

Potential benefits of impending Moroccan wildlife trade laws, a case study in carnivore skins

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Approximately 25 % of the world's carnivores are considered threatened with extinction (IUCN 2015). Most carnivores face challenges from habitat loss and fragmentation as well as hunting for food, medicinal products and trophies (Karanth and Chellam 2009). Morocco has experienced the extirpation of the lion *Panthera leo* (Black et al. 2013) and very nearly the leopard *Panthera pardus* (Cuzin 2003; Agencia EFE 2010) due to overhunting, and reports of illegal trade in carnivores in Morocco surface irregularly (Shipp 2002; Cuyten 2011; Bergin and Nijman 2014). However, new laws currently being brought in hold promise for Moroccan carnivores; here we report on the persistence of the trade in carnivores (alive, parts, skins) throughout Morocco, thereby hoping to encourage the Moroccan authorities to devote sufficient resources to the proper implementation of the new legislation.

Surveys conducted between April 2013 and December 2014 (20 cities, 49 surveys) reveal that carnivores and their parts are traded openly in significant numbers throughout Morocco, despite existing legislation and international regulations to restrict this (Table 1). Carnivores represent a disproportionately large number of species imported into Morocco with 33 % of specimens originating outside the country compared to 6 % of all mammal and reptile specimens. Eighty per cent of the skins observed are nationally protected and/or illegal to import without the accompanying permits. Despite this, vendors freely admitted to importing skins from Sub-Saharan Africa and could produce no permits when asked. The presence of carnivore skins in all three surveys at varying times of the year as well as in previous market surveys (Shipp 2002; Cuyten 2011) indicates that market presence is constant.

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Table 1 Carnivore skins observed in 20 Moroccan cities during three surveys from April 2013 to December 2014. The month in which surveys were started and number of surveys conducted (in brackets) are given in the header row

Species	Status	Apr 2013 (17)	Apr 2014 (14)	Dec 2014 (6)
Golden jackal <i>Canis aureus</i>	Pr	0.47 (18) 8	0.5 (14) 7	2 (50) 12
Red fox <i>Vulpes vulpes</i>	Pr	4.12 (41) 70	1.93 (36) 27	2.67 (67) 16
Least weasel <i>Mustela nivalis</i>		0.12 (6) 2	0.07 (7) 1	0.33 (17) 2
European otter <i>Lutra lutra</i>	Pr 1	0.06 (6) 1	0.21 (14) 3	0.33 (17) 2
Lion <i>Panthera leo</i>	Ex Pr 1	0.12 (6) 2	0.21 (14) 3	0.33 (17) 2
Leopard <i>Panthera pardus</i>	Pr 1	2.18 (47) 37	1.86 (43) 26	2.83 (67) 17
Serval <i>Leptailurus serval</i>	2	0.29 (12) 5	0.56 (14) 5	0.33 (33) 2
African wildcat <i>Felis silvestris</i>	Pr 2	0.18 (6) 3	0	0
Common genet <i>Genetta genetta</i>		0.71 (24) 12	1 (21) 14	0.83 (33) 5
Striped hyaena <i>Hyaena hyaena</i>		0.06 (6) 1	0	0
Ichneumon <i>Herpestes ichneumon</i>	Nn	0.18 (18) 3	0	1 (33) 6

Ex locally extinct, Nn non-native; Pr protected; 1 CITES Appendix I, 2 CITES Appendix II. Presented are the mean number of individuals observed (percentage of markets in which the species were traded) total number of individuals observed

^a While there is a tiny relict population of leopards, the species has been extirpated from almost all of Morocco (Agencia EFE 2010)

Red fox *Vulpes vulpes* and leopard were the most frequently observed species in the markets. Leopards and lions remain on Morocco's list of protected species and are on CITES Appendix I and II respectively, precluding both domestic trade and international trade without a permit (leopard skins were said to be from Sub-Saharan Africa, not from the population in Morocco). The CITES trade database shows that only one lion skin and no leopard skins were imported for commercial purposes in the past 10 years. Although red fox, golden jackal *Canis aureus*, serval *Leptailurus serval* and common genet *Genetta genetta* are of Least Concern according to the IUCN Red List, local extinctions remain an issue of great concern in a country that, as part of the Mediterranean basin, is considered a biodiversity hotspot for conservation priority (Myers et al. 2000).

Morocco became a Party to CITES in 1975, pledging to update their existing laws to meet convention requirements in order to safeguard vulnerable species from unsustainable cross-border trade. However, the laws remained weak, unclear and in some cases contradictory for many years. In 2011, Law No. 29-05 on the Protection of Species of Wild Flora and Fauna and their Trade was promulgated and adopted at national level, raising Morocco from Category 3 to 2 (legislation that is believed generally to meet one to three of the four requirements outlined by Resolution Conf. 8.4 for effective implementation of CITES) of the system used by CITES to assess the comprehensiveness of a country's legislation. Morocco now has 'comprehensive CITES enabling legislation enacted with implementing legislation under development' (CITES 2014). With this law the relevant government body Eaux et Forêts (Le Haut Commissaire aux Eaux et Forêts et à la Lutte Contre la Désertification—The High Commission for Water, Forests and Desertification Control) will have more power than ever before to combat the national trade of protected wildlife with fines of up to MAD100,000 (USD10,500) for illegal trade in selected species. According to Moroccan authorities, this law is set to be implemented in 2015 with a 6 month grace period in which the use and selling of wildlife must cease. It is, however,

imperative that Moroccan officials publicise this law widely and devote sufficient resources to enable Eaux et Forêts to enforce it for positive change to be effected. Wildlife trade hubs in Morocco are well known and unconcealed, even in Morocco's most famous and often-visited cities, mere minutes from the government offices charged with wildlife protection, reflecting the current lack of commitment to conservation in the country. With the full ratification of these laws immanent, Moroccan authorities will be excellently placed to turn the tide of biodiversity loss in the country by making a clear statement through stringent, consistent and targeted enforcement. We urge the Moroccan authorities to use this opportunity to finally rid the markets of unsustainable and illegal wildlife trade.

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