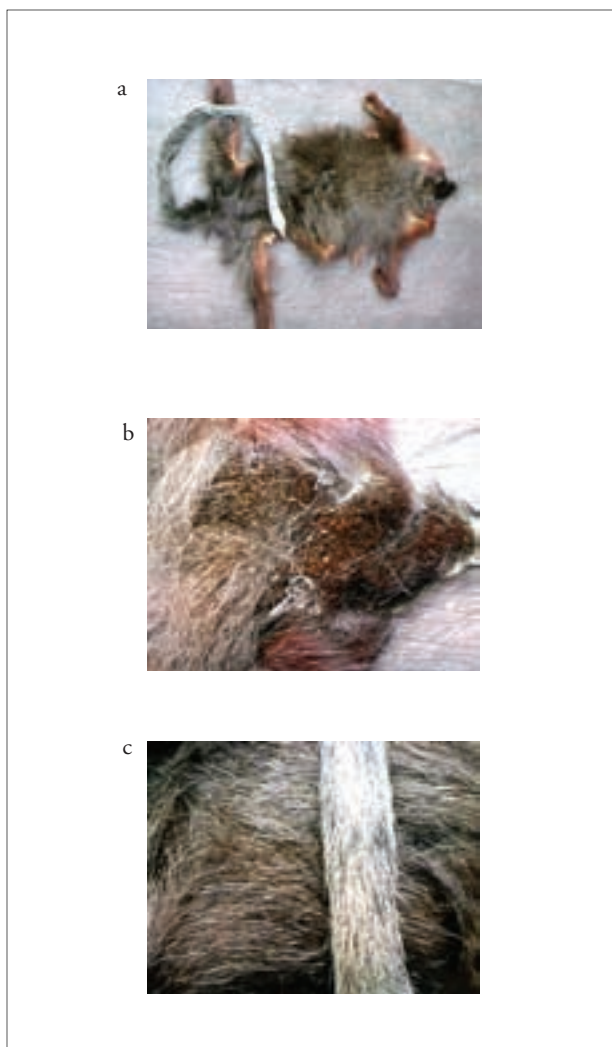


town of Parintins, forming an enclave population in the interfluvium delineated by the lower Rio Uíra-Curupá and lower Rio Andirá. M. G. M. van Roosmalen also observed populations of entirely pale yellowish to almost white color morphs of *Callicebus hoffmannsi* along the Rio Mampurú, one river further to the east, and classic yellowish-white and gray *Callicebus hoffmannsi* on both banks of the middle and upper Rio Andirá (Fig. 24). These observations confirm the parapatry of *Callicebus hoffmannsi* and *C. baptista*, and therefore they are elevated to full species here, whereas Hershkovitz (1990) considers them subspecies of *Callicebus hoffmannsi* (Figs. 1, 2, and 24).

**Diagnostic characters:** Sideburns, under parts, and inner side of limbs bright to dark reddish, or reddish brown (saturate pheomelanin); upper and outer surface of head, trunk, and limbs grayish to blackish agouti; forehead like crown, whitish ear tufts lacking; tail dominantly blackish

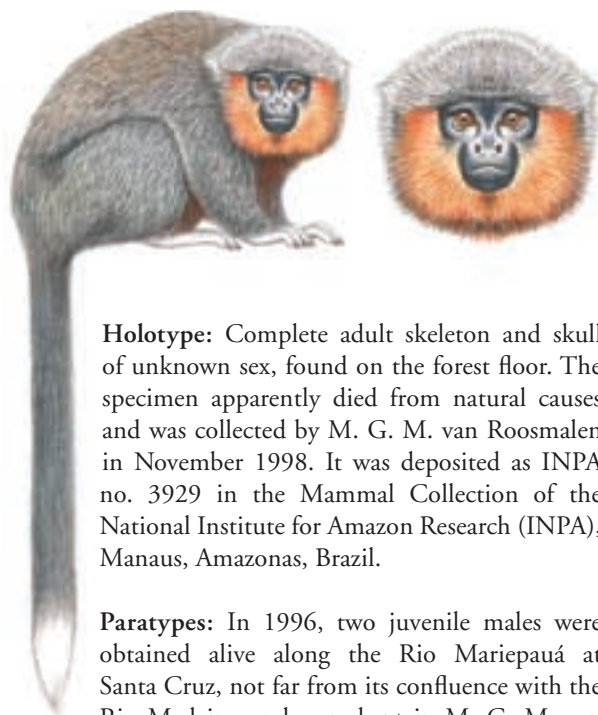


**Figure 25.** The Baptista Lake titi monkey, *Callicebus baptista* Lönnberg, 1939. A skin obtained from the left bank of the Rio Uíra-Curupá, a right bank affluent of the Rio Amazonas: a. whole skin, b. crown and nape, c. tail on the background of the dorsum. In the private collection of M. G. M. van Roosmalen (MGMR 50). Photographs by M. G. M. van Roosmalen.

agouti to entirely blackish, often intermixed with buff and gray hairs.

Distinguished from *C. cinerascens* and *C. hoffmannsi* by uniformly reddish or reddish brown sideburns, and underparts and inner surface of limbs; from *C. bernhardi* by lack of white ear tufts, white cheiridia and white tail tip; from *C. moloch* by dark brownish or grayish agouti upper and outer parts of trunk, limbs, crown and forehead, reddish or reddish brown instead of bright orange sideburns, and lacking the buffy upper surface of the cheiridia and buffy pencilled tip of tail (Fig. 25).

### *Callicebus bernhardi* new species



**Holotype:** Complete adult skeleton and skull of unknown sex, found on the forest floor. The specimen apparently died from natural causes and was collected by M. G. M. van Roosmalen in November 1998. It was deposited as INPA no. 3929 in the Mammal Collection of the National Institute for Amazon Research (INPA), Manaus, Amazonas, Brazil.

**Paratypes:** In 1996, two juvenile males were obtained alive along the Rio Mariepauá at Santa Cruz, not far from its confluence with the Rio Madeira, and were kept in M. G. M. van Roosmalen's Breeding Center for Endangered Amazonian Monkeys in Manaus, Brazil. They died in April and August 2001 and are deposited as INPA no. 4029 and INPA no. 4033, respectively, in the Mammal Collection of the National Institute for Amazon Research (INPA), Manaus, Amazonas, Brazil.

**Type locality:** West bank of the lower Rio Aripuanã, at the edge of the settlement of Nova Olinda, 41 km southwest of the town of Novo Aripuanã, Amazonas state, Brazil. This region is located in south-central Amazonia, south of Rio Amazonas and east of Rio Madeira. Coordinates for the type locality are: 05°30'63"S, 60°24'61"W. Altitude 45 m. (Fig. 26).

**Geographic distribution:** Interfluvium delineated by the Rios Madeira-Jí-Paraná and Rios Aripuanã-Roosevelt, in the states of Amazonas and Rondônia, Brazil. In Rondônia, the species is parapatric in the west with *C. brunneus* along the entire Rio Jí-Paraná, and in the east

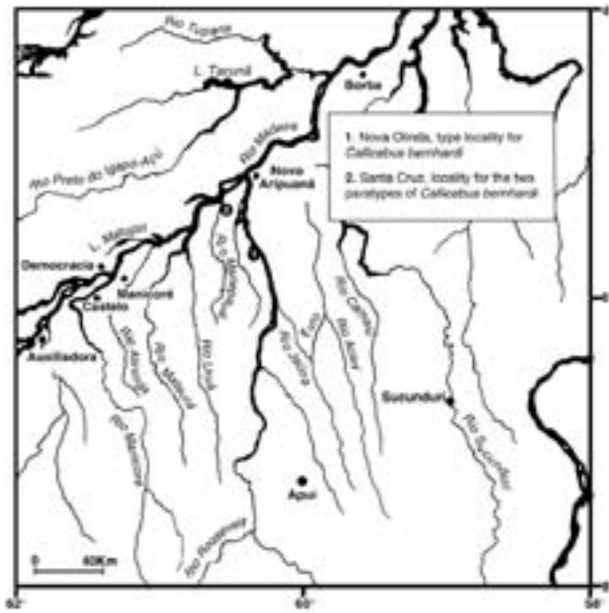


Figure 26. Collecting localities for *Callicebus bernhardi* new species.

with *C. cinerascens* along the Rio Roosevelt; in Amazonas, the species is parapatric with *C. dubius* in the west along the middle Rio Madeira, and with *C. cinerascens* in the east along the Rio Aripuanã (Figs. 1 and 2). Ferrari *et al.* (1996) observed a grey titi monkey at Pimenta Bueno in Rondônia, on the west bank of the Rio Ji-Paraná. They noted that it was not the distinctively brown-colored *C. brunneus* and were unable to identify it. It may have been *C. bernhardi*, which would extend its range a little to the west across the upper the Rio Ji-Paraná, but this requires confirmation.

This species has been observed in the wild by M.G.M. van Roosmalen at the following localities: west bank of lower Rio Aripuanã, Nova Olinda, Amazonas state, 05°30'01"S, 60°24'27.4"W; west bank of lower Rio Aripuanã, Monte Alegre, Reserva Florestal Getal, 05°34'68"S, 60°23'40"W; west bank of lower Rio Aripuanã, Novo Oriente (Capimtuba), 05°43'41"S, 60°17'09"W; east bank of middle Rio Madeira, seringal São Luis, ca. 5 km south of the town of Manicoré, 05°50'28"S, 61°18'19"W, altitude 45 m.

**Diagnostic characters:** Upper and outer surface of head, trunk, and limbs grayish black, on the back mixed with brownish agouti or red-brown; forehead not defined from crown, grayish black to gray; ears black with conspicuous whitish tufts; sideburns, under parts of body, and inner side of limbs sharply contrasted dark orange; cheiridia sharply contrasted white against grayish black lower limbs; tail black except for a sharply contrasted white pencil.

Distinguished from *C. cinerascens* by uniformly dark orange instead of grayish sideburns and inner sides of



Figure 27. Prince Bernhard's titi monkey, *Callicebus bernhardi* new species. The adult male paratype INPA 4033 from the Rio Mariepauá, affluent of the Rio Madeira, in 1998. Photographs by M. G. M. van Roosmalen.

limbs, chest, and belly, and tail with white pencil; from *C. brunneus* by grayish instead of dark brown to black forehead and crown, and dark orange sideburns, inner sides of limbs, chest, and belly; from *C. hoffmannsi* and *C. baptista* by strikingly contrasting white ear tufts, cheiridia and tip of the tail (pencil); from *C. moloch* by grayish forehead and crown, white ear tufts, and blackish tail with a distinct white pencil; from *C. dubius* by lack of black vibrissae and white blaze (Figs. 27, 30–34).

**External characters of holotype:** Forehead, crown, sides of body, and outer sides of limbs grayish; rump, mid-dorsum,

back, and nape grayish mixed with brownish agouti to reddish brown, the hairs 5 cm long, with 5 blackish bands alternating with 4 narrow brownish agouti to red-brown ones, the most proximal (2 cm long) and the distal one (tip) black; face black with some white hairs around mouth and nostrils; ears black with white tufts contrasted with light

grayish forehead and crown; tail ca. 55 cm long, the distal 7 cm forming a white pencil (Table 2).

**Cranial measurements:** See Table 3 and Figures 28 and 29.

**Habitat:** Titi monkeys of the *cupreus* and *moloche* Group essentially are secondary and disturbed forest specialists. The various groups of *C. bernhardi* observed in the wild by M. G. M. van Roosmalen were invariably in naturally or anthropogenically disturbed forest, such as *blow-downs* (large patches of secondary forest after massive deforestation caused by dramatic rainstorm events), liana forest on abandoned *terras pretas*, secondary forest surrounding plantations and fields, and so-called *seringais*, an early form of agroforestry, in which areas of high riverbank forests along Amazonian white-water rivers were turned into productive multi-species forests. These forests are rich in a number of commercially valuable and edible fruit-producing native trees, including rubber (*Hevea brasiliensis*), Brazil nut (*Bertholletia excelsa*), wild cocoa (*Theobroma* spp.), 'bacuri' (*Rheedia* spp., *Platonia insignis*), 'ingá' (*Inga* spp.), 'taperebá' (*Spondias mombin*), 'biribá' (*Rollinia squamosa*), 'sourso' (*Annona* spp.), and a number of tree species belonging to the sapotilla family (Sapotaceae) and palms (Palmae or Arecaceae). These *seringais* seem to



Figure 28. Skull and mandible of the adult (unknown sex) holotype of *Callicebus bernhardi* (INPA 3929). Photographs by M. G. M. van Roosmalen.

**Table 3.** Cranial and dental measurements of the holotype *Callicebus bernhardi* (INPA 3929) (mm) (measurements taken by R. Voss).

Cranial measurements	(mm)
Greatest skull length	64
Condylbasal length	53
Zygomatic breadth	40
Biorbital breadth	36
Postorbital constriction	31
Brain-case length	52
Brain-case width:	34
Greatest skull length	64
Condylbasal length	53

Dental measurements	(mm)
Outside crown-to-crown dimensions	
I – M <sup>3</sup>	23.19
C – M <sup>3</sup>	18.06
PM <sup>2</sup> – M <sup>3</sup>	15.62
M <sup>1</sup> – M <sup>3</sup>	9.76
I <sup>2</sup> – I <sup>2</sup>	10.08
C <sup>1</sup> – C <sup>1</sup>	14.47
M <sup>1</sup> – M <sup>1</sup>	21.31
M <sup>3</sup> – M <sup>3</sup>	20.49

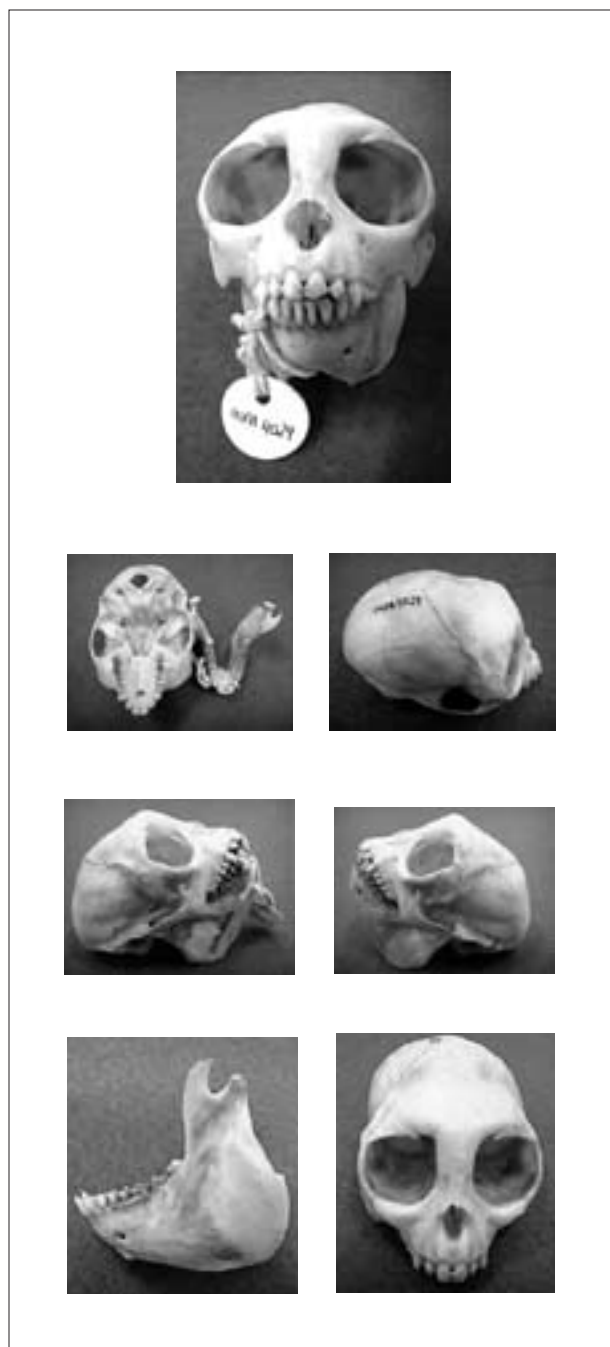
Mandible measurements	(mm)
Mandible length	42.76
Mandible height	34.44

offer optimal habitat and a year-round food supply for titi monkeys, marmosets, tamarins, and night monkeys. The highest densities of titi monkeys of the *cupreus* and *moloch* Group can be found in these *seringais*, if the local people do not hunt them. Often before dawn in the early morning, all pairs living in the area can be heard performing duet calls and, therefore, local densities of titis can be easily estimated.

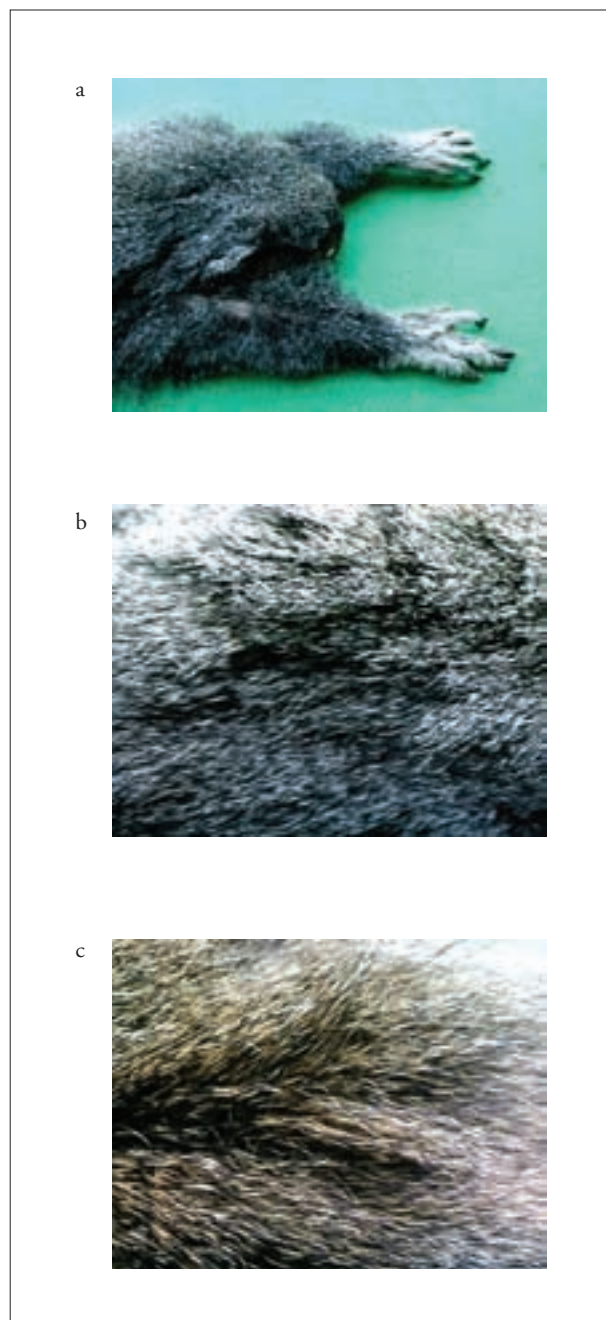
**Origin of the name:** This titi monkey is named in honor of His Royal Highness Prince Bernhard of the Netherlands, who for half a century has been a global leader in nature

conservation. In particular, the authors are grateful to him for having created the Order of the Golden Ark, a highly prestigious award, equivalent to knighthood, which is presented every year to a select group of conservationists from around the world. Two of the authors (RAM in 1995; MGMR in 1997) have been thus honored and are naming this new titi as a small token of their appreciation.

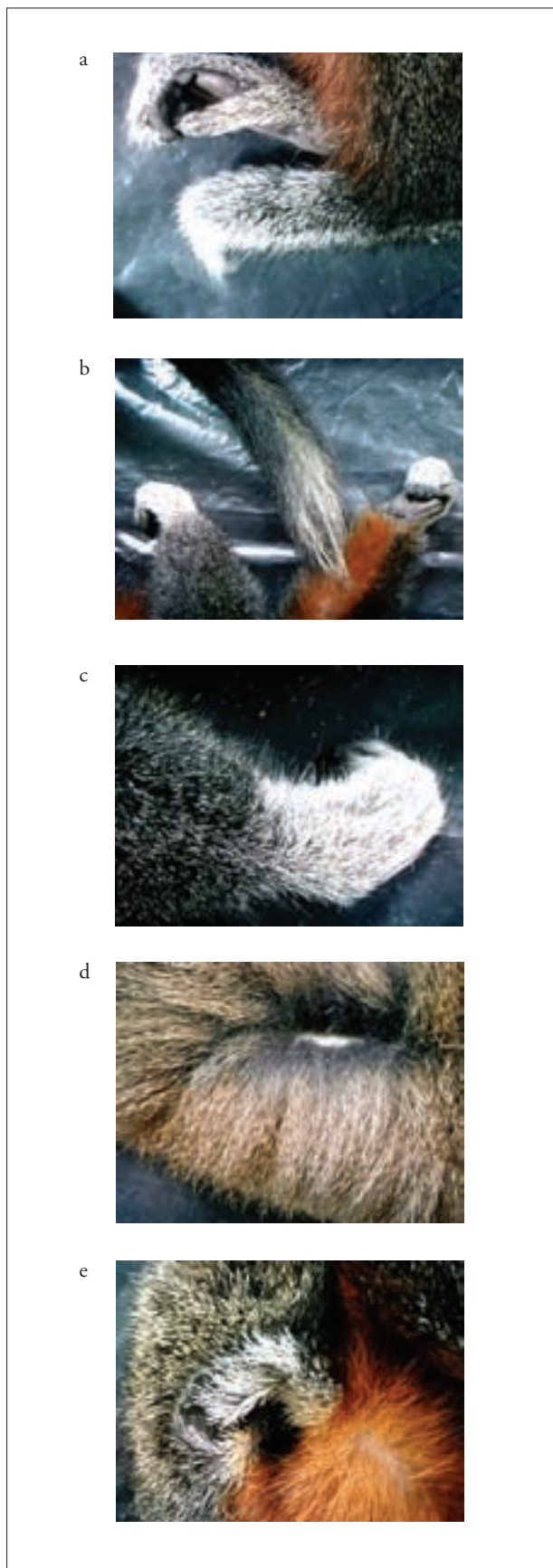
**Vernacular name:** This titi monkey is referred to as *zog-zog* or *zogue-zogue* by the local people. For an English name, we suggest Prince Bernhard's titi monkey.



**Figure 29.** Skull and mandible of the adult male paratype of *Callicebus bernhardi* (INPA 4029). Photographs by M. G. M. van Roosmalen.



**Figure 30.** Dorsal views of the adult male paratype of *Callicebus bernhardi* (INPA 4029): a. crown, forearms and hands, b. close up of hairs of the nape, and c. close up of the hairs of the mid-dorsum. Photographs by M. G. M. van Roosmalen.



**Figure 31.** Details of the adult male paratype of *Callicebus bernhardi* (INPA 4033): a. dorsal surface of feet, b. inner side of right arm and tail tip, c. dorsal surface of left hand, d. close-up of dorsal pelage, e. crown, ear, and part of sideburn. Photographs by M. G. M. van Roosmalen.



**Figure 32.** Prince Bernhard's titi monkey, *Callicebus bernhardi* new species. Views of the adult male paratype (INPA 4029). Photographs by Gary Comer.



Figure 33. Prince Bernhard's titi monkey, *Callicebus bernhardi* new species. Views of the adult male paratype (INPA 4029). In the top left photograph it is with a Sateré marmoset, *Mico saterei* (Sousa e Silva & Noronha, 1998). Photographs by M. G. M. van Roosmalen.



Figure 34. Prince Bernhard's titi monkey, *Callicebus bernhardi* new species. Views of the adult male paratype (INPA 4029). Photographs by M. G. M. van Roosmalen.