

## Madagascar Giant Hissing Cockroach

*Gromphadorhina portentosa*

**Class:** Insecta    **Order:** Blattodea    **Suborder:** n/a

**Superfamily:** Blaberoidea    **Family:** Blaberidae

**Other names:** none

**Other subspecies:**

**Other Relatives:**



### Zoo Roaches

#### Status

Not evaluated

#### Geographic Region

The Madagascar hissing cockroach occurs only on the island of Madagascar [1].

#### Habitat

Tropical

#### Characteristics

**Size:** 2-4" [1]

**Longevity: Wild:**

**Captivity:**



#### Physical Description

- Like most insects, the giant hissing cockroach has a head, thorax, abdomen, and 6 legs. Unlike many cockroach species, they do not possess wings [1].
- Their **exoskeleton** is dark, from mahogany brown to black, and very thick, hard, and waxy [1].
- They have pads and hooks on their feet that allow them to climb smooth surfaces [1].

#### Dimorphism

**Males:** possess a pair of large bumps or **tubercles** behind their head; these structures are much smaller in females.

**Females:**

#### Diet: Detritivores

**Diet in the Wild:** Their most frequent food is decaying plant material, including fallen fruit, because it is so readily available. They also eat smaller insects and animal carcasses.

**Diet in the Zoo:**

#### Behavior

Male Madagascar hissing cockroaches establish territories that are defended from other adult males. Aggressive hissing and posturing behavior is used to warn intruders away. The male that is larger and hisses more usually wins. The dominant males stand on their "toes," which is called stilting. Stilting is a way for males to "show off." The males use their pronotal humps when fighting other males to defend territories. Fighting between males does not appear to injure the males. Females and nymphs are more social and do not fight with one another or with males. The cockroaches are nocturnal and they avoid light.

#### Reproduction

- Partial/incomplete metamorphosis
- They hatch from eggs as nymphs, which are quite similar to adults in general structure, but lack reproductive organs.
- Male Madagascar hissing cockroaches produces acoustic sounds or hissing during courtship interactions with females.
- The species is unusual among insects in that the females appear to bear living young. Actually, the young emerge from an egg case (**ootheca**), which has been retained within the body of the mother. This is known as false ovoviparity.
- Gestation is usually about 60-70 days. Normally, a female gives birth to 20-40 babies, known as nymphs, over a two-day period. Each nymph is about 1/4-inch long (about the size of a small watermelon seed) and very flat. The young may remain grouped around the female for some time after emerging as she protects them by raising her body over them. Nymphs reach maturity in five to ten months, with faster maturation at higher temperatures. Adults may live for two to three years.

#### Conservation:

- **Use & Trade:** Sold in the Pet trade
- **Threats**
- **Predators:** Arachnids, ants, tenrecs, and some ground-feeding birds are likely predators. [5]

### Did you know?/Fun Facts

- The giant hissing cockroach is one of the largest species of the cockroaches in the world.
- An anti-predatory strategy is an alarm hiss - producing a loud snake-like noise that may startle potential predators [5]
- Occurs only on the island of Madagascar.

### Glossary

**Tubercle** - a small rounded projection or protuberance, especially on a bone or on the surface of an animal or plant.

**Exoskeleton** - an external supportive covering of an animal (as an arthropod) [3]

**Incomplete metamorphosis** - a type of metamorphosis in which an insect hatches from an egg and then goes through several nymphal stages[4]

**Ootheca** - a firm-walled and distinctive egg case (as of a cockroach) [3]

### References

- [1] Darmo, Lisa, Ph.D., and Fran Ludwig. "Madagascan Giant Hissing Roaches." *Access Excellence*. Carolina Biological Supply Company and Lexington Public Schools, 2009. Web. 11 Dec. 2009. <<http://www.accessexcellence.org/RC/CT/roach.php>>.
- [2] Jessee, A. and K. Francl. 2009. "Gromphadorhina portentosa" (On-line), Animal Diversity Web. Accessed December 07, 2009 at [http://animaldiversity.ummz.umich.edu/site/accounts/information/Gromphadorhina\\_portentosa.html](http://animaldiversity.ummz.umich.edu/site/accounts/information/Gromphadorhina_portentosa.html)
- [3] Merriam Webster [Online]. Available: <http://www.merriam-webster.com/>. [Accessed December 2015]
- [4] Amateur Entomologist Society "Incomplete Metamorphosis". [Online]. Available: <http://www.amentsoc.org/insects/glossary/terms/incomplete-metamorphosis>. [Accessed December 2015]
- [5] Animal Diversity Web. "Gromphadorhina portentosa: Madagascan hissing cockroach". [Online]. Available: [http://animaldiversity.org/accounts/Gromphadorhina\\_portentosa/#predation](http://animaldiversity.org/accounts/Gromphadorhina_portentosa/#predation). [Accessed December 2015]