Enrichment Suggestions for Captive-Born, Hand-Reared Serval Held in Captivity

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Liesl Smith and Deborah Wettlaufer
Cheetah Outreach, Cape Town
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 serval include the following:
Enclosure Design

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:

- **Shade**
  Trees, shrubs and structures providing shade are essential elements in every enclosure.

- **Shelter**
  Waterproof huts not only serve as sleeping quarters and as a hideaway, but also provide a lookout post for the animal.
- **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 many cats and are used for scattering meat during feeding. The servals at Cheetah Outreach often jump on the logs to get a better view of the surrounding area and also enjoy sharpening claws on them.

- **Vegetation**
  In the wild servals are found in grasslands and often in reed beds on the edges of rivers and swamps. They use the cover to hunt and hide away from threats. In captivity it is important to provide enough vegetation and cover in the enclosure. This can be offered in the form of shrubs or sections of long grass.
Water Features

Servalis are often found near permanent water sources and many enjoy spending some time in water. Water features can be incorporated into the enclosure, but the design should allow for regular and proper cleaning. If this is not possible water can be provided by using big, shallow water containers or pools. The servals at Cheetah Outreach have been seen lying in the water in a pool on warm summer days.

Jumping Platform

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.

To accommodate the development of the serval’s jumping ability, it is a good idea to construct a platform with an adjustable height mechanism. In this way it can gradually be lifted higher as the serval develops and attempts higher jumps.

- **Privacy**
  Concealed, private areas should be provided in all serval enclosures. Rocks, areas of shade cloth, palm fronds, reeds or simple bamboo walls can be used to provide these.

- **Security**
  Serval enclosures should be roofed to prevent escape.
- **Vertical Space**
  The enclosure should offer vertical space to accommodate jumping and climbing behaviour. This can be provided with sloping branches, poles and platforms.

- **Manipulating enclosure layout**
  Gates separating adjacent enclosures might be opened and provides more space and opportunities for enrichment.

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

**Feeding**

- **Jumping for Food**
  Serval use their amazing jumping ability to catch birds in the air, leaping high and batting sideways with their paws or using both paws together to snag the bird from the air. To encourage our servals to jump for food, we place an item such as a mouse or baby chick on the end of a long stick held high in the air. The advantage of using the stick is that it can be moved in response to the serval’s movement to encourage both vertical and horizontal jumping.
- Elevating Food
  Food can be placed in a tree, on a pole or other elevated area to encourage the serval to jump or climb for his food.

- Grabbing Food
  Pieces of meat offered in a long plastic tube, a box with holes in it or inside a watermelon encourages natural hunting behaviour by encouraging the serval to grab for its food as it would grab rodents from their burrows in the wild.
Scattering Food
Scattering pieces of meat on and around logs encourages activity during feeding and also encourages the serval to jump and reach for his food. It also promotes exploratory behaviour as the serval continues to search for meat long after it is gone.

Throwing Food
Throwing pieces of meat to the serval encourages activity during feeding as the serval jumps for food or tries to bat it out of the air, and jumps off logs to search for pieces it has missed. Our female serval particularly enjoys having pieces of meat thrown to her.
☐ Bungee Feeder
Hanging a large bone with meat from a bungee cord prolongs feeding by encouraging the serval to grab, hold, pull, rip and try to drag away the attached food. A bone attached to the bungee feeder causes much excitement and will stimulate the serval to jump, leap and stand on hind legs to get at the bone.
Food in Water
Offering pieces of raw fish in a pool of water combines natural prey with a serval’s love of water and encourages natural hunting behaviour. Serval will use their paws to scoop bits of fish out and continue to return to the water until all small bits are gone. Pieces of meat and whole mice can also be thrown in water to encourage fishing.

Whole or Partial Birds with Feathers
In the wild servals take birds up to the size of flamingos and storks on a regular basis. Feeding with feathers encourages natural stalking and jumping behaviour as well as tossing of dead birds and plucking of feathers before eating. Feeding should be supervised and remnants from the carcass removed. The origin and health status of the bird offered should be known.
- **Day-old Chicks**  
  Dead baby chicks can supplement normal diet and add enrichment by throwing or hanging for a serval. Chicks should be de-yolked prior to feeding.

- **Chicken Feet**  
  Chicken feet can be given to servals as a special treat. All our servals love chicken feet and get very excited when they are given to them. Nails should be cut off toes before giving to animals.

- **Whole or Partial Carcasses**  
  Whole or partial carcasses can provide hours of stimulation. A variety of stalking, hunting and feeding behavior may be observed when offering whole or partial carcasses. The origin and health status of the animal offered should be known and the session supervised.

- **Whole Rats and Mice**  
  When available, whole rats and mice can be given (guts should be removed). Apart from providing roughage, whole carcasses provide much stimulation, encouraging natural hunting and eating behaviour, such as pouncing, tossing prey, licking and plucking fur. Whole carcasses also increase the length of feeding activity.
- **Meat with Fur**
  Sections of horsemeat and rabbit with fur can be given. Apart from providing roughage, meat with fur also changes the texture of the food and increases the length of feeding activity.

- **Bones**
  Big bones can be provided to chew on. At Cheetah Outreach we give our servals turkey bones on a weekly basis and horse rib bones once or twice a month when available.
- **Bloodsicles and Milksicles**
  These are made by freezing blood and a few pieces of meat or a whole mouse in small plastic containers, and can be offered on warm days. Kitty milk can also be frozen in small containers. Some of our servals enjoy the milksicles when they start to thaw out and are partially liquid.

- **Raw Eggs**
  Servals would naturally eat eggs of ground-nesting birds in the wild and the ones at Cheetah Outreach love raw eggs. Once a small hole is cracked open in the shell, they will lick all the contents out and continue to lick the ground around the egg to get any that has spilled out. We only give eggs to our animals once a month and they must be fresh and organic.
Other Food Items
Other food treats given to our servals on a limited basis include boneless salmon, sardines or herring; small dried fish; salmon jerky; soft salmon cat treats; dried liver treats; baby food; and kitty milk.

Visual and Auditory

Objects that provide visual and auditory stimulation include the following:

Outside Stimuli
Outside stimuli includes passing trains, motorbikes, running children, other animals, laborers, bicycles and wheelchairs. Having visual access to some of these not only provides mental stimulation, but can also provide good exercise since some animals will chase some of these objects and show much interest.

Other Animals
Walking different types of animals on their leads past the serval enclosure or walking the serval past their enclosures provides much interest and stimulation. The serval typically follows the animal along the fence, tries to sniff it through the fence or hisses at it. Often this is associated with vocalization and posturing. Animals at Cheetah Outreach that provide visual and auditory stimulation by close proximity are dogs, cheetahs, caracal, jackals, bat-eared foxes and meerkats. Be careful not to allow the animal too close to the fence, since the serval may try to grab the animal through the fence.

Adjacent enclosures containing dogs, bat-eared foxes, other serval and caracal also provide much stimulation for the servals at Cheetah Outreach.
Olfactory and Tactile

Serval cats are very tactile beings, enjoying rubbing and rolling in different scents and on different textures.

- Moving Animals between Enclosures
  The serval can be moved into a foreign or lesser-known enclosure. It is important that the enclosure has a fenced roof to prevent escape. If this is not possible the animal should be walked on a lead and collar. Intense sniffing and investigating may be observed.

- Moving Objects between 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 animal to the enclosure of a healthy one.

- Providing Scents
  Scents can be provided by using spices such as cinnamon, chili powder and ginger. 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. Scented items should only be given in open, airy areas to provide adequate ventilation.

  Fresh catmint has provided much stimulation to the servals at Cheetah Outreach, resulting in much rolling, rubbing and chewing on it as well as eating it.

- Dried Seaweed
  Our servals love the smell of dried seaweed and will roll, rub and drool on thin sheets of dried seaweed and sometimes eat it afterwards.
- **Orange Peel**
  Our servals love the citrus smell of orange peel and spend much time rubbing faces and rolling on the oil on the peels.

- **Kitty Milk with ‘Cat Wine’**
  Our servals love kitty milk. When we add ‘cat wine’, liquid catnip, they respond by rubbing all over the bowl, rolling on the ground and becoming playful. They don’t like the taste of the ‘cat wine’ by itself so it needs to be mixed with the milk.

- **Bubble Bath**
  Servals love water, especially on a hot day. Adding some bubble bath to the water adds a new dimension to the enrichment. Our servals bat and bite at the bubbles, climbing into...
the pool and cooling off in the process. Only gentle baby bubble bath should be used as servals may get it on their faces or lick it off paws.

- Cardboard Boxes
  Servals love to rub on different surfaces and textures. Providing a big cardboard box encourages much rubbing, chewing and drooling.

- Straw
  Straw, especially straw from other animal enclosures, can create much sensory stimulation to our servals, who enjoy sniffing and rubbing against it. Even a fresh bale of straw invokes much rubbing from our servals.
Animal Hides
Providing servals with an animal hide brings out many natural behaviours. Our female serval especially loves rolling and rubbing against a springbok hide and playfully attacking it like prey.

Novel Objects and Toys
Toys encourage servals to play and release pent-up energy. Some toys will encourage natural behaviours such as stalking, running, jumping in the air, pouncing, carrying objects around in mouths and kicking objects as they would dead prey. Serval are natural athletes, chasing toys at high speed and leaping high in the air for objects. Toys and novel objects should never be left unsupervised with animals.
Soft, Rubber and Rope 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 animal to play with a toy. Favourite toys for our servals include balls, Kong and rope toys. They also respond well to any toy that has feathers attached.

Balls
Serval respond well to balls. They can either be thrown with a rolling motion for the serval to chase after or placed in a big plastic container from which they can try and retrieve it. Another idea is to place the ball on the inside groove of a tyre that is lying flat on the ground. If the ball is made to roll fast, the sound and movement and the difficulty in retrieving the ball can keep the serval occupied for a long time.

Plastic Bottles or Containers
These can be offered loose or attached to a whip toy to chase after.
Feathers
Serval react strongly to feathers since birds are a favourite prey in the wild. Bird wings or bundles of feathers can be attached to a whip to encourage chasing and jumping, or stuffed into a Kong toy and thrown to be played with. It is imperative to make sure feathers are disease- and parasite-free. This can be done by freezing, washing, microwaving or leaving the objects in the sun.
- Splash Pools
  These can be filled with water and offered to the serval as a place to cool down. Alternatively toys can be placed inside for the serval to retrieve.

- Cardboard Boxes
  Cardboard boxes offer an ideal place for a serval to hide. Toys can alternatively be placed inside boxes for the serval to play with and retrieve. Any harmful substances such as staples or plastic tape should be removed first and servals should be carefully supervised while playing to make sure they do not eat and ingest part of the cardboard.

- Bags Filled with Leaves
  Hanging a plastic bag filled with leaves provides much entertainment and exercise for a serval, and encourages jumping, grabbing, sniffing and batting at the object until the bag is ripped open and the leaves fall out.
Rolls of Toilet Paper
Rolls of toilet paper bring out playful behaviour in servals, including kicking, biting, shredding and throwing in the air like prey. Play with toilet paper must be carefully supervised to ensure none is eaten and all pieces removed after the play session is over.
Exercise

Exercise is an essential 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:

- **Toys**
  Balls, Kong toys and rubber snakes are some of the servals’ favourite toys. Rubber snakes can be suspended from an elevated area to encourage the serval to jump up and retrieve. Balls and Kong toys can be thrown to encourage the serval to run and leap in the air.

- **Water**
  Servals can’t resist water and squirting it from a hosepipe will encourage the serval to chase after it and play with it.
 Whip with Novelty Item
A novelty item can be attached to a whip or a piece of string tied to a long bamboo stick. These objects can be used to encourage jumping and chasing behavior. Feathers, rubber toys such as Kongs, fuzzy toys, plastic bottles and plastic containers such as yogurt containers usually get a good response from the servals at Cheetah Outreach. Even a whip with nothing attached or a long piece of rope will encourage the serval to chase after it if it is wiggled in grass like a snake.

 Walks
Walks can provide the handler with many opportunities to enrich a serval’s life. New and different environments can provide a variety of smells and sights to investigate and could offer hunting opportunities. The serval at Cheetah Outreach has been observed hunting small snakes, lizards, frogs and mice on these walking excursions. Walks also provide opportunities to interact with other animals.
Social Interaction/Tactile

- 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.

- Interaction with Other Animals
  Seeing, smelling and interacting with other animals through a fence or at a distance can greatly enrich a captive serval’s life. 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
This 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.

Behavioral Conditioning

Behavioral conditioning is very important since it provides mental stimulation and challenges cognitive skills. It also strengthens the bond between care-taker and animal. The level of conditioning depends on the individual and might be one or all of the following:

- Harness and Lead Training
Training to walk on a harness and lead begins at an early age in order for young cats to get accustomed to the restricted feeling of harness or collar and lead. Lead walking is important for all ambassador cats. It allows our servals to explore parts of the facility, to interact with other animals and people on their walks, and to get exercise.
Venue Training

Behaviour Training

This type of training is used to shape behavior by means of positive reinforcement. Verbal commands, hand signals and/or a clicker may be used to encourage the serval to perform different behaviours such as touching, stretching on hind legs and stationing on a platform.
Crate Training

Crates may be used to transport animals to the vet or in the event of a fire or other emergency. Reinforcing familiarity with crates can be done by feeding inside the crate on a rotational basis. This will ensure that the animal does 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 animals quickly and without resistance might mean the difference between life and death. By increasing the length of time the animal stays in the crate you can train them to accept the crate as a safe place for flying, etc.