



Global Re-introduction Perspectives: 2016

Case-studies from around the globe

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IUCN/SSC Re-introduction Specialist Group (RSG)



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Published by: IUCN/SSC Re-introduction Specialist Group & Environment Agency-ABU DHABI

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Citation: Soorae, P. S. (ed.) (2016). *Global Re-introduction Perspectives: 2016. Case-studies from around the globe*. Gland, Switzerland: IUCN/SSC Re-introduction Specialist Group and Abu Dhabi, UAE: Environment Agency-Abu Dhabi. xiv + 276 pp.

ISBN: 978-2-8317-1761-6

Cover photo: Clockwise starting from top-left:
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iii. Morelos minnow, Mexico @ Topiltzin Contreras-MacBeath
iv. *Silene cambessedesii*, Spain @ Emilio Laguna
v. Tasmanian Devil, Maria Island, Tasmania @Simon DeSalis
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Cover design & layout by: Pritpal S. Soorae, IUCN/SSC Re-introduction Specialist Group

Produced by: IUCN/SSC Re-introduction Specialist Group & Environment Agency-ABU DHABI

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Releasing confiscated Barbary macaques to improve national awareness of the illegal pet trade in Morocco

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Introduction

The Barbary macaque (*Macaca sylvanus*) is found in fragmented populations in Morocco and Algeria. Barbary macaques are unique within *Cercopithecidae* for their extensive non-maternal care (Kümmerli & Martin, 2008). Infants are targets of interest for both sexes and all age classes, especially during the first weeks after birth. The promiscuity of the species makes it unlikely that infant handling is a paternal investment. In spite of that, infants may spend a high proportion of time in males' care and some males seem to have preferences for particular infants. The Barbary macaque is listed on Appendix II of CITES and Endangered on the IUCN Red List (Butynski *et al.*, 2008). The main cause of its decline is attributed to infant capture for the pet trade from the Middle Atlas population (Menard *et al.*,



Female with her adoptive male post-release

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2013) and, less intensively, from other populations over its distribution. The capture, keeping and selling of Barbary macaques is illegal in Morocco. In 2009, a conservation project inclusive of local people was initiated in Bouhachem forest in northern Morocco. The forest is in a remote mountainous area with non-habituated Barbary macaque groups and a supportive local human population (Waters, 2014).

Goals

- Goal 1: Implement confiscation protocols to discourage the open sale and exploitation of Endangered Barbary macaques in Tangier-Tétouan region, Northern Morocco
- Goal 2: Use social media to increase public awareness regarding the conservation and welfare implications of the illegal trade in Barbary macaques.
- Goal 3: Ensure the welfare of confiscated macaques within the limitations of the situation in Morocco, where there is only one officially recognized center to house all confiscated wildlife.
- Goal 4: To alleviate pressure on the above center, release confiscated infant macaques into wild Barbary macaque groups if they meet basic behavioral and psychological criteria.
- Goal 5: Communicate news of releases on social media.

Success Indicators

- Indicator 1: All Barbary macaques openly on sale or used as tourist photo props in Tangier-Tetouan region confiscated and owners fined.
- Indicator 2: Public awareness increased.
- Indicator 3: Adult and imprinted macaques transferred to the only officially recognised centre for confiscated wildlife in Morocco.
- Indicator 4: Confiscated macaques meeting physical and psychological criteria released into wild macaque groups.
- Indicator 5: Increased reporting of illegally held macaques by the Moroccan public using social media or a contact number provided on social media.

Project Summary

Feasibility: In 2013, the Moroccan conservation NGO, Barbary Macaque Awareness & Conservation (BMAC), signed an MOU with the Direction Rif Haut Commissariat Eaux et Forêt et la Lutte contre la Désertification (DRHCEFLCD), to collaborate in the confiscation of Barbary macaques openly on sale or exploited for tourism in Tangier-Tétouan region. BMAC was given responsibility for the care of confiscated macaques whilst DRHCEFLCD prepared relevant permits and arranged a place for the confiscated individuals. This was the Rabat Zoo which was forced to close its doors to further confiscations in September 2013 due to being over capacity. The Moroccan public was responding to news of confiscations by reporting other illegally held macaques. Thus we believed it important to continue the momentum and decided to try releasing suitable confiscates into relatively undisturbed wild groups in Bouhachem.

Implementation: Five macaque confiscations took place with two adult females transferred to the Rabat zoo. Two female infants were confiscated by customs in Tangier and may have been infants reported as poached from a macaque group habituated for research in the Ifrane National Park (INP) in the Middle Atlas Mountains. BMAC staff transferred the infants to INP but, on release, the infants fled the scene due to their fear of the macaque males in close proximity. After extensive searching only one female was found. This female was rehydrated and fed and the following day placed in an improvised "howdy" cage, which was



Female infant in cage surrounded by wild macaques © BMAC

placed close to the study group. She could see and hear macaque group members but they could not touch her. The reaction of the males was particularly strong when they heard the infant and they also reacted against the researchers who were following the group. The researchers moved the cage when the group moved in order to maximize the familiarization period between it and the infant. This procedure continued for 4 days. To enable better communication between the infant and the group, the infant was placed in a larger wire cage. Various forms of communication between the infant and other group members - including greetings and reciprocal teeth chattering and invitations to follow - were observed. Moreover, the infant started reacting to the group's departures with distress calls. On the 4th day of the soft release, the decision to release the infant was made because the infant seemed used to the group and the group appeared to be losing interest in the infant. The next day, the cage door was opened. After ~30 seconds, the infant calmly left the cage and was picked up by a sub-adult female, who took her into the center of the group. Later, she started being handled by one male, who had had the strongest reaction to her when she was still in the cage. He became her main caretaker or "adoptive male".

To date, we have released two other confiscated macaques, a ~8-month male and an 18-month female into two different groups in Bouhachem, but without the use of a "howdy" cage because the individuals did not demonstrate fear of conspecifics. The male was immediately carried off into the forest by adult males who were very aggressive towards the BMAC team members trying to back away from the infant. We released this female and she immediately joined a wild group when she heard them vocalizing close to her release location. We saw this female with the wild group in October 2015.

Post-release monitoring: The infant in INP was monitored for a year post-release. The infant was handled most frequently by males, but levels of interest in her differed among individuals. The infant spent most time in the proximity and "care" of her "adoptive" male. His interest seemed to play a crucial role in the infant's survival, as he carried her when the group was travelling, protecting her

against potential danger and aggression and also staying with her overnight. Females' behavior towards the infant was mainly neutral or negative, but their aggression was mainly non-contact (display) and never led to serious injury. However, the infant was attacked three times by sub-adult males, when she was about 16 months. One sub-adult female was often observed providing the infant with positive care, including grooming. The rare interactions between the infants and other non-adults included negative, neutral and positive behavior. Play displays were observed very occasionally, never lasted long, and the released female never initiated play or played much with other infants.

The lack of play and low activity could be caused by earlier deprivation but also by lack of energy. The absence of milk seemed to result in the infant's dehydration during summer months, whereas malnutrition was obvious during winter, when the infant seemed unable to gain weight. This female was observed for ~18 months but, since the winter of 2014, we have no further information about her status.

Major difficulties faced

- We are unable to quarantine confiscated macaques due to a lack of suitable facilities.
- If infants have spent prolonged time in captivity, the behavior of the adult males inspires a fear and flight response from the infants on release.
- Behavioral backwardness - possibly caused by maternal deprivation causing retarded social development.
- Risk of undernourishment and dehydration. The possibility of supplemental provisioning is limited when wild groups are used.
- It is difficult to ascertain the fate of confiscated macaques released into non-habituated macaque groups due to lack of funding for post-release monitoring equipment.

Major lessons learned

- Due to the adult male Barbary macaques' caretaking behavior, it is possible to release confiscated infants into wild groups of the species even when it is not the infant's natal group.
- If infants demonstrate extreme fear of adult males then a soft release in a "howdy" cage which can be moved with an habituated macaque group enables the infants to gain confidence and initiate contact themselves with group males that may adopt the infant on its release.
- Adult males' enthusiasm for handling the infants decreases as the infants grow.
- The best candidates for release are infants that have not endured prolonged captivity and are more than 8 months old close to weaning.

Success of project

Highly Successful	Successful*	Partially Successful	Failure
	√		

* - (in the case of the female released in Ifrane National Park and in terms of raising public awareness)

Reason(s) for success/failure:

- The use of social media to publicize the confiscations increased public awareness in the region and beyond. For example, the second photo prop macaque was confiscated after BMAC received 20 calls in 30 minutes from the public reporting the first appearance of the animal and its handler at a coastal resort close to Tétouan. See Waters & El Harrad (2013) for further information.
- The success in releasing confiscated infants into wild macaque groups can be attributed to the alloparental behavior of adult male Barbary macaques.
- We are very aware that we are unable to adequately address all health and welfare concerns of released animals due to our lack of funding and facilities. We hope to rectify this situation in the near future.
- We are unable to confiscate adult macaques because they are habituated to humans and are unsuitable for release. A dedicated rescue center for Barbary macaques is needed in Morocco so that Moroccan nationals are trained in primate rehabilitation and release techniques.

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