

UC Santa Barbara

Educational Materials

Title

Ant Dichotomous Key

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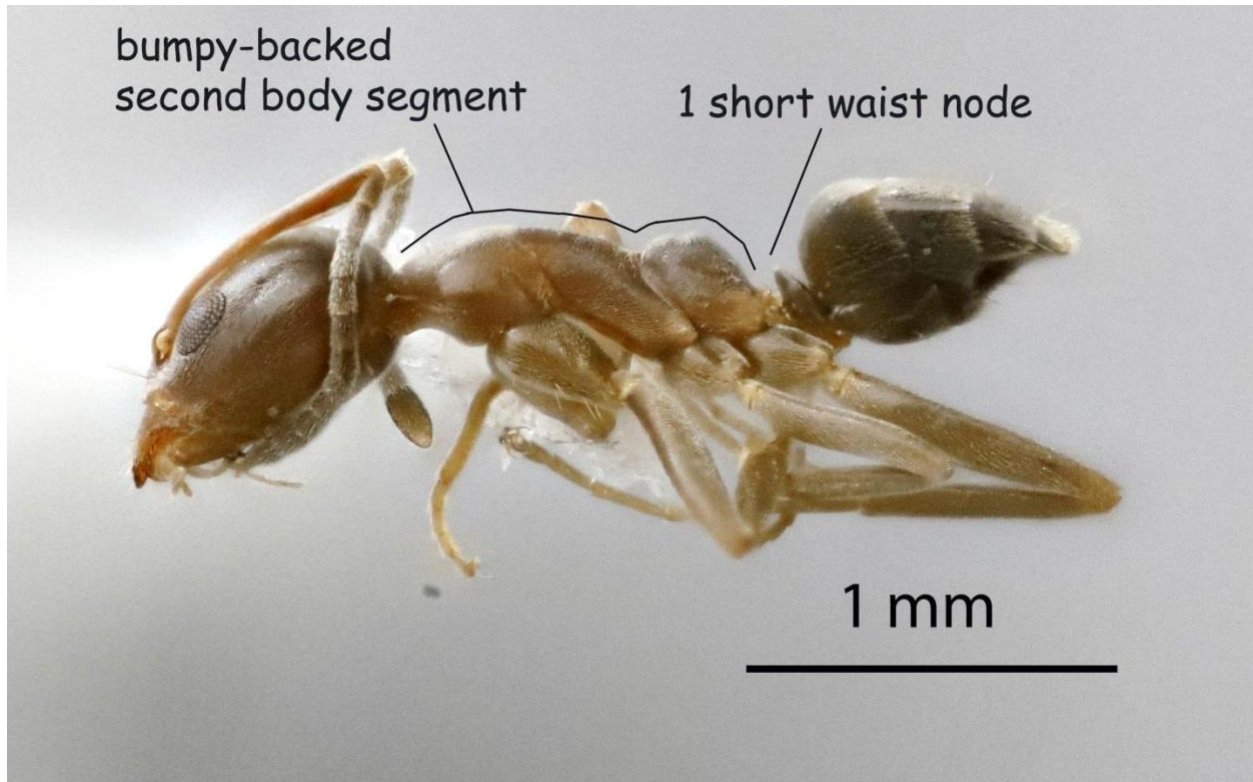
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ANT IMAGES AND DICHOTOMOUS KEY

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Linepithema humile (Argentine ant) [image: UCSB-IZC00025013]

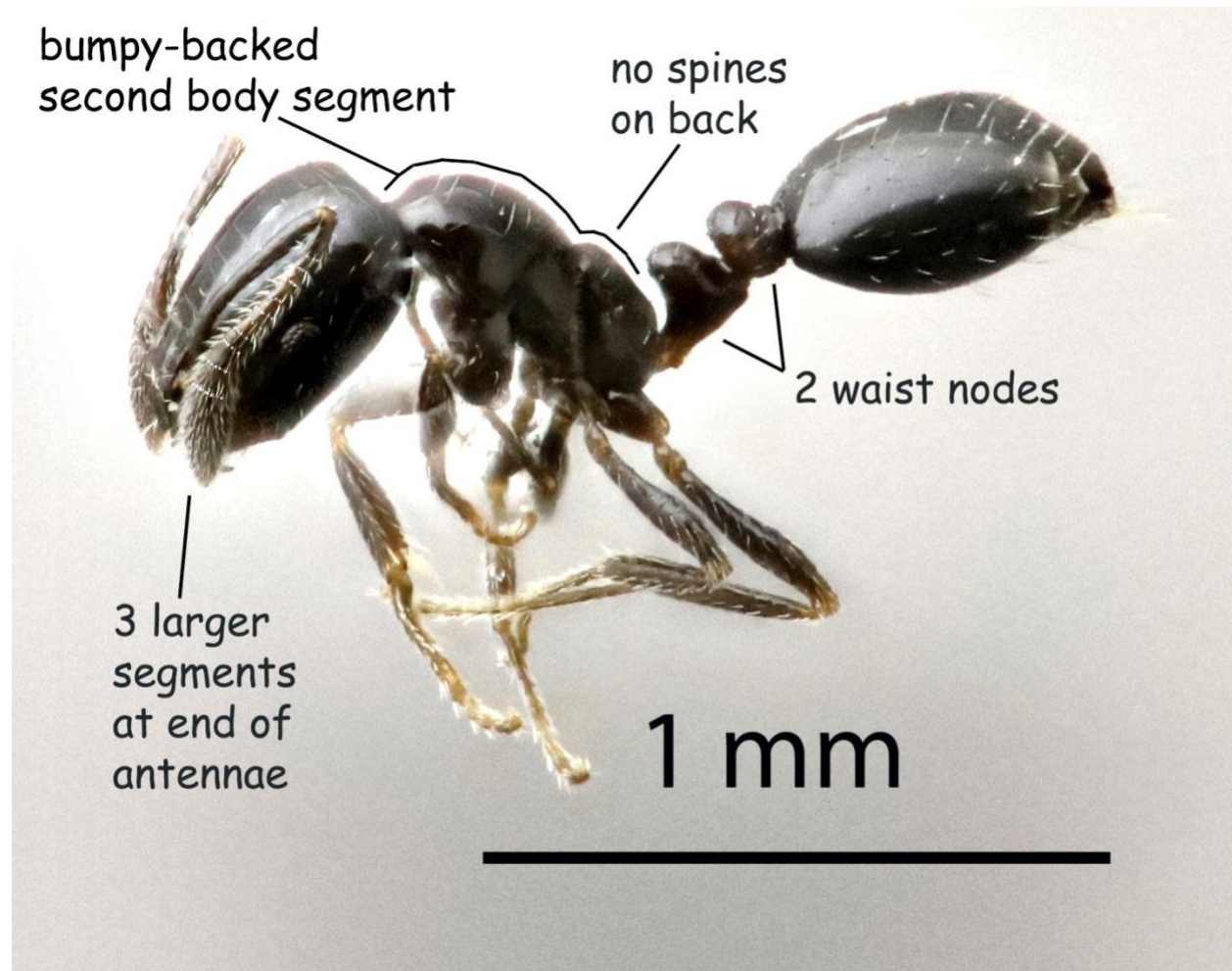


The Argentine ant (*Linepithema humile*) is the most widespread invasive ant on the west coast of North America. These are the ants that most commonly invade people's homes looking for food and water.

The Argentine ant is native to South America and was brought northwards by humans. It is the only species of its genus in California.

Argentine ants are known for having "supercolonies" of millions of genetically related individuals and multiple queens covering hundreds of kilometers of land. Because they are related, they do not attack each other, but they are aggressive towards other species of ants, causing native species decline.

Monomorium ergatogyna (western little black ant) [image: UCSB-IZC00037143]

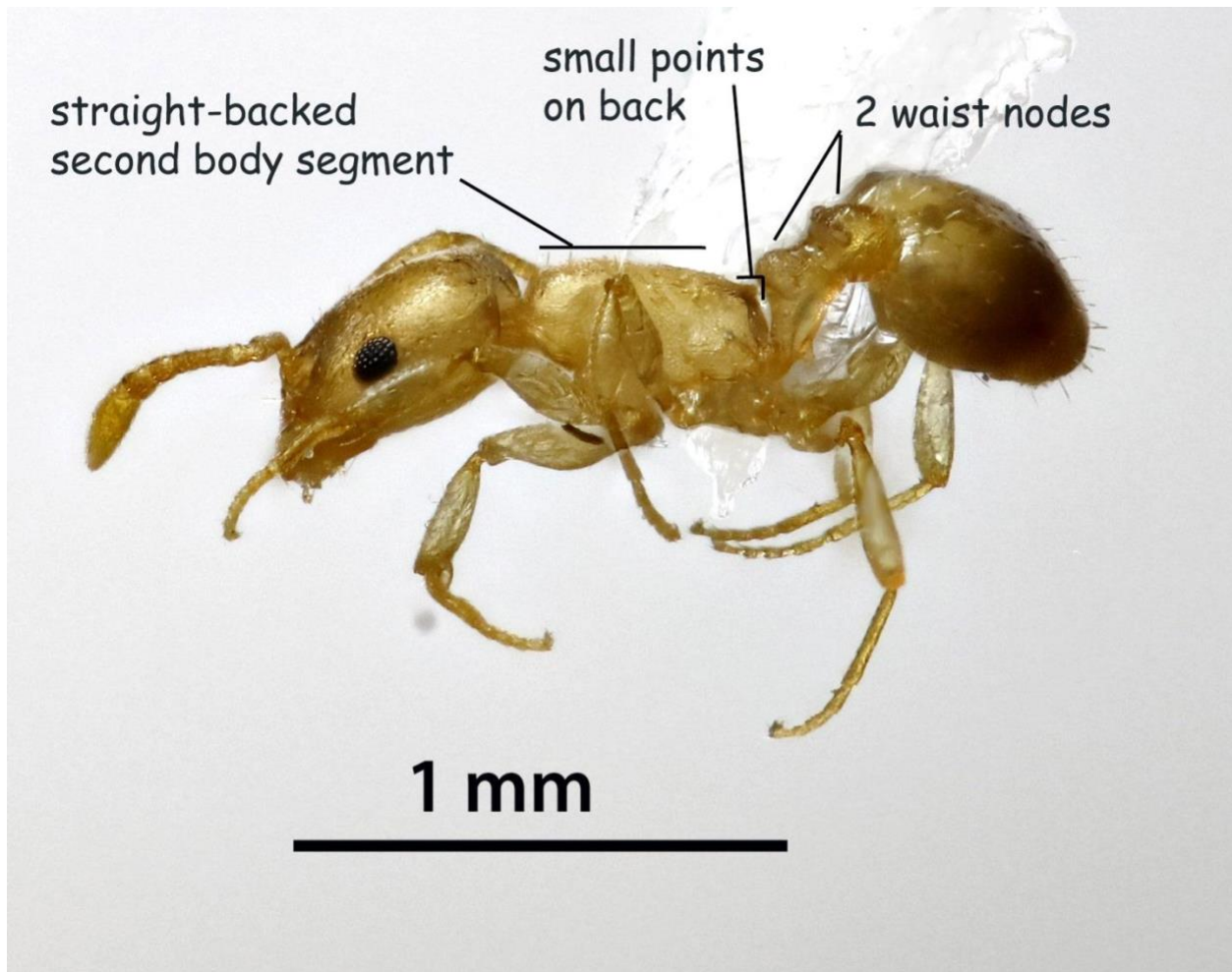


This western little black ant (*Monomorium ergatogyna*) is tiny at less than half the size of the Argentine ant, and can also be seen on sidewalks and in homes.

This species of ant is related to the more widespread and nearly identical little black ant (*Monomorium minimum*) which is found throughout North America.

Colonies of the western little black ant nest under stones, in soil, or rotten wood, with multiple long-lived wingless queens per colony.

Temnothorax andrei (acorn ant) [image: UCSB-IZC00025215]

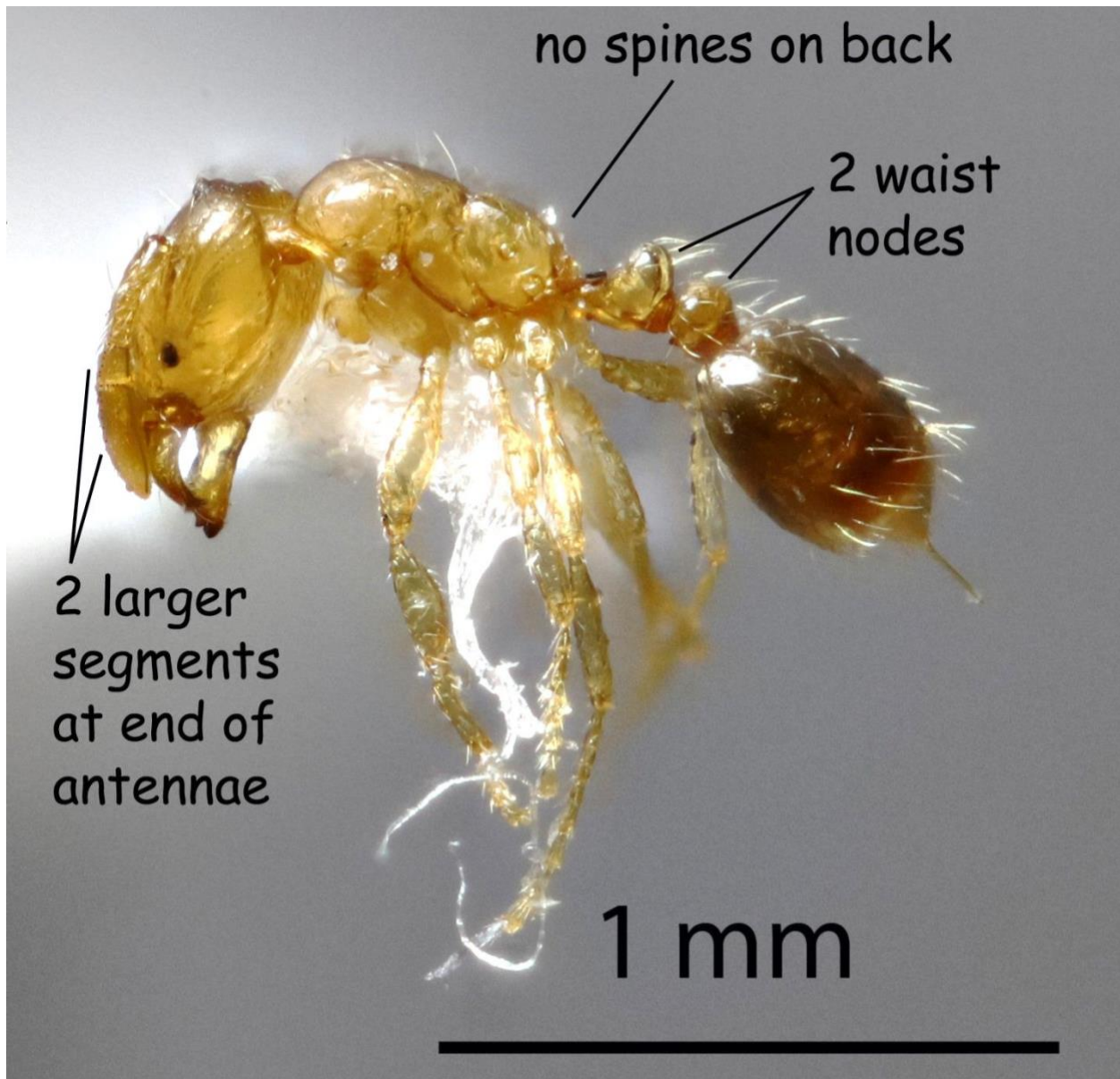


Acorn ants of the genus *Temnothorax* are sometimes used as model organisms to study social insect behavior and ecology, with many parasitic species living inside colonies of different species.

The species *Temnothorax andrei* is found throughout western North America and can tolerate dryer habitats than other species of ants.

Colonies of this species of acorn ant are small, from thirty to a hundred individuals. They can be found under stones, between rocks, in twigs, or even inside colonies of larger ant species.

Solenopsis molesta group (thief ant) [image: UCSB-IZC00037144]

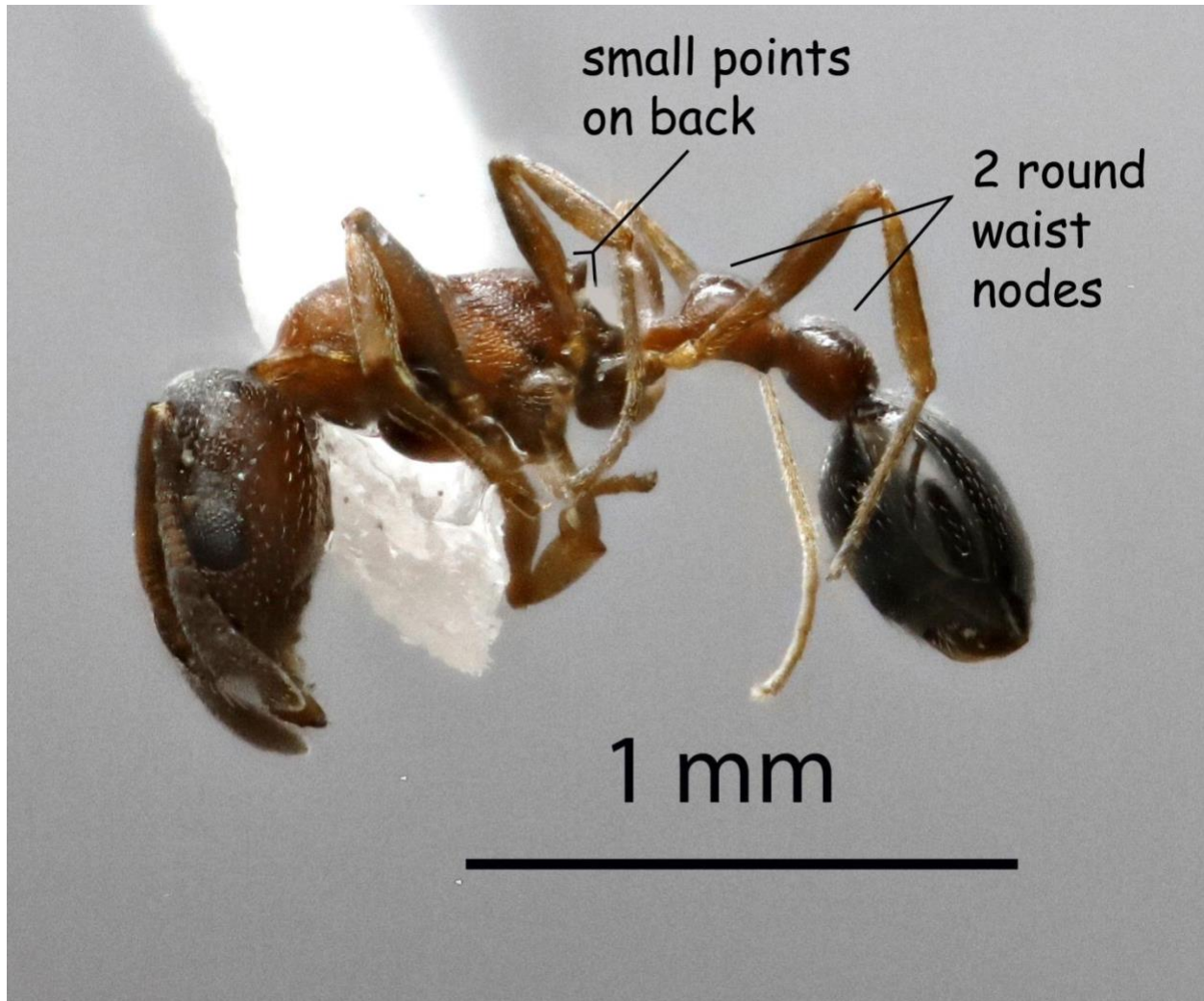


Thief ants (*Solenopsis molesta* group) get their name from being able to sneak between ants of other species to share food and colony space.

Some species in the genus *Solenopsis* are called fire ants because of their painful stings. One tropical species, *Solenopsis invicta*, has become an invasive species in the southern United States. The species *Solenopsis molesta* is the most common species of its genus in the entire United States.

Thief ants live underground and under stones, often in the nests of other ants, usually with a single queen.

Cardiocondyla mauritanica [image: UCSB-IZC00039824]



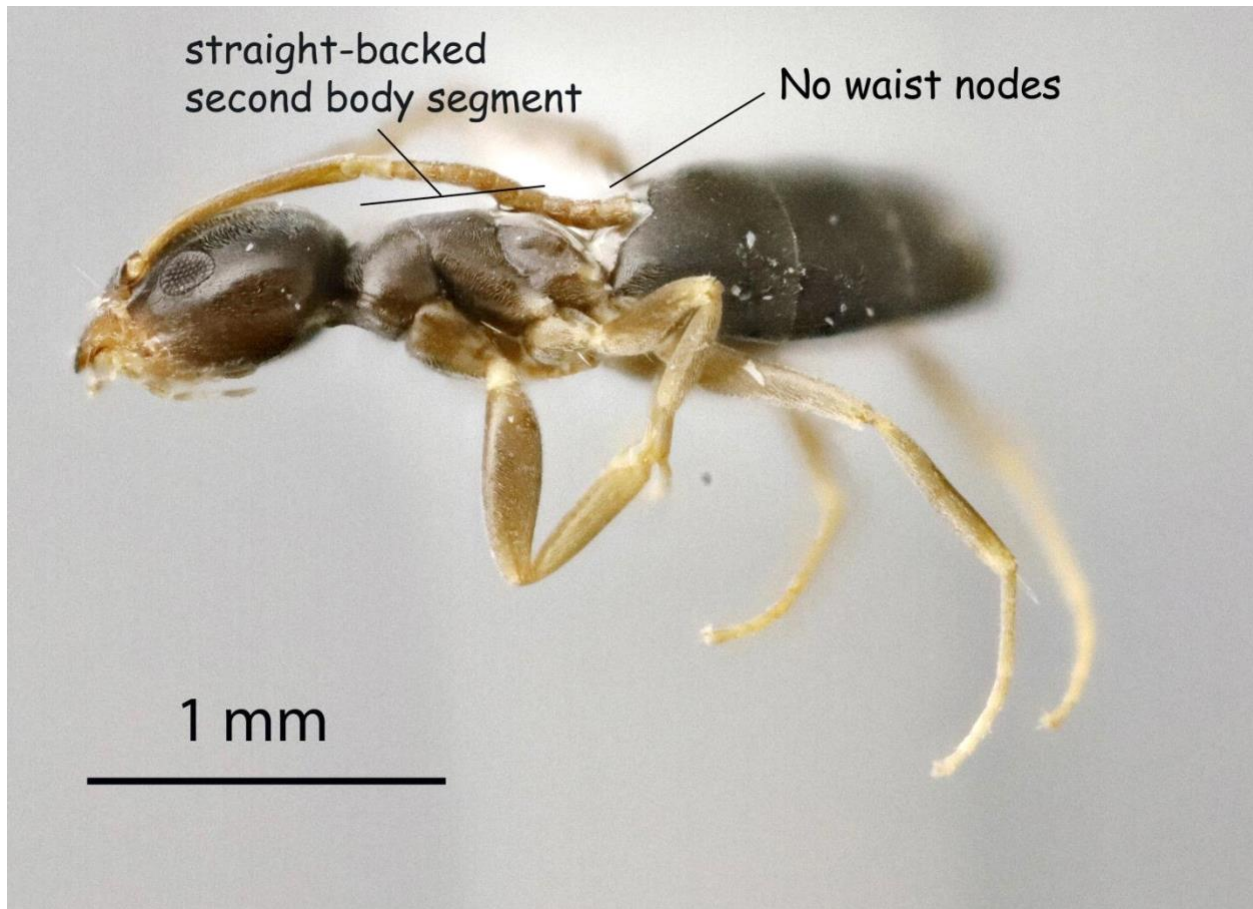
The small ant species *Cardiocondyla mauritanica* has no common name.

These ants are native to the Middle East and northern Africa but are “tramp ants”, a group of ants that are accidentally transported to new areas in cargo with soil on ships and trains.

The ant *Cardiocondyla mauritanica* nests in the ground in dry habitats. Colonies consist of tens to hundreds of individuals with multiple queens per colony.

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Tapinoma sessile (odorous house ant) [image: UCSB-IZC00026871]

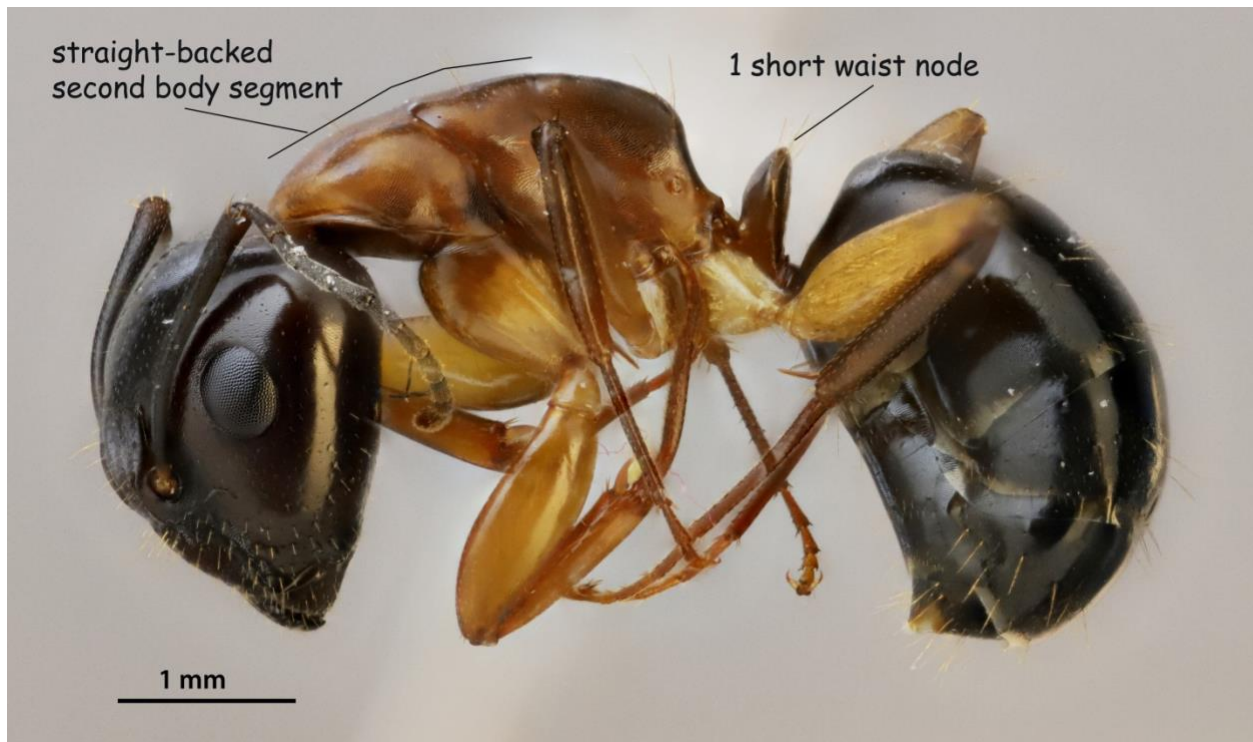


The odorous house ant (*Tapinoma sessile*) is a medium-sized ant that lives in a wide variety of habitats and comes into homes to look for sweet food. They are named for the sharp smell they emit when excited.

The odorous house ant is one of the most widespread species of ants in North America.

Nests of the odorous house ant contain thousands of workers and multiple queens. These ants, like other ant species, are well-known for “farming” aphids, protecting them while they feed on plants to consume the sugar waste that they produce.

Camponotus sp. (carpenter ant) [image: *Camponotus clarithorax*, UCSB-IZC00039716]

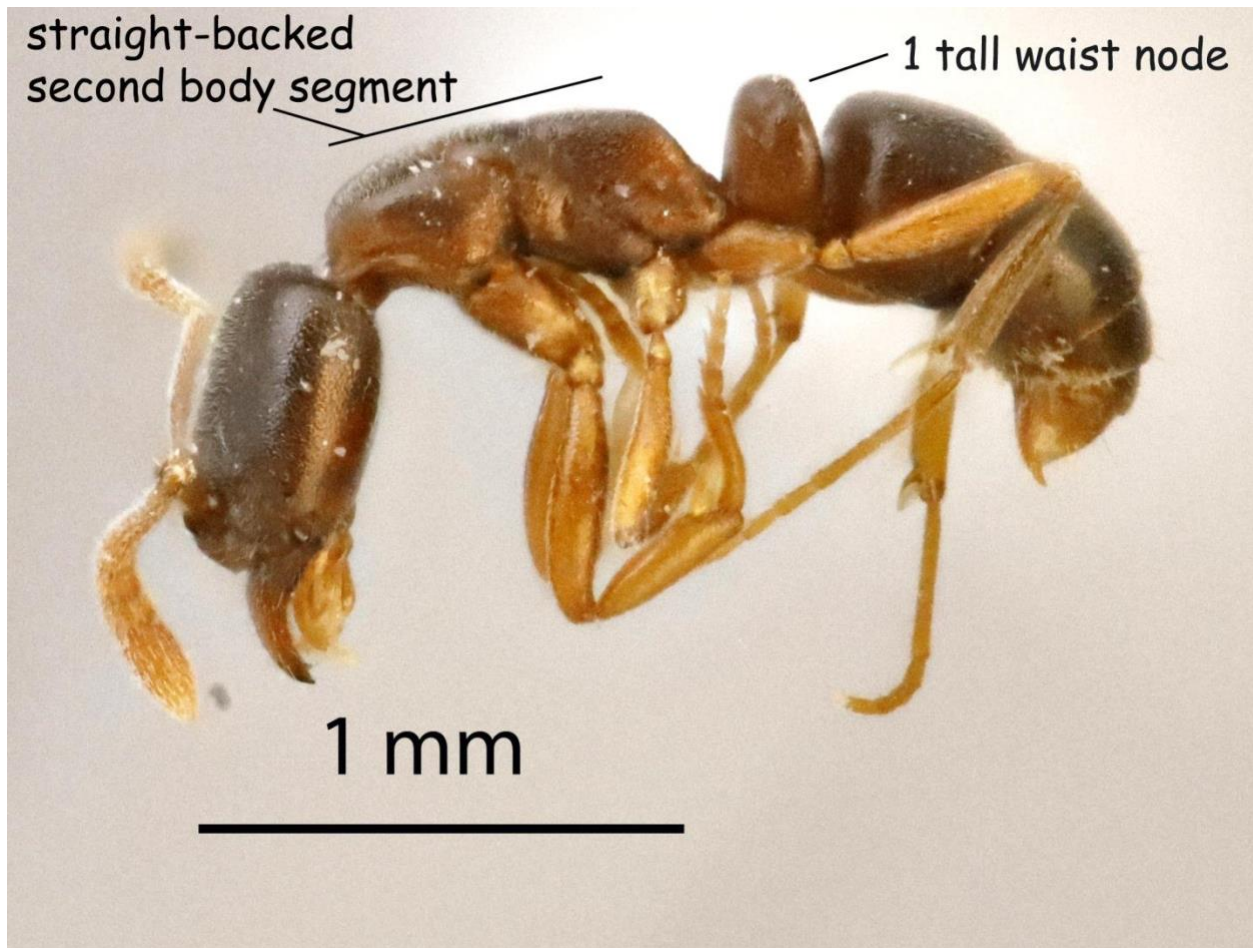


Carpenter ants (genus *Camponotus*) get their name from some species making their nests in wood. They are the largest ants in the continental United States.

There are more than a thousand species of carpenter ants worldwide. In the Santa Barbara area, there are at least thirteen species, with at least one species unique to the Channel Islands off the coast of southern California.

Carpenter ants can live in the ground, in rotten branches or twigs, or even in living wood, often taking over old termite nests or other preexisting cavities in wood. Many species are nocturnal and have single queens.

Hypoponera sp. [image: UCSB-IZC00039563]

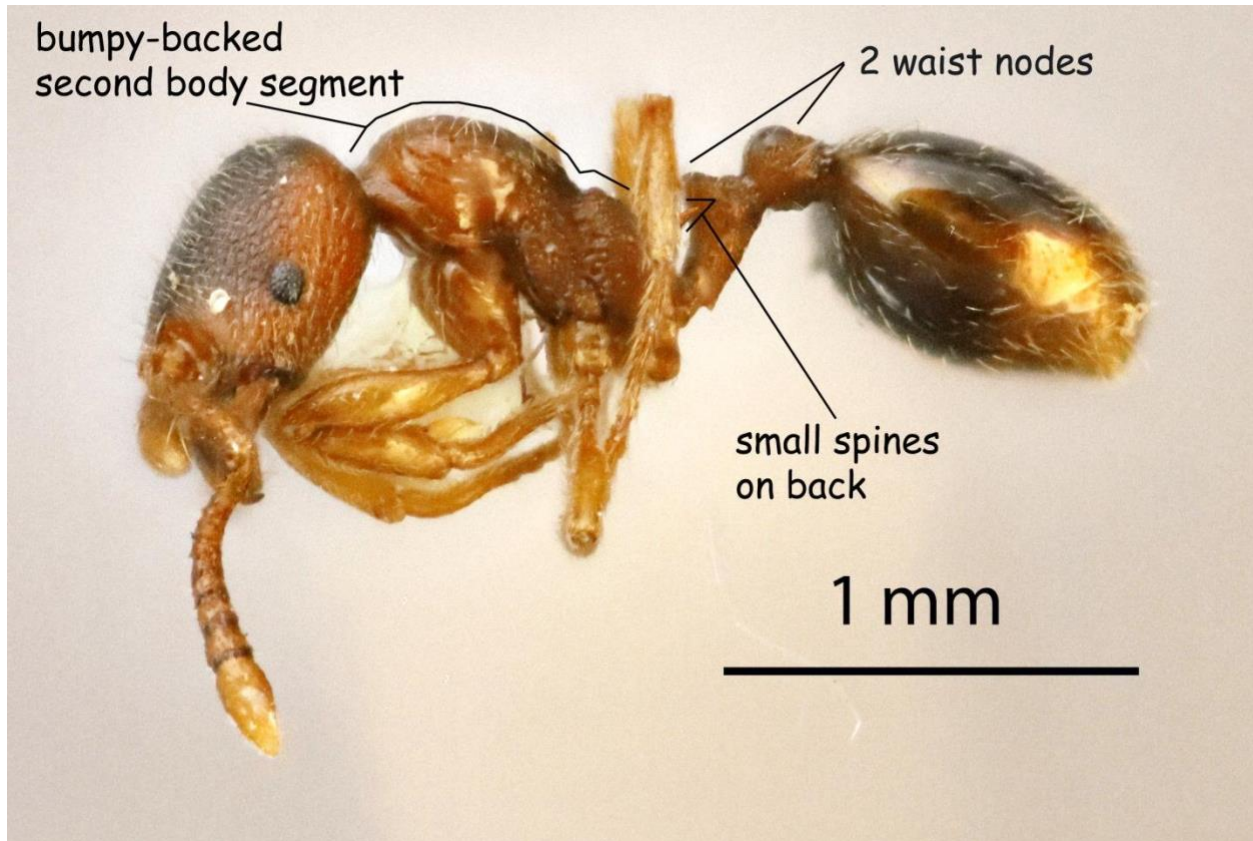


The ant genus *Hypoponera* has no common name. They are rarely seen or collected, living underground with single workers foraging in leaf litter instead of a noticeable line of ants bringing in food.

There is only one confirmed species in California and Santa Barbara, *Hypoponera opacior*, but species have subtle differences and can be hard to tell apart.

Ants in the genus *Hypoponera* live under stones, in soil, or in rotten wood. They have complex reproductive systems with multiple queens per colony.

Stenamma punctatoventre [image: UCSB-IZC00026526]

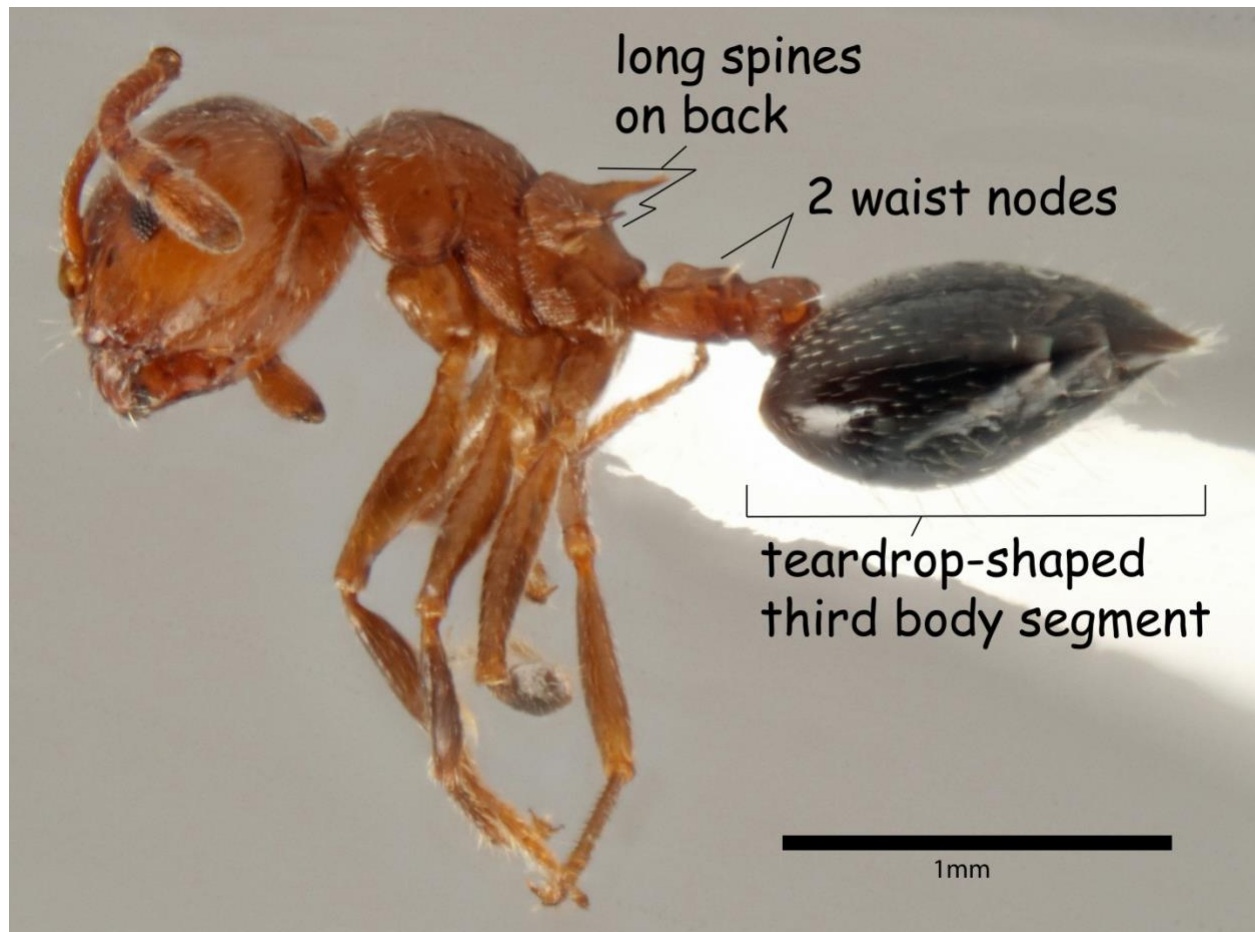


The ant species *Stenamma punctatoventre* has no common name, though the genus *Stenamma* has a reputation for being “leaf litter ants”. They are rarely seen or collected, with nests under leaf litter and workers looking for food in the same habitat.

The species *Stenamma punctatoventre* is found up and down the west coast of the United States. Four species of ants in the genus *Stenamma* are known in the Santa Barbara area, with twelve species throughout California.

Not much is known about the colony habits or biology of this species. Colonies have been found in dead branches buried in leaf litter.

Crematogaster sp. (acrobat ant) [image: UCSB-IZC00039696]



The acrobat ant (genus *Crematogaster*) is a medium-sized ant known for their habit of pointing their teardrop- or heart-shaped third body segment directly upwards perpendicular to their body. This shows off the venomous stinger that they use to defend themselves and subdue prey, and many species can have a painful bite and sting.

The acrobat ant has around 470 species worldwide, with most of those species found in the tropics. There are three species known in the Santa Barbara area, with one species, *Crematogaster laeviuscula*, found and identified from Coal Oil Point Reserve.

Acrobat ants can be ground nesters or arboreal (tree) nesters with mostly single-queen colonies.

Ants are mostly wingless insects that live in groups and have three main body segments, six long legs, and a head with eyes, jaws, and antennae. All ants from NCOS have one to two small nodes that make a waist between the second and third body segments, but there is one species that has been found on COPR that does not have a node. Ants only have wings if they are going to fly off and make a new colony. You need a microscope (or maybe a hand lens) to tell ants apart.

Some ant species do not have common names, but they always have scientific names like the ones used in this key.

DICHOTOMOUS KEY

Classification	If yes, go to	If no, go to
1. Does the ant have any waist nodes between the second and third body segment?	2	Tapinoma sessile (odorous house ant)
2. Does the ant have only one waist node between the second and third body segment?	3	5
3. Is the ant big (greater than 3 mm long) and is the back of the second body segment straight?	Camponotus sp. (carpenter ant)	4
4. Is the height of the ant's waist node shorter than the third body segment?	Linepithema humile (Argentine ant)	Hypoponera sp.
5. Does the ant have a pair of spines or points on the back of the second body segment?	6	9
6. Do the waist nodes attach to the top of a teardrop-shaped third body segment?	Crematogaster sp. (acrobat ant)	7
7. Are both waist nodes rounded on top, and is the ant dark brown with darker head and third body segment?	Cardiocondyla mauritanica	8
8. Is the back of the second body segment straight?	Temnothorax andrei (acorn ant)	Stenamma punctatoventre
9. Is the ant light yellow-brown, and does the end of the antenna form a "club" with two segments?	Solenopsis molesta group (thief ant)	Monomorium ergatogyna (little black ant)

LIST OF ANTS

Linepithema humile (Argentine ant)

Monomorium ergatogyna (little black ant)

Temnothorax andrei (acorn ant)

Solenopsis molesta group (thief ant)

Cardiocondyla mauritanica

Tapinoma sessile (odorous house ant)

Camponotus sp. (carpenter ant)

Hypoponera sp.

Stenamma punctatoventre

Crematogaster sp. (acrobat ant)