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International Trade in Bear Products for Traditional Asian Medicine

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International Bear News



Tri-Annual Newsletter of the
International Association for
Bear Research and Management (IBA)
and the IUCN/SSC Bear Specialist Group

Spring 2020 Vol. 29 no. 1



The first photographic evidence of Himalayan Brown Bear from Lippa-Asrang Wildlife Sanctuary, Himachal Pradesh, India. Photo credit: Wildlife Institute of India, Dehradun. See page 23-25 for more information on the research project that captured the photograph.

IBA website: www.bearbiology.org

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Editorial Policy

International Bear News welcomes articles about biology, conservation, and management of the world's eight bear species. Submissions of about 750 words are preferred, and photos, drawings, and charts are appreciated. Submissions to regional correspondents by email are preferred; otherwise, mail or fax to the address above. IBA reserves the right to accept, reject, and edit submissions.



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Consult website for submission guidelines. Deadline for the Summer 2020 issue is 05 June 2020.



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Bear Specialist Group

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The use of the IBA-BCF logo at the beginning of an article signifies work that was supported, at least in part, by the Bear Conservation Fund through an IBA grant.

International Trade in Bear Products for Traditional Asian Medicine

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Traditional Asian Medicines (TAM) contain plant and animal compounds that may be derived from endangered species (Cheng et al. 2014; Coghlan et al. 2015). This is a cause for concern as the use of wild animal parts in TAM can put added pressure on populations of many threatened species. The use of wildlife products in TAM has spread beyond Asia, via the Asian diaspora, to other continents including North America (Petrossian et al. 2016), Australia (Coghlan et al. 2012), and Africa (Nguyen and Robert 2020). Coghlan et al. (2012) found DNA from Asiatic black bear (*Ursus thibetanus*) in TAM products in Australia, and trade of Asian species, for TAM purposes was also recorded recently in South Africa (Nguyen and Robert 2020). The aim of the current pilot study was to investigate the animal species composition of TAM products seized in the United Kingdom (UK).

Fourteen TAM products suspected to contain illegal wildlife that had been seized over the last 20 years from shops in London, were provided by the Wildlife Crime Unit of the London Metropolitan Police and subjected to DNA nucleotide sequence analysis for species identification. DNA from all samples was recovered using the QIAGEN DNeasy blood and tissue DNA extraction kit, following the manufacturer's instructions. The mitochondrial DNA cytochrome b gene was targeted for sequence analysis, as it is known to enable diagnostic identification of multiple mammalian species. PCR amplification was first attempted using universal mcb primers (Verma and Singh 2003) and subsequently, for products advertised as containing bear bile, using bear-specific primers, ut172f and ut367r (Peppin et al. 2008). Positive and negative controls were used throughout.

DNA sequence results were obtained for 2 of the 14 samples. For sample 07, a product labelled as powdered bear gall, manufactured by the Guizhentang Pharmaceutical Company in China, the sequence results identified DNA originating from the Asiatic black bear. However sample 08, labelled as bear gallbladder, and was identified as originating from a domestic pig (*Sus domesticus*). Unfortunately, the other products that were submitted for DNA analysis did not yield amplifiable DNA.

Although we were only able to obtain sequence from 2 TAM products, this finding is evidence that some individuals have been engaged in international trade of bear bile from China for use as TAM products in the UK. The Guizhentang Pharmaceutical Company, registered in Fujian, China, is known for extracting bile from farmed bears to produce TAM (Jian 2012). Although bear bile extraction and trade are permitted in China, all international cross-border import or export without proper permits is an infraction of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) trade regulations (Foley et al. 2011). It is noteworthy that bear products (confirmed with DNA analysis) found over the counter in Australia and bear products observed during market surveys in South Africa were also manufactured by this company (Coghlan et al. 2012; Nguyen and Roberts 2020). Among the 14 TAM products analyzed here, 8 were identified in a market survey in South Africa. Although it was not possible to obtain these products from South Africa for the purpose of this study, since the bear products match those from the Guizhentang Pharmaceutical Company, it is probable that bear products found in South Africa are also genuinely from *U. thibetanus*.

The presence of dried pig gallbladder in this study demonstrates the use of fake products in the TAM trade, although it is not clear whether or not the seller was aware of its true identity. The practice of advertising gallbladder from other species

Illegal Trade



Fourteen TAM products suspected to contain illegal wildlife that had been seized over the last 20 years from shops in London, were subjected to DNA nucleotide sequence analysis for species identification.

is not uncommon. Jabin et al. (2019), using genetic analysis, found that 3 gallbladders suspected to be *U. thibetanus* were actually Sambar deer (*Rusa unicolor*) and cattle (*Bos indicus*). The trade in fake products has been identified as a potential difficulty for regulation and enforcement (Foley et al. 2011). In the UK, simply advertising a product for sale as containing a CITES-listed species without the correct permits constitutes an offence under CITES regulations, regardless of whether or not its authenticity has been established. Some countries (e.g., Singapore) have extended legal restrictions to include fake specimens purported to be from CITES-listed species (Foley et al. 2011).

Asiatic black bears and majority of other species products that were included in this study are listed on Appendix I of CITES. Therefore, international trade in TAM products containing these species is illegal and demand for them poses a serious threat to species survival (Graham-Rowe 2011). This study raises concerns over the scale of the TAM market for threatened species, outside of Asia. It is possible that Chinese migrants smuggle these products into other regions in order to satisfy the demand of Chinese diaspora communities. This demand can also impact wildlife populations outside of Asia: Research by Kennedy et al. (2018), highlighted the historical trade of brown bear (*U. arctos*) paws at Chinese diaspora sites in western North America, showing the impact of consumer demand on local wildlife populations. Overall demand for the parts of bears and other species may be increased greatly if consumption behaviours spread to the local non-Asian populace and/or incorporate other wildlife species as substitutes (Nguyen and Roberts 2020; Nguyen et al. 2020).

All 14 products analysed in this study claimed to include at least one protected species. Without scientific analysis it is impossible to know if manufactured TAM products contain endangered species or were falsely labelled (Newmaster et al. 2013). The trade in processed products represents a challenge to effective law enforcement. However, DNA analysis is not always effective at determining species presence. In the absence of consistent, robust methods of species identification for TAM, it is recommended that all CITES member states enact legislation that extends trade regulations to include all parts or products advertised or traded as containing endangered species, irrespective of their actual composition. Our findings contribute to the understanding of the TAM trade in threatened species, particularly of the bear bile/gallbladder trade, driven by the Chinese diaspora.

Literature Cited

Cheng, X., X. Su, X. Chen, H. Zhao, C. Bo, J. Xu, H. Bai, and K. Ning. 2014. Biological ingredient analysis of traditional Chinese medicine preparation based on high-throughput sequencing: the story for Liuwei Dihuang Wan. *Scientific Reports* 4: 5147.

- Coghlan, M.L., G. Maker, E. Crighton, J. Haile, D. C. Murray, N. E. White et al. 2015. Combined DNA, toxicological and heavy metal analyses provides an auditing toolkit to improve pharmacovigilance of traditional Chinese medicine (TCM). *Scientific Reports* 5: 17475
- Coghlan, M.L., J. Haile, J. Houston, D. C. Murray, N. E. White, P. Moolhuijzen, M. I. Bellgard, and M. Bunce. 2012. Deep sequencing of plant and animal DNA contained within Traditional Chinese Medicines reveals legality issues and health safety concerns. *PLOS* <https://doi.org/10.1371/journal.pgen.1002657>.
- Foley, K. E., C. J. Stengel and C. R. Shepherd. 2011. Pills, powders, vials and flakes: the bear bile trade in Asia. *TRAFFIC Southeast Asia, Selangor, Malaysia*.
- Gomez, L. and C. R. Shepherd. 2018. Trade in bears in Lao PDR with observations from market surveys and seizure data. *Global Ecology and Conservation* 15, p.e00415.
- Graham-Rowe D. 2011. Biodiversity: endangered and in demand. *Nature* 480: S101–S103.
- Jabin, G., S. K. Singh, A. Ghosh, S. Basu, K. Chandra and M. Thakur. 2019. Illegal trade of obscured bear parts: a case study of identifying the suspected bear gall bladders. *Forensic Science International: Reports*.
- Jian, Y. 2012. Anger over bear bile company's fundraising bid. *People's Daily Online*. Access online on 14 July 2019: <http://en.people.cn/90882/7727130.html>
- Kennedy, J.R., L. Rogers and F. A. Kaestle. 2018. Ancient DNA evidence for the regional trade of bear paws by Chinese diaspora communities in 19th-century western North America. *Journal of Archaeological Science* 99: 135-142.
- Newmaster, S.G., M. Grguric, D. Shanmughanandhan, S. Ramalingam, S. Ragupathy. 2013. DNA barcoding detects contamination and substitution in North American herbal products. *BMC Medicine* 11: 222.
- Nguyen, T., and D. L. Roberts. 2020. Interviews with purveyors of endangered wildlife for Traditional Asian Medicine in South Africa and Vietnam. Submitted to *Environmental Conservation*. In Review
- Nguyen, T., A. Hughes, B. Crudge, D. L. Roberts. 2020. Growing demand for wild animal parts use in South Africa. Submitted to *Biological Conservation*. In Review.
- Petrossian, G.A., S. F. Pires and D. P. van Uhm. 2016. An overview of seized illegal wildlife entering the United States. *Global Crime* 17:181-201.
- Verma, S.K. and L. Singh. 2003. Novel universal primers establish identity of an enormous number of animal species for forensic application. *Molecular Ecology Notes* 3: 28-31.





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About the International Association for Bear Research and Management (IBA)

The International Association for Bear Research and Management (IBA) is a non-profit tax-exempt organization open to professional biologists, wildlife managers, and others dedicated to the conservation of all bear species. The organization has approximately 500 members from over 50 countries. It supports the scientific management of bears through research and distribution of information. The IBA sponsors international conferences on all aspects of bear biology, ecology, and management. The proceedings are published as peer-reviewed scientific papers in the journal *Ursus*.

IBA Mission Statement

Goal: The goal of the International Association for Bear Research and Management (IBA) is to promote the conservation and restoration of the world's bears through science-based research, management, and education.

Objectives: In support of this goal, IBA's objectives are to:

1. Promote and foster well-designed research of the highest professional standards.
2. Develop and promote sound stewardship of the world's bears through scientifically based population and habitat management.
3. Publish and distribute, through its conferences and publications, peer-reviewed scientific and technical information of high quality addressing broad issues of ecology, conservation, and management.
4. Encourage communication and collaboration across scientific disciplines and among bear researchers and managers through conferences, workshops, and newsletters.
5. Increase public awareness and understanding of bear ecology, conservation, and management by encouraging the translation of technical information into popular literature and other media, as well as through other educational forums.
6. Encourage the professional growth and development of our members.
7. Provide professional counsel and advice on issues of natural resource policy related to bear management and conservation.
8. Maintain the highest standards of professional ethics and scientific integrity.
9. Encourage full international participation in the IBA through the siting of conferences, active recruitment of international members and officers, and through financial support for international research, travel to meetings, memberships, and journal subscriptions.
10. Through its integrated relationship with the Bear Specialist Group of the World Conservation Union (IUCN)/Species Survival Commission, identify priorities in bear research and management and recruit project proposals to the IBA Grants Program that address these priorities.
11. Build an endowment and a future funding base to provide ongoing support for IBA core functions and for the IBA Grants Program.
12. Support innovative solutions to bear conservation dilemmas that involve local communities as well as national or regional governments and, to the extent possible, address their needs without compromising bear conservation, recognizing that conservation is most successful where human communities are stable and can see the benefits of conservation efforts.
13. Form partnerships with other institutions to achieve conservation goals, where partnerships could provide additional funding, knowledge of geographical areas, or expertise in scientific or non-scientific sectors.

Deadline for the Summer 2020 issue is 5 Jun 2020