

for the long-term conservation of primate species in some contexts, especially in isolated forest fragments.

The propagation of non-native trees might be considered in certain cases because fast-growing species could provide travel corridors for primates or access to native food trees, as was observed with primates at El Zota. A narrow corridor of non-native, rapidly growing tree species could be supplemented with slower-growing native species. These plantations could also act as buffers and wildlife refuges in fragmented habitats and would appear to be preferable to fallow or agricultural land (Zanne *et al.*, 2001). At El Zota, trees were originally planted to provide timber for making paper. Research into the ecology of introduced species before implementing such a project is crucial. Although *Gmelina* trees at El Zota provide travel pathways for all three primates, the extensive root network of this introduced species prohibits significant undergrowth where it is thickly planted, stifling succession by native species. For this reason, future management plans at El Zota include intensive clearing of areas after *Gmelina* harvest and the propagation of native tree species, such as *Hyeronima* (J. Ramirez, pers. comm.). Using native trees and allowing succession to occur would provide areas conducive to supporting wildlife, rather than merely providing corridors for wildlife movement (Lindenmayer and Nix, 1993). Although all the plantations were originally part of a sustainable wood-harvesting scheme, the primates' use of these areas for travel has caused the management to change its harvesting plans. Tentative plans are to harvest certain trees while sparing stands that serve as pathways for primates. By cooperating with biologists, the owner and managers of this private reserve allow for a land-use regime that is compatible with the conservation of biodiversity.

Acknowledgments: Thanks to the Hiner Ramirez family and DANTA for contributing to the conservation of Costa Rican biodiversity; the village of El Zota, the Primate Behavior and Ecology class of 2002, Andy Brei, Heather Davis, Tom LaDuke, Maribel Mora, Melissa Remis, Pedro Robles, Jessica Westin, Teresa and William and family, and the Costa Rican government for striving to sustain such diverse flora and fauna.

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FURTHER INFORMATION ON NEOTROPICAL MONKEYS REPORTED IN THE XVI CENTURY

Bernardo Urbani

Previously, I reviewed chronicles that reported on or illustrated Neotropical primates in the XVth and XVIth centuries (Urbani, 1999). Recently, I found two new documents that are important for understanding how New World monkeys were initially represented in Europe and Asia.

The first is an Ottoman map of 1513 made by the Turkish Admiral Piri Re'is (1470–1554), a navigator and polyglot who spoke Greek, Arabic, Italian, Spanish, and Portuguese. This work, known as the Piri Re'is *Carte de L'Atlantique* (90 x 65 cm), is housed at the Topkapi Sarayi Museum in Istanbul, Turkey (La Ronciere *et al.*, 1984: plate 28). The polychrome map was lost until 1929 and was part of a larger planisphere. Monkeys were illustrated but not mentioned in the text (Afetinan, 1954; McIntosh, 2000) (Fig. 1). In addition to Portuguese and Arab sources, Piri Re'is may have drawn from a chart by Christopher Columbus, apparently found in a Spanish ship captured by the Turks in the



Figure 1. Two monkeys of the New World in the Piri Re'is' *Carte de L'Atlantique* 1513. One is to the right of a *cynocephalus* (on the left of the map) and the other to the right of an *acephalus* (on the right of the map) (La Ronciere *et al.*, 1984: plate 28).

Mediterranean Sea around 1501. In fact, Piri Re'is' map may reflect the earlier Columbus map of 1498 (La Ronciere *et al.*, 1984: 218), which coincidentally is the year that Columbus, in his travels, first reported on monkeys in America (Urbani, 1999). In the highly detailed map of Piri Re'is, baboon-like monkeys in the New World were drawn for the first time (Fig. 1). It is possible to infer that these illustrations were made with African primate referents, as were the reports by other travelers in the New World such as Amerigo Vespucci (who referred to Neotropical primates as baboons and macaques; Urbani, 1999) and Arabic chroniclers (Kruk, 1995). On the other hand, Piri Re'is might have obtained another original source on New World monkeys directly from the Europeans. Two primates are represented and associated with mythical animals, one "dancing" with a *cynocephalus* (dog-head) and another with a fruit in its hand together with an *acephalus* (headless) (Fig. 1). These monkeys were illustrated as inhabiting the area that is currently Colombia, Brazil, and Venezuela.

In February 1595, the English pirate captain Sir Robert Dudley (1574–1649), voyaging in the West Indies, entered the Gulf of Paria (Venezuela) from the southwest at Serpent's Mouth, leaving it by the Dragon's Mouth in order to arrive at the Isle of Trinidad. Of this island, he said, "the country is fertile, and ful of fruits, strange beasts and foules, where of munkeis⁽³⁾, babions and parats were in great abundance [sic]" (Dudley, 1899: 71). He also indicated that the local name for primates in Trinidad was "howa" (Dudley, 1899: 78). Of interest is that the editor, G. F. Warner, wrote a footnote citing Charles Kingsley (1819–1875): "⁽³⁾His 'munkeys' were, of course, the little Sapajous; his 'babions' no true Baboons, for America disdains that degraded and dog-like form, but the great red Howlers (Kingsley, *At last*, p.69)." In principle, it is the first reference that we know of for monkeys from a Caribbean island, and specifically Trinidad. Considering the two primates of this island (Phillips, 1998), the "munkeis" are most likely *Cebus albifrons trinitatis*, whereas the "babions" refer to *Alouatta seniculus insulanus*, both endemic subspecies.

Acknowledgments: To the personnel of the UIUC libraries for their cooperation, and Paul Garber and Anthony B. Rylands for their suggestions. As always to Tania Urquiza-Haas. B. U. is supported by a Fulbright-OAS Scholarship. The author would appreciate comments and references for future updates.

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THE MEANINGS OF CACAJO AND UACARI: FOLK ETYMOLOGY IN NEOTROPICAL PRIMATE TAXONOMY

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Introduction

The majority of primate genus names are derived from Latin or Greek roots, typically referring to some aspect of their biology. Among the pitheciines, for example, *Chiropotes* is derived from the Greek "kheir" (hand) and Latin "potare" (to drink). This is a reference to the bearded saki's habit, originally reported by Humboldt (1811: see Hershkovitz,