

## Silky Sifaka *Propithecus candidus*

Excerpt from 2008 update to:

Mittermeier, R.A.; Konstant, W.R.; Hawkins, F.; Louis, E.E.; Langrand, O.; Ratsimbazafy, J.; Rasoloarison, R.; Ganzhorn, J.U.; Rajaobelina, S.; Tattersall, I.; Meyers, D.M. 2006. *Lemurs of Madagascar*. 2nd Edition. Washington, DC: Conservation International. Pp. 383–387.

*Propithecus candidus* Grandidier, 1871  
Silky Sifaka  
Other English name: Silky Simpona  
French name: Propithèque soyeux  
Malagasy names: Simpona, Simpony, Simpona fotsy

### Identification

*Propithecus candidus* is a large white sifaka from northeastern Madagascar. It has a head-body length of 48–54 cm, a tail length of 45–51 cm, a total length of 93–105 cm, and a weight of 5–6.5 kg (Lehman et al. 2005). The pelage is long, silky and white, which gives this species its common English name. It is truly a remarkable and attractive creature that looks more like a plush toy than a real animal. In some individuals, silver-gray or black tints may appear on the crown, back and limbs, and the pygal region (at the base of the tail) is sometimes yellow. The muzzle and face are bare, the skin a mix of pink and black, with some individuals having all pink or all black faces. The tips of the naked black ears protrude just beyond the white fur of the head and cheeks. This species does not occur with any other sifakas and cannot be confused with any lemurs within its range.

Unlike *P. perrieri* and *P. edwardsi*, where adult males and females are difficult to distinguish, adult male and female *P. candidus* can be readily distinguished from one another by the pelage coloration of the upper chest. Adult males possess a large brown “chest patch” that results from chest scent marking with the sternal gular gland. As rates of male chest scent marking increase during the mating season, male chest patches become far larger in size and can cover the entire front torso to the abdomen (Patel, 2006a).

### Geographic Range

The silky sifaka has a very restricted range in northeastern Madagascar that includes the humid forest belt extending from Maroantsetra to the Andapa Basin and the Marojejy Massif. Marojejy National Park represents the northern limit of its known distribution, although at one time it may have occurred as far north as Sambava. The Androranga River may represent the northwestern range limit within the Tsaratanana Corridor. The Antainambalana River, within the Makira Conservation Site, is currently regarded as the southern limit. Northeastern Makira (Amparihibe, Bezavona) may contain silky sifakas, though none have yet been observed there (Tattersall, 1982; Patel and Andrianandrasana, 2007; Wilmé and Callmander, 2006; Rasolofoson et al., 2007).



Male Silky Sifaka

photo: Andrew Ritchie

## Natural History

A number of lemur surveys first documented the presence of silky sifakas within Marojejy National Park (Sterling and McFadden, 2000; Duckworth et al., 1988; Goodman et al., 2003; Humbert, 1955; Guillaumet et al., 1975; Benson et al., 1976, 1977; Nicol and Langrand, 1989), Anjanaharibe-Sud Special Reserve (Schmid and Smolker, 1998; Goodman et al., 2003; Nicol and Langrand, 1989), the Makira Conservation Site (Rasolofoson et al., 2007; Ratelolahy and Raivoarisoa, 2007; Patel and Andrianandrasana, 2007), the Betaolana Corridor (Goodman et al., 2003), and the Tsaratanana Corridor (WWF Andapa Projet Simpona, pers. comm.).

More recently, a 14 month study (Patel, 2006a; Patel et al., 2006) and two short-term studies (Queslin and Patel, 2008; Kelley and Mayor, 2002) have examined the behavioral biology, communication, and feeding ecology of silky sifakas in Marojejy National Park. Silky sifakas exhibit the greatest elevational range of any sifaka species and can be found as low as 300 m in altitude in Makira (Andaparaty) and as high as 1875 m in Marojejy. Thus, they inhabit



Silky Sifaka adult and young

photo: Jeff Gibbs

several types of elevation-specific habitats including primary montane rainforest, sclerophyllous forest, and even low ericoid bush at their highest elevations. The silky sifaka exhibits variable social structure living in male-female pairs, one-male groups, and multi-male/multi-female groups. Groups range in size from 2 to 9 individuals. 95% kernel home ranges vary by site from 34 to 47 hectares (Patel, 2006b; Patel and Andrianandrasana, 2007; Patel et al., 2007).

Approximately 25% of the day is spent feeding, 44% resting, and the remainder of day is devoted to social behavior (17%), traveling, and sleeping. Long bouts of terrestrial play involving adults are not uncommon. Rates of aggression are low, and mainly occur during feeding. Females exhibit feeding priority over males. Like other eastern sifakas, silky sifakas are folivorous seed predators that consume a huge variety of plant species. A recent 2 month study documented feeding from 76 species across 42 families (mainly trees, but many lianas as well). 52% of feeding time was spent consuming leaves, 34% fruit, and 11% seeds. Flowers and soil were rarely consumed (Queslin and Patel, 2008; Patel, 2006b).

Mating is believed to occur on a single day each year in December or January with infants born in June or July. Generally, females give birth to a single infant every two years. Occasionally however, births in consecutive years by the same female have been observed (Patel, 2006b). Infants initially grasp the fur on their mother's belly and

about four weeks later begin to ride "jockey style" on their mothers back. As is typical of *Propithecus*, all group members interact affiliatively with infants. Grooming is the most frequent form of non-maternal infant care, followed by playing, occasional carrying, as well as nursing in a few remarkable instances (Patel, 2007a; Patel et al., 2003a). Dispersal has been observed only once when a young adult male immigrated in 2007 aggressively forcing the older resident male out of the group he had been a member of for at least 7 years. Although eastern sifakas generally exhibit male and female group transfer, female transfer has not (yet) been observed (E.R. Patel, pers. comm.).

The fossa (*Cryptoprocta ferox*) is the only documented predator of the silky sifaka, other than human beings (Patel, 2005). No aerial predation attempts by raptors have ever been observed, although these sifakas sometimes stare skyward and emit loud "aerial disturbance" roars in the presence of the large Madagascar buzzard (*Buteo brachypterus*), which does not eat lemurs, and other small birds. Loud sneeze-like "zzuss!" vocalizations are their

second type of alarm call, and are emitted to terrestrial disturbances, in response to lost calls by other group members, and after receiving aggression. Acoustic analyses have revealed sex and individual differences in the acoustic structure of the silky sifaka *zzuss* vocalization (Patel et al., 2006b; Patel et al., 2003b). In sum, adult eastern sifakas have a moderately sized vocal repertoire of about 7 call types (Patel et al. 2005a). Infants have several specialized vocalizations as well. Despite the relatively small size of their vocal repertoire, some eastern sifakas are highly vocal with high call rates averaging 7 calls per hour per individual in silky sifakas. The most frequently emitted vocalizations are low amplitude, low frequency, tonal "hum" and "mum" vocalizations. These contact calls are used in a variety of circumstances including group movement, affiliation, foraging, and while resting (E.R. Patel, pers. comm.).

As in all prosimians, olfactory communication is well developed in sifakas. Eastern sifakas possess several specialized scent-marking glands that include a sebaceous chest gland only found in males and mixed apocrine-sebaceous genital glands in both sexes (Schilling 1979). Sifakas do not allomark, as in *Eulemur*, by directly scent-marking conspecifics. Females scent-mark trees by rubbing their genital glands against trees in a rhythmic vertical motion. Males scent-mark trees in several ways, by rubbing them with their chest gland, genital glands, or a combination of the two. Males routinely gouge trees with their toothcombs just prior to chest marking which leaves long lasting visible marks. Silky sifakas do not eat bark or gum, so such non-nutritive male tree gouging is likely communicative in function (Patel and Girard-Buttoz, 2008). Both sexes often urinate while scent-marking. Although males scent-mark two or three times as often females, female scent-marks are responded to far more often and more quickly than male marks. A one year study found that only 17% of male *P. candidus* marks are responded to by other group members but 71% of female marks received a response on average within 61 seconds (Patel, 2006a). In both *P. edwardsi* and *P. candidus*, male overmarking of a female's mark is the most common response, followed by males overmarking the scent-marks of other males. Male eastern sifakas preferentially use one type of scent-marking, combined chest-ano-genital marking, when depositing an overmark (Andrianandrasana et al., 2007). The high rates of overmarking practiced by male eastern sifakas lead to totem-tree marking in which certain trees are covered with male scent-marks and gouge marks. Extensive scent-marking of the home range border has not been observed in *P. candidus* (Patel, 2006a; Patel and Girard-Buttoz, 2008; Ritchie and Patel, 2006).

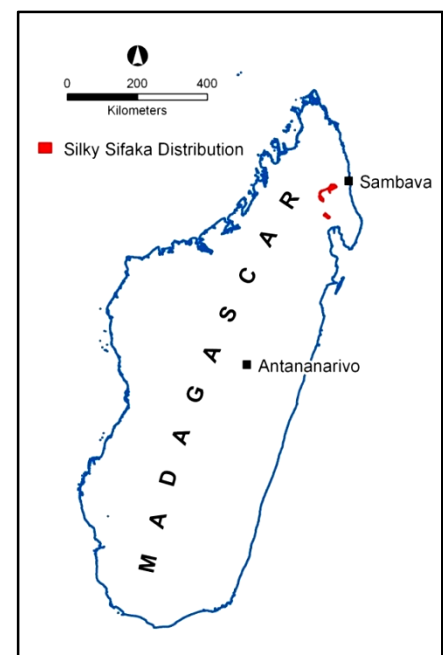
### Conservation Status

According to the most recent IUCN Red List assessment, *P. candidus* is Critically Endangered [CR C1+2a(i)]. This is one of the rarest and most critically endangered lemurs. Silky sifakas are one of four lemurs listed as one of the "World's Top 25 Most Critically Endangered Primates" (Patel et al., 2007). Global population size is estimated between 100 and 1000. It is threatened by habitat destruction and hunting, even within protected areas. There is no local taboo or *fady* against eating this species (Patel, 2007b; Patel et al., 2005b; Nielson and Patel, 2008).

The majority of the remaining population of *P. candidus* is found within two protected areas: Marojejy National Park and Anjanaharibe-Sud Special Reserve. A few groups have recently been found within the Makira Conservation Site (Andaparaty and Manandriana). Silky sifakas are also found within the unprotected Betaolana Corridor that connects Anjanaharibe-Sud and Marojejy as well as the unprotected Tsaratanana Corridor to the north-west. Further surveys in Makira and western Anjanaharibe-Sud, the boundaries of which have recently been extended, are needed. Efforts aimed at ending lemur hunting in the Marojejy region and elsewhere should be continued and expanded.

### Where to See It

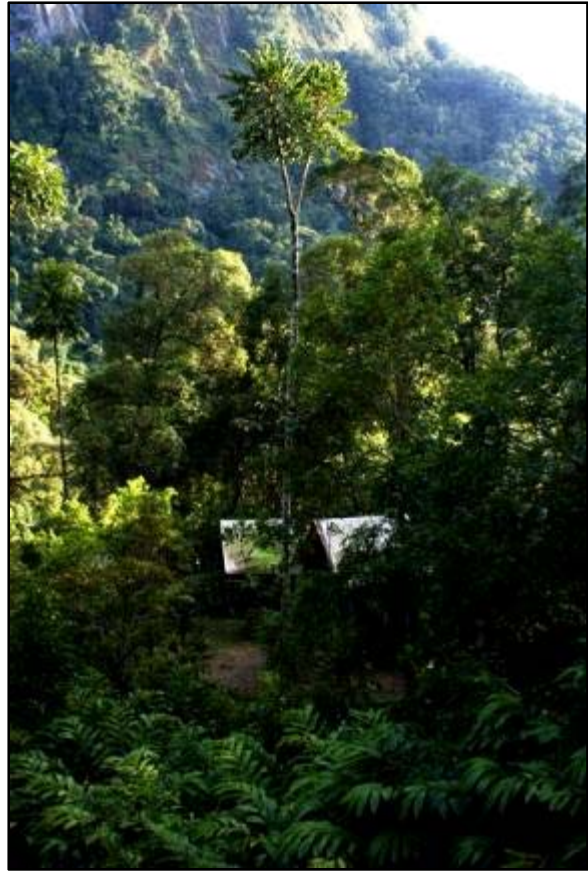
This sifaka, rare and localized as it is, can be found relatively easily near Camp 2 (Camp Marojejia) along the Summit Trail in Marojejy National Park ([www.marojejy.com](http://www.marojejy.com)). A number of comfortable bungalows, flush toilets,



and covered dining areas replete with full cooking supplies have recently been built at three camps along this trail, which leads to the remarkable Marojejy summit.

Two days and nights should be set aside at Camp 2 for the greatest chance of finding silky sifakas. Visitors should visit the Information Kiosk in Manantenina, in the morning, to hire a required guide and organize their trip. Trips can be arranged in advance through the ANGAP office in Andapa or through several private tour companies. With the recent completion of several bridges, visitors can now drive to the village of Mandena, reducing the hike to Camp 2 to five or six hours. The trail is steep and hot, and a reasonable level of fitness is required.

It is also possible to see this species in the Makira Conservation Site in the Andaparaty Forest and Anjanaharibe-Sud Special Reserve in the Befingotra Forest ([anjanaharibe.marojejy.com](http://anjanaharibe.marojejy.com)). The WCS office in Antananarivo and Maroantsetra can help organize trips to the Makira site which will require a several hour boat trip along the Antainambalana River and then a 1 to 2 hour walk. Trips to Anjanaharibe-Sud are best organized through the ANGAP office in Andapa. Neither of these sites have bungalows or any other tourist accommodations, and it could take several days or a week of searching through very dense and difficult terrain to find *P. candidus*. It is also possible to find this species in other parts of Anjanaharibe-Sud, but this is difficult and unreliable (R.A. Mittermeier, pers. obs.).



Camp 2 (Camp Marojejia)

photo: Eric Mathieu

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