout, and not thickened at apex 13
- 13 Leaflets obcordate; stipules ovate, acute, veins rarely prominent (Fig. l) *T. subterraneum* L.
13 Leaflets obovate, apiculate; stipules triangular, acuminate, hyaline, with dark red or green veins (Fig. m) *T. striatum* L.
- 14 Leaflets obovate; stipules ovate with long, acuminate tip (cf. *T. ornithopodioides* below) (Fig. n) *T. glomeratum* L.
14 Leaflets \pm obcordate; stipules ovate, acute to shortly acuminate 15
- 15 Stipule apiculate, hyaline, with one vein excurrent into awn; petiole usually more than twice as long as leaflet (Fig. o) *T. suffocatum* L.
15 Stipule acute or acuminate, at least two veins; petiole usually less than twice as long as leaflet 16
- 16 Terminal leaflet less than 5 mm, subsessile (Fig. p) *T. micranthum* Viv.
16 Terminal leaflet often larger, its petiolule at least 0.5 mm 17
- 17 Terminal leaflet more than 8 mm, its petiolule more than 5 mm; stipule acute (Fig. q) *T. campestre* Schreb.
17 Terminal leaflet less than 8 mm (usually), its petiolule less than 5 mm; stipule acuminate 18
- 18 Stipule with a long acumen; leaflet obcordate, serrate; petiole more than 2 \times leaflet (Fig. r) *T. ornithopodioides* L.
18 Stipule shortly acuminate; leaflet obovate or orbicular, shallowly dentate; petiole usually less than 2 \times leaflet (Fig. s) *T. dubium* Sibth.

Reference Walls, R. M. (1994). *Recording Dorset* 4: 12-15.

Author R. M. Walls, November 1997.

2. *Trifolium occidentale* / *T. repens*

T. occidentale is known from an increasing number of localities in V.c. 1, 4, 41, 45, 52, H12, H20, H21 & S. It should be looked for near the sea in short, well-drained turf on cliff tops or on blown sand. It is distinguished from the widespread and variable *T. repens* as shown in the following Table (Milton 1984; C. D. Preston, pers. comm. 1987). It also flowers earlier in the year.

Plant Crib

	<i>Trifolium occidentale</i> D. E. Coombe	<i>Trifolium repens</i> L.
Leaflets	6-8(-10) mm, orbicular, markings usually absent; upper surface matt, slightly glaucous-green, crystalline; lower surface dark green, very glossy; lateral veins not translucent	10-25(-35) mm, ovate or obcordate, frequently marked with a white 'V'; the upper and lower sides similar in colour; lateral veins translucent in living plant
Petiole	With short, sparse, persistent hairs	Usually glabrous
Stipules	Deep vinous red	Green, sometimes with red veins, rarely vinous
Calyx	Becoming red above, upper 2 teeth often denticulate, parallel or convergent, broadly triangular	White with green veins, upper 2 teeth entire, divergent, narrowly triangular
Corolla	Creamy white, standard broadly elliptical, apex emarginate	White to deep red, standard oblong, apex rounded

References Coombe, D. E. (1961). *Watsonia* **5**: 68-87.
Milton, J. N. B. (1984). *BSBI News* **37**: 8-9.