

THE BARBARY MACAQUE (*Macaca sylvanus*); A UNIQUE ENDANGERED PRIMATE SPECIES STRUGGLING TO SURVIVE

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Introduction

The Barbary macaque (*Macaca sylvanus*) is not a commonly known primate species. Only when one gives an example of the monkeys on the rock of Gibraltar, people know which species is referred to. However, one seldom seems to realize that this is the only primate species that can be found on European soil. Moreover, there are other facts that make this species so unique. First of all, it is the only primate species that can be found north of the Sahara desert in Africa. Also, it is the only species of the genus "Macaca" that lives outside of Asia. Apart from these geographical facts, the Barbary macaque is a fascinating species that shows unique behaviour such as infant caretaking in males and using infants for social buffering.

Over the last decades the numbers of wild Barbary macaques have declined rapidly. The species today is listed as endangered on the IUCN Red List because a decline of more than 50% in numbers of wild macaques was recorded within 10 years time (IUCN Red List of Threatened Species. Version 2012.1. www.iucnredlist.org). Downloaded on 21st August 2012). The main threats are the destruction of its habitats and the illegal trade in infants. The Moroccan Primate Conservation was founded in 2004 to work on putting a halt to this decline.

Distribution and habitat

In the past, the Barbary macaque was found in parts Europe and all over North Africa, from Egypt to Morocco (Delson 1980; Camperio Ciani 1986). Today the species can only be found in fragmented areas of the Rif and the Middle and High Atlas mountains in Morocco and parts of the Tellian Atlas in Algeria (Fa 1984; Camperio Ciani 1986; Menard and Vallet 1993; Scheffrahn et al. 1993) and a small population on the Upper Rock of Gibraltar (Figure 1).

The Barbary macaque can be found in mixed cedar/oak (*Cedrus atlantica*) / *Quercus ilex*) and full oak forests (*Quercus faginea* & *Quercus afores*), scrub, grassland and rocky ridges (Fooden 2007). It can be considered a flagship species of the mixed cedar and oak forests of Morocco and Algeria.

The Barbary macaque's distribution lies at altitudes between 400 and 2300 meters (Fooden 2007). In the winter the temperatures can drop to below 0 °C

whereas in the summer the temperatures can be as high as 40 °C. This shows that the Barbary macaque is capable of surviving in extreme conditions.

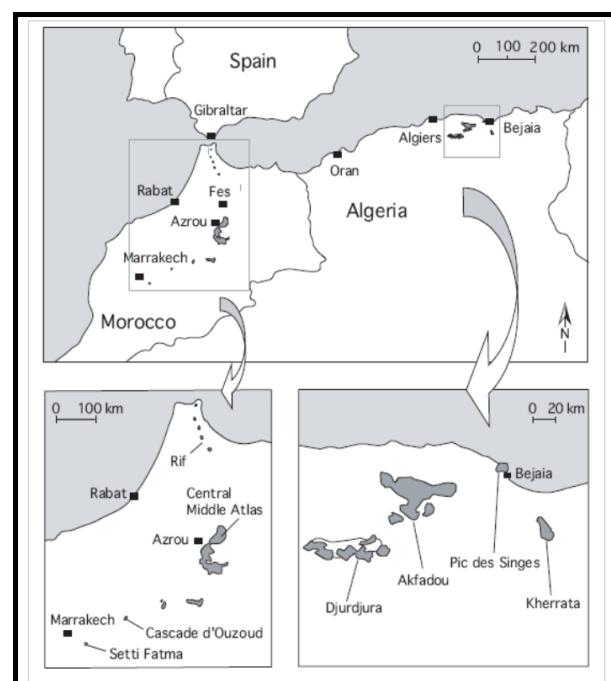


Figure 1: The current distribution of the Barbary macaque.



Barbary macaque in the snow in Ifrane National park. Photo: Els van Lavieren

Conservation status

Over the last decades density estimates have shown a severe decrease in numbers of wild Barbary macaques. In 1975, Taub estimated that there were 21.000 individuals, and the latest estimates lie around 8.000 of which 5000-6000 macaques live in Morocco (van Lavieren & Wich 2009). The Middle Atlas population in the Ifrane National Park is an important population as it is the largest that exists in the world. The work of the Moroccan primate Conservation foundation (MPC) therefore focuses mainly on this region. Although there have not been any recent estimates of the Algerian populations, a decrease in numbers has also been noticed (von Segesser et al. 1999).

Barbary macaques are known to have a density of 70 individuals/ km² (Deag, 1984). In the same region where Deag's survey took place (Ifrane National Park in Morocco) the average number of monkeys was as low as 7 individuals per km² (Van Lavieren & Wich 2009). In the Rif Mountains the macaque density in some areas still seems to be as high as Deag's survey in 1984 (Waters, Pers. comm. 2012) The very low current densities in the Middle Atlas are caused by the constant over-exploitation of the natural resources in this region and the illegal pet trade to Europe.



Logging in the Ifrane national park (*Cedrus atlantica*) Photo: Els van Lavieren.

Threats

Habitat destruction

The main threat to the species is the destruction of its natural habitats. In Morocco, especially in the Middle Atlas, this has caused severe fragmentation of the forested areas. Also competition over food and water sources between macaques and humans and their livestock, illegal logging and charcoal production have resulted in decline of numbers of macaques. Ifrane National Park harbours centuries old monumental cedar trees. Unfortunately cedar wood is very popular for making furniture, handicrafts and doors so illegal logging is apparent. Also the oak trees are logged, even to such an extent that some oak tree areas have completely disappeared (clear cutting), resul-

ting in the fragmentation of the forest area.

Some forest fragments are known to only have a few macaques left (Ménard, Pers. comm, 2011), and the survival of these small sub populations is very unlikely, unless drastic measures are taken.

The grazing of large groups of livestock (mainly goats and sheep flocks) is also causing a large problem in the habitat regions of the Barbary macaques in Morocco. The numbers of goats and sheep per flock have increased over the last decades and the pressure on the habitats is above carrying capacity. This is, for example, resulting in that the undergrowth of the forest has disappeared in many parts of the Ifrane NP; a food source for the macaques and other species that inhabit the region. Also the isolation of natural water sources for the livestock is pushing macaques to find unnatural sources from example from tourists, especially in the summer months.



Grazing in the habitat regions of Morocco. Photo: Els van Lavieren.

Ifrane NP is community land, and ancient nomadic tribes have the right to live in the park and use the lands to graze their flocks. In the past these people would only occupy the forests in the summer months and leave in the winter months, but nowadays they stay the whole year in the park and this causes too much pressure on the forests. Branches of cedar trees are cut for fire wood and to provide extra food for the goats and sheep, causing damage to cedar trees and even killing them.

The illegal trade

The illegal trade in Barbary macaques became apparent in the late 90's. Hundreds of infant macaques were being captured from the wild and sold on the markets to mainly Moroccans living in Europe (the main buyer profile) who were on their annual holiday to Morocco, to smuggle them back to Europe to keep them as pets. These infant macaques are being openly

sold throughout Morocco, along with other wild animals such as tortoises, Barbary squirrels etc. It was estimated that around 300 infant macaques were captured from the wild every year between 1995 and 2009 (van Lavieren 2008). If one takes into account that almost all infants were captured from one specific region (Ifrane NP), where only 5000 macaques are currently found in the wild, one can imagine the enormous negative impact that this trade has had on the numbers of wild macaques. Van Lavieren (2008) calculated that the annual offtake of infants for the illegal trade exceeded sustainability with 50%. Researchers in the field saw most of their infants and juveniles disappear from their focal groups.

MPC has been working closely together with local fossil/ tourist item sellers who are based in the Ifrane NP, and who have now become "macaque guards" over the last years. This has successfully resulted in a decrease in poaching of infants in this region. However, this decrease might be temporary and it might also have caused a geographical shift of where poaching now takes place.



Grazing in the habitat regions of Morocco. Photo: Els van Lavieren.



Infant macaques for sale in Marrakech. Photo: Els van Lavieren

The trade in wild animals has until recently in Morocco been regulated by the national hunting law in Morocco. However a new recent wildlife trade law has passed and if implemented and enforced correctly, this new law can have a very positive effect on stopping the open trade. However, it will take a lot of effort, money and time before that can happen, as

first the authorities such as the gendarme and police force will have to be trained and also we need to create a solution for the confiscated animals. There are already plans for this, and hopefully the law will be in effect in the not too far future.

A brighter future?

8 years ago the Moroccan authorities and public believed that there were "too many" Barbary macaques in the wild and that the macaques were the reason for destroying the forests. There were even plans to translocate some of the groups of macaques to other regions, or to reintroduce a natural predator such as the leopard, to control the macaque populations. This information was incorrect and originated from the logging industry that was looking for a scapegoat to explain the bad shape of the forests.

Over the last decade, scientists (N. Ménard, A. Camperio Ciani & M. Mouna, E van Lavieren) have conducted scientific research on the status of the populations and have managed to convince the authorities that the true state of the macaques was/ is alarming. NGOs (Moroccan and international) have been working together on projects such as the education of the potential buyers of macaques in the port of Algeciras in Spain, where people take the ferry to Morocco, handing out information leaflets to ask them not to buy macaques or take pictures with them.



School programme in habitat regions: 600 children were educated. Photo: Els van Lavieren

The conservation of the Barbary macaque requires a multi-level approach – we have to target all stakeholders from poachers level to government level. For this reason, MPC has worked on school programmes in habitat regions, monitoring of the trade, lobbying the governments, CITES trainings for the customs, training of the national park staff etc. Recently the efforts have resulted in that MPC is now an official partner of the Moroccan authorities and in October 2011 a meeting was organised by MPC and the authorities to create National Conservation Action Plan for the Barbary macaque in Morocco together with experts. This plan is finalized and will be effective as of September 2012. For the execution of this plan, we need (financial) partners. However it is hard to find these partners, as NGOs are known to

regard the Barbary macaque as a non priority species and North Africa as a non priority region, despite the unique biodiversity in the Mahgreb.

Hopefully the creation of the Conservation Action Plan and the current commitment of Morocco will change this view so we can prevent this unique species from disappearing in the future.

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