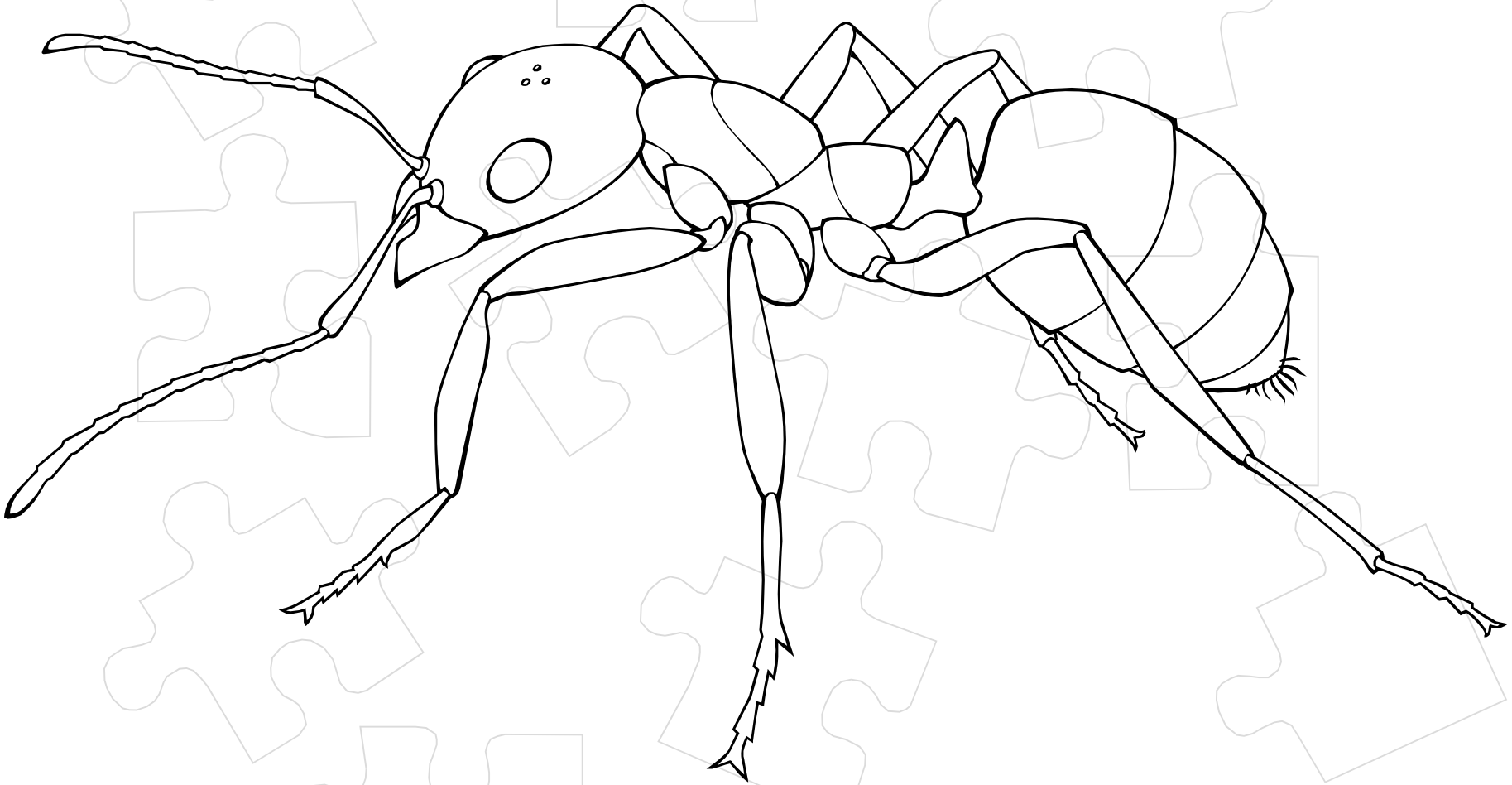
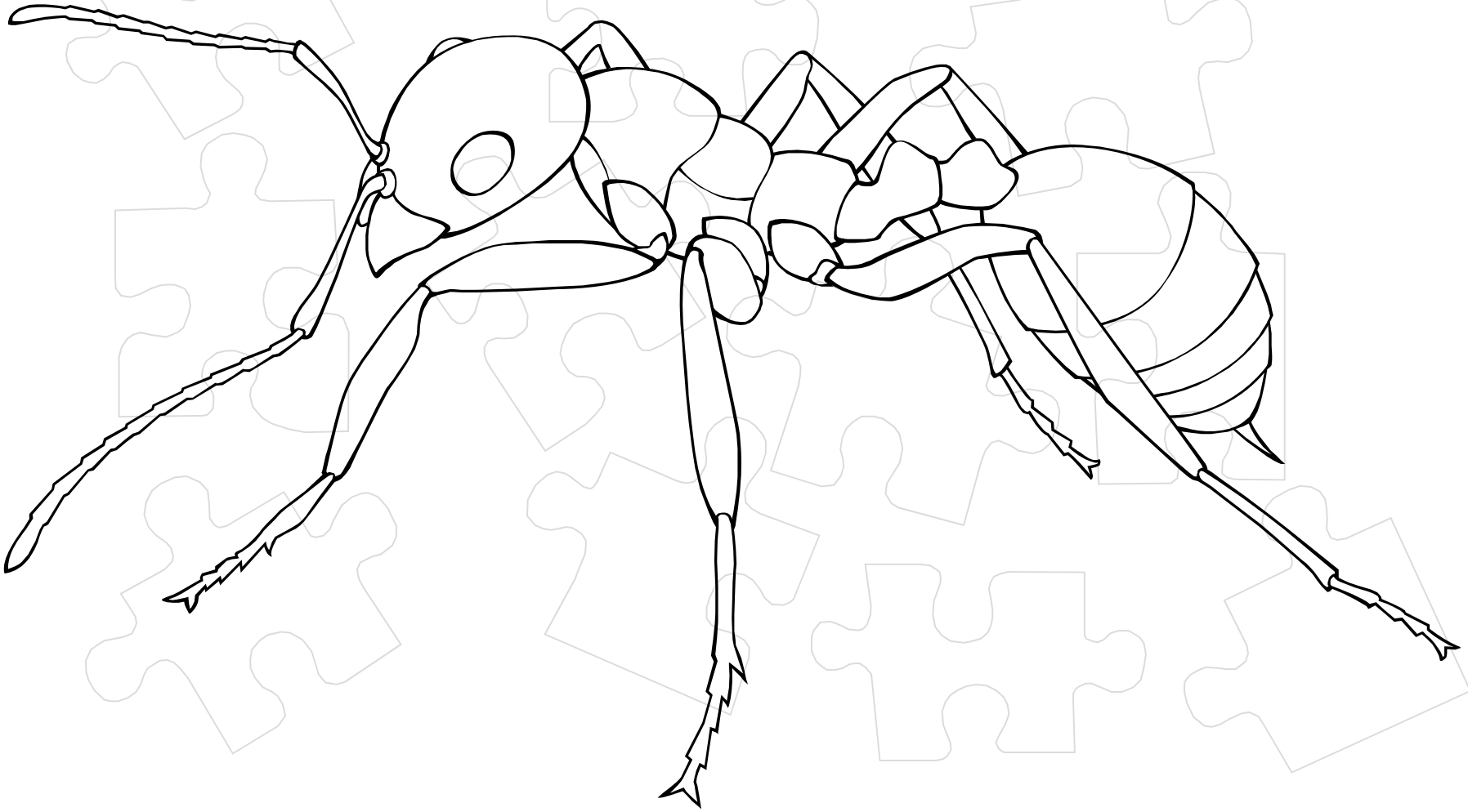


Worker Ant
Did you know that all worker ants are girls? There are no boy worker ants.
Learn more about ants - http://askabiologist.asu.edu/explore/ant-anatomy

Illustration by Sabine Deviche



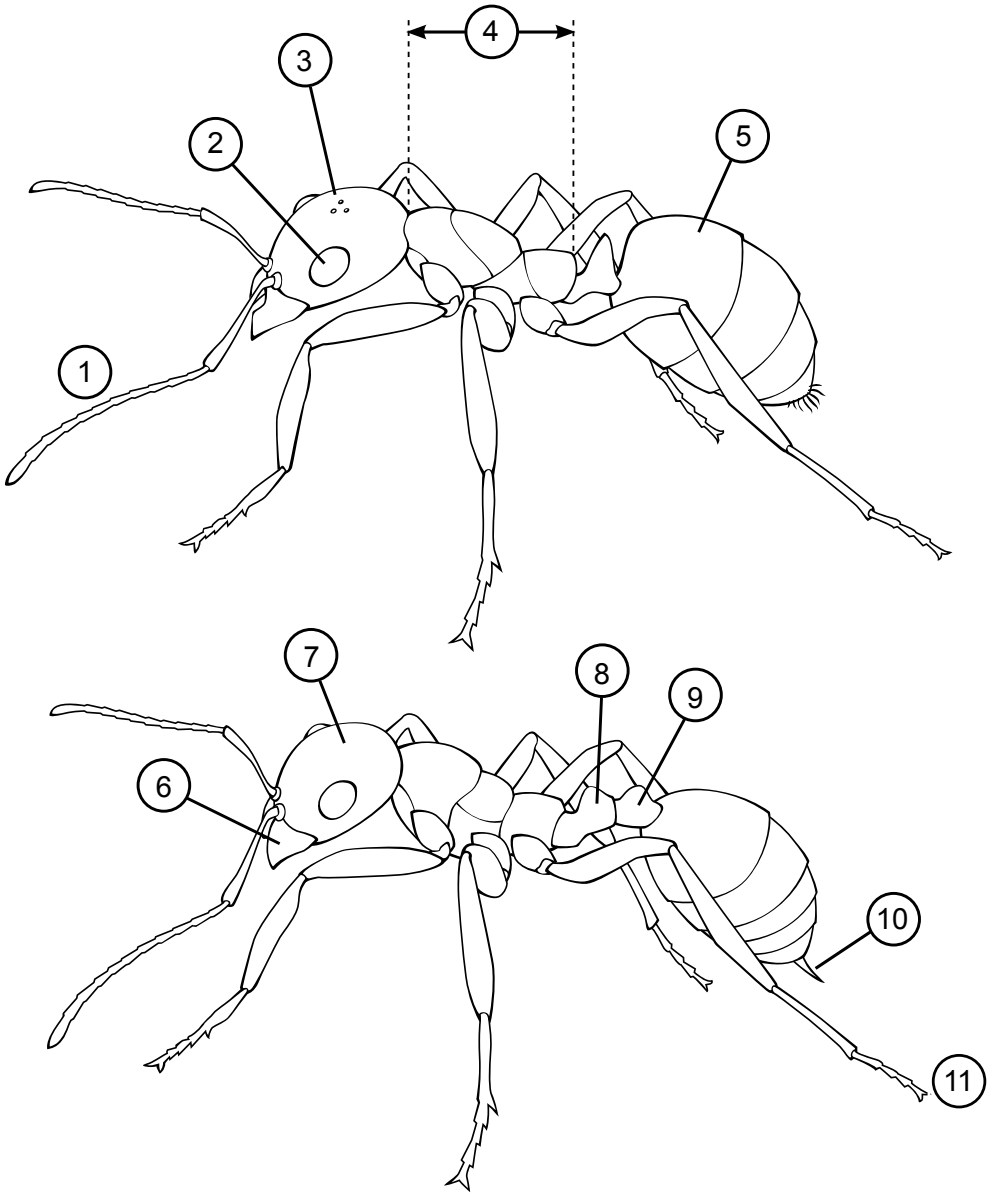
Worker Ant with Stinger
Did you know that not all ants have stingers? Watch out this one does.
Learn more about ants -
http://askabiologist.asu.edu/explore/ant-anatomy

Illustration by Sabine Deviche

 ©2008

Ant Anatomy Activity

The parts of each ant type have been labeled. Your challenge is to write the correct name for each part.
If you need some help, visit the web article listed below.



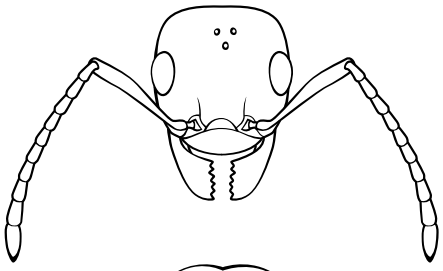
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____

Ant Anatomy Activity Key

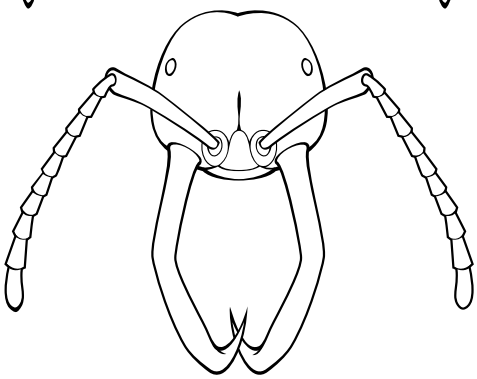
1. Antennae
2. Compound Eyes
3. Ocelli
4. Mesosoma
5. Gaster
6. Mandibles
7. Head
8. Petiole
9. Post-petiole
10. Sting
11. Leg

The Many Faces of Ants Summary

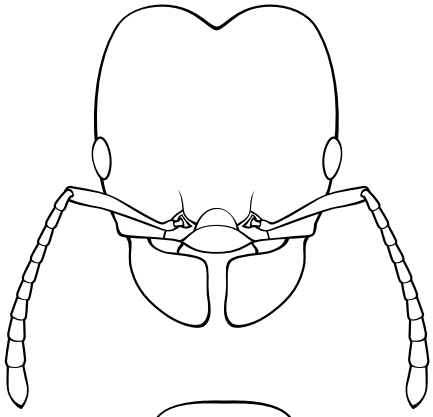
You can tell a lot about an ant from its face. The shape of the head and mandibles and size of the eyes can reveal the diet and lifestyle of an ant species. Here are some examples of how the structure of an ant's head corresponds to its function.



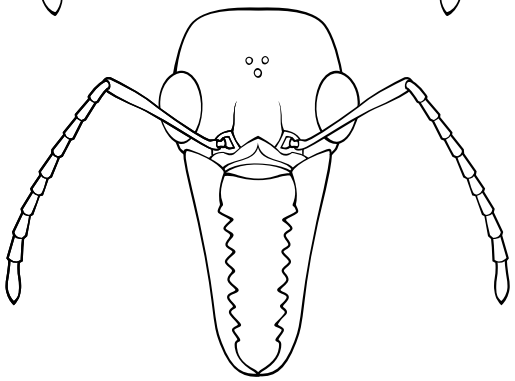
A **typical ant** has broad, triangular mandibles with short, pointy teeth. These multi-purpose tools can be used for biting, carrying, digging, and other jobs.



An **army ant solider** (*Eciton*) has massive, hooked mandibles with sharp blades at the tips. They are used to pierce the skin of larger vertebrate predators that threaten the colony. Also note the tiny simple (not compound) eyes – army ants are effectively blind, relying on chemical trails and touch to find their way around in the dark rainforest.

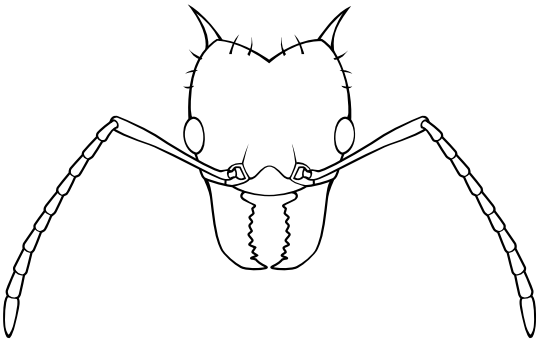


This **big-headed ant major** (*Pheidole*) has heavy, blunt mandibles powered by a muscular head. It crushes hard seeds that the smaller minor workers harvest but cannot crack.

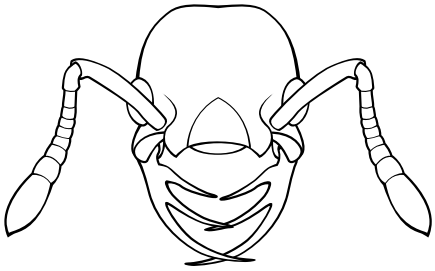


Bull-dog ants (*Myrmecia*) have huge, bulging eyes and excellent vision for hunting insect prey. These vicious predators also have long, narrow mandibles with big teeth. As their name implies, bull-dog ants can be quite aggressive – workers of some species are known to jump toward human intruders!

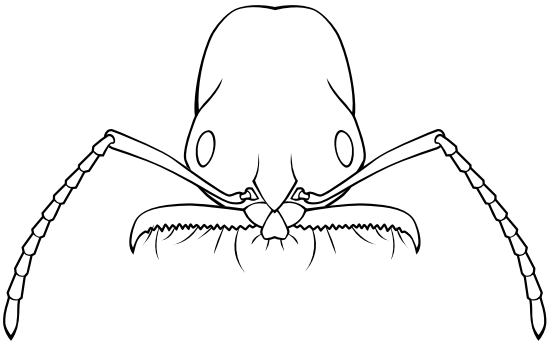
The Many Faces of Ants Summary



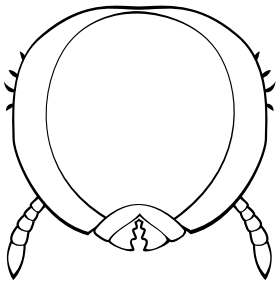
A **leafcutter ant** (*Atta*) has powerful mandibles that slice through leaves like serrated scissors. The leading mandible is anchored into the leaf while the other one is pulled along to make the cut. Leafcutter ants don't eat the vegetation they collect – they use it to grow fungus, their only source of food. So they are the farmers of the ant world.



The **marvelous ant** (*Thaumatomyrmex*) has pitch-fork mandibles that are used to grasp its special prey – millipedes covered with long bristles like porcupines. While the ant grips a millipede with its mandibles, it strips off the bristles with pads on its front feet. Once the prey is plucked clean, it is eaten head-first.



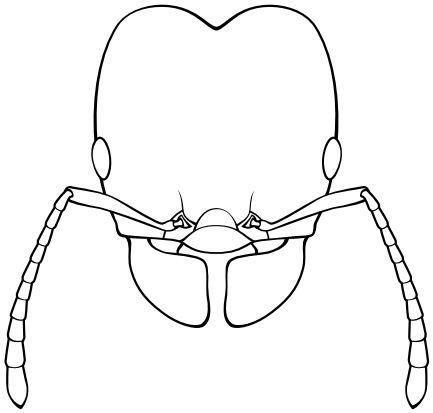
A **trap-jaw ant** (*Odontomachus*) hunts with its mandibles locked wide open and sensitive trigger hairs pointing forward. When the hairs touch a target, energy is released from big muscles in the head, and the mandibles slam shut in a fast and powerful snap. The closing of the mandibles is one of the fastest movements in the animal kingdom – up to 145 miles per hour! That's 2,300 times faster than the blink of a human eye! Trap-jaw ants use their speedy mandibles to capture springtails and other quick insects. But they can also be used for defense – when a trap-jaw ant points its head down and snaps its mandibles against a hard surface, it launches into the air, out of harm's way.

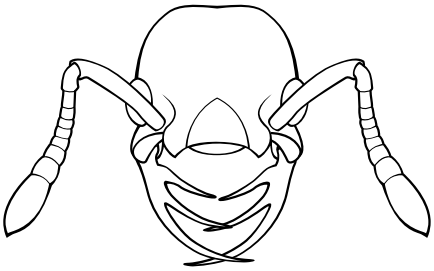


A **turtle ant major** (*Cephalotes*) has an armored, plate-shaped disc covering the front of its head. The disc is perfectly sized to block the nest entrance like a door, preventing enemies from getting inside.

The Many Faces of Ants Matching Game

On this page, there is a list of names and pictures of ant heads. Draw a line from a name to the matching ant head. Keep in mind not all the names are real. Good luck!

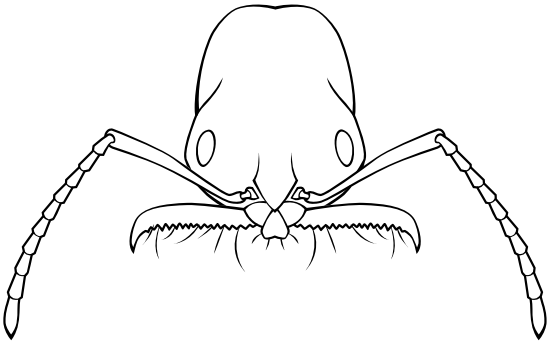


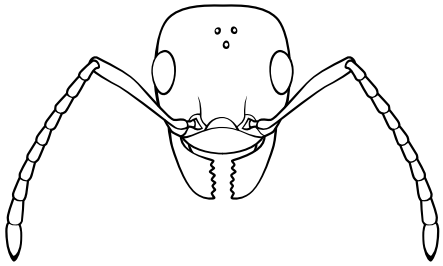


Boulder Ant

Turtle Ant Major

Bull-dog Ant

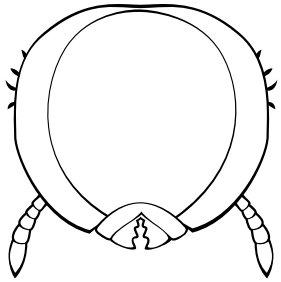


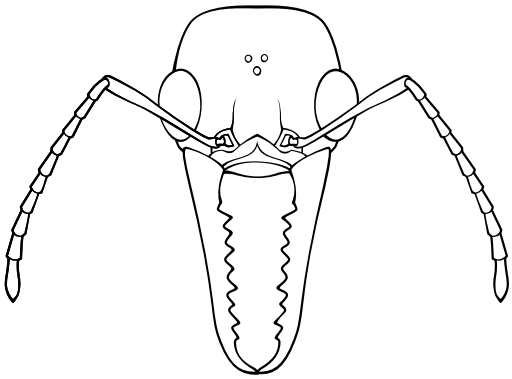


Marvelous Ant

Typical Ant

Alligator Ant



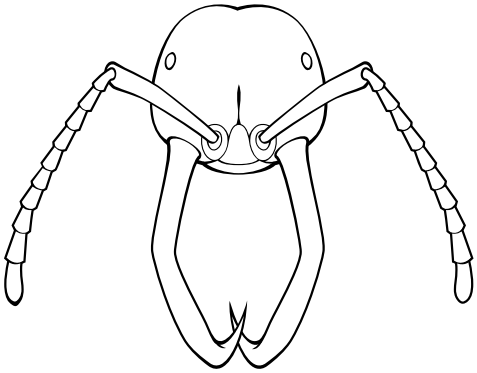


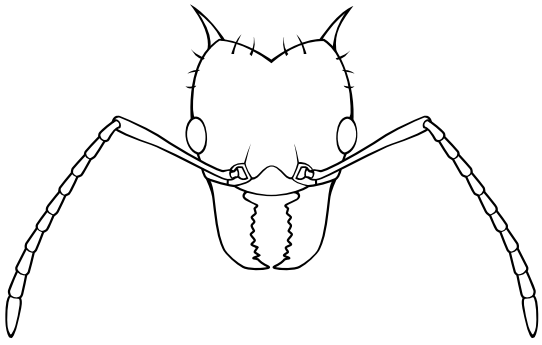
Big-headed Ant

Alien Ant

Army Ant Soldier

Leafcutter Ant

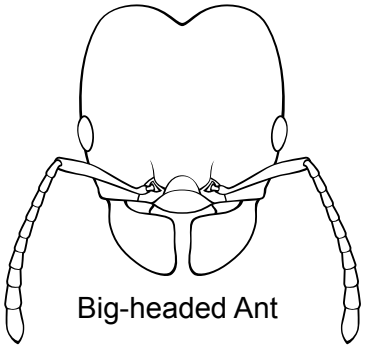




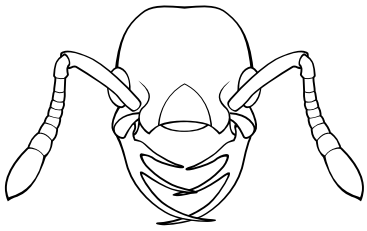
Trap-jaw Ant

Mole Ant

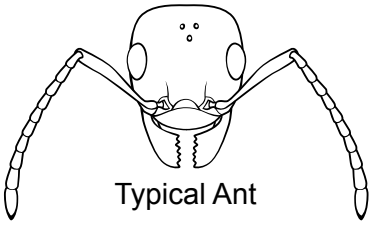
The Many Faces of Ants Matching Game Key



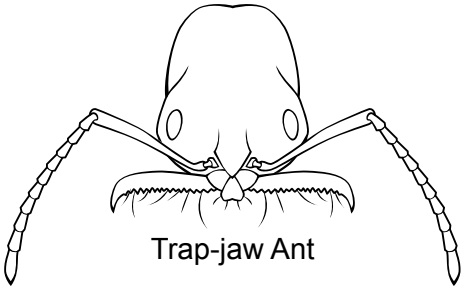
Big-headed Ant



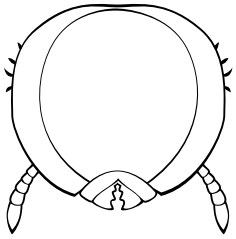
Marvelous Ant



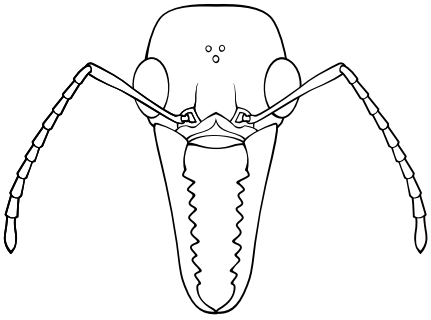
Typical Ant



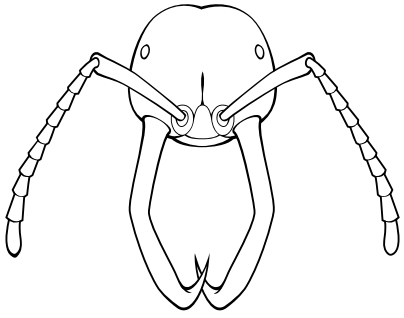
Trap-jaw Ant



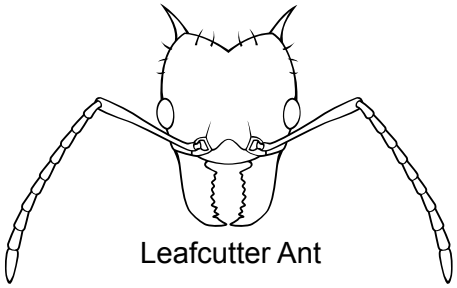
Turtle Ant Major



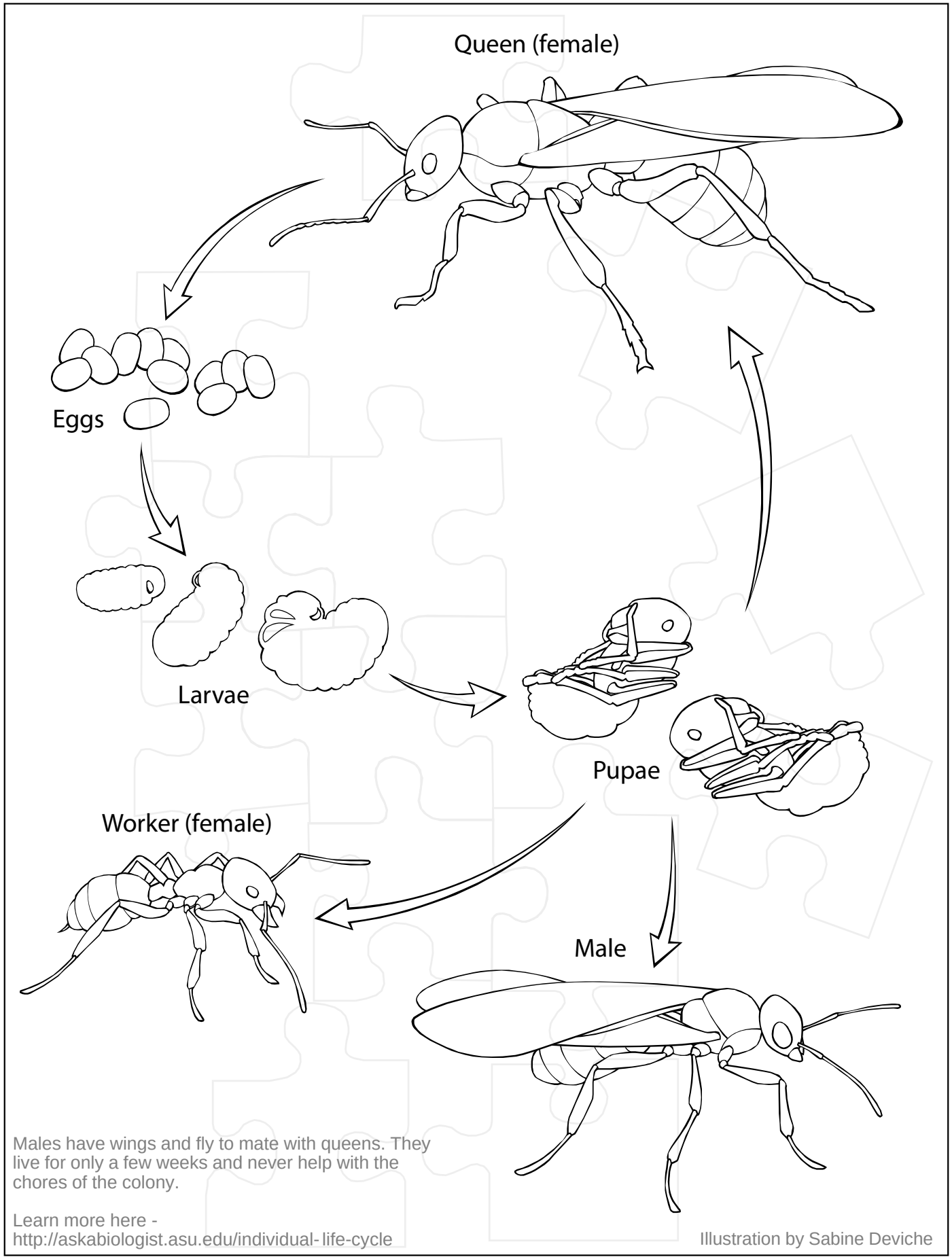
Bull-dog Ant



Army Ant Soldier



Leafcutter Ant



Males have wings and fly to mate with queens. They live for only a few weeks and never help with the chores of the colony.

Learn more here - http://askabiologist.asu.edu/individual- life-cycle

Illustration by Sabine Deviche

Ant Picnic:

To learn more about ants including how to make your own ant farm, visit the *Ask A Biologist* website.

http://askabiologist.asu.edu

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