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Nectar feeding on *Mabea fistulifera* Mart. (Euphorbiaceae) by black lion tamarins, *Leontopithecus chrysopygus* Mikan, 1823 (Callitrichidae), during the dry season in southeastern Brazil

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Nectar feeding is well documented for some primate species, which can act as pollinators as a result (Sussman and Haven 1978 ; Janson *et al.* 1981 ; Torres de Assumpção 1981 ; Garber 1988 ; Kress *et al.* 1994). Nectar is a high-energy resource and can be an important food source for small mammals in habitats with a marked seasonality, when periods of abundance alternate with periods of food shortage (Terborgh and Stern 1987 ; Ferrari and Strier 1992). Here we report on nectar feeding by the black lion tamarin *Leontopithecus chrysopygus* Mikan, 1823 (Callitrichidae) on *Mabea fistulifera* Mart. (Euphorbiaceae). This tamarin is a threatened primate species occurring in southeastern Brazil and so understanding its dietary habits is important.

The Caetetus Ecological Station of 2178 ha is covered by native semidecidous mesophytic forest. The rainy season extends from October to March, and the dry season from April to September (Passos 1997a). A study of the ecology and behaviour of *L. chrysopygus* was carried out from December 1993 to February 1995. The study group comprised four individuals : two adult males and two females (one adult, one juvenile). Lion tamarins were accompanied from the beginning of their activities (around dawn), or from when they were located until they entered their sleeping sites (holes in trees) in late afternoons. Feeding behaviour was recorded by instantaneous scan sampling at 10 minute intervals throughout the day (Altmann 1974).

The diet of the black lion tamarin includes fruits, exudates, animal prey, nectar and seed (Passos 1997a). Fleshy fruits are the major component, which are eaten mainly during the rainy season, when there is a fruiting peak. Fruit becomes scarce during the early dry season and exudates are then eaten more often as alternative resources to supplement the diet. Prey, mainly insects, are consumed throughout the year (Passos 1999).

In southeastern Brazil the blooming of *Mabea fistulifera,* in the beginning of the dry season, probably coincides with the beginning of the annual period of food scarcity (Vieira *et al.* 1991). In May of 1994, during the dry season, the black lion tamarin group was observed feeding on the nectar of *Mabea fistulifera,* comprising 12.2 % of their diet in that month. While in the tree, the lion tamarins reached for the inflorescence with the hands and licked the nectaries along their axis. A large amount of pollen accumulates on the head while nectar feeding, indicating a role as pollinating agents for this plant species.

During the dry season exudates (Passos 1999) and nectar (Passos 1997a) become important items in their diet. This change is a result of a reduction in the fruit supply in that period (Yoneda 1984 ; Garber 1988 ; Rylands 1993). Nectar is also believed to be an important seasonal component in the diet of other lion tamarin species *(L. rosalia* and *L. chrysomelas,* Rylands 1993). The nectar of *Symphonia globulifera* (Clusiaceae) is eaten by both golden lion tamarin, *L. rosalia* (Linnaeus, 1766), and the golden-headed lion tamarin, *L. chrysomelas* (Kuhl, 1820) (Rylands 1993 ; Dietz *et al.* 1997), and the nectar of *Norantea brasiliensis* Choisy (Marcgraviaceae) by the black-faced lion tamarin, *L. caissara* Lorini and Persson, 1990 (Lorini and Persson 1994).

Mabea fistulifera nectar feeding has also been reported for the brown capuchin *Cebus apella* (Wied, 1820) and the wooly spider monkey *Brachyteles arachnoides* (E. Geoffroy, 1806) by Torres de Assumpção (1981), *B. arachnoides* and the marmoset *Callithrix flaviceps* by Ferrari and Strier (1992), and the common opossum *Didelphis marsupialis* and phyllostomid bats by Vieira *et al.* (1991). *Cebus apella* is both a pollinator and seed predator of *Mabea fistulifera* (Torres de Assumpção 1981).

The behaviour of *B. arachnoides* and *C. flaviceps,* indicates that the nectar of *Mabea fistulifera* is a valuable, but possibly not essential, resource which becomes available a when edible fruit is relatively scarce (Ferrari and Strier 1992). The black lion tamarin is a more effective pollinator than either *B. arachnoides* and *C. apella* maybe, as it does not break the inflorescence axis while feeding. This same behaviour was observed in *L. caissara* and *Cebus apella* when feeding on *Norantea brasiliensis* (Lorini and Persson 1994). In addition to its role as a seed disperser for various plant species included in its diet (Passos 1997b), the black lion tamarin may also act as an effective pollinating agent for some.

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