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Letter to the Editor

Fact or fiction. Be prudent and accurate when attaching monetary value to threatened wildlife (a comment to Douglas and Alie (2014))

Recently Douglas and Alie (2014) focused on high-value natural resources and how wildlife trade, international conflict and development were linked. Wildlife trade was introduced as an important source for organizations to sustain or ignite conflict in many of the most conflict-prone areas in the world, and as one of the most profitable of the illicit trades. On p. 272 they note that “in general the whole or parts of several species can fetch astounding prices on the black market” referring to a table on the same page in which they list 20 species–retail price combinations (e.g. \$250,000 for a rhino horn). Some of these prices are indeed astounding. That is in part because they are either incorrect, not representative of the trade, much outdated (i.e. from the 1990s) or a combination of these, with several of their prices not supported by the sources towards they referred. More so than any other scientific report of this nature I have seen, a disproportionate amount of information was, directly or indirectly, obtained from news reports and popular articles as opposed to in-depth investigations (Table 1).

For three of the examples, i.e. lion as trophies (\$10,000–50,000), snow leopard skins (\$20,000) and captive-bred hyenas (\$12,700), the species is not mentioned in the source referred to or no price was given. Sun bears *Helarctos malayanus*, Burmese pythons *Python bivittatus* and cloud [sic] leopards *Neofelis* spp. are mentioned in a footnote to their table as species trafficked for large sums, but the source for this only mentions the *availability* of these species in wildlife markets and no link to monetary value, small or large, is made. For tiger skin the price in the report referred to is an order of magnitude lower than Douglas and Alie (2014) indicate (\$1300–2200 vs \$20,000). The \$90,000 price tag for a Lear’s macaw links back to a 1998 court case in the UK regarding the illegal import of three Lear’s macaws and six blue-headed macaws; combined these nine birds were valued at \$90,000.

Besides from not being illegal, the price commanded for trophy polar bears (\$20,000), obtained from an *Independent* newspaper article, typically includes the costs for the week or 10-day long hunt (e.g. transport, tracker, accommodation, permits, etc.) and is thus not comparable to other wildlife listed.

Several species listed by Douglas and Alie (2014) continue to be openly for sale, often perfectly legally so in the country or state where they are being sold. The retail price of raw (unworked) ivory at \$6500/kg, as obtained from a *Scientific American* article and derived from 2008 news story by *China News Service*, and backed up by a quote from a 2012 *New York Times* article that attached a value of \$23,000 to a single raw tusk, is almost an order of magnitude greater than those presented for China by Stiles et al. (2011) and indeed other recent values derived from investigative research. Tokay geckos are traded throughout Asia in the millions

per year, with 2006 Indonesian prices of ~\$0.05 (trapper) to ~\$1.00 (exporter) per individual (Nijman et al., 2012; current 2014 prices are equal to this or only moderately higher). The astounding prices of over \$2000 per individual were rumored to have been paid for exceptionally large (>300 g) individuals as they purportedly could be used to cure HIV/AIDS. This trade emerged in late 2009, briefly peaked in 2010–2011, and is now much in decline coinciding with a considerable price drop. Numerous companies in different countries offer captive-bred saker falcons for sale, with females being twice as expensive as males but typically still demanding less than \$2000 (cf. \$10,000–100,000 as listed by Douglas and Alie (2014)) and likewise captive-bred Angolan pythons nowadays typically command less than \$1000 (cf. \$65,000 as listed by Douglas and Alie (2014)).

It is vital that those that are dedicated to reducing the demand of imperiled wildlife or those that are interested in (geo)political and economic aspects of the wildlife trade to collect accurate data, and secondly, when this is communicated to the academic/conservation community or the wider public, they must assure that this is done in a prudent and correct manner. I would like to make the following suggestions:

When quoting prices use data from investigative research that provides context and details; data from news reports can be used to back up certain claims but should not be used on their own.

When using data from compilation reports or review papers check the original sources and only use data that are derived from investigative research.

When reporting prices indicate what year the data were collected, to what type of trade they refer to, and, if relevant, the size of the individual/body part: retail prices are very different from wholesale prices, exceptionally large specimens may be significantly more expensive than more average-sized ones, and prices in roadside stalls can be very different from those in high-end luxury hotels.

References

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Table 1
Retail prices of wildlife and wildlife products (from Douglas and Alie (2014)), providing details on the source, location, time, and additional comments. For references please refer to Douglas and Alie (2014).

Data from Douglas and Alie (2014)		Background details and additional information		
Species price ^a	Reference	Source type	Year, country, scope	Comments
Lion <i>Panthera leo</i> , \$10,000–50,000	Warchol (2004)	Review	–	No price specified in Warchol ^b
Lion, bones (kg), \$165	Hervieu (2013)	News report	2013, South Africa (domestic)	Captive-bred lions; not illegal
Lion, leopard <i>P. pardus</i> ?, \$12,700	Sheffer (2013)	News report	2013, Yemen (domestic)	Captive-bred cubs; legality uncertain
Tiger <i>P. tigris</i> , skin, \$20,000	USGIWG (2000)	Review	–	\$1300–2200 in USGIWG
Snow leopard <i>P. uncia</i> , skin, \$20,000	USGIWG (2000)	Review	–	Not mentioned in USGIWG
Hyena <i>Crocuta/Hyena</i> spp, \$12,700	Sheffer (2013) or Warchol (2004)	News report, review	–	No price given in Sheffer, not mentioned in Warchol
Polar bear <i>Ursus maritimus</i> , \$20,000	Cooper 2013	News report	?, Canada (domestic)	Trophy hunting; price refers to the hunt as a total package; not illegal
Bornean orangutan <i>Pongo pygmaeus</i> , \$1000	Stiles et al. (2013)	Investigation	1996, Indonesia (domestic)	
Rhino, horn (kg) \$30,000–65,000	UNODC (2012)	News report	2012, China? (international)	
Rhino, horn (whole) \$250,000	Humphreys & Smith (2011)	News report	2009?, Unknown (?)	
Elephant <i>Loxodonta</i> spp, raw ivory (kg) \$6500	Wasser et al. 2009	News report	2008, China (international)	Unusually high estimate; see text
Temminck's ground pangolin <i>Smutsia temminckii</i> , \$7000	Challender & Hywood (2012)	Investigation	2011, Namibia (domestic)	
Ploughshare tortoise <i>Astrochelys yniphora</i> , \$30,000	USGIWG (2000)	News report	1998, USA (international)	
Angolan python <i>Python anchietae</i> , \$65,000	USGIWG (2000)	News report	1998, South Africa (international)	Current prices of captive-bred individuals are < \$1000
Tokay gecko <i>Gekko gekko</i> , \$2330	Lim et al. (2012)	Investigation	2011, Philippines (domestic)	Prices refer to exceptionally large individuals; regular sized ones much cheaper
Komodo dragon <i>Varanus komodoensis</i> , \$30,000	USGIWG (2000)	News report	1998, USA (international)	
Lear's macaw <i>Anodorhynchus leari</i> , \$90,000	USGIWG (2000)	News report	1998, UK (international)	Value based on 3 Lear's macaws and 6 blue-headed macaws <i>Primolius couloni</i> combined
Saker falcon <i>Falco cherrug</i> , \$10,000–100,000	Yusufzai (2013)	News report	2013, Pakistan (domestic)	Higher prices for exceptionally performing large females
Colophon beetle, \$15,000	USGIWG (2000)	News report	1998, South Africa (domestic)	Prices peaked in the 1980s and have come down since considerably

^a Key: prices refer to individuals unless specified otherwise; news report refers to an article in a newspaper, a news blog or a story from one of the major press agencies (many stories are covered simultaneously by more than one newspaper); a review compiles data but does not add new information to it; international refers to international trade, i.e. the reported prices are from a non-range country; domestic refers to domestic trade, i.e. the reported price is paid for an animal in the country where it occurs or where it has been bred although after purchase it may enter the international market.

^b Warchol (2004: 67), based on data collected in or prior to 2003, writes "Exotic game hunting is a major industry in [South Africa and Namibia] with hunters [] willing to pay as much as \$50,000 to kill certain animals. [] Hunters willingly pay lesser, though significant amounts for hunting large African cats."