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Bogus captive-breeding of the South African Sungazer Lizard *Smaug giganteus*

Reptile species that have restricted distributions, high levels of protection and low reproductive rates are rarities in the pet trade, and command premium prices (Auliya, 2003). The protected status of such species encourages dealers to trade captive-bred individuals, but also provides an opportunity for unscrupulous traders to launder wild-caught reptiles as “captive bred” (Lyons and Natusch, 2011; Nijman, 2014). This is particularly concerning when exporting and importing countries do not verify claims about the captive source, effectively leaving the trade in wild-caught individuals unregulated.

The Sungazer Lizard *Smaug* (previously *Cordylus giganteus*) is endemic to South Africa, and has a restricted range, narrow environmental niche and a life history characterized by slow reproduction. Sungazers only reach sexual maturity after five years, and females produce one to three offspring only once every two or three years (Van Wyk, 1991). The species was listed as Vulnerable in a national assessment due to habitat loss and poaching (Mouton, 2014), and is consequently a nationally protected species, with collection of wild individuals strictly prohibited. Internationally, the species is listed in Appendix II of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora).

Although there is no substantiated evidence of captive reproduction, Sungazers are frequently offered for sale

on social media groups, trade websites, and reptile fairs, fetching prices of between USD1000 and USD4000, occasionally as much as USD6000. A single case of captive breeding was reported by Langerwerf (2001), but all other literature on Sungazers in captivity lacks reports of breeding incidences (e.g., Hild, 1988; Fogel, 2000; Gilchrist, 2015). Despite this, virtually all international trade is in individuals reported as produced in captivity (Table 1). With the exception of 12 Sungazers reportedly produced elsewhere, all purportedly captive-produced Sungazers (521 individuals) were exported from South Africa (UNEP-WCMC, 2016). Moreover, South Africa reported the majority of these individuals as captive-bred, i.e. offspring from parents that had also been born in captivity. Importing countries reported only slightly lower quantities, totalling 459 individuals produced in captivity (Table 1). The only wild-caught *S. giganteus* were 50 individuals exported by Mozambique, which is not a range country for the species. Most lizards were imported by Japan (157 individuals), Germany (145 individuals) and the USA (125 individuals).

While the occasional birth of a Sungazer in captivity is not in doubt, there is a clear and alarming discrepancy in the number of substantiated breeding records of captive Sungazers, and the number being traded annually. As has been reported for several other species (Lyons and Natusch, 2011; Nijman, 2014), it is highly likely that the

Year	Importer reported				Exporter reported			
	W	F	C	Main importer	W	F	C	Main exporter
2004	0	20	0	Japan	0	23	0	South Africa
2005	0	0	0	-	0	6	0	South Africa
2006	0	0	11	Japan	0	20	13	South Africa
2007	0	26	36	Indonesia	0	26	38	South Africa
2008	0	55	40	Germany	0	43	54	South Africa
2009	0	0	50	Japan	50	0	53	Mozambique
2010	0	2	16	USA	0	0	4	South Africa
2011	0	3	59	Germany	0	3	44	South Africa
2012	0	0	33	Germany	0	0	40	South Africa
2013	0	0	36	USA	0	0	122	South Africa
2014	0	0	72	USA	0	0	44	South Africa
Total	0	106	353		50	121	412	

Table 1. Commercial trade (purpose T) of live Sungazers, excluding re-exports, reported by importing and exporting countries for 2004–2014. Source codes W, F and C represent wild, captive-born and captive-bred, respectively; confiscated individuals were excluded. Source: UNEP-WCMC, 2016.

majority of Sungazers in the pet trade are laundered wild-caught animals. The authors strongly recommend that the export and import countries identified in this paper demand incontrovertible evidence of captive breeding before issuing permits, and that prospective buyers temper their desires against the realities of supporting the poaching of a threatened species.

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An adult Sungazer *Smaug giganteus*, Free State Province, South Africa.