

# "Bug of the Month"

The insectary at the Navy Disease Vector Ecology and Control Center, Bangor has new residents, a colony of Madagascar Hissing Cockroaches (*Gromphadorhina portentosa*).

**WHAT DO THEY LOOK LIKE?** The adult hissing cockroach can grow to a fairly large size, reaching 10 cm in length. None of the stages of this cockroach have wings or even wing pads. They are dark chocolate brown with dark orange markings on the abdomen. The nymphs are similar in appearance to the adults, but are lighter in color initially, and darken as they develop. The sex of the cockroach can be determined using three methods. The prothorax (shield that covers head) has two protuberances on its surface. The protuberances stand out distinctly in the males and less so in females. The antennae of the male have many laterally-projecting sensory hairs giving them a fuzzy appearance. Finally, there is a ventral plate at the tip of the abdomen. This plate is narrower on the male than on the female.



**WHAT DO THEY DO?** Perhaps the most noticeable behavior of the hissing cockroach is the hissing sound it makes when disturbed. The hissing cockroach can produce a loud hissing noise by forcing air through a pair of modified spiracles (breathing pores) in its abdomen. This is used for defense when threatened and during courtship. This cockroach also carries the egg case inside its abdomen until the nymphs are ready to emerge. The males are very territorial and use the protuberances on the prothorax to ram other males that wander too close.



Like most cockroaches, the hissing cockroach is active only at night. In nature, they are found on the floor of forests in Madagascar. During day, they hide under debris. The hissing cockroach is very docile and easy to rear in captivity.

**MANAGEMENT.** Rearing requirements are fairly simple.

A minimum set-up consists of a 15- to 20-gallon, all-glass aquarium, Vaseline, and a supply of dog food and water. Some sort of substrate can be added and there should be places for the cockroaches to hide. A good substrate is about an inch or so of pine shavings. DO NOT use cedar shavings, because the turpines in the shavings may inhibit nymphal growth. The substrate should be changed once a month to avoid the development of mites. The cardboard tubes inside paper towel rolls or toilet tissue can be used to provide places for the roaches to hide. A heavy, one inch layer of Vaseline should be spread around the top of the aquarium. This is to keep the adults and nymphs from climbing out. Even the large adult is capable of climbing up the glass sides of the aquarium. Hissing cockroaches will eat almost any kind of dry food. In addition, some fresh greens, such as celery or lettuce should be provided weekly. Finally, a constant supply of water must be provided. A preferred method of watering is to provide a small bottle filled with water that has an absorbent material, such as polyester fiber, in the opening. The fiber will allow the roaches to have access to the water without the danger of getting into the water and drowning.

**MORE QUESTIONS?** Please do not hesitate to give your "Bug Docs" a call at comm.: (360) 315-4450, DSN: 322-4450 or you can e-mail us at [ndveccmei@pnw.med.navy.mil](mailto:ndveccmei@pnw.med.navy.mil).