



HYSTRIX
the Italian Journal of Mammalogy

Volume 25 (Supplement) • 2014



Editor in Chief

Giovanni AMORI

CNR-ISE, Istituto per lo Studio degli Ecosistemi
viale dell'Università 32, 00185 Roma, Italy
email: editor@italian-journal-of-mammalogy.it

Associate Editors

Francesca CAGNACCI, Trento, Italy (*Editorial Committee coordinator*)

Andrea CARDINI, Modena, Italy

Paolo CIUCCI, Rome, Italy

Nicola FERRARI, Milan, Italy

Marco FESTA BIANCHET, Sherbrooke, Canada

Philippe GAUBERT, Paris, France

Colin P. GROVES, Canberra, Australia

John GURNELL, London, United Kingdom

Alessio MORTELLITI, Canberra, Australia

Jorge M. PALMEIRIM, Lisboa, Portugal

F. James ROHLF, New York, United States

Daniilo RUSSO, Naples, Italy

Massimo SCANDURA, Sassari, Italy

Lucas WAUTERS, Varese, Italy

Assistant Editor

Simona IMPERIO, Torino, Italy

Bibliometrics Advisor

Nicola DE BELLIS, Modena, Italy

Technical Editor

Damiano PREATONI, Varese, Italy

Impact Factor (2012) 0.352

HYSTRIX, the Italian Journal of Mammalogy is an Open Access Journal published twice per year (one volume, consisting of two issues) by Associazione Teriologica Italiana. Printed copies of the journal are sent free of charge to members of the Association who have paid the yearly subscription fee of 30 €. Single issues can be purchased by members at 35 €. All payments must be made to Associazione Teriologica Italiana onlus by bank transfer on c/c n. 54471, Cassa Rurale ed Artigiana di Cantù, Italy, banking coordinates IBAN: IT1310843051080000000054471.

Associazione Teriologica Italiana secretariat can be contacted at segreteria.atit@gmail.com

Information about this journal can be accessed at <http://www.italian-journal-of-mammalogy.it>

The Editorial Office can be contacted at info@italian-journal-of-mammalogy.it

Associazione Teriologica Italiana Board of Councillors: Luigi CAGNOLARO (formerly Museo Civico di Storia Naturale di Milano) *Honorary President*, Adriano MARTINOLI (Università degli Studi dell'Insubria, Varese) *President*, Sandro BERTOLINO (Università degli Studi di Torino) *Vicepresident*, Gaetano ALOISE (Università della Calabria), Carlo BIANCARDI (Università degli Studi di Milano), Francesca CAGNACCI (Fondazione Edmund Mach, Trento), Roberta CHIRICHELLA (Università degli Studi di Sassari), Enrico MERLI (Università degli Studi di Pavia), Stefania MAZZARACCA *Secretary/Treasurer*, Giovanni AMORI (CNR-ISE, Rome) *Director of Publications*, Damiano PREATONI (Università degli Studi dell'Insubria, Varese) *Websites and electronic publications*, James TAGLIAVINI (Università degli Studi di Parma) *Librarian*.



HYSTRIX
the Italian Journal of Mammalogy

Volume 25 (Supplement) • 2014

IX Congresso Italiano di Teriologia

Civitella Alfedena (AQ), 7-10 Maggio 2014

edited by

S. Imperio, S. Mazzaracca, D.G. Preatoni

This Journal as well as the individual articles contained in this issue are protected under copyright and Creative Commons license by Associazione Teriologica Italiana. The following terms and conditions apply: all on-line documents and web pages as well as their parts are protected by copyright, and it is permissible to copy and print them only for private, scientific and noncommercial use. Copyright for articles published in this journal is retained by the authors, with first publication rights granted to the journal. By virtue of their appearance in this Open Access journal, articles are free to be used, with proper attribution, in educational and other non-commercial settings. This Journal is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Italy License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-sa/3.0/it/> or send a letter to Creative Commons, 444 Castro Street, Suite 900, Mountain View, California, 94041, USA.

Publication information: *Hystrix*, the Italian Journal of Mammalogy is published as a printed edition (ISSN 0394-1914) twice per year. A single copy of the printed edition is sent to all members of Associazione Teriologica Italiana. The electronic edition (ISSN 1825-5272), in Adobe® Acrobat® format is published “online first” on the Journal web site (<http://italian-journal-of-mammalogy.it>). Articles accepted for publication will be available in electronic format prior to the printed edition, for a prompt access to the latest peer-reviewed research.

Best Paper Award

Associazione Teriologica Italiana established a Best Paper Award for young researchers. Eligible researchers are leading authors less than 35 years old, and within 7 years from their PhD (but young researcher at an even earlier stage of their career, i.e. without a PhD, are also eligible), who have expressed interest in the award in the Communications to the Editor (step 1 of the online submission procedure; for details, see the Electronic Publication Guide; <http://www.italian-journal-of-mammalogy.it/public/journals/3/authguide.pdf>).

If the eligible leading researcher is not the corresponding author, the latter should express interest on the leading researcher's behalf. Criteria are innovation, excellence and impact on the scientific community (e.g., number of citations).

The award will be assigned yearly, in the second semester of the year following that of reference (i.e., Best Paper Award for 2013 will be assigned in the second semester of 2014). The Editorial Committee is responsible to assign the award. A written motivation will be made public on the journal website.

IX Congresso Italiano di Teriologia

Civitella Alfedena (AQ), 7-10 Maggio 2014

Riassunti: Comunicazioni e Poster

edited by
S. Imperio, S. Mazzaracca, D.G. Preatoni

Organizzato da
Associazione Teriologica Italiana onlus

In collaborazione con



Parco Nazionale
d'Abruzzo Lazio e Molise



Società Italiana di
Ecopatologia della Fauna



Progetto LIFE09/NAT/IT/000160 Arctos

The effects of coyote functional feeding response on *Echinococcus multilocularis* transmission, in Calgary, Canada

D. UMETON¹, S. LICCIOLI², T. BONACCI¹, A. MASSOLO²

¹ Università della Calabria

² University of Calgary



S093

We report results obtained in the framework of the “Calgary Urban Coyote Project”, an interdisciplinary research program developed at the University of Calgary, Faculty of Veterinary Medicine. The project is focused on the transmission of pathogens at the interface between wildlife, domestic animal and humans, giving particular relevance to the transmission of zoonotic *Echinococcus multilocularis*. The parasite transmission relies on an intermediate host being subject to predation by a definitive host. Previous study showed clear evidences of an existing link between predator-prey interaction and parasite dynamic.

The objective of this research is to explore coyote feeding ecology, focusing on predator response to fluctuation abundance of prey species competent for *Echinococcus multilocularis*, and assess the consequences related to the parasite transmission.

In particular we analyze the case of urban coyote functional response in Calgary, focusing on prey species that are competent for *Echinococcus multilocularis*. For this aim we have elaborated diet data correlation to small mammal preys abundance data, using diet data of 181 scat samples and prey abundance

data, collected during four trapping seasons (11 months, from June 2012 to May 2013), that were gathered simultaneously to faecal sample collection.

The bibliographic research underlined that the topics of predator-prey interaction in a multi prey system and predator functional response consequences for parasite transmission are both areas still largely unexplored.

The data analysis concerning the particular case study showed that, in a multi prey system, coyote exhibits different functional feeding responses to different prey species. In more detail, coyote showed a Type II functional response for all voles species, and, on the other hand, the predator showed a Type I functional response for *Peromyscus maniculatus*.

This study lay the foundation for the design of a model of predator-prey interaction in a complex multi prey system. Such a model would permit to assess plasticity of predation behaviour consequences for the transmission of an important zoonotic *Echinococcus multilocularis*.

Global changes and wildlife zoonotic disease emergence: the case of tick-borne encephalitis

A. RIZZOLI, L. BOLZONI, F. CAGNACCI, H.C. HAUFFE, M. NETELER, V. TAGLIAPIETRA, R. ROSÀ



S175

Of all the known zoonotic tick borne diseases, tick borne encephalitis caused by TBE virus (TBEV) is the most common tick borne disease transmitted to humans in Europe and eastern and central Asia. It is now endemic in 27 European countries, and has been declared an international public health problem. Since the virus is also transmissible through raw milk and dairy products of infected goats, sheep or cattle TBEV has the potential to make a significant impact on food security and regional economy, especially in areas using traditional methods of milk collection and processing and the use of unpasteurised milk for the production of typical local dairy products.

We analysed pattern of TBE emergence in northern Italy combining eco-epidemiological long term and extensive surveys. Major drivers of disease emergence were identified in changes in forest management and the rise of ungulate population. Spatial and temporal variation in infection risk is driven by the interaction of several factors, including local variation of tick host abundance. Although significant progress have been made in our understanding of TBEV ecology, several other factors need a better understanding to improve our ability to predict how the risk of TBE infection would change in the near future under a global change scenario.