

Monkey business: the illegal trade in Barbary macaques

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Abstract: *This article focuses on the organization, modus operandi and trade route of the illegal trade in Barbary macaques. The Barbary macaque is the most seized CITES mammal in the EU, accounting for almost 25% of live mammal-related seizures. It is estimated that as few as 5,000-6,000 Barbary macaques remain in fragmented parts of Morocco and Algeria, partly as result of the illegal trade. Although it was formally believed that the trade was loosely based on the tourist industry, a relatively high degree of (criminal) organization was found in this study on the illegal trade in Barbary macaques. Sophisticated methods combined with high profits and large numbers ordered of Barbary macaques, coordinated by well-organized, semi-loose networks characterize this form of illegal wildlife trade.*

Keywords: Illegal wildlife trade; green criminology; Barbary macaque; environmental crime; wildlife trafficking; CITES

Introduction

Over the past decades we have become increasingly aware of the growing impact that human activity has on nature. The immense global defaunation¹ has led to the reduction and disappearance of many species (Dirzo et al., 2014). Perhaps one of the most famous examples is the decline of the *Hominoidae* family, i.e. Great Apes, with the exception of *Homo sapiens*. Currently chimpanzees, orangutans, gorillas and bonobos are believed to be on the brink of extinction (Stiles et al., 2013). One of the most important dangers to the survival of these species is the illegal trade in wildlife, an illegal business that may be comparable with the drug and weapon trade in profits ranking between \$9 and \$20 billion annually (Barber-Meyer, 2010; Wilson-Wilde, 2010; Liddick, 2011). These high gains have attracted criminal networks and organized crime in several parts of the world (Zimmerman, 2003; Europol, 2011; Interpol, 2012; van Uhm, 2012a; Nellemann et al. 2014; Sollund & Maher, 2015).

Besides the well-known Great Apes, a lesser-known monkey species, the Barbary macaque (*Macaca sylvanus*), is at least as threatened with an estimated wild population of around 5,000-6,000 individuals (Majalo et al., 2013). Again, it is the illegal trade that drives these animals to the edge of extinction (van Lavieren, 2008; Waters, 2011; Radhakrishna et al., 2013). Remarkably criminologists neglected to study illegal wildlife markets for a long time (Wyatt, 2009). According to South (2004) the plundering of the earth's natural resources has not been recognized as a crime until recently. Only from the 2000s onwards, during the emergence of green criminology, a small number of criminologists started to focus on illegal wildlife trade (Zimmerman, 2003; Warchol, 2004; Schneider, 2008; Lemieux & Clarke, 2009; Petrossian, 2012; Pires, 2012; Sollund, 2013; Wyatt, 2013). This article aims to contribute to green criminological research on wildlife trafficking by discovering who is involved in the illegal trade in Barbary macaques, how they do it and where this business takes place. First the article will cover the methods used to collect primary data and secondary data. Further the article elaborates on the development of the legislation and the history of the illegal trade. Continu-

¹ Defaunation is an equivalent of deforestation and is used to refer to the loss of species, populations and local declines in abundance of individuals of wildlife.

ously the structure, organization and modus operandi of the illegal business are discussed followed by a discussion.

Method

The primary research carried out for this article was part of a doctoral research on the illegal trade in wildlife². A multisite research model³ was used, based on semi-structured interviews, with 24 people directly or indirectly involved in the illegal trade in the main source country Morocco. The method of semi-structured interviews was chosen due to the fact that it accommodates flexibility (Decorte & Zaitch, 2010), which allows specific issues to be addressed in more detail with a clear focus on the organization, trade route and modus operandi of the illegal trade. During my fieldwork, I engaged in participant observations and stayed in areas where wildlife was known to be poached (e.g. Azrou, Ifrane) and in trading markets (e.g. Marrakesh, Tangier) to interview my informants and observe the process. In these areas, I established relationships and met my informants involved in the illegal trade. Eventually, two hunters in Azrou, nine traders in Marrakesh, Tangier, Oujda, Azrou and Nador, two ex-traders in Azrou, two ex-smugglers in Azrou and Nador, one intermediary in Fez, two guides in Cascades d'Ouzoud and Fez, one primate scientist in Tétouan and five animal traders were interviewed in different Moroccan cities. These respondents were collected by the method of snowball sampling; the future participants were recruited from among their acquaintances and through the first point of access (Goodman, 1961). The interviews were conducted between March and April 2013 and provided key information about the illegal trade. To maintain anonymity of my informants no names are mentioned in this article.

To strengthen the primary data, secondary data of confiscations in the EU were obtained from the European Union Trade in Wildlife Information eXchange database (EU-TWIX). Each year member states provide their wildlife seizures to be recorded in this database. Subsequently, confiscation data from CITES Belgium, France, Italy, the Netherlands and the Spanish 'Seprona Guardia Civil' have been obtained. This quantified only a part of the illegal trade as a large part of the trade is unreported or undiscovered, the so-called dark number (Coleman and Moynihan, 1996). Law enforcement experts estimate that no more than 10% of all contraband of wildlife is seized (Stiles et al., 2013).

History, Decline and Regulation

Barbary macaques have been associated with humans for thousands of years. They have been found mummified in Egyptian pyramids (Goudsmit & Brandon-Jones, 1999) and petrified in Pompeii (Bailey et al., 1999). Barbary macaques were kept as pets by ancient Romans and Greeks (Hughes, 2003) and were frequently found in early Etruscan art (McDermott, 1936). According to Sax (2001) the word 'monkey' may be first used to refer to Barbary macaques in Europe. In the medieval period, they were desired animals among nobility (Sax, 2001). Illustrations of Barbary macaque at Iron-Age Navan Fort in Northern Ireland (McCormick, 1991) and fossils in Carrickfergus, representing imported domestic pets, have been found (Taub, 1978). Keeping animals as pets was spread from the aristocracy to the middle and lower class citizens during the 16th century (Thomas, 1984). Shakespeare's references to monkeys were probably linked to Barbary apes that were kept as pets by Italian courtesans (Kantha, 2014). The initial introduction of Barbary macaques in Europe (Gibraltar) was probably by the Moors who occupied southern Iberia and kept them as pets (Jackson, 1987). Consequently, the knowledge about apes in European literature during 1700-1900s was mainly based on Barbary macaques (O'Flaherty & Shapiro, 2002). From the 1960s and 1970s on, the popularity of keeping monkeys as pets increased and Barbary macaques were for sale in department stores (e.g. 'Harrods' in

² The research results are part of the doctoral research 'Uncovering the illegal wildlife trade: inside the world of poachers, smugglers and traders' by Daan van Uhm at Utrecht University.

³ Multi-site research is a qualitative research approach to get in-depth knowledge of a phenomenon that has been barely explored. The researcher uses the same research plan at various local, regional, national or international sites to get an overview of the phenomenon (Siegel, 2009).

London) all over Europe (e.g. Bierman & Smith, 2000; Sanglim, 2014). However, social and moral norms changed and the trade became regulated in an answer to the substantial decline of the species in previous decades.

In historic times, the Barbary macaque was an inhabitant of parts of Europe and virtually all of North Africa (Lindburg, 1980; Camperio Ciani, 1986), but its current distribution is restricted to small relict patches of forest in the rocky and mountainous parts of the Rif and Atlas Mountains (Morocco) and parts of the Tellian Atlas (Algeria) (Fa et al., 1984; Camperio Ciani, 1986; Ménard & Vallet, 1993; Scheffrahn et al., 1993)⁴. The total population decreased from an estimated 21,500 individuals in 1974 (Taub, 1977; Taub 1978) to 15,000 in the 1990s (Von Segresser et al., 1999), 10,000 in 2003 (Camperio Ciani, 2003; Modolo et al., 2005), and 5,000-6,000 in 2009 (Majolo et al., 2013). It is estimated that the decline rate has exceeded 50% over the last three generations and this decline is expected to continue in the future (Butynski et al., 2008). While the main threat is habitat loss (Fa, 1984; Camperio et al., 2005), the illegal trade in Barbary macaques for the pet trade has become one of the greatest threats to the survival of the species (Radhakrishna et al., 2013). Especially from the late 1990s, substantial amounts of Barbary macaques were illegally traded from Morocco to Europe for the pet industry (van Lavieren, 2008)⁵.

The Barbary Macaque is classified as ‘endangered’ on the Red List of Threatened Species and has been listed in Appendix II of CITES⁶ and Annex B of the EU Wildlife Trade Regulation (EC 338/97) (Butynski et al., 2008). Consequently, Barbary macaques are prohibited to be imported without proper documents and since 2000 the European Community suspended imports from Morocco and Algeria since trade was deemed to have a harmful effect on the species' status (Article 4.6b of EC Regulation 338/97) (Butynski et al., 2008). In Morocco and Algeria capturing, possession, sale and hunting are prohibited, with an exception for possession of Barbary macaques for cultural purposes at the Djeema el Fna square in Marrakesh through a certificate of ownership (Royaume du Maroc, 2012).

The Beginning of a Lucrative Business

The history of trade in macaques in the late 20th century is mainly related to the demand for laboratory animals. Up to the mid-1970s large numbers of Rhesus macaques (*Macaca mulatta*) were imported into Europe for the production of the polio vaccine, until a significant decline in the population made a large replacement necessary by crab-eating macaques (*Macaca fascicularis*) (Mack & Mittermeier, 1984). Still, 80% of the traded CITES mammals consisted of macaques for medicinal purposes during 2001-2010 (CITES trade database, 2013). In the past Barbary macaques were also obtained from the wild for biomedical research. However, hunters misused the obligated certificates to catch additional macaques for the pet trade. According to a former hunter in Azrou “This was the beginning of the large-scale illegal trade in Barbary macaques. Sometimes ten monkeys were captured, while only one was needed for biomedical research and the remaining monkeys were sold for the pet industry” (personal communication, March 15, 2013). The demand for monkeys can be characterized by the affection humans have by ‘owning’ a monkey (Goodall, 2009; Herzog, 2014). Primates are regularly integrated in human family life and wear clothes, sleep in cribs and eat at the dinner table (Laufer, 2010). From the late 1990s onwards, sanctuaries and zoological parks in France, Belgium, Spain, Italy and the Netherlands started to notice a substantial increase in the number of Barbary macaques being offered to shelters, after being seized by law enforcement authorities. The majority of these monkeys probably originated from the wild and was destined for the pet industry (van Lavieren, 2008). Based on confiscations in the EU, this trend continued in the 2000s with the Barbary macaque being the most seized CITES mammal in the EU, accounting for almost 25% of live mammal-related seizures

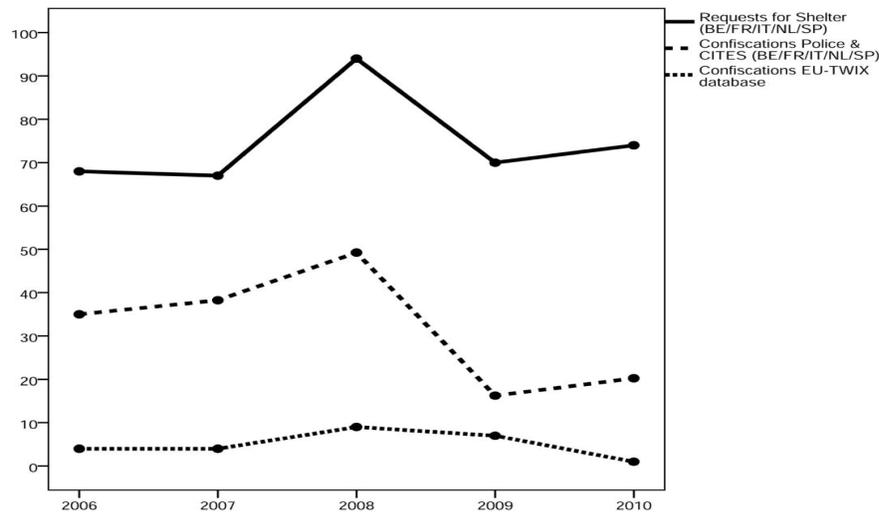
⁴ A semi-wild population of around 200 macaques lives in the Upper Rock Nature Reserve of Gibraltar in Europe.

⁵ Occasionally the Barbary macaques were used for monkey-fights and as guards.

⁶ CITES is the Convention on International Trade in Endangered Species of Wild Fauna and Flora, an international agreement between governments that came into force in 1975 to ensure that no species of wild fauna or flora becomes or remains subject to unsustainable exploitation because of international trade.

during 2001-2010. Within this ten-year period, 86% of 49 EU seizures of 55 Barbary macaques occurred in Spain with 90% originating from Morocco and 8% from Algeria. The average number of smuggled Barbary macaques is one monkey per confiscation (N=49; M=1.1; SD=0.3) and most were confiscated in Spain due to a lack of CITES documents (van Uhm, 2016a; van Uhm, 2016b).

Figure 1. Confiscations and shelter requests



However, the actual numbers of seizures are much higher based on data from CITES Belgium, France, Italy, the Netherlands and the Spanish ‘Seprona Guardia Civil’: only between 2006-2010, 159 Barbary macaques were confiscated. Simultaneously, 219 requests to shelter Barbary macaques occurred⁷. Figure 1 presents similar trends of seizures and requests for shelter with a peak in 2008. Several (former) hunters and illegal traders in Azrou and Oujda recognized this trend with numbers as high as 500 to 600 Barbary macaques traded illegally from the Azrou area in the late 2000s (personal communication, March 15, 2013; personal communication April 27-29, 2013). If we assume that 10% of the illegal monkeys are seized (Stiles et al., 2013), indeed around 500 Barbary macaques (± 50 confiscated animals) were illegally traded in 2008 and then around 200 Barbary macaques may be traded nowadays. The decline from 2008 onwards is possibly caused by the economic crisis in Europe (traders, personal communication, March 15 and April 27-29, 2013). In the next section, I will discuss the process of the illegal trade.

Poaching and trafficking macaques

The first step in the operation is poaching of the Barbary macaques (المكالك البربري). According to multiple respondents, Azrou and its surroundings (Middle Atlas in Morocco) is the center of the illegal trade in Barbary macaques (trader, personal communication, March 13, 2013; trader, personal communication, April 24, 2013; BMC, personal communication, April 25, 2013)⁸. The season for poaching starts in spring (April) because there are many infant monkeys. A poacher in Azrou explains: “There is a demand for young monkeys for two reasons. First, young monkeys get used to people better than older ones and, secondly, they are easier to smuggle in suitcases or bags” (personal communication, April 29, 2013). This may explain the significant decrease in numbers of juvenile macaques

⁷ Because rescued macaques are occasionally moved to another shelter in the EU, double counting may explain the higher number of rescued animals compared to seizures.

⁸ There are indications that the trade is shifting to other parts in the Middle Atlas (e.g. Béni-Mellal).

and females in the Middle Atlas between 2007 and 2009 (Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification, 2012).

According to Wyatt (2013) there may be three generic kinds of poachers. The first category is the subsistence poacher who lives in or nearby the poaching area. They poach illegal wildlife for personal use (without trading) or money involved. Bongesian criminologists would label it as 'crimes to survive'. Bongier (1932) linked crimes with poverty based on bread prices and arrests for theft. The second is the opportunistic poacher who also lives in proximity to the poaching area. They poach illegal wildlife because the opportunity is available, not necessarily due to economic profits (Wyatt, 2013). Pires (2012) and Petrossian (2012) found that situational incentives in the context of environmental factors play an important role in illegal wildlife trade, such as parrot poaching and illegal fishing. In contrast to the subsistence and opportunistic poacher, the specialist poacher is calculated in their capture. They sell it to middlemen or at the market to gain economic profits (Wyatt, 2013). The illegal poaching is often a well-considered choice driven by high profits, low risks and minimal sentences (Schneider, 2008).

The poachers are usually relatively poor local specialists from Berber villages in the Azrou area in Morocco. This region is home to Morocco's earliest inhabitants, the Berber tribes, who have been living on herding for centuries (Wagner, 1993). They live in small villages in the middle or around the cedar forests (personal observation, March 15 & April 28-29, 2013). While situational incentives may play an important role (e.g. they live near the poaching area), they catch monkeys in particular on demand by middlemen or tourists driven by economic gains. The poachers anticipate quickly on the orders and can even deliver more than 10 monkeys a week on short notice. They usually work in groups of four to eight people. Three poaching methods to capture the monkeys have been described by (former) poachers (personal communication, March 15, 2014; personal communication April 29, 2013):

- Hunters (6-7 people) isolate female macaques with infants from the group with trained dogs. They goad them from the dense forest into a solitary tree, then saw the branches and harass the mother with sticks and stones, until the babies are dropped.
- Hunters place grids on the ground and wait until macaques walk over them. They then pull on a rope that is connected to a net that hangs from trees and it falls to the ground so that the monkey is caught in the net.
- Hunters entice Barbary macaques with fruit or coconuts until they are close enough to catch them.

Regularly, guides, lumberjacks and forest rangers are involved and receive a 100 Dirham (±€10) commission if they refer potential buyers. Moreover, agreements are made with other local people to poach outside the tourist spots in the Cedar Forest so as not to disturb the financial benefits from tourism (poacher, personal communication, April 29, 2013; middleman, personal communication, March 14, 2013).

Based on my observation, monkeys are sold directly along the side of the road, but usually middlemen *semsar* (سمسار) organize the business. According to Wyatt (2013) middlemen are key individuals in smuggling operations moving wildlife along a network. They buy wildlife from the poacher and transfer them to wildlife markets (Domalain, 1977; Nichol, 1987; Warchol, 2004). Middlemen arrange a smuggler to stay at a hotel in Azrou meanwhile poachers do their job for anywhere between €50-100 per monkey: "Within two days we can arrange their order and then they go back to resell the monkeys in Tangier, Oujda or Marrakesh" (personal communication, April 29, 2013). The transport of the monkeys from the forests to the trade hubs in Morocco (e.g. Tangier, Marrakesh) requires a certain degree of sophistication. The monkeys may be hidden in the trunk of the car or additional actors like bus drivers or police officers are involved. For instance, one modus operandi between Azrou and Oujda is as follows: one person gets on the bus in Azrou and registers suitcases or bags, with monkeys hidden inside, as checked-in baggage and then gets off the bus at the second or third stop, while leaving the luggage on the bus. If the bus is held for a police check and they find the macaques,

the bus driver has an alibi, because he has a receipt for the suitcases or bags that have been ‘forgotten’ by the traveler in question. Without a police check, the bus arrives in Oujda where someone else will pick up the suitcases or bags with the monkeys and the bus driver is then paid (former smuggler, personal communication, April 28, 2013; bus driver, personal communication, April 29, 2013). According to the people in the trade, communication between hunters, middlemen and traders generally proceeds by mobile phone. One seller at the famous Djeema el Fna Square in Marrakesh underlined that the use of mobile phones is relatively safe as prepaid cards can be easily bought and changed without registration (personal communication, March 13, 2013).

Relatively large numbers of Barbary macaques are offered for sale (€200-250) by traders in several large Moroccan cities. For instance, a trader in Tangier explained during our meeting: “I just sold one monkey yesterday, but there are two more for sale (...) Different people work for me to catch the monkeys in Azrou and then I keep the monkeys in my house in Tangier city. (...) Monday a European guy with a lorry will pick up three ordered monkeys” (personal communication, April 25, 2013). Simultaneously another trader in Tangier sold a macaque to a European lady and showed later that day pictures of a larger macaque for sale (personal observation, April 25, 2013). These domestic traders are often animal traders involved in legal and illegal animal trade. Symbiotic interrelation between the under- and upper world are not uncommon. This collaboration between animal traders and middlemen or poachers is effective due to mutual benefits (Passas, 2002). The interdependence is characteristic in the illegal trade in wildlife (e.g. Cook et al., 2002; Naylor, 2004; Lyons & Natusch, 2011). Ilahiane & Sherry (2008) underline that the informal market is much more integrated in Morocco than in the West. The *souks* (السوق) stand in sharp contrast to the Western industrial model of doing business whereby different types of trading intertwine. Though, legal animal traders use opportunities to trade in Barbary macaques illegally to earn additional profits. While in Morocco the price for a monkey increases during the process from the poacher (€50-100), intermediaries (€120-150) to the trader (€200-250), the discrepancy between prices in Morocco and the EU is considerably higher with a ten-fold increase from € 200-250 to € 2000.

Crossing the Ocean

The Strait of Gibraltar seems to be the natural border between Morocco and Spain. However, the presence of Spanish territory (Melilla & Ceuta) on the north Moroccan coast represents an important factor in its status as a ‘smuggler’s paradise’. For a long time smuggling has been a part of life in the northern Rif of Morocco. Especially since the human population almost doubled between 1960-1970, smuggling, of every item imaginable, was booming (McMurray 2001; Parnell & Kane 2003). For example, people have become specialized in smuggling goods from Nador to Melilla (McMurray 2001). However, smuggling live animals differs substantially from smuggling wildlife products such as ivory or rhino horn. To hide live monkeys and to keep them alive during the smuggling process requires systematic planning and logistics (Stiles et al., 2013). Because the smugglers aim to limit the period of time in transit to ensure the survival of the monkey, the route is mostly scheduled and appointments have been made between actors in the smuggling process. For this reason, the smugglers prefer to transport the monkeys directly to the trader or buyer, without secondary activities (personal communication, April 27, 2013; personal communication, April 28, 2013).

Young Barbary macaques are usually hidden in suitcases or bags under a car seat and incidentally on the body⁹. Several dealers confirmed that to keep the macaque quiet and to decrease the macaque’s stress levels, the monkeys are anesthetized with a sleep aid for children, *n3as* (النعاس), which can be bought from a regular pharmacy (personal communication, March 17, 2013; personal communication, April 26, 2013; personal communication, April 27, 2013; personal communication, April 29, 2013). “The syrup makes them sleep. Then you put the small monkey in a suitcase under the seat of your car and cross the border to enter Spain” (personal communication, April 27, 2013). This syrup can anes-

⁹ Women may smuggle macaques on the body because they are not searched according to a former smuggler (personal communication, April, 27, 2013).

thetize the monkey for up to 16 hours during the border crossing. This is more than enough since the boat ride lasts a mere 45 minutes. According to a trader in Tangier: “If police stops you, you just say it is a present for a friend to show that it is not a structural business (...) Of course you should hide the monkey, but if they catch you and they see it is not organized business they let you go” (personal communication, April 24, 2013).

Although most seizures (> 85%) include one Barbary macaque (van Uhm, 2016b), certain cases contain large quantities. In 2012, six Barbary macaques were confiscated at the border between Hungary and Serbia (MPC, 2012). Opportunistic small-scale traffickers or tourists smuggle usually one Barbary macaque hidden in suitcases or bags in their car and cross the border by ferry to the EU. Incidentally, tourists smuggle the monkeys by aircraft where they are hidden in checked-in baggage (EU-TWIX database, 2013)¹⁰. More organized forms of smuggling could include more anesthetized monkeys hidden in cars or trucks. Additionally, there may be collaboration with legal actors such as lorry drivers and custom officers. A trader in Marrakesh explains his symbiotic relationship with a lorry driver who uses his legitimate trade to hide monkeys and, secondly, with custom officers that can be bribed for around 200 to 500 Dirham (€20-50) (personal communication, March 17, 2013). If custom officers cannot be bribed, there is always a chance that they do not want to confiscate monkeys, out of a lack of priority or no shelter being available (BCM, personal communication, April 25, 2013).

The Monkey Route

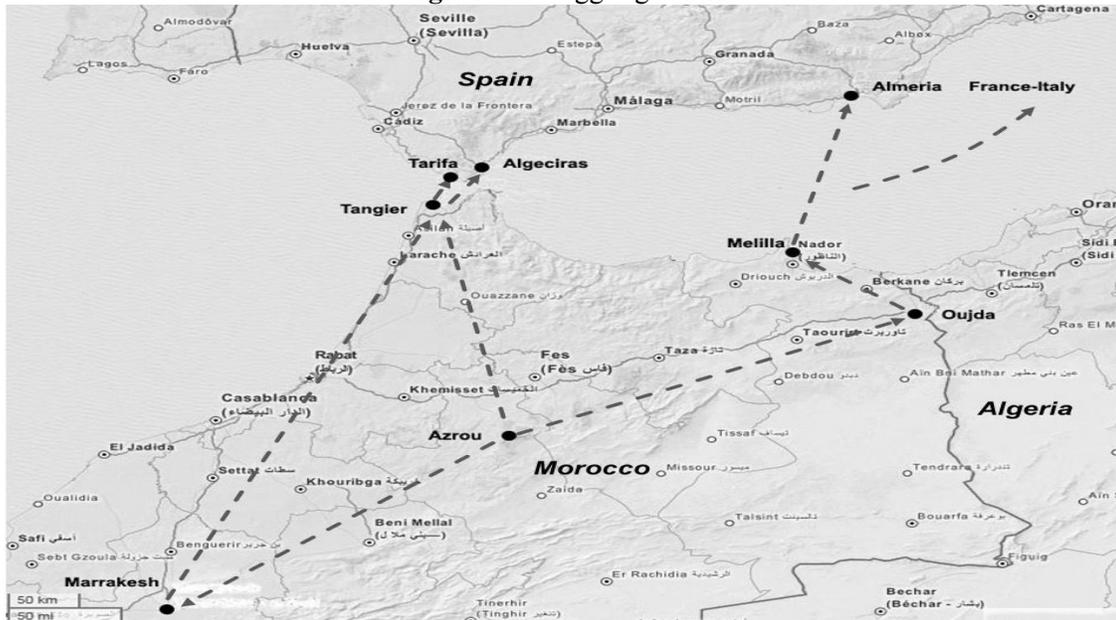
Due to its strategic location and relatively close intercontinental border crossing, Morocco is well known as the main port between Africa and the EU for the illegal drugs trade (cocaine, heroin, cannabis and synthetic drug precursors) and migration (UNODC, 2006; Europol, 2011; Carpenter, 2012), as well as the illegal wildlife trade (Highfield & Bayley, 1996; Cowdrey, 2002). Out of 22,205 seized wildlife shipments in the EU between 2001-2010, the majority originates from Africa with Morocco on the top of the African list (612 illegal shipments), in which the Strait of Gibraltar operates as a gateway for illegal wildlife from Africa to the EU. Regularly spur-thighed tortoises (Shipp, 2002; Znari et al., 2005), Mediterranean chameleons (Bergin & Nijman, 2014), African grey parrots and Barbary macaques (van Lavieren, 2008; Waters, 2011) are traded from Morocco, confirmed by seizures (Van Uhm, 2016a). Already in the mid-1990s, Interpol (1996) noticed that Morocco is an important origin and transit country for illegal wildlife.

The illegal trade in Barbary macaques starts usually from the Azrou area in Morocco with structured orders (4-10 monkeys every two months) from Tangier, Marrakesh, Oujda, Casablanca and Fez for the retail trade (Figure 2). A (former) trader estimates that around 200 macaques are captured in the Azrou area for primary trade to the EU each year (personal communication, April 29, 2013). The major portion of the monkeys is transferred to Tangier where ferries depart every 45 minutes to Algeciras and Tarifa in Spain. Several traders arrange for macaques on demand, even more than 50 annually (personal communication, April 24, 2013). At Djeema el Fna square in the heart of Marrakesh approximately 10 Barbary macaques are present daily for entertainment and sale. Sellers at the square suggested that more than 30 macaques are sold each year at this square alone (personal communication, March 13, 16-18, 2013). Oujda, near the Algerian border is another trade hub from where 50-80 monkeys are sold each year and then are smuggled via Melilla to Spain, France and probably Italy (trader, personal communication, April 27, 2013; convicted drug smuggler, personal communication, April 28, 2013). Casablanca and Fez do have relatively small markets, however, there are still possibilities to arrange macaques by intermediaries (middleman, personal communication, March 14, 2013). From these trade hubs European traders or tourists smuggle the monkeys by road and ferry through the ports of Tangier, Ceuta and Melilla to Tarifa, Cadiz, Algeciras, Almeria and Alicante in

¹⁰ For instance, on a routine check on freight at Zaventem Airport (Belgium) one Barbary macaque from Morocco has been found on 08-10-2010.

Spain¹¹. The Schengen treaty provides unhindered trade to European destination countries (Cowdrey, 2002); especially France, Italy and Spain are major outlets (trader, personal communication, March 15, 2013; trader, personal communication, March 17, 2013; trader, personal communication, April 24, 2013)¹².

Figure 2. Smuggling routes



Colliding Criminal Networks in Morocco

Previous research (e.g. Fa, 1983; van Lavieren, 2008) indicated that the trade in Barbary macaques was loosely based on the tourist industry. Indeed, many respondents in this research referred to opportunists, usually European tourists who buy and smuggle one monkey to keep as a pet back home or small-scale traders who reduce the costs of their holiday by reselling the monkey. According to a trader at Djeema el Fna square in Marrakesh: “Regularly I sell them to European tourists who fell in love with an infant monkey (...) They would like to keep them as pets or want to rescue them from the use in entertainment” (personal communication, March 17, 2013). This makes sense in the context of the increasing numbers of foreign visitors in Morocco, around 10 million each year, mostly from Western Europe. According to Esmond & Chryssee (2012) tourists in Morocco are responsible for a substantial illegal trade in live animals and their products.

Nevertheless, criminal networks with a high degree of organization have also been found in the illegal trade in Barbary macaques. Well-organized, semi-loose networks use sophisticated methods to trade large orders of monkeys and earn relatively high profits. The animals are moved along a line of contacts (a chain), where key aspects of the movement may be overseen by one or two central players (Morselli, 2009; Elliott, 2009). The organized traders have a network with several legal and illegal actors to transfer the Barbary macaques various times a year as a financial business. For instance, according to traders in Marrakesh a (criminal) network has recently been established between Moroccan and European traders. Their operations are based on a regular basis with the involvement of three or more people in the chain. Once every two months the entrepreneurial European group gives an order

¹¹ Based on confiscations in Spain between 2006-2012 the majority of the macaques were captured in the ports of Algeciras (27), Cadiz (14), Alicante (13) and Melilla (10). An alternative former trade line is from Oujda through Oran (Algeria) to Alicante (Spain) and Marseille (France).

¹² Barbary macaques were seized in Spain (102), France (28), Belgium (21), Italy (5) and the Netherlands (3) between 2006-2010.

by phone to traders in Marrakesh. In Azrou, the macaques are captured by poachers and transported to Marrakesh, where couriers are ready to smuggle the anesthetized macaques hidden in suitcases in a van across the Strait of Gibraltar. When they arrive in Europe, they call to indicate that the mission has been accomplished. Subsequently, the monkeys are transported to a domestic trader in the country of destination (personal communication, March 17, 2013). This is just a single case of illegal trade on a regular basis that is carried out by a chain of actors who poach, trade, transport and sell animals under control of central key players (see figure 3 for alternative flows).

Figure 3. The generic illegal trade



Apparently, there is a regular movement of captured macaques smuggled by road from the rural area of Azrou to urban areas, such as Tangier, Oujda and Marrakesh. From there, direct lines to Europe are organized by different groups of entrepreneurs. The role of a courier between countries in a semi-loose network is demonstrated by a former Spanish smuggler, who was deployed to transfer monkeys multiple times a month from a trader in Tangier (Morocco) to a trader in Algeciras (Spain). Subsequently the animals were transferred to Northern Spain for sale. “For a period of eight years my friend smuggled monkeys bought in Tangier to a trader in Algeciras (...) At the end he bought a house in Spain with the profits of € 1000 per monkey” (personal communication, April 25, 2013). Each actor has his own task, specialty and profit within this network. A Spanish trader near Barcelona had several monkeys under his supervision in 2008. In these flourishing business times, a consumer could choose between six young macaques (MBC, personal communication, April 25, 2013). While in the trading areas of Tangier and Melilla organized crime related to drug trafficking (e.g. the Tangiers Cartel) has been identified (e.g. UNODC, 2003), the informants did not recognize the involvement of classical Moroccan crime syndicates, *Moroccan Res Kbir* (رأس كبير), in the illegal trade in Barbary macaques. However, the degree of organization is visible by the fact that it is even possible for the organizations to enter into a trade agreement to deliver more than 50 monkeys to Europe each year (trader, personal communication, April 24, 2013).

Especially, the high profits and low risks and minimal sentences in the illegal wildlife trade are attractive to criminal networks (Zimmerman, 2003; Schneider, 2008; Lawson & Vines, 2011). As mentioned, a Barbary macaque can be purchased for around 2000 Dirham (€ 200) in Morocco and sold in the EU for € 2000 (10 times its original price). Assuming that the profit for the illegal trade in 50 monkeys per year would amount to around € 100,000, the potential profit to be made would be around 42 times the minimum yearly wage by Moroccan standards (United States Department of State, 2012). The incentives for the illegal trade are thus obvious.

Discussion

Barbary macaques have been traded and kept as pets for thousands of years; from the ancient Egyptians, Romans and Greeks to the nobility in the medieval period and a more recent fashion explosion in the 1960s and 1970s. Although in the past Barbary macaques were traded legally, in the late 20th century the trade slowly became criminalized. Social and moral norms were subject to change as species became threatened with extinction. Under pressure of several moral entrepreneurs and non-

governmental organizations, the trade in endangered exotic animals, such as Barbary macaques, became restricted by regulation (CITES)¹³. Currently, trade in wild Barbary macaques is forbidden without proper documents. The criminalization process proceeded with the prohibition of keeping monkeys as pets in several European countries during the 1990s and 2000s. Belgium, Bulgaria, Estonia, Hungary, Italy, Latvia, Lithuania, the Netherlands, Portugal, Sweden and Andalucía, an autonomous community in Spain, have implemented bans on the keeping of primates as pets, while Denmark prohibits the import and private keeping of all primates, except marmosets and tamarins. It is likely that other European countries will follow (Endcap, 2012; RSPCA, 2012).

The poachers and traders in Azrou are also more aware of being caught than before. While for a long time the sale of monkeys took place in plain view in Morocco, currently the big deals are made in the late evening to avoid the attention of the police (personal communication, March 15, 2013; personal communication, April 29, 2013). Some of my informants were shocked about the fact that a friend was caught with three monkeys at the bus station in Azrou (personal communication, April 29, 2013). People involved in the trade explained that currently improved and sophisticated methods are required to dodge law enforcement¹⁴. Nevertheless, the criminalization of the illegal trade is not comparable with other forms of crime, such as drugs or weapons. The plundering of the earth's natural resources is still a widely tolerated process (Stretesky and Lynch, 2014). Regarding the Barbary macaque trade, regularly law enforcers do not confiscate monkeys due to a lack of priority or no shelter being available and serious, large-scale criminal investigations are uncommon, if not completely lacking. According to various illegal entrepreneurs, the border between Morocco and Spain is still quite poorly controlled when it comes to the smuggling of wildlife (personal communication, March 15, 2013; personal communication, March 18, 2013). This is strengthened by a strong belief that the trade is loosely based on the tourist industry.

However, as demonstrated in this study the degree of organization should not be underestimated. The illegal trade in Barbary macaques is carried out by a chain of actors, collectors, traders, middlemen, smugglers, and overseen by one or two central players. These involved networks are driven by situational, rational and cultural incentives. Morocco seems to function as an important source country and transit hub of the illegal wildlife trade from Africa to the EU. The geographic location between two continents with the Strait of Gibraltar as close border crossing underlines the opportunities provided by the infrastructure. Several traders highlighted this geographic advantage for other illegal wildlife trades in Morocco too. Leopard skins are bought in wildlife markets in Mali, rolled in carpets and smuggled through Morocco into the European Union (personal communication, March 13, 2013) and spur-thighed tortoises are collected from the Middle Atlas and smuggled in boxes of 150-200 animals across the border (personal communication, March 17, 2013). Additionally, the relatively low priority by law enforcement, opportunities for corruption¹⁵ and rising prices on the black market are attractive to criminal networks. Since the population of Barbary macaques is as few as 5,000-6,000 individuals left, the price may quickly increase in the near future. Currently prices of other monkeys, such as gorillas, already reached as high as \$40,000 (van Uhm, 2012b). However, certain western countries point their finger at 'those' corrupt source countries in Africa (Boekhout van Solinge, 2010). Yet, blaming only the source countries ignores the other side of the market. The trade is dependent on the cultural demand in Europe for extraordinary exotic animals. In Europe, the rarity of a species determines its value on the black market and subsequently the demand (van Uhm, 2014; 2016b). This progressive rarity and the parallel rising value on the black market may be an important

¹³ While the populations of great apes on the CITES I list, such as chimpanzees (population: between 299,700 - 431,100), orangutans (population: 54,000 and 6,600) and bonobos (population: 15,000-20,000) (Stiles et al., 2013), are estimated to have a larger population, the Barbary macaques still remain on the CITES list II. While it is the question if the existing regulatory framework of CITES is the right instrument to prevent species for extinction (Sollund & Maher, 2015), with a very small wild population the Barbary macaque should at least be included in CITES I to save the species from extinction.

¹⁴ Note that hunting has been criminalized within people's lifetime.

¹⁵ Corruption is a major issue in Morocco (Transparency International, 2009).

driver of overexploitation by illegal entrepreneurs (Courchamp et al., 2006; van Uhm & Siegel, 2016).

Finally, in comparison to other forms of crime, the harms of the trade are significant. As green criminologists do not limit their study of crimes defined by law, harms are included in their research. Moreover, they reject the orthodox anthropocentric perspective of transgressions or harms against humans and include the environment with its biodiversity and non-human species (Beirne and South, 2007; White, 2008; 2011). From this eco-centric perspective the impact of the trade in Barbary macaques is not only reflected from anthropocentric harms, such as potential threat for health in the context of distribution of zoonotic diseases (e.g. Ebola), but also environmental harms may be of relevance (van Uhm, 2015). The estimated illegally traded 200 monkeys each year may have a serious harmful effect on the remaining population, especially due to the focus on youngsters. By poaching infant macaques, the adult population is not adequately replaced (Camperio Ciani & Mouna, 2006). If this trend continues, the population has little opportunity to recover. In addition, in many small populations of endangered species the reproduction and survival is limited by mate shortage or limited genetic variety. This ensures that a small population can extirpate at a higher rate than expected, the so-called Allee effect (Courchamp et al., 2006). In addition, the harms to individual animals are substantial during poaching, trade and at the final destination (Sollund, 2011; Nurse, 2013; Wyatt, 2013). A high stress level is caused during the hunt where dogs are used to attack the monkeys with youngsters, the monkeys are drugged with syrup to smuggle them across the border and to live, if they survive transport, in a human urban environment. Furthermore, the largest population (around 70%) of Barbary macaques lives in the cedar forests in Middle Atlas of Morocco (Camperio Ciani et al., 2005; Mouna et al., 1999). These forests are endangered ecosystems with several endemic and rare plant and animal species¹⁶. Generally, monkeys play an important role in ecosystems as disseminators of seeds (Wilson, 1993). The Barbary macaque disperse the seeds of many plants (Drucker, 1984; Herrera, 1995; Ménard & Vallet 1996), is prey for golden jackals, red foxes and eagles and host a number of ecto- and endoparasites (Jinn, 2011). From this ecocentric perspective the effect of the disappearance of the Barbary macaque for the cedar forest ecosystem is incalculable.

Conclusion

This article has demonstrated that besides opportunistic tourists and small-scale traffickers, sophisticated semi-structured networks are active in the harmful illegal trade in Barbary macaques from Morocco to the European Union. Yet, in the context of multiple incentives and low priority by law enforcement illegal trade will remain and the future of the small wild population of Barbary macaques is highly debatable. Would in the succession of the Barbary lion and leopard the Barbary macaque, which we have shared a large history; disappear in the cedar forests in the Middle Atlas? Or will effective interventions save the small population from its demise? In any case, it is a race against time to save this ancient species from the edge of extinction.

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¹⁶ The last populations of Barbary lion and leopard were seen in the cedar forest ecosystem in the Middle Atlas and there would be still small populations of lynx, hyena and Berber deer. Other mixed cedar forests can only be found in small parts of Lebanon, Cyprus and in Anatolia in Turkey.

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