

Eduardo Fernandez-Duque

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EDUCATION

Ph.D., Animal Behavior, University of California, Davis, 1996.

M.S., Animal Behavior, University of California, Davis, 1994.

Licenciatura in Biology, University of Buenos Aires, Argentina, 1988.

APPOINTMENTS

Assistant Professor, Dept. of Anthropology, University of Pennsylvania, 2006 to present

Consulting Curator, Museum of Archaeology and Anthropology, Univ. Pennsylvania, 2007-present.

External Faculty, Center for Evolution and Cancer, University of California, San Francisco

Director, Penn Anthropology Field Station, Formosa, Argentina, 2007-present.

Research Associate, Population Studies Center, University of Pennsylvania, 2007 to present

Faculty, Psychology Graduate Group, University of Pennsylvania, 2007 to present.

Adjunct Researcher, Conicet, Argentina, 1999 to present

Director of Science, Fundación ECO, Formosa, Argentina, 2003-2007.

Postdoctoral Fellow, Zoological Society of San Diego, 2000-2005.

President, Fundación ECO, Formosa, Argentina, 1999-2001.

Research Associate, Department of Anthropology, Harvard University, 1999-2001.

Visiting Scholar, Rockefeller Center for Latin American Studies, Harvard University, 1999-2001.

Post-Doctoral Researcher, National Zoological Park, Smithsonian Institution, 1996-1998.

PROFESSIONAL SERVICE

Reviewer, Physical Anthropology Program, National Science Foundation, 2010

Associate Editor, International Journal of Primatology, 2009-present

4/29/2011

Reviewer: Argentinean National Council of Research, American Journal of Human Biology, American Journal of Primatology, International Journal of Primatology, Physiology and Behavior, The L.S.B. Leakey Foundation, Behavioral Ecology, Animal Welfare

Member, Conservation Committee, American Society of Primatology, 2010-2012

Member, IUCN Primate Specialist Group (2007-present)

Member, Pitheciine Action Group, IUCN (2007-present)

Member, Research Committee, International Society of Primatologists (2007-present)

Board of Editors, International Journal of Primatology (2004-2009)

Board of Editors, Neotropical Primates (2007-present)

Director of Science, Fundación ECO (2003-present)

Panel Member: Mammals of the South American Gran Chaco, an Ecoregional Evaluation, The Nature Conservancy, Asunción, Paraguay, 2004

President, Fundación ECO (2000-2003)

GRANTS AND PROJECTS

Total Amount Awarded: \$821,000

Pending Grants

Wenner-Gren Foundation, Energetics of Biparental Care in Monogamous Owl Monkeys of Argentina (PI: E. Fernandez-Duque, \$20,000; 2011-2012).

National Geographic Society, Energetics of Biparental Care in Monogamous Owl Monkeys of Argentina (PI: E. Fernandez-Duque, \$19,460; 2011-2012).

The L.S.B. Leakey Foundation, Energetics of Biparental Care in Monogamous Owl Monkeys of Argentina (PI: E. Fernandez-Duque, \$21,800; 2011-2012).

National Science Foundation, Energetics of Biparental Care in Monogamous Owl Monkeys of Argentina (PI: E. Fernandez-Duque, \$481,380; 2011-2016).

SAS Instructional Technology Grants, Incorporating clickers and the audiovisual material in the teaching of Sex and Human Nature (Anth-1040), (PI).

Current Grants

Provost' Undergraduate Research Mentoring Program, University of Pennsylvania, Grant to support the participation of Jacquelyn Kemmer, C'14, in the on-going field research in Argentina (PI, \$5,500, Summer 2011)

Penn Provost's International Initiative Grant, Nocturnality and Diurnality of Sleep (PI: E. Fernandez-Duque, \$21,000; 2011-2012).

National Geographic Society/Waite Program, Predators of an owl monkey population in the Argentinean Chaco (Co-PI in collaboration with Dr. Maren Huck, \$14,740, 2010-11).

L.S.B. Leakey Foundation, Molecular Evolution of *AVPR1A* and *OXTR* in Monogamous Owl Monkeys (Co-PI in collaboration with Ph.D. candidate Paul Babb, \$13,200).

4/29/2011

American Society of Primatologists, Brumback *Aotus* Conservation Grant, Forest composition and use of patches of forest to evaluate demographic parameters in owl monkeys groups (*Aotus azarai*) inhabiting a naturally fragmented habitat in the Argentinean Chaco (Co-PI in collaboration with Argentinean Ph.D. candidate Cecilia Juárez, \$4766).

International Society of Primatologists, Conservation Grant, Effects of a naturally fragmented habitat on the population biology of owl monkeys (*Aotus azarai*) in the humid Chaco of Argentina (Co-PI in collaboration with Argentinean Ph.D. candidate Cecilia Juárez, \$1940).

American Society of Primatologists, Conservation Small Grant, Effects of a naturally fragmented habitat on the population biology of owl monkeys (*Aotus azarai*) in the humid Chaco of Argentina (Co-PI in collaboration with Argentinean Ph.D. candidate Cecilia Juárez, \$750).

Past Research Grants

University Research Foundation, Fatherhood and paternal care in socially monogamous owl monkeys (*Aotus azarai*) of the Argentinean Chaco (PI: \$49,480, 2009-2010).

National Science Foundation, Social monogamy in free-ranging owl monkeys (*Aotus azarai azarai*) of Argentina: an experimental study of male and female contributions to territoriality, parental care, and pair bond maintenance (PI: E. Fernandez-Duque, \$208,000; 2006-2009).

National Geographic Society, The Evolution of Monogamy and Paternal Care in Titi Monkeys (*Callicebus discolor*) of the Ecuadorian Amazon. In collaboration with Anthony Di Fiore (NYU). (\$20,000; 2008-2009).

Research Experience for Undergraduates, NSF, Social monogamy in free-ranging owl monkeys (*Aotus azarai azarai*) of Argentina: an experimental study of male and female contributions to territoriality, parental care, and pair bond maintenance (\$8,520; 2009).

The L.S.B. Leakey Foundation, The Evolution of Monogamy and Paternal Care in Titi Monkeys (*Callicebus discolor*) of the Ecuadorian Amazon. In collaboration with Anthony Di Fiore (NYU). (\$8,000; 2008-2009).

Research Experience for Undergraduates, NSF, Social monogamy in free-ranging owl monkeys (*Aotus azarai azarai*) of Argentina: an experimental study of male and female contributions to territoriality, parental care, and pair bond maintenance (\$8,120; 2008).

University of Pennsylvania Research Foundation (\$29,691, 2007), Paternity analyses and Genetic Structure of a Monogamous Primate Population.

Conservation Trust, National Geographic Society, (\$15,350, 2007-2008), A national program for the conservation of owl monkeys and gallery forests in the Argentinean Gran Chaco.

National Geographic Society, 2 grants (2002 and 2004) to support the study of social monogamy in owl monkeys of Formosa, Argentina.

L.S.B. Leakey Foundation, 5 grants (1996, 1998, 2002, 2004 and 2005) for various studies on the behavior and ecology of owl monkeys in Formosa, Argentina and in Ecuador

4/29/2011

Wenner-Gren Anthropological Foundation, 2 grants (2002 and 2005), Comparative Socioecology of Monogamous Neotropical Primates in the Ecuadorian Amazon and the Argentinean Chaco. (with Anthony Di Fiore, New York University).

Conicet, Argentina, Ecología del Mono Mirikiná (*Aotus azarai*) in Formosa, Argentina, 1999-2001.

Zoological Society of San Diego, 2000-2005, Ecology, Behavior and Genetics of Owl Monkeys of the Argentinean Chaco

Douroucouli Foundation, 1998, Behavioral Ecology of Owl Monkeys (*Aotus azarai*) of Formosa, Argentina.

Wenner-Gren Anthropological Foundation (2004). Divorce and Serial Monogamy in Owl Monkeys of the Argentinean Chaco.

Conservation International, 2 grants (2002 and 2003) for the study of Giant Armadillos (*Priodontes spp*) of the Argentinean Chaco (with Natalia Ceresoli, Fundación ECO, Argentina)

Zoological Society of San Diego, 2002, Preliminary Study of Wild Giant Armadillos (*Priodontes maximus*) in the Argentinean Chaco.

The Offield Family Foundation, 2005, Population Analysis of Giant Armadillos in Copo National Park, Argentina.

University of California Research Expeditions Program, 1998, Owl monkeys and capybaras of Argentina.

Earthwatch Expeditions, 1997-1998, Population Genetics of Owl Monkey (*Aotus azarai*).

Past Training and Education Grants

Research Experience for Undergraduates, NSF (\$8,520; 2010). Social monogamy in free-ranging owl monkeys (*Aotus azarai azarai*) of Argentina: an experimental study of male and female contributions to territoriality, parental care, and pair bond maintenance.

Hewlett Award for Innovations in International Teaching (\$16,500; 2009), Primate Behavior, Ecology and Conservation in the Ecuadorian Amazon and the Argentinean Chaco.

Research Experience for Undergraduates, NSF (\$8,120; 2008), Social monogamy in free-ranging owl monkeys (*Aotus azarai azarai*) of Argentina: an experimental study of male and female contributions to territoriality, parental care, and pair bond maintenance.

Provost' Undergraduate Research Mentoring Program, University of Pennsylvania, Grant to support the participation of Arden Rienes, C'11, in the on-going field research in Argentina,

The SeaWorld&Busch Garden Foundation, 2006, Conservation Education Program in the Argentinean Chaco.

The Offield Family Foundation, 2005, Conservation Education Program in the Argentinean Chaco.

Center for Reproduction of Endangered Species, Zoological Society of San Diego. II Latin American Primate Conservation Field Course, Formosa, Argentina.

4/29/2011

Conservation International, II Latin American Primate Conservation Field Course, Argentina
Smithsonian Institution, Wildlife Conservation and Management Training Program, 2 grants
 (2003 and 2004), II and III Latin American Primate Conservation Field Courses, Argentina.
American Society of Primatologists, 2001, Conservation Research Grant, Primatology Library
 at Fundación ECO.
International Society of Primatologists, 2001, Primatology Library at Fundación ECO.

MANUSCRIPTS UNDER REVISION, SUBMITTED OR IN PREPARATION (available upon request)

Babb, P.L., McIntosh, A.M., **Fernandez-Duque, E.**, Di Fiore, A. and T.G. Schurr. An Optimized Microsatellite Genotyping Strategy for Assessing Genetic Identity and Kinship in Azara's Owl Monkeys (*Aotus azarai*). Folia Primatologica (submitted)

Huck MG, and **Fernandez-Duque E.** Children of divorce: effects of adult replacements on survival and dispersal of young owl monkeys in the Argentinean Chaco. Behavioral Ecology and Sociobiology (submitted)

Kowalesky, M. C. Juárez, **Fernandez-Duque** et al (in revision). Primates. In: Libro Rojo de Mamíferos de la Argentina (Eds. R. Barquez et al).

C. Juárez, M. Kowaleski, C. Baldovino & **E. Fernandez-Duque** (in revision). The conservation status of primate species in Argentina. In: Wildlife Management in Argentina: An Action Plan for the Conservation of Endangered Species. Editor: National Wildlife Directorate, Argentina.

Erkert, H. E., **E. Fernandez-Duque**, M. Rotundo and A. Scheideler (in preparation). Seasonal variation in the timing and pattern of activity of wild owl monkeys (*Aotus azarai azarai*) of the Argentinean Chaco. Chronobiology International.

Fernandez-Duque, E. and Van der Heide, GWE (in preparation). Getting through the winter : dry season resources and their influence on owl monkey reproduction. American Journal of Primatology.

Fernandez-Duque, E (invited contribution, in preparation). In: Primate Ethnographies (Ed: K.B. Strier)

Fernandez-Duque, E. (in press). Owl Monkeys. In All the World's Primates (Ed: Noel Rowe).

REFEREED ARTICLES AND BOOK CHAPTERS (51)

Huck, M. A. & **E. Fernandez Duque** (invited contribution, in review). Building Babies When Dads Help: Infant development of owl monkeys and other primates with allo-maternal care. In: Building Babies: Proximate and Ultimate Perspectives of Primate Developmental Trajectories (eds. K. Clancy, K. Hinde and J. Rutherford). [51]

4/29/2011

- Fernandez-Duque, E.**, A. Di Fiore and A. G. de Luna (in press). Pair-mate relationships and parenting in ecuatorial saki monkeys (*Pithecia aequatorialis*) and red titi monkeys (*Callicebus discolor*) of Ecuador. *Evolutionary Biology and Conservation of Titis, Sakis and Uacaris*. L. M. Veiga, A. A. Barnett, S. F. Ferrari and M. A. Norconk. Cambridge, Cambridge University Press. [50]
- Fernandez-Duque, E** (2012). Studies of captive and wild owl monkeys. *International Zoo Yearbook*, Vol 46 (invited contribution). [49]
- Van der Heide GWE, Iriart D, and **Fernandez-Duque E**. Do forest composition and fruit availability predict demographic differences between owl monkey (*Aotus azarai*) groups inhabiting a gallery forest in Formosa, Argentina? *International Journal of Primatology* (accepted with revisions). [48]
- Babb, P. L., **E. Fernandez-Duque**, C. Baiduc, P. Gagneux, S. Evans and T. G. Schurr. mtDNA Diversity in Azara's owl monkeys (*Aotus azarai azarai*) of the Argentinean Chaco. *American Journal of Physical Anthropology* (accepted with revisions). [47]
- Fernandez-Duque, E.**, Anthony Di Fiore & M. Huck (in press). The behavior, ecology, and social evolution of New World monkeys. In: *Primate Societies*, Eds: Josep Call, Peter Kappeler, Ryne Palombit, Joan Silk and John Mitani. [46]
- Huck, M.A., Rotundo, M. & **E. Fernandez-Duque**. Growth, development and age categories in male and female wild monogamous owl monkeys (*Aotus azarai*) of Argentina, *International Journal of Primatology* (in press). [45]
- E. Fernandez-Duque** (in press). Rensch's Rule, Bergman's Effect and adult sexual dimorphism in wild monogamous owl monkeys of Argentina, *American Journal of Physical Anthropology*. [44]
- Fernandez-Duque, E.** (2011). Aotinae: Social Monogamy in the Only Nocturnal Anthropoids. In: *Primates in Perspective* (Eds: S. Bearder et al.), Second Edition, Oxford University Press, 140-154. [43]
- Dacier A, De Luna AG, **Fernandez-Duque E**, and Di Fiore A (2011). Estimating population density of Amazonian titi monkeys (*Callicebus discolor*) via playback point counts. *Biotropica* 43(2):135-140. [42]
- J. P. Perea-Rodriguez, A. M. Milano, B. E. Osheroov and **E. Fernandez-Duque** (2010). Gastrointestinal parasites of owl monkeys (*Aotus azarai azarai*) in the Argentinean Chaco, *Neotropical Primates* 17(1):7-11. [41]
- C.A. Aktipis and **E. Fernandez-Duque** (2010). Parental investment without kin recognition: simple conditional rules for parent-offspring behavior, *Behavioral Ecology and Sociobiology* 65:1079-1091 DOI 10.1007/s00265-010-1115-9. [40]
- E. Fernandez-Duque**, H. De la Iglesia, & H. G. Erkert (2010). Moonstruck primates: owl monkeys (*Aotus*) need moonlight for nocturnal activity in their natural environment. *PLoS ONE* 5 (9): e12572. [39]
- P. L. Babb, **E. Fernandez-Duque**, T. G. Schurr (2010). AVPR1A sequence variation in monogamous owl monkeys (*Aotus azarai*) and its implications for the evolution of platyrrhine social behavior, *Journal of Molecular Evolution* 71 (4): 279-297. [38]

4/29/2011

- R. Wiederholt, D. Diefenbach, R. Rudran, & **Eduardo Fernandez-Duque** (2010). Modeling the impacts of hunting on the population dynamics of red howler monkeys (*Alouatta seniculus*). Ecological Modelling 221: 2482-2490. [37]
- Juárez, C. P., Rotundo, M. & W. Berg, & **Fernandez-Duque, E.** (2010) Costs and benefits of radio-collaring on the behavior, demography and conservation of owl monkeys (*Aotus azarai*) in Formosa, Argentina. International Journal of Primatology (in press, DOI: 10.1007/s10764-010-9437-z). [36]
- G. De Luna, R. Sanmiguel, A. Di Fiore & **E. Fernandez-Duque** (2010). Predation and predation attempts on red titi monkeys (*Callicebus discolor*) and equatorial sakis (*Pithecia aequatorialis*) in Amazonian Ecuador. Folia Primatologica 81:86-95. [35]
- Valeggia, C., Burke, E. & **E. Fernandez-Duque** (2010). Nutritional status and socioeconomic change among Toba and Wichí populations of the Argentinean Chaco. Economics and Human Biology, 8 (1): 100-110. [34]
- E. Fernandez-Duque**, C. R. Valeggia & S.P. Mendoza (2009). The biology of paternal care in human and nonhuman primates. Annual Review of Anthropology, Volume 38:115-130. [33]
- E. Fernandez-Duque, E.** (2009). Natal dispersal in monogamous owl monkeys (*Aotus azarai*) of the Argentinean Chaco. Behaviour 146:583-606. [32]
- E. Fernandez-Duque**, A. Di Fiore & G. Carrillo-Bilbao (2008). Behavior, ecology and demography of *Aotus vociferans* in Yasuní National Park, Ecuador. International Journal of Primatology 29:421-431. [31]
- C.K. Wolovich, J.P. Perea-Rodriguez, **E. Fernandez-Duque** (2008). Food transfers to young and mates in wild owl monkeys (*Aotus azarai*). American Journal of Primatology 70: 211-221. [30]
- E. Fernandez-Duque**, C. Juárez & A. Di Fiore (2008). Adult male replacement and subsequent infant care by male and siblings in socially monogamous owl monkeys (*Aotus azarai*). Primates 49: 81-84. [29]
- Macdonald, E.; **E. Fernandez-Duque**, S. Evans & L. Hagey (2008). Sex, age and family differences in the chemical composition of owl monkey (*Aotus nancymae*) subcaudal scent secretions. American Journal of Primatology 70: 12-18. [28]
- Fernandez-Duque, E.** (2007). Aotinae: Social Monogamy in the Only Nocturnal Haplorhines. In: *Primates in Perspective* (Eds: S. Bearder et al.), Oxford University Press. 139-154. [27]
- Di Fiore, A.; **Fernandez-Duque, E.** & Hurst, D. (2007). Adult male replacement in socially monogamous equatorial Saki Monkeys (*Pithecia aequatorialis*). Folia Primatologica 78: 88-98. [26]
- Levenson, D.; **Fernandez-Duque, E.**; Evans, S. and G. H. Jacobs, (2007). Mutational changes in S-cone opsin genes common to both nocturnal and cathemeral *Aotus* monkeys. American Journal of Primatology, 69 (7): 757-765 [25]
- Fernandez-Duque, E.** & Erkert, H. (2006). Cathemerality and lunar periodicity of activity rhythms in owl monkeys of the Argentinian Chaco. Folia Primatologica, 77: 123-138. [24]

4/29/2011

- Juárez, C.; Dvoskin, R., & **E. Fernandez-Duque** (2005). Structure and composition of wild black howler troops (*Alouatta caraya*) in gallery forests of the Argentinean Chaco. Neotropical Primates, 13(1):19-22. [23]
- Rotundo, M., **Fernandez-Duque, E.** & Dixon, A.F. (2005). Infant development and parental care in free-ranging *Aotus azarai azarai* in Argentina. International Journal of Primatology, 26 (6): 1459-1473. [22]
- Carrillo, G.; Di Fiore, A. & **E. Fernandez-Duque** (2005). Dieta, forrajeo y presupuesto de tiempo en cotoncillos (*Callicebus discolor*) del Parque Nacional Yasuní en la Amazonia Ecuatoriana. Neotropical Primates 13 (2): 7-11. [21]
- Lau, J., **Fernandez-Duque, E.**, Evans, Si, Dixon, A.F, & O.A. Ryder (2004). Heterologous amplification and diversity of microsatellite loci in three owl monkey species (*Aotus azarai*, *A. lemurinus*, *A. nancymae*). Conservation Genetics, 5 (5):727-731. [20]
- Dvoskin, R., Juárez, C.P., & **E. Fernandez-Duque** (2004). Population density of black howlers (*Alouatta caraya*) in the gallery forests of the Argentinean Chaco: a preliminary assessment, Folia Primatologica, 75 (2): 93-96. [19]
- Ceresoli, N. & **E. Fernandez-Duque** (2003). Datos morfométricos de los armadillos del Complejo Ecológico Municipal de Sáenz Peña, Provincia del Chaco, Argentina, Edentata, 5: 35-37. [18]
- Fernandez-Duque, E.** (2003). Influences of moonlight, ambient temperature and food availability on the diurnal and nocturnal activity of owl monkeys (*Aotus azarai*), Behavioral Ecology and Sociobiology, 54: 431-440. [17]
- Fernandez-Duque, E.** & M. Rotundo (2003). Field methods for capturing and marking Azarai night monkeys. International Journal of Primatology: 24(5): 1113-1120. [16]
- Rudran, R., and **Fernandez-Duque, E.** (2003). Demographic changes over thirty years in a red howler population in Venezuela. International Journal of Primatology: 24 (5): 925-947. [15]
- Fernandez-Duque, E.** and Huntington, C. (2002). Disappearances of individuals from social groups have implications for understanding natal dispersal in monogamous owl monkeys (*Aotus azarai*). American Journal of Primatology, 57: 219-225. [14]
- Rotundo, M; **Fernandez-Duque, E.** & Giménez, M. (2002). Cuidado biparental en el mono de noche (*Aotus azarai azarai*) de Formosa, Argentina. Neotropical Primates, 10 (2), 70-73. [13]
- Fernandez-Duque, E.**; Rotundo, M & Ramirez-Llorens, P. (2002). Environmental determinants of birth seasonality in night monkeys (*Aotus azarai*) of the Argentinean Chaco. International Journal of Primatology 23 (3), 639-656. [12]
- Fernandez-Duque, E.**; Rotundo, M. & Sloan, C. (2001). Density and population structure of owl monkeys (*Aotus azarai*) in the Argentinean Chaco. American Journal of Primatology 53 (3): 99-108. [11]
- Fernandez-Duque, E.**, Valeggia, C. & W.A.Mason (2000). Effects of pair-bond and social context on male-female interactions in captive titi monkeys (*Callicebus moloch*, Primates: Cebidae). Ethology 106: 1067-1082. [10]

4/29/2011

- Rotundo, M., C. Sloan & **Fernandez-Duque, E.** (2000). Cambios estacionales en el ritmo de actividad del mono mirikiná (*Aotus azarai*) en Formosa Argentina. Pp 413-417. In: Cabrera, E., C. Mercolli & R. Resquin. Manejo de Fauna Silvestre en Amazonía y Latinoamérica. Asunción. 578 pp. [9]
- Valeggia, C.R., Mendoza, S.P., **Fernandez-Duque, E.**, Mason, W.A., and Lasley, B. (1998). Reproductive biology of female titi monkeys (*Callicebus moloch*) in captivity. American Journal of Primatology, 47:183-195. [8]
- Fernandez-Duque, E.**, W.A. Mason & S.P. Mendoza (1997). Effects of duration of separation on responses to mates and strangers in the monogamous titi monkey (*Callicebus moloch*). American Journal of Primatology 43 (3): 225-237. [7]
- Fernandez-Duque, E.** & S.P. Bravo (1997). Population genetics and conservation of owl monkeys (*Aotus azarai*) in Argentina: a promising field site. Neotropical Primates, 5 (2): 48-50. [6]
- Fernandez-Duque, E.** (1997). Comparing and combining data across studies: alternatives to significance testing. Oikos 79 (3): 616-618. [5]
- Fernandez-Duque, E.** and C. Valeggia (1995). Meta-Analysis: A valuable Tool in Conservation Research. Reprinted in: Readings from Conservation Biology, To Preserve Biodiversity - An Overview. Editor: David Ehrenfeld, 208-214. [4]
- Fernandez-Duque, E.** and C. Valeggia (1994). Meta-Analysis: a valuable tool in conservation research. Conservation Biology, 8 (2): 555-561. [3]
- Fernandez-Duque, E.**, Valeggia, C. and H. Maldonado (1992). Multitrial inhibitory learning in the crab *Chasmagnathus*. Behavioral and Neural Biology, 57: 189-197. [2]
- Valeggia, C., **Fernandez-Duque, E.** and H. Maldonado (1989). Danger stimulus-induced analgesia in the crab *Chasmagnathus granulatus*. Brain Research, 481:304-308. [1]

REFEREED AND PUBLISHED ABSTRACTS (total: 45)

- Fernandez-Duque, E.**, S. Evans and M. Emery-Thompson (2011). A lab-field approach to estimating the energetic costs of biparental care in owl monkeys. American Journal of Primatology Annual Meeting Supplement.
- Spence-Aizenberg, A., A. Di Fiore and **E. Fernandez-Duque** (2011). "Pairbonded adult titi monkeys of Ecuador (*Callicebus discolor*) change their affiliative relationships in the presence of infants." American Journal of Physical Anthropology S52: 281.
- Babb, P. L., **E. Fernandez-Duque** and T. G. Schurr (2011). "Monogamous owl monkeys differ in the structure of OXTR from other non-monogamous primates." American Journal of Physical Anthropology S52: 79.
- Clink, D., M. G. Huck and **E. Fernandez-Duque** (2011). "Between-group variation in the activity patterns of cathemeral owl monkeys (*Aotus azarai*) under similar temperature and light conditions. ." American Journal of Physical Anthropology S52: 110.
- Di Fiore, A. and **E. Fernandez-Duque** (2011). "Interbirth interval, age at dispersal, and sexual dimorphism in wild titis (*Callicebus discolor*) and sakis (*Pithecia aequatorialis*)."
American Journal of Physical Anthropology S52: 125.

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- Fernandez-Duque, E.**, P. L. Babb and T. G. Schurr (2011). "Group structure and dispersal patterns of the socially monogamous owl monkey as revealed by mtDNA data." American Journal of Physical Anthropology **S52**: 135.
- Huck, M. G. and **E. Fernandez-Duque** (2011). "Children of divorce: effects of adult replacements on survival and dispersal of young owl monkeys in the Argentinean Chaco." American Journal of Physical Anthropology **52**: 170.
- Stubblefield, P.S., Anton, S.C., Snodgrass, J.J., Crowder, C., Di Fiore A., Duren, D.L., **Fernandez-Duque, E.**, Leonard, W.R., Leigh, S.R., Madimenos, F., McGraw, S., Middleton, E., Schmitt, C.A., Sherwood, R.J., Turner, T.R., Valeggia, C.R., and White, F.J. (2010). Integrative measurement protocols incorporating morphometric and behavioral research tools from forensic anthropology, human biology and primatology. Proc. Amer. Acad. For. Sci. 16:366
- Coleman, M. (2010). Orbit and skull size in cathemeral owl monkeys of the Argentinean Chaco. American Journal of Physical Anthropology, S50: 83. Note: my last name as second author was omitted by mistake.
- Van der Heide, G. W. E., Iriart, D., Juárez, C. P. & **Fernandez-Duque, E.** (2009). Do forest composition and fruit availability predict demographic differences between owl monkey (*Aotus azarai*) groups inhabiting a gallery forest in Formosa, Argentina? American Journal of Primatology S71(1):59.
- Gustison, M., Snowdon, C. T & **Fernandez-Duque, E.** (2009). Social monogamy: proximity maintenance and foraging patterns in the Argentinean owl monkey (*Aotus azarai azarai*). American Journal of Primatology S71(1):64
- Babb, P., **E. Fernandez-Duque** and T.G. Schurr (2009). Vasopressin receptor V1a (*avpr1a*) gene variation in the monogamous owl monkey, *Aotus azarai azarai*. American Journal of Physical Anthropology, S48: 81.
- SC Antón, JJ Snodgrass, C Crowder, A Di Fiore, DL Duren, **E Fernandez-Duque**, WR Leonard, SR Leigh, FC Madimenos, WS McGraw, E Middleton, C Schmitt, RJ Sherwood, S Stinson, P Stubblefield, T Turner, CR Valeggia, and FJ White (2009). Integrative measurement protocol for morphological and behavioral research in human biology. American Journal of Physical Anthropology, S48: 78
- M.N. Coleman, A. Di Fiore, and **E. Fernandez-Duque** (2009). A preliminary report on the interaction between ambient acoustics and primate vocalizations in the Ecuadorian Amazon. American Journal of Physical Anthropology, S48:108.
- Depeine, C. C., M. Rotundo, C. Juárez and **E. Fernandez-Duque**. (2008). "Hoot calling in owl monkeys (*Aotus azarai*) of Argentina: sex differences and function." American Journal of Primatology: 70 (S1):69.
- Juárez, C. P., W. Berg and **E. Fernandez-Duque** (2008). "An evaluation of the potential long-term effects of radio-collars on the reproduction and demography of owl monkeys (*Aotus azarai*) in Formosa, Argentina." American Journal of Primatology: 70 (S1):49.
- Perea-Rodriguez, J. P., A. Milano, **E. Fernandez-Duque** and B.E. Oscherov (2008). "Gastrointestinal parasites of owl monkeys (*Aotus azarai*) living in edge and non-edge territories in a gallery forest in Northern Argentina." American Journal of Primatology: 70 (S1): 53

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- Fernandez-Duque, E.** & Juárez, C. (2008). Ecological, behavioral and demographic aspects of natal dispersal in monogamous owl monkeys (*Aotus azarai*) of the Argentinean Chaco. *Primate Eye* **96**, Abstr#321.
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- C.A. Schmitt, A. Di Fiore, A. Link, L.J. Matthews, M.J. Montague, A.M. Derby, D. Hurst, G. Carrillo, C. Sendall, and **E. Fernandez-Duque** (2007). Comparative ranging behavior of eight species of primates in a western Amazonian rainforest. *American Journal of Physical Anthropology* 132 (S44): 208.
- C. Sendall, **E. Fernandez-Duque**, and A. Di Fiore (2007). A preliminary study of mate-guarding in wild titi monkeys (*Callicebus discolor*). *American Journal of Physical Anthropology* 132 (S44): 214.
- C.K. Wolovich, J.P. Perea-Rodriguez, **E. Fernandez-Duque** (2007). Food sharing as a form of paternal care in wild owl monkeys (*Aotus azarai*). *American Journal of Physical Anthropology* 132 (S44): 252 .
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- A. Di Fiore and **E. Fernandez-Duque** (2007). A comparison of paternal care in three socially-monogamous neotropical primates. *American Journal of Physical Anthropology* 132 (S44): 99.
- M.V. Rakhovskaya, **E. Fernandez-Duque** and A. Di Fiore (2007). The effects of demographic and ecological factors on territory size and ranging patterns of Argentinean owl monkeys (*Aotus azarai*). *American Journal of Physical Anthropology* 132 (S44): 195.
- Di Fiore, A., **E. Fernandez-Duque**, G. Carrillo and D. Hurst. (2006). Comparative social behavior of males and females in three genera of socially monogamous platyrrhines. *American Journal of Primatology* **68** (Supplement 1): 99.
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- D. Hurst, A. Di Fiore and **E. Fernandez-Duque**, 2005. Male replacement in a wild group of Equatorial Sakis (*Pithecia aequatoralis*). American Journal of Primatology: 66, S1: 118-199
- Fernandez-Duque, E.**; Valeggia, C.; Dixon, A.; Rudran, R. Fundación ECO of Formosa, Argentina: Capacity Building for the Conservation of the Biological and Cultural Diversity of the Argentinean Gran Chaco. Annual Meeting Society for Conservation Biology, Brasilia, August 15-19, 2005.
- Fernandez-Duque, E** 2004. High levels of intrasexual competition in sexually monomorphic owl monkeys. Folia Primatologica, 75 S1: 260.
- Fernandez-Duque, E.** & H. Erkert, 2004. Cathemerality and lunarphilia in owl monkeys of the Argentinean Chaco. Folia Primatologica, 75 S1: 67.
- Schwindt, D.M., Carrillo, G.A., Di Fiore, A., and **Fernandez-Duque, E.** 2004. Comparative Sociocology of Monogamous Primates in the Amazon and Gran Chaco. Folia Primatologica, 75 S1: 412.
- Fernández-Duque, E.** and M. Rotundo 2003. Are female owl monkeys imposing social monogamy on males? Revista de Etología, Suplemento: 5, p.92.
- Juárez, C.P., **E. Fernández-Duque**, and M. Rotundo 2003. Behavioral sex differences in the socially monogamous night monkeys of the Argentinean Chaco. Revista de Etología, Suplemento: 5, p.174.
- Giménez, M. and **E. Fernández Duque** 2003. Summer and Winter diet of night monkeys in the gallery and thorn forests of the Argentinean Chaco. Revista de Etología, Suplemento: 5, p. 164.
- Huntington, C. and **E. Fernandez-Duque** (2001). "Natal dispersal in the monogamous owl monkey (*Aotus azarai*) of Formosa, Argentina." American Journal of Physical Anthropology, Supplement 32: 83-84.
- Fernandez-Duque, E.**, 1997. Proyecto Mirikiná: Behavior, Population Genetics and Conservation of Owl Monkeys (*Aotus azarae*) in Argentina. American Journal of Primatology: 42 (2):109.
- Fernandez-Duque, E.** and C.R. Valeggia, 1996. Meta-analysis in conservation biology: Effects of forest disturbance on primate populations. Bulletin of the Ecological Society of America, Supplement, 7 (3):139.
- Fernandez-Duque, E.**; W.A. Mason, and C.R. Valeggia, 1995. Effects of familiarity and context on interactions between heterosexual pairs of titi monkeys (*Callicebus moloch*). American Journal of Primatology, 36 (2):123.
- Valeggia, C.R., S.P. Mendoza, **E. Fernandez-Duque** and S.E. Schideler, 1994. Characterization of female titi monkey (*Callicebus moloch*) reproductive cycle by means of urinary steroids. Reproductive Biology. Biology of Reproduction, 50 (suppl. 1): 84.

BOOK REVIEWS, NEWSLETTER and MAGAZINE ARTICLES

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- Fernandez-Duque, E.**, Wallace, R.B. & Rylands, A.B. 2008. *Alouatta caraya*. In: IUCN 2009. IUCN Red List of Threatened Species. Version 2009.2. <www.iucnredlist.org>.
- Fernandez-Duque, E.**, Wallace, R.B. & Rylands, A.B. 2008. *Aotus azarae*. In: IUCN 2009. IUCN Red List of Threatened Species. Version 2009.2. <www.iucnredlist.org>.
- Fernandez-Duque, E.**, 2007. Book Review of “New Perspectives in the Study of Mesoamerican primates” (Eds: Estrada et al). International Journal of Primatology 28(2): 493-495.
- Fernandez-Duque, E.**, and N. Ceresoli, 2003. *Napamaló: The Giant Armadillo of the Gran Chaco*. Zoonoos: September, 15-17.
- Fernandez-Duque, E.**, 2001. Book review of: Primate Conservation Biology by Guy Cowlshaw and Robin Dunbar. Animal Behaviour: 62, 390-391.
- Sloan, C. and **Fernandez-Duque, E.** 1999. Cathemerality in Argentinian Owl Monkeys. AnthroQuest, (8, Spring 99).
- Fernandez-Duque, E.** and C.R. Valeggia, 1996. Poster sessions: an alternative term assignment in animal behaviour courses. Animal Behaviour Newsletter, 41(4): 5.
- Fernandez-Duque, E.**, 1994. Face to Face with the Woolly-Spider Monkey. American Journal of Primatology, 32 (1), 65-67. Book review of: Faces in the forest. The Endangered Muriqui Monkeys of Brazil by Karen B. Strier.

COURSES TAUGHT

- | | |
|--------------|---|
| 2010 | Sexual Selection and Kinship, Department of Anthropology, Fall 2010, University of Pennsylvania. |
| 2009 | Primatology Methods and Data Analysis, Fall 2009, University of Pennsylvania |
| 2008 | The Biology of Paternal Care, Department of Anthropology, Spring 2008, University of Pennsylvania. |
| 2007-present | Sex and Human Nature, Department of Anthropology, Spring and Fall 2007, Falls 2008, 2009 and 2010, University of Pennsylvania |
| 2007-present | Introduction to Human Evolution, Department of Anthropology, Spring 2007, 2008 and 2009, University of Pennsylvania |
| 2006-present | Primate Behavior and Human Evolution, Department of Anthropology, Fall and Spring 2006, Spring 2009, University of Pennsylvania |
| 2005 | Gran Chaco Wildlife Conservation and Management Field Course, Argentina |
| 2004 | Smithsonian Institution Wildlife Conservation and Management Course, Namibia |
| 2003-2004 | I and II Latin American Primate Conservation Field Courses, Formosa, Argentina |
| 2000 | Introduction to Biological Anthropology, Harvard University Extension School |
| 1998 | Introduction to Physical Anthropology, Sierra College, California |
| 1994 | Research Methods, Dept. of Psychology, University of California, Davis |
| 1995 | Animal Behavior, Dept. of Psychology, University of California, Davis |
| 1995 | Introductory Psychology; Dept. of Psychology, University of California, Davis. |
| 1994 | Primate Socioecology, Dept. of Anthropology, University of California, Davis. |

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- 1990-1996 Teaching Assistant, Animal Behavior, Research Methods, Introductory Psychology, Introductory Anthropology, Primate Socio-ecology, Human Ecology.
- 1990 Teaching Assistant, Smithsonian Institution Wildlife Conservation and Management Training Course, Front Royal, VA.

ADVISING AND MENTORING

POSTDOCTORAL FELLOW MENTORSHIP

Maren A. Huck (2010-2012), Life-history analysis and patterns of biparental care in owl monkeys of the Argentinean Chaco, German Research Foundation.

GRADUATE AND UNDERGRADUATE STUDENT MENTORSHIP AND AWARDS

Graduate Thesis Advisees

Andrea Spence-Aizenberg, 2010. Doctoral Dissertation, Anthropology, SAS, University of Pennsylvania, USA.

Margaret Corley, 2010. Doctoral Dissertation, Anthropology, SAS, University of Pennsylvania, USA.

Sam Larson, 2010. MA thesis, Anthropology, SAS, University of Pennsylvania, USA.

Cecilia Juárez, “*Demography and Metapopulation Dynamics of Owl Monkeys in the Argentinean Chaco*”, 2006-present, Doctoral Dissertation, University of Tucumán, Argentina.

Paul Babb, 2005-present. “*Molecular Evolution of Vasopressin and Oxytocin Receptor Genes in Owl Monkeys (Aotus azarai azarai) of Northern Argentina: Implications for the Evolution of Monogamous Social Behavior.*” Doctoral Dissertation, Anthropology, SAS, University of Pennsylvania, USA. Co-Advisor with T.G. Schurr

John Lindo, “Evolution of the sexually dimorphic call of the owl monkey (*Aotus azarai*): evidence for an alarm function against adult replacement.”, (2010) Master of Arts Thesis in Biological Anthropology, University of Pennsylvania, USA.

Andrea Spence-Aizenberg, *Affiliative behaviors in pairbonded red titi monkeys (Callicebus discolor)* (2010). Master of Science Thesis in Biological Anthropology, University of Pennsylvania, USA.

Graduate Committee Membership

Amy Porter, 2006-present. Doctoral Dissertation, Dept. Anthropology, University of California, Davis. Committee Member. Advisor: Lynne Isbell

Andy Gersick, “Communication in Hyenas”. Doctoral Dissertation, Department of Psychology, University of Pennsylvania, USA. Advisor: R. Seyfarth

Kevin M. Burke, “*Life histories in social networks.*” Doctoral Dissertation, Dept of Anthropology, University of Pennsylvania, USA. Advisor: C.R. Valeggia

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Undergraduate Thesis Advisees

Michael Drake, (SAS, Penn, C'12), "Density and abundance of howler monkeys in the humid Argentinean Chaco". Senior Honor Thesis, Univ. Pennsylvania.

Kelsy Schoenrok (SAS, Penn, C'12), "Fecal cortisol levels in male owl monkeys and paternal care behavior ". Senior Honor Thesis, Univ. Pennsylvania.

Annick McIntosh, "*Variation in the prolactin receptor gene and paternal care behavior in Aotus azarai azarai*", (2010). Senior Honor Thesis, Haverford College, Pennsylvania, USA.
Advisor: T.G. Schurr.

Morgan L. Gustison, "*Social Monogamy: Proximity Maintenance and Foraging Patterns in the Wild Argentinean Owl Monkey (Aotus azarai azarai)*, (2009). Senior Honor Thesis, Univ. Wisconsin, Madison, USA. Advisor: C. Snowdon.

Marina Giménez, "*Seasonal changes in the diet of Argentinean Owl Monkeys*" (2004), Bachelor's Thesis, University of Buenos Aires, Argentina.

Undergraduate Student Research Advisees

Michael Drake, (SAS, Penn, C'12), "Density and abundance of howler monkeys in the humid Argentinean Chaco". Senior Honor Thesis, Univ. Pennsylvania.

Kelsy Schoenrok (SAS, Penn, C'12), "Fecal cortisol levels in male owl monkeys and paternal care behavior ". Senior Honor Thesis, Univ. Pennsylvania.

Rachel Gittelman, (SAS, Penn, C'11),

Jones, Ben (SAS, Penn, C'12)

Corogenes, Katherine (SAS, Penn, C'12)

Perez Bogado, Alberto (Univ. Nac. Tucuman, Argentina)

Delgado, Rodrigo Osvaldo (Univ. Nac. Tucumán, Argentina)

Torres, Adriana (Univ. Nac. Litoral, Argentina)

Ryan Hodge, "*Pair formation and pairbond maintenance in wild owl monkeys.*" Senior Honor Thesis, Department of Anthropology, Rutgers University, New Jersey, USA. Advisor: R. Palombit.

Noah Snyder-Mackler, "*Behavioral Ecology of Geladas.*" Doctoral Dissertation, Dept. Psychology, University of Pennsylvania, USA. Advisor: R Seyfarth

Natalia Ceresoli, "*Conservation and Ecology of Mammals in the Argentinean Chaco*", 2003-present, Doctoral Dissertation, University of the Northeast, Argentina.

Noah Snyder-Mackler, Undergraduate Student, UPenn. A preliminary study of vocal communication and play-back experiments with titi monkeys at the Tiputini Biodiversity Station", Ecuador (Summer 2006).

Maria Rakhovskaya, Doctoral Student, Psychology, UPenn. Field work in Owl Monkey Project in Argentina (December 2006).

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Jennie Lau (M.S. UCSD, completed 2003). Heterologous amplification and diversity of microsatellite loci in three owl monkey species (*Aotus azarai*, *A. lemurinus*, *A. nancymae*). Reviewed thesis and manuscripts.

Christine Wolovich (Ph.D. candidate, Univ. Florida, expected 2006). Pair Formation and Food Sharing in Captive and Free-Ranging Owl Monkeys. Reviewed proposals and manuscripts.

HONORS, AWARDS AND FELLOWSHIPS

- 2010 Editor's Choice: G. De Luna, R. Sanmiguel, A. Di Fiore & **E. Fernandez-Duque** (2010). Predation of a red titi monkey (*Callicebus discolor*) by a harpy eagle (*Harpya harpya*) and other unsuccessful attacks by predators on Pitheciines in Lowland Amazonia. *Folia Primatologica* 81:86-95.
- 1999-2000 de Fortabat Visiting Scholarship, David Rockefeller Center for Latin American Studies, Harvard University.
- 1996 Travel Award, Ecological Society of America, Statistics Chapter.
- 1995 Course Improvement Award, Teaching Resources Center, Univ. of California, Davis.
- 1995 Best Student Presentation Award, American Society of Primatologists
- 1994 Chancellor's Teaching Fellowship, University of California, Davis.
- 1991-1992 Graduate Studies Scholarship, Organization of American States.
- 1990 Graduate Studies Fellowship, Smithsonian Institution, Washington, D.C..

INVITED PRESENTATIONS

Life-history, group dynamics and intrasexual competition in monogamous owl monkeys of Argentina. Dept. Anthropology Seminar Series, University of Michigan, Ann Arbor Pennsylvania, April 12th, 2011.

Life-history, group dynamics and intrasexual competition in monogamous owl monkeys of Argentina. Dept. Anthropology, New York University, February 15th, 2011

Behavior and Ecology of Socially Monogamous Owl Monkeys in the Argentinean Chaco, Haverford College, Pennsylvania, October 27th and 29th, 2010.

Behavior and Ecology of Owl Monkeys in the Argentinean Chaco, Department of Biology Seminar Series, Drexel University, September 30, 2010.

The influence of behavior, life-history and the environment on group dynamics in monogamous owl monkeys of Argentina. Department of Anthropology Seminar, Rutgers University, April 6, 2010.

Making Lectures Interactive: Getting Students to Think. Panel Member, Center for Teaching and Learning, University of Pennsylvania, March 24, 2010.

Behavior and Ecology of Owl Monkeys in the Argentinean Chaco, Monell Chemical Senses Center Seminar Series, February 16, 2010

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The rise and fall of owl monkey dynasties: Weather, warfare, or both? Invited Speaker, Göttingen Freilandtage: Long-term Field Studies of Primates, Göttingen, Germany, December 8-11, 2009

Behavior and Ecology of Owl Monkeys in the Argentinean Chaco, 1st Annual Primate Education Week, Laboratory Animal Medicine Club, University of Pennsylvania's School of Veterinary Medicine, 20 October 2009.

Behavior and Ecology of Owl Monkeys in the Argentinean Chaco. Seminar, Keeling Center for Comparative Medicine, MD Anderson Cancer Center, University of Texas, December 2008

Natal Dispersal in Owl Monkeys. International Society of Primatologists, Symposium on Dispersal, July 2008

IUCN Neotropical Primates Red List Workshop, November 27th-December 1st, 2007, Orlando, FL

American Society of Physical Anthropologists, Symposium on Paternal Care, March 2007

Dept. Anthropology, University of California, Davis, Seminar Speaker, March 2006

International Society of Primatologists, Symposium on cathemerality, Turin, Italy, August 2004

Dept. Anthropology, Harvard University, Seminar Speaker, 2001

New York Consortium in Evolutionary Primatology (NYCEP), Dept of Anthropology, New York University, Seminar Speaker, 2001

Colby College, Maine, Seminar Speaker, 2001.

Zoological Society of San Diego, Seminar Speaker, 2000.

David Rockefeller Center for Latin American Studies, Harvard University, Seminar Speaker, 2000.

Department of Conservation Research, National Zoological Park, Seminar Speaker, 1998

Swarthmore College, Pennsylvania, Seminar Speaker, 1998.

Annual Meeting of the American Ecological Society, Symposium on meta-analysis in ecology, Providence, RI, 1996.