

Husbandry Data Sheet

Common Name: *Madagascar Hissing Cockroach* **Latin Name:** *Gromphadorhina portentosa*

Family: Blaberidae

Order: Blattodea

Class: Insecta

Phylum: Arthropoda

Natural History: Range: Madagascar; Habitat: Moist tropical forests; found under dead bark and in decaying vegetation; Wild diet: Opportunistic scavengers; Life span: Usually 2-3 years; occasionally 5 years; Reproduction: Eggs are held in a capsule called a oothecae, which is retained in a brood pouch in the female's body; the dozens of young are born alive.

Permits Required: Yes

Life Stage: Adult

Ease of Care: Easy

Housing:

Temp:

Humidity:

Substrate: peat with perching

of Animals per Exhibit: 25

Choose One: Group

Compatible Species:

Enclosure Description: 10 gallon tank

Lighting/Photoperiod: natural light

Furniture/Props: hide log

Escape Concerns:

Other Concerns/Precautions:

Husbandry

Diet/Frequency of Feeding: twice per week

Water Source/Frequency: always available

Care: Daily

Enrichment:

Medical/Health Concerns:

Treatment:

Keeper Safety:

Other Concerns/Precautions:

Education

Do you handle species directly with the guests? : Yes

If Yes or No how do you use the species with the guest: Hissers are a favorite among guests. For most folks we challenge them to overcome their phobias and really look closely at this very interesting animal. We talk about adaptations and animal senses pointing out their interesting head design and eye placement.

Conservation/Population Status:

Message: 1. Invertebrates play an important role in an ecosystem as both decomposers and protein-rich food sources (Cockroaches, YUM).

2. The Phylum Arthropoda includes the most successful animals on earth, as measured by the number of species and the number of habitats where they are found. Insects make up the largest class of animals within the phylum Arthropoda. All true insects have six legs, three body segments, and true antennae.

3. All arthropods have an exoskeleton, or an armored protective and supporting structure for the body. This exoskeleton is primarily composed of chitin, and because it is rigid, arthropods must molt in order to grow. During this molt the arthropod will shed its "shell" and it will be very vulnerable until the new exoskeleton has hardened.

Husbandry Data Sheet

4. Cockroaches are leathery insects, typically with oval and flattened bodies that enable them to squeeze through tight spaces in search of food or to escape predators (like people armed with rolled up newspapers or house slippers). They are sensitive to vibration and can quickly flee from danger. The head is often covered by a shield-like pronotum, and there are generally two pairs of wings. There are 6 families and 4,000 species in this order; less than 1% of these are pests. The rest are useful scavengers in many habitats. The pest species thrive in warm conditions and where there is poor hygiene and sanitation; they can carry disease-carrying organisms on their bodies.
5. Cockroaches are considered living fossils: fossil remains have been found from over 300 million years ago. Cockroaches can withstand both radiation and high G-forces.
6. Madagascan hissing cockroaches are large, wingless, live-bearing insects. They have a tough exoskeleton for protection. Hooks on the legs enable them to hang on to practically any surface, including your fingers.
7. The Madagascar hissing cockroaches hiss when disturbed or fighting by expelling air through vents along the flanks. There are 11 or 12 spiracles on each side, connected to a long tube-like trachea. The fourth spiracle on the abdomen has an enlarged opening leading to a horn-shaped trachea that is connected to the longitudinal tracheal trunk through a constriction. Sound is produced by closing all other spiracles and forcing the air through the constriction into the horn.
8. The male roach has bumps on its head, which it uses to butt other males. The males fight for territory and may battle for half an hour, hissing 20 or 30 times, while charging each other and butting heads. Females use sound to lure mates. They all just have a hissing good time.
9. All species in this family are ovoviviparous—they retain the egg case internally and give birth to live young. The egg sacs are fully extruded from the end of the abdomen, rotated, then drawn back inside to be brooded within the body of the female.
10. These big roaches have been used for creepy effects in movies for a long time. For example, the cockroach man in *Men in Black* was covered with these guys. However, the giant alien insect-like bad guys at the end of the movie are really bogus. The laws of physics and the strength of exoskeletons would never permit any arthropod to get that large. Sorry, sci-fi guys.
11. Ever try to squish a cockroach that's on the run? It's not easy. In a second, the American roach can travel over 50 of its body lengths and change direction 25 times. Proportionately, a human would have to run over 200 miles per hour (330 kph) to keep up!

Personal Comments:

Submitted by (name and email): Liz Haskins lizhaskins@sazoo-aq.org
Antonio Zoological Gardens and Aquarium.

Date: 13-Jan-06 **Name of Institution:** San