

Francesco Rovero, Ph.D.

Biodiversity and Conservation Scientist

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Date and Place of Birth: 27th May 1970, Florence, Italy

Nationality: Italian

Higher Education & Qualifications: **University of Florence**, Italy — 1989 to 1995
Degree in Natural Sciences (MSc-equivalent), with highest marks
Thesis: "Eco-ethology of the European pond turtle *Emys orbicularis*: activity patterns and habitat use in a population from central Italy", second Best Italian Thesis of 1994-1995 (Venetian Institute for Sciences, Letters and Arts)

University of Wales, Bangor, UK — 1997 to 2000
Ph.D. in Animal Biology (Behavioural Ecology)
Thesis: "Non-invasive techniques for studying behavioural mechanisms and physiological states of marine invertebrates"

Languages: Italian (mother tongue), English (fluent), Swahili (fluent), French (basic)

Career History and Experience

- **EMPLOYED AS POST-DOCTORAL RESEARCHER, VERTEBRATE ZOOLOGY SECTION, MUSEO TRIDENTINO DI SCIENZE NATURALI (TRENTO MUSEUM OF NATURAL SCIENCES, ITALY)**
(April 2003 until present)

I conduct ecological and conservation research on large mammals in the Eastern Arc Mountains of Tanzania, focussing particularly on forest antelopes, primates and carnivores. Main research goal is to assess population abundance and habitat preference of key rain forest animals, including several endangered and strictly endemic species. Methods used include rapid biodiversity surveys, camera-trapping, line-transect censuses, habitat analysis and fine-scale ecological modelling. See list of scientific papers for details on research conducted.

I collaborate with several national and international organisations working on biodiversity conservation in the Eastern Arc Mountains of Tanzania to implement biodiversity assessment projects (including projects funded by the Critical Ecosystem Partnership Fund-CEPF). I have coordinated a CEPF-funded project on assessment of biodiversity corridors and potential for improved management in the National Park and adjacent areas. Through funding from Conservation International and Trento Museum, and in partnership with Tanzania National Parks, I have coordinated the establishment of the Udzungwa Ecological Monitoring Centre in the Udzungwa Mountains National Park (www.udzungwacentre.org), of which I am Director since November 2006.

- **RESEARCHER AND TECHNICAL ADVISOR TO THE ECOLOGICAL MONITORING PROGRAMME, UZUNGWU MOUNTAINS NATIONAL PARK, TANZANIA**
(July 2002- February 2003)

The Udzungwa Mountains contain the largest forest blocks of the Eastern Arc. In collaboration with Tanzanian National Park (TANAPA), WWF-TZ, and the researchers Dr. Struhsaker (Duke University), Dr. Butynski (Conservation International) and Dr. Ehardt (Georgia University), I worked to continue and strengthen the primate monitoring programme in the Park. Methodology included line transect walks, systematic and opportunistic observations, vegetation sampling, zoological surveys. See list of scientific papers for results obtained.

➤ **SHORT-TERM CONSULTANT FOR TERRA NUOVA, ITALIAN NGO, NAIROBI, KENYA**

(May to June 2002)

Task of the consultancy is to design two project proposals to the EU and Italian Government, respectively, on community-based wildlife conservation and natural resources management in the Garissa District, Eastern Kenya. The work is done in partnership with the Museum of Kenya.

➤ **EMPLOYED BY CMSR (ITALIAN NGO FOR DEVELOPMENT) AS SECTOR COORDINATOR, ENVIRONMENT AND WATER SECTOR (TANZANIA PROGRAMME)**

(April 2001 to April 2002)

As part of an on-going programme, I was working on planning and coordination of rural development activities implemented in Dodoma region, central Tanzania.

➤ **CONSULTANT FOR TERRA NUOVA (ITALIAN NGO FOR DEVELOPMENT) FOR COORDINATING PRELIMINARY ACTIVITIES FOR COMMUNITY-BASED WILDLIFE CONSERVATION AROUND RUNGWA/KIZIGO/MUHESI GAME RESERVES (GREATER RUAHA, CENTRAL TANZANIA).**

(May - November 2001)

In partnership with African Wildlife Foundation and the Wildlife Division, I was coordinating a feasibility study aimed at designing a community-based wildlife conservation programme.

➤ **EMPLOYED BY THE VOLUNTARY SERVICE OVERSEAS (BRITISH AGENCY) AS ENVIRONMENTALIST AT THE DODOMA ENVIRONMENTAL NETWORK, LOCAL NGO (DODOMA, TANZANIA)**

(September 1999 to March 2001)

Working on planning of sustainable environmental conservation activities.

Overall, the above experiences in Tanzania and Kenya included:

extensive field research, data analysis and paper writing; camera-trapping; line transect censuses, population abundance estimates; vegetation sampling; community-based wildlife management; rapid biodiversity assessment; wildlife corridors; protected area management; formulation of project proposals; budgeting; fund-raising; staff management and training; technical advisory to several local organisations; liaising with several Government, NGO and private organisations.

➤ **PH.D. RESEARCH FELLOW, UNIVERSITY OF WALES, BANGOR, UK**

(November 1997 to August 1999, degree awarded in July 2000)

Studying behavioural and physiological responses of marine invertebrates to environmental variation as a member of the EUROROCK project (EU-funded, MAST III: rocky shore ecology). See list of scientific papers for results obtained.

The experience included:

laboratory experimentation; experimental design; automatic data acquisition; extensive data manipulation and analysis; eco-physiology; behavioural ecology; use of non-invasive techniques for monitoring physiological parameters (e.g. infrared heart-rate monitoring); paper writing; scientific speeches.

POST-GRADUATE RESEARCH FELLOW, UNIVERSITY OF FLORENCE, ITALY

(September 1995 to August 1997)

Collaborating in research programmes at the Department of Animal Biology.

Specific activities and projects included Monitoring of population of the endangered European pond turtle (*Emys orbicularis*) in Monte Rufeno Natural Reserve (Viterbo, Italy) for conservation plan.

The experience included:

animal population assessment; communities monitoring for GIS (plants, birds and micro-mammals); data analysis; report writing; field work; park management; wildlife management; conservation biology; environmental education; research programmes coordination.

➤ **UNDER-GRADUATE RESEARCH FELLOW, UNIVERSITY OF FLORENCE, ITALY**

(October 1992 to June 1995)

Conducting a study on ecology and ethology of the pond turtle in Monte Rufeno Natural Reserve (central Italy) for the degree thesis at the Department of Animal Biology. See list of scientific papers for results obtained.

The experience included:

extensive field work; radio-tracking techniques; behavioural observation; temporal patterns of activity; home-range; habitat use; foraging behaviour; social behaviour; data analysis; paper writing; scientific speeches.

Grants and Fellowships

2006-2008: Critical Ecosystem Partnership Fund to Tanzania Forest Conservation Group and Trento Museum. “Filling the Knowledge Gap: surveys in poorly known sites and species in the Eastern Arc and coastal forests”. Co-PI (\$ 238.000).

2006-2007: Critical Ecosystem Partnership Fund to Trento Museum “Assessing the potential for restoring connectivity and evaluating options for improved management of southern forests in the Udzungwa Mountains”. Principal Investigator (\$ 89.000).

2005-2006: Margot Marsh Biodiversity Fund “Establishment of the Udzungwa Ecological Monitoring Centre”. PI (\$ 20.000).

2004-2007: Trento Autonomous Province to Trento Museum “Ecology and conservation of primates and forest antelopes in a rainforest biodiversity hotspot in Tanzania”. PI (Euro 161.000).

2003-2005: National Geographic Society “Habitat & Demography of Endemic Monkeys & Duikers in Udzungwa Mts., Tanzania” to Thomas Struhsaker. Co-PI (\$ 25.000).

2003-2004: Margot Marsh Biodiversity Fund “Conservation Biology of the Udzungwa Red Colobus and the Sanje Mangabey: The Effect of Habitat Quality and Human Activities on Population Density and Demography” to Thomas Struhsaker. Co-PI (\$ 25.000).

2002-2004: Rufford Small Grants “Udzungwa Mountains Primate and Forest Antelope Conservation Project”. PI (UK£ 10.000).

Selected scientific papers and peer-reviewed book chapters

Rovero F. and De Luca D.W. in press. Checklist of mammals of the Udzungwa Mountains of Tanzania. *Mammalia*.

Rovero F. and Struhsaker T.T. 2007. Vegetative Predictors of Primate Abundance: Utility and Limitations of a Fine-scale Analysis. *American Journal of Primatology*, DOI: 10.1002/ajp.20431.

- Burgess N.D., Butynski T.M., Cordeiro N.J., Doggart N., Fjeldsa J., Howell K.M., Kilahama F., Loader S.P., Lovett J.C., Mbilnyi B, Menegon M., Moyer D.C., Nashanda E., Perkin A., Rovero F., Stanley W.T. and Stuart S.N. 2007. The biological importance of the Eastern Arc Mountains of Tanzania and Kenya. *Biological Conservation* 134: 209-231.
- Rovero F., Rathbun G.B., Perkin A., Jones T., Ribble D.O., Leonard C., Mwakisoma R.R. and Doggart N. in press. A new species of giant sengi or elephant-shrew (genus *Rhynchocyon*) highlights the exceptional biodiversity of the Udzungwa Mountains of Tanzania. *Journal of Zoology*.
- Marshall, A.R., Rovero, F., Struhsaker, T.T. in press. *Procolobus gordonorum*. In: N. Rowe (ed.) All the World's Primates. Pogonias Press expected early 2008.
- Rovero F., Davenport T.R.B. and Jones T. (in press). Abbott's duiker. In: Kingdon, J.S. & Hoffmann, M. (Eds). *The Mammals of Africa. Vol. 6. Pigs, Deer, Giraffe, Bovids, and Hippos*. Academic Press, Amsterdam.
- Kingdon J. and Rovero F. (in press). Harveys' duiker. In: Kingdon, J.S. & Hoffmann, M. (Eds). *The Mammals of Africa. Vol. 6. Pigs, Deer, Giraffe, Bovids, and Hippos*. Academic Press, Amsterdam.
- De Luca D. and Rovero F. (2006). First records in Tanzania of the Vulnerable Jackson's mongoose *Bdeogale jacksoni* (Herpestidae). *Oryx* 40: 468-471.
- Rovero, F. and G. B. Rathbun 2006. A potentially new giant sengi (elephant-shrew) from the Udzungwa Mountains, Tanzania. *Journal of East African Natural History*, 95: 111-115.
- Rovero, F., Doggart, N., Bowkett, A. & Burgess, N. 2006. New records for Lowe's servaline genet from the Eastern Arc Mountains of Tanzania. *Oryx* 40: 139.
- Rovero F., Struhsaker T.T., Marshall A.R., Rynne T.A., Pedersen U.B., Ehardt C.L., Butynski T.M. and Mtui A.S. 2006. Abundance of Diurnal Primates in Mwanihana Forest, Udzungwa Mountains, Tanzania: a Multi-observer Comparison of Line-transect Data. *International Journal of Primatology*, 27: 675-697.
- Rovero F., Jones T. & Sanderson J. 2005. Notes on Abbott's duiker (*Cephalophus spadix* True 1890) and other forest antelopes of Mwanihana Forest, Udzungwa Mountains, Tanzania, as revealed by camera-trapping and direct observations. *Tropical Zoology*, 18: 13-23.
- Rovero F. and Marshall A.R., 2005. Diversity and abundance of diurnal primates and forest antelopes in relation to habitat quality: a case study from the Udzungwa Mountains of Tanzania, pp. 297-304. In: *African Biodiversity: Molecules, Organisms, Ecosystems*. Proc. 5th Intern. Symp. Trop. Biol., Museum Koenig, Bonn (BA Huber, BJ Sinclair, K-H Lampe, eds). Springer Verlag. 2005.
- Rovero F. and Mashall A.R. 2004. Estimating the abundance of forest antelopes by using line transect techniques: a case from the Udzungwa Mountains of Tanzania. *Tropical Zoology*, 17: 267-277.
- Rovero F., Hughes R.N. and Chelazzi G. 2000. When time is of the essence: choosing a currency for prey-handling costs. *Journal of Animal Ecology*, 69, 683-689.
- Rovero F., Hughes R.N., Whiteley N.M. and Chelazzi G. 2000. Estimating the energetic cost of fighting in shore crabs by noninvasive monitoring of heartbeat rate. *Animal Behaviour*, 59, 705-713.
- Rovero F., Hughes R.N. and Chelazzi G. 1999. Effect of experience on the predatory behaviour of dogwhelks. *Animal Behaviour*, 57, 1241-1249.
- Rovero F., Hughes R.N. and Chelazzi G. 1999. Cardiac and behavioural responses of mussels to risk of predation by dogwhelks. *Animal Behaviour*, 58, 707-714. Reviews appeared on [New Scientist](#), [Science News](#) and [Nature Australia](#).
- Rovero F., Hughes R.N. and Chelazzi G. 1999. Automatic recording of the radular activity of dogwhelks (*Nucella lapillus*) drilling mussels (*Mytilus edulis*). *Journal of the Marine Biological Association of the United Kingdom*, 79, 1079-1083.

Rovero F., Lebboroni M. and Chelazzi G. 1999. Aggressive interactions and mating in wild populations of the European pond turtle *Emys orbicularis*. *Journal of Herpetology*, 33(2), 258-263.

Rovero F. and Chelazzi G. 1996. Nesting migrations in a population of the European pond turtle *Emys orbicularis* (L.) (Chelonia Emydidae) from central Italy. *Ecology, Ethology and Evolution*, 3:297-304.

Conference participation (last five years)

- “18th Meeting of the Italian Primatological Society”, Calci, Italy (May 2007). Presented paper: Rovero F., Struhsaker T.T. - Habitat determinants of primate abundance in the Udzungwa Mountains of Tanzania: conservation relevance of a fine-scale analysis. *Folia Primatologica*, in press.
 - “21st Congress of the International Primatological Society”, Entebbe, Uganda (June 2006). Poster: Rovero F. and A. Mtui 2006. Comparing multi-observer, line transect data for primate monitoring: a case from the Udzungwa Mountains of Tanzania. *International Journal of Primatology*, 27 (Special Issue): abstract #350.
 - “5th Tanzania Wildlife Research Institute Annual Scientific Conference”, Arusha Tanzania (December 2005).
 - “Udzungwa Mountains Workshop”, Morogoro, Tanzania (December 2004). Presented paper: Rovero F., Menegon M. and Struhsaker T.T. 2004. Biological importance and urgent need for protection of the Udzungwa Scarp Forest Reserve and other forests of the Udzungwa Mountains. Udzungwa Mountains Workshop, unpubl. report, ed. WWF-Tanzania.
 - “5th International Symposium on Tropical Biology”, Museum Koenig, Bonn, Germany (May 2004). Poster: Rovero F. & Marshall A.R., 2004. Diversity and abundance of diurnal primates and forest antelopes in relation to habitat quality: a case study from the Udzungwa Mountains of Tanzania.
 - “16th Meeting of the Italian Primatological Society”, Radicondoli, Italy (October 2003). Presented paper: Rovero F., 2004. Line Transects to Estimate the Abundance of Diurnal Primates in the Udzungwa Mountains National Park, Tanzania. *Folia Primatologica*, 75: 386-387.
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