Relative abundance and temporal overlap of golden jackal (Canis aureus) with prey and competitors in areas of different human pressure

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98th Meeting of the German Society for Mammalian Biology

University of Siena, in collaboration with Associazione Teriologica Italiana

Under the patronage of the National Biodiversity Future Center, Italy

BOOK OF ABSTRACTS

Edited by:

Niccolò Fattorini and Francesco Ferretti.

Organising committee:

Irene Belardi, Sandro Bertolino, Lucia Burrini, Martina Calosi, Niccolò Fattorini, Francesco Ferretti, Giovanni Fini, Chiara Gabbrielli, Leonardo Gallotta, Lorenzo Lazzeri, Noemi Pallari, Frank E. Zachos.

Siena, September 2025

Table of contents

Programme 4

Oral presentations 8

Keynote speakers 8

Management & Conservation 11

Behaviour & Ecology 28

Free Topics 46

Posters **58**

Management & Conservation 58

Behaviour & Ecology 76

Free Topics 97

Monday 1 September

Registration desk and poster installation open at 15:30

16:00 Mammal curators' meeting

17:00 DGS Board Meeting

18:00 Icebreaker party

Tuesday 2 September

8:30 Registration

9:00 Openings and Institutional greetings

Session 1 – Management and Conservation – Chairman: Philip Dammann

9:45 Plenary lecture: Jennifer Hatlauf - *The golden jackal on the move: monitoring and management of an expanding species*

10:30 Coffee break

11:00 Oral presentations

Fernandez-Gonzalez et al. - *Translocations provide novel insights into the den and movement ecology of the endangered Iberian desman (Galemys pyrenaicus): conservation implications*

Gili et al. - *Non-invasive survey techniques uncover the coexistence of African and European bats on the island of Lampedusa*

Trombin et al. - *Anthropogenic noise impact on bat communities*

Straka et al. - *From resistance through acceptance to celebration? Exploring desirable human-bat relationships using a Delphi approach with bat experts*

Porro et al. - *Bats at urban blue spaces*

Costa et al. - *A novel non-invasive DNA metabarcoding approach to study gastrointestinal parasite communities in Alpine hares*

Erlacher et al. - *Population densities and population trends of European hares and Alpine mountain hares in Lower Engadine (Switzerland)*

Sangiuliano et al. - *The European wildcat in the Pollino National Park (Italy): first results of a multidisciplinary study*

13:00 Lunch – free

15:00 DGS General Assembly

16:30 Coffee break

17:00 Young DGS get-together

18:30 Free time

Wednesday 3 September

Session 1 – Management and Conservation (continues) – Chairman: Federico Ossi

9:00 Oral presentations

Paniccia et al. - *Extensive agricultural practices and natural structural elements: key factors to promote bat diversity in mountain agricultural landscapes*

Schai-Braun et al. - *Habitat preferences of European hares, Alpine mountain hares, and their hybrids in the Alps: how hybrids may sharpen the competition between the two hare species*

Sganzerla et al. - *Combined impacts of climate warming and human activities on habitat selection in Alpine ibex*

Tomassini et al. - *A second home for the Italian red deer: preliminary analyses from the monitoring of founders in the Serre Regional Park*

Mikkelsen et al. - *Endangered and overlooked: population ecology of an endangered mongoose in Madagascar*

10:30 Coffee break

11:00 Oral presentations

Bernicchi et al. - *A shift towards human-modified landscapes? Golden jackal habitat suitability dynamics in north-eastern Italy over 15 years*

Guerrasio et al. - *The European Observatory of Wildlife: harmonizing wildlife monitoring*

Session 2 – Behaviour and Ecology - Chairmen: Sandro Lovari and Niccolò Fattorini

11:30 Oral presentations

Bencini et al. - *Multi-marker metabarcoding to decode seasonal diet of three syntopic rodent species in a Mediterranean forest*

Nagl et al. - *Seasonal habitat selection by Alpine chamois (Rupicapra rupicapra) in the Bavarian Alps*

Janjecic et al. - *Spatial constraints and climate buffering: habitat utilisation in European mouflon populations in the Mediterranean region*

Benini et al. - *Using camera traps to investigate plant resource selectivity by large herbivores in the Białowieża Primeval Forest*

Pallari et al. - *Warmer, risky and crowded mountains: response of ungulate activity to temperature, predators, and humans in an Alpine protected area.*

Natucci et al. - *Shared predator, divergent paths: contrasting spatiotemporal strategies of wild boar and roe deer facing wolves*

13:00 Lunch – free

15:00 Oral presentations

Wojcicki et al. - *Large ungulates in the current landscape of fear*

Lorenzetti et al. - *Habitat use of European badger in a mountainous landscape*
Perikleous et al. - *The diet of the red fox (Vulpes vulpes) in Cyprus*
Frangini et al. - *Relative abundance and temporal overlap of golden jackal (Canis aureus) with prey and competitors in areas of different human pressure*
Petroni et al. - *Two-stage occupancy-SEM reveals wolf-driven carnivore dynamics in a Mediterranean mountain ecosystem*
Lazzaroni et al. - *Effect of urbanization on wild wolves neophobic behaviour*
Buelli et al. - *Trophic activity patterns of wolves in heterogeneous ecosystems: which factors influence the likelihood of predation, scavenging and carcass reuse?*

17:00 Coffee break and Poster Session

18:30 Free time
20:00 Social dinner

Thursday 4 September

Session 1 – Behaviour and Ecology (continues) – Chairman: Francesco Ferretti
9:00 Plenary lecture: Dries Kuijper - *Ecosystem impacts of wolves in Europe: from more natural to human-dominated landscapes*
9:45 Oral presentations
Schulz-Kornas et al. - *Prey size reflected in tooth wear: feeding ecology and chewing behavior of two wolf populations from Sweden and Alaska*
Schlarb et al. - *Hormonal and morphological changes in male cheetahs (Acinonyx jubatus) after becoming territorial*
Amato et al. - *Fire as a driver and mediator of the relationships between mammal species and their behaviours in the Goritian Karst, from a three years observation study*
Petianov et al. - *Consequences of human disturbance on the behaviour of wildlife species*

10:45 Coffee break

Session 3 – Free topics – Chairman: Frank Zachos
11:15 Oral presentations
Invited talk: Pascoe et al. - *Parasites in conservation: worming their way into the picture*
Hernandez et al. - *Assessing the relevance of Zero-Force Evolutionary Law (ZFEL) to untangling the origin of terrestrial mammals' complexity evolution*
Giuntini et al. - *Quantification of bat migration using a vertical-looking radar*
Espinoza-Aravena et al. - *An integrative appraisal of the diversity of the genus Myotis (Chiroptera, Vespertilionidae) in Chile.*

Cetinturk et al. - *Evaluating the Turkish population of long-fingered bat Myotis capaccinii (Bonaparte, 1837) by mitochondrial Cytochrome-b marker*
Camacho-Sanchez et al. - *Different types of contact zones in Sulawesi tarsiers*
Morgan et al. - *Diversification of Sulawesi tarsiers: insights from ancestral range estimates*

13:00 Lunch – free

15:00 Oral presentations
Heckeberg et al. - *The Ruminatrix – a dataset for investigating morphological evolution of ruminants*
Rossner et al. - *Not at all living fossils: recent advances in paleobiology of tragulids*
Moreno et al. - *The American mink as an amplifier host for fleas: implications for parasite transmission in biological invasions*
Lächele et al. - *Immunohistochemistry in 100-year-old museum specimens of the domestic cat (Felis catus)*

16:00 Awards, conclusions and greetings

17:00 Coffee break

Friday 5 September

8:45 Excursion to Maremma Regional Park

Relative abundance and temporal overlap of golden jackal (*Canis aureus*) with prey and competitors in areas of different human pressure

Lorenzo Frangini[a,*], Lorenzo Bernicchi[a], Virginia Barca[a], Andrea Madinelli[a], Stefano Filacorda[a]

[a]University of Udine, Italy
[*]lorenzo.frangini@uniud.it

Understanding interactions between golden jackals (*Canis aureus*) and sympatric species is increasingly investigated due to their rapid expansion and opportunistic diet. We analyzed data from 114 camera-trap locations across two areas in 2022–2023 (7,441 trap-days) to assess relative abundance and temporal overlap between jackals, potential competitors (red fox, wildcat), and prey (brown hare, roe deer, wild boar, red deer). We hypothesized that smaller competitors would avoid jackals, while jackals would highly overlap with prey. For each species, we calculated the Relative Abundance Index (RAI), naïve occupancy (NO), and activity overlap with jackals at overall and seasonal levels. In the area with higher natural habitat coverage (> 75%), jackal abundance was higher (RAI = 4.74, NO = 0.55), meanwhile all competitors and prey—except red deer—showed lower values. In the agricultural area (i.e., urban and agricultural land; >80%) jackal abundance was lower (RAI = 0.97, NO = 0.29), and other species were more abundant. Temporal overlap with jackals was generally high for prey and red fox, except for roe deer in the agricultural area. Seasonal overlap was estimable for prey in the natural area: here an increasing pattern was found for roe deer, from moderate in winter and spring ($\Delta_4$winter = 0.60, $\Delta_1$spring = 0.74) to high in other seasons ($\Delta_1$summer-fall = 0.79-0.78). Our findings suggest that jackals are more abundant in natural environments, which may negatively influence other species, while in human-dominated areas, the opposite trend seems to happen. Further investigation is needed to clarify these dynamics.