

William Konstant and Kim Meek for assistance in editing and lay-out, Ella Outlaw for support from the office in Washington, DC, and Betty van Roosmalen-Blijenberg for taking care of the captive primate specimens in Manaus. Support for fieldwork and for publication of this paper was provided by the Margot Marsh Biodiversity Foundation and Conservation International, Washington, DC, and Conservation International do Brasil, Belo Horizonte.

References

- Ayres, J. M. and Clutton-Brock, T. H. 1992. River boundaries and species range size in Amazonian primates. *Am. Nat.*, 140(3): 531–537.
- Benirschke, K. and Bogart, M. H. 1976. Chromosomes of the tan-handed titi (*Callicebus torquatus* Hoffmannsegg, 1807). *Folia Primatol.* 25: 25–34.
- Brooks, D. M. and Pando-Vasquez, L. 1997. Crossing the great barrier: *Callicebus cupreus discolor* north of the Napo river. *Neotrop. Primates* 5(1): 11.
- Campos, F., De la Torre, S. and De Vries, T. 1992. Territorial behavior and home range establishment of *Callicebus torquatus* (Primates: Cebidae) in Amazonian Ecuador. *Abstracts of the XIVth Congress of the International Primatological Society*, Strasbourg, France, p.316.
- Coimbra-Filho, A. F. and Câmara, I. de G. 1996. *Os Limites Originais do Bioma Mata Atlântica na Região Nordeste do Brasil*. Fundação Brasileira para a Conservação da Natureza, Rio de Janeiro.
- Coimbra-Filho, A. F. and Mittermeier, R. A. 1973. New data on the taxonomy of the Brazilian marmosets of the genus *Callithrix* Erxleben, 1777. *Folia Primatol.* 20: 241–264.
- Cosenza, B. A. P. 1993. Primatas do município de Carangola. *Boletim do Museu Municipal, Carangola, Minas Gerais, série Zoologia* 1(1): 1-17.
- Cruz Lima, E. da. 1945. *Mammals of Amazônia. Vol. 1. General Introduction and Primates*. Contr. do Museu Paraense Emílio Goeldi de História Natural e Etnografia, Belém do Pará, Brasil.
- Darwin, C. 1859. *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. J. Murray, London. (Reprint edition: Avenel Books, New York, 1979).
- De Boer, L. E. M. 1974. Cytotaxonomy of the Platyrhini (Primates). *Genen Phaenen* 17: 1–115.
- Defler, T. R. 1994. *Callicebus torquatus* is not a white-sand specialist. *Am. J. Primatol.* 33: 149–154.
- De la Torre, S., Utreras, V. and Campos, F. 1995. An overview of primatological studies in Ecuador: Primates of the Cuyabeno Reserve. *Neotrop. Primates* 3(4): 169–170.
- Easley, S. E. 1982. Ecology and behavior of *Callicebus torquatus*, Cebidae, Primates. Doctoral thesis, Washington University, St. Louis, U.S.A.
- Egozcue, J., Perkins, J. E. M., Hagemenas, F. and Ford, D. M. 1969. The chromosomes of some Platyrhini (*Callicebus*, *Ateles* and *Saimiri*). *Folia Primatol.* 11: 17–27.
- Groves, C. P. 1993. Order Primates. In: *Mammal Species of the World: A Taxonomic and Geographic Reference*, 2nd Edition, D. E. Wilson and D. M. Reeder (eds.), pp.2432–2477. Smithsonian Institution Press, Washington, DC.
- Groves, C. P. 2001. *Primate Taxonomy*. Smithsonian Institution Press, Washington, DC.
- Ferrari, S. F., Iwanaga, S., Messias, M. R., Ramos, P. C. S., Cruz Neto, E. H. and Coutinho, P. E. G. 2000. Titi monkeys (*Callicebus* spp., Atelidae Platyrhini) in the Brazilian state of Rondônia. *Primates* 41: 191–196.
- Ferrari, S. F., Iwanaga, S. and Silva, J. L. da. 1996. Platyrhines in Pimenta Bueno, Rondônia, Brazil. *Neotrop. Primates* 4(4): 151–153.
- Flesher, K. 1999. Primates of the Ituberá forest complex, Bahia, Brazil. *Neotrop. Primates* 7(4): 127–131.
- Gascon, C., Malcolm, J. R., Patton, J. L., da Silva, M. N. F., Bogart, J. P., Lougheed, S. C., Peres, C. A., Neckel, S. and Boag, P. T. 2000. Riverine barriers and the geographic distribution of Amazonian species. *Proc. Natl. Acad. Sci. USA*, 97(25): 13672–13677.
- Gray, J. E. 1870. *Catalogue of Monkeys, Lemurs and Fruit-Eating Bats in the Collection of the British Museum*. Trustees of the British Museum, London, U.K.
- Hernández-Camacho, J. and Cooper, R. W. 1976. The nonhuman primates of Colombia. In: *Neotropical Primates: Field Studies and Conservation*, R. W. Thorington, Jr. and P. G. Heltne (eds.), pp.35–69. National Academy of Sciences, Washington, DC.
- Hershkovitz, P. 1963. A systematic and zoogeographic account of the monkeys of the genus *Callicebus* (Cebidae) of the Amazonas and Orinoco River basins. *Mammalia* 27(1): 1–80.
- Hershkovitz, P. 1977. *Living New World Monkeys (Platyrhini) with an Introduction to Primates*. Vol. I. University of Chicago Press, Chicago.
- Hershkovitz, P. 1987. The titi. *Field Museum of Natural History Bulletin* 58(6): 11–15.
- Hershkovitz, P. 1988. Origin, speciation, dispersal of South American titi monkeys, genus *Callicebus* (family Cebidae, Platyrhini). *Proce. Acad. Nat. Sci. Philadelphia* 140(1): 240–272.
- Hershkovitz, P. 1990. Titis, New World monkeys of the genus *Callicebus* (Cebidae, Platyrhini): A preliminary taxonomic review. *Fieldiana, Zoology, New Series* (55): 1–109.
- Hill, W. C. O. 1960. *Primates, Comparative Anatomy and Taxonomy. IV. Cebidae, Part A*. Edinburgh University Press, Edinburgh.
- Kinzey, W. G. 1977. Positional behavior and ecology in *Callicebus torquatus*. *Yearb. Phys. Anthropol.* 20: 468–480.
- Kinzey, W. G. 1981. The titi monkeys, genus *Callicebus*. In: *Ecology and Behavior of Neotropical Primates Vol. 1*, A. F. Coimbra-Filho and R. A. Mittermeier (eds.), pp.241–277. Academia Brasileira de Ciências, Rio de Janeiro.
- Kinzey, W. G. 1982. Distribution of primates and forest refuges. In: *Biological diversification in the tropics*, G. T.

- Prance (ed.), pp.455–482. Columbia University Press, New York.
- Kinzey, W. G. and Becker, M. 1983. Activity pattern of the masked titi monkey *Callicebus personatus*. *Primates* 24: 337–343.
- Kinzey, W. G. and Gentry, A. H. 1979. Habitat utilization in two species of *Callicebus*. In: *Primate Ecology: Problem-Oriented Field Studies*, R. W. Sussman (ed.), pp.89–100. John Wiley and Sons, New York.
- Kobayashi, S. 1995. A phylogenetic study of titi monkeys, genus *Callicebus*, based on cranial measurements: I. Phyletic groups of *Callicebus*. *Primates* 36(1): 101–120.
- Kobayashi, S. and Langguth, A. L. 1994. New titi monkey from Brazil. In: *Handbook and Abstracts, XV Congress of the International Primatological Society*, p.166. Kuta, Bali, Indonesia, 3–8 August, 1994.
- Kobayashi, S. and Langguth, A. L. 1999. A new species of titi monkey, *Callicebus Thomas*, from north-eastern Brazil (Primates, Cebidae). *Rev. Bras. Zool.* 16(2): 531–551.
- Lönnberg, E. 1939. Notes on some members of the genus *Callicebus*. *Arkiv. für Zoologi*, Stockholm, 31^A(13): 1–18.
- Marinho Filho, J. and Veríssimo, E. W. 1997. The rediscovery of *Callicebus personatus barbarabrowniae* in northeastern Brazil with a new western limit to its distribution *Primates* 38(4): 429–433.
- Mayr, E. 1970. *Population, Species and Evolution*. Harvard University Press, Cambridge, MA.
- Minezawa, M., Jordan C., O. C. and Valdivia, B. J. 1989. Karyotypic study of titi monkeys, *Callicebus moloch brunneus*. *Primates* 30(1): 81–88.
- Mittermeier, R. A., Rylands, A. B. and Coimbra-Filho, A. F. 1988. Systematics: Species and subspecies - an update. In: *Ecology and Behavior of Neotropical Primates, Vol. 2*, R. A. Mittermeier, A. B. Rylands, A. F. Coimbra-Filho and G. A. B. da Fonseca (eds.), pp.13–75. World Wildlife Fund, Washington, DC.
- Moynihan, M. 1976. *The New World Primates: Adaptive Radiation and the Evolution of Social Behavior, Language, and Intelligence*. Princeton University Press, Princeton, NJ.
- Müller, K. H., Heiduck, S. and Schultze, S. 1993. Field investigations on masked titi monkeys (*Callicebus personatus melanochir*) in Una, Bahia, Brazil. *Neotrop. Primates* 1(4): 21–22.
- Napier, P. H. 1976. *Catalogue of Primates in the British Museum (Natural History). Part I: Families Callitrichidae and Cebidae*. British Museum (Natural History), London.
- Oliver, W. L. R. and Santos, I. B. 1991. Threatened endemic mammals of the Atlantic forest region of south-east Brazil. *Wildl. Preserv. Trust, Special Scientific Report*, (4): 1–126.
- Peres, C. A. 1991. Ecology of mixed-species groups of tamarins in Amazonian *terra firme* forests. Ph.D. thesis University of Cambridge, U.K.
- Peres, C. A. 1993. Notes on the primates of the Juruá River, western Brazilian Amazonia. *Folia Primatol.* 61: 97–103.
- Peres, C. A., Patton, J. L. and Silva, M. N. F. da. 1997. Riverine barriers and gene flow in Amazonian saddle-back tamarins. *Folia Primatol.* 67: 113–124.
- Pieczarka, J. C., and Nagamachi, C. Y. 1988. The karyotype of *Callicebus moloch moloch* (Cebidae, Primates). *Rev. Brasil. Genet.* 11(3): 653–659.
- Rosenberger, A. L. 1981. Systematics: The higher taxa. In: *Ecology and Behavior of Neotropical Primates, Vol. 1*, A. F. Coimbra-Filho and R. A. Mittermeier (eds.), pp.9–27. Acadêmica Brasileira de Ciências, Rio de Janeiro.
- Rowe, N. 1996. *The Pictorial Guide to the Living Primates*. Pogonias Press, East Hampton, New York, U.S.A.
- Rylands, A. B. 1998. *Callicebus personatus* (É. Geoffroy, 1812). In: *Livro Vermelho das Espécies Ameaçadas de Extinção da Fauna de Minas Gerais*, edited by A. B. M. Machado, G. A. B. da Fonseca, R. B. Machado, L. M. de S. Aguiar and L. V. Lins, pp. 90–92. Fundação Biodiversitas, Belo Horizonte.
- Rylands, A. B., Spironelo, W., Tornisielo, V. L., Lemos de Sá, R. M., Kierulff, M. C. M. and Santos, I. B. 1988. Primates of the Rio Jequitinhonha valley, Minas Gerais, Brazil. *Primate Conserv.* (9): 100–109.
- Rylands, A. B., Mittermeier, R. A. and Rodríguez-Luna, E. 1995. A species list for the New World primates (Platyrrhini): Distribution by country, endemism, and conservation status according to the Mace-Lande system. *Neotrop. Primates* 3(suppl.): 113–160.
- Rylands, A. B., Schneider, H., Langguth, A., Mittermeier, R. A., Groves, C. P. and Rodríguez-Luna, E. 2000. An assessment of the diversity of New World primates. *Neotrop. Primates* 8(2): 61–93.
- Schneider, H., Schneider, M. P. C., Sampaio, M. I. C., Montoya, E., Tapia, J., Encarnación, F., Anselmo, N. P. and Salzano, F. M. 1992. Divergence between biochemical and cytogenetic differences in three species of the *Callicebus moloch* group. *Am. J. Phys. Anthropol.* 90: 345–350.
- Schneider, H., Sampaio, I., Harada, M. L., Barroso, C. M. L., Schneider, M. P. C., Czelusniak, J. and Goodman, M. 1996. Molecular phylogeny of the New World monkeys (Platyrrhini, Primates) based on two unlinked nuclear genes: IRBP Intron I and epsilon-globin sequences. *Am. J. Phys. Anthropol.* 100: 153–179.
- Silva, M. N. F. da and Patton, J. L. 1998. Molecular phylogeography and the evolution and conservation of Amazonian mammals. *Molecular Ecology* 7: 475–486.
- Sousa, M. C. de. 2000. New localities for Coimbra-Filho's titi monkey, *Callicebus coimbrai*, in North-east Brazil. *Neotrop. Primates* 8: 151.
- Spix, J. de. 1823. Simiarum et Vespertilionum Brasiliensium Species Novae ou Histoire Naturelle des Espèces Nouvelles de Singes et de Chauves-souris Observées et Recueillies Pendant le Voyage dans l'Intérieur du Brésil. *Typis Francisci Seraphici Hubschmanni, Monachii*.
- Stallings, J. R. 1985. Distribution and status of primates in Paraguay. *Primate Conserv.* (6): 51–58.
- Thomas, O. 1903. Notes on South American monkeys, bats, carnivores, and rodents, with descriptions of new species. *Ann. Mag. Nat. Hist.* 7(12): 455–464.

- Thomas, O. 1907. On Neotropical mammals of the genera *Callicebus*, *Reithrodontomys*, *Ctenomys*, *Dasyurus*, and *Marmosa*. *Ann. Mag. Nat. Hist.* 7(20): 161–168.
- Thomas, O. 1920. On mammals from the lower Amazonas in the Goeldi Museum, Pará. *Ann. Mag. Nat. Hist.* 7(14): 188–195.
- Thomas, O. 1924. New *Callicebus*, *Conepatus*, and *Oecomys* from Peru. *Ann. Mag. Nat. Hist.* (9)14: 286–288.
- Thomas, O. 1927a. On the titi monkeys of the *Callicebus torquatus* group. *Ann. Mag. Nat. Hist.* (9)19: 509–511.
- Thomas, O. 1927b. On further monkeys of the *Callicebus torquatus* group. *Ann. Mag. Nat. Hist.* (9)20: 287.
- Van Roosmalen, M. G. M., Van Roosmalen, T., Mittermeier, R. A. and Fonseca, G. A. B. da. 1998. A new and distinctive species of marmoset (Callitrichidae, Primates) from the lower Rio Aripuanã, state of Amazonas, central Brazilian Amazonia. *Goeldiana Zoologia* 22: 1–27.
- Van Roosmalen, M. G. M., Van Roosmalen, T., Mittermeier, R. A. and Rylands, A. B. 2000. Two new species of marmoset, genus *Callithrix* Erxleben, 1777 (Callitrichidae, Primates), from the Tapajós/Madeira interfluve, south Central Amazonia, Brazil. *Neotrop. Primates* 8(1): 2–19.
- Wallace, A. 1852. On the monkeys of the Amazon. *Proc. Zool. Soc. Lond.* 1852: 107–110.
- Youlatos, D. and Pozo Rivera, W. 1999. Preliminary observations on the *songo songo* (dusky titi monkey, *Callicebus moloch*) of northeastern Ecuador. *Neotrop. Primates* 7(2): 45–46.