# State Veterinary Administration of the Czech Republic

## National Reference Laboratory for Rabies

## Information Bulletin No. 5a/2001

# Rabies
# Epizootiological Situation in 2000

# State Veterinary Administration of the Czech Republic

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## State Veterinary Institute - Liberec

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# Rabies - Epizootiological Situation in 2000

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## Contents

## Summary:

7 798 animals belonging to 52 species were examined for rabies in the Czech Republic in 2000. Rabies was diagnosed in 165 cases, 49 less than in 1999. Wild animals participated by 156 cases on positive findings (94,5 %) and domestic animals by 95 cases (5,5 %). The highest incidence was registered in foxes - 142 cases (86,1 %). The other animals involved were badger (7), roe deer (6), marten (1), cat (3), dog (2), cattle (2) and sheep (2).

Rabies occurred in 22 districts. The majority of cases was recorded in the East Bohemia (74), followed by Central Bohemia (39), North Bohemia (31) and South Moravia (16).

Control measures were directed at the preventive vaccination of domestic animals and oral immunization of foxes. 1 706 000 vaccine doses were distributed on the territory of 51 districts during two campaigns in 2000.


## 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 in the Czech Republic territory was provided by three specialized laboratories in 2000:

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.



In 2000, 7 798 samples were examined for rabies, 91 samples were not suitable for examination due to biological or physical deterioration. The mouse inoculation test was carried out in 1 327 cases (508 cats, 349 dogs, 75 others domestic animals and 395 wildlife animals) when men or farm animals had been exposed.

### 1.1. Animals Tested

In 2000, totally 7 798 animals belonging to 52 species were examined for rabies, of which 28 were wildlife species and 24 domestic ones.

The wildlife animals contributed to the total examination volume by 81.8 % (6 380 samples). The most frequent were foxes (5 281), roe deer (437), martens (346) etc. The domestic animals participated by 18.2 % (749 cats, 479 dogs, 190 others).



## 2. Rabies in Animals

A total of 165 rabies cases was diagnosed in the CR during 2000, 49 cases less than in 1999. Rabies was registered in 8 animal species, of which in 4 wildlife species and 4 domestic ones. Of the total number 156 (94.5 %) cases were diagnosed in wild animals and 9 cases (5.5 %) in domestic animals.

Rabies cases were recorded during all months with the highest occurrence in November (28) and October (21).



### 2.1. Rabies in Wild Animals

Rabies in wildlife was laboratory confirmed in 156 cases in 4 species. Most frequently it was in foxes (142 cases), badgers (7), roe deer (6) and marten (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 86.1 % of all positive cases.

### 2.2. Rabies in Domestic Animals

In 2000, totally 1418 domestic animals were examined for rabies. Rabies was diagnosed in cat (3 cases), dog (2), sheep (2) and cattle (2).

### 2.3. Geographical Distribution

22 of 77 districts were affected with rabies. The highest incidence was reported from district Rychnov nad Kněžnou (67) in East Bohemia. Reinfection appeared in this area adjacent to the Polish border after several years being rabies free and resulted into 74 cases in 7 animal species. Foxes accounted for 65 cases, 2 cases were diagnosed in badger, cattle and sheep, 1 case in roe deer, marten and dog. More than 20 people must have undergone postexposure treatment in connection with rabies in cattle.

The remaining cases of the country were concentrated in Central Bohemia (39), North Bohemia (33) and South Moravia (16). Only 2 cases were recorded in South Bohemia and 1 case occurred in North Moravia. West Bohemia remained rabies-free.



## 3. An Outbreak of Rabies in Rabies-free Area of the Czech Republic

### 3.1. Development of Rabies Situation

In July 2000 a case of rabies in a fox was diagnosed in a small village in Rychnov nad Kněžnou district which is located in the vicinity of the Polish border. Subsequently other cases cropped up. It was the initiation of a new active focus that was registered after six preceding years when the last occurrence of rabies in this hilly area was revealed. Totally 74 cases of rabies were registered in this region from the first outbreak in July 2000 till the end of this year. Foxes accounted for 65 cases, 2 cases were diagnosed in badger, cattle and sheep, 1 case in roe deer, marten and dog. More than 20 people must have undergone postexposure treatment in connection with rabies in cattle.

At the beginning of the 1990´s the entire area including the neighbouring Polish territory was heavily affected by rabies. In the Rychnov nad Kněžnou district itself (about 1000 $km^2$) 18 cases of rabies were registered in 1992 and as many as 56 cases in 1993, predominantly in foxes.

The whole East Bohemia, including the neighbouring regions, was involved in the oral vaccination programme in the autumn 1993. The oral vaccination was then carried out twice a year (spring and autumn) up to the end 1998. Altogether there were 11 vaccination campaigns performed making use of Czech Lysvulpen vaccine (Bioveta-SAD Bern). The oral vaccination proved to have a positive effect, the disease was finally eradicated from the treated zone.

Since 1995 no rabies case has been registered neither in the Rychnov nad Kněžnou district nor in the adjacent areas. The rabies-free zone then enlarged and in 1997 it covered 8 districts with the size of 8 824 $km^2$. In the following years the negative area extended to 31 415 $km^2$, including 25 districts. The closest foci were then in Central Bohemia, more than 100 km distant from this place. When the new focus broke out in June 2000, the nearest rabies occurrence was registered at a distance of 80 km, in the southern direction in Kutná Hora district (see the map). Rabies-free area adjacent to Polish border made in the Czech Republic the size of 11 000 $km^2$. The last foci on the bordering Polish territory were reported in 1996. Oral vaccination was also carried out here and since 1997 this area has been claimed as a rabies-free zone.

### 3.2. The Definition of a Rabies-free Territory

According to the requirements set up by WHO a rabies-free territory is defined as follows:

- The diameter of the territory should at least make 80 km, cca 5 000 $km^2$.

- The nearest rabies active focus should lie at least at a distance of 50 km from the rabies free area at the end of the two-year observation period.

- Natural barriers (such as mountains, rivers, motorways etc.) that prevent the spreading of the infection are not taken into account during the postvaccination surveillance.

- The minimum of 8 -10 foxes per 1000 $km^2$ must be annually examined with negative results during the span of two years of observation, before a certain territory can get the status of a rabies-free territory.

If we compare the development of rabies incidence in the observed area with the WHO policy it is then quite clear that all the requirements concerning the size of the negative area were fulfilled at least in 1998-1999. The situation is a bit worse as far as the postvaccination surveillance is concerned, i.e. the consistent observation of the situation by examination of a sufficient number of control samples. If we evaluate for example the areas adjacent to Rychnov nad Kněžnou which are 12 412 $km^2$ then the numbers of examined foxes do not fulfill the required minimum which is 8 foxes per 100 $km^2$ and these numbers are usually falling down in the course of the years. In 1997-1998 just about 5 foxes per 100 $km^2$ were examined for rabies in this area. It is quite clear that the efforts and interest in monitoring of the disease are slowly fading away. Consequently the chances to find a potential outbreak focus diminish.

### 3.3. Reintroduction of Rabies

With regard to the above stated facts we can basically explain an outbreak of a new focus in this way:

- Transmission of the infection from a big distance

- Activation of a local residual focus

Provided that no rabies was registered on the Polish side of the border, we have to concede that the source of the transmission must be of a domestic origin. It is very improbable that the reintroduction of the infection is caused by a migrating fox over the distance of 80 km, without any infection contacts during the transport. The infection wave is regularly spread by degrees *per continuitatem* by mutual contacts, subsequently leaving new (other) foci in the direction of its spreading.

However the second way of transmission seems to be more likely. It is the period of unrevealed focus that is unusually long. We can nevertheless assume that a high population density itself contributes to its manifestation. When rabies as a regulation agent is not present the density of foxes is rapidly increasing and if the oral vaccination is interrupted their population is fully sensitive to the disease. This creates optimal conditions for an outbreak of rabies and its spreading. It is essential to point out that the foxes currently hunted down and therefore healthy foxes are usually used for laboratory monitoring. Dead, ill animals or those run over by cars and other similarly suspected animals are not submitted to any investigation or control examination.

### 3.4. Strategy and Measures

Surviving of the residual foci and other setbacks of oral vaccination in various countries, as well as searching for alternative strategies have often been discussed. Regarding to higher financial demands the introduction of alternative strategies is quite difficult in our conditions. There is a certain general tendency to minimize the oral vaccination concerning its frequency and territory. It can finally bring negative effects.

In spite of the fact that required WHO basic strategies were followed, new outbreak of rabies was recorded in a longtime rabies-free area. It shows that despite undoubted effectivity the oral vaccination has its snags and drawbacks, both in the strategy and postvaccination surveillance. The oral vaccination policy should be modified according to new experience and new WHO recommendations.

## 4. Oral Vaccination of Foxes

The project of fox oral vaccination initiated in 1989 has continued also in 2000. 1 706 000 Czech made SAD - Bern vaccine doses were distributed in 51 districts during spring and autumn campaigns.

The manual distribution of vaccine baits in density of 18 baits/km$^2$ was performed in 33 districts by voluntary hunters. Aerial distribution was extended into 18 highly affected districts in North, Central and South Bohemia using 25 vaccine doses per km$^2$.

3 211 samples of fox bones were examined for tetracycline incorporation in the frame of post-vaccination surveillance reaching 76.3 % positivity. Rabies virus neutralizing antibodies were detected in 68.5 % of 1 334 examined body fluids. Monoclonal antibody analyses of 133 rabies isolates from vaccinated area did not reveal any pattern of rabies vaccine strain.

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

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



For further information on veterinary problems visit official www site of SVA CR:

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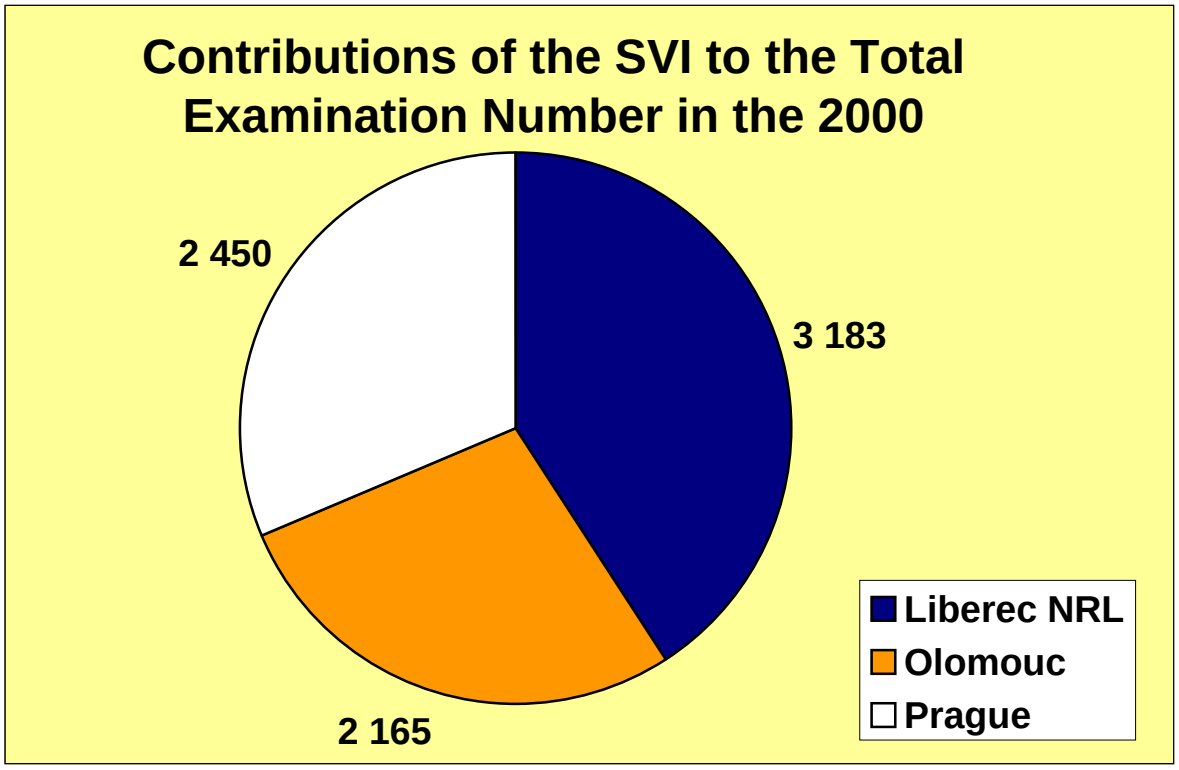
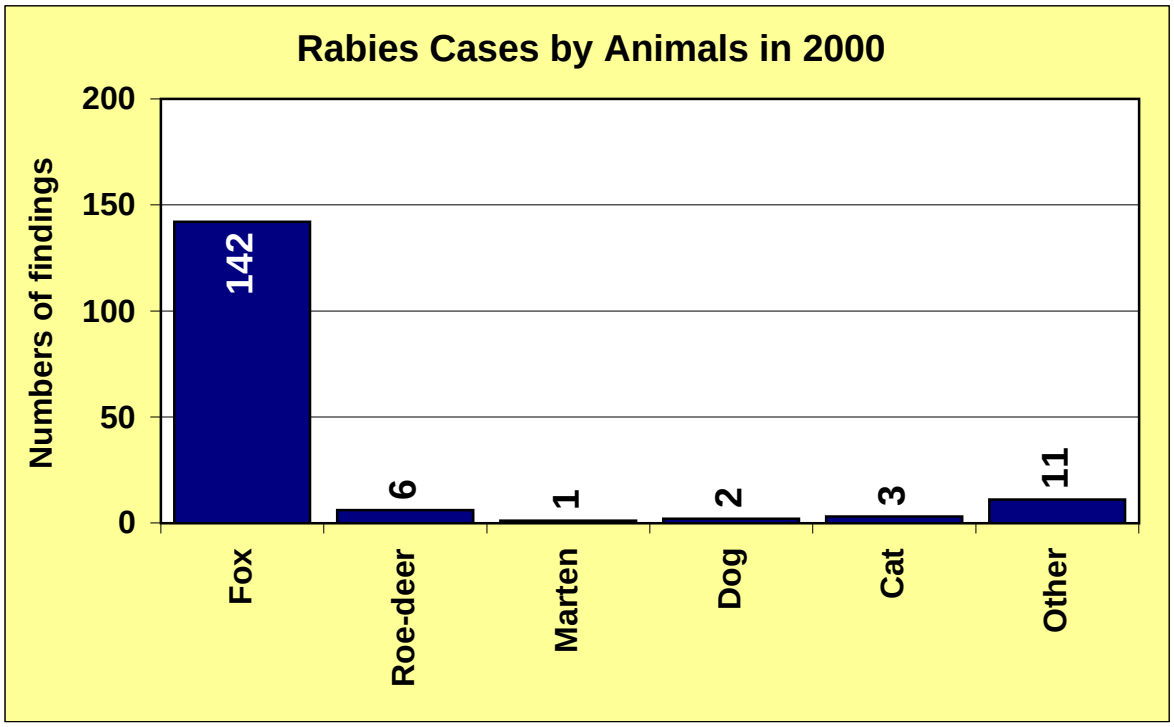
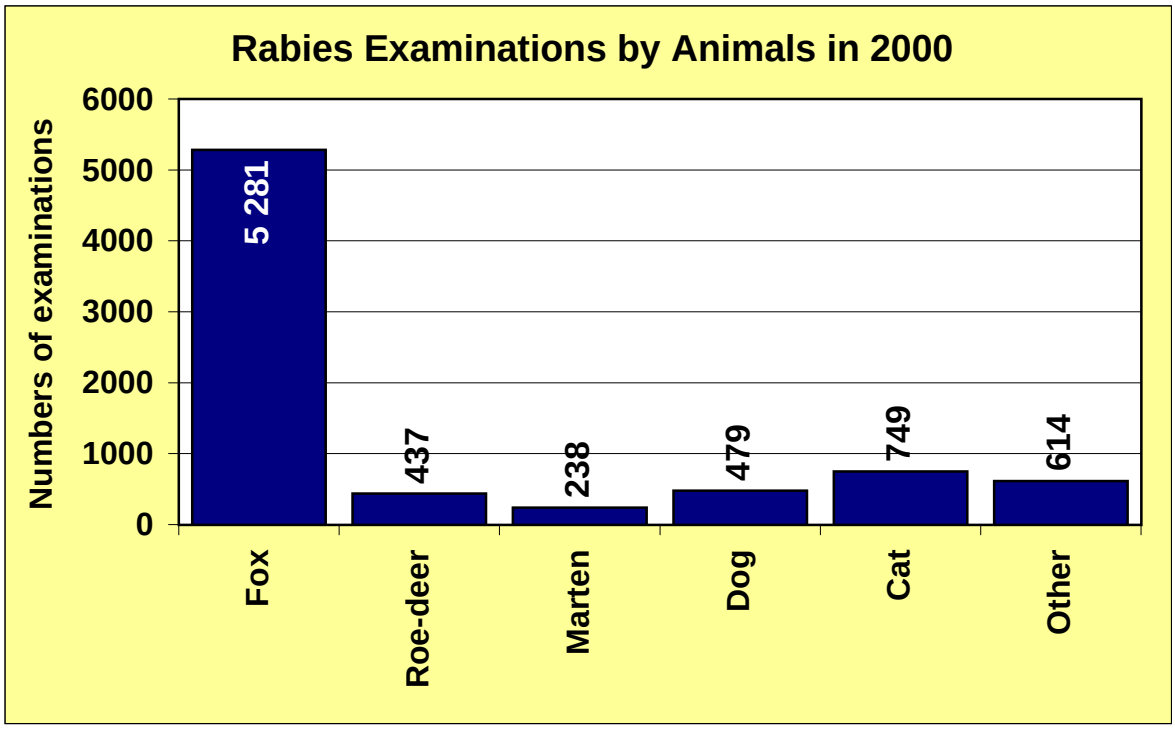


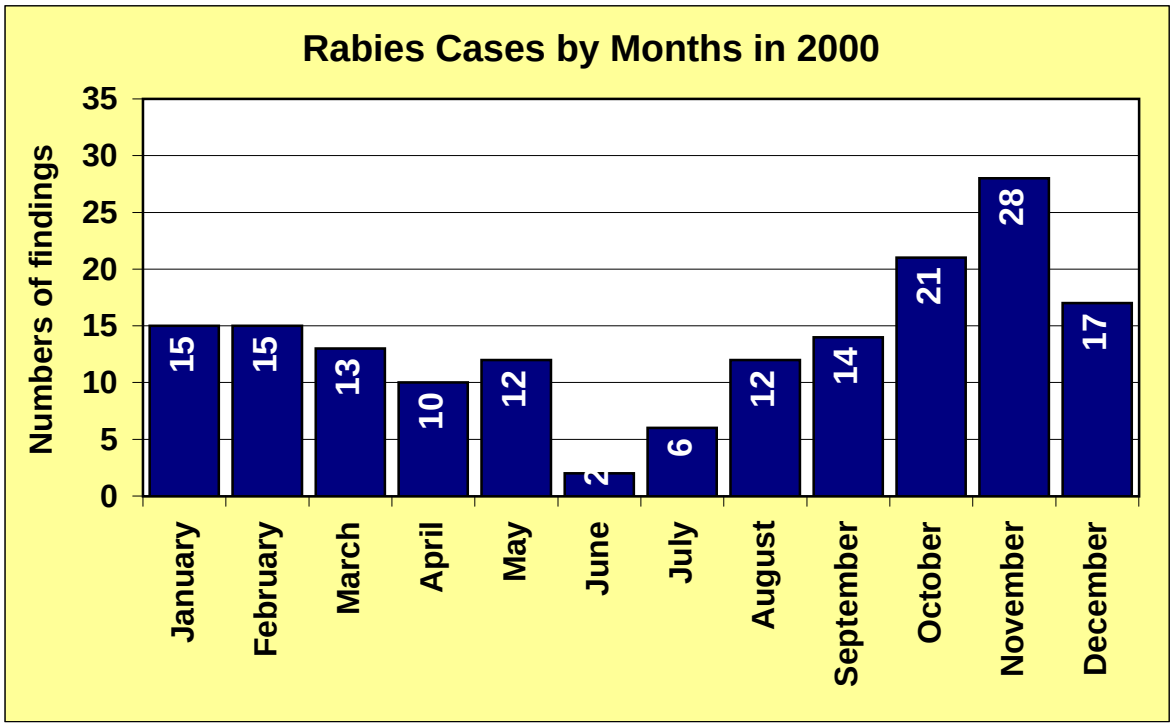

Vo0 Contributions of the SVI to the Total Examination Number.xls; Graph 01

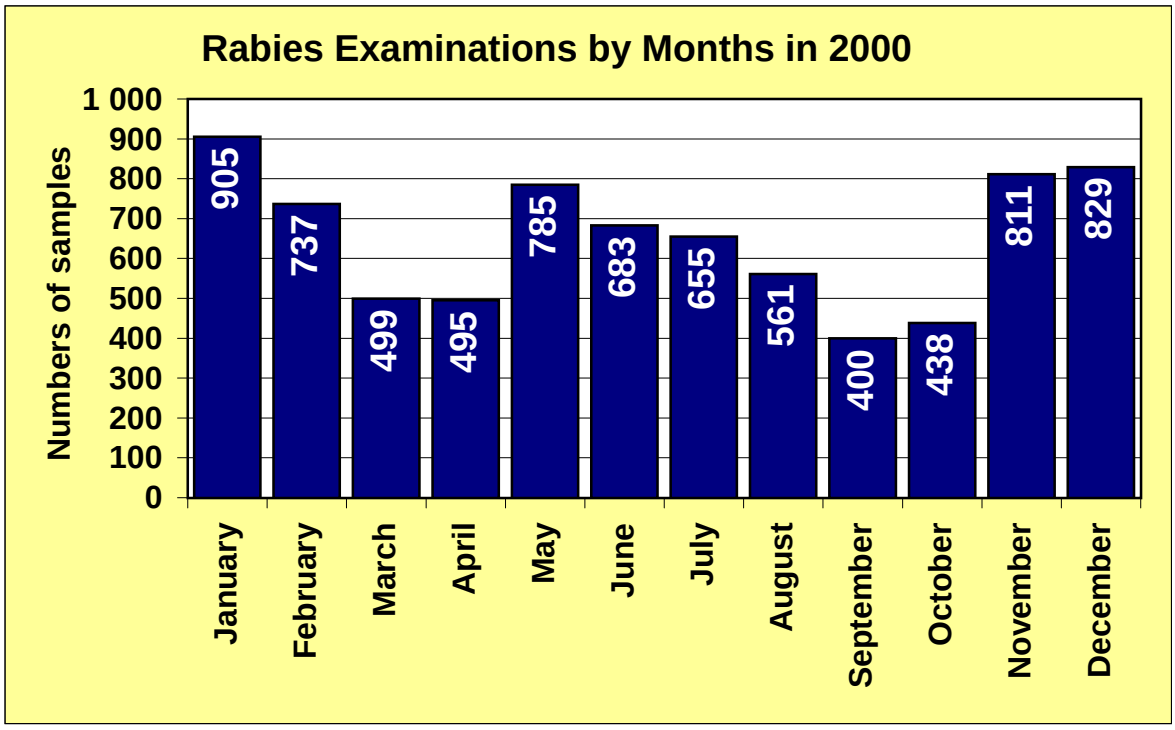

Rabies Cases by Animals in 2000
Numbers of findings
200
150
100
50
0
142
6
1
2
3
11
Fox
Roe-deer
Marten
Dog
Cat
Other


Rabies Examinations by Animals in 2000
Numbers of examinations
6000
5000
4000
3000
2000
1000
0
5 281
437
238
479
749
614
Fox
Roe-deer
Marten
Dog
Cat
Other

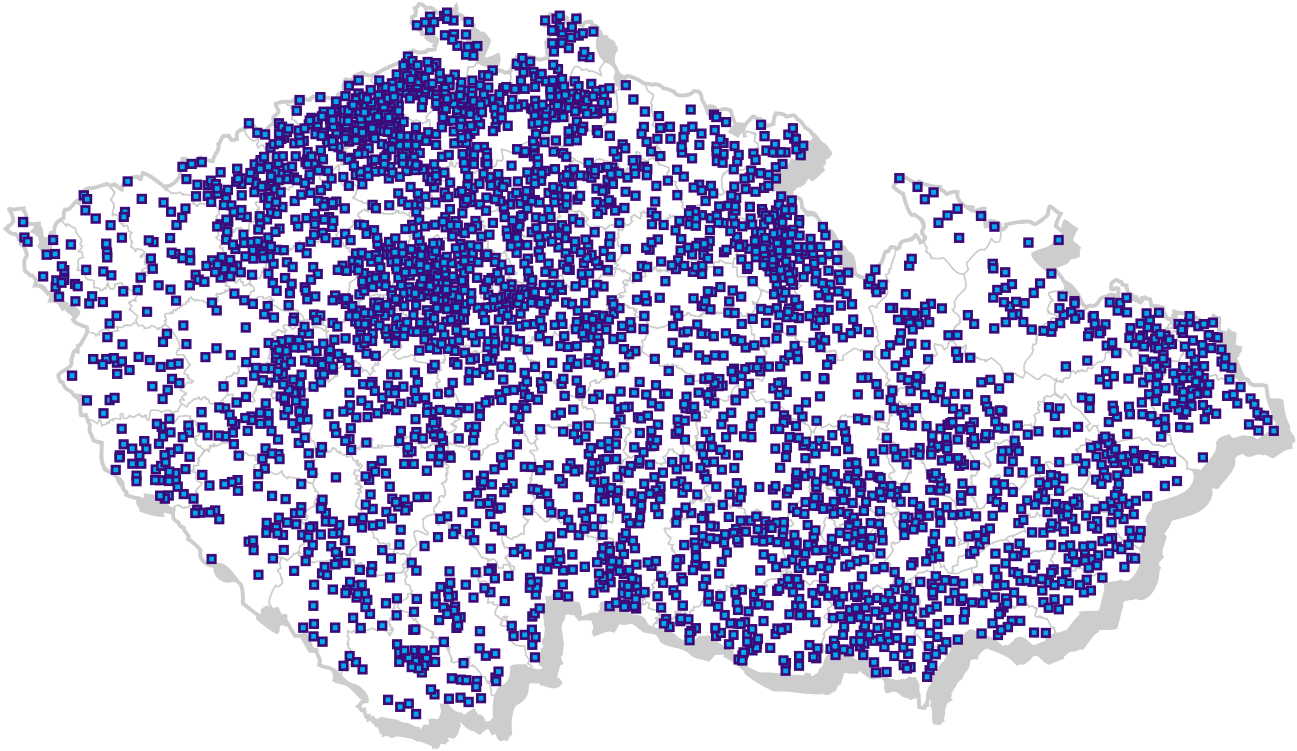
# Review of Rabies Laboratory Examination in the Czech Republic in 2000

| Animal | Samples examined | Number of MIT | Unsuitable samples | Rabies posit. | % posit. |
|---|---|---|---|---|---|
| Red fox | 5 281 | 114 | 77 | **142** | **2,7** |
| Roe deer | 437 | 75 | 1 | **6** | **1,4** |
| Marten | 346 | 63 | 2 | **1** | **0,3** |
| Badger | 54 | 9 | 0 | **7** | **13,0** |
| Norwegian rat | 37 | 28 | 0 | 0 | 0,0 |
| Brown hare | 29 | 6 | 0 | 0 | 0,0 |
| Wild boar | 28 | 10 | 0 | 0 | 0,0 |
| Squirrel | 26 | 17 | 0 | 0 | 0,0 |
| Weasel | 19 | 11 | 1 | 0 | 0,0 |
| Bat | 18 | 5 | 1 | 0 | 0,0 |
| House mouse | 18 | 11 | 0 | 0 | 0,0 |
| Fitch | 18 | 8 | 0 | 0 | 0,0 |
| Crowfoot | 11 | 10 | 0 | 0 | 0,0 |
| Common mole | 9 | 7 | 1 | 0 | 0,0 |
| Musk-rat | 8 | 4 | 0 | 0 | 0,0 |
| Red deer | 8 | 2 | 0 | 0 | 0,0 |
| Mouflon | 7 | 0 | 1 | 0 | 0,0 |
| Water-rat | 5 | 3 | 0 | 0 | 0,0 |
| Black rat | 4 | 4 | 0 | 0 | 0,0 |
| Fallow deer | 4 | 1 | 0 | 0 | 0,0 |
| Field mouse | 4 | 4 | 0 | 0 | 0,0 |
| Racoon dog | 2 | 0 | 0 | 0 | 0,0 |
| Common hamster | 2 | 2 | 0 | 0 | 0,0 |
| Wood mouse | 1 | 1 | 0 | 0 | 0,0 |
| Racoon | 1 | 0 | 0 | 0 | 0,0 |
| Buzzard | 1 | 0 | 0 | 0 | 0,0 |
| Beaver | 1 | 0 | 0 | 0 | 0,0 |
| Otter | 1 | 0 | 0 | 0 | 0,0 |
| **Wild Animals** | **6 380** | **395** | **84** | **156** | **2** |
| Cat | 749 | 508 | 2 | **3** | **0,4** |
| Dog | 479 | 349 | 4 | **2** | **0,4** |
| Cattle | 64 | 2 | 0 | **2** | **3,1** |
| Black-footed ferret | 40 | 29 | 1 | 0 | 0,0 |
| Sheep | 15 | 2 | 0 | **2** | **13,3** |
| Laboratory rat | 11 | 8 | 0 | 0 | 0,0 |
| Hamster | 10 | 8 | 0 | 0 | 0,0 |
| Rabbit | 9 | 7 | 0 | 0 | 0,0 |
| Domestic fowl | 7 | 4 | 0 | 0 | 0,0 |
| Goat | 4 | 1 | 0 | 0 | 0,0 |
| Guinea-pig | 4 | 4 | 0 | 0 | 0,0 |
| ZOO animals | 4 | 2 | 0 | 0 | 0,0 |
| Octodon sp. | 4 | 2 | 0 | 0 | 0,0 |
| Horse | 3 | 0 | 0 | 0 | 0,0 |
| Laboratory mouse | 3 | 2 | 0 | 0 | 0,0 |
| Gerbil | 2 | 1 | 0 | 0 | 0,0 |
| Polar fox | 2 | 0 | 0 | 0 | 0,0 |
| Pig | 2 | 0 | 0 | 0 | 0,0 |
| Exot. birds | 1 | 0 | 0 | 0 | 0,0 |
| Duck | 1 | 0 | 0 | 0 | 0,0 |
| Mink | 1 | 1 | 0 | 0 | 0,0 |
| Cricetulus | 1 | 0 | 0 | 0 | 0,0 |
| Chinchilla | 1 | 1 | 0 | 0 | 0,0 |
| Nutria | 1 | 1 | 0 | 0 | 0,0 |
| **Domestic Animals** | **1 418** | **932** | **7** | **9** | **1** |
| **Total** | **7 798** | **1 327** | **91** | **165** | **2** |

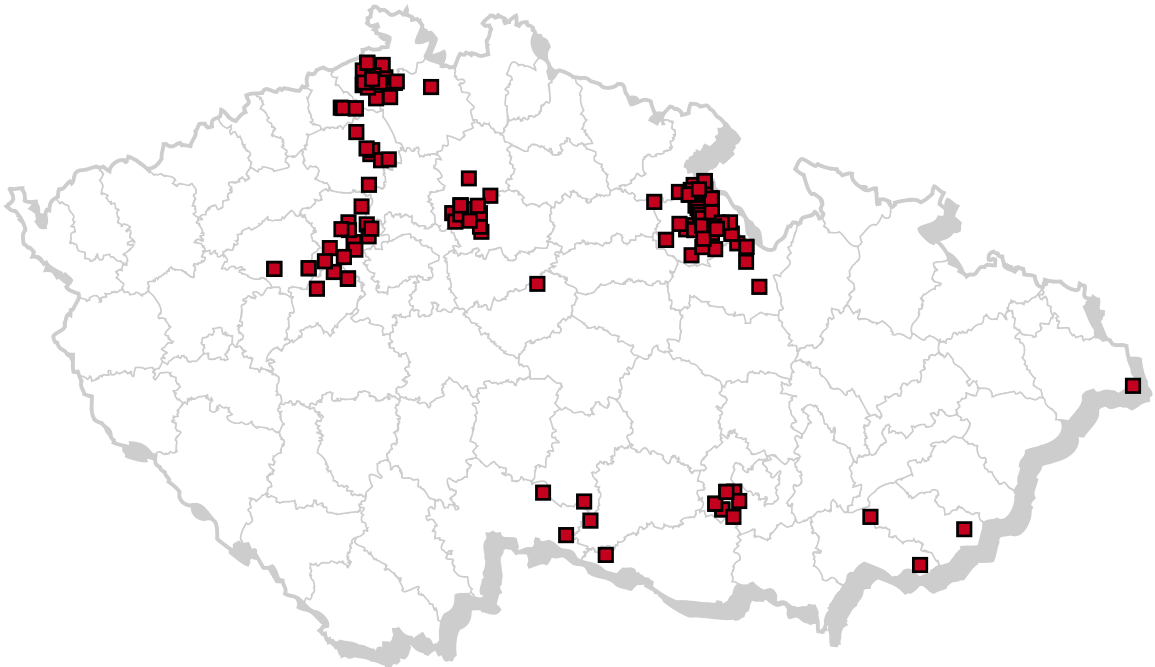

Rabies Cases by Months in 2000
Numbers of findings
35
30
25
20
15
10
5
0
15
15
13
10
12
2
6
12
14
21
28
17
January
February
March
April
May
June
July
August
September
October
November
December


Rabies Examinations by Months in 2000
Numbers of samples
1 000
900
800
700
600
500
400
300
200
100
0
905
737
499
495
785
683
655
561
400
438
811
829
January
February
March
April
May
June
July
August
September
October
November
December

# Geographical Distribution of Samples Submitted for Rabies Examination in 2000



# Rabies Cases in the Czech Republic in 2000



# Rabies Cases in the Districts of the Czech Republic in 2000



| Animal | Districts of the Central Bohemia | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | AB | MiB | BE | BN | KH | KL | KO | MB | ME | NB | PB | PY | PZ | RA |
| Red fox | 142 | 0 | 32 | 5 | 0 | 0 | 8 | 0 | 11 | 0 | 4 | 0 | 0 | 2 | 2 |
| Badger | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Fallow deer | 6 | 0 | 3 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Marten sp. | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Wild animals** | **156** | **0** | **36** | **5** | **0** | **1** | **9** | **0** | **12** | **0** | **5** | **0** | **0** | **2** | **2** |
| Cat | 3 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Cattle | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sheep | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dog | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Domestic animals** | **9** | **0** | **3** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **2** |
| **T O T A L** | **165** | **0** | **39** | **5** | **0** | **1** | **10** | **0** | **12** | **0** | **5** | **0** | **0** | **2** | **4** |

| Animal | Districts of the Southern Bohemia | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | SoB | CB | CK | JH | PE | PI | PT | ST | TA |
| Red fox | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| Badger | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fallow deer | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Marten sp. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Wild animals** | **2** | **0** | **0** | **2** | **0** | **0** | **0** | **0** | **0** |
| Cat | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cattle | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sheep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dog | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Domestic animals** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **T O T A L** | **2** | **0** | **0** | **2** | **0** | **0** | **0** | **0** | **0** |

| Animal | Districts of the Northern Bohemia | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NoB | CL | CV | DC | JN | LB | LN | LT | MO | TP | UL |
| Red fox | 27 | 6 | 0 | 12 | 0 | 0 | 0 | 6 | 0 | 0 | 3 |
| Badger | 4 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Fallow deer | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Marten sp. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Wild animals** | **32** | **6** | **0** | **15** | **0** | **0** | **0** | **7** | **0** | **0** | **4** |
| Cat | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cattle | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sheep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dog | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Domestic animals** | **1** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **T O T A L** | **33** | **6** | **0** | **16** | **0** | **0** | **0** | **7** | **0** | **0** | **4** |

# Rabies Cases in the Districts of the Czech Republic in 2000

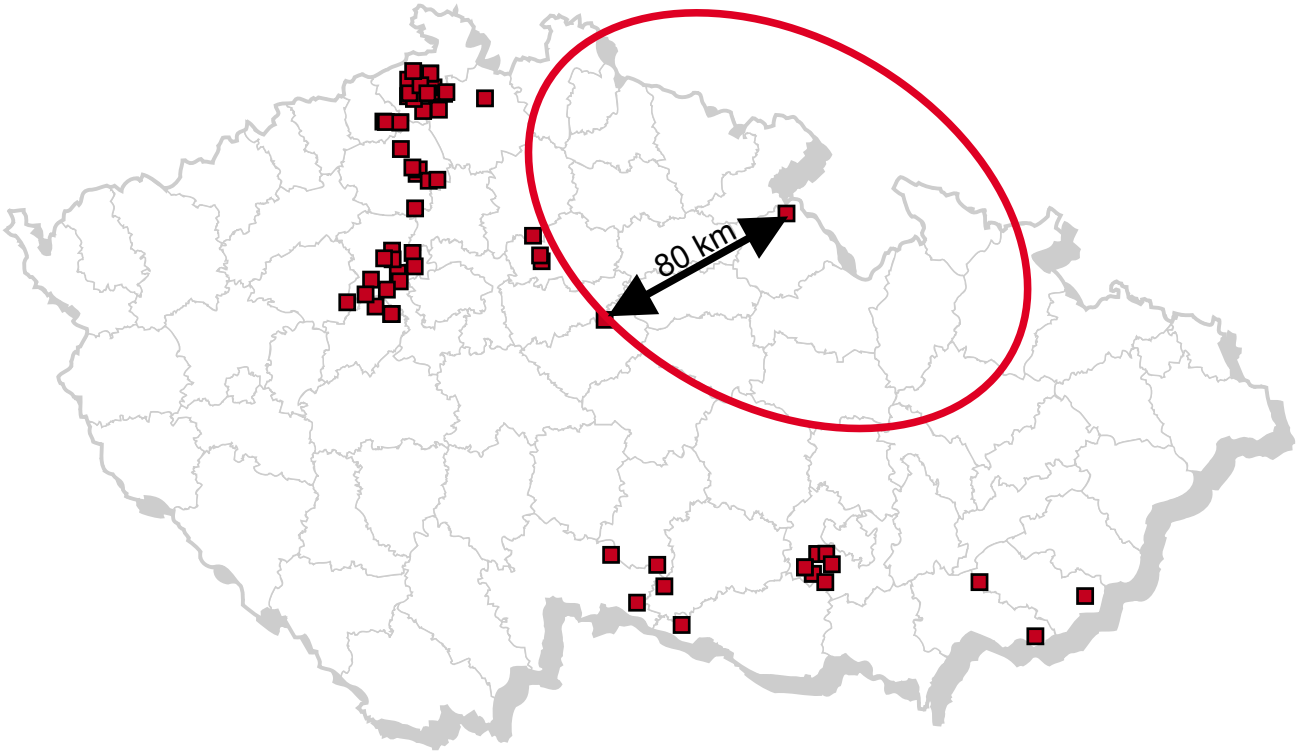


| Animal | Districts of the Eastern Bohemia | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EaB | BR | FM | JE | KI | NJ | OL | OP | OS | PR | SU | VS |
| Red fox | **65** | 0 | 0 | 0 | 0 | 1 | 0 | 59 | 0 | 0 | 0 | 5 |
| Badger | **2** | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Fallow deer | **1** | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Marten sp. | **1** | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Wild animals** | **69** | **0** | **0** | **0** | **0** | **2** | **0** | **62** | **0** | **0** | **0** | **5** |
| Cat | **0** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cattle | **2** | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Sheep | **2** | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Dog | **1** | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **Domestic animals** | **5** | **0** | **0** | **0** | **0** | **0** | **0** | **5** | **0** | **0** | **0** | **0** |
| **T O T A L** | **74** | **0** | **0** | **0** | **0** | **2** | **0** | **67** | **0** | **0** | **0** | **5** |

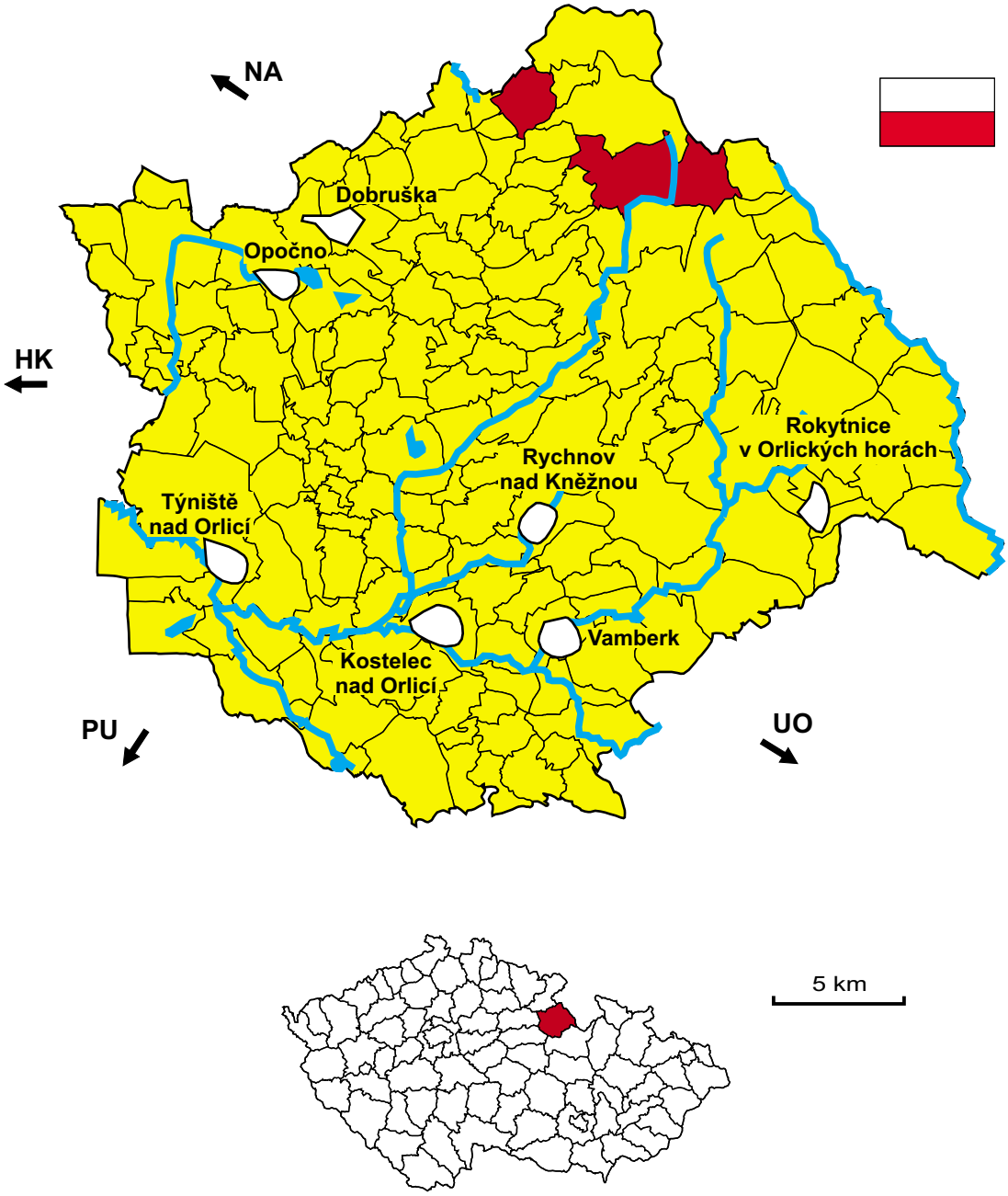
| Animal | Districts of the Northern Moravia | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NoM | BR | FM | JE | KI | NJ | OL | OP | OS | PR | SU | VS |
| Red fox | **0** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Badger | **0** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fallow deer | **1** | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Marten sp. | **0** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Wild animals** | **1** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| Cat | **0** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cattle | **0** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sheep | **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** |
| **T O T A L** | **1** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| Animal | Districts of the Southern Moravia | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SoM | BK | BM | BO | BV | HO | JI | KM | PV | TR | UH | VY | ZL | ZN | ZR |
| Red fox | **16** | 0 | 0 | 10 | 0 | 1 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 0 |
| Badger | **0** | 0 | 0 | 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 | 0 | 0 | 0 |
| Marten sp. | **0** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Wild animals** | **16** | **0** | **0** | **10** | **0** | **1** | **1** | **0** | **0** | **1** | **2** | **0** | **0** | **1** | **0** |
| Cat | **0** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cattle | **0** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sheep | **0** | 0 | 0 | 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 | 0 | 0 | 0 |
| **Domestic animals** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **T O T A L** | **16** | **0** | **0** | **10** | **0** | **1** | **1** | **0** | **0** | **1** | **2** | **0** | **0** | **1** | **0** |

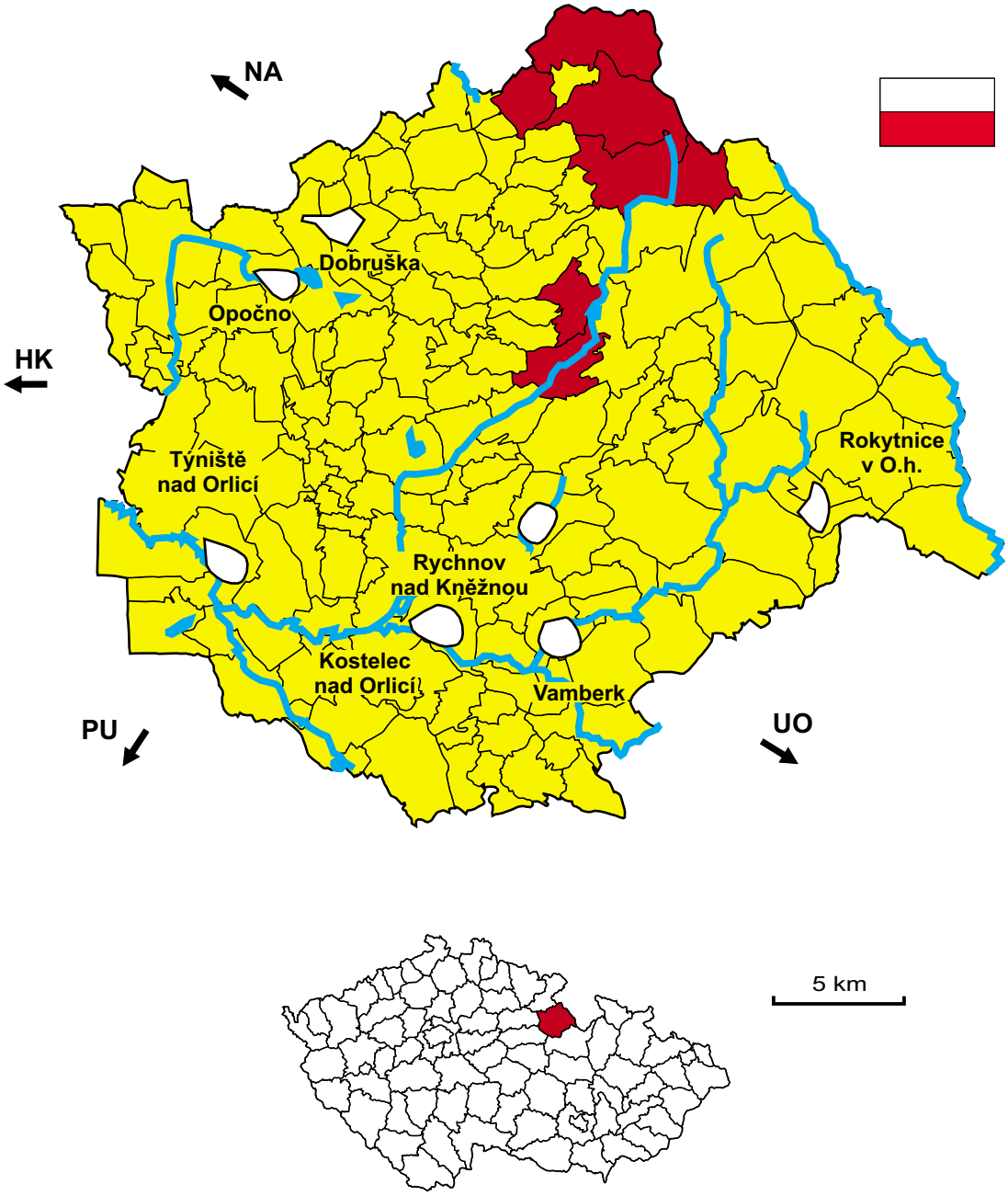
# Distirbution of Rabies Cases in the First Half of 2000



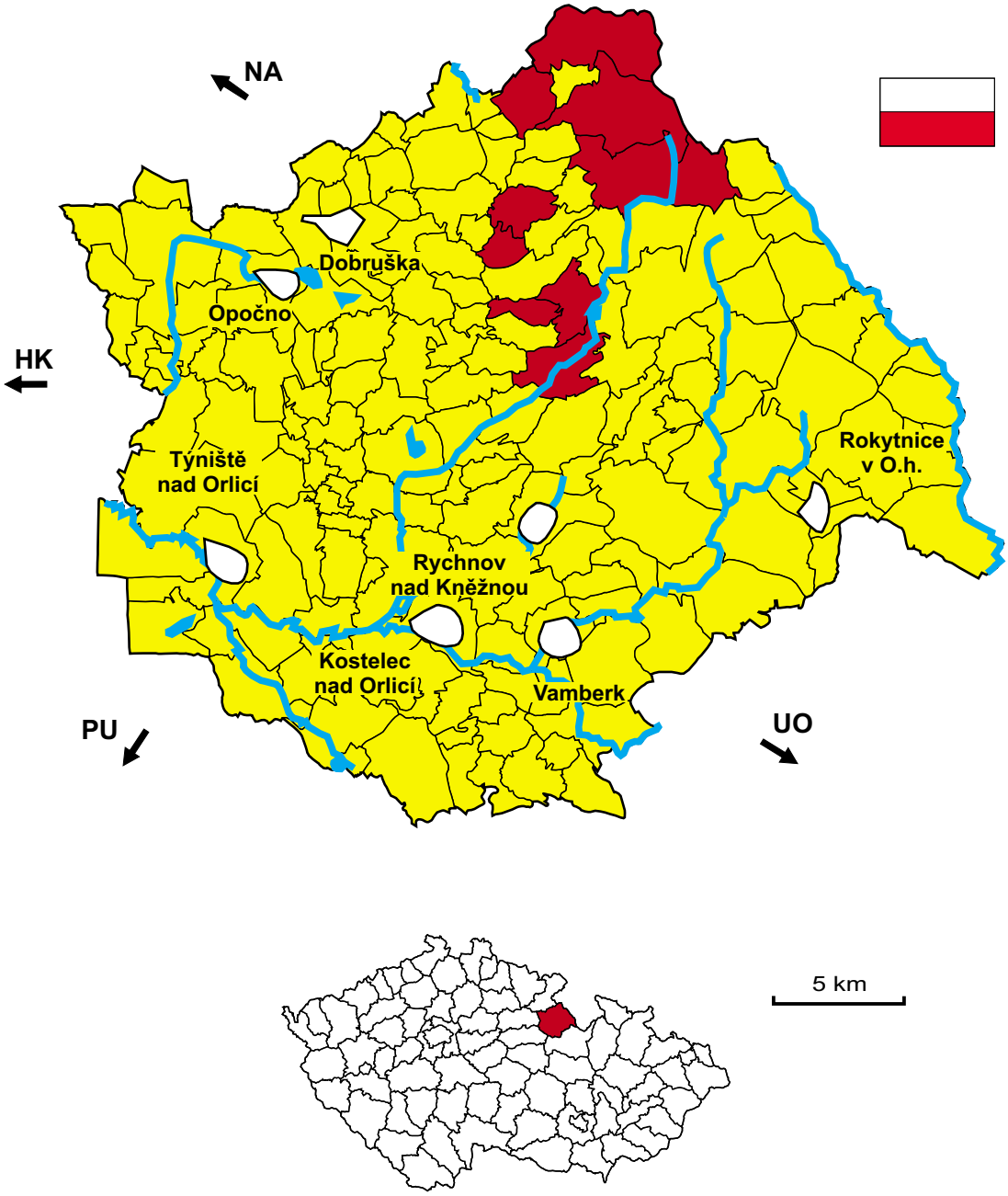
# Rabies Cases in District Rychnov na Kněžnou
# July 2000



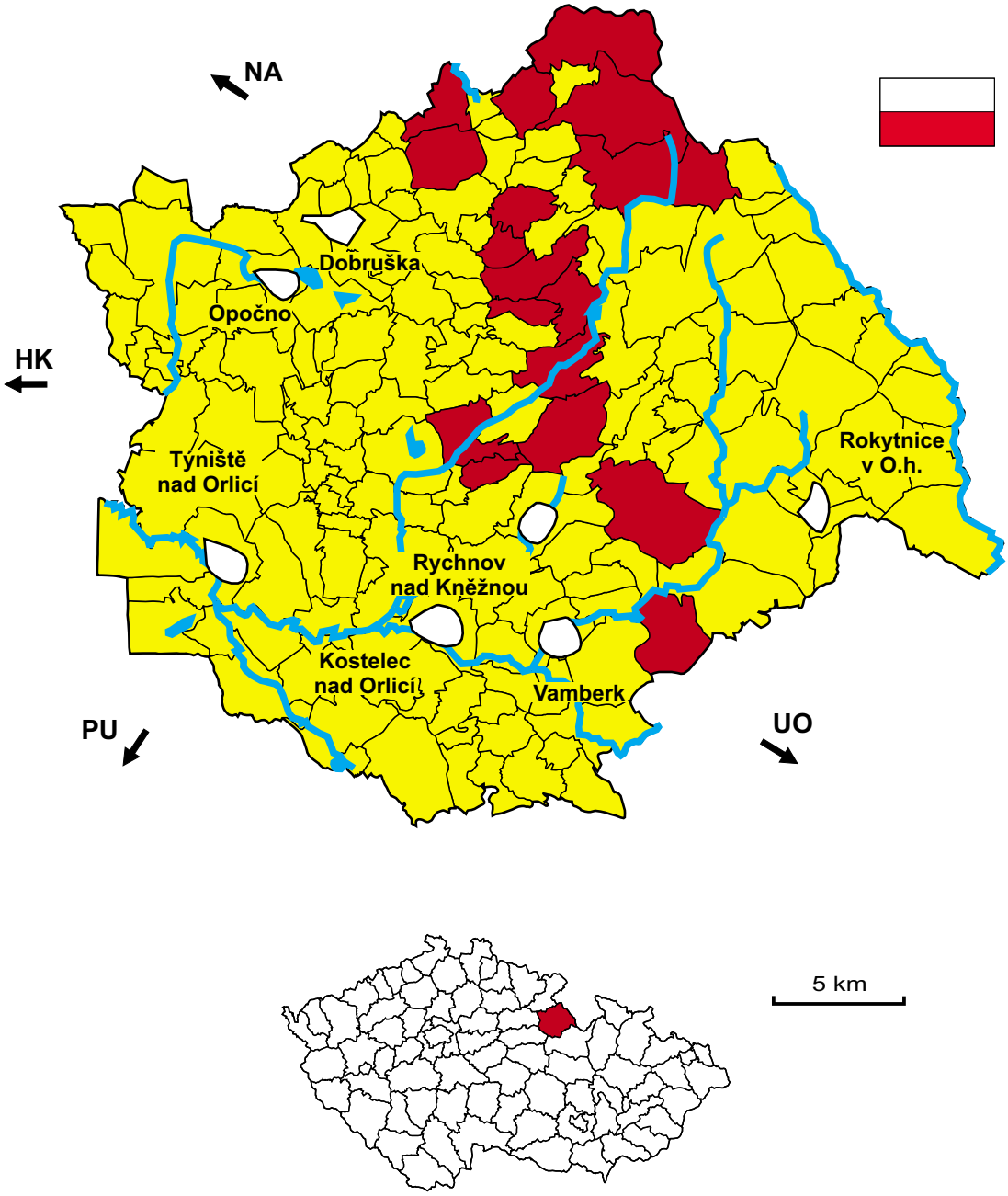
# Rabies Cases in District Rychnov na Kněžnou
# July and August 2000



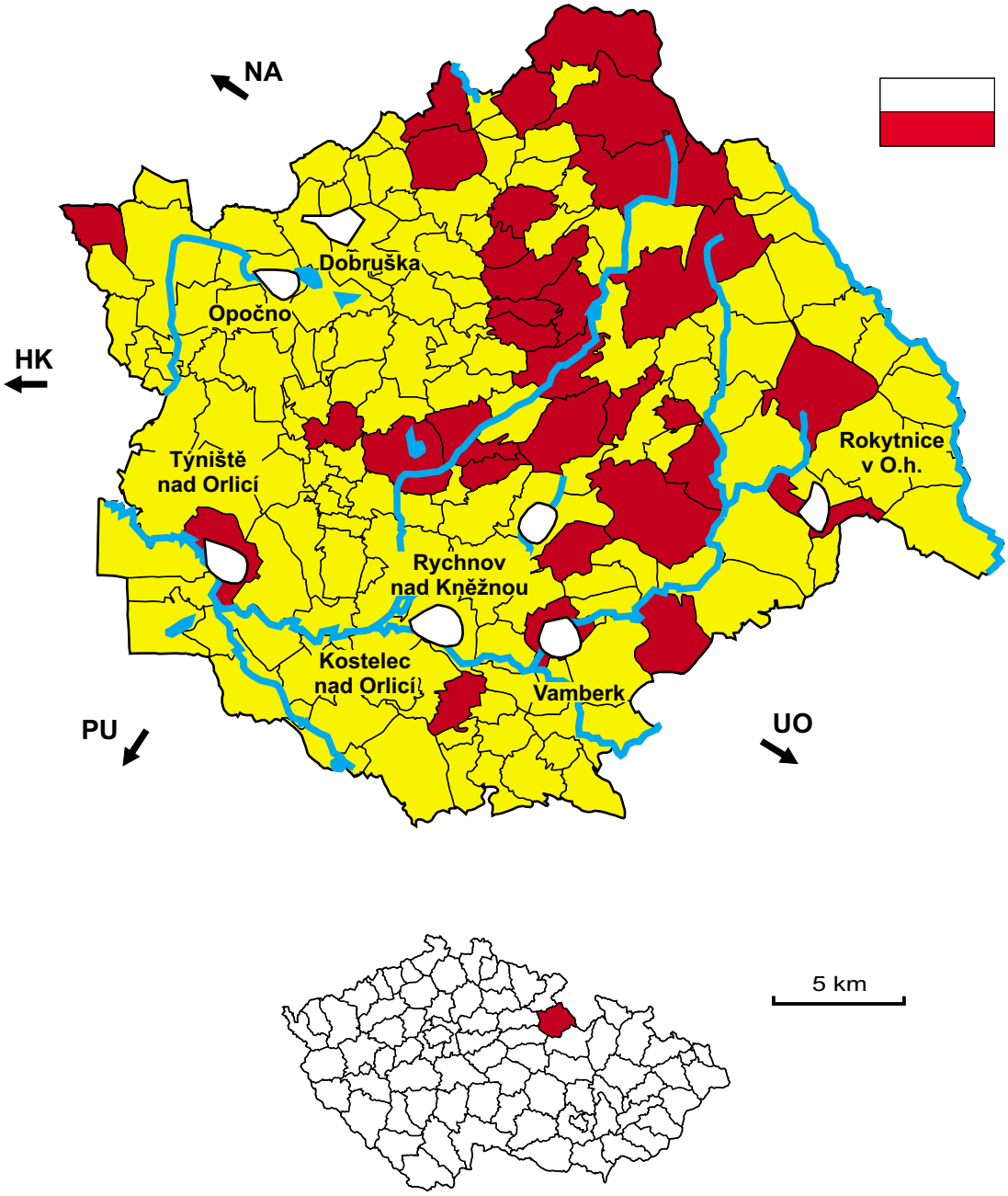
# Rabies Cases in District Rychnov na Kněžnou
# July to September 2000



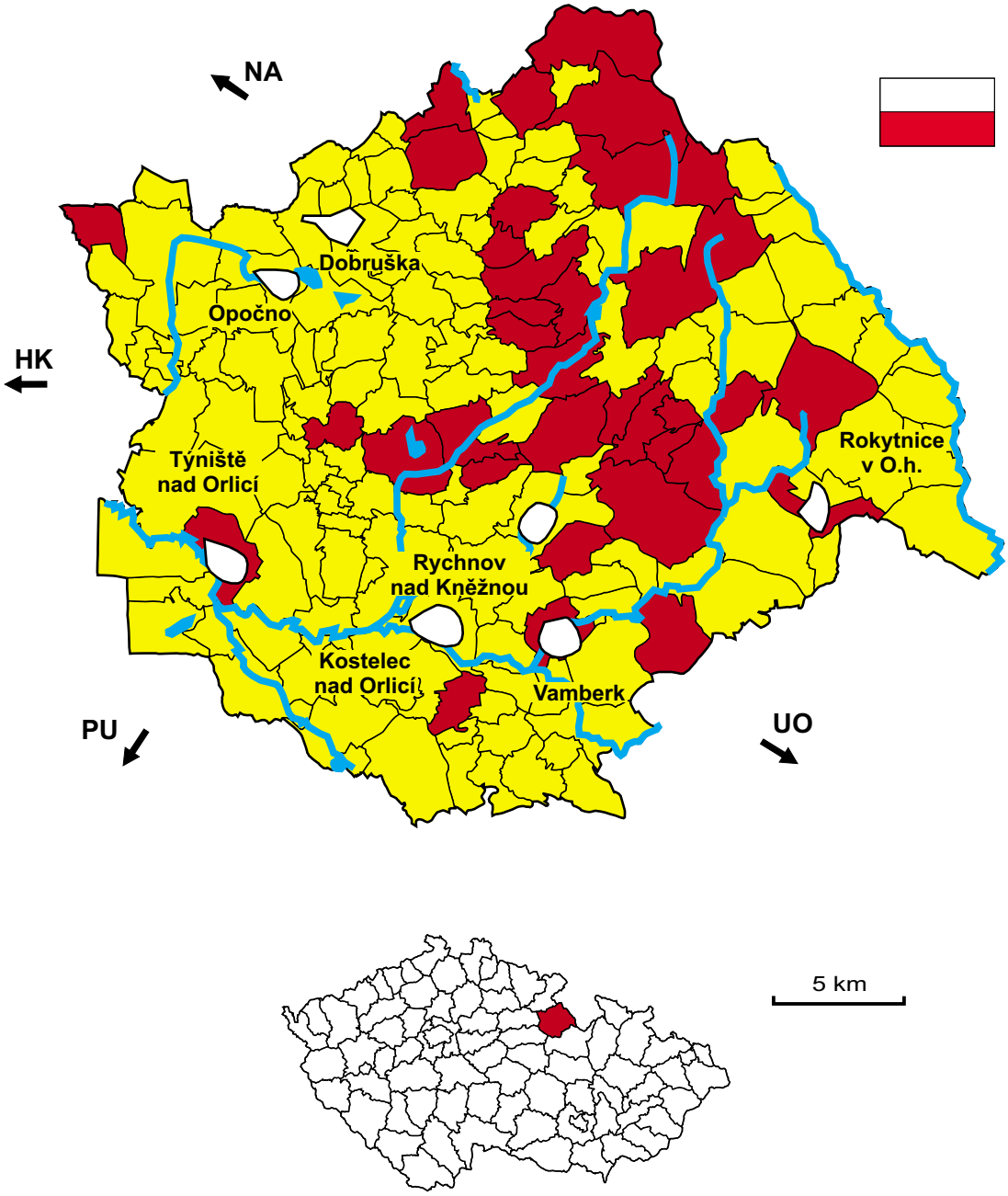
# Rabies Cases in District Rychnov na Kněžnou
# July to October 2000



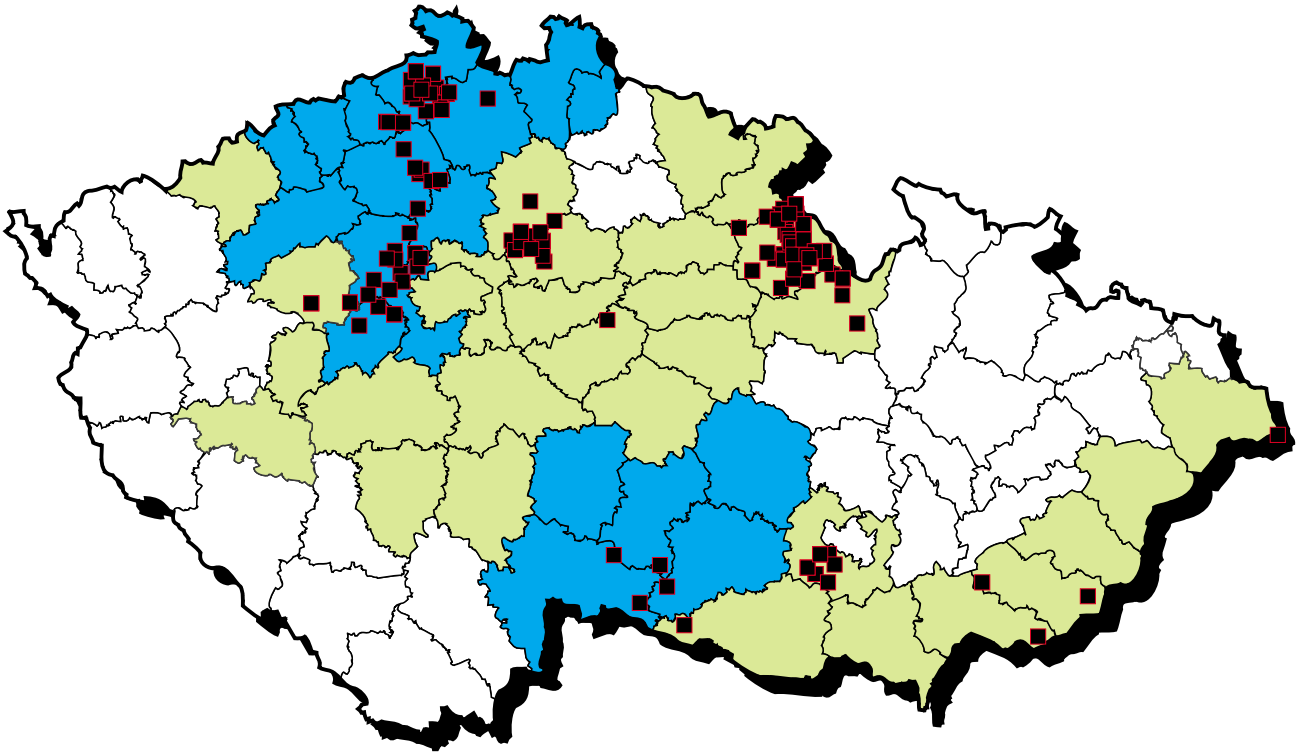
# Rabies Cases in District Rychnov na Kněžnou
# July to November 2000



# Rabies Cases in District Rychnov na Kněžnou
# July to December 2000



# Rabies Cases and Area of Vaccination in 2000

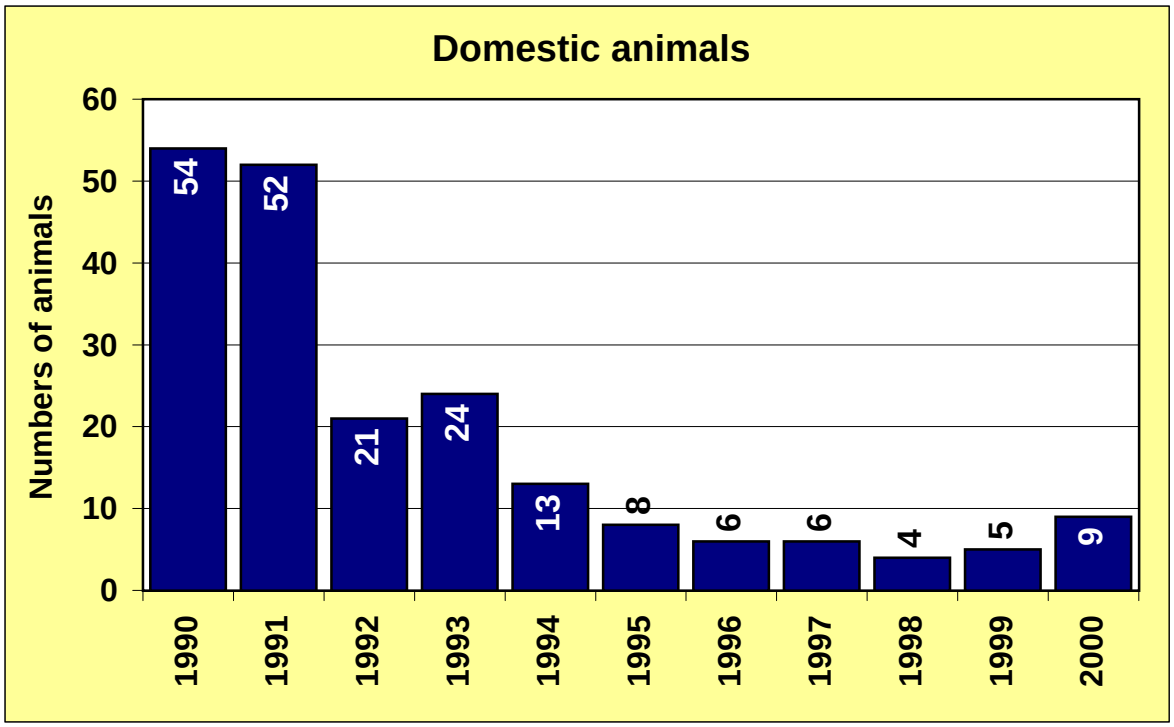


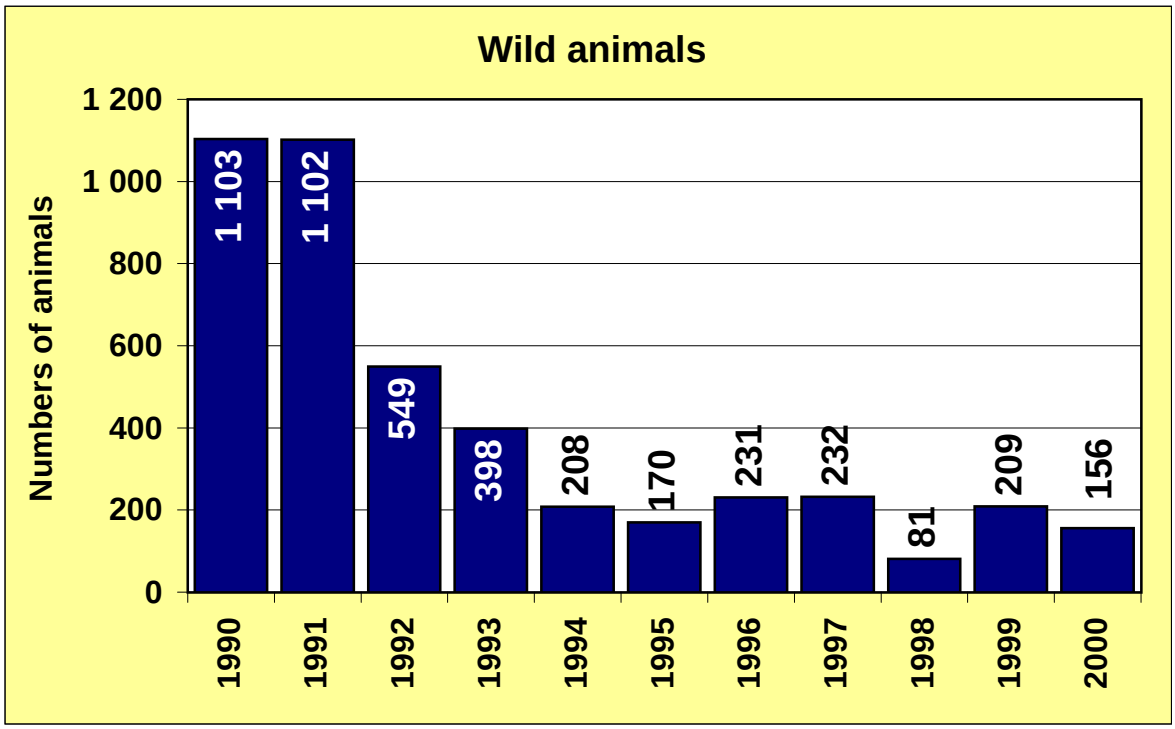
Rabies cases

Aerial vaccination

Manual vaccination

# Rabies Cases in the Czech Republic in 1990 - 2000




Vo0 Rabies Cases in the Czech Republic in 1990 - 2000.xls; Graph 03-04