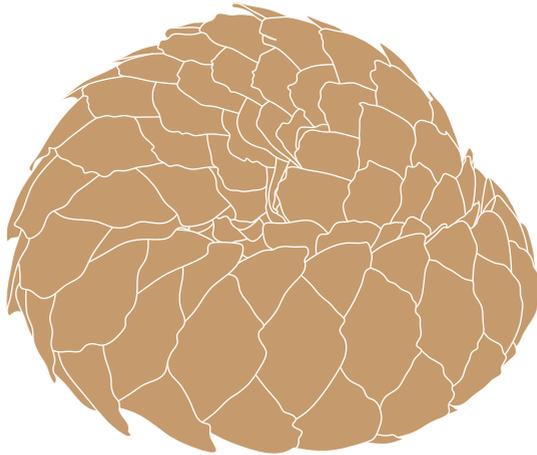


FIRST RESPONDERS MANUAL

African Ground Pangolin
Smutsia temminckii



Produced by NARREC and HumaneLABS

MANUAL FOR FIRST RESPONDERS

African Ground Pangolin

Smutsia temminckii

READ THIS MANUAL

CORRECT FIRST RESPONSE WILL ASSIST IN THE SURVIVAL OF TRAFFICKED
AFRICAN GROUND PANGOLIN

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Latin	<i>Smutsia temminckii</i>
English	African Ground Pangolin
OshiWambo	Ongaka
OtjiHerero	Ongaka
Khoekhoegowab	//Khommi, //Khoms
Ju/'hoan	N≠hòqí
Afrikaans	Ietermagôg or Ystermagôg
German	Schuppentier

FIRST RESPONSE

FIRST RESPONDERS SHOULD REDUCE STRESS, NORMALIZE BODY TEMPERATURE, PROVIDE FLUIDS AND CLEAN AIR.

GET PROFESSIONAL HELP AS SOON AS POSSIBLE

1. Free the animal from the sack, bag, wire or other constraints as soon as possible.
2. Use a strong/secure box to transport the animal.
3. Prepare a room for the captive pangolin.
 - Place a dish of room temperature water and rehydrate solution nearby.
 - Provide a blanket or towel-wrapped heat source.
 - Remember to remove any furniture that the animal might curl itself around.
4. If the pangolin remains curled after 10 - 15 minutes, turn it onto its other side.
5. If the pangolin uncurls - allow it to stretch, sniff the air and walk. Do not let it go far.
6. Once the animal has settled- perform a basic assessment.
7. Fill in a Report Card.

CONTACT THE PANGOLIN HOTLINE:

+264 81 413 2214

THE RISK OF ANY HANDLING MUST BE CONSIDERED AGAINST THE RISK OF STRESS!

KEEP WATCH – KEEP STILL - KEEP QUIET

PREPARATION FOR FIRST AID AS A FIRST RESPONDER FOR LIVE CAPTURED PANGOLIN

THE CAPTURED ANIMAL WILL BE IN A STATE OF SHOCK

Pangolin are found: Tied into a sack / Bound tightly with wire / In a car boot /
Rolled in a bag or suitcase / Escaped into a yard or street

Shock symptoms include:

SHALLOW, RAPID BREATHING, ABNORMAL SKIN TEMPERATURE & LOW PULSE RATE.

Shock is increased by stress caused from fear of unknown sights, sounds and places.

TEMPERATURE SHOCK

Body temperature may be too cold (hypothermic shock) or too hot (hyperthermic shock). Body temperature is affected by dehydration, starvation, infection and unprotected exposure to very hot or cold environmental temperatures.

FIRST RESPONSE:

Provide a source of heat for an animal in hypothermic shock (SEE PAGE 10).

Provide a source of cool clean air for an animal in hyperthermic shock.

Use a well ventilated room, fan or airconditioning.

Always provide body temperature rehydration solution and clean drinking water.
(SEE PAGE 10)

HYPOVOLEMIC SHOCK (BLOOD LOSS)

Caused by reduced blood volume from dehydration or bleeding. Early to late stages of dehydration are seen in most confiscated pangolin. Symptoms include weakness, cold moist skin and a slow breathing rate.

FIRST RESPONSE:

Turn the pangolin on its opposite side to how you found it. Place it against the source of heat. Allow it to stretch out and move.

Have bowls of body temperature rehydrate solution and water within 25 cm of the rolled pangolin. Severe cases require immediate veterinary attention.

CALL THE HOTLINE

ALWAYS KEEP THE PANGOLIN IN A QUIET, PRIVATE ROOM

SEPTIC SHOCK (INFECTION)

Bacterial infections from wounds or fractured bones caused by car accidents, poachers' spears or leg-hold traps, can result in septic shock. Symptoms include weakness, very warm skin, fast breathing rate and pneumonia. Limited and unclean air supply also cause pneumonia and septic shock.

FIRST RESPONSE:

Put the pangolin down on its opposite side to how you found it. Let it stretch out. Put it next to a source of heat, and the rehydrate solution and water. (SEE PAGE 10)
Severe cases require immediate veterinary attention.

CALL THE HOTLINE

PHYSICAL WOUNDS

Being speared, clubbed, caught in a leg-hold trap or from being hit on the road can cause head trauma, hypovolemia(bloodloss) and septic shock.

FIRST RESPONSE:

Note movement and strength. Check for wounds under scales on both sides of the pangolin. Use a syringe to wash wounds with a normal saline solution.

Normal saline is a 0.9% solution .

Boil 1 cup of clean water with half teaspoon of salt.

Let it cool to body temperature.

Use a syringe to flush the wound clean.

NEUROGENIC SHOCK (SPINAL INJURIES)

Caused by damage to the animals spine. Requires immediate veterinary attention.

FIRST RESPONSE:

Handle with care - do not move the animal unnecessarily.

All cases require immediate veterinary attention.

CALL THE HOTLINE

TOXIC SHOCK (PARASITIC INFESTATION)

Parasites such as ticks and mites will take advantageous of a sick animal and can cause toxic shock.

FIRST RESPONSE:

Do not use any type of insecticide or pesticide on a pangolin. Severe cases require immediate veterinary attention.

CALL THE HOTLINE

TOOLS AND MATERIALS



Personal Safety Kit:

Heavy-duty Gloves
Sterile Latex Gloves
Antiseptic Wipes



Pangolin Safety Kit:

1 x Secure Transport Box
2 x Towels
1 x Blanket
1 x Hot-water Bottle



Rehydration Kit:

100g Salt
500g Sugar or Glucose
1lt Clean Water
1 x 20cm Water Basin
Syringes 2 x 20ml 2x 10ml 2 x 5ml



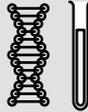
First Aid Kit:

Pack of Gauze
Antiseptic Solution
Cotton Swabs



Tool Kit:

Multi purpose pliers
Torch
1 x Knife
Scissors
1 x Large Forceps / Tweezers
2 x 20 cm Bowls
2m Tape Measure



Sampling Kit:

50 ml Sample Bottles
Side Cutters
Alcohol
Double Closing Sandwich Bags
Envelopes
Masking Tape
Pen, Pencil and Marking Pen
Report Cards

NURSING PANGOLINS

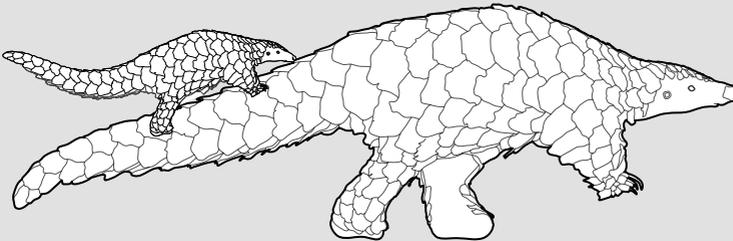
When working with a captive pangolin carrying its baby:

Weigh the adult and baby together.

Do not touch the baby pangolin.



CONTACT THE PANGOLIN HOTLINE



NEVER SEPARATE A MOTHER PANGOLIN FROM ITS YOUNG

PERSONAL SAFETY

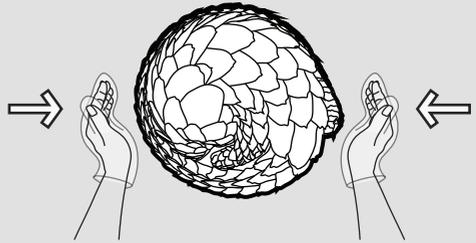
Pangolin scales have sharp edges and pangolin tails can be used in a scissor action for defense.

Pick the pangolin up using a blanket or thick gloves.

Have the transport box or temporary box close by to limit the time you hold it in your hands.



Always wear gloves when handling a pangolin.



Apply a firm grip when holding a live pangolin.

HANDLING THE PANGOLIN

Pangolin can weigh up to 18kg and have powerful tails. A pangolin will try to escape if given the opportunity.

BEWARE of dropping a pangolin!

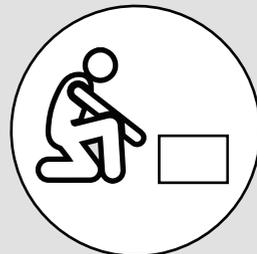
Work close to the ground or a table top when examining the pangolin.

BEWARE of putting a pangolin in a room that has furniture.

DO NOT HANDLE THE PANGOLIN UNNECESSARILY - This will increase the animal's stress and potentially worsen its situation.



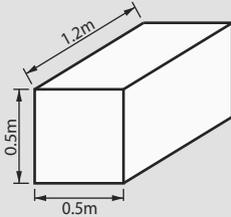
Handle the pangolin close to your work surface.



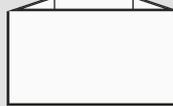
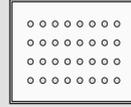
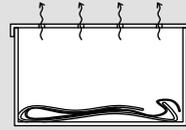
Keep the transport box nearby

TRANSPORT

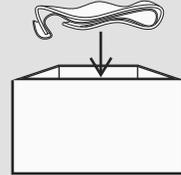
Use a strong/secure transport box that is closed on all sides. A pangolin can climb, push heavy objects and move through very small spaces. The box should be large enough so that the pangolin can uncurl and stretch out. (up to 1.2m)



If using a pet transport box - cover the door with a blanket.



Make holes in the lid of the box



Place a blanket in the transport box



SHORT TERM CAPTIVITY

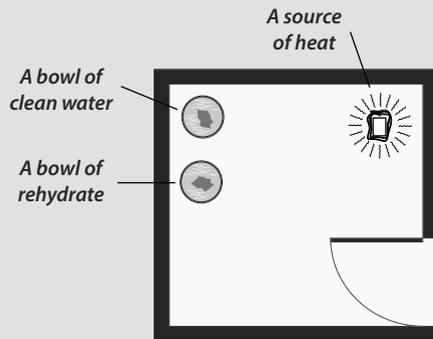
Pangolin should be kept for as short a time as possible.

Remove all furniture from the room. The pangolin may climb or may wrap itself tightly around a leg of a chair or table. The animal will even use its last energy trying to stay curled in its protective position.

Place an open cardboard box in a corner of the room, include blankets for the pangolin to curl up in.

Place WATER and REHYDRATE DISH in the room or box.

Provide SAFE SOURCE OF HEAT.

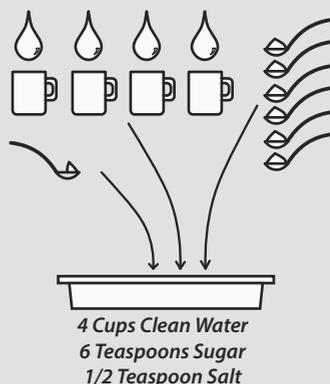


Remove all furniture from room

REHYDRATE

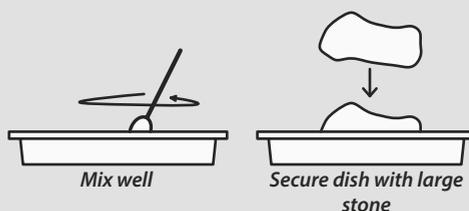
Provide a rehydrate solution and clean drinking water to replace fluids, salts and sugars in the body. Rehydrate solutions are available from pharmacies and veterinary outlets. These solutions are given orally.

Use a shallow but largish dish. Secure the dish with a rock or brick to weigh it down. Always provide potable water - even if you have rehydrate solution.



FOOD

Pangolin do not take to unknown diets. Captive pangolin are in a state of starvation. Contact the Pangolin Hotline for assistance.



TEMPERATURE CONTROL

A comfortable room temperature (20-25°C) will assist with normalizing the pangolin's body temperature. Heaters and fans can be used to cool or heat a room or car.

A SAFE HEAT SOURCE

A safe heat source can be a hot-pad, hot-water bottle, heated rock or brick.

Place the source of heat in the corner of the room or in the box so that the animal can move on or off the heat as it needs.

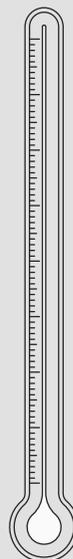
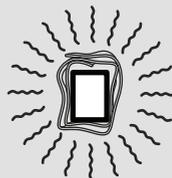
BEWARE: WRAP THE HEAT SOURCE IN A BLANKET TO PROTECT THE ANIMAL FROM BURNING ITSELF.



Place rock or brick near a source of heat



Wrap rock or brick in a thick blanket





HEALTHCARE CHECKLIST FOR CAPTIVE PANGOLIN

THE FOLLOWING CAN BE CHECKED WHEN THE PANGOLIN IS CURLED

BODY TEMPERATURE

Feel the face or foot
or belly

COLD

Provide a
heat source

HOT

Provide shade, airflow, cool room
temperature, water and rehydrate solution

BODY STRENGTH

Note the tightness
and strength of the
curled pangolin

STRONG CURL

BE QUIET
Observe
movements

WEAK CURL

CALL THE HOTLINE

BREATHING RATE

Observe the
breathing rate

REGULAR

BE QUIET
Observe
movements

TOO SLOW

Infection or
hyperthermia
Provide a heat source
CALL THE HOTLINE

FAST AND

SHALLOW
Infection, fever
hyperthermia or stress
CALL THE HOTLINE

PHYSICAL INJURIES

Use the torch to check
underneath scales.
Check both sides of
the pangolin.

HEALTHY

BE QUIET
Observe
movements

WOUNDED

Flush open wounds
with saline solution.
CALL THE HOTLINE

PARASITES

Use the torch to check
underneath scales.
Check both sides of
the pangolin.

IF PRESENT

Take a sample

IF PRESENT

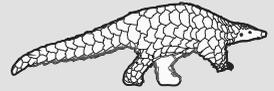
Take a sample

COMPLETE THE PANGOLIN ASSESSMENT CARD INCLUDED AT THE BACK OF THIS DOCUMENT. PROVIDE AS MUCH INFORMATION AS POSSIBLE.

**ALWAYS HANDLE THE PANGOLIN WITH THICK GLOVES OR A BLANKET!
PANGOLINS HAVE SHARP SCALES THAT CAN EASILY PINCH YOUR HANDS.**

**DO NOT CROWD THE PANGOLIN.
KEEP THE ANIMAL IN A QUIET, PRIVATE ROOM.**

HEALTHCARE CHECKLIST FOR CAPTIVE PANGOLIN



THE FOLLOWING CAN BE CHECKED WHEN THE PANGOLIN IS UNCURLLED

EYES

Do not touch
the eye

BRIGHT AND CLEAR

BE QUIET
Observe
movements

EYES LEAKING

Infection
CALL THE HOTLINE

NOSE

Examine
pangolin nose

DRIPPING

Respiratory infection
CALL THE HOTLINE

LEAKING

Infection
CALL THE HOTLINE

WALKING

Observe pangolin
movements

WALKS ON BACK LEGS

BE QUIET
Observe
movements

ALL FOUR FEET ON THE GROUND

Animal is injured
CALL THE HOTLINE

LIMPING

Note injured leg
CALL THE HOTLINE

TAIL

Observe pangolin
movements

TAIL OFF THE GROUND

BE QUIET
Observe
movements

TAIL HELD OFF THE GROUND

BE QUIET
Observe
movements

TAIL DRAGGING ON THE GROUND

Animal is injured
CALL THE HOTLINE

DRINKING

Provide clean water
and rehydrate
solution

YES

BE QUIET
Observe
movements

NO

CALL THE HOTLINE

PANGOLIN DO NOT TAKE TO UNKNOWN DIETS. CAPTIVE PANGOLIN WILL BE IN A STATE OF STARVATION. CONTACT THE HOTLINE FOR ASSISTANCE.

DO NOT HANDLE THE PANGOLIN UNNECESSARILY - THIS WILL INCREASE THE ANIMAL'S STRESS AND POTENTIALLY WORSEN IT'S SITUATION.

**DO NOT TAKE UNNECESSARY PHOTOS OF THE ANIMAL.
DO NOT USE CAMERA WITH A FLASH.**

GENETIC SAMPLING

Genetic material is a useful conservation tool. DNA can be extracted from blood, any body organ including skin as well as from scales. Through sampling for DNA, a database is being developed that will assist in identifying the area from where a trafficked and confiscated animal was poached.

SKIN

Use the torch, check for loose skin under the scales of the tail and sides.

Use a forceps to grip and remove loose skin, about 1 mm.

Store in an envelope or clean container.

Store in a freezer.

Add the label information.

DO NOT TEAR LIVE SKIN



Remove skin sample from under scale

SCALES

Use a sharp side-cutter.

Cut about one third off the end of a large scale on the side of the body (1cm x 1cm)

Store in an envelope or clean container at room temperature.

Add the label information.

**DO NOT CUT THE WHOLE SCALE OFF
ONLY CUT THE END THIRD OF A SCALE**



*Cut approximately 1x1cm sample
NEVER REMOVE ENTIRE SCALE*

PARASITES

Pangolins may have mites under the scales.

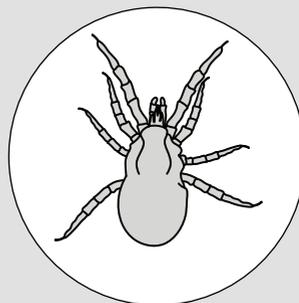
Collect these with a forceps

Place parasites in a collection tube.

Store in the fridge.

Add the label information.

**CONTACT THE HOTLINE IF THERE IS A
PARASITE INFECTION**



10x Magnification

**ONLY COLLECT LOOSE SKIN OR PIECES OF SCALES FROM LIVE PANGOLINS.
DO NOT UNNECESSARILY DISTURB PANGOLIN TO COLLECT SAMPLES.**

PANGOLIN RELEASE

CONTACT THE PANGOLIN HOTLINE **BEFORE** THE PANGOLIN IS RELEASED
THE HOTLINE WILL ADVISE ON THE NEXT STEP

RELEASE PROCEDURE:

- Choose a release site near water.
- Choose late afternoon for release time.
- Place the box near a bush or plant debris.
- Wait quietly and observe.
- Allow the pangolin to leave the box when it is ready.
- Note the release date, site and time.

Approved release sites WILL NOT have:

- Electric fencing within 10 kilometers of the site.
- An air-landing strip or thatch buildings that use pesticides for ants or termites.
- A bush clearing concession.
- A formal or informal urban area within 10 kilometers.

Approved release sites WILL have:

- Available open water.
- Grass and or bush or plant debris to use as resting spaces.
- Antbear or warthog burrows.
- Ant and termite activity.
- An informed community on the land.

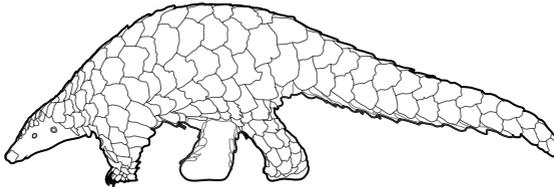
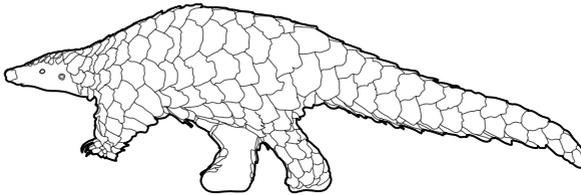
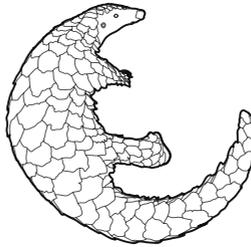
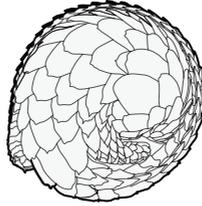
STAY PREPARED
WILDLIFE CRIME CAN HAPPEN AT ANY TIME!

HOTLINE
+264 81 413 2214

KEEP WATCH – KEEP STILL - KEEP QUIET

AFRICAN GROUND PANGOLIN

African Ground Pangolin, *Smutsia temminckii*, is recognized nationally and internationally as an endangered and specially protected species. The following pages provide basic information about Pangolin biology.



PANGOLIN - THE ONE WHO ROLLS UP

“The sheer scale of the pangolin trade is epic, and time is of the essence.... The only way to stop the decline is through implementation of a clear strategy and a unified effort to stop the demand, supply and trafficking.”

Chair of the IUCN SSC Pangolin Specialist Group

GEOGRAPHIC RANGE

The geographical range of the African Ground Pangolin is recorded from northern South Africa through all of Namibia, except for the coastal, semi-desert and desert regions. This range extends northwards through southern Africa into east and central Africa and as far north as South Sudan and south-eastern Chad. From historical records, areas of local extinction have already been identified. Now the increasingly severe level of poaching and harvesting for domestic and international commercial markets is driving pangolin, the most highly trafficked group of animals in the world, to extinction.



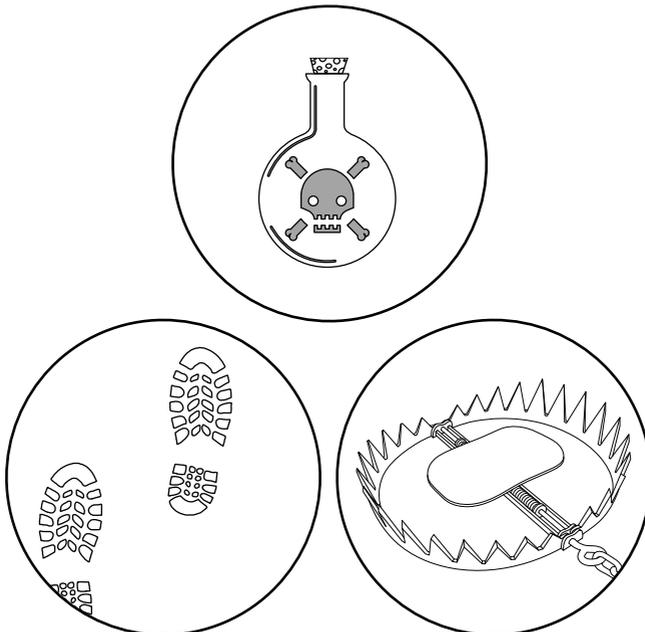
AFRICAN GROUND PANGOLIN POPULATIONS ARE DECLINING ACROSS THE CONTINENT

THREATS

Poaching is the greatest threat to the world's 8 pangolin species. Commercial exploitation illegally supplies illegal local and international markets with meat, traditional medicine, ornaments and talismans. The extent of the illegal trade is fast driving pangolin populations to extinction. No trade in any of the pangolin species is sustainable.

In Namibia and across its range, illegal capture and trade threatens the African Ground Pangolin, a species already driven to local extinction in many other parts of Africa. Over the past 10 years hundreds of tons of whole pangolin and pangolin products, mostly scales, have been intercepted by authorities. During that time hundreds of live pangolin have also been confiscated, usually in very poor health.

Habitat loss happens through unsustainable urban development. Urbanization increases traffic, road accidents and creates barriers for wildlife movement. Electric fences are increasingly popular and are lethal to pangolin. Electrocutation poses a serious threat to pangolin in some areas. Agriculture often increases the use of insecticides as well as occurrence of bush and veld fires. Both can be lethal to pangolin.



CONSERVATION STATUS

No. 9 of 2008: Controlled Wildlife Products and Trade Act, 2008.

Nature Conservation Ordinance 1975 No. 4 of 1975

Internationally, regionally and nationally the African Ground Pangolin is protected as an endangered species. Alive or dead, no pangolin nor any of its parts may be captured, transported, kept or traded.

Convention on International Trade in Endangered Species of Fauna and Flora

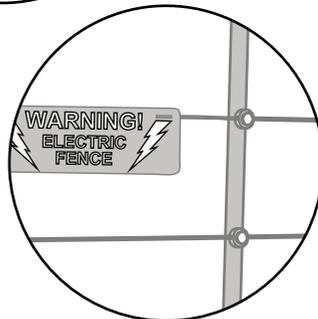
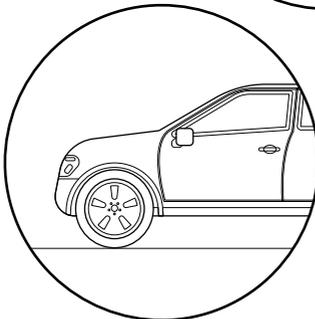
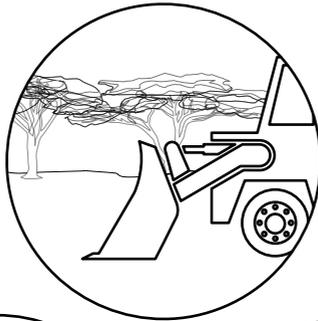
Species: *Smutsia temminckii*, African Ground Pangolin

Status: Appendix 1 Species.

Species listed on CITES Appendix 1 are recognized as threatened with extinction. A prohibition on any commercial international trade is in place. As a signatory to CITES, Namibia must prohibit any capture, transport, holding or trade of a live or dead pangolin. The African Ground Pangolin is a specially protected animal in Namibia. The same status is given to this species across its range.

PANGOLIN ARE CURRENTLY THE WORLD'S MOST TRAFFICKED WILDLIFE

Pangolin conservation must focus on preventing poaching, ending illegal trade, and protecting pangolin habitats.



PANGOLIN BIOLOGY

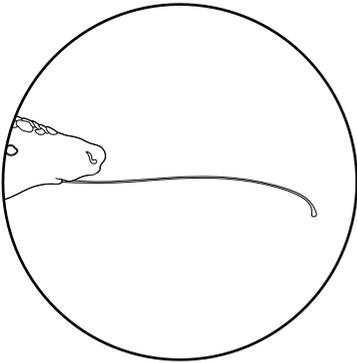
The hard, overlapping scales made of keratin cover all but the underside of a pangolin. Keratin is a structural protein that also makes human and animal hair, fingernails, horns and hooves. The tongue's length, stickiness and structural attachments is another exceptional adaptation of pangolin. The males are larger than females and can weight up to 18 kg.

HABITAT

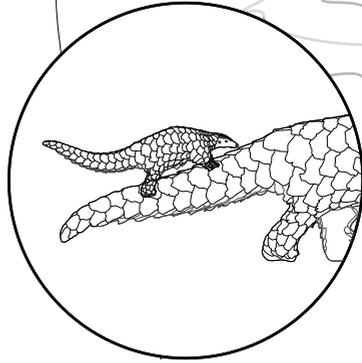
Found in savannas and semi-arid environments, a pangolin's home range will depend on the vegetation and the abundance of edible ant and termite species. An average pangolin range is between 5 and 10 km². Pangolin occur in areas with sandy or rocky soils, woodlands, and both low and high rainfall zones.

BEHAVIOR

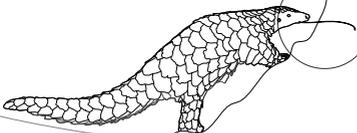
Pangolin can dig, climb and squeeze through small spaces. They can move fast on their hind legs with the tail and forelegs only occasionally touching the ground. They are mostly nocturnal but season dependent can be active in the day. Resting spaces are burrows or hollows dug by other animals, caves or dense grass tussocks and plant debris. When hearing something the animal will stop and freeze then for full protection will roll into a very tight ball.



An extended tongue for collecting ants and termites



Young pangolin carried on mothers tail



FOOD

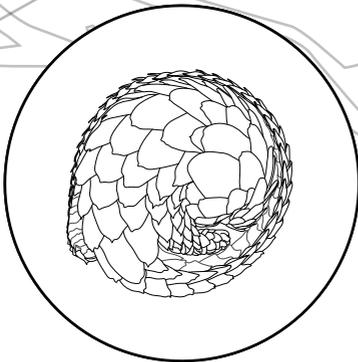
This foraging specialist uses a well developed sense of smell to find select species of ants and termites, their eggs and larvae. The pangolin moves slowly, stops, then digs a shallow cup and flicks the tongue in and out of the ant passages. The mouth is toothless and the long sticky tongue captures the prey and draws back into its throat. An estimated 70 million insects per year is consumed by a medium size pangolin.

PREDATORS

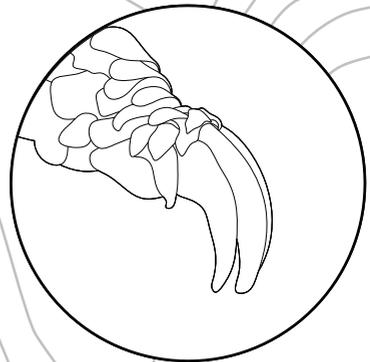
Human poachers are the greatest predator of pangolin. Other possible predators include lions, leopards, spotted hyenas, African wild dogs and African rock pythons.

BREEDING

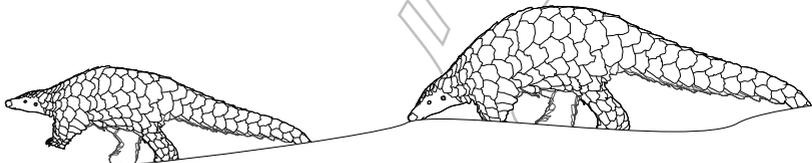
Females give birth to 1 young after about a 4 month gestation period. The baby pangolin's soft pinkish color scales begin to harden within days. Mothers curl their bodies around the baby to keep it safe. By 4-6 weeks old the baby will ride out on the mother's back and start ant and termite foraging along-side the mother. Weaning occurs between 4 to 6 months, when the youngster weighs 2 to 3 kilograms.



Pangolin tightly curled in defensive position



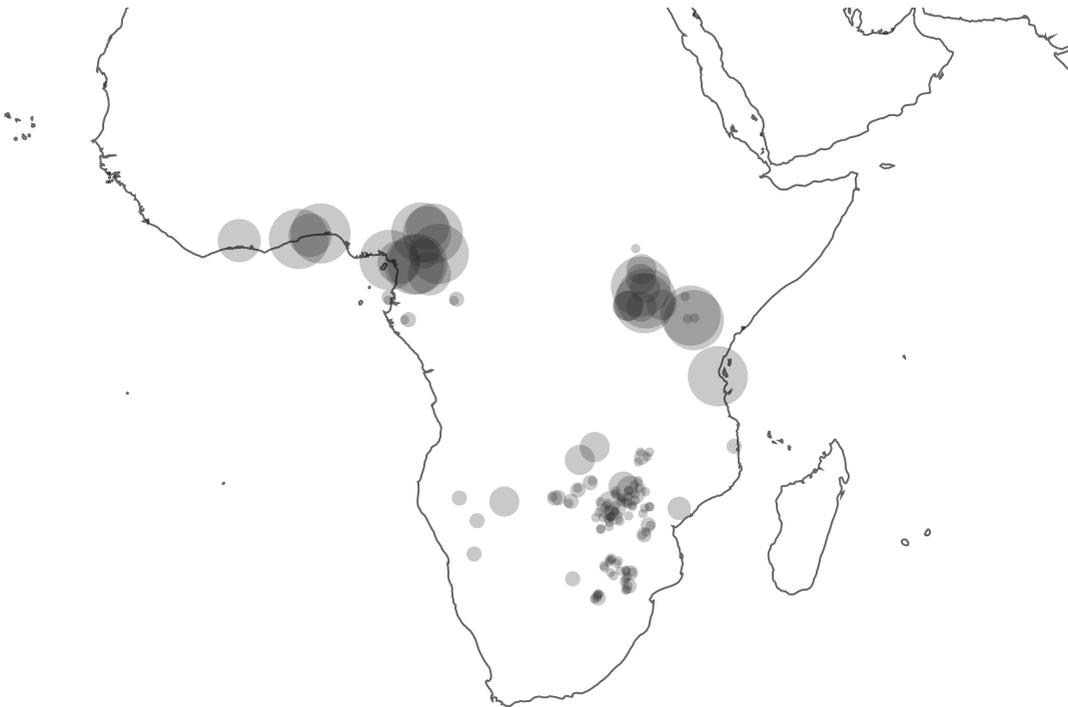
Strong front claws for digging

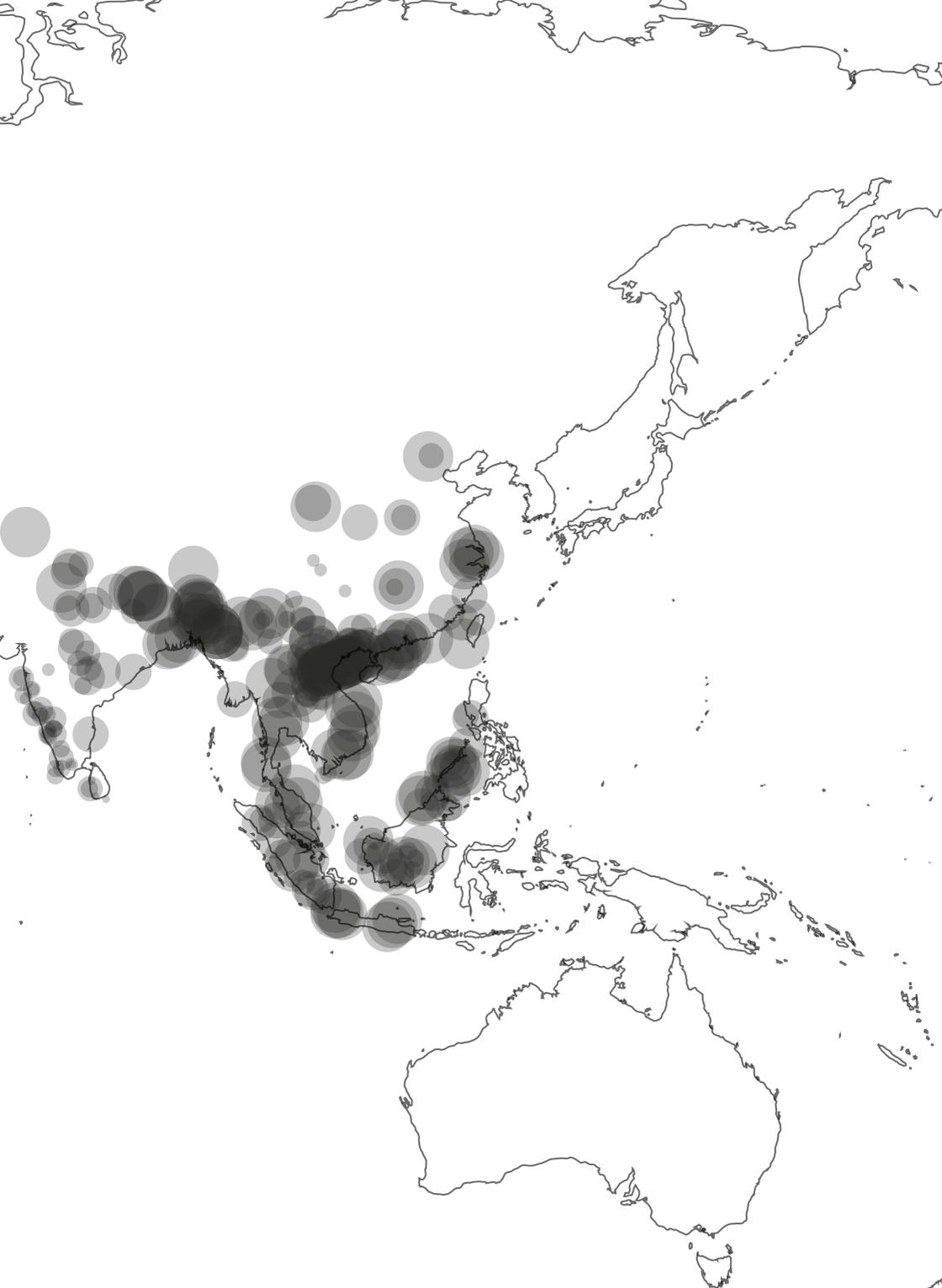


WILDLIFE TRAFFICKING

Wildlife poaching and illegal trade is a serious threat to the survival of many vertebrate species. Pangolin are known to be the most trafficked vertebrate animal in the world. Between 2010-2015 more than 120 tons of pangolin and pangolin scales were intercepted by authorities in or en-route to Asia, mainly China, Indonesia, Vietnam and Malaysia. Most of the tonnage of pangolin scales were from Africa, trafficked via Europe and other routes to Asian markets. Small shipments have also been intercepted en-route to the United States of America.

Illegal trappers and traders use any means and often change their routes to avoid detection by authorities. Trafficked pangolin and pangolin products may be encountered at road blocks, truck stops, ports, harbors and national border posts. Poached pangolin may be found at markets, traditional medicine retailers and healers, Asian restaurants, curio shops and even in people's yards. Escaped pangolin are sometimes found wandering in urban areas.





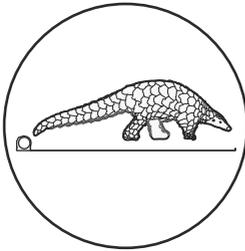
CAPTIVE WILDLIFE ASSESSMENT CARD: CASE HISTORY

FOUND BY											
DATE	DD	MM	YYYY	TIME							
LOCATION ANIMAL WAS RECOVERED	NEAREST TOWN OR SETTLEMENT										
	COORDINATES °S °E										
SPECIES											
NO. OF ANIMALS	1	2	3	4	5	6	7	8	9		
RELEVANT HISTORY GIVEN BY THE TRAFFICKERS\POACHERS:											
DATE COLLECTED BY POACHERS											
LOCATION ANIMAL WAS CAUGHT BY POACHERS	NEAREST TOWN OR SETTLEMENT										
	COORDINATES °S °E										
METHOD OF CAPTURE				VIOLENT				NON-VIOLENT			
DETAILS											
NO. OF DAYS HELD BY POACHER				1	2	3	4	5	6	7	
LOCATION ANIMAL WAS HELD BY POACHERS	NEAREST TOWN OR SETTLEMENT										
	COORDINATES °S °E										
FOOD OR WATER GIVEN				FOOD				WATER			
RECOVERED ANIMAL FOUND IN				BOX	VEHICLE			SACK			WIRE BOUND
STREET	YARD	SACK		OTHER:							

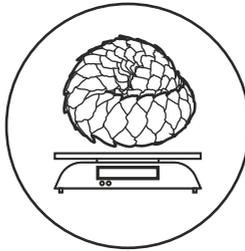
WILDLIFE MUST ALWAYS BE TRANSPORTED WITH THE CORRECT PERMITS
HANDLE WILDLIFE WITH CARE
ACT FAST - DO NOT KEEP RECOVERED WILDLIFE FOR UNNESSARILY LONG
CONTACT THE WILDLIFE HOTLINE WHEN YOU HAVE COMPLETE THIS DOCUMENT

CAPTIVE WILDLIFE ASSESSMENT CARD: BIOMETRICS

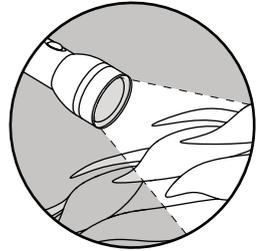
WEIGHT						KG
LENGTH						
SEX		MALE		FEMALE		
CONDITION		HOT	COLD	INJURED	HEALTHY	
STRENGTH		LOOSLY CURLED	TIGHTLY CURLED	UNCURLED	COLLAPSED	
INJURIES		BROKEN/ REMOVED SCALES	WIRE DAMAGE	TRAP DAMAGE	DEHYDRATION	
SPEAR DAMAGE	SHOCK	CLUBBED	OTHER:			
WALKING		YES		NO		
PARASITES		YES (PROVIDE SAMPLES)		NO		



Measure pangolin from nose tip to end of tail



Place curled pangolin on scale to measure weight



Use a torch to check underneath scales

ATTACH IMAGE HERE

Supported by:



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