

BARBARY MACAQUE USE OF FOOD RESOURCES IN DEGRADED CEDAR-OAK FORESTS IN MOROCCO – WHY DO MONKEYS STRIP CEDAR BARK?

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Barbary macaques (*Macaca sylvanus*) are known as eclectic eaters which are able to colonize a great variety of habitats. They can shift their diet according to monthly changes of available resources in temperate environments or according to the degradation of their habitat. We studied wild groups in highly degraded cedar-oak forests in Morocco and we compared their use of the food resources with that of monkeys living in preserved cedar-oak forests in Algeria. In the two habitats, herbaceous resources compose a great proportion of the annual diets of the monkeys (45-60%). In Morocco, where forests suffer from overgrazing by sheep, monkey diet is less diversified (37-62 species) than in Algeria (124 species). Moreover, monkeys spend more energy to obtain their food. Mean monthly day-range lengths are longer in Morocco (1600m-3800m) than in Algeria (1000m-2200m). In Morocco, the reduction of food resources leads monkeys to strip cedar bark to eat cambium and sap. We showed that this behaviour, never observed in studied groups in Algeria, is clearly not a response to a lack of water availability. Contrastingly, among nine minerals tested, we showed that monkeys seek calcium and manganese that they find in strong concentration in cedar bark. The other available food does not provide a content equivalent of calcium or manganese to the monkeys. We discuss the limits of the ecological adaptation of Barbary macaques to degraded forests and the risk of reduction of the populations, by taking into account the slow restoration of the forests under Mediterranean temperate climate.

Keywords: *Macaca sylvanus*, diet, mineral contents, day-range lengths