TRIFOLIUMS OF SAN MATEO & SANTA CLARA COUNTY

BY TONI CORELLI

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INTRODUCTION

Clovers in the genus Trifolium are in the Fabaceae family. A new key and descriptions has been prepared for The Jepson Manual, 2nd Edition by Michael A. Vincent. If there is a name change the new name is used and the synonym is in parentheses. It can be found online at The Jepson Online Interchange at:
http://ucjeps.berkeley.edu/tjm2/review/treatments/fabaceae_all.html#47029

Trifoliums are a large genus including of 80 taxa (species including subspecies and varieties) in California. San Mateo and Santa Clara County have 35 taxa; 23 native and 12 non-native.

Trifoliums have a typical “pea flower” consisting of 5 fused sepals; five petals consisting of a banner, 2 wings and a keel (2 fused petals); stamens 10 with 9 filaments fused, 1 free; ovary superior; pistil 1, stigma, style 1; fruit short and plump with 1-6 seeds. Trifoliums have 3 leaflets.

Illustrations by Judy Mason unless otherwise noted; photographs by Toni Corelli unless otherwise noted.

KEYING HINT - when measuring, measure at least 3 structures (e.g. sepal length, measure three different sepals)
Measurements indicate length unless otherwise noted
Flower size - measure sepals and petals together to get this length
Involucre size - measure from peduncle to edge of involucre unless otherwise noted

> greater than
< less than
* - indicates non-native plants
SM=San Mateo County
SC=Santa Clara County
cm = centimeter
mm = millimeter
var. = variety

calyx = collective term for sepals
corolla = collective term for petals
glabrous = without hairs
plumose = very hairy sometimes branched hairy
stipule = structure at the base of the leaf

Send comments to - Toni Corelli - corelli@coastside.net
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**Trifolium wormskioldii**
*cow clover*
1. Flowers white, cream, or yellow

2. Flowers bright yellow

4. Inflorescence with > 15 flowers...........*Trifolium campestre* 
   *(hop clover)*

4’ Inflorescence with < 15 flowers...........*Trifolium dubium* 
   *(little hop clover)*

2’ Flowers white to cream

5. Inflorescence subtended by an involucre bracts

6. Corolla 4-8 mm..........*Trifolium depauperatum var. amplexens* (fusedbract pale sack clover)

6’ Corolla 10-20 mm..........*Trifolium fucatum* *(sour clover)*

5’ Inflorescence not subtended by involucre bracts

7. Corolla with < 8 flowers; calyx with long bristly hairs, may have some red at base; inflorescence elongating, and forming bur that gets buried in the ground.......... 
   *Trifolium subterraneum* *(subterranean clover)*

7’ Corolla with > 8 flowers; inflorescence not as above........... 
   *Trifolium repens* *(white clover)* (2)

1’ Flowers pink to red (maybe some white on the flower)

8. Inflorescence subtended by an involucre bract

9. Calyx, corolla becoming inflated

10. Calyx hairy or bristly

11. Plant creeping and rooting along the ground.......... 
   *Trifolium fragiferum* *(strawberry clover)*

11’ Plant erect not creeping.........*Trifolium barbigerum var. barbigerum* *(bearded clover - involucre hairy)* (2)
Trifolium variegatum
White-tipped Clover
Trifolium variegatum var. variegatum & T. variegatum var. major
white-tipped clover/variegated clover

Kathy Korbholz

10’ Calyx glabrous........Trifolium depauperatum var. truncatum (common pale sack clover)

9’ Calyx, corolla not inflated

12. Involucre bracts cup, bowl shaped

13. Involucre bracts hairy

14. Involucre individual lobes 1 x toothed (see illustration pg. 32); plant finely hairy........Trifolium microcephalum (small-headed clover)

14’ Involucre individual lobes toothed or cut more than once (see illustration pg. 28); plant hairs 0 or soft hairy

15. Corolla 3-6 mm, inflorescence generally bristly from calyx lobes........Trifolium barbigere var. barbigere (bearded clover) (2)

15’ Corolla 6-16 mm, > calyx; inflorescence not bristly (maybe finely hairy)........Trifolium grayi (barbigere var. andrewsii) (Gray’s clover)

13’ Involucre bracts glabrous (maybe a few hairs)........Trifolium microdon (Valparaiso clover)

12’ Involucre bracts flat ring or slightly v shaped at base

16. Plant perennial; involucre 2-3 cm wide........Trifolium wormskioldii (cow clover)

16’ Plant annual; involucre < 2 cm wide

17. Calyx lobes < tube, often toothed; calyx tube splitting between upper lobes

18. Fl 5-8 mm; involucre 2-3 mm, generally cut > 1/2 to base; 5-15 flowered; lvs usually linear........Trifolium oliganthum (few-flowered clover)

18’ Fl 9-18 mm; involucre > 3 mm, cut < 1/2 to base, often > 15 flowered
19. Calyx glandular-hairy or bumpy, lobes generally entire; leaflets sharp-serrate, longer teeth +/- 1 mm........................................
   Trifolium obtusiflorum (clammy clover)

19’ Calyx glabrous, not bumpy, lobes entire or 3-toothed; leaflets serrate, teeth < 1 mm...........Trifolium willdenovii
   (tomcat clover)

17’ Calyx lobes > tube, generally entire, calyx tube not splitting between upper lobes

20. Inflorescence 1.5-3 cm, 10-many-flowered, corolla 9-17 mm..........Trifolium variegatum var. major (T. variegatum)
   (large variegated clover)

20’ Inflorescence 1-1.5 cm, 5-10 flowered, corolla 6-10 mm...........
   Trifolium variegatum var. variegatum (T. variegatum)
   (white-tipped clover/variegated clover)

8’ Inflorescence not subtended by an involucre bract (can be subtended by uppermost leaves and stipule)

21. Corolla, calyx becoming inflated

22. Plant hairy..........Trifolium tomentosum* (wooly clover*)

22’ Plant glabrous.........Trifolium depauperatum var.
   depauperatum dwarf sack clover

21’ Corolla, calyx not becoming inflated

23. Flowers becoming reflexed; pedicels often > 2 mm

24. Stem creeping, rooting, turf-forming.........Trifolium repens* (white clover*) (2)

24’ Plant not creeping

25. Calyx lobes ciliate with short, flat bristles (otherwise plant without hairs); leaf not notched........
   Trifolium ciliolatum (tree clover)
25. Calyx lobes not ciliate or with a few long soft hairs; leaf usually notched

26. Calyx glabrous, lobes +/- 0.5 mm wide at base, tube 1-5-2.5 mm; peduncle not hairy..........
   Trifolium gracilentum var. gracilentum (pin-point clover)

26. Calyx usually with a few long soft hairs, lobes +/- 0.2 mm wide at base, tube 0.8-1.4 mm; leaves usually notched, peduncle usually slightly hairy

27. Leaflet 2.5-5.5 x longer than wide, notched at tip > 0.2 x length.......Trifolium bifidum var. bifidum (notch-leaved clover)

27. Leaflet 1.5-2.5 x longer than wide, not notched or notched < 0.2 x length........Trifolium bifidum var. decipiens (deceptive clover)

23. Flowers not becoming reflexed; pedicels < 2 mm

28. Inflorescence elongate

29. Corolla < calyx; calyx plumose..........Trifolium arvense* (rabbitfoot clover*)

29. Corolla > calyx plumose or not

30. Corolla crimson........Trifolium incarnatum* (crimson clover*)

30. Corolla pink.........Trifolium angustifolium* (narrow-leaved clover*)

28. Inflorescence head-like

31. Inflorescence +/- sessile or immediately above 1-2 leaves and stipules

32. Inflorescence two-headed.........Trifolium macraei (Macrae’s clover)

32. Inflorescence not two-headed

33. Inflorescence glabrous..........Trifolium glomeratum* (little rose clover*)
33’ Inflorescence hairy

34. Calyx 4.5-7.5 mm, lobes >= tube, bristle-like..........
   *Trifolium pratense* red clover*

34’ Calyx 7-9 mm; lobes >> tube, densely plumose........
   *Trifolium hirtum* (rose clover*)

31’ Inflorescence not sessile but on an elongated peduncle

35. Corolla <= calyx; corolla 2-colored

36. Calyx 4-8 mm, lobes 3-6.5 mm..............................
   *Trifolium albopurpureum* (T. a. var. albopurpureum &
   T. a. var. dichotomum) (common Indian clover)

36’ Calyx 8-14 mm, lobes 6.5-12 mm........*Trifolium olivaceum*
   (T. albopurpureum var. olivaceum) (olive clover)

35’ Corolla > calyx; corolla 2-colored

37. Corolla 12-16 mm; calyx 10-12 mm........*Trifolium amoenum*
   (showy Indian clover)

37’ Corolla 7-12 mm; calyx 4-8 mm........*Trifolium dichotomum*
   (T. albopurpureum var. dichotomum)
   (branched Indian clover)
Trifolium pratense*
red clover*

Trifolium albopurpureum (T. a. var.
albopurpureum & T. a. var. dichotomum)
common Indian clover

Barry Breckling

Kathy Korbholz
Trifolium olivaceum
(T. albopurpureum var. olivaceum)
olive clover

Trifolium amoenum
showy Indian clover

Doreen Smith
Trifolium angustifolium*  
Trifolium oliganthum  
Few-flowered Clover  
Trifolium oliganthum  
Trifolium angustifolium*  
narrow-leaved clover*
Trifolium arvense* rabbitfoot clover*

Trifolium obtusiflorum clammy clover
Trifolium barbigerum var. barbigerum
Bearded Clover

Trifolium microdon
Cup Clover/Valparaiso Clover

Kathy Korbholz

Neal Kramer

Trifolium barbigerum var. barbigerum
bearded clover
Trifolium bifidum var. bifidum

notch-leaved clover

Carol W. Witham

Trifolium microcephalum

small-headed clover

Kathy Korbholz
Trifolium bifidum var. decipiens
Deceptive Clover

Trifolium macraei
Macrae’s clover
Trifolium campestre*
hop clover*

Trifolium incarnatum*
crimson clover*
Trifolium hirtum* rose clover*

Trifolium ciliolatum tree clover
Trifolium depauperatum var. amplectens
Fusedbract Pale Sack Clover

Trifolium grayi (barbigerum var. andrewsii)
Gray’s clover
Trifolium depauperatum var. depauperatum
dwarf sack clover

Trifolium gracilentum var. gracilentum
pin-point clover

Zoya Akulova

Neal Kramer
Trifolium depauperatum var. truncatum
common pale sack clover

Trifolium glomeratum
Little Rose Clover

Trifolium glomeratum*
little rose clover*
Trifolium dichotomum (T. albopurpureum var. dichotomum) branched Indian clover

Trifolium fucatum sour clover
Trifolium dubium*
little hop clover*

Trifolium fragiferum*
strawberry clover*