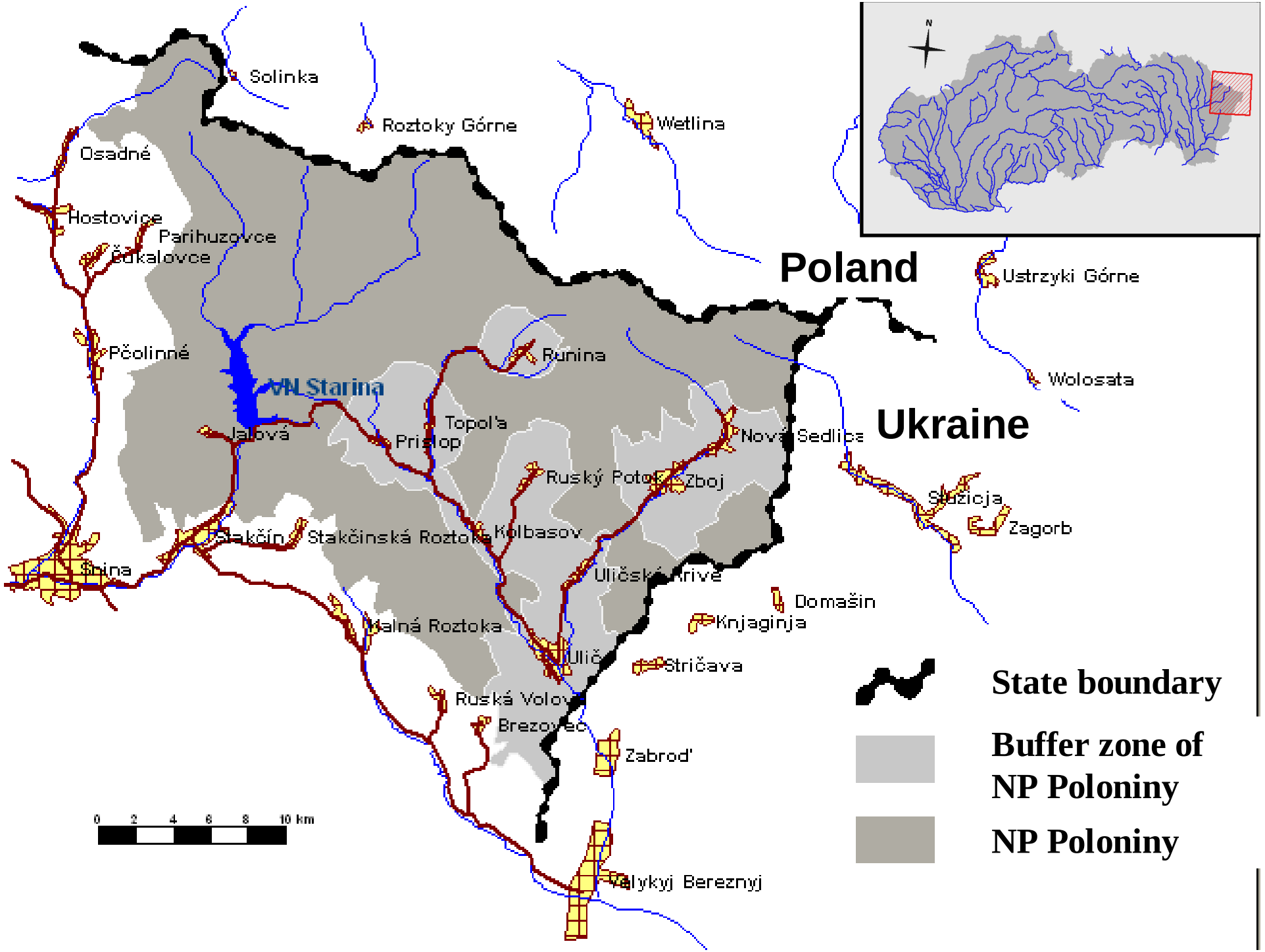
Brown Bear (*Ursus arctos* L.) in NP Poloniny

Jozef Štofík, Martin Straka, Ladislav Paule, Miroslav Saniga, Ladislav Molnár, Peter Major

Wojciech Juda Balnica


Solinka
Roztoky Górne
Wetlina
Osadné
Hostovice
Parihuzovce
Čukalovce
Poland
Ustrzyki Górne
Pčolinné
Runina
Wolosata
Starina
Topoľa
Jalová
Prislop
Ukraine
Nová Sedlica
Ruský Potok
Zboj
Stužica
Zagorb
Stakčín
Stakčínska Roztoka
Kolbasov
Ulička
Krivé
Domašin
Knjaginja
Malná Roztoka
Ulič
Stričava
Ruská Volová
Brezovec
Zabrod'
Velykyj Bereznyj
0 2 4 6 8 10 km
State boundary
Buffer zone of NP Poloniny
NP Poloniny

Our research´ve fucused on:

1. **to collect and evalute historical data**

2. **to estimate present state of population of brown bear (numbers, population age and sex structure)**

3. **parasitologically research**

4. **to describe its spatial activity**

5. **to analyse feeding ecology**

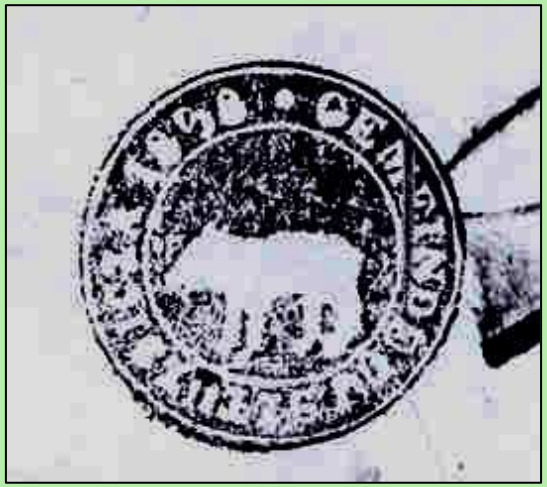
6. **to evaluate record of presence**

1 Evaluation of historical data

•1565 First information about bears from village Solinka SK-PL state boundary (KRYCIŃSKI, 1996)

• 1732 Matej BEL described people from the village Strihovec as a good hunters of bears.

The seal of village Runina from 1837.



The seal of Ukrainian village Stužica from 1858.

2 Current status of the bear population

Up to the present information are deduced on the basis of scientific estimation, which is provided by Poloniny National Park Administration – the estimation of the population number is 18 individuals.

Our information are deduced on the basis of:

- **DNA analysis.**
- **Spatial activity by comparison with DNA samples.**

2 Current status of the bear population

DNA samples were evaluated by :

Mgr. Straka M. with prof. Ing. Pauleho L. PhD.

Technical University in Zvolen

Faculty of Forestry

The research was funded by Agency for Support of Research and Development through financial support no. APVV-18-032105 from the project called „Genetic diversity and differentiation of game and protected species.“

2 Current status of the bear population

We've started to increase intensity of monitoring of state of the population of brown bear in Poloniny NP from 2007 to 2009:

- **We created a monitoring form, which was distributed between professional engaged groups – foresters, hunters, frontiersmen, volunteers and interested local people.**

- **Simultaneously experts from Poloniny NP Administration made monitoring of brown bear.**

2 Current status of the bear population

- **The next phase was collecting of scat samples and hair samples in terrain, which have started in october 2008.**

- **The scat and hair samples were used for identification of individuals on the basis of DNA analysis.**

- **All those data were recorded by GPS and later digitalised.**

2 Current status of the bear population

We' ve inferred 15 different individuals of bear on the basis of DNA samples in the study area. This is a minimal number of individuals, we expect increase of that number, because:

- **We certainly didn't collect all samples from each bear in the study area.**
- **The samples were collected in very short term (October 2008 - April 2009).**
- **On the basis of spatial activity we can deduce, that we didn't find coprological material from some individuals.**
- **And also some samples are still waiting for evaluation.**

2 Current status of the bear population

Results from DNA:

6 females
- •2 - females with cubs - locality of occurrence (L.of O.) Ruské, Stakčín
- •1 cub

9 males
- •3 cubs
- •4 teritory males probably

+

Results from spatial activity:

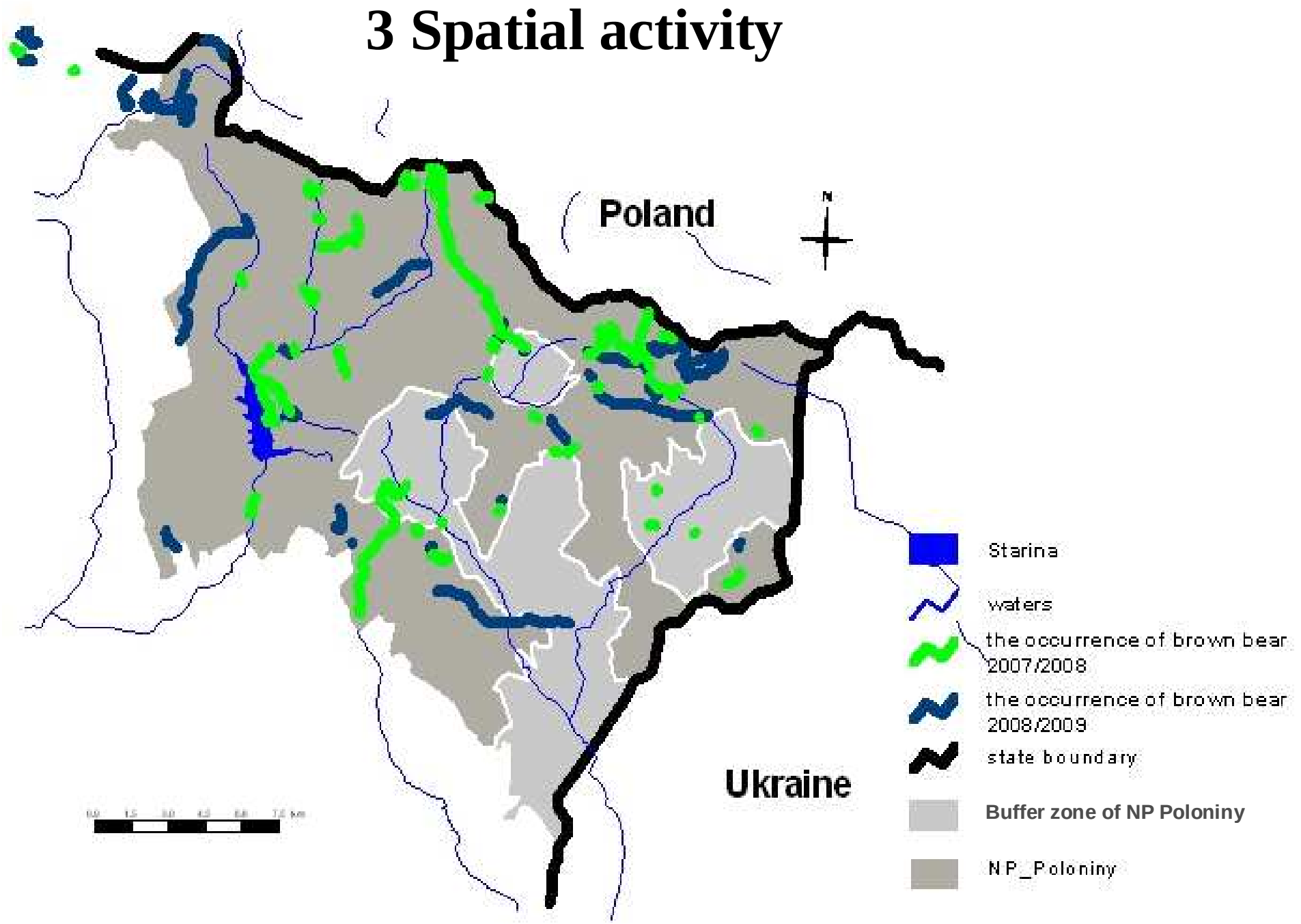
2 females with cubs
- •1 L. of O. Zboj
- •1 L. of O. Osadné

2 males
- •1 L. of O. Zboj?
- •1 L. of O. Osadné

6 cubs
- •1 L. of O. Zboj
- •2 L.O. Zboj (date of birth 2009)
- •1 L. of O. Runina
- •2 L. of O. Osadné

Summary minimum 25 different individuals of bears are presented in Poloniny NP.

3 Spatial activity



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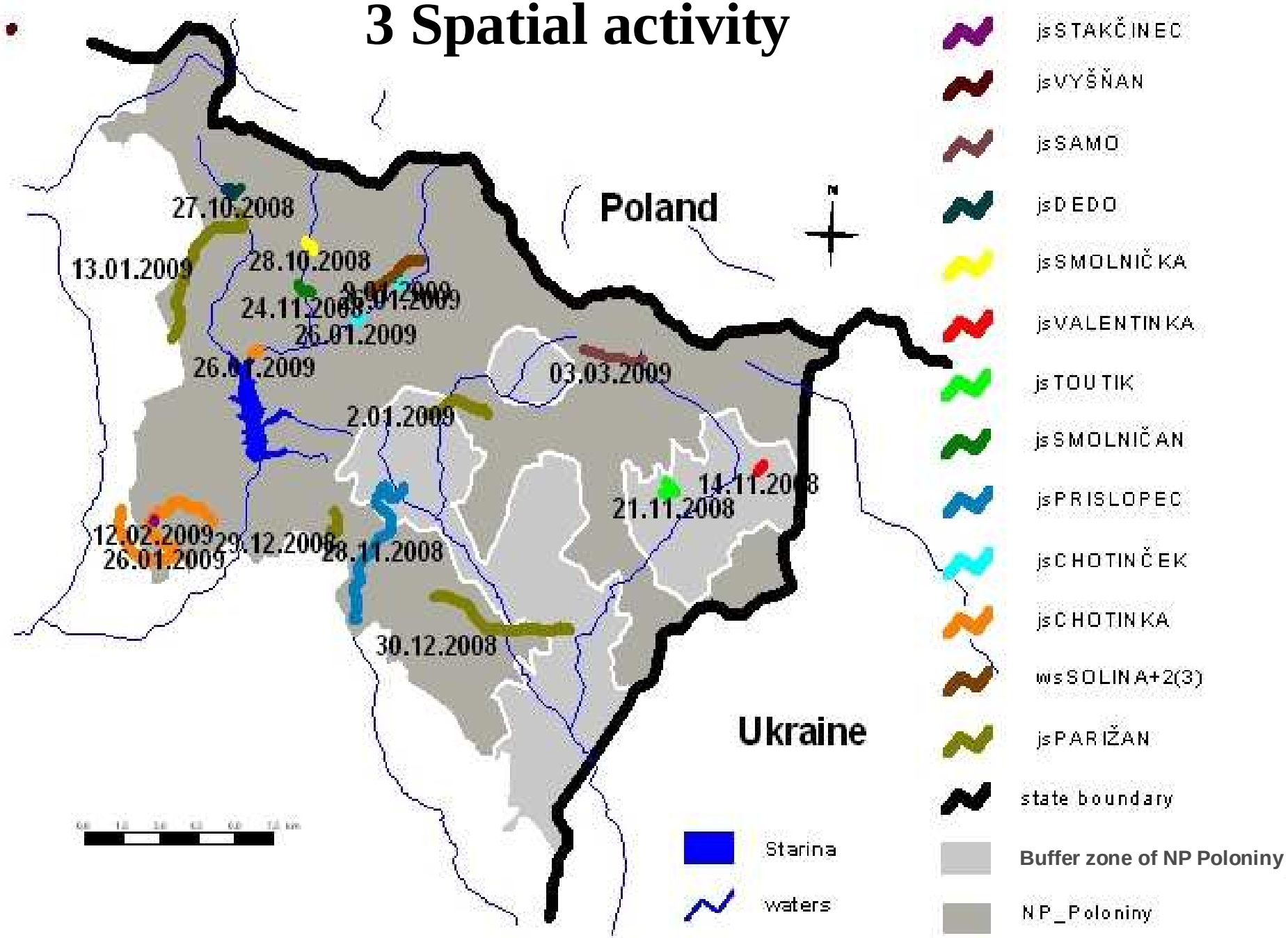

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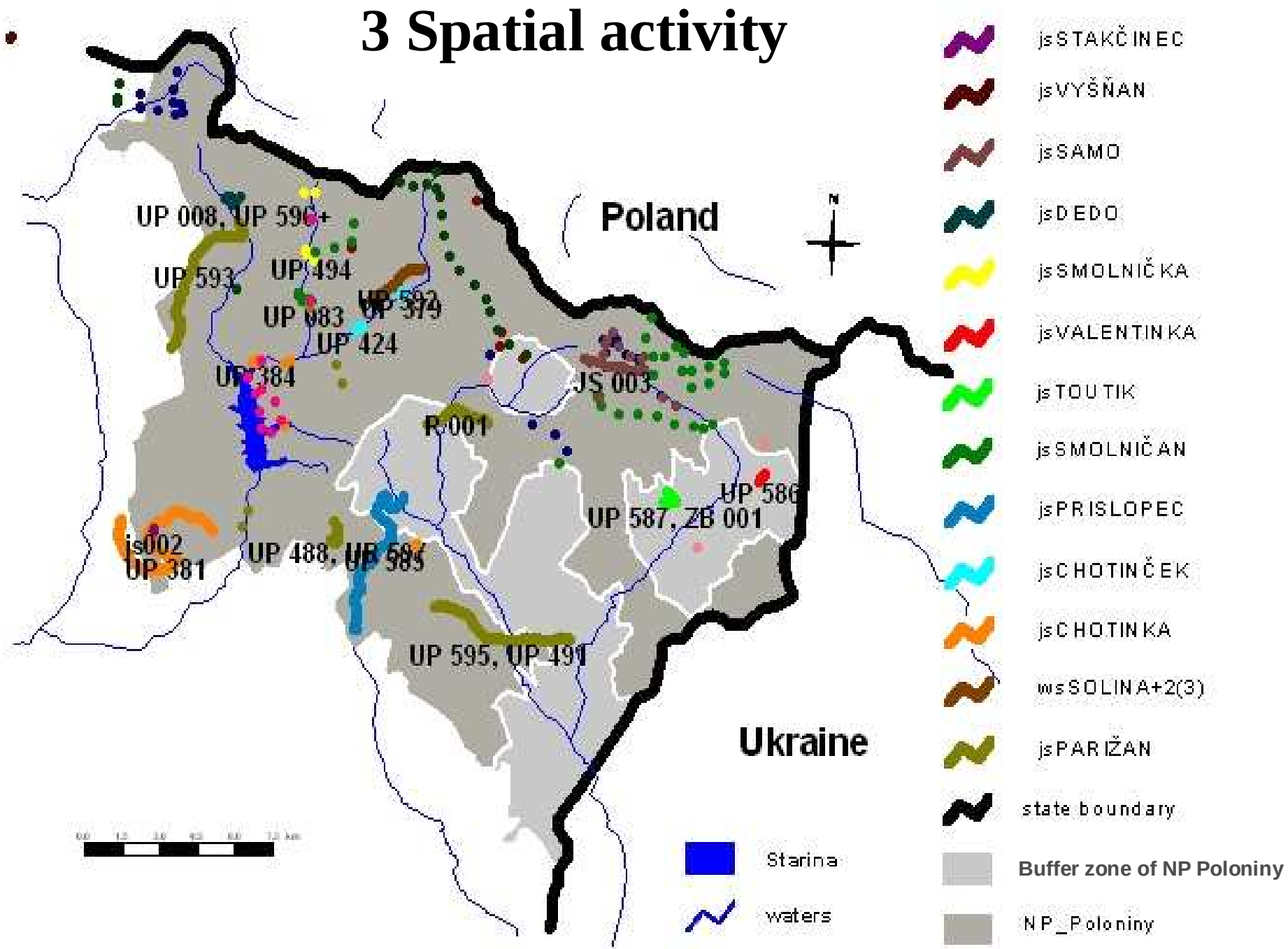

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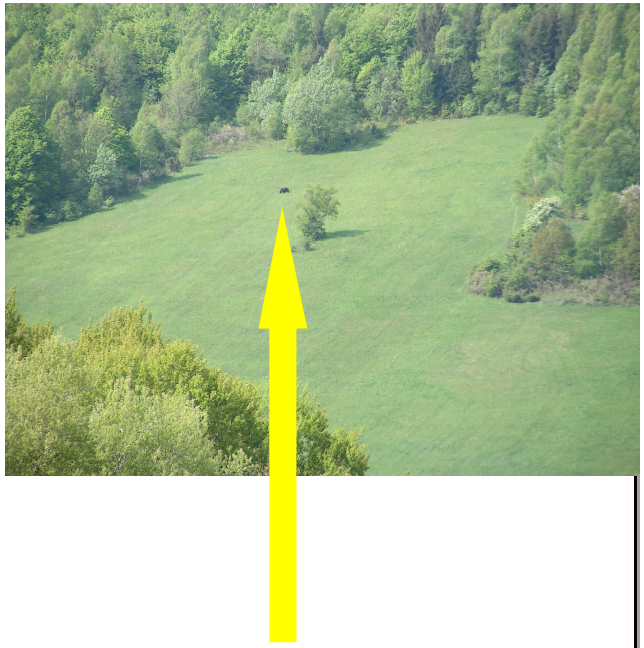

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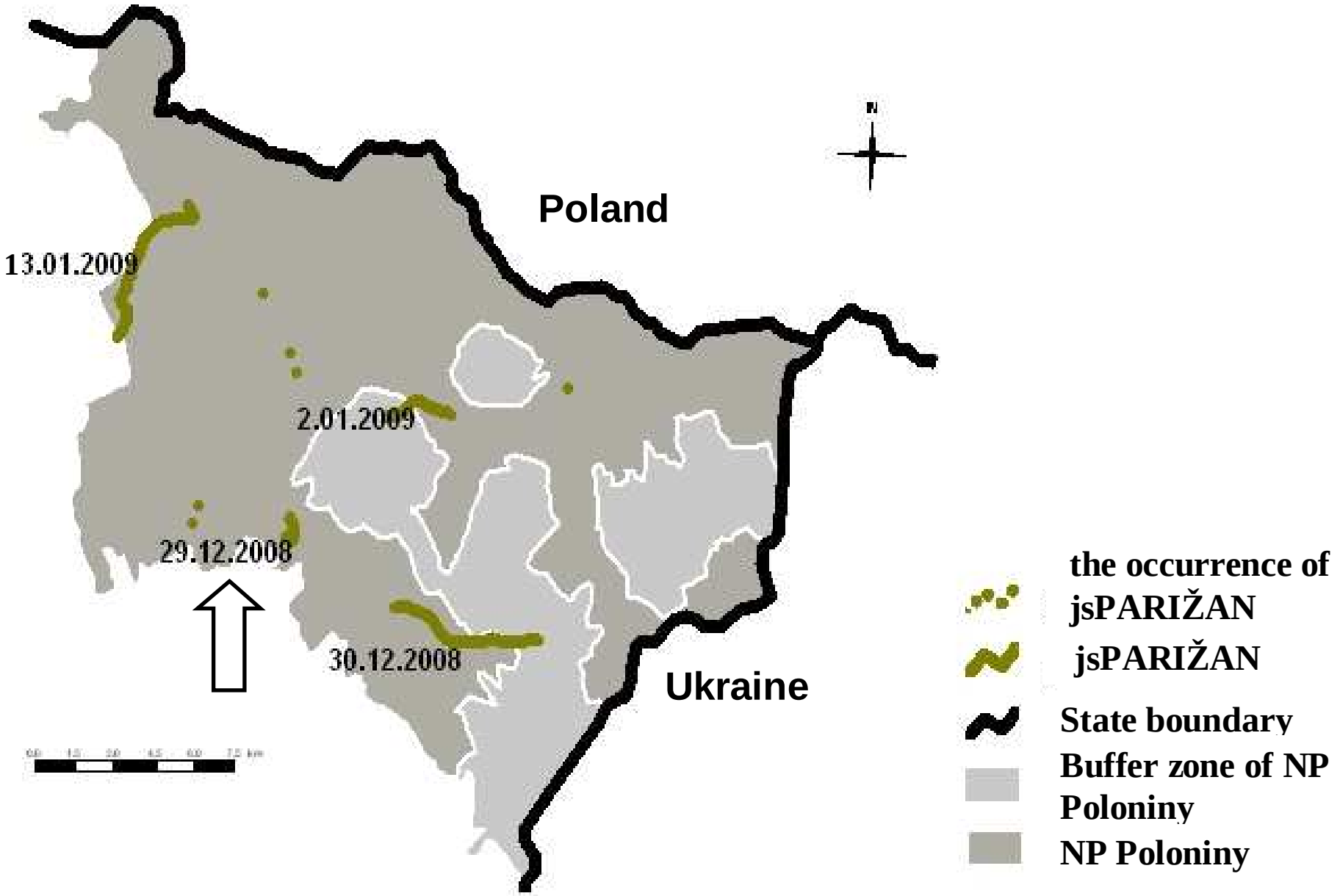

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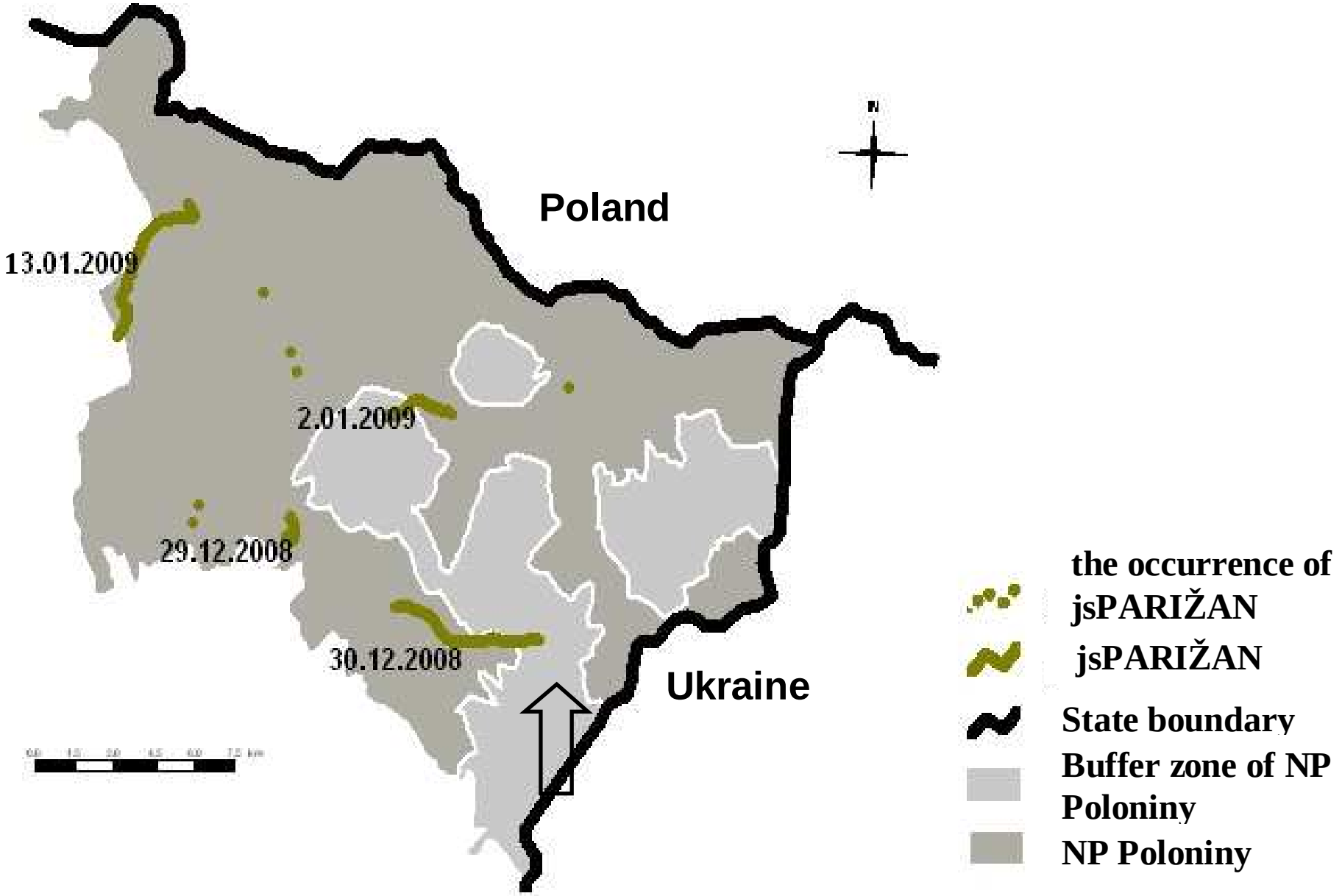

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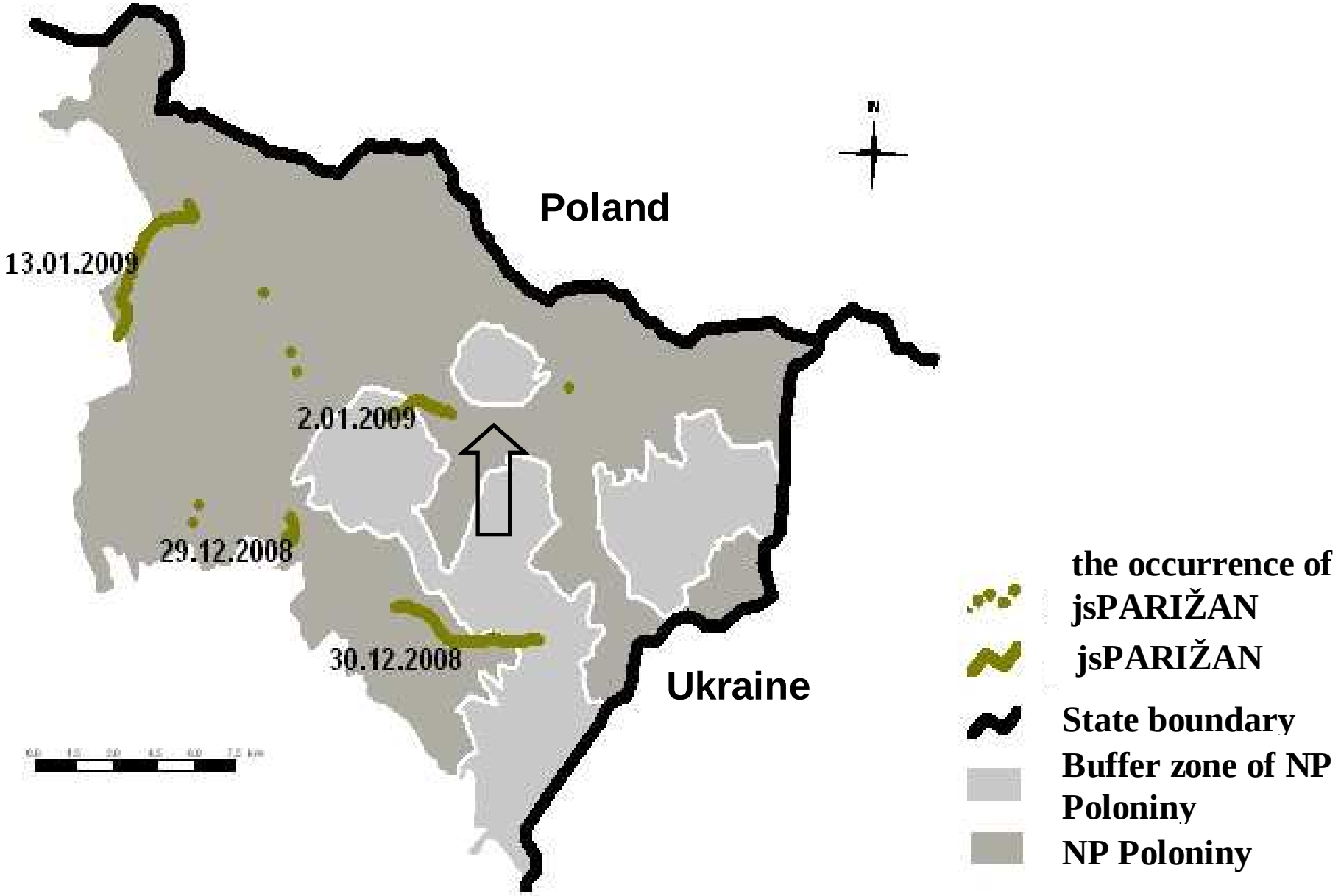

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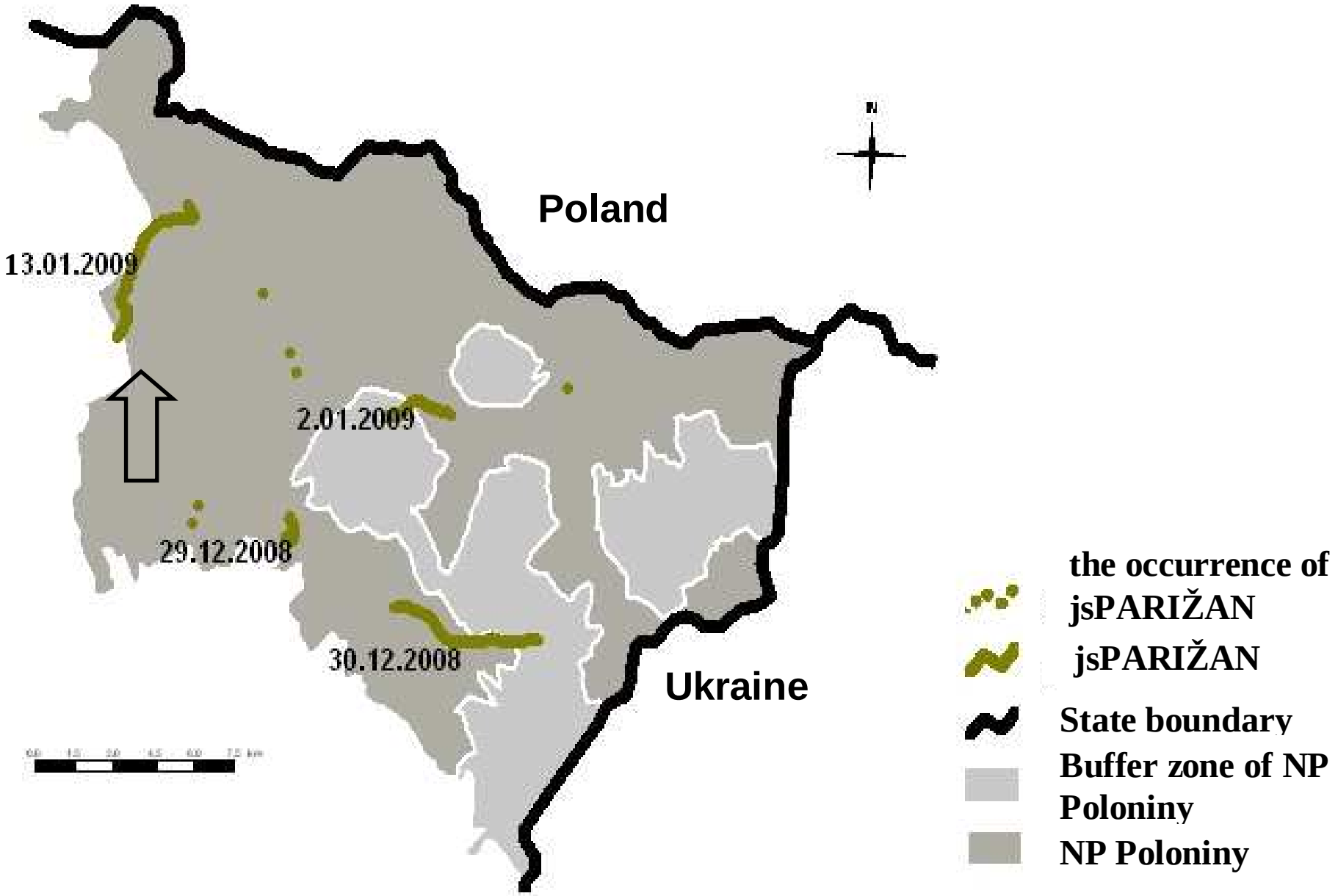


3 Spatial activity

the occurrence of jsDEDO

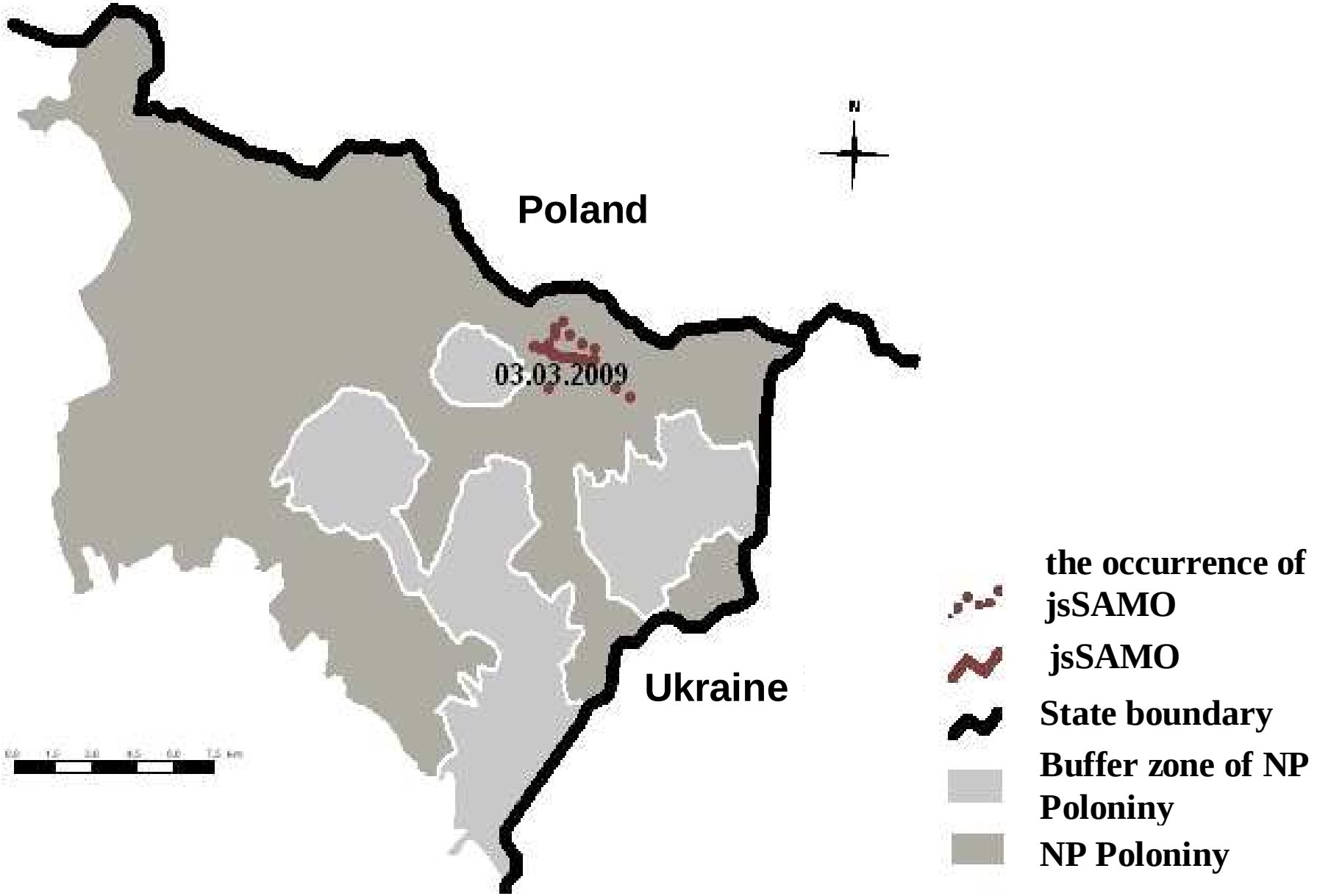
jsDEDO

State boundary

Buffer zone of NP Poloniny

NP Poloniny

3 Spatial activity



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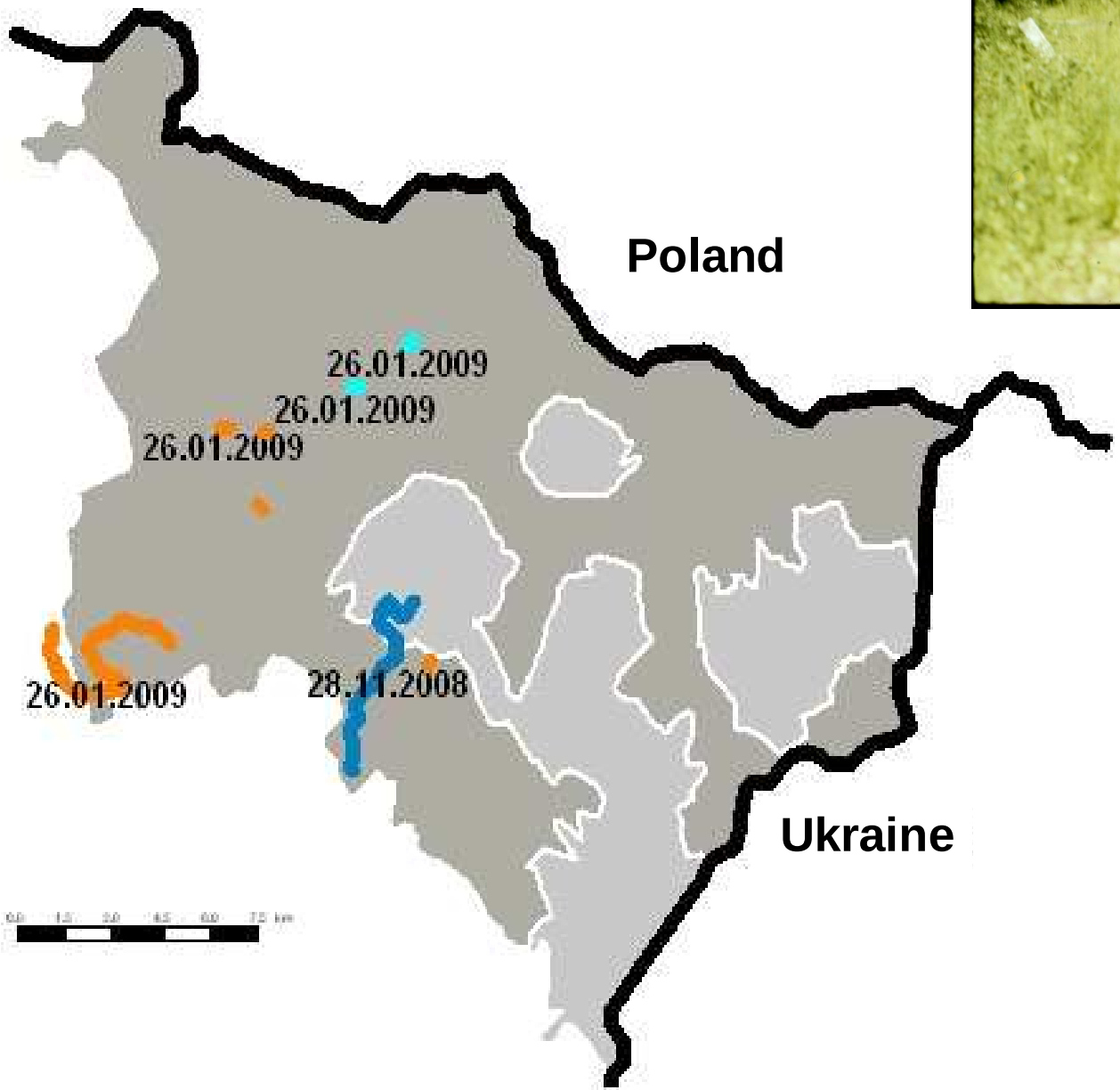
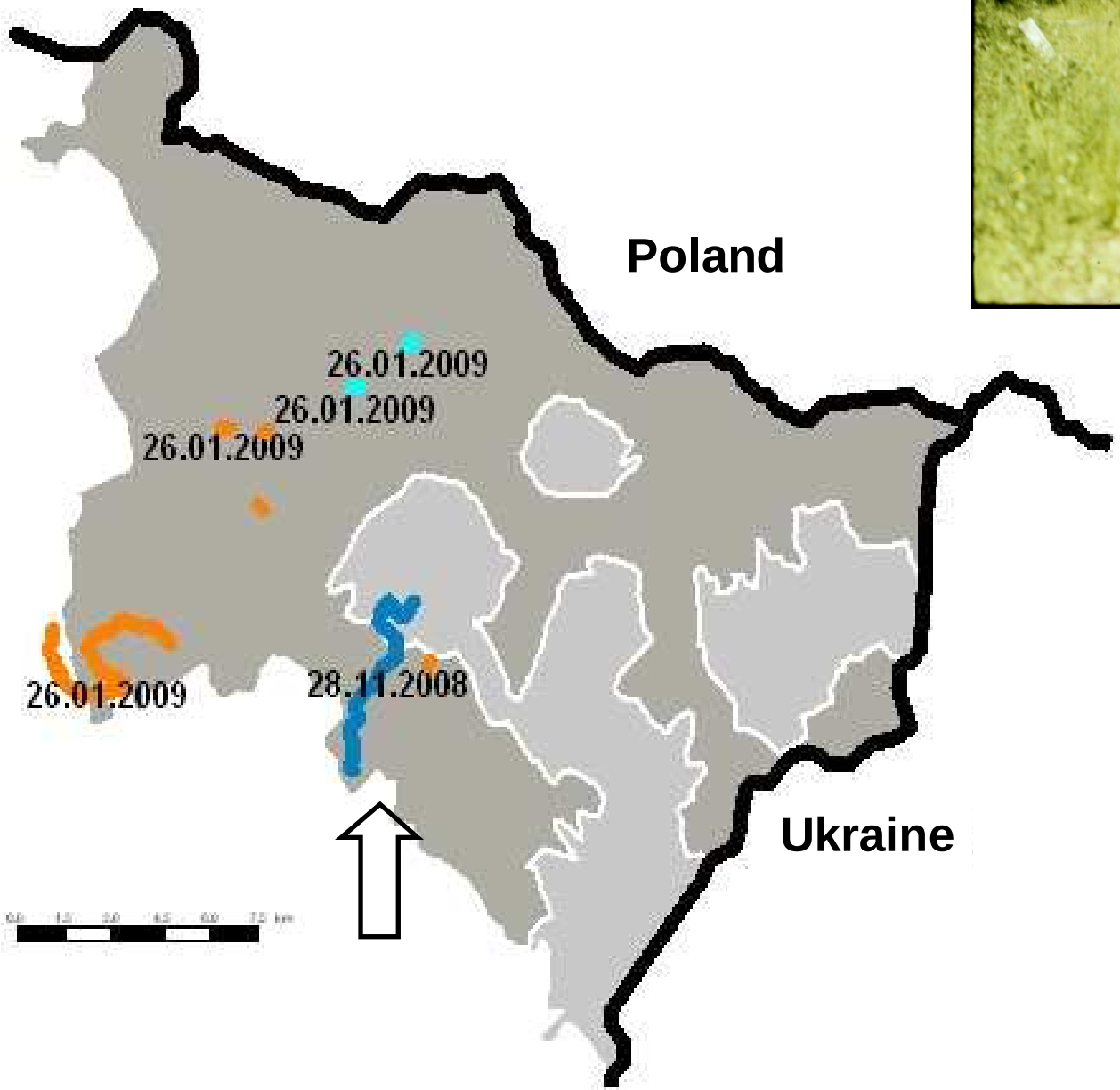


- the occurrence of jsCHOTINKA-fem.
- jsPRISLOPEC-cub
- jsCHOTINČEK-cub
- jsCHOTINKA-fem.
- State boundary
- Buffer zone of NP Poloniny
- NP Poloniny

3 Spatial activity



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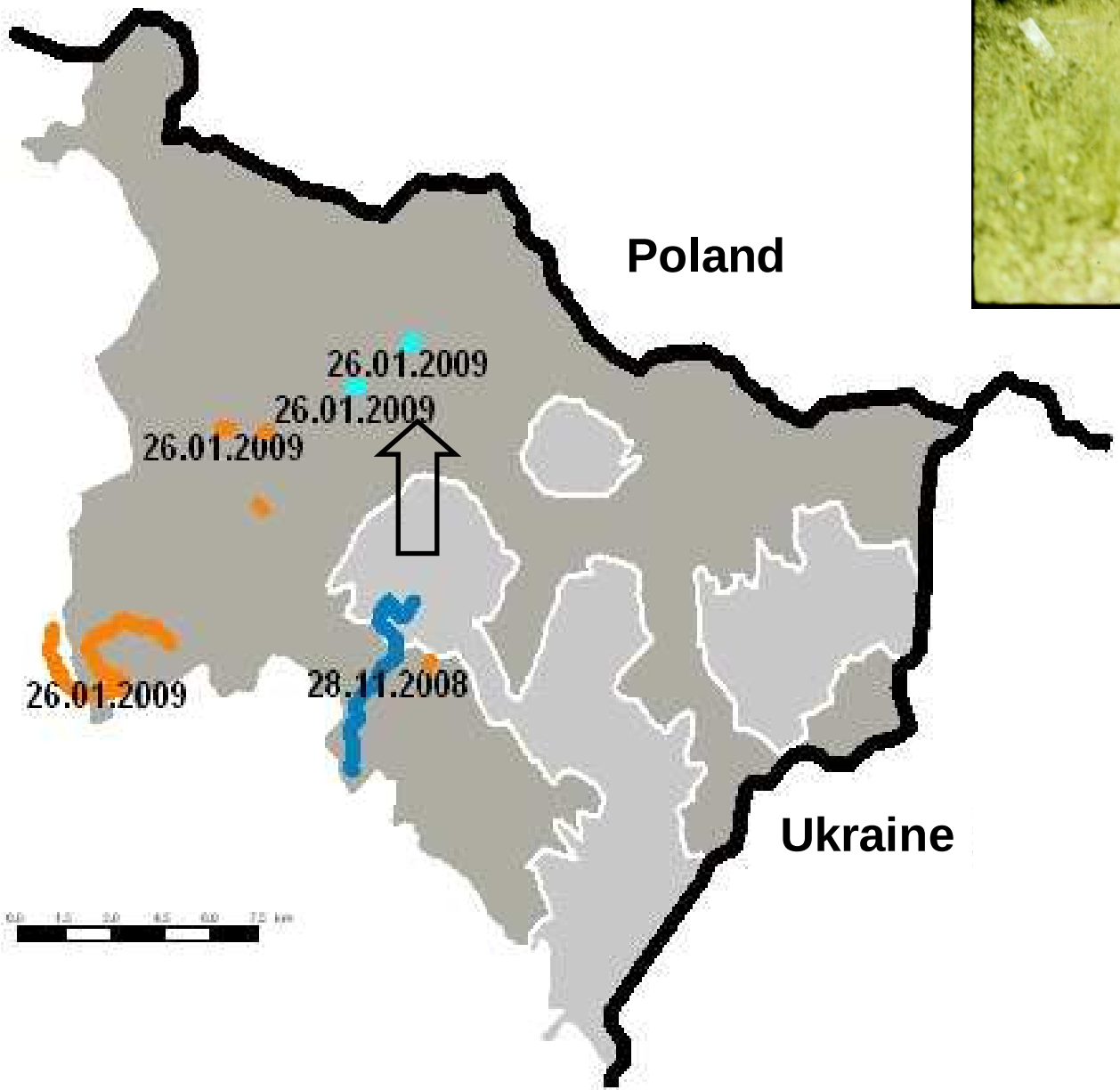

the occurrence of jsCHOTINKA-fem.

jsPRISLOPEC-cub

jsCHOTINČEK-cub

jsCHOTINKA-fem.

State boundary

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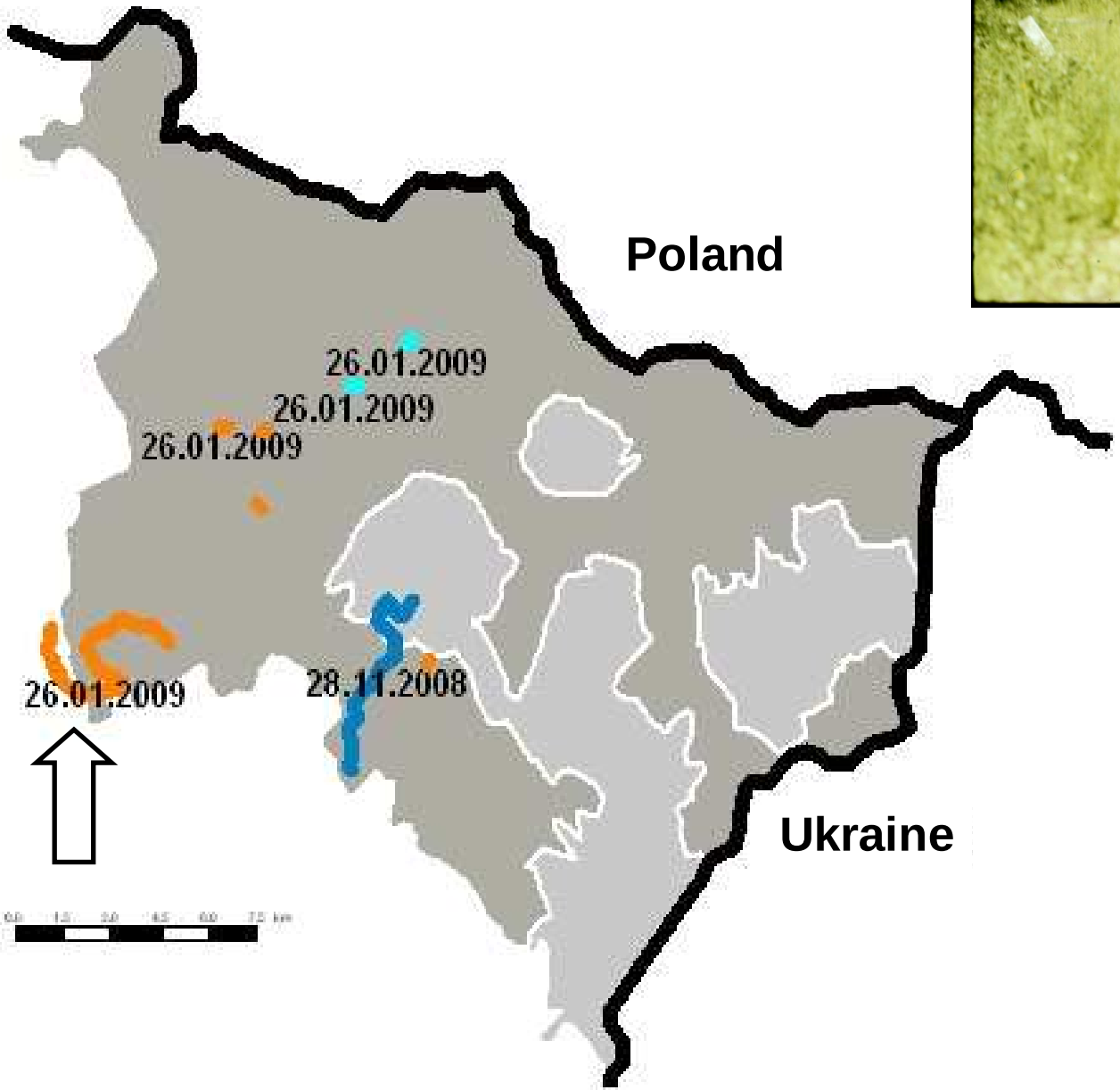

the occurrence of jsCHOTINKA-fem.

jsPRISLOPEC-cub

jsCHOTINČEK-cub

jsCHOTINKA-fem.

State boundary

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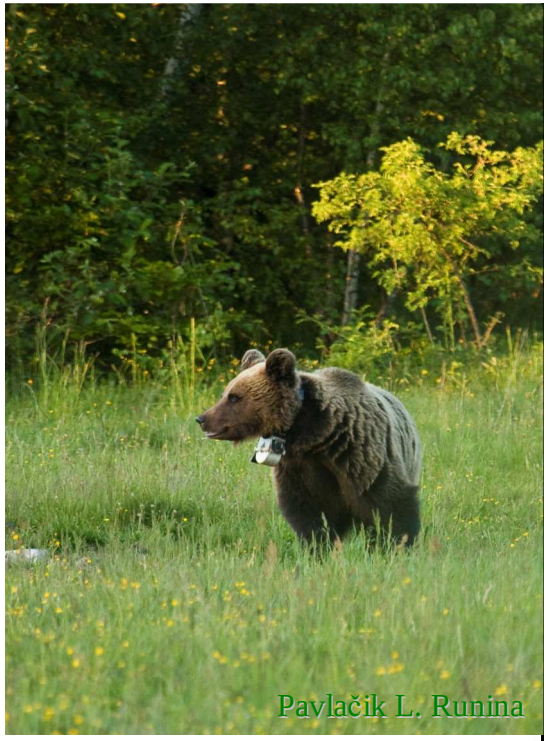


the occurrence of SOLINA with 3 cubs

SOLINA with 3 cubs

State boundary

Buffer zone of NP Poloniny

NP Poloniny

4 Parasitology research

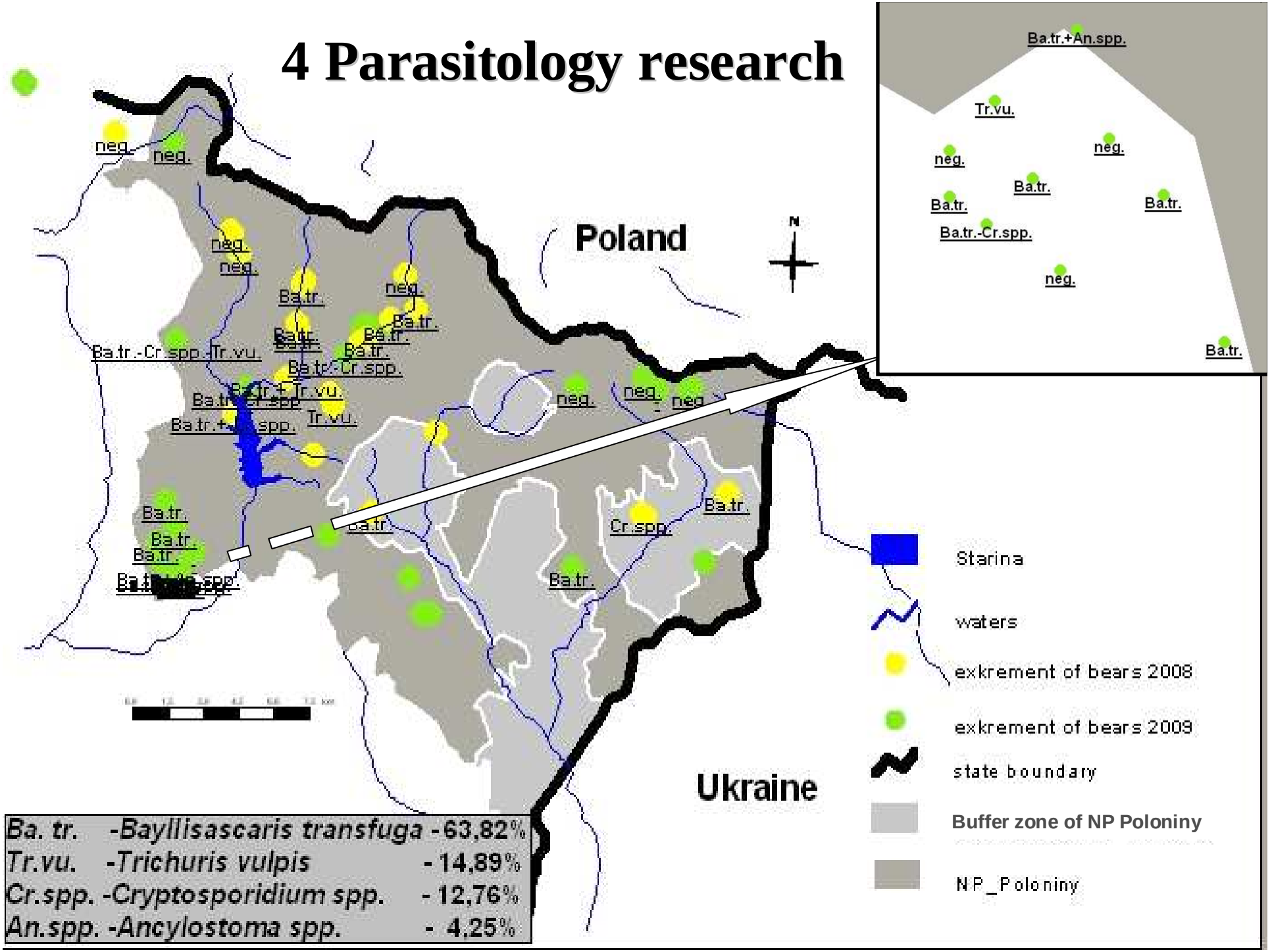
Analyses of scat samples were made by

University of veterinary medicine in Košice

Institute of Parasitology

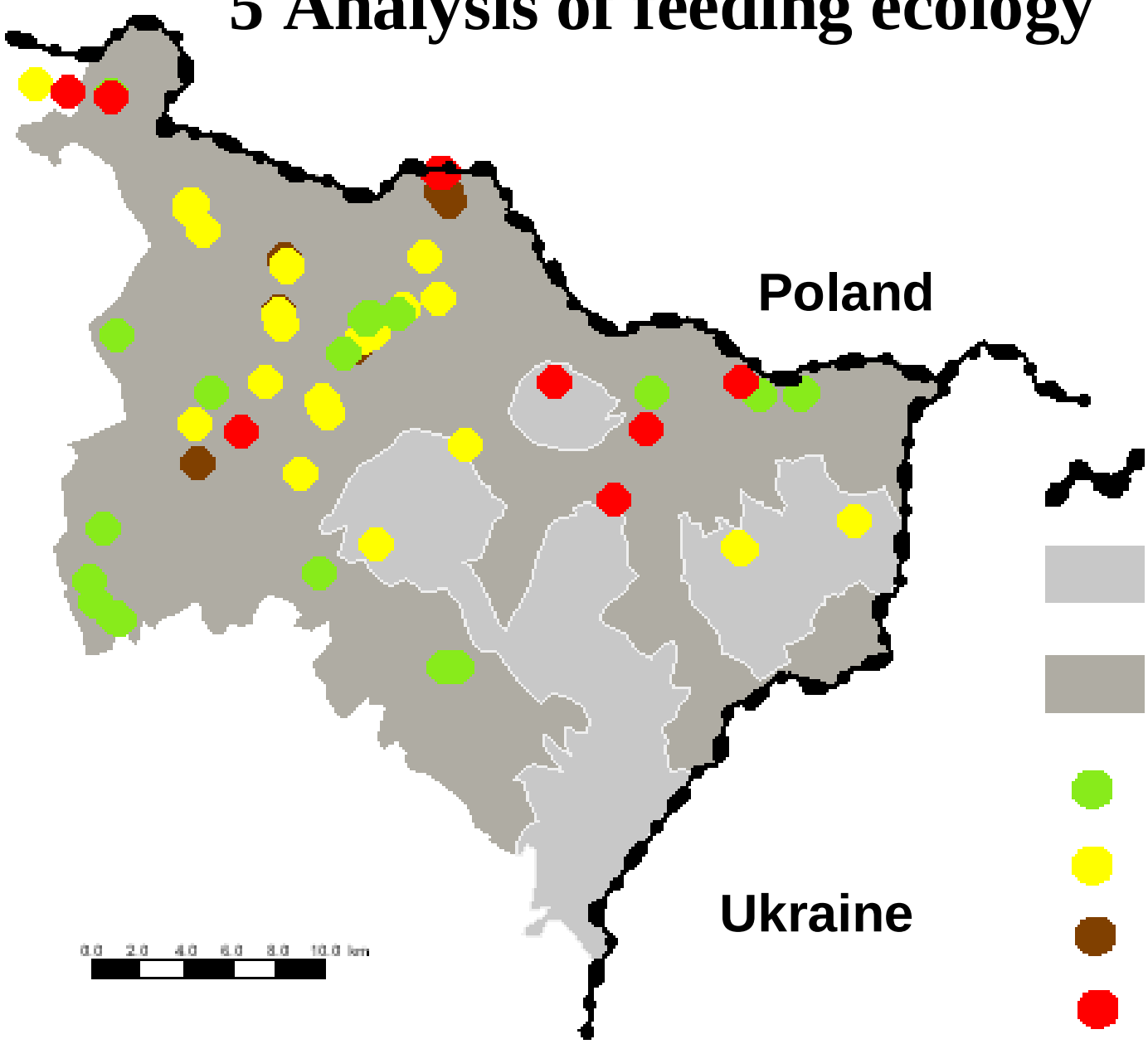
MVDr. Major P.
MVDr. Molnár L.

4 Parasitology research

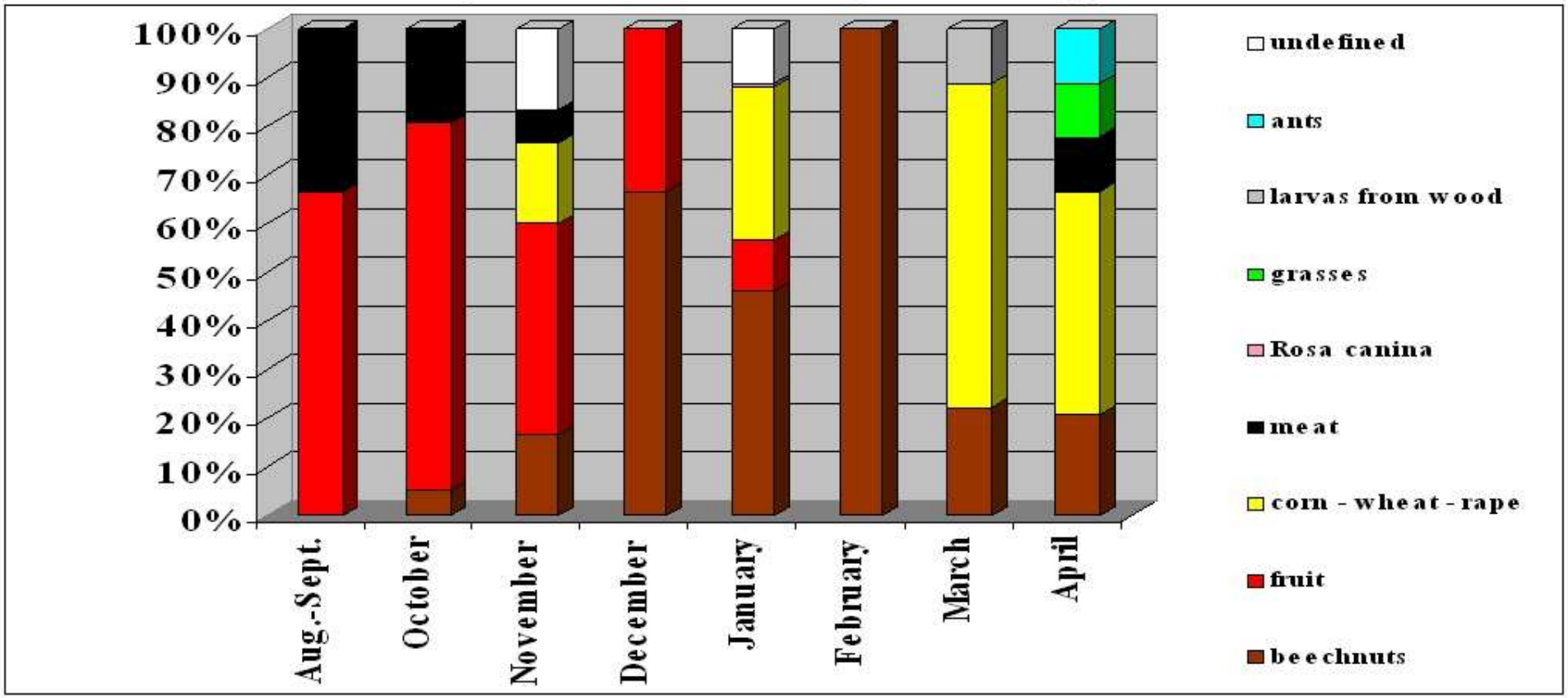


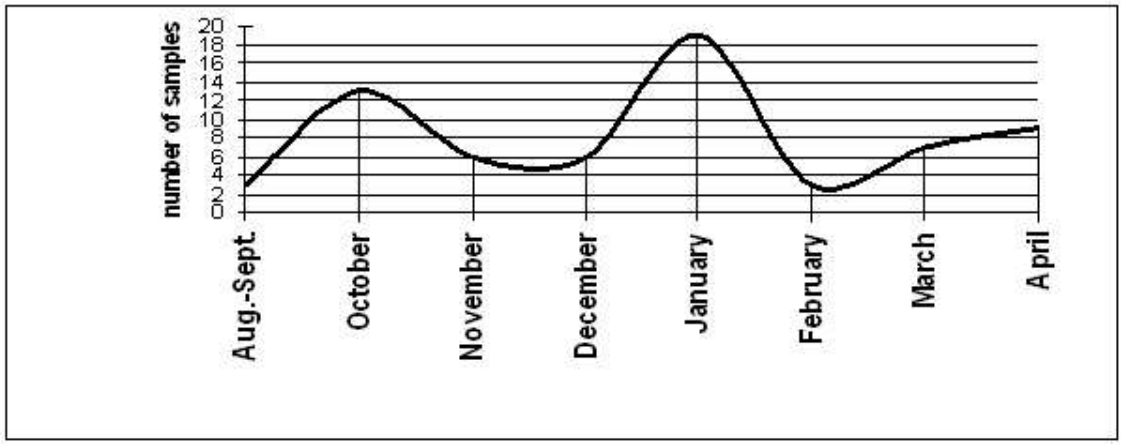
Ba. tr.	*-Baylisascaris transfuga*	- 63,82%
Tr.vu.	*-Trichuris vulpis*	- 14,89%
Cr.spp.	*-Cryptosporidium spp.*	- 12,76%
An.spp.	*-Ancylostoma spp.*	- 4,25%

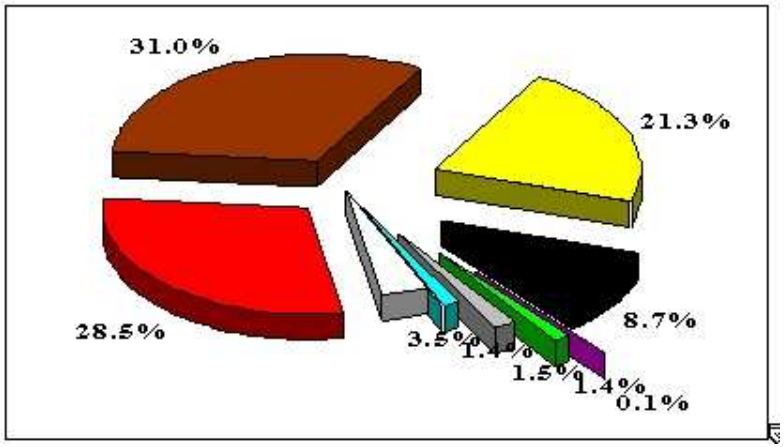
5 Analysis of feeding ecology



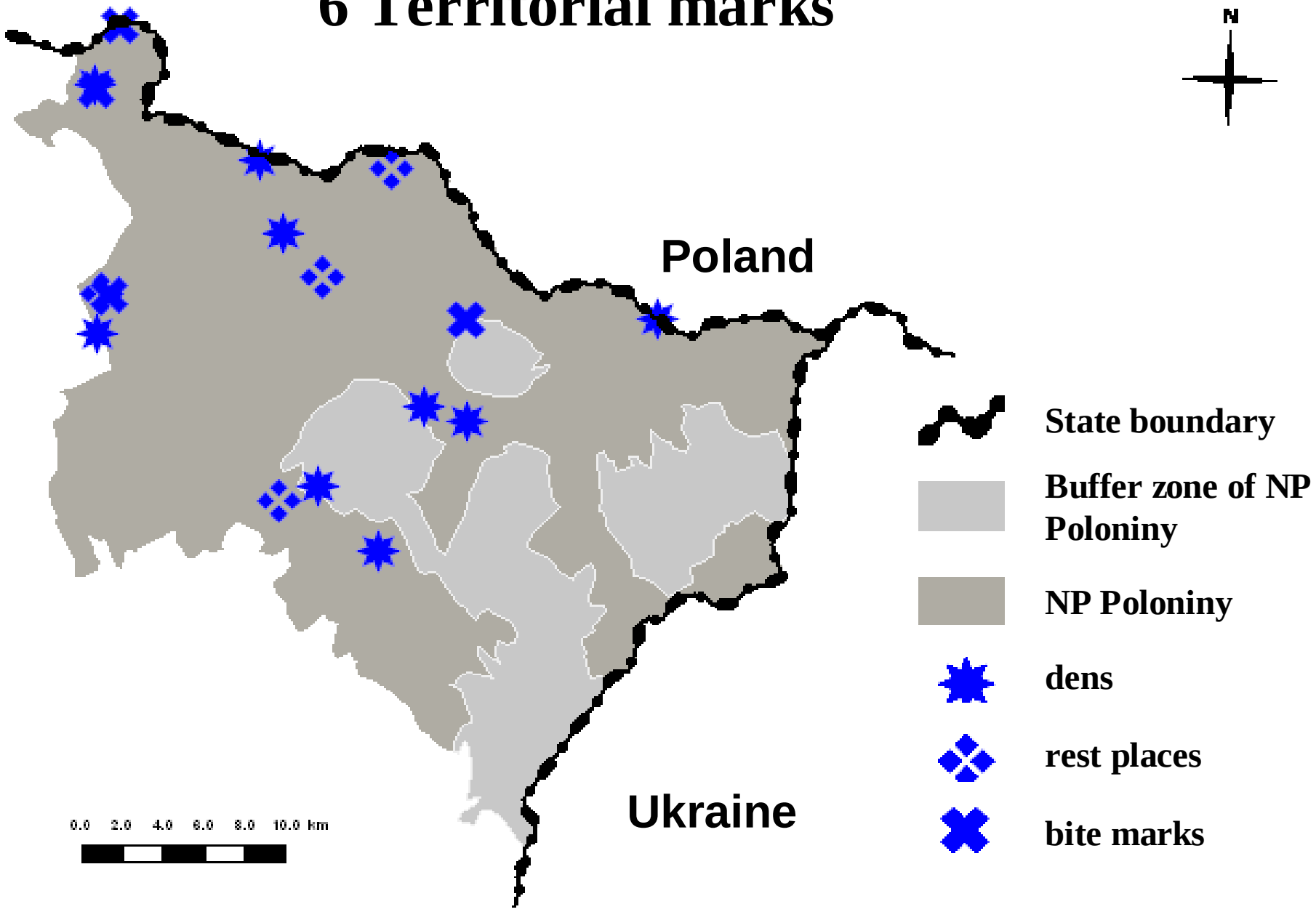
5 Analysis of feeding ecology

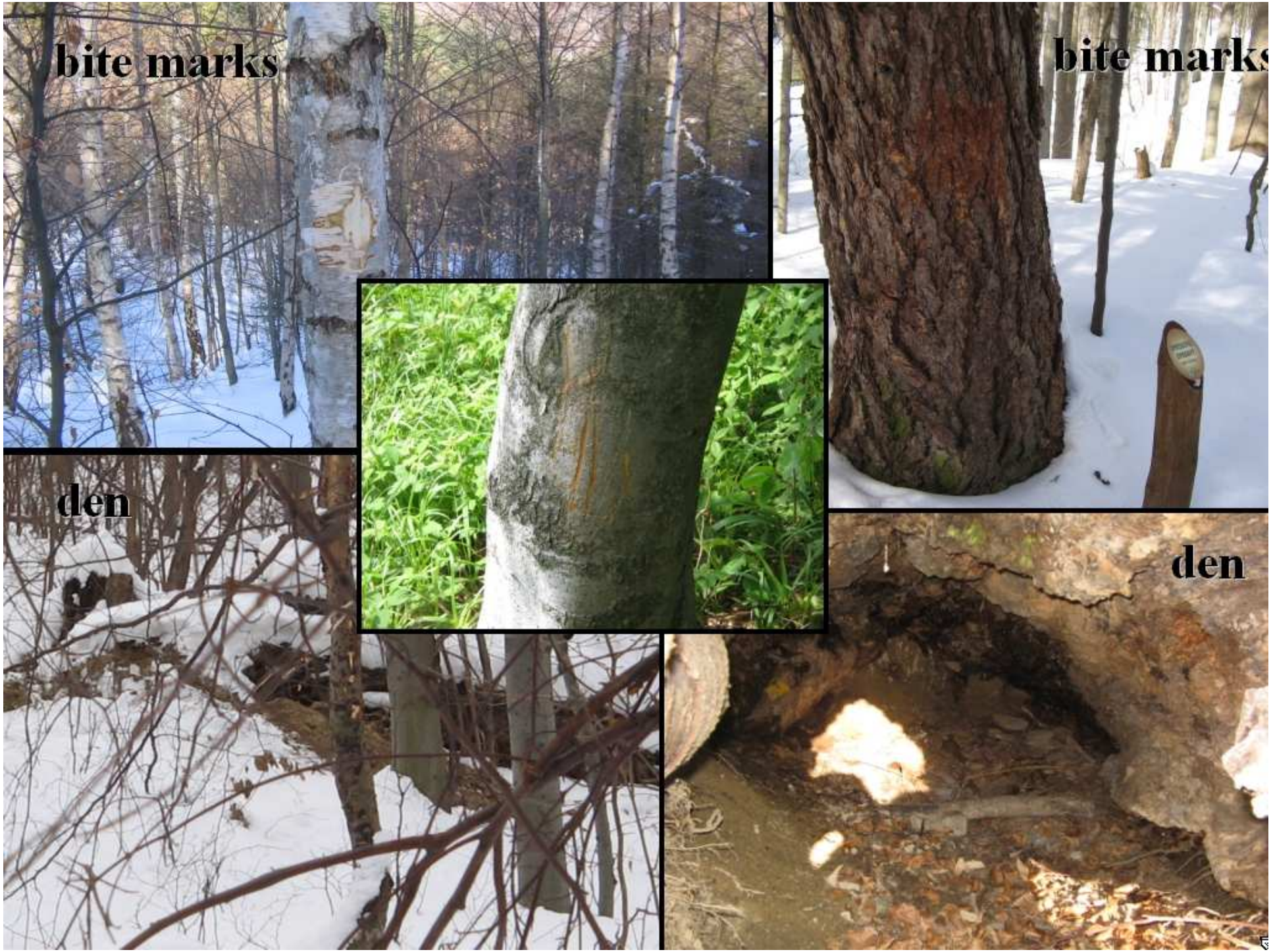






6 Territorial marks

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