

from \$300 to \$600 per kilogram. Also, scales with a value of \$300 on arrival at Yunnan's borders are subsequently sold for \$700 by criminal cartels controlling trade, although retail markup in Chinese traditional medicine (CTM) markets is minimal.

Effective policing requires cooperation between international law enforcement agencies, but what else can be done? Regulated pangolin farming seems unpromising, partly because of the species' low reproductive rate but also because similar attempts aimed at relieving pressures on wildlife in China have failed the consumer substitutability test (Burton 2009; Dutton *et al.* 2011). Education is paramount; while government campaigns have informed the Chinese public on the flagship issues of ivory and rhino horn, many consumers of pangolin scale are simply unaware of the issues involved. Where scale is consumed for CTM, switching to modern medicine safeguards not only pangolins but also human health.

Although no level of illegal exploitation is acceptable, the extent to which this affects wild pangolins is unknown in the absence of baseline population estimates, making further research essential to better inform conservation policy (Goss and Cumming 2013; Lindenmayer *et al.* 2013). Meanwhile, despite the PSBF's concerted efforts, there are indications of catastrophic declines in pangolin abundance.

**Zhao-Min Zhou<sup>1</sup>, Youbing Zhou<sup>2,3\*</sup>, Chris Newman<sup>3</sup>, and David W Macdonald<sup>3</sup>**

<sup>1</sup>Yunnan Public Security Bureau for Forests, Kunming, China; <sup>2</sup>State Key Laboratory of Vegetation and Environmental Change, Institute of Botany, Chinese Academy of Sciences, Beijing, China (\*zhouyb@ibcas.ac.cn); <sup>3</sup>Wildlife Conservation Research Unit, The Recanati-Kaplan Centre, Department of Zoology, University of Oxford, Oxford, UK

**Acknowledgements:** We thank the Yunnan PSBF, the Yunnan Wildlife Sanctuary, and the Yunlin Forensics Center for providing raw data.

- BE-EIQB (Beijing Entry–Exit Inspection and Quarantining Bureau). 2013. A new exotic tick species was found from seizing pangolins. [www.chinadaily.com.cn/dfpd/retu/2013-09/06/content\\_16949225.htm](http://www.chinadaily.com.cn/dfpd/retu/2013-09/06/content_16949225.htm). Viewed 6 Sep 2013.
- Burton A. 2009. Pangolin protection laws need better enforcement. *Front Ecol Environ* 7: 346.
- Challender DWS. 2012. Asian pangolins: increasing affluence driving hunting pressure. *TRAFFIC Bull* 23: 92–93.
- CITES. 2013. The CITES appendices. [www.cites.org/eng/app/appendices](http://www.cites.org/eng/app/appendices). Viewed 13 Aug 2013.
- Conniff R. 2013. Poaching pangolins: an obscure creature faces uncertain future. [http://e360.yale.edu/feature/poaching\\_pangolins\\_an\\_obscure\\_creature\\_faces\\_uncertain\\_future/2692/](http://e360.yale.edu/feature/poaching_pangolins_an_obscure_creature_faces_uncertain_future/2692/). Viewed 19 Sep 2013.
- Dutton AJ, Hepburn C, and Macdonald DW. 2011. A stated preference investigation into the Chinese demand for farmed vs wild bear bile. *PLoS ONE* 6: e21243.
- Gao XM. 2012. Color illustrations of Chinese traditional medicine. Beijing, China: Traditional Chinese Medicine Classics Press.
- Goldenberg S. 2013. Clinton Global Initiative pledges \$80 million to combat elephant poaching. <http://news.mongabay.com/2013/0927-gen-clinton-elephants.html>. Viewed 3 Oct 2013.
- Goss JR and Cumming GS. 2013. Networks of wildlife translocations in developing countries: an emerging conservation issue? *Front Ecol Environ* 11: 243–50.
- IUCN-SSC PangolinSG. 2013. About the IUCN-SSC PangolinSG. [www.pangolin.org/about-us/](http://www.pangolin.org/about-us/). Viewed 10 Aug 2013.
- Li SZ. 1982. Ben Cao Gang Mu (Compendium of Materia Medica). Beijing, China: People's Medical Publishing House.
- Lindenmayer DB, Piggott MP, and Wintle BA. 2013. Counting the books while the library burns: why conservation monitoring programs need a plan for action. *Front Ecol Environ* 11: 549–55.
- Qiu JS. 1985. Rare books: integration of ancient medical books. Shanghai, China: Shanghai Science & Technology Press.
- SE-EIQB (Shanghai Entry–Exit Inspection and Quarantining Bureau). 2013. Recent works of Shanghai Entry–Exit Inspection and Quarantining Bureau were rewarded by international enforcement coordinate group of CITES. [www.chinatt315.org.cn/news/2013-4/26/28022.aspx](http://www.chinatt315.org.cn/news/2013-4/26/28022.aspx). Viewed 24 Jul 2013.
- Zhou ZM, Zhao H, Zhang ZX, *et al.* 2012. Allometry of scales in Chinese pangolins (*Manis pentadactyla*) and

Malayan pangolins (*Manis javanica*) and application in judicial expertise. *Zool Res* 33: 271–75.

doi:10.1890/14.WB.001



## Plea from another symposium goer

One of the best talks I ever saw at a professional meeting was by Susan Smith, a behavioral ecologist. Her presentation consisted of just two slides: the first a full-screen close-up of a black-capped chickadee, whose natural history she briefly described, the second a simple table consisting of four pairs of integers corresponding to the body size of four mated pairs of chickadees. The numbers came to life as she developed a theoretical model of the evolution of mating systems and described how females paired with low-ranking males can improve their fitness by abandoning their mates when they see an opportunity to move up in the flock's dominance hierarchy. Halfway into her scheduled 15 minutes, she flipped on the lights and asked the audience, "What do you think?" The packed room erupted into a collective brainstorming session, she received expert feedback, and the conversations and arguments continued into the hallway and into the evening.

I also remember Steve Hubbell's presentation at the ESA annual meeting in Grand Forks, where he warmed up the crowd with a few jokes ("You know how the Inuit have 26 words for 'snow'? Well, here in North Dakota they have 26 words for 'flat'!") before getting down to business ("We identified, measured, and mapped 250 000 trees on Barro Colorado Island in Panama..."). And Dan Janzen's departmental seminar at Cornell, where he scrawled the number "1254" on an acetate sheet, projected it on the wall for 5 minutes, and then mused about the number of moth species in Tompkins County, New York, and the latitudinal gradient in species richness.

Recently, I returned from a 4-day

meeting, which showcased exciting theoretical breakthroughs, clever experiments, and dogged long-term field studies. I wish I could say that the presentations were equally memorable but they are already starting to blur in my mind. The culprit, I'm afraid, is a rigid PowerPoint culture that generates formulaic, overstuffed talks. Perhaps it is time for presenters to re-read Janzen's (1980) essay. Although written 34 years ago, his points are more pertinent today than ever. To his suggestions, let me add a few of my own:

- (1) Rather than merely copying figures from your manuscripts and pasting them directly into PowerPoint slides, take the time to *simplify* each figure in your presentation so that it clearly communicates one key idea. Figures designed for publication typically have numerous lines and symbols, vertically oriented axis labels, and tiny text fonts, all of which make it difficult for your audience to fathom, much less ponder, your main point as your slides whiz by.
- (2) Better yet, don't allow your slides to whiz by. No one will think that you are slow-witted if you take time to explore an interesting model or research finding, and everyone will be more likely

to remember it a week or a decade later. If people want to know more about your work, they can always read your published papers at their leisure.

- (3) Use your slides to transport us out of the stuffy conference room. Make us feel vertigo in the forest canopy; startle us with a view down a lizard's throat. Then convince or provoke us with that crucial data slide.
- (4) What is the point of the Acknowledgements slide? The only thing your audience gleans from it is that you have grace and lots of friends, lab techs, and grants. By all means, introduce your coauthors and thank major collaborators, but don't drain the punch out of your talk by ending with such a dreary slide. A sunset would be less of a cliché and more interesting.
- (5) An effective presentation is not a scholarly monograph or informational brochure. You are telling a story. Consider your essential message and the best way to convey it. There's a reason that we tell tales about three guys – not 48 or 213 guys – walking into a bar: an arresting, unforgettable story cannot have too many moving parts. Develop only one or two aspects of your recent work in depth.

Janzen argues that the presenter should offer “30 minutes worth of punchlines that I [the attendee] can use to better understand other people's work, that I can use to improve my own research, and that will inspire me to do things I would not have thought to do on my own” (Janzen 1980). What is beneficial for the symposium *goer*, however, is not necessarily beneficial for the symposium *presenter*. Early-career scientists may see professional meetings mainly as an opportunity to promote themselves in front of prospective reviewers or employers. A young colleague explained to me the pressures graduate students feel: “Although people may not understand everything you say, hopefully they'll be impressed with its quantity and variety.” Fair enough, but don't forget quality and clarity.

With a little imagination and daring, we can break free from the routine of cluttered PowerPoint slides and enliven our professional meetings with compelling, vivid, and ultimately more valuable presentations.

**Nathaniel T Wheelwright**

Department of Biology, Bowdoin College, Brunswick, ME  
([nwheelwr@bowdoin.edu](mailto:nwheelwr@bowdoin.edu))

Janzen DH. 1980. Plea from a symposium goer. *Bull Ecol Soc Amer* 61: 170–71.

doi:10.1890/14.WB.002

## TAKE THIS JOURNAL TO YOUR LIBRARIAN, PLEASE

Are you enjoying this issue of *Frontiers*?

If your library had a subscription, colleagues and students could enjoy it too.

Please consider recommending *Frontiers in Ecology and the Environment* to your library.

Clip or copy the form below.

Thank you for your support.

### Library Recommendation Form

To Acquisition Librarian, Serials

From \_\_\_\_\_

Dept \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

I recommend the library subscribe to: *Frontiers in Ecology and the Environment* (ISSN 1540-9295)

To request a free sample issue of *Frontiers in Ecology and the Environment*, email Eric Gordon at [eric@esa.org](mailto:eric@esa.org).

Order *Frontiers* by contacting ESA Headquarters at (202) 833-8773, online at [www.esa.org](http://www.esa.org), or through your subscription agent.

