

# Husbandry Data Sheet

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

**Family:** Blaberidae

**Order:** Blattodea

**Class:** Insecta

**Phylum:** Arthropoda

**Natural History:** A. Basic Biological and Behavioral Characteristics

1. Asexual (budding, self division, fragmentation, ect) / sexual reproduction (monoecious, hermaphrodites, dioecious, ect.). Mating can occur year-round, and is contingent on warm temperatures. When a female is ready to mate, she may give off a special scent to attract males. The male circles the female, hissing and touching her antennae. If the female is receptive, she crawls over the male's abdomen, while dragging her abdomen over his. Then, the male thrusts the tip of his abdomen towards the tip of her abdomen. The female may also stand on the ground, while the male copulates with her. Mating takes place, as the pair position themselves rear to rear. After separating, the female stores fertilized eggs in her ootheca, a 1 inch (2.5 cm) long, yellowish egg case. The ootheca may be kept inside or outside the body of the female.

2. Breeding season / birth season: Breeding can occur year round.

3. Environmental cues: Must have warm weather in order to reproduce.

4. Behavior observation with regard to courtship, mating, and copulation: When a female is ready to mate, she may give off a special scent to attract males. The male circles the female, hissing and touching her antennae. If the female is receptive, she crawls over the male's abdomen, while dragging her abdomen over his. Then, the male thrusts the tip of his abdomen towards the tip of her abdomen. The female may also stand on the ground, while the male copulates with her. Mating takes place, as the pair position themselves rear to rear.

5. Gestation / incubation period: The female will carry the egg and neonate nymphs for approximately 60 day, until they emerge as first instar nymphs.

6. Egg size / description: Female roaches lay their eggs in a purse-like capsule known as an ootheca. Ootheca are about 1in in length.

7. Clutch size: One female can produce as many as 30 to 60 nymphs.

C. Detail of Egg Laying / Nesting & Hatching – Invertebrates.

1. Pre-nesting behavior: None noted.

2. Nest type / description: No nest is made.

3. Egg laying behavior: The female does not lay the eggs, but rather produces eggs in a long, slender, yellowish egg case (ootheca). The ootheca is then reabsorbed into her abdomen.

4. Incubation behavior: Behavior is normal during incubation.

5. Hatching: When the nymphs emerge from the ootheca, the female will remain near them for a short time and if disturbed the female will start to hiss.

D. Neonatal / Larval Development – Invertebrates.

1. Number of larval stages: Has an incomplete life cycle. Egg, nymphs, and adult stages. The roach will molt six times during the course of their lives. The last molt occurs at about 5 to 7 months after the nymph is born. At the last molt the roach becomes sexually mature. Adult roaches never molt again.

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2. Age and size range for each life stage. Will molt about once a month until sixth molt has occurred. After the sixth and final molt the roach is considered to be an adult, the final molt occurs at 5 to 7 months. Adults can measure up to 10 cm long and weigh up to 24 grams.

**Permits Required:** Yes

**Life Stage:** Adult

**Ease of Care:** Easy

## Housing:

**Temp:** 18 to 25 C

**Humidity:** 70%+

**Substrate:** vermiculite and Pine shavings.

**# of Animals per Exhibit:** 100+

**Choose One:** Colony

**Compatible Species:** N/A

**Enclosure Description:** 10-20 gal Aquarium

**Lighting/Photoperiod:** 12/12 reversed

**Furniture/Props:** Logs

**Escape Concerns:** Vaseline is used around the top edge to prevent escapes

**Other Concerns/Precautions:** The use of cedar chips may retard or inhibit nymphal growth

## Husbandry

**Diet/Frequency of Feeding:** ground rat biscuits, and Marion leafeater. produce: apple, banana, carrot, and sweet potato. Gerber baby cereal is also offered.

**Water Source/Frequency:** Wet cotton or sponge is offered

**Care:** Daily

**Enrichment:** None

**Medical/Health Concerns:** None

**Treatment:** None

**Keeper Safety:** None

**Other Concerns/Precautions:** Animals are fed on plastic lids. Size of lid is dependent on number of animals in enclosure. Lids for exhibit animals are 2" in diameter, lids in off exhibit holding enclosures are 3" in diameter.

## Education

**Do you handle species directly with the guests? :** Yes

**If Yes or No how do you use the species with the guest:**

**Conservation/Population Status:** ood They can be found all over Madagascar.

**Message:** Wingless, recyclers, live in large groups, and they Hiss. Female: eggs develop inside the female and when released, they eggs immediately hatch over a period of 2 days.

**Personal Comments:** Good exhibit and educational animal.

**Submitted by (name and email):** John V Matuszek

**Date:** 1-Feb-05 **Name of Institution:** Brookfield Zoo