

## Key to the Yellow Jackets of California

- 1 Malar space broad, compound eye broadly separated from base of mandible (figs. 1b, 2a); *Dolichovespula*.....2
- Malar space narrow, compound eye narrowly separated from base of mandible (figs. 1a, 2a); *Vespula*.....3
- 2 Dorsal surface of first three abdominal segments entirely black, remaining pale markings whitish (fig. 3); large species 15mm long or longer [Build aerial nests usually in exposed places, feed only on live prey, particularly spiders; **Bald-faced hornet**] .....*maculata* (Linnaeus)
- Dorsal surface of first three abdominal segments with pale markings, markings yellow (fig. 4); smaller species less than 15 mm long [Build aerial nest in shrubs, bushes, trees, on houses and outbuildings, rarely under rocks; feed on live prey and occasionally carrion; **Aerial Yellowjacket**] .....*arenaria* (Fabricius)
- 3 Scutum with two longitudinal yellow stripes (fig. 5); [Build small subterranean nests, generally feed on live prey, might in unusual circumstances scavenge food; **California Yellowjacket**].....*sulphurea* (Saussure)
- Scutum without stripes.....4
- 4 Compound eye surrounded by continuous yellow ring in dorsal view, first tergum with diamond-shaped medial black mark (Fig. 6); [Nests usually subterranean or in structures, nests can be huge and often perennial in warmer climates, feed on live prey or scavenge any source of protein or sugar; **Western Yellow jacket**].....*pensylvanica* (Saussure)
- Compound eye not continuously surrounded by yellow ring in dorsal view (fig. 7), first tergum without diamond-shaped medial black mark.....5
- 5 First antennal segment yellow beneath (Fig. 8 left).....6
- First antennal segment entirely black or dark brown (Fig. 8 right).....7
- 6 Tergum II with medial margin of black region broadly rounded, terga III, IV and V usually without free black spots (figs. 9a, b); genal band of yellow usually broken, rarely continuous (fig. 9c); [Build small aerial or subterranean nests, rely only on live insects; **Forest Yellowjacket**].....*acadica* (Sladen)
- Tergum II with posterior margin of black region sharply angulate medially; terga III, IV and V usually with some free, or nearly free, black spots (Fig. 10d, e); genal band of yellow usually continuous (Fig. 10f); [Build subterranean nests, prefer open areas like golf courses, feed on live prey, including insects and spiders; **Prairie Yellowjacket**].....*atropilosa* (Sladen)

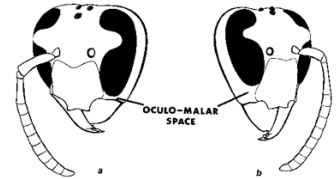


Fig. 1 *Vespula* versus *Dolichovespula* faces.

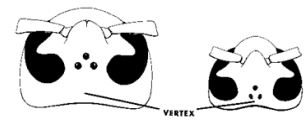


Fig. 2 *Dolichovespula* vertex.

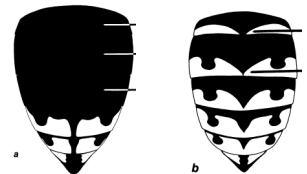


Fig. 3. *D. maculata*, 4. *D. arenaria*.



Fig. 5. *V. sulphurea*.

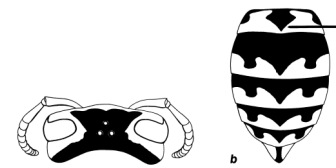


Fig. 6. *V. pensylvanica*.

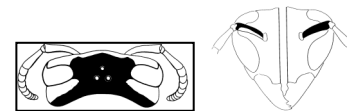
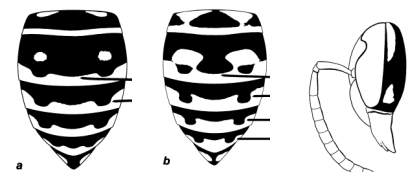


Fig. 7. *V. acadica*; 8. antennal color.



Figs. 9a,b. *V. acadica* abdomen; c. head side view.

- 7 Genal band of yellow broken by black mark (fig. 11b), abdominal coloration (fig. 11a); [Formerly known as *vulgaris*, a European species. Nests subterranean or in structures, nests can be huge and often perennial in warmer climates, feed on live prey or scavenge any source of protein or sugar; **Common Yellowjacket**].....*alascensis* (Packard)
- Genal band continuous (fig. 12c), abdominal coloration (fig 12 a,b); [Introduced worldwide in temperate regions, nests usually subterranean or in structures, nests can be huge and often perennial in warmer climates, feed on live prey or scavenge any source of protein or sugar; **European Yellowjacket**].....*germanica* (Fabricius)



Fig. 10d,e. *V. atropilosa* abdomen; f. head side view.

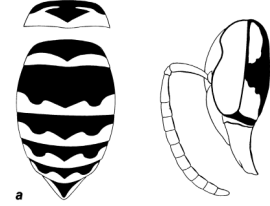


Fig. 11. *V. alascensis*, abdomen and head side view.

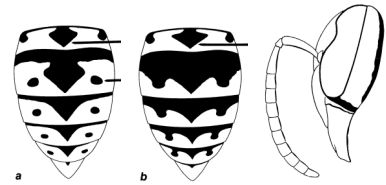


Fig. 12. *V. germanica*, a,b. abdominal coloration, c. head side view.