



State Veterinary Administration of the Czech Republic

**National Reference Laboratory for Rabies
State Veterinary Institute - Liberec**

Information Bulletin No. 5a/2000

**Rabies
Epizootiological Situation in the 1999**



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Rabies - Epizootiological Situation in the 1999

By :

MVDr. Oldřich MATOUCH, CSc. - State Veterinary Institute – Liberec

MVDr. Jaroslav JAROŠ - State Veterinary Institute – Liberec

Editor :

RNDr. Oldřich VALCL, CSc. - Department of Information Retrieval Systems of SVA CR

Ing. Petr HEDBÁVNÝ - Department of Information Retrieval Systems of SVA CR

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CONTENTS

Summary :	2
1. Laboratory diagnostics	2
1.1. Animals Tested	2
2. Rabies in animals	3
2.1. Rabies in wild animals	3
2.2. Rabies in domestic animals	3
2.3. Geographical distribution	3
3. Oral vaccination of foxes	4

Summary :

8995 animals belonging to 48 species were examined for rabies in the Czech Republic in 1999. Rabies was diagnosed in 214 cases, 129 more than in 1998. Wild animals participated by 209 cases on positive findings (97,7 %) and domestic animals by 5 cases (2,3 %). The highest incidence was registered in foxes - 192 cases (89,7 %). The other animals involved were marten (6), roe-deer (4), badger (4), bat (2), fallow deer (1), cat (3), sheep (1) and dog (1).

Rabies occurred in 23 districts. The majority of cases was recorded in the North Bohemia (112), followed by Central Bohemia (39), South Bohemia (31) and South Moravia (27).

Control measures were directed on the preventive vaccination of domestic animals and oral immunization of foxes. 1 456 800 vaccine doses were distributed on the territory of 54 districts during two campaigns in 1999.

1. Laboratory diagnostics

Presented analysis of the rabies situation was prepared on the base of the data reported by specialized laboratories in the Czech Republic territory.

The rabies diagnostics was arranged by three specialized laboratories in the Czech Republic territory in 1999 :

1. The National Reference Laboratory for Rabies, State Veterinary Institute, Liberec
2. State Veterinary Institute, Olomouc
3. State Veterinary Institute, Praha

A direct fluorescent antibody test complemented by the mouse inoculation test in indicated cases were the basic diagnostic methods.

Graph	Participation of particular labs	page 5
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In 1999, 8,995 samples were examined for rabies, 131 samples were not suitable for examination due to biological or physical deterioration. The mouse inoculation test was carried out in 1,454 cases (531 cats, 402 dogs, 50 others domestic animals and 471 wildlife animals) when men or farm animals had been exposed.

1.1. Animals Tested

In 1999, totally 8,995 animals belonging to 48 species were examined for rabies, of which 28 were wildlife species and 20 domestic ones.

The wildlife animals contributed to the total examination volume by 83.8 % (7,536 samples). The most frequent were foxes (6,411), roe-deers (383), martens (377) etc. The domestic animals participated by 16.2 % (572 dogs, 794 cats, 95 others).

Graph	Samples Examined for Rabies by Animals - 1999 Rabies Positive Findings by Animals - 1999	page 6
Table	Review of Rabies Laboratory Examination in the Czech Republic in 1999	page 7

2. Rabies in animals

A total of 214 rabies cases were diagnosed in the CR during 1999, 129 cases more than in 1998. Rabies was registered in 8 animal species, of which in 6 wildlife species and 3 domestic ones. Of the total number 209 (97.7 %) cases were diagnosed in wild animals and 5 cases (2.3 %) in domestic animals.

Rabies cases were recorded during all months with the highest occurrence in April (34) and March (31).

Graphs	Samples Examined for Rabies by Months in the 1999 Rabies Positive Findings by Months in the 1999	page 8
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2.1. Rabies in wild animals

Rabies in wildlife was laboratory confirmed in 209 cases in 6 species. Most frequently it was in foxes (192 cases), martens (6), roe-deers (4), badger (4), bat (2) and fallow deer (1).

Foxes keep their dominant position in the epizootiology of rabies and remain principal reservoir and vector of the infection. Cases in foxes accounted for 89.7 % of all positive cases.

2.2. Rabies in domestic animals

In 1999, totally 1459 domestic animals were examined for rabies. Rabies was diagnosed in cat (3 cases), sheep (1) and dog (1).

2.3. Geographical distribution

Rabies was recorded in 23 districts. The highest incidence was reported from district Litoměřice (35) and Česká Lípa (34) in the North Bohemia.

East Bohemia and West Bohemia were rabies free. Only one case was registered in North Moravia. Sampling and rabies cases in the districts of CR are presented in maps and in tables.

Map.	Geographical distribution of samples submitted for rabies examination in 1999 Rabies cases in Czech Republic - 1999	page 9
Table	Rabies Cases in the Districts of the Czech Republic in the 1999 - the Districts of the Middle Bohemia - the Districts of the Southern Bohemia - the Districts of the Northern Bohemia - the Districts of the Northern Moravia - the Districts of the Southern Moravia	page 10

3. Oral vaccination of foxes

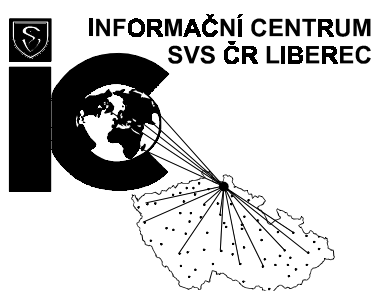
The project of fox oral vaccination initiated in 1989 has continued also in 1999. 1 456 800 Czech made SAD – Bern vaccine doses were distributed in 54 districts during spring and autumn campaigns (see fig.7).

The manual distribution of vaccine baits in density of 18 baits/km² was performed by voluntary hunters. Aerial distribution was extended into 12 highly affected districts in the North and Central Bohemia using 25 – 30 vaccine doses per km².

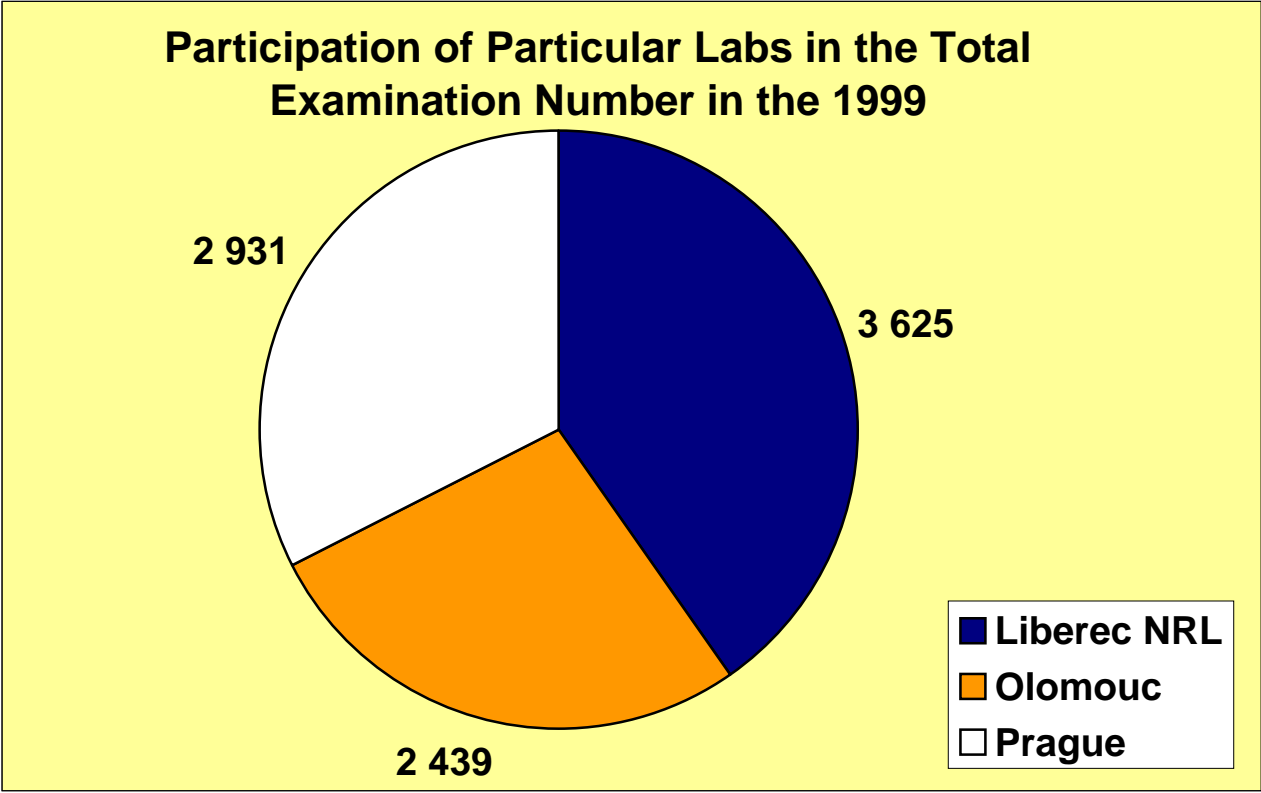
Oral vaccination has undoubtedly contributed to the improvement of the rabies situation and restricted further extension of the disease (see fig.8). The reduction of the wildlife rabies caused the decrease of rabies in domestic carnivores to minimum which is of great epidemiological importance.

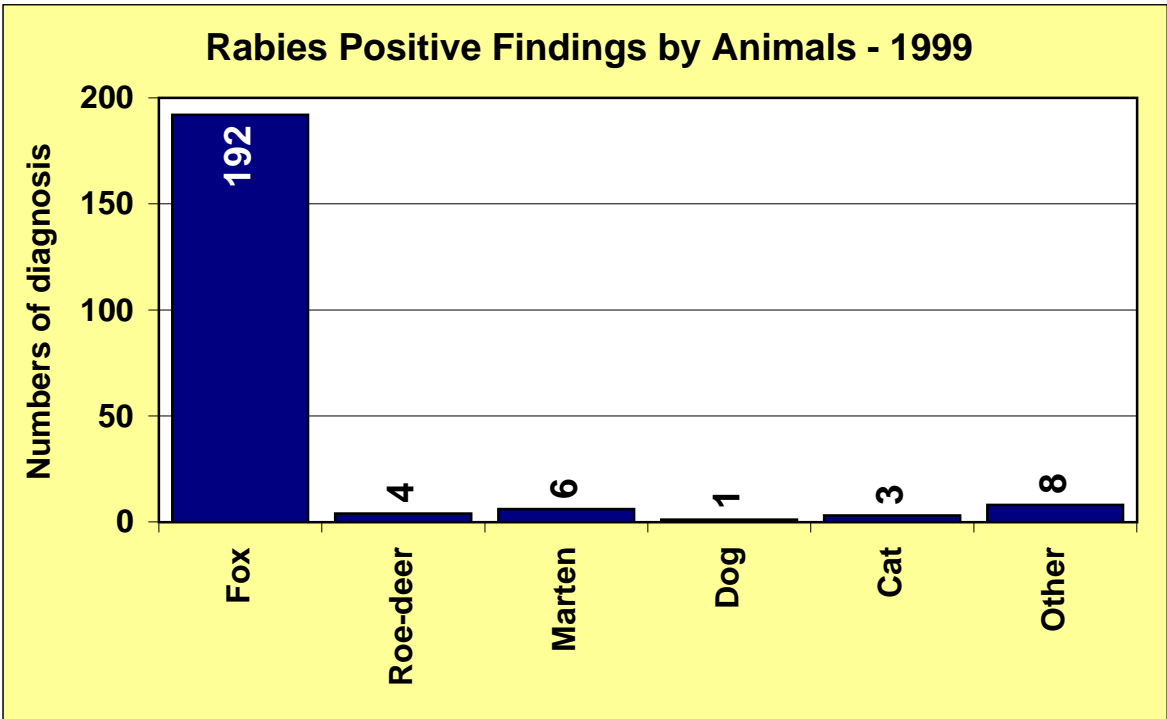
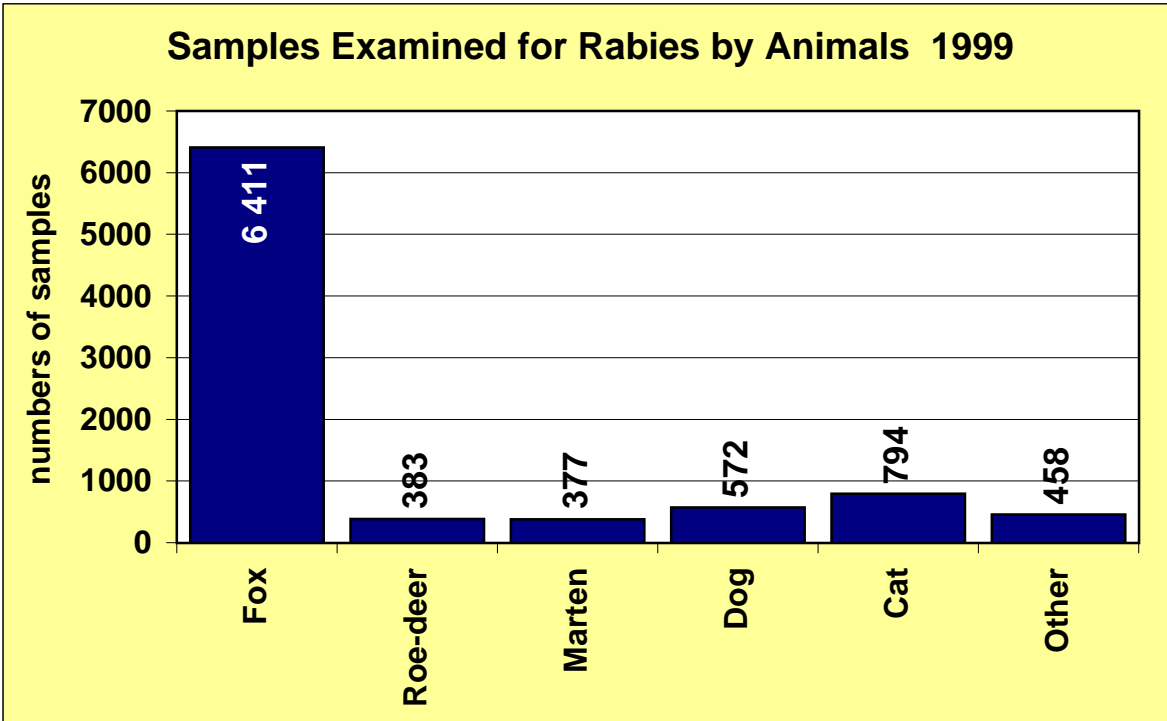
Present antirabies strategy should be focused at the residual fox rabies districts and prevention of the spreading to new areas.

Map	Rabies cases (January - October) and area of vaccination in Autumn 1999	page 12
Graph	Rabies Incidence in the Czech Republic in 1990 - 1999	page 13



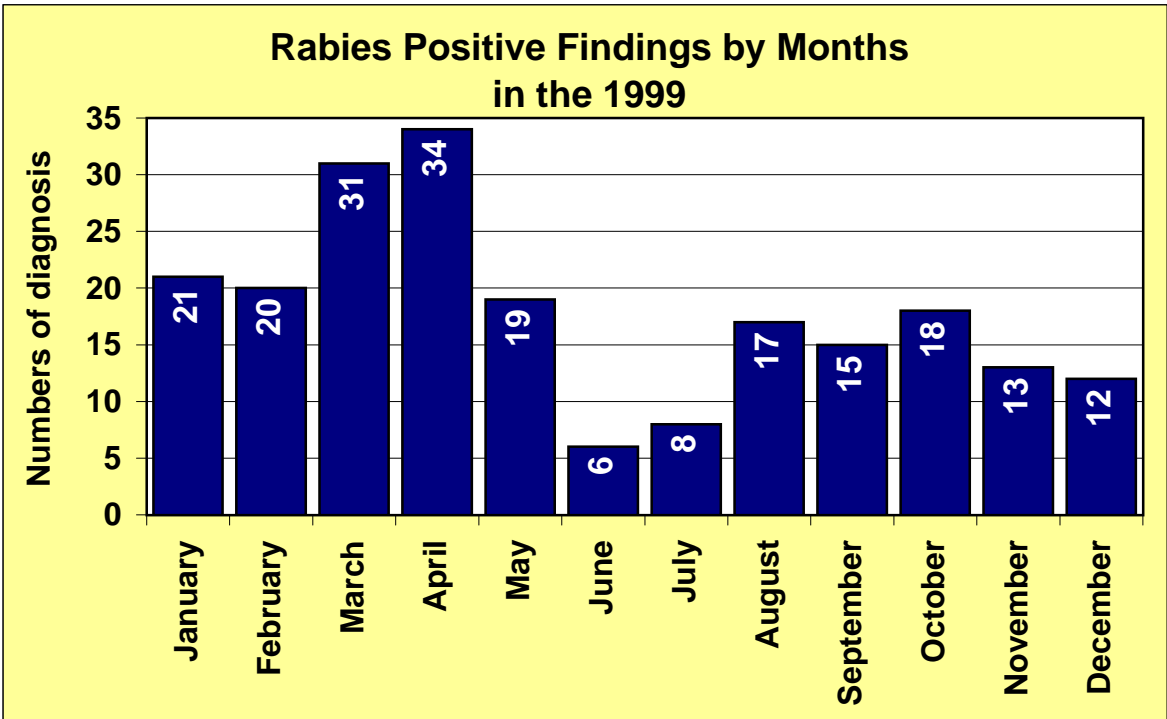
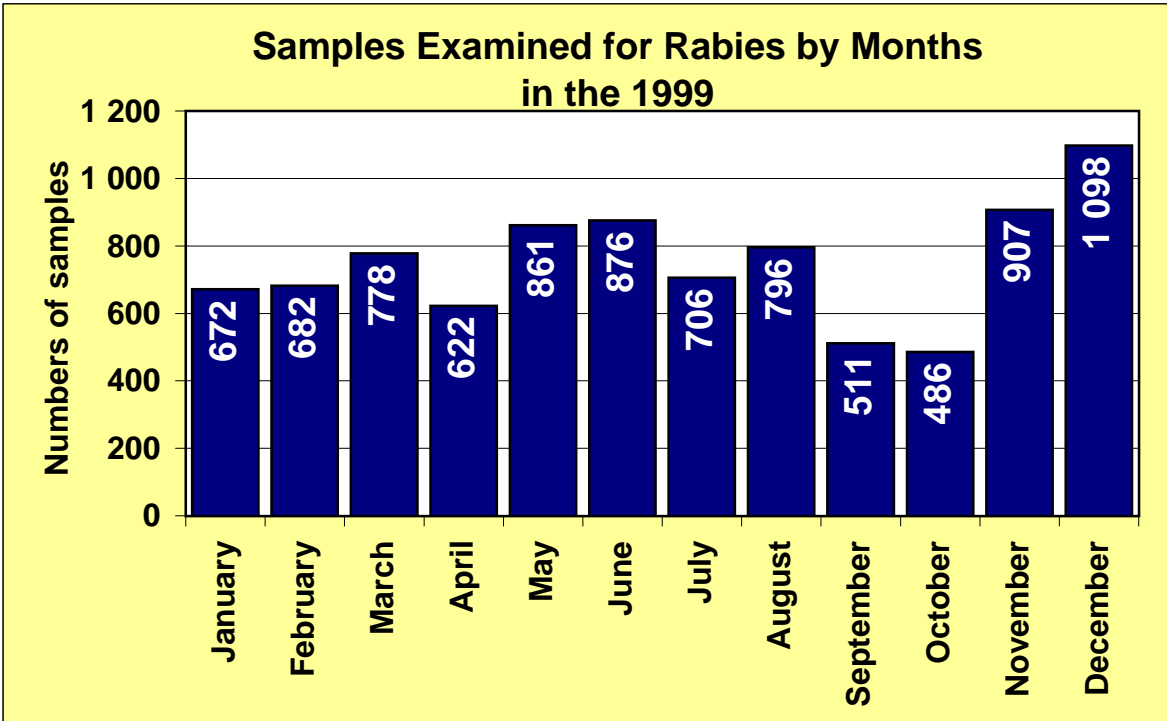
Compilation of data and DTP
by Information Centre of the SVA CR Liberec
Ostašovská 521, 463 11 Liberec 11
tel.: 048 / 510 76 96, *fax:* 048 / 510 79 03
e-mail: icsvscr@icsvscr.cz



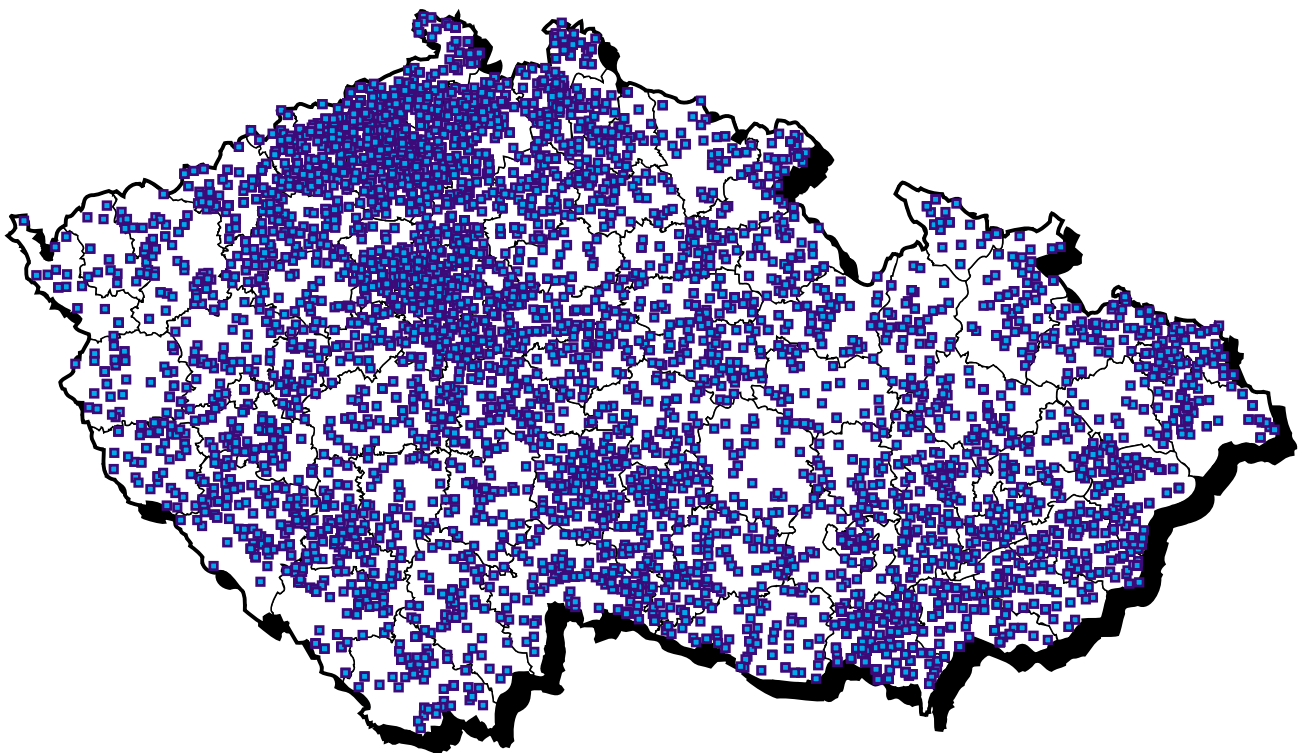


Review of Rabies Laboratory Examination in the Czech Republic in 1999

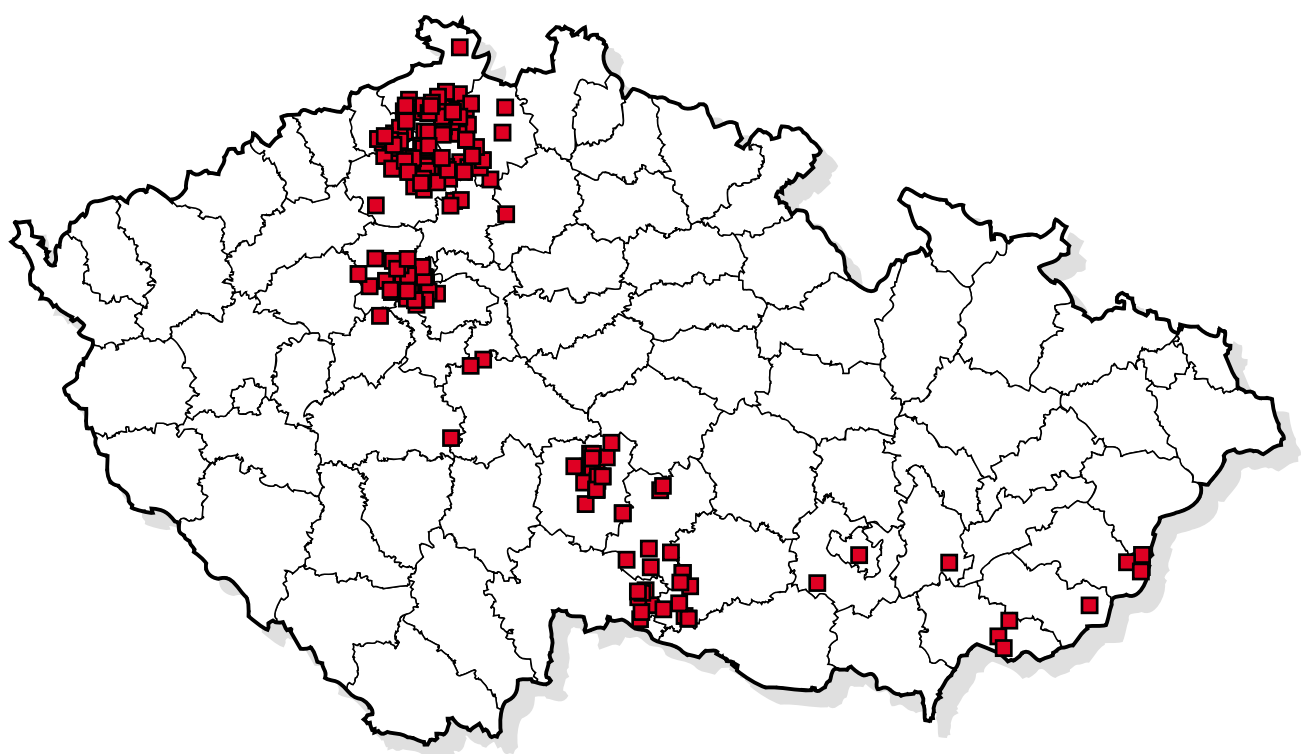
Animal	number investigation	number BP	bad samples	number posit.	% posit.
red fox	6 411	142	110	192	3,0
roe-deer	383	64	0	4	1,0
marten	377	95	5	6	1,6
Norwegian rat	61	46	3	0	0,0
badger	51	4	1	4	7,8
wild boar	34	11	0	0	0,0
squirrel	32	15	2	0	0,0
bat	30	12	0	2	6,2
brown hare	30	8	0	0	0,0
polecat	22	6	0	0	0,0
weasel	17	9	1	0	0,0
hedgehog	15	11	1	0	0,0
house mouse	13	10	0	0	0,0
com. vole	12	11	1	0	0,0
musk-rat	9	6	0	0	0,0
common mole	7	3	0	0	0,0
red-deer	6	2	1	0	0,0
yellow-necked field	4	4	0	0	0,0
common hamster	4	4	0	0	0,0
fallow-deer	4	0	0	1	25,0
mouflon	4	1	0	0	0,0
black rat	2	2	0	0	0,0
wild rabbit	2	2	0	0	0,0
wild birds	2	0	0	0	0,0
shrew mouse	1	1	0	0	0,0
sika deer	1	0	0	0	0,0
water-rat	1	1	0	0	0,0
wild cat	1	0	0	0	0,0
Wild Animals	7 536	470	125	209	2,8
cat	794	531	2	3	0,4
dog	572	402	4	1	0,2
ferret	29	19	0	0	0,0
hamsher	13	6	0	0	0,0
rabbit	11	10	0	0	0,0
cattle	6	0	0	0	0,0
guinea pig	5	2	0	0	0,0
sheep	5	1	0	1	20,0
white rat	4	1	0	0	0,0
domestic fowl	4	3	0	0	0,0
ZOO animals	4	2	0	0	0,0
white mouse	2	0	0	0	0,0
phodopus sp.	2	2	0	0	0,0
octodon sp.	2	2	0	0	0,0
goat	1	1	0	0	0,0
mink	1	1	0	0	0,0
gerbillus sp.	1	0	0	0	0,0
horse	1	1	0	0	0,0
polar fox	1	0	0	0	0,0
pig	1	0	0	0	0,0
Domestic Animals	1 459	984	6	5	0,3
Total	8 995	1 454	131	214	2,4



Geographical distribution of samples submitted for rabies examination in 1999



Rabies cases in Czech Republic - 1999



Rabies Cases in the Districts of the Czech Republic in the 1999

Animal	Districts of the Middle Bohemia														
	Total	AB	MiB	BE	BN	KH	KL	KO	MB	ME	NB	PB	PY	PZ	RA
Red fox	192	4	37	1	1	0	18	0	1	3	0	0	1	12	0
Marten sp.	6	0	1	0	0	0	1	0	0	0	0	0	0	0	0
Roe-deer	4	0	1	0	0	0	0	0	0	0	0	1	0	0	0
Badger	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bat	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fallow-deer	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wild animals	209	4	39	1	1	0	19	0	1	3	0	1	1	12	0
Cat	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
dog	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sheep	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Domestic animals	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	214	4	39	1	1	0	19	0	1	3	0	1	1	12	0

Animal	Districts of the South. Bohemia								
	SoB	CB	CK	JH	PE	PI	PT	ST	TA
Red fox	29	0	0	6	23	0	0	0	0
Marten sp.	1	0	0	0	1	0	0	0	0
Roe-deer	0	0	0	0	0	0	0	0	0
Badger	0	0	0	0	0	0	0	0	0
Bat	0	0	0	0	0	0	0	0	0
Fallow-deer	0	0	0	0	0	0	0	0	0
Wild animals	30	0	0	6	24	0	0	0	0
Cat	1	0	0	1	0	0	0	0	0
dog	0	0	0	0	0	0	0	0	0
Sheep	0	0	0	0	0	0	0	0	0
Domestic animals	1	0	0	1	0	0	0	0	0
TOTAL	31	0	0	7	24	0	0	0	0

Animal	Districts of the Northern Bohemia										
	NoB	CL	CV	DC	JN	LB	LN	LT	MO	TP	UL
Red fox	101	28	0	27	0	0	0	32	0	0	14
Marten sp.	1	1	0	0	0	0	0	0	0	0	0
Roe-deer	2	1	0	0	0	0	0	1	0	0	0
Badger	4	2	0	1	0	0	0	1	0	0	0
Bat	0	0	0	0	0	0	0	0	0	0	0
Fallow-deer	1	1	0	0	0	0	0	0	0	0	0
Wild animals	109	33	0	28	0	0	0	34	0	0	14
Cat	1	0	0	0	0	0	0	1	0	0	0
dog	1	1	0	0	0	0	0	0	0	0	0
Sheep	1	0	0	0	0	0	0	0	0	0	1
Domestic animals	3	1	0	0	0	0	0	1	0	0	1
TOTAL	112	34	0	28	0	0	0	35	0	0	15

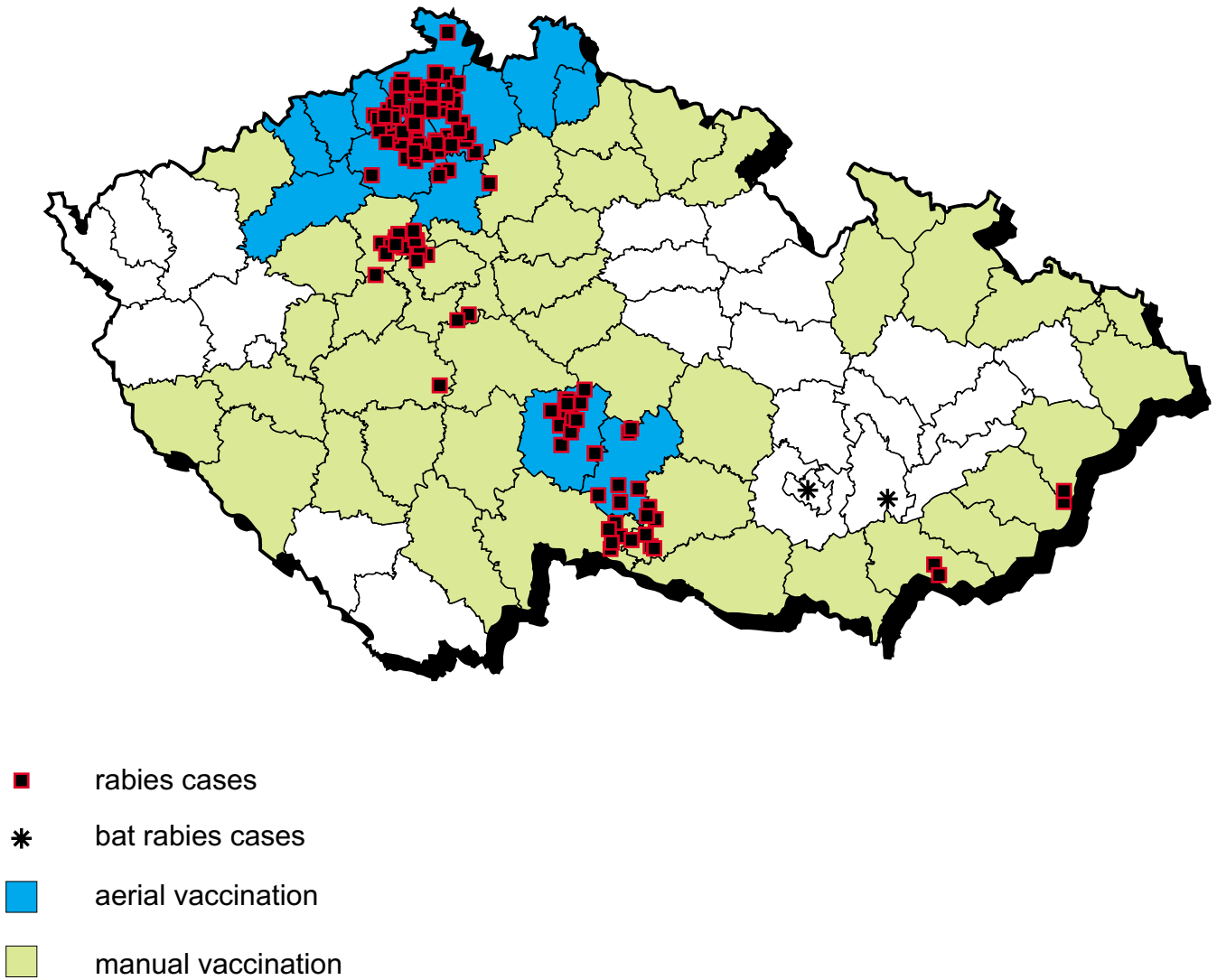
Rabies Cases in the Districts of the Czech Republic in the 1999

11

Animal	Districts of the Northern Moravia											
	NoM	BR	FM	JE	KI	NJ	OL	OP	OS	PR	SU	VS
Red fox	0	0	0	0	0	0	0	0	0	0	0	0
Marten sp.	0	0	0	0	0	0	0	0	0	0	0	0
Roe-deer	1	0	0	0	0	0	0	0	0	0	0	1
Badger	0	0	0	0	0	0	0	0	0	0	0	0
Bat	0	0	0	0	0	0	0	0	0	0	0	0
Fallow-deer	0	0	0	0	0	0	0	0	0	0	0	0
Wild animals	1	0	0	0	0	0	0	0	0	0	0	1
Cat	0	0	0	0	0	0	0	0	0	0	0	0
dog	0	0	0	0	0	0	0	0	0	0	0	0
Domestic animals	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	0	0	0	0	0	0	0	0	0	0	1

Animal	Districts of the Southern Moravia														
	SoM	BK	BM	BO	BV	HO	JI	KM	PV	TR	UH	VY	ZL	ZN	ZR
Red fox	21	0	0	1	0	3	4	0	0	9	1	0	3	0	0
Marten sp.	3	0	0	0	0	0	2	0	0	1	0	0	0	0	0
Roe-deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Badger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bat	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0
Fallow-deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wild animals	26	0	1	1	0	3	6	0	0	10	1	1	3	0	0
Cat	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
dog	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Domestic animals	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
TOTAL	27	0	1	1	0	3	6	0	0	11	1	1	3	0	0

Rabies cases (January - October) and area of vaccination in Autumn 1999



Rabies Incidence in the Czech Republic in 1990 - 1999

