

**TRAFFIC**

**FACTSHEET**

February 2023

# PANGOLIN

**INDIA'S PANGOLINS BURIED IN ILLEGAL  
WILDLIFE TRADE**



Pangolins, commonly referred to as scaly anteaters, are reported to be among the most trafficked wild mammals globally.

In India, TRAFFIC has found over 1000 pangolins in the illegal wildlife trade from 2018–2022. Over 880 kg of pangolin derivatives and 199 live pangolins were reported in 342 seizure incidents in the five years.

Pangolins are poached mainly for international markets in China and Southeast Asia (Xu, *et al.*, 2016; Challender, *et al.*, 2020). In India, they are netted, trapped or snared mostly for their scales used as an ingredient in traditional medicines, believed to cure various ailments, and for their meat consumed as a delicacy and for its alleged medicinal properties (Choudhary, *et al.*, 2018).

# INTRODUCTION

Pangolins belong to the family Manidae and in India, they are the only known mammals with large keratin scales covering their skin. They are toothless and nocturnal, live in burrows and feed mainly on ants and termites.

Globally there are eight pangolin species, four each in Africa and Asia. India is home to two species - Indian Pangolin *Manis crassicaudata* and Chinese Pangolin *Manis pentadactyla*.

**India has two pangolin species -**  
Indian Pangolin and Chinese Pangolin

# DISTRIBUTION



The **Indian Pangolin** is found in Bangladesh, India, Nepal, Pakistan, and Sri Lanka (Figure 1). In India, the species is widely distributed and has been recorded in Andhra Pradesh, Assam, Bihar, Chhattisgarh, Goa, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, and West Bengal (Mahmood, *et al.*, 2019).

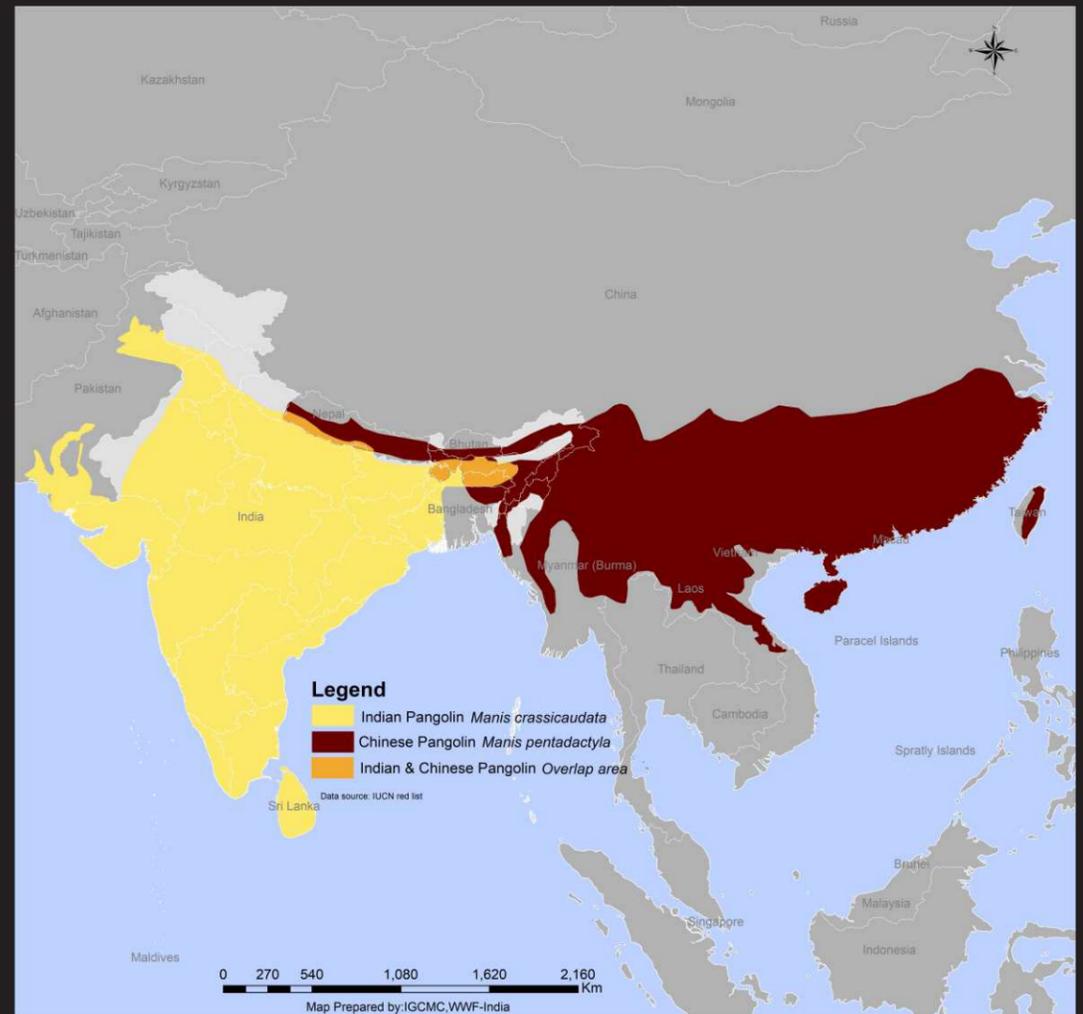


The **Chinese Pangolin** is found in Bangladesh, Bhutan, China, Hong Kong SAR, India, Lao People's Democratic Republic, Myanmar, Nepal, Taiwan, the Province of China, Thailand, and Viet Nam (Challender, D., *et al.*, 2019) (Figure 1). In India, the species is reported from Arunachal Pradesh, Assam, Bihar, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, and West Bengal (Challender, D., *et al.*, 2019). The range of Chinese Pangolin overlaps with the Indian Pangolin in Bihar, West Bengal, and Assam (Challender, *et al.*, 2019) in India.



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**FIGURE 1:**  
Distribution of Indian Pangolin and Chinese Pangolin (Source: IUCN Red List)



# ECOLOGICAL ROLE

Pangolins act as both predators and prey. They feed on insects and help regulate their population. They are also preyed upon by animals, including but not limited to the *Panthera* species (Chao, *et al.*, 2020).

Pangolins are also ecosystem engineers that build burrows that help circulate soil organic matter, increase soil moisture and aeration and affect plant community

succession through their burying behaviour (Chao, *et al.*, 2020). The burrows made by pangolins also get utilised as shelters by other species within their ecosystem. Over 30 species have been reported to use the burrows made by Chinese Pangolin, including mammals, birds, reptiles and invertebrates, for different purposes (Sun, *et al.*, 2021).

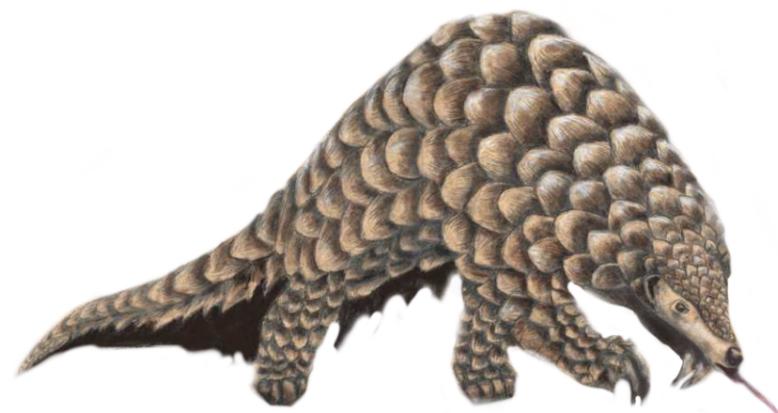
# PROTECTION STATUS

	WILDLIFE (PROTECTION) ACT, 1972 OF INDIA	CITES (CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA)
Indian Pangolin	Schedule I	Appendix I
Chinese Pangolin	Schedule I	Appendix I

In India, both the Indian Pangolin and Chinese Pangolin are listed in Schedule I of the Wildlife (Protection) Act, 1972. Therefore hunting, trade or any other form of utilisation of the species or their body parts and derivatives is banned.

Since 2017, all pangolin species have been listed in Appendix I of the CITES, prohibiting their commercial trade.

**Indian Pangolin has been assessed as 'Endangered' and the Chinese Pangolin as 'Critically Endangered' by the IUCN Red list.**



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# THREATS

Pangolins are reported to be the "most trafficked wild mammal in the world" (Gaubert, *et al.*, 2018) threatened by indiscriminate hunting and poaching for

local and international use. Habitat loss also impacts the species significantly (Zhang *et al.*, 2022).

## THREAT FROM ILLEGAL WILDLIFE TRADE

India reports a significant number of trafficking incidents of pangolins reflected by seizures across the country, along with instances of local hunting of the species (Mohapatra, *et al.*, 2015; D'Cruze, *et al.*, 2018). There have been reported trafficking of pangolin derivatives from India to China via routes including Myanmar (Zhang, *et al.*, 2017; Kumar, *et al.*, 2020), and Nepal (Paudel, *et al.*, 2020).

TRAFFIC's 2018 analysis of the illegal pangolin trade in India reported poaching of nearly 6,000 pangolins between 2009 and 2017 (Choudhary, *et al.*, 2018). A 2022 factsheet by TRAFFIC, "Asia's Unceasing Pangolin Demand" of pangolin seizures in Asia from 2015 to 2021 recorded the highest number of cases in India (287). However, neither the number of individuals nor the volume seized was among the top five. The Directorate of Revenue Intelligence (DRI) reported to have seized 336.9 kg of pangolin scales from 2019-2022 (WCCB, 2022).

To understand the scale of pangolin trafficking and trade, TRAFFIC analysed seizure data of pangolins and their derivatives in India available through open sources for 2018-2022. Data for the period 2018-2022 related to poaching and seizure incidents of pangolins were collated from open sources such as the government website (as in the case of Madhya Pradesh Forest Department), online news reports and social media. Relevant details related to date, location,

source, transit, destination and other in the reported seizure incidents were recorded, collated and analysed. The quantification of derivatives was made in line with the method used in the Choudhary, *et al.*, 2018, where the number of scales was converted to weight using the factor: 1 pangolin scale = 10 g (Mitra 1998). The reported seizure incidents in most cases had no clear species identification, hence all seizures were attributed to Indian Pangolin for the analysis. For determining the number of pangolins seized in the illegal wildlife trade, the conversion was based on the assumption that all scales originated from adult pangolins of the Indian Pangolin species (1 kg = one adult Indian Pangolin) (Challender and Waterman, 2017).

Therefore, the total number of pangolins in the illicit wildlife trade derived from the seizure data is a conservative estimate. The actual figure may be higher as some of the seizures could be related to Chinese Pangolins, for which the average weight of scales per animal is less than that of the Indian Pangolin (Zhou *et al.*, 2012) or the seizures can also contain juvenile or sub-adult pangolins of either species.

For the study, the reported seizure information was assumed to be correct, and the pangolin parts seized were considered genuine.

**Pangolin is reported to be the most trafficked wild mammal globally!**



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# OVERVIEW OF FINDINGS

**1203** pangolins have been found in illegal wildlife trade in India during 2018-2022

**342** incidents of pangolin seizures, representing an approximately 1025 numbers and 885 kg of pangolins and their derivatives

**24** states and one Union Territory (UT) of India reported seizures of pangolins and their derivatives

**50%** of seizure incidences included live pangolins

**40%** of seizure incidences included pangolin scales

**ODISHA** reported the maximum number of seizure incidents and the number of pangolins seized i.e. 154 pangolins in 74 seizures.

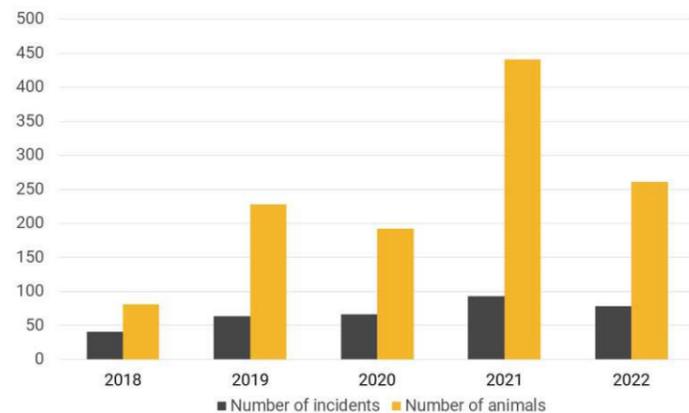


# FINDINGS

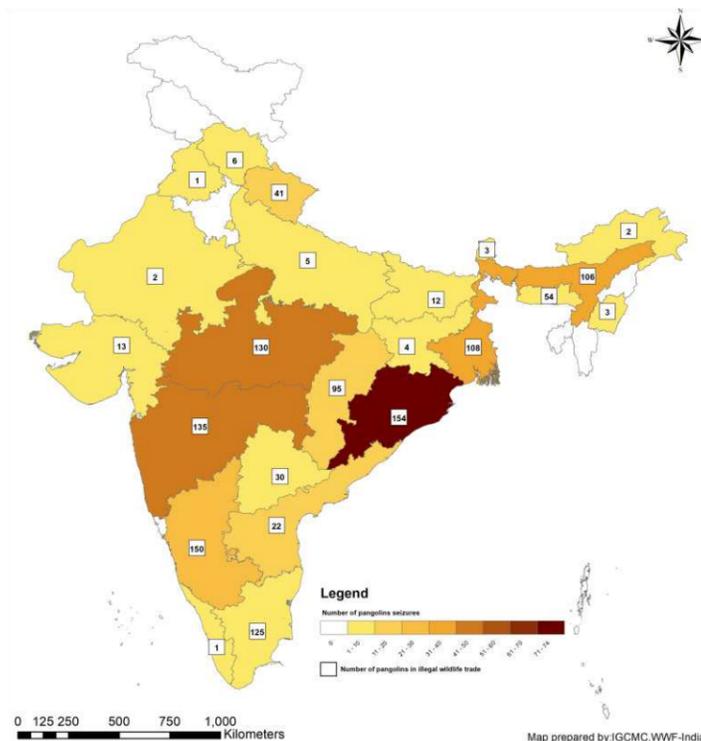
Findings from the analysis of pangolin seizure data available in the public domain of pangolins in India for 2018-2022 are:

- At least 1203 pangolins have been found in illegal wildlife trade in India during 2018-2022, according to the seizure of live pangolins and their derivatives in India.
- There were 342 incidents of pangolin seizures, representing an approximately 1025 numbers and 885 kg of pangolins and their derivatives (Figure 2).
- Twenty-four states and one Union Territory (UT) of India reported seizures of pangolins and their derivatives (Figure 3).

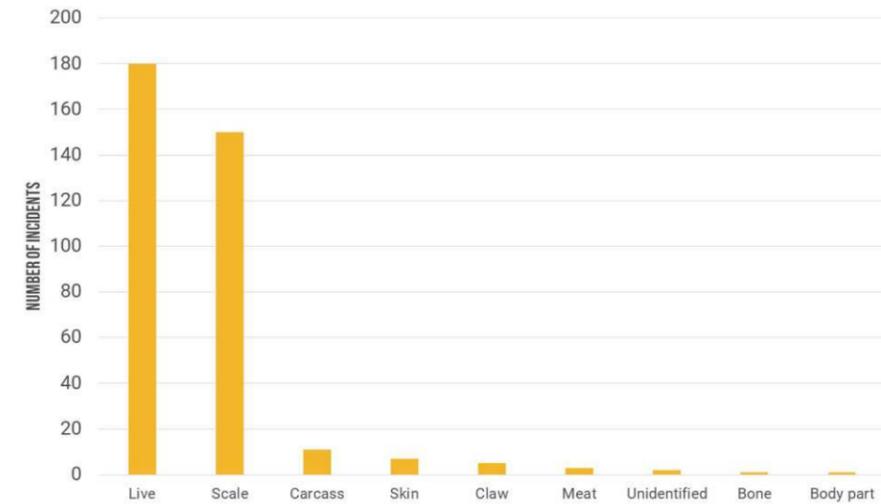
**FIGURE 2:**  
Year-wise seizure incidents and an equivalent number of pangolins poached



**FIGURE 3:**  
State-wise seizure incident of pangolins and their derivatives along with equivalent number of pangolins poached



**FIGURE 4:**  
Seizure incidents of pangolin derivatives in trade



- Odisha reported the maximum number of seizure incidents and the number of pangolins seized i.e. 154 pangolins in 74 seizures.
- Other seized derivatives included carcasses (15 animals from 11 seizures), pangolin skin with scales (29 animals from 7 seizures), claws, meat, bones and other body parts.
- Seizures reported during 2018-2022 included live pangolins and their derivatives such as scales, carcass, skins, claws, meat, bones and other body parts, (Figure 4).
- During the observed period, there were eight incidents where the seized pangolins and their derivatives were being traded online. Online trade of species is a serious concern, owing to the difficulty in monitoring cyberspaces and tracing the illicit trade and those involved in it.
- Live pangolins represented 50% of the seizure incidences and accounted for 199 animals. Most reported seizure incidents and the number of live pangolins were from Odisha (45 incidents and 50 pangolins), followed by Maharashtra (27 incidents and 32 pangolins).
- The Indian Pangolin and the Chinese Pangolin, like all other pangolin species, are both threatened by poaching and illegal trafficking of their derivatives to Asia (Mahmood, *et al.*, 2020; Wu, *et al.*, 2020). India is a source country for pangolin derivatives trafficked in illegal international trade (D'Cruze, *et al.*, 2018).
- Pangolin scales represented more than 40% of the reported seizures, accounting for 943 pangolins in the illegal wildlife trade during 2018-2022. Odisha reported the highest number of seizures of pangolin scales with 30 incidents, followed closely by 26 incidents in Madhya Pradesh. Pangolin scales equating to 129 pangolins were seized in Karnataka. This was followed by Tamil Nadu, with about 125 pangolins poached for trade of scales.



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# RECOMENDATIONS

## SPECIES IDENTIFICATION

1

The knowledge to identify and differentiate between Indian and Chinese Pangolins in trade can play a significant role in understanding the impact of illegal trade on a particular species. Advanced forensic techniques involving DNA-based identification can help understand the exploitation of pangolins in illegal wildlife trade at a species level and identify areas or regions from where they are sourced. This will help enforcement agencies to enhance measures to protect the species.

## ONLINE TRADE

2

The trade of pangolins is now being observed on social media and online platforms, which poses serious concerns. Online sites are clandestine spaces that allow for direct trading and money transfer among traffickers and buyers while making enforcement interventions difficult. There is a need to effectively monitor the trading of pangolins and other protected species online in effective collaboration between businesses and law enforcement actions.

## COOPERATION AND COLLABORATION

3

The trafficking of pangolins, like many protected species, spreads across borders. Institutionalising a mechanism which could use DNA-based technologies to gain further insight into the source, and sharing this information across the pangolin range states will go a long way in improving coordination and commitment to protect and conserve pangolins.

## CONSERVATION AND AWARENESS

4

It is important to undertake population studies of pangolins in India to understand the impact of threat from illegal wildlife trade on the species. There is also a need to increase awareness about pangolins in India, especially among local communities. On the other hand, it is essential to make wildlife consumers aware of the impact of the illegal trade of pangolins so they can make an informed choice.

# CONCLUSION

The number of incidents of pangolin seizure is a concern for the survival of this elusive species, for which there is limited information on population status and distribution. The illegal trade of pangolin is already impacting the species in its habitats around the globe, and similar threats impact the future of species in India. It is imperative to address the demand for the species in consumer countries, strengthen

enforcement actions for deterring the trade, and conduct scientific studies to evaluate the population status and distribution of the species. These steps would play an essential role in safeguarding the future of the species in the wild and preserving the significant ecological role they play in their habitat.

# REFERENCES

- Challender, D. and Waterman, C. 2017. Implementation of CITES Decisions 17.239 b) and 17.240 on Pangolins (*Manis* spp.).
- Challender, D., Wu, S., Kaspal, P., Khatiwada, A., Ghose, A., Ching-Min Sun, N., Mohapatra, R.K. and Laxmi Suwal, T. 2019. *Manis pentadactyla* (errata version published in 2020). The IUCN Red List of Threatened Species 2019: e.T12764A168392151. <https://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T12764A168392151.en>. Accessed on 24 November 2022.
- Challender, D.W., Heinrich, S., Shepherd, C.R. and Katsis, L.K. 2020. International trade and trafficking in pangolins, 1900–2019. In *Pangolins*. 259-276. *Academic Press*.
- Chao, J.T., Li, H.F. and Lin, C.C. 2020. The role of pangolins in ecosystems. In *Pangolins* 43-48. *Academic Press*.
- Choudhary, A. N., Badola, S., Fernandes, M. and Chhabra, D.B. 2018. *TRAFFIC Factsheet Pangolins*. TRAFFIC India.
- D’Cruze, N., Singh, B., Mookerjee, A., Harrington, L., and Macdonald, D. 2018. A Socio-Economic Survey of Pangolin Hunting in Assam, Northeast India. *Nature Conservation*. 30: 83–105.
- Gaubert, P., Antunes, A., Meng, H., Miao, L., Peigné, S., Justy, F., Njiokou, F., Dufour, S., Danquah, E., Alahakoon, J. and Verheyen, E., 2018. The complete phylogeny of pangolins: scaling up resources for the molecular tracing of the most trafficked mammals on earth. *Journal of Heredity*. 109(4):347-359.
- Kumar, V.P., Rajpoot, A. and Rasaily, S.S. 2020. Peril for pangolins: An evaluation of the status of the last decade in India. *Forensic Science International: Reports*. 2:100058.
- Mahmood, T., Challender, D., Khatiwada, A., Andleeb, S., Perera, P., Trageser, S., Ghose, A. and Mohapatra, R. 2019. *Manis crassicaudata*. The IUCN Red List of Threatened Species 2019: e.T12761A123583998. <https://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T12761A123583998.en>. Accessed on 27 November 2022.
- Mahmood, T., Mohapatra, R. K., Perera, P., Irshad, N., Akrim, F., Andleeb, S., Waseem M., Sharma S., and Panda S. 2020. Indian Pangolin *Manis crassicaudata* (Geoffroy, 1803). In *Pangolins*. 71-88. *Academic Press*.
- Mitra, S. 1998. On the scale of the Scaly Anteater *Manis crassicaudata*. *Journal Bombay Natural History Society*. 95(3):495–497.
- Mohapatra, R.K., Panda, S., Acharjyo, L.N., Nair, M. V. and Challender, D.W.S. 2015. *A note on the illegal trade and use of pangolin body parts in India*. TRAFFIC Bulletin. 27(1): 33-40.
- Paudel, P.K., Acharya, K.P., Baral, H.S., Heinen, J.T. and Jnawali, S.R. 2020. Trends, patterns, and networks of illicit wildlife trade in Nepal: A national synthesis. *Conservation Science and Practice*. 2(9):247.
- Sun, S., Dou, H., Wei, S., Fang, Y., Long, Z., Wang, J., An, F., Xu, J., Xue, T., Qiu, H. and Hua, Y. 2021. A review of the engineering role of burrowing animals: Implication of Chinese Pangolin as an Ecosystem Engineer. *Journal of Zoological Research*. 3(3).
- WCCB. 2022. Quarterly Newsletter. 5:3.
- Wu, S., Sun, N.C.M., Zhang, F., Yu, Y., Ades, G., Suwal, T.L. and Jiang, Z. 2020. Chinese pangolin *Manis pentadactyla* (Linnaeus, 1758). In *Pangolins*. 49:70 *Academic Press*.
- Xu, L., Guan, J., Lau, W. and Xiao, Y., 2016. *An overview of pangolin trade in China*. TRAFFIC September. 2016:1-10.
- Zhang, F., Wu, S., & Cen, P. 2022. The past, present and future of the pangolin in Mainland China. *Global Ecology and Conservation*. 33: e01995.
- Zhang, M., Gouveia, A., Qin, T., Quan, R. and Nijman, V. 2017. Illegal pangolin trade in northernmost Myanmar and its links to India and China. *Global Ecology and Conservation*. 10:23-31.
- Zhou Zhao-Min, Zhao Hong, Zhang Zhong-Xu, Wang Ze-Hui and Wang Han 2012. Allometry of Scales in Chinese Pangolins (*Manis pentadactyla*) and Malayan Pangolins (*Manis javanica*) and application on judicial expertise. *Zoological research*. 33:271-275.

TRAFFIC is a leading non-governmental organisation working globally on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development.

**For further information, contact:**

TRAFFIC, India Office  
C/O WWF-India Secretariat  
172-B, Lodi Estate  
New Delhi- 110003

[trafficind@wwfindia.net](mailto:trafficind@wwfindia.net)  
[trafficindia.org](http://trafficindia.org)  
[traffic.org](http://traffic.org)  
[wwfindia.org](http://wwfindia.org)

TRAFFIC, India Office  
Tel: 011-43516290/41504786

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