

Ask an Entomologist

Ant Mimics



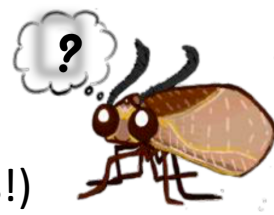
1) Bug Quiz Answers

- A. Ant-mimicking crab spider (*Aphantochilus rogersi*)
- B. Ant-mimicking spider (Castianeirinae: *Myrmecium bolivari*)
- C. Turtle ant soldier (*Cephalotes varians*) → Correct answer
- D. Ant-mimicking katydid nymph (Tettigoniidae: *Macroxiphus sp.*)



Photo credits: Top (A) & bottom (C) left = Alex Wild. Top right (B) = Daniel Lllavaneras. Bottom right (D) = Muhammad Mahdi Karim.

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2) How to Tell Ants Apart from Mimics

A. Count the pairs of legs (ants have 3 pairs = 6 legs!)

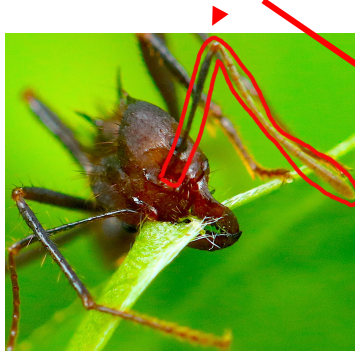


Photo by: Daniel Llavaneras



Photo by: Alex Wild

B. Antennae → ants always have geniculate antennae (“elbowed” or “kneed” antennae)



Photos by: Joanie

C. 2nd or 3rd abdominal segment has/have hump(s)/nodes

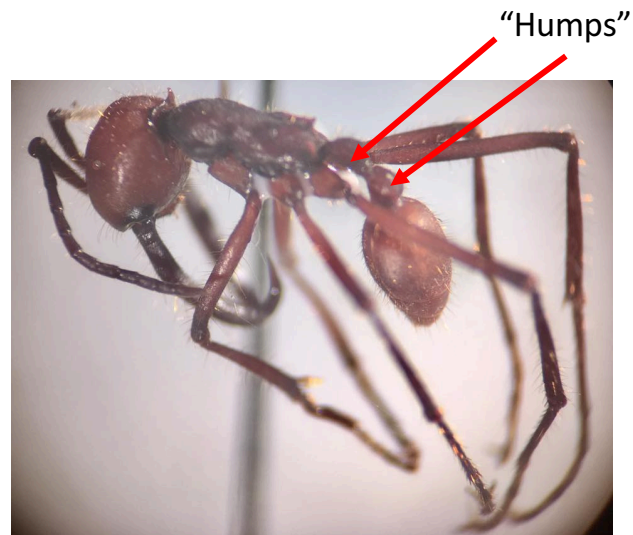
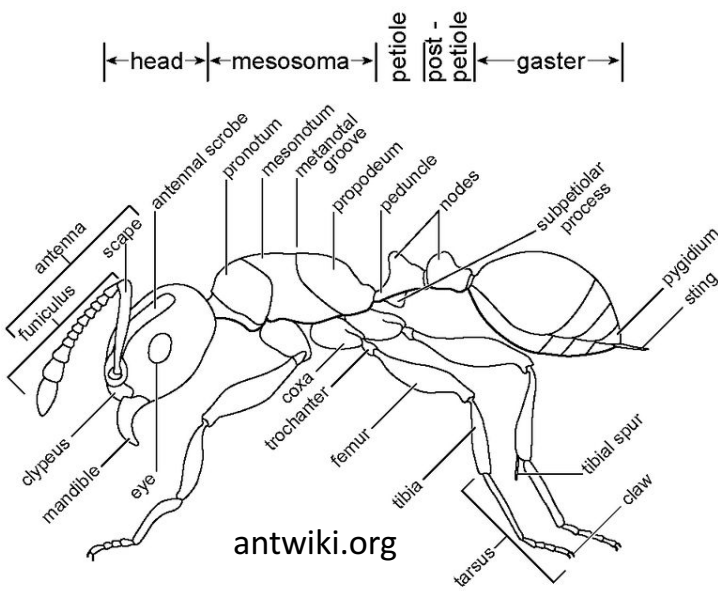


Photo by: Joanie

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3) Why Do Other Arthropods Mimic Ants?

A. What?

 **Ant mimicry (myrmecomorphy):** The mimicry of ants by other animals.

B. Why?

 **Protective mimicry:** Avoidance → to escape predation: Ants are abundant AND they are successful predators that are aggressive, taste bad, and/or sting. Example: The ant-mimicking katydids (*Macroxiphus* sp.) look and act like ants to avoid predation.

 **Aggressive mimicry:** Some organisms (such as spiders) mimic the form and behavior of ants to hunt the ants they look like. Example: The ant-mimicking crab spider (*Aphantochilus rogersi*) looks like its prey, the giant turtle ant (*Cephalotes atratus*).



Aphantochilus rogersi



Cephalotes atratus

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C. How (to mimic ants)?

🐜 Smell like the ant (Wasmannian mimicry): Imitate ants chemically by having their scent (pheromones). This way, the mimic can live in the ant colony and eat their them and/or their young.

🐜 Visually look like ants (Batesian mimicry): Most predators don't want to mess with ants.

🐜 Behave like ants: It's easier to fool your prey if you act like them (aggressive mimicry). Antlike behavior can also make visual (Batesian) mimicry more convincing (as in the case of the ant-mimicking katydid).



While attending Ant Course 2016, I saw this ant-mimicking spider in Africa. One of the other students thought that it was an ant at first glance!

References:

Gwynne, Darryl T. *Katydid and bush-crickets: reproductive behavior and evolution of the Tettigoniidae*. Cornell University Press, 2001.

Hölldobler, Bert, and Edward O. Wilson. *The Ants*. Harvard University Press, 1990.

Pasteur, Georges. "A classificatory review of mimicry systems." *Annual Review of Ecology and Systematics* 13.1 (1982): 169-199.

"The Ant that Wasn't (*Aphantochilus rogersi*).\" – *The Ant that Wasn't (Aphantochilus rogersi)*. N.p., 02 Feb. 2011. Web. 10 Aug. 2017.