



# Ecology of Carnivores in a Fragmented Landscape

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# Briefly about us...



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## WE ARE:

- interested in ecology of vertebrates in a fragmented landscape
- focused mainly on carnivores and their habitat preferences in altered and exploited environment
- impressed with ecology of Golden Jackal (*Canis aureus*)

# Methods

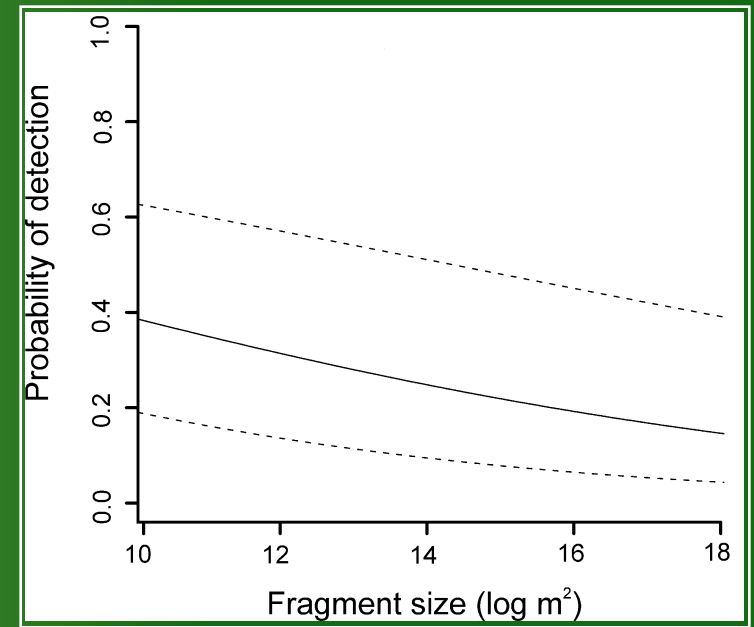
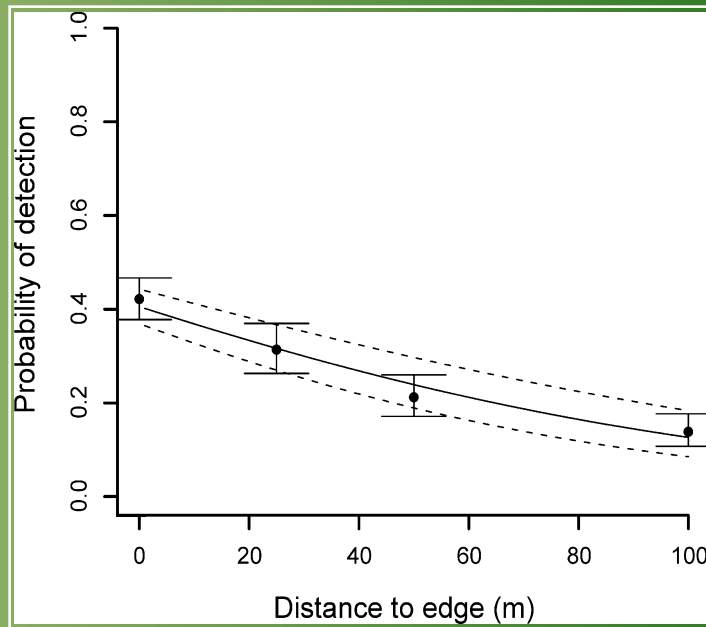
- direct X indirect methods – many variations of each of them
- our previous projects - scent stations
- additional GIS analysis to assess the effect of habitat loss and level of habitat fragmentation:
  - proportion of: human settlement, forest area, agriculture area, water area
  - edge density, connectivity, forest fragment size





## 1. Edge effect in different sized forest patches

- *Fine-scale utilization of forest edges by mammalian predators related to patch size and its conservation aspect in Central-European farmland (Biodiversity and Conservation – in press)*
- the main goal – find the limit of edge effect in forest fragments



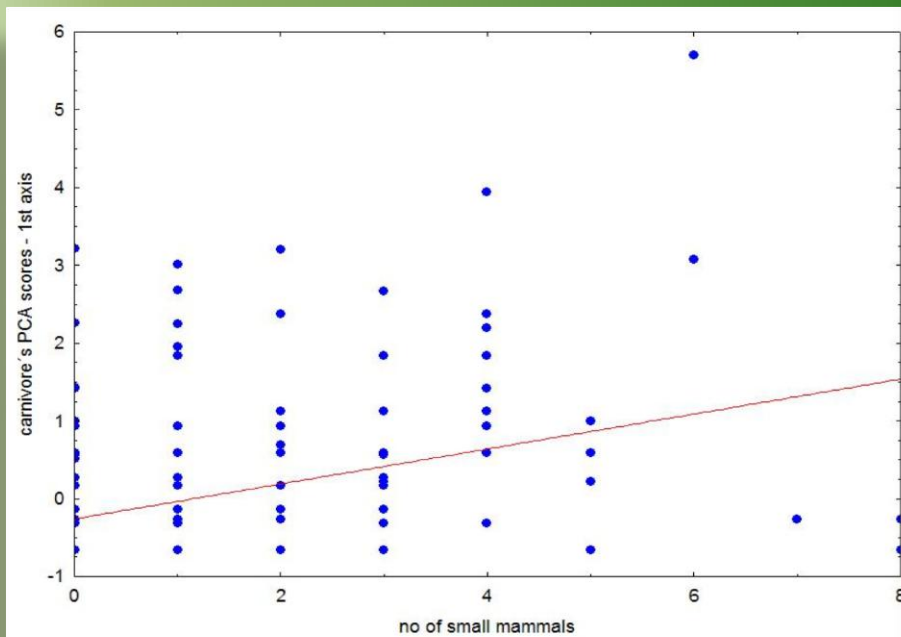


- 2. Effect of habitat characteristics on local and regional scale
  - *Forest edge utilization by carnivores in dependence of edge characteristic and landscape structure in Central-European farmland (submitted do Wildlife research)*
  - impact of habitat characteristics on carnivores distribution
  - positive correlation with: agriculture area, water area and age of forest cover



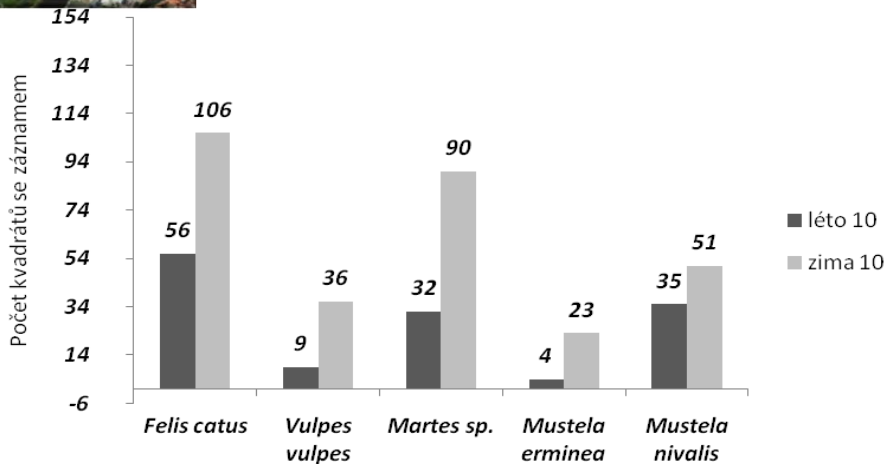
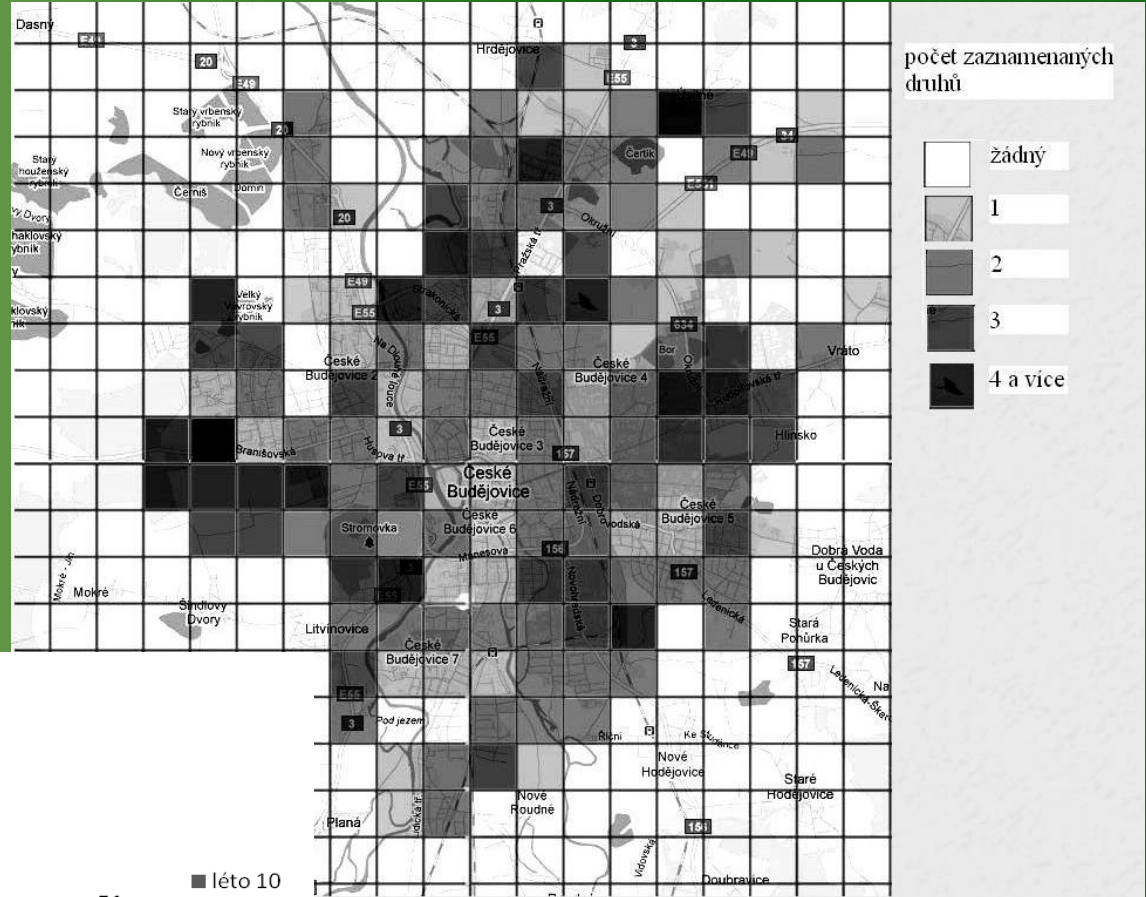
- 3. Corridors utilization by carnivores

- *Is Corridor use by European carnivores driven by habitat characteristics or food supply? (will be submitted to Biodiversity and Conservation)*
- *homogeneous X heterogeneous type of landscape*



- 4. Urban carnivores

- The selected aspects of urban carnivores ecology



# What we would like to do...

...to study the Golden Jackal ecology and its spreading through the Europe

The main goals of our interest is to assess:

- the main habitat characteristics that influence the distribution and numbers of Golden Jackals
- impact of two different landscape managements: intensively vs. extensively (abandoned) used pastoral landscape on Golden Jackal distribution



# Our project proposal

Distribution and habitat preferences of invasive predator, Golden Jackal (*Canis aureus*), in European range: comparison of different landscape types

Study areas: Hungary, Croatia, Romania and Bulgaria

- the study areas differ by level of habitat fragmentation, land use and farming management



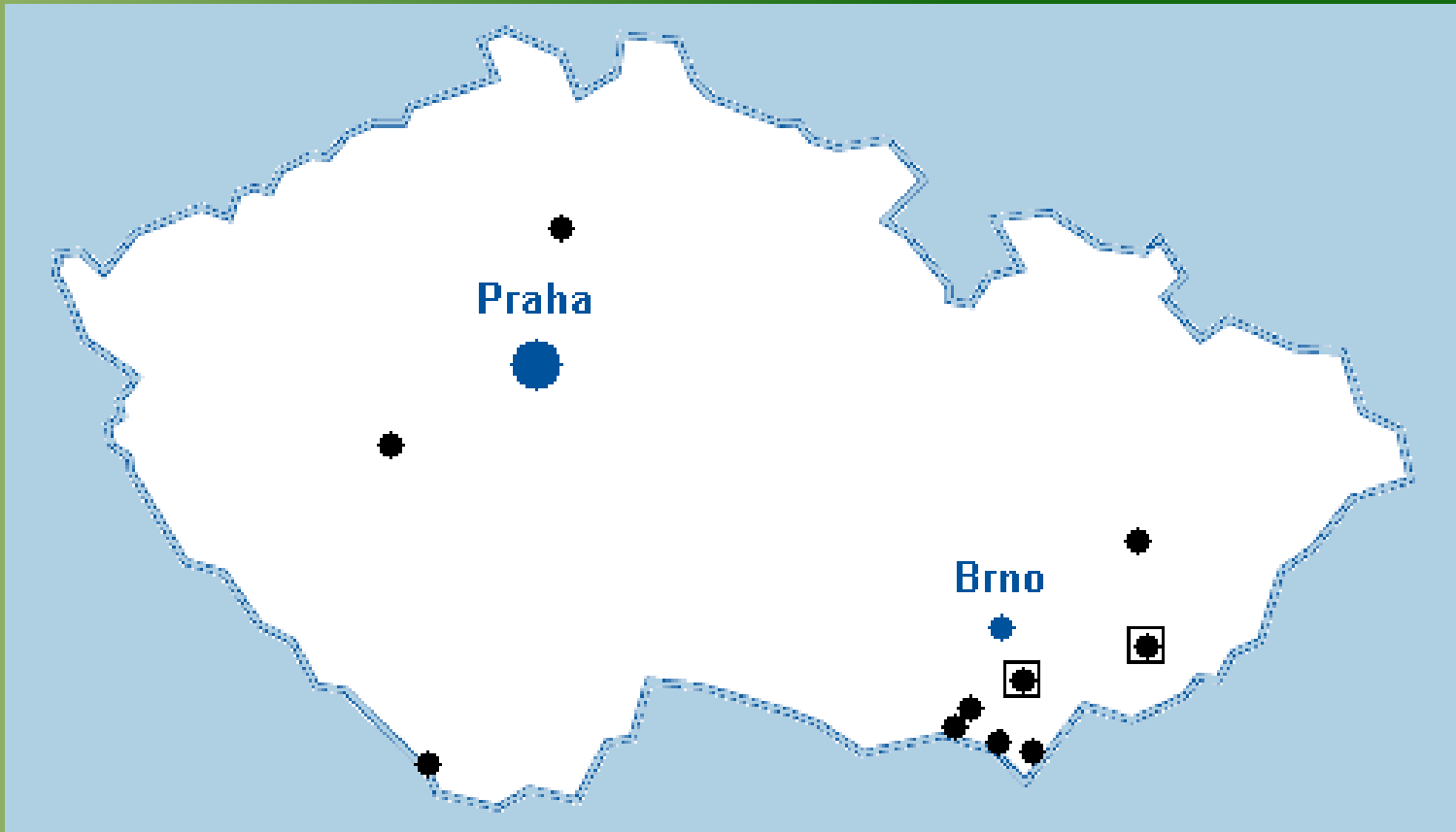
Project design:

- acoustic monitoring followed Giannatos et al. 2005
- transects consist of 5 quadrates (4 by 4 km – 20 km/transect)
- 20 transects in intensively X 20 transects in extensively used landscape
- GIS analysis of habitat characteristics

# Golden Jackal situation in the Czech Republic

Occurrence of Golden Jackal in Czech republic		
Occurrence	Year	Locality
inconclusive	1998	observation around Kropáčova Vrutice (Mladá Boleslav county)
	2004	repeated observations by foresters and hunters around Tvrdonice (Břeclav county) and observation of female with cubs near Bulhary (Břeclav county)
		2005
	2007	Horní Ureš (Český Krumlov county)
	2009	6th April observed "weak" specimen near road to Zbiroh (Rokycany county)
	2010	repeated observations by foresters and hunters around Valtice (Břeclav county)
		observations by foresters and hunters in area of "Lednická louka" (Břeclav county)
April - observation of two specimens near D1 highway - exit to Kojetín (Přerov county)		
conclusive	2006	19th March finding of dead male near Podolí (uherské Hradiště county); first documented occurrence of Golden Jackal in Czech Republic
	2010	26th December finding of dead male between Klobouky a Morkůvky (Břeclav county)

# Golden Jackal situation in the Czech Republic





... thank you for your attention

# ad Briefly about us...

## Selected publications from study field during the last 3 years:

Červinka J., Šálek M., Pavlůvčík P. & Kreisinger J. 2011: The fine-scale utilization of forest edges by mammalian mesopredators related to patch size and conservation issues in Central European farmland. *Biodiversity and Conservation* (in press)

Šálek M., Červinka J., Pavlůvčík P. & Poláková S.: Forest-edge utilization by carnivores in relationship to its habitat features and surrounding landscape structure in central European farmland. *Wildlife research* (submitted)

Padyšáková E., Šálek M., Poledník L., Sedláček F. & Albrecht T. 2009: Removal of American mink increases the success of simulated nests in linear habitat. *Wildlife Research* 36, 225-230.

Fischer D., Pavlůvčík P., Sedláček F. & Šálek M. 2009: Predation of the alien American mink *Mustela vison* on native crayfish populations in middle-sized streams in central and western Bohemia. *Folia Zoologica* 58 (1): 45-56.

Šálek M., Kreisinger J., Sedláček F. & Albrecht T. 2009: Corridor vs hayfield matrix use by mammalian predators in an agricultural landscape. *Agriculture, Ecosystems and Environment* 134: 8-13.

Šálek M., Kreisinger J., Sedláček F. & Albrecht T. 2010: Do foraging opportunities determine preferences of mammalian predators for habitat edges in an agricultural landscape? *Landscape and Urban Planning* 98 (2010): 86–91.

Padyšáková E., Šálek M., Poledník L., Sedláček F. & Albrecht T. 2010: Predation on simulated duck nests in relation to nest density and landscape structure. *Wildlife Research* 37 (7): 597-603.

Svobodová J., Kreisinger J., Šálek M., Koubová M. & Albrecht T. 2011: Testing mechanistic explanations for mammalian predator responses to habitat edges. *European Journal of Wildlife Research* 57 (3): 467-474.