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Deposited in DRO:

14 November 2017

Version of attached file:

Accepted Version

Peer-review status of attached file:

Peer-reviewed

Citation for published item:

Bergin, Daniel and Atoussi, Sadek and Waters, Siân (2018) 'Online trade of Barbary macaques *Macaca sylvanus* in Algeria and Morocco.', *Biodiversity and conservation.*, 27 (2). pp. 531-534.

Further information on publisher's website:

<https://doi.org/10.1007/s10531-017-1434-5>

Publisher's copyright statement:

The final publication is available at Springer via <https://doi.org/10.1007/s10531-017-1434-5>.

Additional information:

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1 **Online trade of Barbary macaques *Macaca sylvanus* in Algeria** 2 **and Morocco**

3

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14

15 With the rise in popularity and accessibility of the internet, a growing number of people are
16 selling goods online. Classified advertisement websites such as eBay, Gumtree and Craigslist
17 allow users to sell goods or services directly to consumers, bypassing the need for an
18 intermediary. The convenience, anonymity and widespread reach of these websites has led
19 to an increase in legal and illegal wildlife being traded online (IFAW 2014; Lavorgna 2014,
20 2015). Sellers advertise illegal wildlife openly as there is little need to resort to darkweb sites
21 (Harrison et al. 2016). Recent reports indicate that the trade of prohibited animals online is
22 flourishing, and is a cause of conservation concern for a broad range of species (IFAW 2014;
23 Hinsley et al. 2016; Morgan and Chng 2017).

24

25 The Barbary macaque (*Macaca sylvanus*) is considered Endangered by the International Union
26 for Conservation of Nature (IUCN) and was upgraded to the Convention on International Trade

27 in Endangered Species of Wild Fauna and Flora (CITES) Appendix I in January 2017, with
28 offtake for the illegal pet trade noted as one of the significant factors contributing to their
29 decline in the wild (Anon 2016). Once present throughout North Africa, the range of this
30 species is now limited to Algeria, Morocco, and a small, introduced population in Gibraltar
31 (Taub 1984). Legislation in both Morocco and Algeria prohibits the trade in Barbary macaques,
32 with potential fines of up to USD10,000 per animal in Morocco and USD1,000 in Algeria. There
33 is evidence that the species has been traded since at least the early Iron Age (Massetti and
34 Bruner 2009) and previous studies have noted the presence of a domestic trade in Barbary
35 macaques in Morocco (van Lavieren 2008; Nijman et al. 2015; Waters et al. 2016) and Algeria
36 (Sabrina 2008) but no assessment of the online trade has been conducted in either country.

37

38 We investigated popular Moroccan and Algerian classified advertisement websites for a six
39 month period, from 1st of January 2017 to 1st of July 2017, searching for trade in Barbary
40 macaques. We searched eight websites in Morocco and four in Algeria using search terms in
41 English, French and Arabic (i.e. monkey, macaque, singe, magot, فرد) and browsed their 'pet'
42 and/or 'miscellaneous' sections. We collected information on the, age, price and description
43 of the macaques, as well as locations and other goods offered by the seller. The number of
44 views received by each advertisement was used as a metric for a post's popularity.

45

46 As is the case with any online advertisements, there is no certainty that the seller is actually
47 in possession of the product at the time of advertising; there is a chance that it is a scam.
48 However, the presence of photos in most cases – different for each advertisement and not
49 found on an online reverse image search – indicates a likelihood that the sellers were in
50 possession of the monkeys. It is therefore assumed that they are selling the individuals
51 advertised. They may also be using the advertisement as a 'pre-order' after which they then
52 source the monkeys.

53

54 Eight Barbary macaques were found for sale as pets on two websites (see Table 1). One
 55 macaque was on Marocannonces.com, a website aimed at Moroccan customers and seven
 56 were on the Algerian website Ouedkniss.com. All macaques were being sold by different
 57 sellers. Other goods advertised by these sellers ranged from dogs to property but in only one
 58 case included another prohibited animal (a grey parrot *Psittacus erithacus*). The macaques
 59 were aged between 3 months old and 4 years old and cost between USD450 and USD600,
 60 where prices were given.

61

62 **Table 1.** Table showing each of the advertisements observed between 01st January 2017 and 01st July
 63 2017, the website on which it was observed, the date it was uploaded, the city in which the seller
 64 resides, the price, the age of the macaque and other goods on the seller's profile.

Website	Date	City	Price USD	Age	Other goods sold
Ouedkniss	07/01/17	Constantine	600		Not available
Ouedkniss	06/02/17	Algiers	None given	3 months	Farm animals, engines
Ouedkniss	18/04/17	Tizi Ouzou	450	2 years	Property, cars, dogs
Ouedkniss	07/06/17	Oran	460	4 years	Bike parts, tents
Ouedkniss	28/06/17	Msila	None given	9 months	Computers
Ouedkniss	30/06/17	Oran	550	3.5 years	None
Ouedkniss	01/07/17	Alger	None given	9 months	African grey parrot
Marocannonces	28/06/17	Mohammedia	470	3 months	Not available

65

66 The view counter for advertisements on Marocannonces was deemed inaccurate as it
 67 appeared not to register multiple visits from different computers by the researchers
 68 conducting this study. On Ouedkniss, the total views for six advertisements was 7787 over a
 69 combined 359 days, though this is not likely to represent individual people as customers will
 70 visit multiple advertisements and revisit advertisements at different times. Pages on
 71 Ouedkniss gained an average of 10.8 views per day, with no apparent decrease over time. The
 72 least popular post observed in the time period did not include any photos, possibly
 73 contributing to its lack of success. Five advertisements were removed over the course of the

74 study. We believe that this action was taken by the sellers as we reported each advertisement
75 as illegal to the site administrator but no action was taken on the remaining three, one of
76 which was active for 145 days.

77

78 Despite the greater number of classified advertisement websites in Morocco, we found more
79 macaques on the Algerian website Ouedkniss. This corresponds with data collected by the
80 NGO Barbary Macaque Awareness & Conservation (BMAC) from before 2017 that macaque
81 trade is not as popular online in Morocco as it is in markets. Only two reports were received
82 by BMAC of Barbary macaques for sale online in Morocco between 2015-2016 which is in
83 contrast to their consistent presence in market squares, where younger macaques are sold
84 clandestinely to both national and international tourists outside the area of photo tout activity
85 (Waters, S. pers obs). This openness may mean that macaque vendors do not need to sell
86 online. Fewer large open markets, or more sustained efforts from the Algerian government to
87 combat open trade may also have driven the trade online.

88

89 The evident sustained interest in buying and selling Barbary macaques – an Endangered,
90 nationally protected species – online in Algeria is a cause for conservation concern. These
91 advertisements are on the website for many months, indicating a lack of awareness by the
92 authorities and insufficient action to remove the posts by site administrators. We recommend
93 that both the site administrators and the Algerian government address the illegal selling of
94 Barbary macaques online by quickly removing illegally advertised animals from the website
95 and prosecuting those selling them.

96

97 Because we have not included searches on TOR-based forums or social media, this pilot study
98 does not necessarily provide a comprehensive account of the online trade of Barbary
99 macaque, but provides a minimum number and highlights an unregulated market. We urge

100 conservationists and government officials to be alert to the shifting trends in wildlife trade
101 and monitor online trade as closely as market trade.

102

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