

July 2014

SCALING UP PANGOLIN CONSERVATION



IUCN SSC Pangolin Specialist Group Conservation Action Plan

Compiled by Daniel W. S. Challender, Carly Waterman and Jonathan E. M. Baillie



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Temminck's ground pangolin © Scott & Judy Hurd

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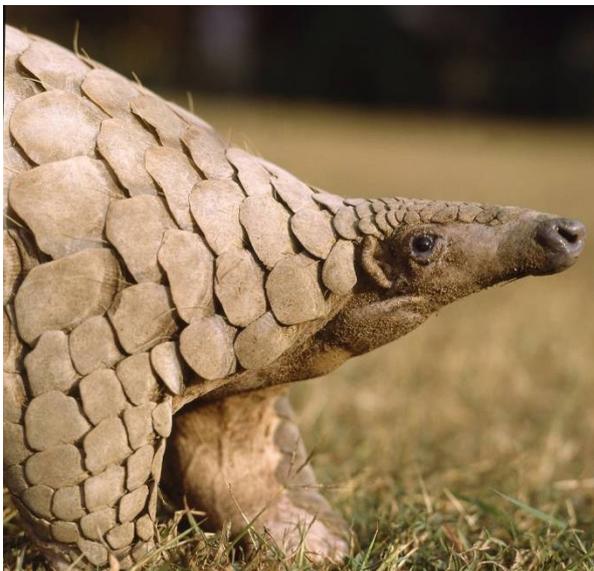


Pangolin, by Naomi Kato

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Indian Pangolin © Gerald Cubitt



Introduction

Pangolins, or scaly anteaters, are unique in being the world's only truly scaly mammals, but are in dire need of urgent conservation action.

Occurring in Africa and Asia, pangolins have been exploited locally for food and traditional medicines through history. This continues today, despite protective measures in most countries in which they occur.

The main threat to pangolins today, both in Asia and increasingly in Africa, is hunting and poaching for illegal international trade. This typically involves live pangolins, and their meat and scales, which are primarily destined to East Asia, most conspicuously China and Vietnam.

Such is the scale of this trade that in the last decade alone it is believed that more than one million pangolins have been taken from the wild. As a result, pangolin populations in Asia are in precipitous decline, and they have been extirpated from vast areas. Worryingly, inter-continental trade in African pangolin parts to Asian markets is now taking place.

Pangolins have been subject to very little conservation or natural history research, and consequently, little is known about their biology, ecology, and conservation needs. It was in response to this predicament that the IUCN SSC Pangolin Specialist Group was re-formed in February 2012. The group comprises over 70 members from around the world, and includes representation from a diverse range of disciplines.



**The mission of the IUCN SSC
Pangolin Specialist Group is:**

to be a global voice for pangolins by working to advance knowledge and understanding of pangolins worldwide, their conservation, natural history and ecology and to catalyze action to meet these needs ”

As one of a number of initiatives undertaken since the group's re-establishment, and in conjunction with Wildlife Reserves Singapore, the first IUCN SSC Pangolin Specialist Group Conservation Conference was held in Singapore between 24th and 27th June 2013. The four day event, 'Scaling up pangolin conservation' comprised the first ever global meeting of pangolin researchers and conservation practitioners, and brought together over 40 Pangolin Specialist Group members and non-members from 14 different countries. It consisted of plenary presentation sessions on the threats to pangolins, research on their ecology and survey techniques, and conservation breeding. A number of workshops were also held to revise the status of all pangolins for the IUCN Red List of Threatened Species™, and to inform key actions necessary to conserve pangolins.

This conservation action plan is the output of the meeting, and the actions represent those considered critical by the IUCN SSC Pangolin Specialist Group, and which urgently require implementation.

Pangolin summary

There are eight extant species of pangolin, all of which reside in one taxonomic Family, the Manidae, and one Order, Pholidota.

Of the eight species of pangolin, four are found in Asia, the Chinese pangolin (*Manis pentadactyla*), Indian pangolin (*M. crassicaudata*), Sunda pangolin (*M. javanica*), and the Philippine pangolin (*M. culionensis*). Together their range extends from Pakistan eastward through southern China, south from the Himalayas in Nepal and throughout the Indian sub-continent including Sri Lanka, as well much of mainland and island Southeast Asia, including the Palawan faunal region in the Philippines.



Temminck's ground pangolin, © Darren Pietersen/African Pangolin Working Group

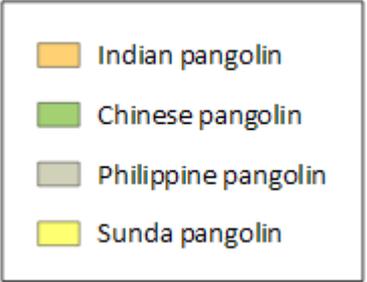
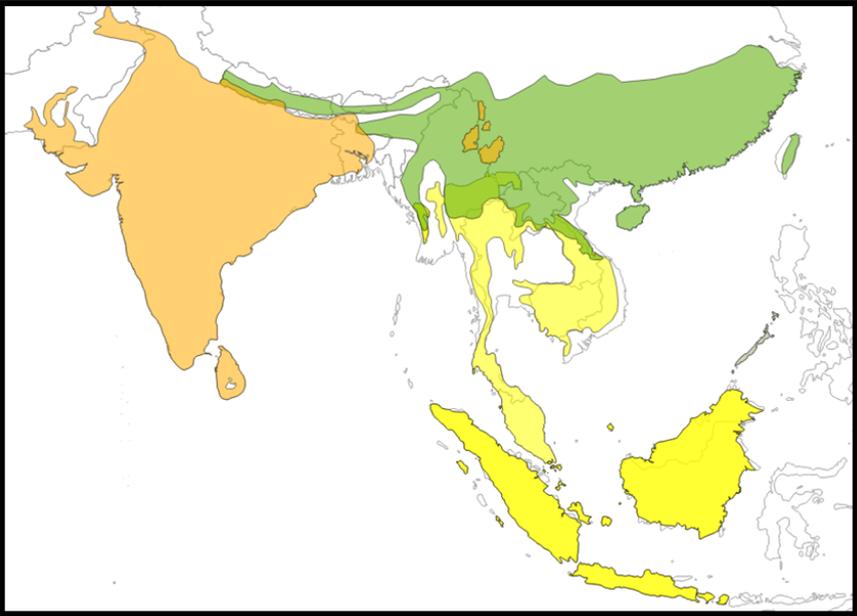
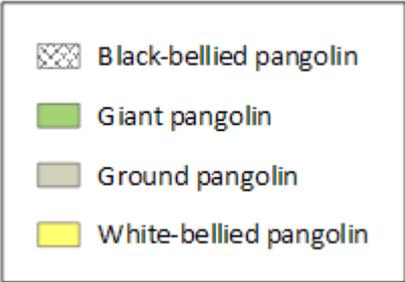
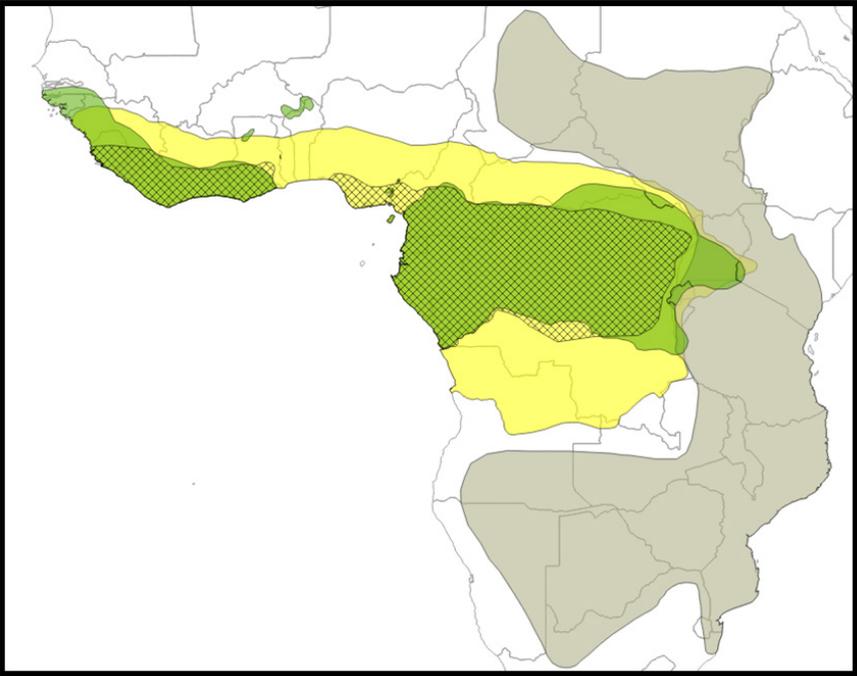
Four species also occur in sub-Saharan Africa, the Temminck's ground pangolin (*Smutsia temminckii*), giant ground pangolin (*S. gigantea*), white-bellied pangolin (*Phataginus tricuspis*) and black-bellied pangolin (*Uromanis tetradactyla*). Collectively they are distributed throughout west and central Africa, as well as parts of East Africa, and Southern Africa, as far as south as South Africa.

Pangolins occupy a diverse range of habitats from tropical and sub-tropical forests, dry woodland and savannah regions, as well artificial and modified habitats such as oil palm and rubber plantations. They are also predominantly nocturnal though have been known to be active diurnally, and they are characteristically elusive, which is one of the reasons they remain understudied.

Pangolins are also insectivorous, predated on ants and termites, and exhibit a number of anatomical adaptations to this specialised diet. These include a conical shaped head, strong claws for breaking apart ant nests and termite mounds, small eyes and thick eyelids, and a long, sticky tongue for consuming their prey, and they therefore play an important role in ecosystems by regulating social insect populations.

All pangolins share a similar morphology, and they are unique among mammals by way of being covered in individual, overlapping scales comprised of keratin. However, the Asian species can be differentiated from the African species by the presence of hair between the scales. The different species can also be distinguished by other morphological differences including their size and weight, which ranges from 2-35kg, the number of rows of scales they possess, the size and shape of scales, the presence of a tail pad used in climbing among the arboreal species, and differences in lifestyle, which range from strictly arboreal to mainly ground dwelling.

Pangolin distribution



Species

Sunda pangolin (*Manis javanica*)

IUCN Red List status: Critically Endangered (A2d+3d+4d)



Chinese pangolin (*Manis pentadactyla*)

IUCN Red List status: Critically Endangered (A2d+3d+4d)



Indian pangolin (*Manis crassicaudata*)

IUCN Red List status: Endangered (A3d+4d)



Philippine pangolin (*Manis culionensis*)

IUCN Red List status: Endangered (A2d+3d+4d)



Black-bellied pangolin (*Uromanis tetradactyla*)

IUCN Red List status: Vulnerable (A4d)



White-bellied pangolin (*Phataginus tricuspis*)

IUCN Red List status: Vulnerable (A4d)



Temminck's ground pangolin (*Smutsia temminckii*)

IUCN Red List status: Vulnerable (A4d)



Giant ground pangolin (*Smutsia gigantea*)

IUCN Red List status: Vulnerable (A4d)



Threats

The primary threat to pangolins in Asia, and increasingly in Africa, is illegal hunting and poaching for illicit international trade, which is largely driven by market demand in East Asia.

This trade involves live animals and pangolin meat, which is considered to be a luxury product in consumer markets in Asia, most conspicuously China and Vietnam. Pangolin scales are also traded heavily here; they are used as an ingredient in traditional Asian medicines to treat a range of ailments. Both meat and scales are seized in trade by the tonne.

This trade occurs despite pangolins being protected species in most countries in which they occur, and despite being listed in Appendix II of CITES, the Convention on International Trade in Endangered Species of Wild Fauna and Flora. It also occurs despite the Parties to CITES establishing zero export quotas for wild-caught Asian pangolins traded for commercial purposes in the year 2000 (CoP11), which effectively means this trade is banned.



Pangolin scales (circled) for sale among other wildlife in Vietnam
© Dan Challender



Pangolin on a menu in Vietnam © Dan Challender

Driving this illegal trade is on-going and seemingly increasing demand for pangolin meat and scales, which has been catalysed by increasing wealth and affluence in East and Southeast Asia. The trade has now reached epic proportions, with over one million pangolins believed to have been traded illegally in the last decade, leading pangolins to be given the unfortunate label of being the most heavily trafficked wild mammal in the world.

Although little is known about pangolin populations generally, evidence suggests populations in China are potentially commercially extinct. Consumers in China have, since the mid-1990s, been driving regional trade in pangolins and their body parts, most notably from Southeast Asia, but also South Asia, and increasingly today, from Africa as well.



Fried pangolin scales for sale in Asia © Dan Challenger

Although African pangolins do not have zero export quotas established in CITES, they are also subject to increasing levels of unrecorded, and therefore illicit international trade.



Pangolins as bush meat among other species in Africa.
© African Pangolin Working Group

In many range countries in Africa pangolins continue to be hunted and poached locally as a source of food, and their scales are in demand for use in traditional African bush medicine, known as 'muti' or 'juju', among other traditional and ritualistic uses.

However, in the last few years, a particularly alarming trend is the development of a tangible inter-continental commercial scale trade in pangolin parts, mainly scales, from African countries to Asian markets, and which has involved all four species of African pangolin.

In Southern Africa, the Temminck's ground pangolin is also threatened by land management practices such as the installation of electric fences, which are responsible for a significant number of fatalities each year.

Action plan

The adjacent activities require funding. Progress on the actions and funding obtained for the specific actions will be updated on a regular basis on the IUCN SSC Pangolin Specialist Group website (www.pangolinsg.org).

Action	Rationale	Country/region	Priority 1-4 (where 1 is highest)	Cost (GBP)	To start	Timescale	Responsible stakeholders
CONSERVATION RESEARCH							
Monitoring							
Develop protocols for monitoring pangolin abundance	Protocols need to be developed for pangolins and subsets of species to gain information about populations, and where to focus conservation efforts	All range states	1	90,000	2014	24 months	Pangolin SG, Postdoctoral researchers.
Create interactive online seizure database	This information will help to define the extent of the trade and potential trade dynamics	All range countries	1	30,000	2015	8 months	Pangolin SG, NGOs
Develop pangolin price index	To track the retail price of pangolins in range states and in key demand countries	Key range and demand countries	2	25,000 pa	2015	On-going	Pangolin SG, NGOs, researchers
Develop pangolin consumption index	Surveys in Asian and African end use markets to understand demand demographics and attitudes, and to inform the development of demand reduction strategies	Asia (China and Vietnam) and Africa	1	400,000	2015	10 years (5 replicates)	Pangolin SG, Local research consultants.
Conservation Breeding							
Develop protocols for conservation breeding of pangolins	To ensure best practice is followed in conservation breeding	Asia and Africa	4	80,000	2015	5 years	Existing conservation centres
Develop rehabilitation and reintroduction protocols	To ensure best practice is followed in rehabilitation and reintroduction	Asia and Africa	3	10,000	2014	6 months	Existing conservation centres
Behaviour and Ecology							
Define habitat suitability for all eight species	This is important for niche modelling to help identify sites where the species may be present and to identify potential reintroduction sites	All range countries	4	45,000	2015	12 months	Postdoctoral researcher
Understand home range, movement, and distribution of pangolins through time, and population dynamics	Understanding pangolin ecology will allow us to better understand their conservation needs.	All range countries	3	300,000	2016	4 years	Pangolin SG, Postdoctoral researchers, PhD students, NGOs

Continued overleaf

Action	Rationale	Country/region	Priority 1-4 (where 1 is highest)	Cost (GBP)	To start	Timescale	Responsible stakeholders
Genetics							
DNA analysis to identify population genetic variation within and between species	When seizures occur it is important to understand where source populations come from to piece together trade dynamics	All range states	2	50,000	2014	4 years	African pangolin working group, Other specialist partners.
Identify spatial and phylogenetic variation of all pangolin species to distinguish species, sub-species and significant evolutionary units.	This information is needed to better target conservation efforts aiming to conserve genetic diversity	All range states	4	100,000	2015	4 years	African pangolin working group, Other specialist partners.

Action	Rationale	Country/region	Priority 1-4 (where 1 is highest)	Cost (GBP)	To start	Timescale	Responsible stakeholders
PANGOLIN STRONGHOLDS							
Identify pangolin strongholds, starting with priority countries	To set national-level conservation priorities. Ultimately these will be aggregated to the global scale	All range states	1	20,000 per country	2015	18 months (per country)	Pangolin SG, NGOs, MSc/PhD students
Implement or support patrol-based monitoring at sites with high pangolin densities	To safeguard known healthy populations of pangolins	All range states	1	40,000 per site to get up and running	2015	Ongoing	Pangolin SG, United for Wildlife, Government agencies
Undertake education and outreach with local communities within or near pangolin strongholds	To engender local community support for pangolin conservation	All range states	2	10,000 per site	2015	3 years	Pangolin SG, Local NGOs
Pilot livelihood interventions	To ensure that local people have alternatives to poaching pangolins	All range states	2	50,000 per site (4 in total)	2016	4 years	Local and other NGOs

Continued overleaf

Action	Rationale	Country/region	Priority 1-4 (where 1 is highest)	Cost (GBP)	To start	Timescale	Responsible stakeholders
POLICY RECOMMENDATIONS							
CITES							
Representation of Pangolin SG at CITES CoPs and other intercessional meetings	To inform national and international policy on the conservation of and trade in pangolins directly.	All range states	1	5,000	2014	On-going	Pangolin SG
Liaison with CITES Parties, and other researchers on the sustainability of exploitation	To help build the evidence base on the impact of trade on populations, and to inform appropriate policy decisions	All range states	1	2,000	2014	3 years	Pangolin SG
Liaison with appropriate stakeholders to review potential CoP proposals	To critically evaluate, and provide expertise on such proposals through appropriate channels	All range states	1	2,000	2014	3 years	Pangolin SG
Legislation							
Review gaps in current legislation protecting pangolins and identify alternatives	Understanding gaps will enable us to target our efforts to amend legislation for pangolin conservation	All range states	2	40,000	2015	12 months	Legal firm
Encourage greater transparency surrounding stockpiles and disposal of seized pangolins and pangolin products in China and Vietnam	To understand the supply of pangolin scales to current markets, given reported stockpiles exist. An open and transparent review of stockpiles would explicate current supply, enabling further actions to be taken	China and Vietnam	1	50,000	2015	2 years	Pangolin SG working with CITES and relevant government agencies
Enforcement							
Provide training and materials for enforcement officials in Asia, Africa, Europe and US, to increase awareness and capacity for enforcement	To increase awareness of law and trade dynamics and increase ability to enforce pangolin legislation	All range states plus Europe and US	1	200,000	2015	2 years	Pangolin SG, NGOs

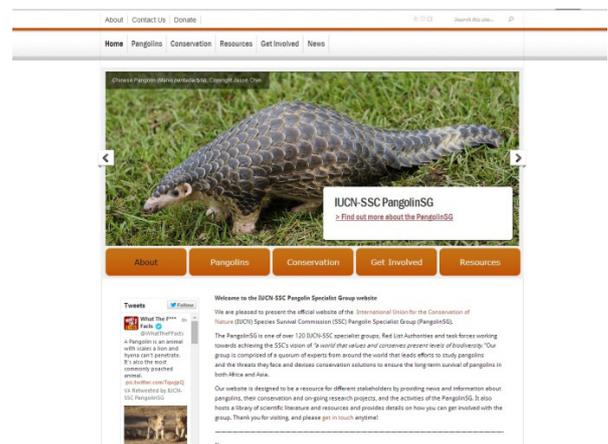
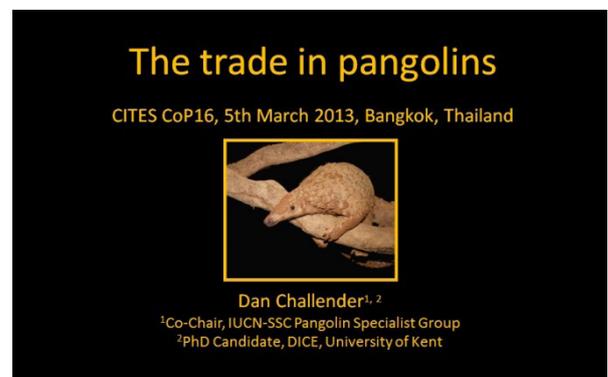
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Action	Rationale	Country/region	Priority 1-4 (where 1 is highest)	Cost (GBP)	To start	Timescale	Responsible stakeholders
DEMAND REDUCTION, BEHAVIOUR CHANGE AND AWARENESS RAISING							
Reducing demand for meat and scales							
Develop and implement demand reduction strategy for pangolin meat and scales	Implementing a demand reduction strategy is the single most important activity to address the decline in pangolins	China and Vietnam	1	2,000,000	2015	4 years	Pangolin SG, Appointed consultants
Raising the profile of pangolins globally							
Launch digital media and awareness raising campaign to raise the profile of pangolins globally	A digital strategy including video, photos, gaming and social media is essential for getting public, government and donor buy-in to pangolin conservation	Global (especially China and Vietnam)	1	1,000,000	2016	2 years	Digital media expert to lead campaign
Engage the arts community to promote the plight of pangolins	The arts community will reach a broad and new audience, many of which have resources and connections that could aid pangolin conservation	Global	1	50,000	2015	On-going	Pangolin SG
Engage the major foundations in pangolin conservation	To free up funding for pangolin conservation foundations need to be aware that pangolins are the most illegally traded wild mammals on the planet	Global	1	2,000	2014	On-going	Pangolin SG
Engage opinion formers (especially in China and Vietnam)	If harnessed, opinion formers can rapidly change behaviour	China and Vietnam	1	20,000	2014	On-going	Pangolin SG

IUCN SSC Pangolin Specialist Group successes

IUCN SSC Pangolin Specialist Group successes to date include:

- Organising the 1st IUCN SSC Pangolin Specialist Group Conservation Conference in 2013, the first ever global conference on pangolin conservation.
- Revising the conservation status of each species for the IUCN Red List of Threatened Species.
- Working with the Royal Foundation to include pangolins in the United for Wildlife Initiative.
- Supporting two ZSL EDGE fellows to research and raise awareness of pangolins in Nepal and Vietnam respectively.
- Attendance at CITES CoP16, and CITES SC65, including making an intervention on pangolin trade at both meetings, and holding a side event on pangolin trade dynamics at CoP16.
- The launch of the IUCN SSC Pangolin SG website: www.pangolinsg.org and associated social media platforms (Facebook and Twitter).
- Securing funding of USD 10,000 for a pangolin trade survey on Palawan, the Philippines.
- Raising awareness of threats to pangolins through journal publications.
- Holding a public seminar on pangolin conservation in Singapore in summer 2013.
- Development of a captive care resource document.



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Emanating from the 1st IUCN SSC Pangolin Specialist Conservation Conference

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