Multimammate/African Soft Fur Mice (*Mastomys sp.*)

Introduction

Multimammate mice, which are more commonly known as the African soft-furred mice/rats in the pet trade, are a genus of old world rodents found primarily over much of Sub-Saharan Africa, where they may occupy a variety of habitats depending on the species, from dry to wet tropical and sub-tropical forests and woodlands, to dry savannah, scrublands, shrublands, semi-deserts, agricultural areas and gardens, to villages, residential, and other areas of human habitations. Although this genus may often be alternately referred to as both mice and rats, they are more closely related to mice of the genus Mus than they are to rats. These species are referred to as the multimammate rats/mice due to the presence of numerous (typically 8 to 12 compared to 5 to 6 in other rodents), prominent mammary glands in females, and earn their alternate common names of "soft furs" due to their soft, silky to glossy coatings. As with many rodents, this genus are ecological generalists, and often closely associates with humans. Furthermore, in recent years, this African soft furred mice have become an increasingly popular alternative or premium genus of feeder rodents for many carnivorous species of reptiles and amphibians in the pet trade, particularly choosier eaters including ball pythons (*Python regius*). Although there are approximately 8 species known to occur in the wild in Africa, most of the domesticated ASFs that are kept and produced for the pet industry are the Natal multimammate mice (*M. natalensis*), Southern multimammate mice (*M. coucha*), or hybrids thereof. ASFs can also be a variety of colors and/or patterns depending on the species, or when domesticated.

As a result, an entire ancillary industry has formed over the decades towards maintaining and propagating feeder rodents for many different carnivorous reptiles, amphibians, and other animals using industry developed humane care and euthanasia standards designed by the Pet Industry Joint Advisory Council (PIJAC) and United States Association of Reptile Keepers (USARK). Feeder rodents, in their whole form, typically provide most, if not all of the calcium and other nutrition most carnivorous animals require without additional supplementation. As with other rodents, ASFs have relatively quick reproductive and growth rates of up to 12 litters per year; however, and can attain longevity of 24 to 48 months (or 2 to 4 years). Although the vast majority of captive snakes and other carnivorous reptiles and amphibians have, or can be acclimated to feeding on frozen/thawed, or otherwise pre-killed rodents, this guide is intended to serve as a reference point for anyone who may be interested in trying their hand at keeping or propagating live rodents for their animals, or otherwise may find themselves having to foster or maintain live rodents as feeders for several reasons. Finally, although offering pre-killed feeder rodents is typically preferred over live in most scenarios, it should be important to at least note that if live feeders must be used for any of several reasons (such as an animal that only accepts live), that a live rodent never be left unattended within an enclosure with the animal it is intended to be fed to, as live rodents can, and have caused serious injury or even death to captive reptiles as a result.

Taxonomy:

Life: All living, physical, and animate entities
Domain: Eukaryota
Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Rodentia
Family: Muridae
Genus: Mastomys
Species: *Mastonmys natalensis**
**Taxonomy subject to change and revision.*

Experience Level Required
Novice/Beginner to Moderate/Intermediate.

Sizes
African soft furred mice can be variable in size depending on the species. ASFs can range from 3 ½ to 6 ¾ inches, and weight 20 to 80 grams. Domesticated ASFs can be larger, and up to 100 grams.

Housing and Enclosure
ASFs are highly social and will form strong, tightly formed colonies whenever possible. They can be housed in a variety of simple to intricate enclosures and setups depending on one's preferences and purposes for maintaining them (as pets, feeders, research, or other purposes). Any enclosure that is used should be sturdy, secure, and adequately ventilated, as well as escape proof (rats and mice can be escape artists). Wire cages can provide excellent ventilation and visibility, but are often not very escape proof, and can cause injury if the rodents try to climb or walk on a bare wire surface. Generally, a minimum of a 10 gallon aquarium or terrarium with a securely fastened screen top or lid, plastic tub or container with a secure lid and section cut out and covered with wire or plastic mesh, or inexpensive commercially available plastic or fiberglass laboratory tubs or enclosures of similar or equivalent size can be used to house one buck (male) and three does (female mice). Increasingly larger enclosures should be considered for larger colonies, or larger specimens of mice. Substrates which can be used can include pine or aspen shavings, Sani Chips, hay or straw, paper towel, newspaper, or other shredded papers. Do not use cedar shavings, as this substrate can be toxic or irritating to rodents. One or more hide boxes and/or nesting chambers should be provided as well, and can consist of cardboard or plastic hides.
A commercially available water bottle for rodents and other small animals should also be provided inside the enclosure using Velcro or wire, but should still be easily accessible by the rodents housed within the enclosure. Additional furnishings for exercise and added enrichment are not required, but recommended, and can include solid or wire exercise wheels, ropes for climbing opportunities, toilet paper and paper towel rolls for hiding and chewing, and additional toys.

Temperature, Lighting, and Humidity
Heating and temperature wise, ASFs can be maintained at around room temperature from 70 to 90 degrees F., but do not drastically exceed or fall below this range of temperatures for

prolonged periods of time. Otherwise, not additional or special lighting or heating requirements are needed for ASFs. Clean enclosures or tubs at least once to twice weekly by disposing of the substrate and washing with a mild water and bleach solution. Ensure any resident rodents are removed and secured elsewhere to prevent escape. It is also important to ensure the enclosure is thoroughly rinsed and dried prior to returning the rats or mice to them.

Feeding, Diet, and Nutrition

In the wild, ASFs are omnivorous generalists, feeding on a wide variety of almost anything they may find. Diets of these rodents in the wild can include, but are not limited to grains, nuts, berries and other fruits, vegetables, eggs, carrion (dead and decaying animal matter), and discarded human food and trash. They may also occasionally eat small fish, smaller rodents, small reptiles and amphibians, or young birds if conditions are right.

In captivity, and as feeders, ASFs should be provided a varied diet whenever possible. Many commercially available and home-made diets and mixtures will work well for feeding rodents, including any of the commercially available rodent lab blocks (but note their ingredients and composition percentages), seed mixes including diets such as hamster food, wild bird seeds, rabbit pellets, horse feed, or other bread and grain based diets. Rice, oats, and wheat can also be included in many mixed diets. Additional protein is also recommended in feeder rodent diets, including dog foods and dog milk bones, scrambled eggs, mealworms, waxworms, or other feeder insect larvae. For a more naturalistic diet, various fruits, vegetables, table scraps, meat, and/or dairy products can be given, but pay attention to their nutritional content and ingredients. Provide fresh and available food in the enclosure on an ongoing basis and clean and replace when soiled or stagnated. More specific dietary and supplementary product suggestions and recommendations that can best suit one's needs, as well as those of one's animals can be given as well.

Handling

ASFs are obviously small animals, and care should be taken when handling them to prevent injury to them. They do not have the greatest of eyesight, and may walk or climb off of surfaces if not supervised or properly handled. Handling them by the tail is also not suggested, as this may cause vertebral injury to them. Despite this, they can still be robust and resilient animals when handled or restrained properly. While some may become accustomed to handling, domesticated ASFs in general may still bite or act defensively, and can also be fast moving. ASFs can also be strong jumpers as well. When nervous, they may also defecate or urinate as well. ASFs do not make as great of pets as domesticated rats or mice in general. However, as with other rodents, they have also proven to be quite intelligent animals as well. Regarding euthanasia of feeder rodents, there are many different methods and mindsets as to how this may be accomplished. However, the most widely accepted and humane means is through construction of a homemade CO2 chamber using a variety of materials (which can be provided upon request to anyone interested in aspects beyond the scope of this article).

Also remember to be sure to practice basic cleanliness and hygiene associated with proper husbandry after touching or handling any animals or animal enclosures to prevent the possibility of contracting salmonellosis or any other zoonotic pathogens

Contact

Authored by Eric Roscoe. For any additional questions, comments, and/or concerns regarding this animal, group of animals, or this care sheet, please email and contact the Madison Area Herpetological Society at info@madisonherps.org

Disclaimer: Note that the information provided in these, or any care sheets, are not intended to be all-exhaustive, and further research and care should always be sought and provided when it comes to any species one may prospectively be interested in. These care sheets are also not intended to serve as

substitutes for professional veterinary medical care and husbandry should any animal require it. Always seek proper and professional veterinary care for any animal should the need arise, and be prepared ahead of time for any and all husbandry costs and expenses that may occur with any animal beyond the initial purchase. Any animal owned is ultimately a matter of personal/individual care and responsibility.