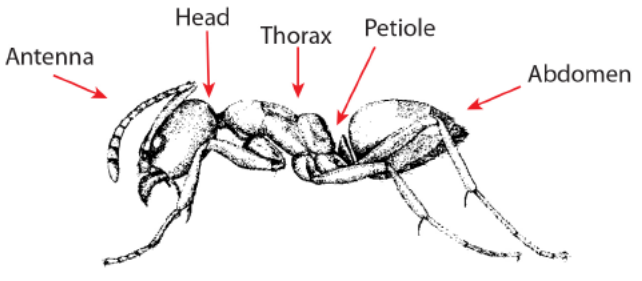


# Identification Key to Ant Species

This key includes 14 ant species that may occur in California citrus. Species considered to be major pests are Argentine ant (illustrated at right), native gray ants, southern fire ant, and red imported fire ant.

Read both descriptions and compare the specimen with the drawings provided before proceeding. Take several specimens through the key individually to verify your identification.



1A. Ant with one node on petiole (Fig. 1). The single node in some ants is hidden by the abdomen (Fig. 7).  
Go to step 2.

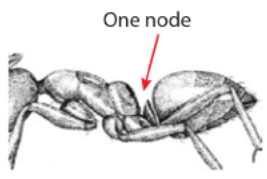


Fig. 1

1B. Ant with two nodes on petiole (Fig. 2).  
Go to step 10.

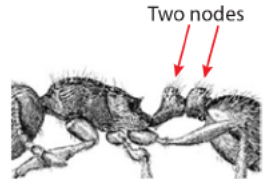


Fig. 2

2A. Thorax is smooth and evenly rounded when viewed from the side (Fig. 3).  
Go to step 3.

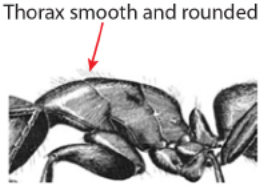


Fig. 3

2B. Thorax is uneven in shape when viewed from the side (Fig. 4).  
Go to step 4.



Fig. 4

3A. Circle of hairs present on the tip of the abdomen (Figs. 5 and 9). Large, up to 0.5 inch (13 mm) long, black or reddish to dark brown.  
Carpenter ant



Fig. 5 Carpenter ants  
*Camponotus* spp.



Fig. 6 Velvety tree ant  
*Liometopum occidentale*

Carpenter ants and velvety tree ants nest in wood or soil.

3B. No circle of hairs at tip of abdomen (Fig. 6). About 0.13 to 0.25 inch (3–6 mm) long; brownish black head, red thorax, and velvety black abdomen.  
Velvety tree ant

4A. Node hidden by abdomen (Fig. 7). Dark brown to shiny black, 0.13 inch (3 mm) long. Gives off a strong odor when crushed.  
Odorous house ant

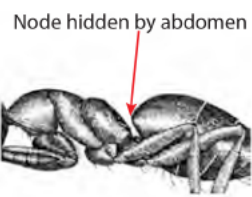


Fig. 7 Odorous house ant,  
*Tapinoma sessile*

4B. Node erect (Fig. 8).  
Go to step 5.

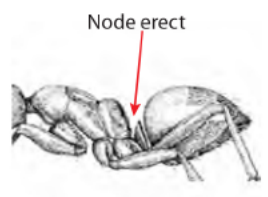


Fig. 8

# Identification Key to Ant Species (continued)

5A. Tip of abdomen with circular opening fringed with hairs (Fig. 9).  
Go to step 6.

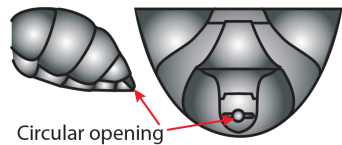


Fig. 9

5B. Tip of abdomen with slit-shaped opening (Fig. 10).  
Go to step 7.

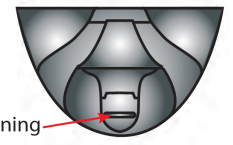


Fig. 10

6A. 3 distinct ocelli on top front of head, above eyes (Fig. 11a). Antennal scape short, barely extending beyond the head (Fig. 11b). Body about 0.1 to 0.2 inch (2.5–4.5 mm) long and variably colored, typically a mix of gray and reddish brown.  
Native gray ants

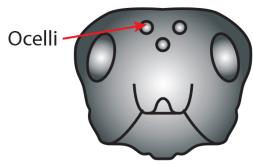


Fig. 11a

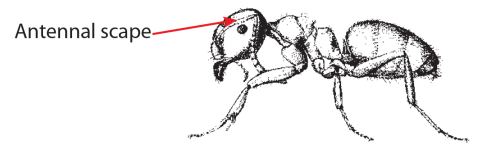


Fig. 11b

Native gray ants, *Formica* spp.

6B. Ocelli absent or indistinct. Thorax when viewed from above narrows distinctly in middle, hourglass shaped (Fig. 12a). Antennal scape long, extending beyond rear of the head by more than half its length (Fig. 12b). Body about 0.08 to 0.2 inch (2–4 mm) long, light to dark brown or black.  
Small honey ant

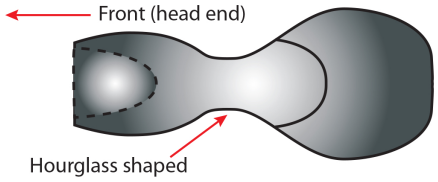


Fig. 12a

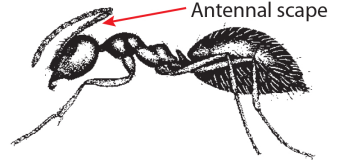


Fig. 12b

Small honey ant, *Prenolepis imparis*

7A. Top of thorax smooth without cone-shaped projection (Fig. 13).  
Go to step 8.

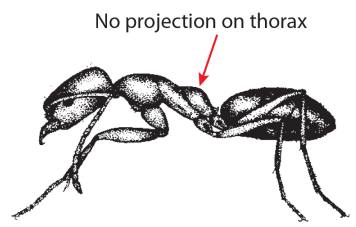


Fig. 13

7B. Top rear of thorax has cone-shaped or pyramid-like projection (Fig. 14).  
Go to step 9.

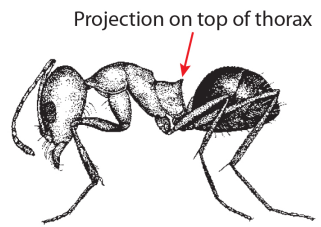


Fig. 14

8A. Top of thorax with several prominent, upright hairs (Fig. 15). About 0.07 to 0.1 inch (1.8–2.5 mm) long; color varies from yellow to light brown.  
California rainbow ant

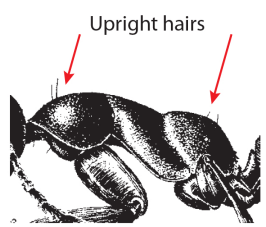


Fig. 15 California rainbow ant, *Forelius* (=Iridomyrmex) pruinusos

8B. Top of thorax without prominent upright hairs (Fig. 16). About 0.09 to 0.1 inch (2.2–2.6 mm) long, uniformly light to dark brown.  
Argentine ant

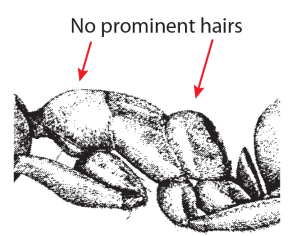


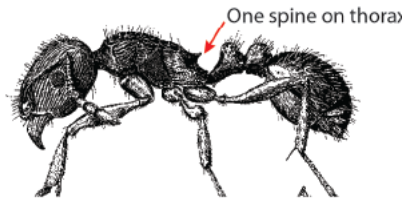
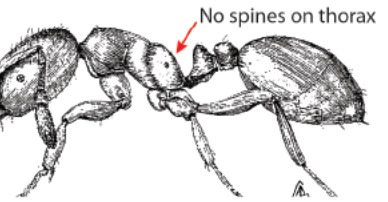

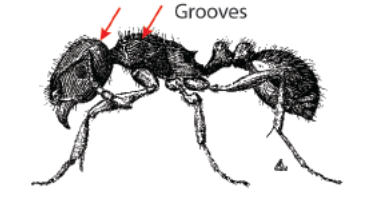
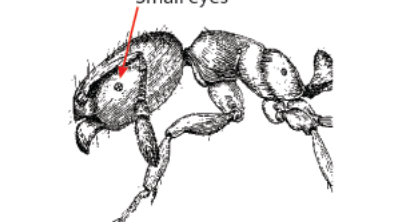
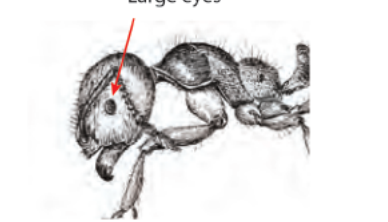


Fig. 16 Argentine ant, *Linepithema humile* (=Iridomyrmex humilis)

# Identification Key to Ant Species (continued)

<p>9A. Uniformly brown ant about 0.06 to 0.08 inch (1.5–2 mm) long (Fig. 17).</p> <p style="text-align: right;"><b>Pyramid ant</b></p>	 <p style="text-align: center;">Fig. 17 Pyramid ant <i>Dorymyrmex (=Conomyrma) insanus</i></p>	 <p style="text-align: center;">Fig. 18 Bicolored pyramid ant <i>Dorymyrmex (=Conomyrma) bicolor</i></p>
<p>9B. Orange or reddish brown head and thorax with darker brownish black abdomen. About 0.08 to 0.1 inch (2–3 mm) long, somewhat larger than pyramid ant (Fig. 18).</p> <p style="text-align: right;"><b>Bicolored pyramid ant</b></p>		
<p>10A. One pair of spines on thorax (Fig. 19).</p> <p style="text-align: right;"><b>Go to step 11.</b></p>	 <p style="text-align: center;">Fig. 19</p>	 <p style="text-align: center;">Fig. 20</p>
<p>10B. No spines on thorax (Fig. 20).</p> <p style="text-align: right;"><b>Go to step 12.</b></p>		
<p>11A. Beardlike fringe of long hairs on the underside of head (Fig. 21). No grooves on top surface of head and thorax. A reddish, large ant about 0.22 to 0.4 inch (5.5–8.7 mm) long.</p> <p style="text-align: right;"><b>California harvester ant</b></p>	 <p style="text-align: center;">Fig. 21 California harvester ant <i>Pogonomyrmex californicus</i></p>	 <p style="text-align: center;">Fig. 22 Pavement ant <i>Tetramorium caespitum</i></p>
<p>11B. No beardlike fringe beneath head. Top surface of the head and thorax sculptured with many parallel grooves (Fig. 22). Brown to black ant, about 0.1 to 0.13 inch (2.5–3 mm) long.</p> <p style="text-align: right;"><b>Pavement ant</b></p>		
<p>12A. Very small eyes (Fig. 23). Worker ants are all the same size, tiny, 0.08 inch (2 mm) or less; yellow to brown in color.</p> <p style="text-align: right;"><b>Thief ant</b></p>	 <p style="text-align: center;">Fig. 23 Thief ant <i>Solenopsis molesta</i></p>	 <p style="text-align: center;">Fig. 24 Southern fire ant, <i>Solenopsis xyloni</i>, or Red imported fire ant, <i>S. invicta</i>. These species are difficult to distinguish from one another. Consult an expert for identification.</p>
<p>12B. Large eyes (Fig. 24). Variable in size, with workers in the same trail ranging from about 0.07 to 0.2 inch (1.5–6 mm) long. Usually darker than thief ants, with some black markings on the abdomen.</p> <p style="text-align: right;"><b>Fire ants</b></p>		

Note: The apparent thorax of an ant actually consists of the thorax plus the first abdominal segment (or propodeum), which is fused to it at the posterior end. The apparent abdomen thus starts with abdominal segment 2.

Adapted from Reynolds et al. 2001, Ward 2005. Illustrations by A. D. Cushman and S. H. DeBord in Smith 1965 and Gorham 1991, and by R. R. Snelling in Ebeling 1978.