



# **Enrichment Suggestions for Captive-born, Hand-reared Meerkats Held in Captivity**

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## **Enrichment**

Animals in captivity have a lot of time on their hands. Whereas wild animals would fill their time with activities such as hunting, searching for water or shelter, protecting their territory or searching for a mate, captive animals very often are provided all of these. This could potentially create problems such as boredom, frustration, stereotypic behaviors and stress. Undesirable behaviours include self-injurious actions like excessive grooming; abnormal behaviours such as regurgitation and reingestion; aggressive behaviours; and stereotypic behaviours. Behaviour is an important indication of welfare and enrichment enhances welfare of animals in captivity.

Enrichment becomes a valuable and necessary practice by creating activities or providing stimulation that maximizes their quality of life and leads to inquisitive behavior. By enriching the animal's environment, you empower the animal to have control over its environment and you give the animal a choice. Ignoring something is still a choice.

Apart from the fact that enrichment provides methods of passing time, the added physical and mental stimulation might also cause better reproductive success and improve visitor's experiences since the image of healthy and well-adjusted animals are promoted.

Different forms of enrichment used for captive animals today include:

- Enclosure Design
- Feeding or foraging
- Visual and Auditory
- Olfactory
- Novel Objects and Toys
- Exercise
- Social Interaction/Tactile
- Behavioural Conditioning

Enrichment should be considered part of the daily husbandry routine at all responsible animal care facilities. An efficient enrichment programme can be more important than the size of the enclosures the animals are kept in. Environmental enrichment is not a luxury but a management tool.

When developing an enrichment programme at a captive facility, the habits, behaviours and nature of the species, and the personality of the specific individual need to be considered.

Enrichment suggestions for the meerkat include the following:

## Enclosure Design

Enclosures should be designed in order to address the needs for space, shade and sun, shelter, privacy, stimulation, elevation and where appropriate, public viewing.

When designing enclosure layouts the following should be incorporated:

### ☐ Shade and Areas of Sun

Meerkats regulate their body temperature by exposing the sparsely covered skin on their bellies to the sun when it's cold. To reduce heat, they sprawl on their bellies on cool ground in the shade. In the meerkat enclosure at Cheetah Outreach, one-third of the roof is tin, providing shade and shelter from rain. Two-thirds of the roof and two sides of the enclosure are covered with wire fencing, providing areas of sun.



### ☐ Shelter/Den

Underground den not only serves as sleeping quarters and as a hideaway, but also allows the meerkats to avoid temperature extremes.



### ☐ Water

Water should be provided in solid, non-toxic containers. Containers should be placed in an easily accessible and shaded area. All water containers should be disinfected on a regular basis.

#### ❑ Logs

Big logs can be packed at angles to one another. Alternatively flat pieces of logs can be stacked loosely on top of and against one another. Logs provide areas to forage in, to hide food in, and elevated sites to sit or stand on.



#### ❑ Elevated Areas

In the wild meerkats standing guard perch on lookout-posts, such as dead trees, shrubs and termite mounds, watching for approaching predators. In captivity elevated areas in the form of elevated walkways, logs, rocks and mounds of dirt, give meerkats a sense of security by allowing them to survey surrounding areas. At Cheetah Outreach two sides of the meerkat enclosure have an elevated ledge; a ramp gives the meerkats access to the ledge from the floor of their enclosure.



#### ❑ Areas for Digging

Meerkats are burrowing animals and spend a large percentage of their time digging and maintaining tunnels. The first meerkat at Cheetah Outreach dug an entire network of tunnels on his own, which he maintains and adds to on a regular basis. Meerkats also spend much time digging for food. A sandbox allows us to bury insects without them escaping and provides much stimulation for the meerkats.



#### ❑ Vegetation

In our meerkat enclosure, we have planted indigenous vegetation that replicates their naturally arid habitat. Vegetation provides cover as well as areas for foraging.



#### ❑ Privacy

Concealed, private areas should be provided in all meerkat enclosures. Concrete walls, shade cloth and vegetation can be used to provide privacy. Besides a concealed den, reachable by tunnels, the meerkats at Cheetah Outreach also have a small crate, boxes and a soft pet bed that they can hide in.

#### ❑ Security

Meerkat enclosures should be roofed and have a reinforced concrete foundation to prevent escape through climbing or digging. The Meerkat enclosure at Cheetah Outreach is built with concrete walls and a base of concrete reinforced with rock and wire to prevent meerkats from digging out. The roof and two sides of the enclosure are screened with wire fencing to keep the meerkats from climbing out.



#### Habitat modifications

Habitat modification by moving and changing exhibits inside the enclosures might provide stimulation.

### **Feeding**

#### Hiding Food

Meerkats are foragers and hiding food in their enclosure encourages this natural feeding behaviour. At Cheetah Outreach meat is often placed in holes that have been drilled in a dead tree stump and logs. Food is sometimes placed inside pine cones, a plastic treat ball or toilet paper rolls to encourage our meerkats to use their cognitive skills to retrieve food by either grabbing with teeth or claws.



#### Burying Food

While foraging, meerkats spend much of their time digging for food and use the long claws on their forefeet to dig prey out. Burying insects in a sandbox where they can't escape encourages our meerkats to search for and dig up their food.

#### Foraging on Walks

Walks provide a great opportunity for foraging. While on walks, our meerkats are constantly searching and digging for food. By overturning logs and rocks, we increase the chances of them finding insects and other prey. During walks, our meerkats have caught and eaten snakes, frogs, lizards and insects.



Day-old Chicks

Dead baby chicks can supplement normal diet and add enrichment by prolonging the feeding activity. Chicks should be de-yolked prior to feeding.



Meat with Fur

Sections of horsemeat with fur can be given. Apart from providing roughage, it also changes the texture of the food and increases the length of feeding activity.



Live Insects

Wild meerkats are primarily insectivores, with about 82% of their diet composed of insects. Not only are insects nutritious for them but giving them live provides much enrichment for meerkats in captivity.

## **Visual and Auditory**

Objects that provide visual and auditory stimulation include the following:

### Outside Stimuli

Passing trains, motorbikes, running children, other animals, laborers, bicycles and wheelchairs. Having visual access to some of these not only provides mental stimulation but also increases activity as the meerkats often run back and forth in their enclosure to get a better look at outside activity. Having an elevated ledge gives the meerkats an excellent vantage point to use their acute eyesight to view all activities in the surrounding area.

### Other Animals

Walking different types of animals on their leads past the meerkat enclosure provides much interest and stimulation. The meerkats become excited and very vocal when another animal is walked by their enclosure or up to the fence.



## **Olfactory**

Meerkats have a phenomenal sense of smell and much time is spent sniffing and marking objects, both inside and outside their enclosure.

### Providing Scents

A number of scents have been tried with the meerkats at Cheetah Outreach. They have responded best to fresh herbs, such as fresh parsley, coriander and catnip, which they rub in and chew on. They have also shown much interest in colognes sprayed on objects, which they rub against and then mark with their anal glands. Scented items should only be given in open, airy areas to provide adequate ventilation.

#### ❑ Moving Animals Between Enclosures

The meerkats can be moved into a foreign or lesser-known enclosure. It is important that the enclosure has a fenced roof to prevent escape and that the meerkats are constantly supervised. If this is not possible the animals should be walked on lead and collar. Intense sniffing, investigating and digging may be observed.

#### ❑ Moving Objects Between Enclosures.

Some of the exhibits can be moved from one enclosure to another, such as small crates and boxes . The health status of all animals should always be known. Objects should never be moved from a sick or compromised animal to the enclosure of a healthy animal.

## Novel Objects

Meerkats are naturally inquisitive animals so any novel objects that encourage them to search, sniff and scent-mark, dig or probe with their long claws provides good enrichment. Novel objects are a good way of hiding food and encouraging foraging behaviours.

Never leave any toys unsupervised with the animals.

#### ❑ Papier-mâché Ball

Balls with holes in them arouse the curiosity of meerkats and encourage them to probe inside. Dry cat food in a papier-mâché ball makes a rattling noise and attracts their attention. The meerkats at Cheetah Outreach will spend much time sticking paws inside the ball and retrieving pieces of dry cat food.



#### ❑ Cardboard Boxes

Since meerkats are burrowing animals, they enjoy entering small concealed spaces. The meerkats at Cheetah Outreach love exploring boxes and sometimes playing in them.

## Exercise

Exercise is essential and is a part of husbandry that cannot be compromised on. Not only does the activity help to maintain a healthy physical condition, but it also provides excellent mental stimulation. Exercise can be provided by the following means:

❑ Play

Play is an important part of social interaction and the meerkats at Cheetah Outreach spend a lot of time playing with each other. Play also promotes activity and provides good exercise.



❑ Walks

Walks can provide the handler with many opportunities to enrich a meerkat's life. New and different environments can provide a variety of smells and sights to investigate. Not only do walks provide exercise to the meerkats but they give them great opportunities to forage for food as they would in the wild. During walks, handlers often turn logs and rocks over to encourage digging. The meerkats at Cheetah Outreach also display anti-predator behaviour during walks, stopping every few minutes to sit upright on hind legs to scan the skies and surrounding area for any signs of danger.



## Social interaction/Tactile

Meerkats are among the most social animals on Earth so social interaction, especially with other meerkats, is essential to their well-being.

### ❑ Interaction with Staff/Volunteers

For animals kept in captivity and thus exposed to people, it is to their benefit to view humans positively. This greatly minimizes one of the main stresses in captivity. Both meerkats at Cheetah Outreach have been raised by people and are imprinted on humans so require attention and interaction from handlers on a daily basis.



### ❑ Interaction with Other Meerkats

Since meerkats in the wild live in groups of 2 to 50 members, having the companionship of their own species is essential for their well-being in captivity.

Grooming and playing with each other strengthens social bonds. Sparring and play-fighting allows young meerkats to practice skills and adults to establish dominance in the pack. The meerkats at Cheetah Outreach often engage in play-fighting, grappling and wrestling with each other.



#### ❑ Interaction with Other Animals

Seeing, smelling and interacting with other animals through a fence or at a distance can greatly enrich a captive meerkat's life. When encountering larger predators, the meerkats may show threat displays or even engage in mock attacks.

This should be a positive experience for the animals and not lead to anxiety. Care should be taken to assess the demeanor and behaviour of all animals carefully.



#### ❑ Interaction with the Public

At Cheetah Outreach, the meerkats don't take part in encounters with the public but they have much interaction with tour groups and visitors through the fence of their enclosure. Occasionally they will meet visitors on walks under the supervision of their handlers.

## **Behavioural Conditioning**

Training is very important since it provides mental and intellectual stimulation. The level of training depends on the individual and might be one or all of the following:

#### ❑ Lead/Collar Training

Lead training refers to the training animals undergo in order to get accustomed to the restricted feeling of a collar, harness and lead. This type of training is important for all ambassador animals. With the meerkats at Cheetah Outreach, it allows them to go on walks and explore different areas of the facility.

