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# **PANGOLIN**

**SPECIES IDENTIFICATION GUIDE:  
A RAPID ASSESSMENT TOOL FOR FIELD AND DESK**

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**Cover:** Ground Pangolin (*Smutsia temminckii*). Photo: Lisa Hywood/Tikki Hywood Foundation

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### **About USAID Wildlife Asia**

The USAID Wildlife Asia Activity works to address wildlife trafficking as a transnational crime. The project aims to reduce consumer demand for wildlife parts and products, strengthen law enforcement, enhance legal and political commitment, and support regional collaboration to reduce wildlife crime in Southeast Asia, particularly Cambodia; Laos; Thailand; Vietnam, and China. Species focus of USAID Wildlife Asia include elephant, rhinoceros, tiger, and pangolin. For more information, please visit [www.usaidwildlifeasia.org](http://www.usaidwildlifeasia.org)

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## HOW TO USE THIS GUIDE

This guide is designed to help you confidently identify the eight species of pangolin, and when possible, body parts and scales even when removed from the animal.

Range maps are designed to assist law enforcement in determining possible country of origin and transit routes for pangolin species observed in trade. They are not indicative of specific geographic ranges within each country listed. Note that multiple pangolin species are native to certain countries.

The contents are organized by key differentiating physical characteristics, often utilizing the same photograph, because pangolin photographs are relatively uncommon. Species summaries note the main differentiators.

Profiles, total lengths, scale patterns, feet, and ratio of tail to body can help you identify live or dead animals with scales intact. Total length and ratio of tail to body can help you identify dead animals with scales removed.

It is helpful to know that Asian pangolin species have bristles between the scales, while African pangolin species do not. Keep in mind that each pangolin is an individual and may not appear exactly as it does in this guide.

Regional contact information is provided to assist you with incidents involving live animals.

## INTRODUCTION TO PANGOLINS

Pangolins are the only mammal covered in scales. The scales are comprised of keratin, the same material as our hair and nails. Pangolins feed exclusively on ants and termites. They pose no threat to humans. When pangolins are frightened, they roll up into a ball to protect themselves.

Pangolins, as well as scales, which have been removed from the animal, are frequently encountered in the illegal wildlife trade.

Pangolins are not widely known outside of Africa and Asia. There is a total of eight pangolin species: four in Africa and four in Asia. All eight pangolin species are listed on Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the highest level of international protection. In addition, pangolins are protected by national legislation in range countries.

Pangolin species are recognized by more than one common and scientific name. For the purposes of this booklet, the eight species will be identified as follows:

<b>Common Name</b>	<b>Scientific Name</b>
Chinese Pangolin	<i>Manis pentadactyla</i>
Indian Pangolin	<i>Manis crassicaudata</i>
Philippine Pangolin	<i>Manis culionensis</i>
Sunda Pangolin	<i>Manis javanica</i>
Black Bellied Tree Pangolin	<i>Phataginus tetradactyla</i>
Giant Ground Pangolin	<i>Smutsia gigantea</i>
Ground Pangolin	<i>Smutsia temminckii</i>
White Bellied Tree Pangolin	<i>Phataginus tricuspis</i>



DIANA LIMJOCO / COURTESY OF LISA HYWOOD

## RANGE MAPS: ASIAN PANGOLIN SPECIES

### Chinese Pangolin

*Manis pentadactyla*

Bhutan; China; Hong Kong; India; Lao People's Democratic Republic; Myanmar; Nepal; Taiwan, Province of China; Thailand; Viet Nam.



### Indian Pangolin

*Manis crassicaudata*

India; Nepal; Pakistan; Sri Lanka  
Possibly extinct: Bangladesh.



### Philippine Pangolin

*Manis culionensis*

Philippines (mainland Palawan; Busuanga Island, Coron Island, Culion Island, Dumaran Island, Balabac Island introduced to Apulit Island).



### Sunda Pangolin

*Manis javanica*

Brunei Darussalam; Cambodia; Indonesia; Lao People's Democratic Republic; Malaysia; Myanmar; Singapore; Thailand; Viet Nam.



## RANGE MAPS: AFRICAN PANGOLIN SPECIES



### **Black Bellied Tree Pangolin** *Phataginus tetradactyla*

Cameroon; Central African Republic; Congo, The Republic of the; Congo, The Democratic Republic of the; Côte d'Ivoire; Equatorial Guinea (Equatorial Guinea (mainland)); Gabon; Ghana; Liberia; Nigeria; Sierra Leone.



### **Giant Ground Pangolin** *Smutsia gigantea*

Cameroon; Central African Republic (possibly); Congo, The Republic of the; Congo, The Democratic Republic of the; Côte d'Ivoire; Equatorial Guinea (Bioko, Equatorial Guinea (mainland)); Gabon; Ghana; Guinea; Guinea-Bissau; Liberia; Senegal; Sierra Leone; Tanzania, United Republic of; Uganda.



### **Ground Pangolin** *Smutsia temminckii*

Botswana; Central African Republic; Chad; Kenya; Malawi; Mozambique; Namibia; Rwanda; South Africa; South Sudan; Tanzania, United Republic of; Uganda; Zambia; Zimbabwe. Possibly extinct: Swaziland.



### **White Bellied Tree Pangolin** *Phataginus tricuspis*

Angola; Benin; Cameroon; Central African Republic; Congo, The Republic of the; Congo, The Democratic Republic of the; Côte d'Ivoire; Equatorial Guinea (Bioko, Equatorial Guinea (mainland)); Gabon; Ghana; Guinea; Guinea-Bissau; Kenya; Liberia; Nigeria; Rwanda; Sierra Leone; South Sudan; Tanzania, United Republic of; Togo; Uganda; Zambia.

## SPECIES SUMMARIES: ASIAN PANGOLINS



MICHAEL PITTS / NATUREPL / NATURE IN STOCK

### **Chinese Pangolin (*Manis pentadactyla*)**

Shorter head length (neck to snout) than Sunda pangolin; front claws longer than back claws; shorter tail in proportion to body length compared to Philippine, Sunda, Black Bellied and White Bellied tree pangolins; partially prehensile tail.



ANSAR KHAN / LIFE LINE FOR NATURE SOCIETY

### **Indian Pangolin (*Manis crassicaudata*)**

Largest scales of all Asian pangolin species; front claws longer than back claws; thickest tail of all Asian pangolin species; shorter tail in proportion to body length compared to Philippine, Sunda, Black Bellied and White Bellied tree pangolins; partially prehensile tail.



## SPECIES SUMMARIES: ASIAN PANGOLINS



DEXTER ALVARADO / KATALA FOUNDATION

### Philippine Pangolin (*Manis culionensis*)

Shorter head length (neck to snout) than Sunda pangolin; more scale rows than all other species; smaller scales than other three Asian species, Ground pangolin and Giant Ground pangolin; front and back claws similar in size and shape; fully prehensile tail.



MICHAEL PITTS / NATUREPL / NATURE IN STOCK

### Sunda Pangolin (*Manis javanica*)

Longer head length (neck to snout) than Chinese and Philippine pangolin; fewer scale rows than Philippine pangolin, more scale rows than Indian pangolin; front and back claws similar in size and shape; fully prehensile tail.

## SPECIES SUMMARIES: AFRICAN PANGOLINS



ROD CASSIDY / SANGHA LODGE

### **Black Bellied Tree Pangolin** (*Phataginus tetradactyla*)

The only pangolin species with black skin; front and back claws similar in size and shape; longest tail of all pangolin species; tail can be twice as long as body; fully prehensile tail.



UGANDA WILDLIFE AUTHORITY / UGANDA CONSERVATION FOUNDATION / COURTESY OF RAY JANSEN

### **Giant Ground Pangolin** (*Smutsia gigantea*)

Largest of all eight pangolin species; snout is noticeably long; claws on front feet, toenails on hind feet; partially prehensile tail.

## SPECIES SUMMARIES: AFRICAN PANGOLINS



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### **Ground Pangolin (*Smutsia temminckii*)**

Second largest of all pangolin species; claws on front feet, toenails on hind feet; partially prehensile tail.



ROD CASSIDY / SANGHA LODGE

### **White Bellied Tree Pangolin (*Phataginus tricuspis*)**

Distinct three-pointed scales; front and back claws similar in size and shape; longer tail than all other pangolin species, except Black Bellied; fully prehensile tail.

## HEADS AND PROFILES: ASIAN PANGOLIN SPECIES



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### **Chinese Pangolin**

Well-developed external ear; scales gradually increase in size behind ears; skin is much lighter color than scales; shorter head length (neck to snout) than Sunda pangolin.



FRANCOIS SAVIGNY / NATUREPL / NATURE IN STOCK

### **Indian Pangolin**

Well-developed external ear; numerous small scales on snout abruptly increase in size behind ears; skin is slightly lighter color than scales.



ROGER DOLOROSA / KATALA FOUNDATION

### **Philippine Pangolin**

Well-developed external ear; scales remain fairly uniform in size behind ears; skin is lighter color than scales; shorter head length (neck to snout) than Sunda pangolin.



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### **Sunda Pangolin**

Well-developed external ear; scales gradually increase in size behind ears; scales behind ears slightly keeled; skin is lighter color than scales; longer head (neck to snout) than Chinese and Philippine pangolins.

## HEADS AND PROFILES: AFRICAN PANGOLIN SPECIES

### **Black Bellied Tree Pangolin**

Prominent ridge below ear opening; scales gradually increase in size behind ears; skin is much darker color than scales.



ROD CASSIDY / SANGHA LODGE

### **Giant Ground Pangolin**

Fairly prominent ears; scales gradually increase in size behind the ears; larger number of smaller scales on snout compared to Ground pangolin; noticeably long snout; skin is similar color to scales.



UGANDA WILDLIFE AUTHORITY / COURTESY OF RAY JANSEN

### **Ground Pangolin**

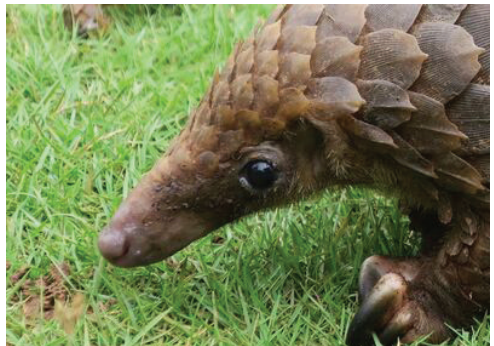
Prominent ridge below ear opening; scales begin gradually increasing in size on snout and behind ears; skin is similar color to scales.



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### **White Bellied Tree Pangolin**

Prominent ridge below ear opening; scales gradually increase in size behind ears; large eyes; scales distinctly keeled and pointed; skin is lighter color than scales.



MAXWELL BOAKYE / COURTESY OF RAY JANSEN

## SCALE DISTRIBUTION: ASIAN PANGOLIN SPECIES



MICHAEL PITTS / NATUREPL / NATURE IN STOCK

### **Chinese Pangolin**

Bristles between scales; median row of 32-33 scales on head and body; cross row of 15-18 scales on body; head and body length is 45 - 60 cm.



MANDAL RANJIT / FLPA / NATURE IN STOCK

### **Indian Pangolin**

Bristles between scales; median row of 27 scales on head and body; cross row of 11 - 13 scales on body; head and body length is 60 - 65 cm; largest scales of Asian species.



SABINE SCHOPPE / KATALA FOUNDATION

### **Philippine Pangolin**

Bristles between scales; median row of 28 - 32 scales on head and body; cross row of 19 - 21 scales; head and body length is 47 - 63 cm; most scale rows of Asian species.



SUZI ESTERHAS / MINDEN PICTURES / NATURE IN STOCK

### **Sunda Pangolin**

Bristles between scales; median row of 28 - 32 scales on head and body; cross row of 15 - 19 scales on body; head and body length is 40 - 65 cm; scales on flanks may have slight median keel.

# SCALE DISTRIBUTION: AFRICAN PANGOLIN SPECIES

## Black Bellied Tree Pangolin

No bristles between scales; median row of 21 - 25 scales on head and body; cross row of 13 scales on body; head and body length is 30 - 35 cm.



ROD CASSIDY / SANGHA LODGE

## Giant Ground Pangolin

No bristles between scales; median row of 25 scales on head and body; cross row of 17 scales on body; scales on flanks may have slight median keel; head and body length is 75 - 80 cm; largest scales of all species.



UGANDA WILDLIFE AUTHORITY /  
UGANDA CONSERVATION FOUNDATION /  
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## Ground Pangolin

No bristles between scales; median row of 22 - 26 scales on head and body; cross row of 11 - 13 scales on body; scales on lower parts of fore and hind legs; head and body length is 34 - 61 cm, however, individuals of 80 cm have been reported; scales on flanks may have slight median keel.



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TIKKI HYWOOD FOUNDATION

## White Bellied Tree Pangolin

No bristles between scales; median row of 22-30 scales on head and body; cross row of 21-25 scales on body; head and body length is 30 - 52 cm; scales on flanks and limbs have median keel; distinct three-pointed scales.



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## FEET: ASIAN PANGOLIN SPECIES



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### **Chinese Pangolin**

Claws on front feet much larger than on hind feet; interior of front and hind legs unscaled, scales on lower parts of fore and hind legs; scales extend to toes.



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### **Indian Pangolin**

Claws on front feet much larger than on hind feet; interior of front and hind legs unscaled, scales on lower parts of fore and hind legs; scales extend to toes.



SABINE SCHOPPE / KATALA FOUNDATION

### **Philippine Pangolin**

Claws on front feet somewhat larger than hind feet; interior of front and hind legs unscaled; interior of front and hind legs unscaled, scales on lower parts of fore and hind legs; scales extend to toes; scales of hind legs may have slight median keel.



MICHAEL PITTS / NATUREPL / NATURE IN STOCK

### **Sunda Pangolin**

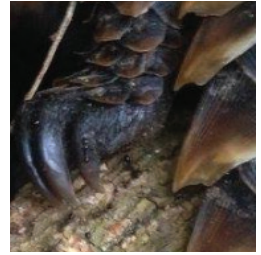
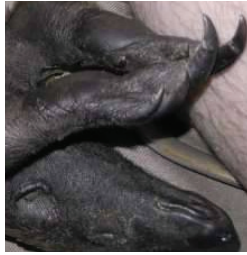
Claws on front feet somewhat larger than hind feet; interior of front and hind legs unscaled; interior of front and hind legs unscaled, scales on lower parts of fore and hind legs; scales extend to toes; scales of hind legs may have slight median keel.



## FEET: AFRICAN PANGOLIN SPECIES

### Black Bellied Tree Pangolin

Claws on front feet somewhat larger than hind feet; interior of front and hind legs unscaled; scales extend to toes; scales of hind legs may have slight median keel, lower parts of front legs hairy and unscaled.



ROD CASSIDY / SANGHA LODGE

### Giant Ground Pangolin

Claws on front feet are much larger than toenails on hind feet; interior of front and hind legs unscaled, scales on lower parts of fore and hind legs; scales extend to toes; hind feet are large compared to front feet, with toenails rather than claws.



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### Ground Pangolin

Claws on front feet are much larger than toenails on hind feet; interior of front and hind legs unscaled, scales on lower parts of fore and hind legs; scales extend to toes; hind feet are large compared to front feet, with toenails rather than claws.



RAY JANSEN / AFRICAN PANGOLIN WORKING GROUP

### White Bellied Tree Pangolin

Claws on front feet somewhat larger than hind feet; interior of front and hind legs unscaled; scales extend to toes; scales of hind legs may have slight median keel, lower parts of front legs hairy and unscaled.



ROD CASSIDY / SANGHA LODGE

## TAILS: ASIAN PANGOLIN SPECIES



MICHAEL PITTS / NATUREPL / NATURE IN STOCK

### Chinese Pangolin

Tail length is 25 - 40 cm; 16 - 19 scales along edge of tail; partially prehensile tail; thicker and shorter tail than Sunda and Philippine pangolin.



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### Indian Pangolin

Tail length is 40 - 45 cm; 14 - 15 scales along edge of tail; partially prehensile tail; thickest tail of all Asian pangolin species.



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### Philippine Pangolin

Tail length is 35 - 52 cm; 28 - 32 scales along edge of tail; fully prehensile tail; longest tail in proportion to its body of Asian species; most slender tail of Asian pangolin species.



MICHAEL PITTS / NATUREPL / NATURE IN STOCK

### Sunda Pangolin

Tail length is 35 - 57 cm; 21 - 29 scales along edge of tail; fully prehensile tail; more slender tail than Chinese and Indian pangolins.

## TAILS: AFRICAN PANGOLIN SPECIES

### **Black Bellied Tree Pangolin**

Tail length is 50 – 60 cm; 42 - 44 scales along edge of tail; fully prehensile tail; unscaled pad at tail tip; longest tail of all pangolin species.



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### **Giant Ground Pangolin**

Tail length is 50 - 65 cm; 15 - 19 scales along edge of tail; partially prehensile tail.



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### **Ground Pangolin**

Tail length is 31 - 50 cm; 11 - 13 scales along edge of tail; partially prehensile tail.



DARREN PIETERSEN / COURTESY OF RAY JANSEN /  
AFRICAN PANGOLIN WORKING GROUP

### **White Belled Tree Pangolin**

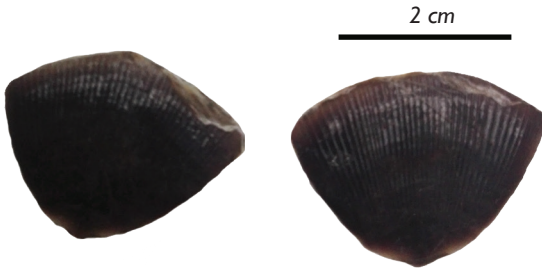
Tail length is 30 - 52 cm; 34 - 37 scales along edge of tail; fully prehensile tail; unscaled pad at tail tip; longest tail of all pangolin species in proportion to body, except Black Bellied Tree Pangolin.



ROD CASSIDY / SANGHA LODGE

## SCALE SAMPLES

**Black Bellied Tree Pangolin**  
*Phataginus tetradactyla*



RAY JANSEN / AFRICAN PANGOLIN WORKING GROUP

**White Bellied Tree Pangolin**  
*Phataginus tricuspis*



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## SCALE SAMPLES

Giant Ground Pangolin  
*Smutsia gigantea*

2 cm



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## SCALE SAMPLES

Ground Pangolin  
*Smutsia temminckii*

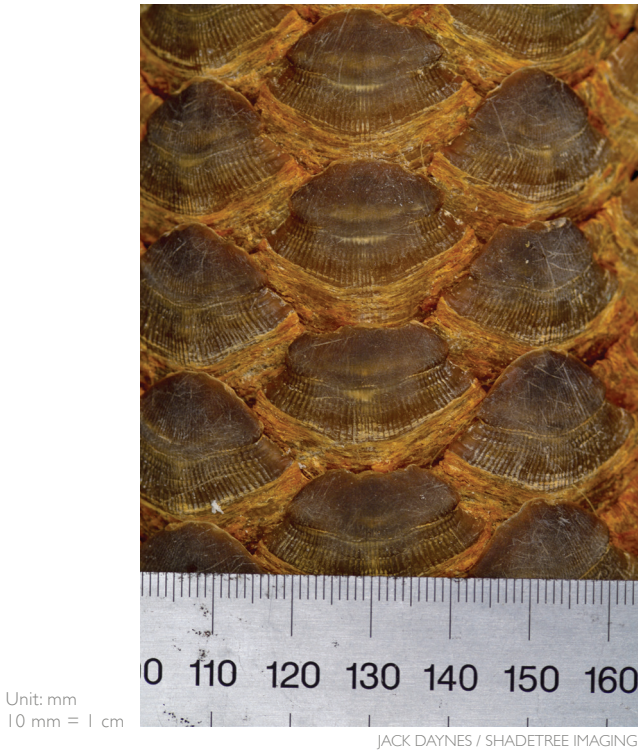
2 cm



RAY JANSEN / AFRICAN PANGOLIN WORKING GROUP

## SCALE SAMPLES

Sunda Pangolin  
*Manis javanica*



Philippine Pangolin  
*Manis culionensis*



## SKINS

Sunda Pangolin  
*Manis javanica*



JACK DAYNES / SHADETREE IMAGING



## SKINS

White Bellied Tree Pangolin  
*Phataginus tricuspis*



JACK DAYNES / SHADETREE IMAGING



ALEX HOFFORD / ALEX HOFFORD PHOTOGRAPHY



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## PANGOLIN PRODUCTS:ASIA



COURTESY OF E. JOHN / TRAFFIC



COURTESY OF E. JOHN / TRAFFIC

## PANGOLIN PRODUCTS:AFRICA



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COURTESY OF OFIR DRORI / ERCN / EAGLE NETWORK

## PANGOLIN PRODUCTS: AFRICA



COURTESY OF OFIR DRORI / ERCN / EAGLE NETWORK



COURTESY OF OFIR DRORI / ERCN / EAGLE NETWORK

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