



Enrichment suggestions for captive born, hand-reared cheetah held in captivity

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Objective

This article attempts to provide ideas for enrichment for captive born cheetah after doing informal behavioral observations of nine captive born cheetah at Cheetah Outreach, Cape Town, South Africa.

Background

Annie Beckhelling who realized that the very existence of the cheetah was hanging in the balance founded cheetah Outreach in 1997. The main aims were to create awareness for the plight of the wild cheetah by educating the public and the younger generation, as well as to provide funding for cheetah conservation.

Hand raised cheetahs at our facility assist us towards these goals by accepting the roles of ambassador animals, speaking on behalf of their wild counterparts. Through interaction with the public and by conducting an active educational programme, we increase awareness and generate respect for the cheetah and its survival in the wild.

Through fundraising we are able to assist organizations such as the Cheetah Conservation Fund (CCF) in the implementation of their Non-Lethal Predator Control Programme and The Wild Cheetah Management Programme in their re-release efforts of captured wild cheetah.

Present status

Cheetah Outreach currently houses ten cheetahs. All these animals, apart from one, were born in captivity and hand reared. Our cats range from youngsters of just nine months to some cats of over nine years and include the following:

Sha is the one cheetah that was born in the wild, but has been raised by people from a very young age and is for all intents and purposes as much habituated to people as any of the other cheetahs. She is one of our eldest cats at eight years old.

Shadow is nine years old and was born as a single male cub in captivity at a breeding facility near Oudtshoorn.

Nyana and Charlie are a brother/sister combination that were born at our facility and are now seven years old. They represent the only litter of cubs ever born at Cheetah Outreach.

Zaza and Savannah are two sisters who were born at the De Wildt Breeding Centre and came to Cheetah Outreach at the age of three months. These two females are approximately four years old.

Kaya and Joseph are two brothers born at the De Wildt Breeding Centre and came to Cheetah Outreach at the age of three months. These two males are approximately two and a half years old.

Bontle and Peaches are two female cubs of nine months old. They were also born at the De Wildt Breeding Centre and have been with us since the age of two weeks. These two females are on loan to us by De Wildt and will eventually be returned to them in order to assist them with their educational and awareness work.

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.

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This could potentially create problems such as boredom, frustration, stereotypic behaviors and stress and it is vital to try and create activities or provide stimulation that would maximize their quality of life and lead to inquisitive behavior. This is where enrichment becomes a valuable and necessary practice and should be considered as part of the daily husbandry routine at all responsible animal care facilities.

Enrichment is defined as “the act or process of increasing the intellectual or spiritual resources.” Enrich refers to the act of making something better (richer) by the addition or increase of some desirable quality, attribute, or ingredient. Enrichment should be a dynamic process during which changes are made with the goal of enriching the lives of all the resident animals.

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 are used for captive animals today, such as:

- Exhibit or cage design
- Visual
- Exercise
- Auditory or verbal
- Olfactory
- Social
- Tactile
- Feeding or foraging
- Novel objects or toys
- Training and handling

Enrichment is a very important part of any husbandry routine. We believe that an efficient enrichment programme can be more important than the size of the enclosures the animals are kept in.

Enclosure design and exhibits

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

When designing enclosure layouts the following should be incorporated:

Vantage Points

These can be supplied in the form of platforms, huts, rocks and earth mounds.

When something of interest is seen or heard many of them will jump on these objects to investigate and get a better look at the object of interest. Many of the cats use elevated areas as regular spots where they defecate and urinate, thus it is essential to clean these surfaces on a regular basis. Since earth mounds are difficult to clean they could harbor diseases. To stimulate interest, mounds can be moved or just changed slightly by adding new gravel or rocks to the mound.



When planning to build a platform the following should be considered:

1. Materials used

Non-toxic, safe materials should be used.

2. Placement

The platform should be placed in such a position as not to allow any jumping or climbing over fences or other structures. The platforms are all erected on a flat, open section of grass, well away from any fences, huts or any other structure.

3. Construction

There should be no protruding or sharp objects. There should be no objects that could cut, injure or get the animal entangled.

Shade

Structures providing shade is an essential element in every enclosure. The cats use this as a favourite sleeping area during the heat of the day.

Shelter

Waterproof huts not only serve as sleeping quarters, but also provide a lookout post to the animals.

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 and the same container used for the same cat preferably.

❑ 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 an often-visited area to all cats. It is used as a play area, a vantage point and also a place to defecate and urinate.



❑ Privacy

Concealed, private areas should be provided in all enclosures. Rocks, areas of shade cloth, palm bushes, reeds or simple bamboo walls can be used to provide these. Cheetahs will retreat into these areas where public viewing is often impossible or very difficult. Grass should be kept short to eliminate the risk of fire and parasites.

❑ Manipulating enclosure layout

Gates separating linking enclosures might be opened and provides more freedom and opportunities for enrichment.

Apart from trying to create interesting living environments, stimulation can also be provided by rotating cats among the different enclosures. Animals could be moved on a daily basis to spend the days and nights in different enclosures. Care should be taken to avoid any distress, thus animals should only be moved to areas where they feel secure.

❑ Habitat modifications

Habitat modification by moving exhibits inside the enclosures might provide stimulation. Care should be taken not to make too drastic changes since this might cause some confusion and insecurity. Consistency and security are imperative to the welfare of animals.

Visual and auditory

Objects that provide visual and auditory stimulation include the following:

Passing trains, motorbikes, running children, other animals, laborers, golf carts, bicycles and wheelchairs. Having visual access to some of these not only provide mental stimulation, but can also provide good exercise since some animals would chase some of these objects and show much interest.

Other cheetahs

Clearer and more distinct pathways are often seen on adjoining fences in cheetah enclosures, suggesting a tendency to pace more along these fences than along outside ones. This might indicate patrolling territorial boundaries or simply an interest in other cheetahs' activities.

Exercising

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:

Lure system

Different lures can be tried, since individual cheetahs favour different lures. Objects that work well are colorful rags, pieces of fluffy toys and plastic strips cut from plastic bottles. It is important to approach this with a dynamic philosophy and make adjustments when necessary. Changing the lures would maintain their interest and keep the exercising session challenging. In the same way the direction of the moving lure could also be changed occasionally.



The running track should be well maintained with the grass kept short and any holes or depressions leveled. Exercise sessions should preferably be scheduled for early morning or late afternoon as to take advantage of the cooler parts of the day.

❑ Mop

An old fashioned mop can be used to entice cheetahs to run, by having a person run ahead and dragging it behind on the ground. Once caught, it might be difficult to get the animal to give it up, so having treats on hand is a good idea.

❑ Whip with novelty item

A piece of string can be attached to a whip or a stick with a novelty item attached on the other side of the string. Plastic bottles seem to work very well. The cats seem to love the sound the bottle makes as well as the texture of the plastic and would try chewing it once they catch it.



Public events

Public events can form part of an exercise regime with animals that are accustomed to public appearances.



❑ Food

Food such as turkey drumsticks can be thrown instead of just being placed down for them. Care should be taken not to throw the drumstick on thorns or pebbles, since ingestion any of these might be harmful.

Olfactory

❑ Moving cheetahs between enclosures

Cheetahs can be moved into a foreign or lesser-known enclosure. Intense sniffing, investigating, scent marking and vocalization such as stutter-call and chirping normally accompany this. The flehman response might be exhibited continually. Wild cheetah males would mark to define their territories while females would advertise their hormonal status. It is assumed that marking in captivity would convey the same messages. From investigating scents, cheetahs should be able to determine the sex of an animal, its physiological status and how recently the scents were left.



❑ Providing scents

Scents can be provided by using spices such as cinnamon, chili powder and ginger. These can also be used in combination with one another and with flour to add a visual stimulus. The paired stimuli should be placed within a meter of each other and behaviors towards these can be monitored and recorded. Types of behavior seen among lions when using this activity, included lying and rolling on the scents, social activities such as rubbing against one another and even running and chasing one another. No undesirable aggression was ever seen.

Lavender is not seen as a viable herb to use, since it has been known to contain secondary plant compounds that might cause mild toxicity.

Perfumes or lotions can provide stimulation. At the Bronx Zoo in New York female cheetahs have been seen to rub against tree trunks sprayed with perfume; their favorite being Calvin Klein's Obsession. At another facility logs and trees have been sprayed with star anise and vanilla steeped in water by using a squirt gun. Scented items should only be given in open, airy areas to provide adequate ventilation. Catnip has been given to cheetahs and the cats were seen to then sniff it and roll in it. Urine from other cats can be placed in enclosures as long as the health status of these cats is known.

- ❑ Moving objects between different enclosures.

Some of the exhibits can be moved from one enclosure to another. The health status of all animals should always be known. Objects should never be moved from a sick or compromised cat to the enclosure of a healthy cat.

Social interaction/Tactile

- ❑ Interaction with siblings/other cats

Interaction with other cats can be done in different ways. Easiest are to move cats among enclosures or have cats share a fence that would normally not be in close proximity. This would always evoke a lot of interest, shown by pacing, sniffing, stutter-calling or other vocalizations and scent marking. Aggressive behavior such as growling, hissing, stalking, moaning and hitting of front paws can be seen.



❑ Interaction with staff/volunteers

Social interaction with conspecifics is an integral part of any touch programme. Staff and volunteers can communicate with the animals physically and verbally. Apart from conveying feelings of affection, this hands-on contact also allows for examination as far as injuries, parasites, growths and general condition go. Hand-reared cheetah probably find security and comfort in having positive and stable bonds with people.

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.



❑ Interaction with other animals

Strong bonds can be formed between cheetahs and dogs if they are allowed to interact from a very young age. Dogs can assist with rearing of cubs and can become constant companions to accompany ambassador cheetahs.



❑ Interaction with the public

These could be by means of personal encounters at the facility, school visits, private functions, public events and photographic or film shoots.

Individuals that work with the public should be selected carefully and must only include animals that are temperamentally suited to having interaction with the public. Traveling to venues away from the facility provide a lot of mental stimulation because it provides opportunities for the cheetah to experience new locations, people, scents and situations.



During trips to outside venues, special care should be taken to always ensure the safety and comfort of the cat. No persons, animals etc should be allowed to approach the vehicle, visual stimulation should be restricted to a minimum and access into buildings should be carefully planned to provide the shortest and safest route to the area where the cat is needed. A strict protocol, never to be compromised, should be adhered to when showing cats in outside venues.



Fundraising through photographic shoots or working on film sets provides an immeasurable amount of stimulation. During these sessions the cats might be exposed to interesting props, dresses and very often scenic and interesting backdrops such as open fields, vineyards, outstretched sand dunes, game reserves and many more providing different substrates such as sand, tar, long grass etc. Since certain specific poses, positions or activities might be requested, these sessions also involve stimulation in the form of mental challenges.

Feeding

Bones

Bones are important to be included in the diet, since it helps to control the onset and progression of focal palatine erosion and also helps to bind the faeces and provide calcium. Horse bones work well and could keep them occupied for long periods of time.



Since they have limited jaw strength, the cheetahs are not able to crush big horse bones and get to the marrow, which is very high in calories. Because of this, it is not necessary to make adjustments to the diet when horse bones are used for enrichment. Bones should always have a fair amount of meat on or alternatively only be given after a meal. Chewing on bones would stimulate the secretion of gastric juices and in the absence of food might damage the gastric mucosa.

❑ Fur

Sections of horsemeat with fur on can be given. Apart from providing roughage, it also changes the texture of the food and increases the length of feeding activity. Providing whole chickens with feathers has not been seen as a viable option, since the fat content in the skin is too much.

❑ “Blood popsicles”

These are made by freezing blood in small yogurt containers. Most cats love them and can be a very nice treat on hot days.



Hiding food

Varying degrees of success has been seen with this. Since it is well known that a cheetah's sense of smell is not as well developed as most other big cats, it is mostly not seen as a viable technique of enrichment.

We have made use of cardboard boxes where we placed the lids over their food. Some of our cheetahs showed a lot of insight by immediately removing the lid to get to the food. Others lost interest immediately.

Meat can be hidden under log piles or amongst branches as long as the cat sees you placing it there.

Hanging food

Varying degrees of success has been seen with this. Pieces of chicken can be hung from natural vine, as to allow them to "catch" their food. Position the vine in such a way that the meat is hanging approximately one and a half meter above ground level. Some animals are very much aware of what needs to be done and would jump up and grab it. Others, however, would continue searching for the meat on the ground even after being shown the meat hanging from the vine.

Novel objects and toys

Toys encourage young cheetahs to play with and direct their energy towards objects and not people. When there is no supervision, toys should be taken away and be put out of reach, to avoid being ingested. Toys may include the following:

Fluffy toys

When choosing objects for animals to play with, care should be taken that these objects are non-toxic and preferably organic in nature. Inside stuffing as well as solid objects such as button eyes should be removed before allowing the cheetahs to play with these toys.

Balls

Balls can keep cubs and even adult cheetah occupied for hours.



Plastic bottles

Plastic bottles are a big favourite among cheetahs and have the added bonus of being inexpensive and readily available.

Splash pools

Small paddle pools can provide much amusement and keep cheetahs entertained for extended periods of time.



Cardboard boxes

Cardboard boxes would be stalked, carried around and ripped apart. Any harmful substances such as staples or plastic tape should be removed first and cheetahs should be carefully supervised while playing to make sure they do not eat and ingest part of the cardboard.

Mirrors

Interest has been shown in mirrors, especially by some of our young cubs.

Miscellaneous

Rose flowers have been given to felids to smell and to play with at the Phoenix Zoo with some success.

Feathers have been given to cats at some facilities to play with. It is imperative to make sure these are disease- and parasite-free. This can be done by freezing, washing, microwaving or leaving the objects in the sun. Felids have been seen to toss feathers as well as chase them and pounce on them.

Hanging objects that can move when the wind blows.

Cheetahs can be very inventive and you would sometimes see them play with pieces of bark, bamboo or some other type of natural object from their enclosure.

Behavioral Conditioning

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

❑ Lead Walking

Lead walking begins at an early age in order for young cats to get accustomed to the restricted feeling of a collar, harness and lead. Lead walking is important for all ambassador cats.



Lead walking starts from about 3 months of age and involves a gradual process during which the cheetahs are made to feel completely relaxed and comfortable while wearing a collar, harness and lead. Initially the collar and harness are left on for short periods of time to get them used to the pressure against their bodies. Once they seem to be confident with this, walking very short distances start.

Lead walking is always done by means of positive reinforcement. Special care should always be taken during walks with regards to the tone and intensity level of your voice. Your voice should convey authority, but should also reassure the animal. The bond you form with a cat is in part dictated by what the cat perceives your intentions to be. Your attitude should always be one of concern and respect.

❑ Clicker Conditioning

This type of conditioning is used to shape behavior by means of positive reinforcement. Use of a clicker can be extremely helpful in situations where you might have to

manipulate the animal's movements, such as on a film set. It is essential that the handler display a good sense of timing when using a clicker.

❑ **Transportation**

Since an ambassador cheetah will most likely travel, it is important to incorporate traveling at an early age. Traveling inside a familiar crate can start as early as 3 ½ months of age. Once cubs are used to the sound and feel of the vehicle, and are comfortable with a harness and lead, they can be loaded in the back of the vehicle without crating.

Crates may still be used to transport adult cheetahs to the vet or in the event of a fire or other emergency. Reinforcing familiarity with crates can be done by feeding cats inside the crates on a rotational basis. This will ensure that they do not harbor negative feelings toward the crate. This is very often the case since the crates are used to transport them to the vet and represent negative experiences. Crates should always be disinfected before being moved to a different enclosure.

Crates will also be needed in the event of a fire and being able to load the cats quickly and without resistance might mean the difference between life and death. By increasing the length of time the cat stays in the crate, you can condition them to accept the crate as a safe place for flying etc.

Miscellaneous

Having staff and volunteers wear different clothing such as big hats etc might entertain them and desensitize them to guests dressing up in the same way.

Have floating apples in water buckets.

The Director should approve any new enrichments ideas first. The methods can then be assessed by using an evaluation form. The following form has been slightly adapted from the form used by the 2nd Chance Sanctuary:

Behavioral Enrichment Evaluation Form
Name of Enrichment: _____
Receiving Animal or Animals: _____
Evaluator: _____
Date: _____
Describe what happened. Include the animal response, the level of interest and duration of interaction. Was there a group response? Did different animals respond differently?

Were there any negative responses or safety concerns? Explain.

Suggested modifications to be made (if any):

Visitor's response to this enrichment?

Evaluation rate of success from very low to very high (use 1 2 3 4):

Did you get the desired results from this enrichment? Yes/No

Should this enrichment be included in the husbandry routine? Yes/No
How often should this enrichment be given? _____

Director Signature: _____