

RABIES BULLETIN EUROPE

Volume 24/No 4

Quarter 4

2000

Contents

	Page
1. Introduction	3
2. Summary of Rabies in Europe	3-4
3. Rabies in Individual Countries	4-10
4. Miscellaneous Articles	
4.1 Review of Reported Rabies Cases in Europe to the WHO Collaborating Centre Tübingen from 1977-2000	11-19
4.2 Unexpected Outbreak of Rabies in a Previously Rabies-free Area of the Czech Republic	20-23
5. Rabies Case Data Europe	
5.1 Table 5.1: 4. Quarter 2000	24
5.2 Table 5.2: Accumulated Totals 2000	25
5.3 Table 5.3: Other Animal Species, 4. Quarter 2000	26
5.4 Table 5.4: Other Animal Species, Accumulated Totals 2000	27
5.5 Table 5.5: Rabies Case Rates for 10 Countries	28
5.6 Tables: Individual Countries, 4. Quarter 2000	29-27
6. List of Contributors	38
7. Annexes	
Map of Rabies Cases in Russia, 4. Quarter 2000	Annex 1
Map of Rabies Cases in Turkey, 4. Quarter 2000	Annex 2
Map of Development of Rabies in Europe, 1977-2000	Annex 3
Map of Rabies Cases in Europe, 4. Quarter 2000	Annex 4
Map of Bat Rabies Cases in Europe, 1977-2000	Annex 5

The Rabies Bulletin Europe has been compiled and edited by the

WHO Collaborating Centre for Rabies Surveillance & Research

at the
Federal Research Centre for Virus Diseases of Animals
Postfach (P.O.Box) 1149
D-72001 Tübingen
Federal Republic of Germany

Dr. W.W. Müller
Dr. J.H. Cox
K.-P. Hohnsbein, Data Processing

Phone +49 7071 967-210
Phone +49 7071 967-226
Fax +49 7071 967-105
E-mail who-rabies@tue.bfav.de
Internet www.who-rabies-bulletin.org

The Rabies Bulletin Europe *is sponsored by the*
World Health Organization, Geneva, and the
International Office of Epizootics, Paris

Gratefully acknowledged is the *financial support*
of the WHO Collaborating Centre by the

Bundesministerium für Gesundheit
Bonn - Bad Godesberg

1. INTRODUCTION

This BULLETIN describes the **reported rabies cases in Europe** for the **Fourth Quarter 2000**, subsequently referred to as "*This Quarter*".

In SECTION 2 a **summary of the rabies situation of the fourth quarter 2000** is given.

SECTION 3 (3.1-3.38) reflects the **situation for individual countries**. Unfortunately, not all countries report regularly yet. However, their contribution is expected.

In the **Miscellaneous SECTION (4)** under 4.1 a **review** is given of **all rabies cases** received at the WHO

Collaborating Centre for Rabies Surveillance and Research, **from the beginning of the data collection in 1977 up to date**.

In this connection TABLES of quarterly data have been produced and a graph with annual data (ANNEX 3). Data of rabies affected wildlife, including bats infected by rabies like viruses, domestic animals and humans have been analysed. ANNEX 5 shows the distribution of bat rabies cases recorded between 1977 and 2000 on a map of Europe.

An article under 4.2 describes an unexpected outbreak of rabies in a previously

rabies-free area of the Czech Republic.

The **rabies case data** are tabulated for the **Fourth Quarter 2000** in SECTION 5. The arrangement of countries follows practical considerations, not alphabetical ones.

SECTION 6 lists the **official contributors** to the BULLETIN.

The **geographical distribution** of rabies cases in Europe of the **Fourth Quarter 2000** is shown on maps of the Russian Federation, Turkey and Europe in the ANNEX.

2. SUMMARY OF RABIES IN EUROPE

2.1 Fourth Quarter 2000

During "*This Quarter*", 2698 rabies cases were reported in Europe. Of these 1872 were in wild animals and 826 in domestic animals.

Of the 1872 cases in wild animals, 1552 (57.5% of total) were foxes, 8 wolves, 227 raccoon dogs, 2 lynx, 13 badgers, 2 stone martens, 31 pine martens, 8 polecats, 1 ferret, 10 foe deer, 1 red deer, 1 moose, 2 wild boars, 6 bats, 1 Norway rat, 7 unspecified animals. Of the 826 domestic animals, 203 were dogs, 226 cats, 22 horses, 360 bovines, 2 pigs, 10 sheep, 1

goat, and 2 cats living wild.

There was no human case during "*This Quarter*".

All data above are presented in TABLES 5.1 and 5.3 of SECTION 5 and in the TABLES of the individual countries.

Compared to the previous quarter (1689 cases) an increase is noticed (by 1009 cases) during "*This Quarter*". That is expected as **wildlife or more exactly fox-mediated rabies is seasonal** and, the increase in autumn/winter is connected to the dispersal of young foxes born in spring of the year which causes an in-

creased contact rate and thus, the possibility to pass on the disease. Most of the countries recorded this increase.

The **6 bat rabies cases** occurred in Germany (2), France (2) and Poland (2). The 2 infected bats in France were specified as *Eptesicus serotinus* and *Pipistrellus pipistellus*.

Because of the distinct epidemiological features of bat rabies, the cases are marked in a different colour in the map of the ANNEX.

The **dog-mediated rabies** is only found in an obvious pattern in Turkey. Of 43 cases during "*This Quarter*",

there were the following animal species involved: 34 dogs, 6 bovines, 2 red foxes, 1 wolf. However, certain areas in the south of the European part of the Russian Federation indicate dog-mediated rabies or the mixed type of dog- and fox-mediated rabies.

Rabies-free countries in Europe during "*This Quarter*" were: Albania, Finland, Greece, Iceland, Ireland, Italy, Macedonia, Norway, Portugal,

Sweden, Switzerland, the United Kingdom of Britain and Northern Ireland.

There were **no cases reported** from Austria, Belgium, Denmark, the Grand Duchy of Luxembourg, the Netherlands, but the last indigenously acquired case (terrestrial or bat) was less than two years ago.

The status of the countries with data supplied irregularly cannot be judged.

2.2 Development and Trends in 2000

Rabies case data summarizing the year 2000 can be found in TABLES 5.2, 5.4 and 5.5 of SECTION 5.

A special description of the development and trends in 2000 has been left out here as the subject has been included in the review article under 4.1 of this BULLETIN.

3. RABIES IN INDIVIDUAL COUNTRIES

3.1 Albania ALB

by Kristaq Berxholi

The country remained **rabies-free**.

Surveillance:

26 animals (18 foxes, 7 dogs, 1 wolf) were examined for rabies with negative results during "*This Quarter*".

3.2 Austria AUT

by Walter Schuller
and Helmut Schnabl

Out of 4832 animals examined for rabies during "*This Quarter*", there was no case diagnosed positive.

Summary 2000

In 2000 a total of 22,660 samples were examined

for rabies. Only 2 cases in foxes, 1 during the first and 1 during the second quarter 2000, both located at the Austrian/Hungarian border were diagnosed positive. In comparison there were 5 cases in 1999.

Oral vaccination of foxes against rabies is practised in rabies infected and suspected infected areas.

3.3 Belgium BEL

by L. Hallet

No case of rabies was diagnosed during "*This Quarter*".

Summary 2000

There was no rabies case in 2000. The last case in a wild animal (a fox) occurred in Belgium on 3rd April 1998, the last case in a domestic animal (a bovine) in July 1999.

902 animals were tested for rabies with negative results by the Pasteur Institute in Brussels. These animals were 460 foxes (51% of total), 315 bovines, 20 cats, 21 dogs, 42 small ruminants, 5 equines and 39 others (6 stone martens, 18 badgers, 2 bats, 1 wild boar, 8 cervides, 1 goose, 2 hares and 1 Norwegian rat).

Oral vaccination campaigns practised during the year:

- In April 72,200 vaccine baits were distributed by helicopter in an area covering 4414 km² - a density of 16.4 vaccine baits per km².

- In May a manual distribution campaign was carried out covering an area of 4600 km² to immunize young foxes at the den. 45,371 vaccine baits were deposited in 17,257 entrances of 4390 dens.

- In October an other aerial distribution campaign with the

helicopter was carried out. 75,500 vaccine baits were distributed in an area of 4425 km² - a density of 17 vaccine baits per km².

3.4 **Bosnia and Herzegovina** **BIH**

No data.

3.5 **Bulgaria** **BUL**

by L. Lavchev

During "*This Quarter*", 7 rabies cases were reported in Bulgaria.

Summary 2000

Altogether 22 cases were reported in 2000 compared to 25 cases in 1999. All animals affected were unspecified. The cases occurred in the north of the country.

3.6 **Belarus** **BYE**

by A.M. Axenov

During "*This Quarter*", 110 animal rabies cases were reported in all 6 administrative regions. The following animals were diagnosed rabid: 59 foxes, 12 raccoon dogs, 1 pine marten, 1 polecat, 12 dogs, 12 cats, 4 horses, 9 bovines.

Summary 2000

The total number of cases amounted to 306 compared to 105 in 1999 (however, with no reports to the WHO

Collaborating Centre for January, May and June).

3.7 **Croatia** **CRO**

by Josip Marković

During "*This Quarter*", 1169 animals were investigated for rabies (224 domestic and 945 wild animals). A total of 243 were diagnosed rabid, originating from 62 municipalities of 20 districts. That represents a decrease of 230 cases compared with the same period in 1999, and an increase of 139 cases compared with the previous quarter.

Out of the total 226 wild animals were affected (224 foxes, 1 badger, 1 stone marten) and 17 domestic animals (8 dogs, 6 cats, 3 bovines).

Summary 2000

A total of 917 cases was reported in 2000, 125 cases less than in 1999 (1042), and 529 cases more than in 1998 (388).

3.8 **Czech Republic** **CZH**

by Oldrich Matouch

During "*This Quarter*", 2078 animals (1685 wild and 393 domestic animals) were examined for rabies in the Czech Republic.

Rabies was diagnosed in 66 cases, 34 cases more than in the previous quarter and 23 cases more than during the fourth quarter 1999. Of these were 58 cases in wild animals (52 foxes,

3 roe deer, 3 badgers) and 8 cases in domestic animals (3 cats, 2 bovines, 2 sheep, 1 dog).

The highest concentration of rabies cases was noticed in the district Rychnov n.K. (48) in East Bohemia. This figure represents 72.7% of all cases.

An oral vaccination campaign was carried out in October 2000 covering an area of 44,580 km² in 51 districts. Czech made SAD-Bern vaccine was used. Aerial distribution was performed in 18 highly affected districts in North and South Bohemia in an area of 14,990 km² (374,800 vaccine baits used), 33 districts (an area of 29,590 km²) were vaccinated manually using 532,800 vaccine baits.

Summary 2000

In 2000, a total of 7798 animals belonging to 52 species were examined for rabies in the Czech Republic. Rabies was diagnosed in 165 cases, 49 less than in 1999. The highest number of cases was recorded in foxes - 142 (86%).

22 of 77 districts were affected with rabies. A new active focus was recorded in the district Rychnov n.K. (67 cases) in East Bohemia in the second half of the year (see article under 4.2 of this BULLETIN).

3.9 **Denmark** **DEN**

by Preben Willeberg
and Birgit Hendriksen

No case of rabies was diagnosed during "*This Quarter*".

Summary 2000

There were 3 cases of bat rabies during the 3rd quarter 2000 compared to 10 bat rabies cases in the previous year.

The country remained rabies-free in terrestrial animals.

3.10 Germany, DEU Federal Republic

by Winfried W. Müller
and Hartmut Schlüter

During "*This Quarter*", 51 animal rabies cases were reported in 6 out of 16 federal states. These were 12 cases less than in the previous quarter, and 35 more than in the fourth quarter 1999.

Cases occurred in previous foci in the states Nordrhein-Westfalen (9), Hessen (29), Bayern (10) and Sachsen (1) in terrestrial animals, and in the states Schleswig-Holstein and Niedersachsen with 1 bat rabies case each.

Summary 2000

The cases for 2000 totalled 192, 122 more than in 1999. The rabies situation worsened in spite of regular application of the oral vaccination method.

There were 10 bat rabies cases included in the total, 5 cases less than in 1999.

3.11 Estonia EST

by Matti Nastras

A total of 31 rabies cases was reported during

"*This Quarter*". There were 3 cases in domestic animals (1 dog, 1 cat, 1 bovine) and 28 cases in wild animals (15 foxes, 12 raccoon dogs, 1 lynx).

10 out of 15 districts of the country were infected with 1 to 7 cases.

Editors note:

Missing data for the previous quarter were received (27 cases). They are included in the annual summary.

Summary 2000

The total in 2000 amounted to 129 cases, 9 more than in the previous year.

3.12 Finland FIN

by Nina Sarén

The country remained rabies-free.

Surveillance

The following animals were examined for rabies with negative results: 20 badgers, 16 bovines, 16 cats, 7 dogs, 1 ermine, 2 fish otters, 1 horse, 2 insectivorous bats, 7 lynx, 1 meadow vole, 4 mouse weasels, 3 muskrats, 3 pine martens, 69 raccoon dogs, 161 red foxes, 1 roe deer, 1 squirrel, 1 vole and 1 white tailed deer.

3.13 France FRA

by Virginie Bruyere and
Christian Janot

During "*This Quarter*", 2 bat rabies cases were diagnosed. They were specified in Toulonges (Département

Pyrénée Orientales) as *Pipistrellus pipistrellus* and in Joinville (Département Haute Marne) as *Eptesicus serotinus*.

This is the first quarter that France is rabies-free in terrestrial animals as the last case was recorded in December 1998.

Oral vaccination of foxes against rabies though is continued to be practised in spring and autumn 2001 to protect the north-eastern border against Belgium, Luxembourg and Germany (see Figure 3.13.1).

Surveillance

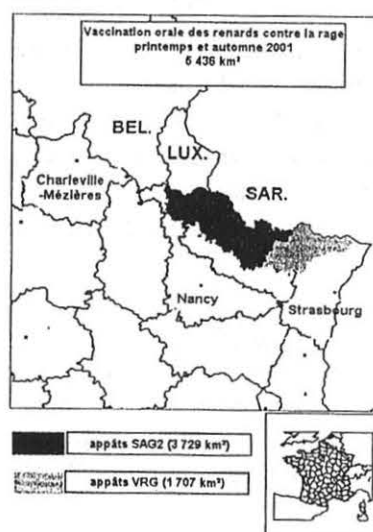
During "*This Quarter*", 566 samples were examined for rabies with negative results.

Summary 2000

There were 5 bat rabies cases reported in 2000 - 3 *Eptesicus serotinus*, 1 *Pipistrellus pipistrellus*, 1 unspecified bat.

In 1999 there was only 1 infected bat reported - an imported one carrying the „Lagos bat" virus.

FIGURE 3.13.1



3.14 Federal Republic FRY of Yugoslavia

by Živko Davidović

A total of 57 animal rabies cases (42 foxes, 2 dogs, 11 cats, 2 bovines) were registered during "*This Quarter*" in the Federal Republic of Yugoslavia.

The cases were distributed throughout the country.

Summary 2000

The annual total amounted to 178 cases, 97 cases more than in the previous year.

3.15 Greece GRE

The country remained rabies-free.

3.16 Hungary HUN

by Antal Németh and Zsolt Földi

During "*This Quarter*", 133 rabies cases in animals were reported. Of these, 101 were wild animals (100 foxes, 1 polecat) and 32 domestic animals (7 dogs, 16 cats, 7 bovines, 1 horse, 1 pig).

Except for 3 cases which were located west of the river Danube, all other cases occurred east of the river.

Summary 2000

During this year rabies cases totalled 514 (395 foxes, 61 cats, 24 dogs, 25 bovines, 5 horses, 1 pig, 1 wild cat, 1

stone marten and 1 polecat). Only 5 cases in foxes occurred west of the river Danube, where oral vaccination of foxes against rabies was carried out.

3.17 Iceland ICE

The country remained rabies-free.

3.18 Ireland IRE

The country remained rabies-free.

3.19 Italy ITA

by Franco Mutinelli

The country remained rabies-free.

Surveillance

2129 wild animals (of these 743 foxes) and 50 domestic animals from Trentino Alto Adige, Veneto and Friuli Venezia Giulia Regions (north-eastern Italy) were tested for rabies with negative result during "*This Quarter*".

Summary 2000

2783 wild animals (of these 2500 foxes and 1 bat) and 226 domestic animals were examined for rabies with negative results in Trentino Alto Adige, Veneto and Friuli Venezia Giulia Regions in the north-eastern part of Italy.

On January 1st 2000, compulsory vaccination of dogs and domestic herbivores at pasture was revoked due to the im-

proved epidemiological situation of rabies at the Austrian and Slovenian border.

However, oral vaccination of foxes against rabies was performed in May 2000 in the provinces of Trieste, Gorizia and Udine covering an area of 1600 km² using 25,000 SAD vaccine baits.

3.20 Lithuania LTU

by K. Gedrinas and A. Dranseika

During "*This Quarter*", 260 cases of rabies were recorded. 117 cases occurred in domestic animals (78 bovines, 15 dogs, 18 cats, 4 horses, 1 goat and 1 cat living wild) and 143 cases (54.6%) in wild animals (43 foxes, 82 raccoon dogs, 14 pine martens, 3 polecats and 1 wild boar).

During "*This Quarter*", 41 of 44 districts were affected. The most affected ones were Jurbarkas, Kėdainiai, Lazdijai, Panevėžys, Skuodas, Tauragė.

During "*This Quarter*", more than 20,000 dogs, 3,000 cats and 5,000 bovines were vaccinated against rabies.

No human rabies case was registered in the country.

Summary 2000

The annual total amounted to 855 cases, 498 more than in the previous year.

3.21 Luxembourg LUX

by Arthur Besch

There was no rabies

case diagnosed during "*This Quarter*".

Summary 2000

There was no case of rabies diagnosed in 2000. The last case in a wild animal (a fox) occurred during the 4th quarter 1997, the last case in a domestic animal (a horse) during the first quarter 1999. Still, the veterinary authorities of the Grand Duchy of Luxemburg consider to continue the oral vaccination of foxes against rabies in 2001 due to the epidemiological status of the disease in the neighbouring countries.

It is intended to have 2 oral vaccination campaigns in 2001 by helicopter, end of March and end of September which should cover the entire country (using each time 92,000 vaccine baits) and additionally 1 campaign end of May by hand distribution (with approx. 16,000 vaccine baits) to vaccinate young foxes at the den.

In 2000, 55 animals were tested for rabies with negative results: 28 foxes, 4 roe deer, 2 martens, 1 wild boar, 1 badger, 14 bovines, 4 cats, 1 sheep.

3.22 Latvia LVA

by J. Rimeicāns and E. Jēgers

123 rabies cases were registered during "*This Quarter*" in 24 out of 26 districts. 91 cases were diagnosed in wild animals (74% of total). 54 of the cases in wild animals were foxes, 31 raccoon dogs, 3 badg-

ers and 3 pine martens. Of 32 rabies cases in domestic animals 12 were cats, 10 dogs, 9 bovines and 1 horse. The most affected districts were Liepajas with 22 cases, Saldus with 11 cases and Talsu with 10 cases.

Summary 2000

The annual total amounted to 516, 347 cases more than in the previous year.

3.23 Moldova MLD

by Vasile Bahau

During "*This Quarter*", out of 27 samples examined for rabies, 9 animals (7 foxes, 1 dog, 1 bovine) were diagnosed rabid.

Summary 2000

The annual total of rabies cases amounted to 22. In 1999 there were 43.

3.24 Netherlands NET

by Gerard Visser

During "*This Quarter*", 16 animals (5 foxes, 3 cats and 8 bats) were examined for rabies with negative results.

Summary 2000

In 2000 a total of 110 animals were investigated for rabies (8 foxes, 2 dogs, 9 cats, 1 rat, 1 mouse and 89 bats).

Three bats were diagnosed rabid compared to 6 bats in 1999.

The country remained rabies-free in terrestrial animals.

3.25 Norway NOR

by Eivind Liven

The country remained rabies-free.

3.26 Poland POL

by Andrzej Komorowski

A total of 912 cases was registered in Poland during "*This Quarter*". 742 cases were in wild animals - 634 foxes (69.5% of total), 85 raccoon dogs, 3 badgers, 12 pine martens, 3 polecats, 1 ferret, 1 roe deer, 1 moose, 2 bats - and 170 in domestic animals - 23 dogs, 53 cats, 88 bovines, 4 horses, 2 sheep.

Summary 2000

The total of cases amounted to 2211, 1064 more than in the previous year.

Oral vaccination of foxes, started in 1993, has freed great parts in the western half of the country. Rabies cases have been reduced from 3084 cases in 1992 prior to vaccination to 1147 in 1999. This is the first year again recording an increase.

There was a reinfected area previously rabies-free along the Czech border in the south-east of the country.

3.27 Portugal POR

The country remained rabies-free.

3.28 Romania ROM

by Dragos Corlateanu

A total of 45 cases of rabies (27 foxes, 9 dogs, 5 cats, 4 horses) was reported in Romania during "*This Quarter*", 34 cases more than in the previous quarter and 30 cases more than in the fourth quarter 1999.

The cases were distributed throughout the country.

Summary 2000

The annual total amounted to 98 cases, 53 cases more than in 1999.

**3.29 Russia RUS
European part only**

by V.A.Vedernikov, V.A.Sedov,
I.V. Baldina, A.A.Shabeykin,
A.M.Gulyukin
B.L.Cherkasskiy, V.J. Ladnyi,
V.V.Seliverstov, V.N. Abramov,
S.A. Kolomizev, and N.V. Matochina

During "*This Quarter*", 471 rabies cases in animals were reported. Of the total number of cases 301 were in domestic animals - 74 dogs, 72 cats, 148 bovines, 4 horses, 1 pig, 2 sheep.

170 cases occurred in wild animals (156 foxes, 5 raccoon dogs, 1 badger, 7 wolves, 1 lynx).

Most affected by the disease were the Kursk Region with 73 cases, Voronezh Region with 57 cases, Stavropol Territory with 36 cases, Oryol Region with 33 cases, Belgorod Region with 64 cases, Rostov

Region with 54 cases, Saratov Region with 25 cases.

Summary 2000

The annual total amounted to 1232 cases in animals and 7 in humans. There were 2021 animal and 5 human cases in 1999.

A campaign of oral immunization of foxes and an increase of prophylactic vaccination of dogs resulted in a noticeable improvement in the Ural and Central regions. However, the epizootic situation worsened in the south of the European part of Russia, especially bordering the Ukraine. This might be due to seasonal reasons.

3.30 Spain SPA

by Carlos Abellan Garcia

During "*This Quarter*", the mainland and islands of Spain remained rabies-free in terrestrial animals.

There was 1 dog rabies case in Melilla, in the Spanish territory of North Africa.

Summary 2000

The annual total amounted to 7, 4 bat rabies cases in the mainland and 2 dogs in the Spanish territory of Africa.

In 1999 there were also 7 cases, 4 in bats in the mainland and 3 in dogs in the Spanish territory of North Africa.

3.31 Slovak Republic SVK

by Dušan Magic

A total of 80 rabies cases in animals was reported in the

Slovak Republic during "*This Quarter*". Of these were 57 (71.3%) in wild animals (54 foxes, 1 pine marten, 1 stone marten and 1 Norwegian rat) and 23 in domestic animals (5 dogs, 14 cats, 3 bovines and 1 cat living wild).

Summary 2000

The annual total amounted to 351, 152 cases less than in the previous year.

3.32 Slovenia SVN

by Zoran Kovač

There were 54 rabies cases during "*This Quarter*". 46 cases of the total (85.2%) were in foxes, 2 in badgers, 2 in roe deer, 1 in a red deer, 1 in a wild boar and only 2 in domestic animals (2 cats).

Summary 2000

A total of 114 cases was reported in 2000, 108 cases more than in 1999, and 100 cases more than in 1998.

3.33 Sweden SWE

The country remained rabies-free.

3.34 Switzerland SWIby Reto Zanoni and
Urs Breitenmoser

The country remained rabies-free.

Surveillance:

During "*This Quarter*", 40 animals were examined for rabies with negative results: 21 foxes, 1 badger, 2 other mustelids, 1 deer, 2 bats, 4 dogs, 9 cats. The two bats (in brackets the community where the samples were taken) were specified as *Myotis myotis* (Bern) and *Pipistrellus nathusii* (Genève).

Summary 2000

A total of 222 animals were investigated for rabies with negative results. The animal species have been mentioned during the four quarters reported. Samples were received covering the entire countries, 213 were suspected of rabies.

To control the status of immunity against rabies 1797 samples were investigated.

439 sera originated from humans, 204 of these served the control of pre-exposure vaccination, 41 post-exposure treatment and in 1 case for differential clarification. In 193 cases no reason for the investigation was given.

1016 dog and 245 cat sera were investigated to fulfil entry conditions for travel to Norway, Sweden or the United Kingdom.

97 samples were tested for other reasons.

3.35 Turkey TUR

by Hüseyin Sungur

During "*This Quarter*", 43 rabies cases in animals were

reported in Turkey. The disease occurred in 34 dogs, 6 bovines, 2 foxes and 1 wolf.

The most affected provinces (II) were Istanbul and Izmir with 11 cases each. All other infected provinces recorded between 1 and 4 cases only.

Summary 2000

The total of cases amounted to 297, 88 cases more than in the previous year.

3.36 Macedonia TYM

The country remained rabies-free.

3.37 Ukraine UKR

No data.

3.38 United Kingdom UNK

by Fred Landeg

The country remained rabies-free.

Control:UK Pet Travel Scheme

The UK quarantine rules underwent a major change on 28 February 2000, when the Pet Travel Scheme (PETS) was launched. The Scheme allows dogs and cats from European Union and certain other countries to enter England without quarantine, provided that they are micro chipped, vaccinated, blood tested and treated against ticks and a tapeworm. Animals must also be transported to Eng-

land by an authorised carrier on an approved route. The requirement for six months quarantine remains for animals which do not qualify for the Pet Travel Scheme.

The introduction of PETS has been warmly welcomed by pet owners. Between 28 February and 31 December 2000, 14,584 animals entered England under the Scheme. The vast majority of animals carried under the Scheme are dogs.

Overall approximately 12% of animals presented for travel fail to pass the checks of their certification. Failures are most commonly due to problems with the tick and tapeworm treatment and certificate. These problems can generally be rectified by visiting a veterinary surgeon near the point of departure for England, and by owners ensuring that they wait until 24 hours have elapsed since tick and tapeworm treatment before embarking for England. Micro chipping has found to be a robust and reliable method of identifying pet animals and very few failures of the Scheme have been as a result of failed microchips.

Work continues on the Pet Travel Scheme, beginning with the extension to include certain long-haul rabies-free islands from 31 January 2001. We look forward to the continued success of the Scheme.

More information is available on the Pet Travel Scheme website, at www.maff.gov.uk/animalh/quarantine.

4. MISCELLANEOUS ARTICLES

4.1 Review of Reported Rabies Case Data in Europe to the WHO Collaborating Centre Tübingen from 1977 to 2000

by W.W. Müller

WHO Collaborating Centre for Rabies Surveillance and Research
at the Federal Research Centre for Virus Diseases of Animals, Institute of Immunology,
P.O. Box 1149, D-72001 Tübingen, FRG

Every two years a review of the data reported to the WHO Reference Centre, Tübingen, from the beginning in 1977 is given in this BULLETIN. The last review appeared in RABIES BULLETIN EUROPE 4/98. The **data are partly supplemented** if they were received too late for the quarters to be published or when data could be improved upon. The contributors are again asked to see if they can further improve data of their country back to 1977.

In this issue the following analysis of the data has been prepared:

Tables of quarterly data

TABLE 4.1.1 (pages 12-16) summarizes a total of **24 years of rabies cases in animals and humans arranged according to quarters**.

A graph with annual figures

On a map of Europe (ANNEX 3) **continuous columns indicate the annual development of rabies** in Europe and individual countries over 24 years. Numbers below 100 are given in digits.

The columns are made up from the data in TABLE 4.1.1.

Commentary

When surveillance was initiated in 1977, wildlife rabies, which is thought to have

started at the Polish/Russian border around 1939 and then spread westward was established in most of the European countries. It reached its furthest westerly extension in the east of France in 1982.

Wildlife rabies, which could also be called fox-mediated rabies, is strongly seasonal due to the biology of the red fox which is the rabies host animal or carrier. Drastic changes during the year are in the beginning the mating season, in spring the birth and raising of the young generation, in late summer and autumn the dispersal of the young foxes born in the spring. All that reflects on the case incidence. Another seasonality which is expressed in an increase and decrease of cases over a time span of approximately 3-5 years derives from a built-up in the fox population first followed by a decrease due to rabies itself.

Any of these seasonal features are interfered with if oral vaccination of foxes against rabies is practised. An appropriate number of protected foxes in an evenly vaccinated area hinders the spread of the disease by interrupting the chain of infection. The carrier role of the fox became once more obvious as, when enough foxes were protected, rabies in all other animal species involved in the disease stopped as well.

Oral vaccination in the field was started in Switzerland in 1978. Looking at the gross total (see columns or quarterly data) a first impact appeared in 1984 after several other countries in western Europe practised

TABLE 4.1.1

EUR										EUR																	
LOC. CODE	QUARTER				YEAR 1977	QUARTER				YEAR 1978	QUARTER				YEAR 1979	QUARTER				YEAR 1980	QUARTER				YEAR 1981	LOC. CODE	
	1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4			
ALB	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	ALB	
AUT	852	683	508	1015	3058	1136	1139	868	901	4044	789	529	404	296	2018	250	288	167	111	816	197	209	188	185	779	AUT	
BEL	36	13	6	13	68	25	15	13	8	61	8	5	4	8	25	11	23	2	11	47	24	23	36	91	174	BEL	
BIH	-	-	-	1	1	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	BIH
BUL	-	-	-	-	0	1	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	BUL
BYE	-	-	-	-	0	25	7	14	8	54	20	27	22	29	98	28	18	15	14	75	16	8	10	14	48	BYE	
CRO	-	4	-	5	9	-	-	-	23	23	16	29	28	41	114	55	16	19	57	147	87	30	28	42	187	CRO	
CZH	113	87	127	101	428	179	132	150	157	618	120	166	156	221	663	417	274	208	227	1126	248	235	208	321	1012	CZH	
DEN	-	-	3	3	6	14	24	69	56	163	37	41	46	41	165	22	11	2	2	37	2	1	-	-	3	DEN	
DEU	2388	1407	1450	1493	6738	1423	966	1277	1355	5021	1640	1314	1477	2141	6572	2549	1790	2109	2213	8661	2097	1507	1790	1933	7327	DEU	
EST	-	-	-	-	0	5	-	12	5	22	2	2	4	6	14	6	3	3	5	17	4	3	3	3	13	EST	
FIN	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	FIN
FRA	572	356	354	386	1668	384	289	212	317	1202	533	394	344	435	1706	589	381	275	375	1620	552	412	550	827	2341	FRA	
FRY	7	9	-	100	116	-	-	-	248	248	87	55	30	40	212	87	44	31	33	195	78	23	6	56	163	FRY	
GRE	5	2	-	2	9	1	-	1	-	2	-	-	-	2	2	-	-	-	-	0	-	-	3	-	3	3	GRE
HUN	221	166	99	250	736	629	169	192	311	1301	546	159	222	355	1282	381	142	191	204	918	314	122	194	372	1002	HUN	
ICE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	ICE
IRE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	IRE
ITA	3	26	39	29	97	83	82	39	46	250	30	28	17	4	79	3	2	2	5	12	55	120	113	79	367	ITA	
LTU	-	-	-	-	0	-	-	12	13	25	1	2	8	17	28	7	3	8	6	24	2	1	5	5	13	13	LTU
LUX	10	6	9	9	34	22	16	16	8	62	3	3	4	13	23	8	1	1	13	23	16	18	25	27	86	LUX	
LVA	-	-	-	-	0	4	3	3	5	15	3	5	4	7	19	14	6	12	9	41	8	4	4	7	23	LVA	
MLD	-	-	-	-	0	4	2	7	7	20	10	5	4	3	22	3	6	5	3	17	7	2	2	3	14	MLD	
NET	1	-	1	-	2	-	-	-	-	0	-	1	-	-	1	-	-	-	-	0	-	-	-	-	-	0	NET
NOR	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	1	15	-	1	17	-	-	-	-	-	1	NOR
POL	297	252	395	343	1287	335	197	251	356	1139	215	189	287	350	1041	275	183	224	263	945	198	67	81	103	449	POL	
POR	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	POR
ROM	33	20	11	49	113	-	-	-	-	0	35	23	15	14	87	26	20	15	14	87	26	20	50	32	128	ROM	
RUS	-	-	-	-	0	191	97	89	147	524	125	100	63	98	386	124	72	69	70	335	52	37	21	60	170	RUS	
SPA	-	1	4	1	6	1	-	-	2	3	-	-	1	-	1	1	-	-	-	1	1	-	-	-	-	1	SPA
SVK	55	47	29	36	167	43	30	22	34	129	23	35	37	29	124	18	27	25	16	86	24	19	17	28	88	SVK	
SVN	3	-	-	7	10	-	-	-	33	33	22	36	14	18	90	82	142	123	246	593	521	805	216	224	1766	SVN	
SWE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	SWE
SWI	330	207	211	293	1041	265	204	232	351	1052	365	312	318	375	1370	376	250	277	287	1190	383	353	349	328	1413	SWI	
TUR	-	-	889	316	1205	313	410	387	372	1482	517	454	316	308	1595	507	486	483	612	2088	497	638	587	538	2260	TUR	
TYM	7	3	-	8	18	-	-	-	9	9	1	-	-	1	2	-	-	-	-	0	-	-	-	-	-	0	TYM
UKR	-	-	1	1	2	80	78	100	155	413	181	123	103	83	490	104	70	55	78	307	53	43	36	68	200	UKR	
UNK	1	-	-	1	2	-	-	-	1	1	-	-	-	-	0	-	-	-	-	0	-	-	1	-	-	1	UNK
TOT.	4934	3289	4136	4462	16821	5163	3860	3966	4928	17917	5294	4014	3913	4921	18142	5953	4276	4321	4875	19425	5463	4700	4523	5346	20032	TOT.	

TABLE 4.1.1 continued

EUR										EUR																	
LOC. CODE	QUARTER				YEAR 1982	QUARTER				YEAR 1983	QUARTER				YEAR 1984	QUARTER				YEAR 1985	QUARTER				YEAR 1986	LOC. CODE	
	1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4			
ALB	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	ALB	
AUT	259	290	154	259	962	406	375	264	329	1374	401	441	303	277	1422	385	524	428	407	1744	367	348	297	375	1387	AUT	
BEL	135	139	128	273	675	208	119	80	109	516	129	87	112	177	505	91	49	137	169	446	116	62	80	84	342	BEL	
BIH	-	-	-	17	17	42	30	5	14	91	12	7	4	18	41	11	4	5	8	28	8	11	2	8	29	BIH	
BUL	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	BUL
BYE	12	18	22	26	78	17	13	10	10	50	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	BYE
CRO	260	57	33	78	428	146	104	47	212	509	366	190	104	191	851	233	95	63	135	526	138	52	20	57	267	CRO	
CZH	473	410	325	445	1653	600	437	357	427	1821	669	493	503	441	2106	510	391	277	282	1460	308	262	294	381	1245	CZH	
DEN	1	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-	1	9	10	-	3	97	5	-	105	DEN
DEU	2242	1646	1974	2645	8507	2754	1866	2014	2529	9163	2662	1931	2180	2298	9071	1989	1747	2197	2337	8270	1829	1391	1647	1963	6830	DEU	
EST	2	2	5	4	13	1	3	5	4	13	-	-	-	1	1	-	-	-	1	1	-	-	-	1	1	1	EST
FIN	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	1	1	-	-	-	-	0	FIN
FRA	1023	874	771	738	3406	802	464	637	760	2663	1006	687	551	627	2871	579	425	505	504	2013	688	602	605	570	2465	FRA	
FRY	131	34	16	41	222	71	21	17	33	142	67	30	21	68	186	40	23	23	12	98	31	9	10	36	86	FRY	
GRE	1	-	-	-	1	1	-	-	-	1	-	-	-	-	0	-	1	-	-	1	-	-	-	-	-	0	GRE
HUN	601	246	187	339	1373	413	129	174	260	976	465	156	183	371	1175	361	157	164	351	1033	368	172	240	484	1264	HUN	
ICE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	ICE
IRE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	IRE
ITA	112	82	88	63	345	93	115	127	113	448	128	141	54	31	354	49	45	25	3	122	10	17	2	-	29	ITA	
LTU	6	5	9	9	29	5	3	5	5	18	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	LTU
LUX	33	24	41	107	205	35	15	20	36	106	36	9	9	10	64	5	10	24	28	67	10	13	47	67	137	LUX	
LVA	5	6	7	9	27	5	13	7	9	34	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	LVA
MLD	4	2	2	2	10	3	4	2	2	11	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	MLD
NET	-	-	-	-	0	1	-	1	13	15	42	16	2	5	65	7	9	-	-	16	-	-	-	1	1	1	NET
NOR	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	NOR
POL	143	99	195	190	627	138	96	259	343	836	382	284	395	455	1516	258	161	349	306	1074	227	145	306	409	1087	POL	
POR	-	-	-	-	0	-	-	-	-	0	-	-	1	-	1	-	-	-	-	0	-	-	-	-	-	0	POR
ROM	32	20	20	19	91	23	14	9	15	61	90	16	17	18	141	22	25	8	23	78	25	24	12	12	73	ROM	
RUS	95	44	35	72	246	61	34	25	86	206	-	-	-	-	0	-	-	-	2	2	-	-	-	-	-	0	RUS
SPA	1	-	-	-	1	5	2	2	1	10	-	-	1	3	4	7	-	7	3	17	2	2	1	5	10	10	SPA
SVK	77	50	45	64	236	59	29	71	110	269	133	70	46	89	338	64	41	40	45	190	85	61	33	66	245	SVK	
SVN	283	174	77	74	608	122	96	34	155	407	216	179	64	66	525	67	36	21	57	181	56	18	13	30	117	SVN	
SWE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	SWE
SWI	381	305	258	285	1229	213	204	269	378	1064	370	269	179	110	928	87	96	140	89	412	76	46	41	35	198	SWI	
TUR	503	645	529	495	2172	483	511	549	389	1932	337	426	381	316	1460	334	336	325	289	1284	271	348	311	336	1266	TUR	
TYM	-	1	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	TYM
UKR	92	61	88	98	339	61	47	46	112	266	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	UKR
UNK	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	1	-	-	1	UNK
TOT.	6907	5234	5009	6352	23502	6768	4744	5036	6454	23002	7511	5432	5110	5572	23625	5099	4175	4739	5061	19074	4615	3586	4059	4925	17185	TOT.	

4th Quarter: October - December 2000

TABLE 4.1.1 continued

EUR											EUR																
LOC. CODE	QUARTER				YEAR 1987	QUARTER				YEAR 1988	QUARTER				YEAR 1989	QUARTER				YEAR 1990	QUARTER				YEAR 1991	LOC. CODE	
	1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4			
ALB	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	ALB	
AUT	461	570	432	579	2042	681	457	320	328	1786	594	391	295	610	1890	908	572	406	628	2514	839	580	508	533	2460	AUT	
BEL	53	46	55	88	242	44	66	185	220	515	244	154	212	232	842	94	24	11	15	144	12	4	4	9	29	BEL	
BIH	3	6	2	16	27	23	12	3	22	60	20	7	5	14	46	14	8	19	34	75	14	11	1	-	26	BIH	
BUL	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	6	BUL	
BYE	-	-	-	-	0	-	-	-	-	0	-	-	-	196	196	33	37	58	47	175	39	20	44	-	103	BYE	
CRO	53	26	29	62	170	123	53	53	89	318	157	81	83	201	522	151	91	81	159	482	237	83	40	60	420	CRO	
CZH	400	458	335	337	1530	353	296	305	336	1290	499	423	282	259	1463	305	291	238	264	1098	451	272	186	188	1097	CZH	
DEN	1	11	32	4	48	-	-	-	-	0	-	1	-	-	1	-	-	-	-	0	-	-	-	-	0	DEN	
DEU	1658	1230	1295	1301	5484	1211	820	1217	1771	5019	2010	1335	1612	1866	6823	1698	1078	1354	1444	5574	1230	884	779	706	3599	DEU	
EST	-	-	-	-	0	-	-	-	-	0	-	-	-	164	164	53	36	84	98	271	86	68	55	-	209	EST	
FIN	-	-	-	-	0	-	19	20	24	63	6	-	-	-	6	-	-	-	-	0	-	-	-	-	0	FIN	
FRA	660	478	432	498	2068	559	408	472	784	2223	1252	940	942	1080	4214	1132	715	507	630	2984	656	512	516	482	2166	FRA	
FRY	39	28	15	32	114	37	14	14	25	90	27	13	18	23	81	4	9	9	11	33	21	9	6	18	54	FRY	
GRE	-	-	1	-	1	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	GRE	
HUN	568	276	241	381	1466	411	157	236	372	1176	350	138	224	349	1061	366	153	240	333	1092	325	139	184	233	881	HUN	
ICE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	ICE
IRE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	IRE
ITA	-	-	-	-	0	-	-	2	19	21	38	9	6	2	55	-	-	-	-	0	-	-	1	3	4	ITA	
LTU	-	-	-	-	0	-	-	-	-	0	-	-	-	101	101	31	14	33	51	129	20	12	-	-	32	LTU	
LUX	11	4	4	4	23	2	1	-	1	4	5	8	47	79	139	40	13	5	6	64	2	4	2	8	16	LUX	
LVA	-	-	-	-	0	-	-	-	-	0	-	-	-	247	247	77	79	72	78	306	-	-	-	283	283	LVA	
MLD	-	-	-	-	0	-	-	-	-	0	-	-	-	9	9	3	1	4	5	13	9	2	7	-	18	MLD	
NET	-	7	70	9	86	-	17	30	5	52	1	7	10	5	23	-	4	15	3	22	-	-	12	-	12	NET	
NOR	-	-	1	2	3	-	-	-	-	0	-	-	-	-	0	-	1	-	-	1	-	-	-	-	0	NOR	
POL	317	345	496	528	1686	424	231	401	462	1518	457	293	445	696	1891	664	317	461	603	2045	508	378	642	759	2287	POL	
POR	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	0	POR
ROM	18	10	13	9	50	11	5	8	17	41	9	5	3	10	27	8	8	10	27	53	11	14	9	28	62	ROM	
RUS	-	-	-	-	0	-	-	-	-	0	-	-	-	1635	1635	537	365	218	335	1455	700	205	149	333	1387	1387	RUS
SPA	1	2	6	1	10	2	-	2	-	4	-	1	4	1	6	-	1	5	-	6	-	2	2	4	8	8	SPA
SVK	65	46	58	84	253	102	53	55	80	290	70	47	54	79	250	76	54	67	90	287	82	64	56	60	262	SVK	
SVN	42	53	76	117	288	164	128	176	337	805	356	175	108	122	761	84	48	59	55	246	68	50	30	40	188	SVN	
SWE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	SWE
SWI	24	26	24	25	99	40	11	28	16	95	13	8	29	10	60	5	5	4	11	25	25	29	24	27	105	SWI	
TUR	354	242	199	210	1005	207	220	137	146	710	162	118	157	147	584	153	165	138	127	583	89	142	108	89	428	TUR	
TYM	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	TYM
UKR	-	-	-	2	2	-	-	-	-	0	-	-	-	1280	1280	389	194	250	541	1374	234	116	138	-	488	488	UKR
UNK	-	1	-	-	1	-	1	-	1	2	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	0	UNK
TOT.	4728	3865	3816	4289	16698	4394	2969	3664	5055	16082	6270	4154	4536	9417	24377	6825	4283	4348	5595	21051	5658	3600	3503	3869	16630	TOT.	

TABLE 4.1.1 continued

EUR										EUR																	
LOC. CODE	QUARTER				YEAR 1992	QUARTER				YEAR 1993	QUARTER				YEAR 1994	QUARTER				YEAR 1995	QUARTER				YEAR 1996	LOC. CODE	
	1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4			
ALB	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	ALB	
AUT	586	283	122	126	1117	103	100	199	273	675	104	50	31	69	254	40	17	15	23	95	9	1	2	2	14	AUT	
BEL	24	6	1	3	34	1	-	-	1	2	3	7	13	38	61	79	43	33	58	213	22	9	5	8	44	BEL	
BIH	7	1	-	-	8	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	BIH
BUL	-	-	-	22	22	3	-	-	-	3	5	1	2	5	13	4	1	1	4	10	11	3	3	15	32	BUL	
BYE	-	-	-	-	0	36	36	19	17	108	-	-	19	21	40	-	6	14	14	34	12	17	20	95	144	BYE	
CRO	57	27	27	82	193	119	36	46	157	358	191	95	82	172	540	168	56	65	130	419	230	66	67	125	488	CRO	
CZH	239	107	67	138	551	120	84	107	111	422	95	55	30	41	221	42	31	50	55	178	66	50	46	75	237	CZH	
DEN	-	-	-	-	0	-	1	-	-	1	-	-	3	-	3	1	-	-	-	-	-	-	-	-	-	0	DEN
DEU	536	270	310	309	1425	207	89	159	390	845	379	263	281	455	1378	376	204	152	124	856	65	26	29	33	153	DEU	
EST	30	19	21	40	110	42	32	40	46	160	31	28	28	21	108	12	19	27	16	74	23	24	23	29	99	EST	
FIN	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	FIN
FRA	589	325	186	185	1285	114	66	54	27	261	42	29	18	11	100	21	10	3	6	40	5	4	6	5	20	FRA	
FRY	18	23	19	79	139	40	12	17	14	83	20	8	5	13	46	20	12	10	48	90	24	23	17	28	92	FRY	
GRE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	GRE
HUN	240	107	190	355	892	461	170	220	272	1123	245	133	148	423	949	373	157	214	390	1134	586	247	264	260	1357	HUN	
ICE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	ICE
IRE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	IRE
ITA	11	4	6	2	23	6	29	19	28	82	10	14	6	6	36	5	2	2	2	11	1	-	-	-	1	ITA	
LTU	17	13	23	35	88	27	23	27	23	100	15	11	12	25	63	15	14	15	36	80	15	13	31	45	104	LTU	
LUX	1	-	-	1	2	-	1	-	-	1	-	-	-	1	1	2	4	-	9	15	11	4	2	-	-	17	LUX
LVA	35	33	32	25	125	25	31	63	75	194	65	78	56	79	278	60	58	50	54	222	34	62	50	40	186	LVA	
MLD	-	-	-	-	0	3	-	-	-	3	1	-	-	-	1	-	-	-	1	1	2	1	3	7	-	13	MLD
NET	-	2	6	-	8	1	4	5	-	10	-	-	1	-	1	2	1	1	-	4	-	-	5	-	-	5	NET
NOR	-	1	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	NOR
POL	645	367	776	1296	3084	802	572	693	578	2645	541	399	596	691	2227	558	420	375	620	1973	647	867	529	483	2526	POL	
POR	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	POR
ROM	17	14	10	14	55	22	26	17	12	77	12	8	6	6	32	16	6	4	9	35	12	9	5	19	45	ROM	
RUS	341	190	141	230	902	334	208	91	138	771	162	173	107	228	670	277	129	167	535	1108	765	438	227	355	1785	RUS	
SPA	5	4	1	2	12	3	2	-	-	5	-	-	2	1	3	4	1	-	1	6	-	-	-	1	-	1	SPA
SVK	136	39	52	94	321	113	99	109	168	489	170	151	96	147	564	63	47	57	99	266	96	82	63	103	344	SVK	
SVN	93	40	43	58	234	80	88	104	234	506	271	149	131	288	839	435	129	166	354	1084	165	51	17	14	247	SVN	
SWE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	SWE
SWI	39	42	20	26	127	13	28	56	78	175	100	44	45	36	225	14	5	2	2	23	2	2	1	1	6	SWI	
TUR	67	105	67	81	320	56	84	79	68	287	72	77	9	12	170	36	47	59	26	168	28	42	32	23	125	TUR	
TYM	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	TYM
UKR	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	UKR
UNK	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	1	-	1	-	2	UNK
TOT.	3733	2022	2120	3203	11078	2731	1821	2124	2710	9386	2534	1773	1727	2789	8823	2623	1419	1482	2616	8140	2831	2042	1447	1767	8087	TOT.	

4th Quarter: October - December 2000

TABLE 4.1.1 continued

EUR						EUR						EUR										
LOC. CODE	QUARTER				YEAR 1997	QUARTER				YEAR 1998	QUARTER				YEAR 1999	QUARTER				YEAR 2000	LOC. CODE	
	1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4			
ALB	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	ALB	
AUT	5	2	1	-	8	1	1	-	1	3	-	1	1	3	5	1	1	-	-	2	AUT	
BEL	6	1	-	2	9	-	1	-	-	1	-	-	1	-	1	-	-	-	-	0	BEL	
BIH	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	9	BIH	
BUL	5	8	1	1	15	4	4	-	3	11	1	15	6	3	25	6	6	3	7	22	BUL	
BYE	26	26	-	10	62	27	34	21	15	97	27	15	31	32	105	55	57	84	110	306	BYE	
CRO	174	74	54	127	429	147	38	56	147	388	286	104	179	473	1042	452	118	104	243	917	CRO	
CZH	117	59	29	33	238	29	16	10	30	85	72	59	40	43	214	43	24	32	66	165	CZH	
DEN	-	-	6	1	8	1	2	10	2	15	-	5	4	1	10	-	-	3	-	3	DEN	
DEU	32	16	13	25	86	33	15	21	39	108	28	11	15	16	70	49	29	63	51	192	DEU	
EST	26	47	44	33	150	40	66	36	28	170	43	24	24	29	120	21	39	38	31	129	EST	
FIN	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	FIN
FRA	2	-	-	1	3	2	1	-	1	4	-	1	-	-	1	1	1	1	2	5	FRA	
FRY	43	23	12	20	98	35	11	12	29	87	-	13	24	44	81	63	29	29	57	178	FRY	
GRE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	GRE
HUN	176	97	124	174	571	210	91	106	147	554	140	70	75	113	398	178	98	105	133	514	HUN	
ICE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	ICE
IRE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	IRE
ITA	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	ITA
LTU	19	19	56	86	180	39	41	57	86	223	65	53	67	172	357	159	196	240	260	855	LTU	
LUX	-	-	1	1	2	-	-	-	-	0	1	-	-	-	1	-	-	-	-	-	0	LUX
LVA	30	47	41	23	141	28	53	86	43	210	36	47	32	54	169	113	94	186	123	516	LVA	
MLD	5	2	5	10	22	12	7	6	12	37	21	11	4	7	43	7	3	3	9	22	MLD	
NET	-	1	9	4	14	1	1	4	1	7	-	2	4	-	6	-	-	3	-	3	NET	
NOR	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	NOR
POL	515	364	283	333	1495	380	252	357	343	1332	262	221	267	397	1147	466	411	422	912	2211	POL	
POR	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	POR
ROM	5	15	6	11	37	23	10	3	14	50	19	6	5	15	45	24	18	11	45	98	ROM	
RUS	258	198	190	432	1078	568	444	512	784	2308	978	553	206	295	2032	298	220	250	471	1239	RUS	
SPA	-	1	3	1	5	3	4	-	-	7	-	2	4	1	7	-	5	1	1	7	SPA	
SVK	108	35	54	62	259	87	73	110	144	414	188	105	97	113	503	135	90	46	80	351	SVK	
SVN	11	5	11	2	29	7	4	3	-	14	-	4	-	2	6	19	21	20	54	114	SVN	
SWE	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	SWE
SWI	-	-	-	1	1	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	SWI
TUR	19	47	43	33	142	34	38	29	27	128	34	37	48	90	209	114	95	45	43	297	TUR	
TYM	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	TYM
UKR	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	UKR
UNK	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	UNK
TOT.	1582	1088	986	1426	5082	1711	1207	1439	1896	6253	2201	1359	1134	1903	6597	2213	1555	1689	2698	8155	TOT.	

joint oral vaccination. However, in 1989 something happened which statisticians call an „outlier“, an incidence not easy to explain: in spite of 10 countries already practising the oral vaccination an impressive increase of rabies cases occurred, the absolute peak for Europe in our data collection. An attempted explanation could be an abundance of food (the so called rodent years, for example). Cases increased by an imposing 52%.

After the peak in 1989, when fox populations were no doubt reduced by rabies, oral vaccination areas were continuously enlarged and a reduction of rabies cases took place in large steps until 1997.

During the last three years an increase is noticed. The reasons could be a natural increase in the still large infected areas in (mostly) eastern Europe, and/or partly, because of set-backs experienced with the oral vaccination of foxes. As in the final stages of the oral vaccination often fox populations are very high and the vaccine baits were not increased to adjust to the density of the fox populations. Therefore, it came to reinfections from neighbouring areas or even countries and to the activation of residual foci (see as well the article under 4.2 of this BULLETIN).

However, it is to be expected that with the oral vaccination the rabies situation in Europe continues to improve. To date, four countries can be reported in Europe which became rabies-free due to oral vaccination: Finland (1991), the Netherlands (1991 - in terrestrial animals), Italy (1997), Switzerland (1998), France (2000 - in terrestrial animals). And there are new candidates, for example, Austria, Belgium, the Grand Duchy of Luxembourg.

Bat rabies

Of the total number of bat rabies cases recorded from 1977 to 2000 the cases have been singled out by **country** (TABLE 4.1.2) and **year** (FIGURE 4.1.1, page 18). In ANNEX 5, all 630 recorded bat rabies cases from 1977 to 2000 are entered on a map of Europe

to show the distribution of these cases.

TABLE 4.1.2

Bat Rabies Cases Europe 1977-2000

Country	Number of Cases
Czech Republic	3
Denmark	207
France	11
Germany	122
Hungary	1
Netherlands	242
Poland	18
Spain	17
Slovakia	2
Switzerland	2
Ukraine	4
United Kingdom	1
Total	630

Commentary

Bat rabies has its own cycle (see RBE 1/2000 pp 8-12). The epizootic in Europe occurs mainly in areas without fox-mediated rabies. Within the different (insectivorous) bat populations approx. 95% of all cases occur in the species *Eptesicus serotinus*. Unfortunately, the species designation is usually not supplied during reporting.

Bat rabies is caused in Europe in the wild bat populations by the rabies-like viruses European Bat Lyssavirus 1 and 2 (EBL1 and EBL2). In the Lyssavirus group these are classified as Genotype 5 and 6.

EBL 1 causes most of the infections. Next to the wild (insectivorous) bat populations it has also been recorded once in a human in the Ukraine (1985), once in a (frugivorous) bat population in a zoo in the Netherlands and Denmark (1997), once in three sheep (the only cases in terrestrial animals in Europe) in 1998 in Denmark.

Bat infections with EBL 2 in western Europe have been reported rarely. Once a human was affected in Finland (1985).

There were two single imported cases: one in an insectivorous bat from Canada (1986) in a German research institute caused by the Lyssavirus Genotype 1 and one in a frugivorous bat with a possible origin in Africa in France (1999) caused by the Lagos Bat Virus (Lyssavirus Genotype 2).

For the declaration of the status rabies-free of a country, the WHO recommendation is followed in this BULLETIN - no indigenous case reported for at least two years - though the chances are greater than in terrestrial animals that rabies in bats might be present in spite of declaring the country rabies-free. The OIE excludes the bat rabies in declaring a country rabies-free.

Human rabies

Unfortunately, **human rabies cases are not reported regularly** by all countries participating in the European surveillance. The cases received have been singled out by year and country (see TABLE 4.1.3, page 19).

Commentary

In countries of western and central Europe a tendency can be noticed that hardly any indigenously acquired human cases occur.

The 30 cases imported to Europe indicate a risk for travellers in other rabies infected continents.

FIGURE 4.1.1

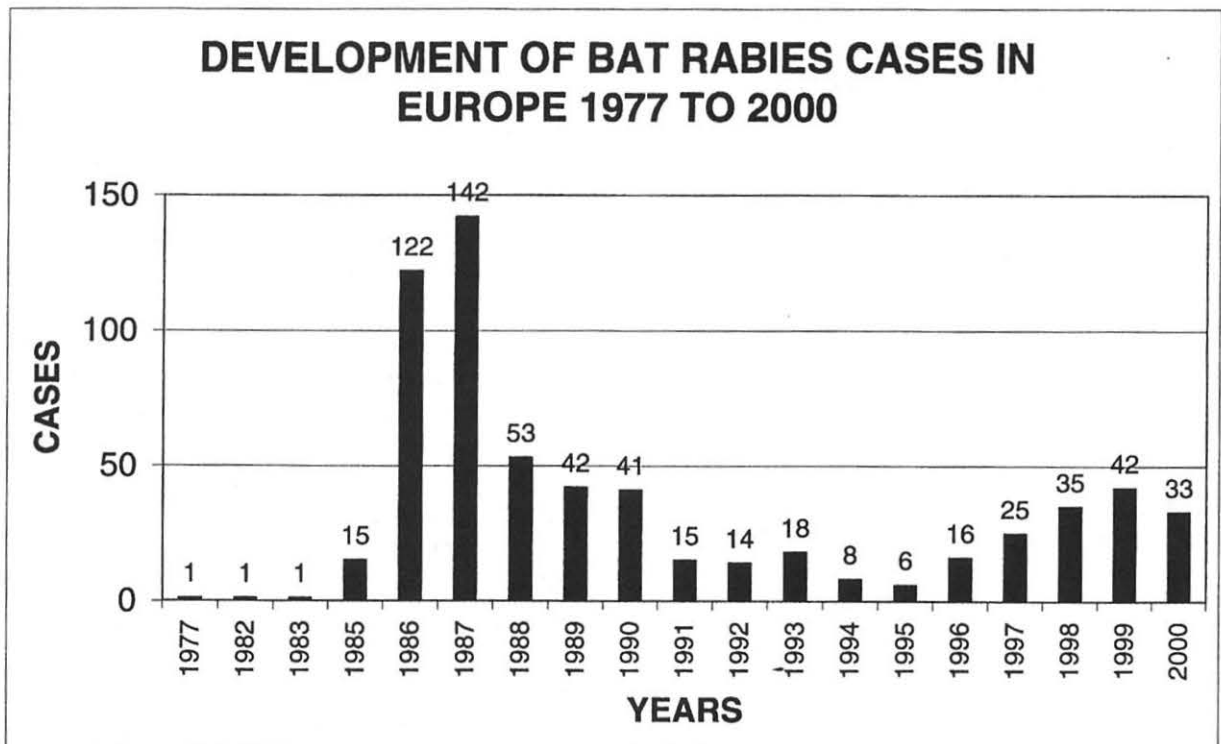


TABLE 4.1.3

Human Rabies Cases in Europe 1977 - 2000

Country	Number of Cases	Imported Cases	Year
Austria	1		1979
Belarus	2		1989, 1993
Belgium	2	2 ¹⁾	1981, 1988
Bulgaria	1		1994
Czech Republic	1	1 ²⁾	1989
Estonia	4		1984, 1985, 1986, 1989
Finland	1 ³⁾		1985
France	10	10 ⁴⁾	1979, 1980, 1982, 1991, 1992, 1994, 1996 (3), 1997
Germany	5	3 ⁵⁾	1978 ⁵⁾ , 1981, 1986 ⁵⁾ , 1990, 1996 ⁵⁾
Hungary	6	1 ⁶⁾	1978 ⁶⁾ , 1985(2), 1991, 1994(2)
Italy	1	1 ⁷⁾	1996 ⁷⁾
Latvia	1		1993
Lithuania	5		1992(2), 1993, 1997, 2000
Netherlands	1	1 ⁸⁾	1997
Poland	7	1 ⁹⁾	1977, 1979(2), 1980, 1983 ⁹⁾ , 1984, 1985
Romania	52		1977(3), 1983(2), 1984, 1985(4), 1986(4), 1987(4), 1988(3), 1989(4), 1990(4), 1991(8), 1992(3), 1995(5), 1996(3), 1997(3), 2000
Russia (European part)	112		1985, 1989(6), 1990(12), 1991(16), 1992(9), 1993(7), 1994(7), 1995(11), 1996(6), 1997(12), 1998(7), 1999(11), 2000(7)
Slovakia	1		1990
Switzerland	3		1977
Turkey	40		1977(34), 1978(2), 1979(3), 1991
Ukraine	7		1977, 1989(2), 1990(4)
United Kingdom	9	9 ¹⁰⁾	1977(2), 1978, 1981, 1986, 1987, 1988(2), 1996
Yugoslavia	9	1 ¹¹⁾	1977(2), 1978(2), 1979(2), 1980(2), 1989 ¹¹⁾
Totals	281	30	

1) Imported from Ruanda and Zaire

2) Imported from Vietnam

3) Possibly of bat origin, but until now no confirmed bat rabies in the country

4) Imported from Tunisia, Egypt, Senegal, Mexico, Algeria (2), Madagascar, India

5) Imported from Egypt, India and Sri Lanka

6) Imported from Nigeria

7) Imported from Nepal

8) Imported from Morocco

9) Imported from Sudan

10) Imported from India (4), Pakistan (2), Zambia, Bangladesh, Nigeria

11) Imported from Algeria

4.2 Unexpected Outbreak of Rabies in a Previously Rabies-free Area of the Czech Republic

by Oldrich Matouch and Jaroslav Jaros
National Reference Laboratory for Rabies
State Veterinary Institute
U Sila 1139, 463 11 Liberec 30, Czech Republic

The outbreak and previous control efforts

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 in the east of the Czech Republic. Subsequently other cases developed to a very active focus which was only experienced six years previously. 74 cases of rabies were registered in this region from the first case in July 2000 till the end of the year. Foxes accounted for 65 cases, 2 cases each were diagnosed in badgers, bovines and sheep, 1 case each in a roe deer, a marten and a dog. More than 20 people have undergone post-exposure treatment in connection with rabies suspected or rabid bovines.

In the beginning of the 1990's the entire area including the neighbouring Polish territory was heavily affected by rabies. In Rychnov nad Kněžnou district alone (about 1000 km²) 18 cases of rabies were registered in 1992 and as many as 56 cases in 1993, predominantly in foxes.

All of East Bohemia, including the neighbouring regions was involved in the oral vaccination programme of foxes against rabies since autumn 1993. It was carried out twice a year (spring and autumn) up to the end of 1998. Altogether, there were 11 vaccination campaigns using the Czech Lysvulpen vaccine (Bioveta-SAD Bern). The result is shown in TABLE 4.2.1 on page 21.

In 1995 the last rabies case was registered in the Rychnov nad Kněžnou district and in the adjacent areas. The rabies-free zone then enlarged and in 1997 it covered 8 districts, an area of 8824 km². In the following years the area extended to 31,415 km², covering 25 dis-

tricts. The closest foci were at that time in Central Bohemia, at more than 100 km distance. When the new focus developed in July 2000, the nearest rabies case was registered at a distance of 80 km, in the southwestern direction in Kutná Hora district (see FIGURE 4.2.1, page 23). The last focus on the bordering Polish territory was reported in 1996. Oral vaccination was also carried out here and since 1997 this area has been claimed as a rabies-free zone.

WHO proposed guiding principles for post-vaccination surveillance of wildlife rabies and rabies-free area

To establish a minimum size of a rabies-free area the following suggestions are made (*WHO/CDS/VPH 90.93 pp 23-25*):

- The diameter of the area should at least be 80 km, approx. 5000 km².
- The nearest rabies focus at the end of a two-year observation period should be at least 50 km away from the borders of the rabies-free area.
- Natural barriers (such as mountains, rivers, motorways etc.) that prevent the spreading of the infection are not taken into account during the post-vaccinal surveillance.
- A minimum of 8 foxes per 100 km² must be annually examined for rabies with negative results during the time span of two years of observation, before a certain territory can get the status of a rabies-free territory.

If we compare aforementioned WHO

recommendations with the status of the Rychnov nad Kněžnou district (see TABLE 4.2.1, below) then conditions are met at least for the years 1998 and 1999. The suggestion for the post-vaccination surveillance might not be realized, i.e. the examination of a sufficient number of control samples. If we evaluate for example the areas adjacent to Rychnov nad Kněžnou which are 12,412 km² then the numbers of examined foxes do not fulfill the required minimum of 8 foxes per 100 km². From 1997 to 1998 only 5 foxes per 100 km² were examined for rabies in this area. Efforts and interest in monitoring the disease deteriorate quickly, once the disease is eradicated. Consequently, the chances to find rabies cases diminish.

What went wrong?

Considering all facts mentioned above, one can basically explain the new focus the following ways:

- Reintroduction into the area from a far distance or,
- 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 though that the reintroduction of the infection is caused by a migrating fox over the distance of 80 km (see FIGURE 4.2.1, page 23) without any infection contacts during the travel. The infection is usually spread by degrees with mutual contacts, subsequently leaving new (other) foci in the direction of its spreading.

The second explanation seems more likely. The critical point here is: how could the infection hide over a lengthy time without being discovered? Until 1998 the vaccination probably helped to keep the infection down (see TABLE 4.2.1, below). The above remarks in regard to the surveillance could have helped on the other hand that it took long to discover the focus, at a time it had already build-up to a great extend.

However, how did it come to the residual focus as all recommendations were followed?

TABLE 4.2.1

Comparison of the post-vaccination results in the Rychnov area in a vaccination area of 4450 km²

	1993	1994	1995	1996	1997	1998	1999	2000
Vaccine baits used per km ² and year	16	32	32	32	32	32	-	-
TTC marking	74%	87%	88%	82%	81%	80%	-	-
Antibody*	51%	53%	60%	58%	42%	47%	-	-
Rabies cases	151	35	3	0	0	0	0	74

* Only limited number of samples were examined for rabies antibodies

It is the common experience that fox populations are high at the end of oral vaccination campaigns. Rabies itself can not reduce the populations any more.

To measure the changing fox populations is often difficult as hunting records commonly used for it are not very correct. The laboratories monitoring the populations by collecting data on animals submitted, shot by hunters, or brought in by the public when run over by cars, experience that people are reluctant to submit animals, especially when there is no more rabies in the area. Anyway, there is no data in the case of this investigation.

The fact remains that high populations are to be expected and more foxes would need more vaccine baits to have the adequate population vaccinated which lead finally to the eradication of the disease (*RABIES BULLETIN EUROPE 1/96 pp 10-13*).

In TABLE 4.2.1 the number of vaccine baits used over 6 years are given with constantly 32 per km² and year (recommended dose). These might have been too few. At a recent WHO meeting of Rabies Control in East European Countries (10-12 September, 2000, Tallinn, Estonia) an experience in Germany was presented (Müller, W.W., Completion of Oral Vaccination Programmes and Declaration of Rabies Free Countries) where, over 6 years of vaccination, in the final years only up to 90 (!) vaccine baits per km² and year had the effect of realizing a rabies-free status.

Future strategy in regard to control measures

Survival of residual foci and other setbacks of oral vaccination in various countries, as well as searching for alternative strategies have often been discussed, also in this BULLETIN (*RABIES BULLETIN EUROPE 2/98 pp 9-12 and 1/99 pp 9-12*). We have the experience of some countries of how they overcame their difficulties by increasing vaccine baits per year in the final stages of the oral vaccination programme. The formula therefore should be:

in the final stages, an adaption of the number of vaccine baits to the new conditions (more than 30 vaccine baits per km² and year) and to treat the area long enough after the last rabies case at that level (at least 2 years). Of course, the latter means increased financial demands to the government.

It means too that the WHO recommendations we have adhered to need modification, not to mislead users of the method of oral vaccination of foxes against rabies which has been otherwise quite successful.

Editors note:

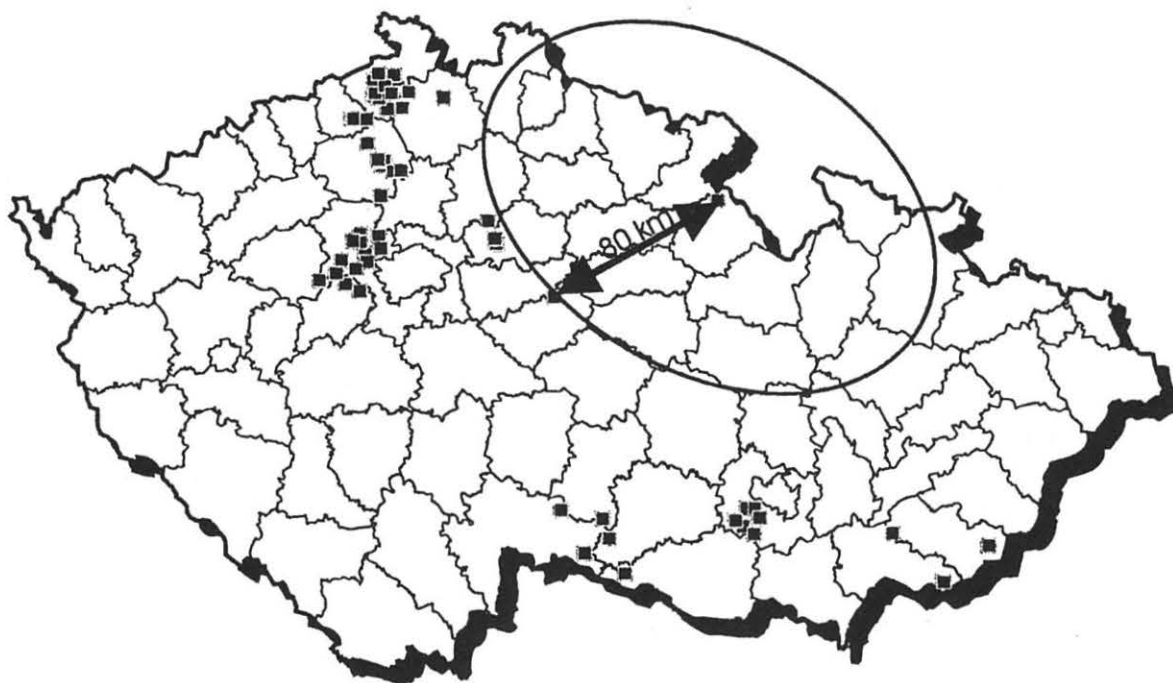
Just like in this article, the „Proposed Guiding Principles for Post-Vaccination Surveillance of Wildlife Rabies in Europe" have been quoted during recent years in other literature. As our WHO Collaborating Centre was directly involved in preparing them, I would like here to make two remarks:

1. These are indeed guidelines, suggesting minimal requirements to adhere to and to point out, above all, the importance of surveillance.
2. The guidelines were written in 1990, a time when we could only anticipate how increased fox populations could cause the severe set-backs we experienced later. If they would have been known, proposals to this effect would no doubt have been made.

FIGURE 4.2.1

Distribution of rabies cases in the Czech Republic

- First half of 2000



- Total cases of 2000



TABLE 5.1

EUR EUROPE		4/2000 RABIES CASES											1.10.00 - 31.12.00				
LOCATION		DOMESTIC ANIMALS						WILD ANIMALS						HUMAN CASES	TOTAL		
CODE	NAME	DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS			TOTAL	
ALB	ALBANIA	*						0						0	0		
AUT	AUSTRIA	*						0						0	0		
BEL	BELGIUM	*						0						0	0		
BIH	BOSNA I HERCEGOWIN**							0						0	0		
BUL	BULGARIA							0	-	-	-	-	7	7	7		
BYE	BELARUS		12	12	9	4	-	37	59	-	2	-	12	73	110		
CRO	CROATIA		8	6	3	-	-	17	224	1	1	-	-	226	243		
CZH	CZECH REPUBLIC		1	3	2	-	2	8	52	3	-	3	-	58	66		
DEN	DENMARK	*						0						0	0		
DEU	FED.REP.OF GERMANY		-	1	3	-	4	8	37	-	-	4	2	43	51		
EST	ESTONIA		1	1	1	-	-	3	15	-	-	-	13	28	31		
FIN	FINLAND	*						0						0	0		
FRA	FRANCE							0	-	-	-	-	2	2	2		
FRY	FED.REP.OF YUGOSLA		2	11	2	-	-	15	42	-	-	-	-	42	57		
GRE	GREECE	*						0						0	0		
HUN	HUNGARY		7	16	7	1	-	32	100	-	1	-	-	101	133		
ICE	ICELAND	*						0						0	0		
IRE	IRELAND	*						0						0	0		
ITA	ITALY	*						0						0	0		
LTU	LITHUANIA		15	18	78	4	1	117	43	-	17	-	83	143	260		
LUX	LUXEMBOURG	*						0						0	0		
LVA	LATVIA		10	12	9	1	-	32	54	3	3	-	31	91	123		
MLD	MOLDOVA		1	-	1	-	-	2	7	-	-	-	-	7	9		
NET	NETHERLANDS	*						0						0	0		
NOR	NORWAY	*						0						0	0		
POL	POLAND		23	53	88	4	2	170	634	3	16	2	87	742	912		
POR	PORTUGAL	*						0						0	0		
ROM	ROMANIA		9	5	-	4	-	18	27	-	-	-	-	27	45		
RUS	RUSSIAN FEDERATION		74	72	148	4	2	301	156	1	-	-	13	170	471		
SPA	SPAIN	1)	1	-	-	-	-	1						0	1		
SVK	SLOVAK REPUBLIC		5	14	3	-	-	23	54	-	2	-	1	57	80		
SVN	SLOVENIA		-	2	-	-	-	2	46	2	-	3	1	52	54		
SWE	SWEDEN	*						0						0	0		
SWI	SWITZERLAND + LIEC*							0						0	0		
TUR	TURKEY		34	-	6	-	-	40	2	-	-	-	1	3	43		
TYM	MAKEDONIJA	*						0						0	0		
UKR	UKRAINE	**						0						0	0		
UNK	UNITED KINGDOM	*						0						0	0		
TOTAL			203	226	360	22	11	4	826	1552	13	42	12	253	1872	0	2698
PER CENT			7.5	8.4	13.3	0.8	0.4	0.1	30.6	57.5	0.5	1.6	0.4	9.4	69.4	0.0	100.0

* NO CASES ** NO DATA 1) DOG IN NORTH AFRICA

TABLE 5.2

EUR		EUROPE						2000						RABIES CASES				1. 1.00 - 31.12.00	
LOCATION		DOMESTIC ANIMALS						WILD ANIMALS						HUMAN CASES	TOTAL				
CODE	NAME	DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS			TOTAL			
ALB	ALBANIA	*						0						0		0			
AUT	AUSTRIA							0	2	-	-	-	-	2		2			
BEL	BELGIUM	*						0						0		0			
BIH	BOSNA I HERCEGOWI	1)						0	9	-	-	-	-	9		9			
BUL	BULGARIA							0	-	-	-	-	22	22		22			
BYE	BELARUS		38	33	23	8	-	1	103	181	-	4	-	18	203	306			
CRO	CROATIA		15	17	4	-	11	-	47	841	2	9	2	16	870	917			
CZH	CZECH REPUBLIC		2	3	2	-	2	-	9	142	7	1	6	-	156	165			
DEN	DENMARK								0	-	-	-	-	3	3	3			
DEU	FED.REP.OF GERMANY		-	3	6	-	7	-	16	150	1	2	12	11	176	192			
EST	ESTONIA		11	4	19	-	1	1	36	64	2	-	-	27	93	129			
FIN	FINLAND	*							0					0		0			
FRA	FRANCE								0	-	-	-	5	5		5			
FRY	FED.REP.OF YUGOSLA		10	20	4	2	1	-	37	139	-	-	-	2	141	178			
GRE	GREECE	*							0							0			
HUN	HUNGARY		24	61	25	5	-	1	116	395	-	2	-	1	398	514			
ICE	ICELAND	*							0							0			
IRE	IRELAND	*							0							0			
ITA	ITALY	*							0							0			
LTU	LITHUANIA		43	58	173	5	1	3	283	273	10	50	2	236	571	1	855		
LUX	LUXEMBOURG	*							0							0			
LVA	LATVIA		49	41	25	3	-	-	118	239	15	17	4	123	398		516		
MLD	MOLDOVA		3	-	7	-	-	-	10	12	-	-	-	-	12		22		
NET	NETHERLANDS								0	-	-	-	-	3	3		3		
NOR	NORWAY	*							0								0		
POL	POLAND		60	114	169	4	2	1	350	1572	13	47	9	220	1861		2211		
POR	PORTUGAL	*							0								0		
ROM	ROMANIA		20	12	5	4	1	2	44	50	-	2	-	1	53	1	98		
RUS	RUSSIAN FEDERATION		227	181	290	10	20	17	745	449	2	4	-	32	487	7	1239		
SPA	SPAIN	2)	2	-	-	-	-	-	2	-	-	-	-	5	5		7		
SVK	SLOVAK REPUBLIC		21	44	4	-	1	1	71	267	1	7	-	5	280		351		
SVN	SLOVENIA		2	2	-	-	-	-	4	103	3	-	3	1	110		114		
SWE	SWEDEN	*							0								0		
SWI	SWITZERLAND + LIEC*								0								0		
TUR	TURKEY		252	-	26	-	5	2	285	8	-	1	-	3	12		297		
TYM	MAKEDONIJA	**							0								0		
UKR	UKRAINE	**							0								0		
UNK	UNITED KINGDOM	*							0								0		
TOTAL			779	593	782	41	52	29	2276	4896	56	146	38	734	5870	9	8155		
PER CENT			9.6	7.3	9.6	0.5	0.6	0.4	27.9	60.0	0.7	1.8	0.5	9.0	72.0	0.1	100.0		

* NO CASES ** NO DATA 1) DATA FOR 1ST QUARTER ONLY 2) 2 DOGS IN NORTH AFRICA

TABLE 5.3

EUR		EUROPE		4/2000		RABIES CASES 'OTHER ANIMAL SPECIES'					1.10.00 - 31.12.00	
LOCATION		OTHER DOMESTIC ANIMALS		OTHER WILD ANIMALS					UNSPECIFIED	TOTAL		
CODE	NAME	PIG	CAT LIVING WILD	WOLF	RACCOON DOG	LYNX	WILD BOAR	INSECTIV. BAT			NORWAY RAT	
BUL	BULGARIA	-	-	-	-	-	-	-	-	7	7	
BYE	BELARUS	-	-	-	12	-	-	-	-	-	12	
DEU	FED.REP.OF GERMAN	-	-	-	-	-	-	2	-	-	2	
EST	ESTONIA	-	-	-	12	1	-	-	-	-	13	
FRA	FRANCE	-	-	-	-	-	-	2	-	-	2	
HUN	HUNGARY	1	-	-	-	-	-	-	-	-	1	
LTU	LITHUANIA	-	1	-	82	-	1	-	-	-	84	
LVA	LATVIA	-	-	-	31	-	-	-	-	-	31	
POL	POLAND	-	-	-	85	-	-	2	-	-	87	
RUS	RUSSIAN FEDERATIO	1	-	7	5	1	-	-	-	-	14	
SVK	SLOVAK REPUBLIC	-	1	-	-	-	-	-	1	-	2	
SVN	SLOVENIA	-	-	-	-	-	1	-	-	-	1	
TUR	TURKEY	-	-	1	-	-	-	-	-	-	1	
TOTAL		2	2	8	227	2	2	6	1	7	257	
PER CENT		0.8	0.8	3.1	88.3	0.8	0.8	2.3	0.4	2.7	100.0	

TABLE 5.4

EUR			EUROPE			2000			RABIES CASES 'OTHER ANIMAL SPECIES'													1. 1.00 - 31.12.00			
COUNTRY	OTHER DOMESTIC ANIMALS						OTHER WILD ANIMALS														UNSPECIFIED	TOTAL			
	OTH. DOM. CARNIVOR	DONKEY	PIG	OTH. DOM. HERBIVOR	CAT LIV. WILD	OTH. DOM. ANIMALS	ARCTIC FOX	OTH. FOX SPECIES	JACKAL	WOLF	RACCOON DOG	WILD CAT	LYNX	RACCOON	WILD BOAR	INSECTIV BAT	BEAVER	DORMOUSE	HAMSTER	BLACK RAT			NORWAY RAT	HOUSE MOUSE	OTH. WILD ANIMAL
BUL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	22
BYE	-	-	1	-	-	-	-	-	1	16	-	-	-	-	-	-	-	-	1	-	-	-	-	-	19
CRO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	15	-	16
DEN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
DEU	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	10	-	-	-	-	-	-	-	-	11
EST	-	-	1	-	-	-	-	-	-	26	-	1	-	-	-	-	-	-	-	-	-	-	-	-	28
FRA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5
FRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2
HUN	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2
LTU	-	-	2	-	1	-	-	-	-	235	-	-	-	-	1	-	-	-	-	-	-	-	-	-	239
LVA	-	-	-	-	-	-	-	-	1	121	-	-	-	-	-	-	1	-	-	-	-	-	-	-	123
NET	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	3
POL	1	-	-	-	-	-	-	-	2	210	-	-	-	-	-	7	-	-	-	-	-	1	-	-	221
ROM	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	3
RUS	-	-	4	13	-	-	1	1	1	9	14	-	1	-	-	-	1	-	2	2	-	-	-	-	49
SPA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5
SVK	-	-	-	-	1	-	-	-	-	-	-	3	-	-	-	-	-	1	-	-	1	-	-	-	6
SVN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
TUR	-	2	-	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
TOT	1	2	9	13	2	2	1	1	2	15	622	4	2	1	3	33	2	1	3	2	1	1	18	22	763
%	0.1	.3	1.2	1.7	0.3	0.3	0.1	0.1	.3	2.0	81.5	.5	.3	.1	0.4	4.3	.3	.1	.4	0.3	0.1	0.1	2.4	2.9	100.

TABLE 5.5: RABIES CASE RATES (% TOTAL) FOR INDIVIDUAL ANIMAL SPECIES AND FOR TOTAL CASES OF 10 EUROPEAN COUNTRIES RANKING HIGHEST IN 2000.

EUR EUROPE 2000															1. 1.00 - 31.12.00	
LOCATION CODE NAME		DOMESTIC ANIMALS						WILD ANIMALS						HUMAN CASES	TOTAL	
		DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS			TOTAL
EUROPE																
TOTAL RABIES CASES		779	593	782	41	52	29	2276	4896	56	146	38	734	5870	9	8155
PER CENT INVOLVEMENT / COUNTRY																
POL	POLAND	7.7	19.2	21.6	9.8	3.8	3.4	15.4	32.1	23.2	32.2	23.7	30.0	31.7		27.1
RUS	RUSSIAN FEDERATION	29.1	30.5	37.1	24.4	38.5	58.6	32.7	9.2	3.6	2.7	-	4.4	8.3	77.8	15.2
CRO	CROATIA	1.9	2.9	0.5	-	21.2	-	2.1	17.2	3.6	6.2	5.3	2.2	14.8		11.2
LTU	LITHUANIA	5.5	9.8	22.1	12.2	1.9	10.3	12.4	5.6	17.9	34.2	5.3	32.2	9.7	11.1	10.5
LVA	LATVIA	6.3	6.9	3.2	7.3	-	-	5.2	4.9	26.8	11.6	10.5	16.8	6.8		6.3
HUN	HUNGARY	3.1	10.3	3.2	12.2	-	3.4	5.1	8.1	-	1.4	-	0.1	6.8		6.3
SVK	SLOVAK REPUBLIC	2.7	7.4	0.5	-	1.9	3.4	3.1	5.5	1.8	4.8	-	0.7	4.8		4.3
BYE	BELARUS	4.9	5.6	2.9	19.5	-	3.4	4.5	3.7	-	2.7	-	2.5	3.5		3.8
TUR	TURKEY	32.3	-	3.3	-	9.6	6.9	12.5	0.2	-	0.7	-	0.4	0.2		3.6
DEU	FED.REP.OF GERMANY	-	0.5	0.8	-	13.5	-	0.7	3.1	1.8	1.4	31.6	1.5	3.0		2.4
TOTAL FROM 10 COUNTRIES		729	552	745	35	47	26	2134	4375	44	143	29	665	5256	8	7398
EQUAL % TOTAL		93.6	93.1	95.3	85.4	90.4	89.7	93.8	89.4	78.6	97.9	76.3	90.6	89.5	88.9	90.7

R A B I E S C A S E S															1.10.00 - 31.12.00	
LOCATION		D O M E S T I C A N I M A L S						W I L D A N I M A L S						HUMAN CASES	TOTAL	
CODE	NAME	DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS			TOTAL
BUL B U L G A R I A																
06	VRATZA							0	-	-	-	-	2	2		2
08	DOBRICH							0	-	-	-	-	1	1		1
12	MONTANA							0	-	-	-	-	1	1		1
15	PLEVEN							0	-	-	-	-	2	2		2
27	CHOUMEN							0	-	-	-	-	1	1		1
TOTAL		0	0	0	0	0	0	0	0	0	0	0	7	7	0	7
MLD M O L D O V A																
01	MOLDOVA	1	-	1	-	-	-	2	7	-	-	-	-	7		9
TOTAL		1	0	1	0	0	0	2	7	0	0	0	0	7	0	9
PER CENT		11.1	0.0	11.1	0.0	0.0	0.0	22.2	77.8	0.0	0.0	0.0	0.0	77.8	0.0	100.0
ROM R O M A N I A																
05	BIHOR							0	2	-	-	-	-	2		2
09	BRAILA	1	-	-	-	-	-	1						0		1
10	BUZAU	-	-	-	3	-	-	3	1	-	-	-	-	1		4
11	CARAS-SEVERIN							0	6	-	-	-	-	6		6
12	CALARASI	6	-	-	-	-	-	6						0		6
16	DIMBOVITA	-	1	-	-	-	-	1						0		1
17	DOLJ	1	-	-	-	-	-	1						0		1
20	GORJ							0	3	-	-	-	-	3		3
21	HARGHITA							0	3	-	-	-	-	3		3
22	HUNEDOARA	-	1	-	-	-	-	1						0		1
23	IALOMITA	1	1	-	-	-	-	2						0		2
27	MURES							0	1	-	-	-	-	1		1
28	NEAMT							0	2	-	-	-	-	2		2
31	SATU-MARE							0	1	-	-	-	-	1		1
32	SALAJ	-	2	-	-	-	-	2	3	-	-	-	-	3		5
34	SUCEAVA							0	1	-	-	-	-	1		1
39	VILCEA	-	-	-	1	-	-	1	1	-	-	-	-	1		2
40	VRANCEA							0	1	-	-	-	-	1		1
41	BUCURESTI							0	2	-	-	-	-	2		2
TOTAL		9	5	0	4	0	0	18	27	0	0	0	0	27	0	45
PER CENT		20.0	11.1	0.0	8.9	0.0	0.0	40.0	60.0	0.0	0.0	0.0	0.0	60.0	0.0	100.0

RABIES CASES															1.10.00 - 31.12.00	
LOCATION CODE NAME		DOMESTIC ANIMALS						WILD ANIMALS						HUMAN CASES	TOTAL	
		DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS			TOTAL
BYE BELARUS																
01	Brest Region	1	2	5	1	-	-	9	12	-	2	-	2	16		25
02	Vitebsk Region	5	4	1	1	-	-	11	8	-	-	-	6	14		25
03	Gomel Region	4	2	1	1	-	-	8	12	-	-	-	3	15		23
04	Grodno Region	1	4	-	1	-	-	6	14	-	-	-	-	14		20
05	Minsk Region	-	-	1	-	-	-	1	9	-	-	-	1	10		11
06	Mogilev Region	1	-	1	-	-	-	2	4	-	-	-	-	4		6
TOTAL		12	12	9	4	0	0	37	59	0	2	0	12	73	0	110
PER CENT		10.9	10.9	8.2	3.6	0.0	0.0	33.6	53.6	0.0	1.8	0.0	10.9	66.4	0.0	100.0
LVA LATVIA																
01	Aizkraukle	-	1	-	-	-	-	1	2	-	-	-	2	4		5
02	Aluksne	1	-	2	-	-	-	3	4	-	-	-	-	4		7
03	Balvi	-	-	-	-	-	-	0	-	-	-	-	1	1		1
04	Bauska	-	-	1	-	-	-	1	3	-	1	-	4	8		9
05	Cesis	1	-	2	-	-	-	3	1	-	-	-	-	1		4
06	Daugavpils	-	-	-	-	-	-	0	2	-	-	-	-	2		2
07	Dobeles	-	-	-	-	-	-	0	6	-	-	-	-	1		7
08	Gulbene	-	-	-	-	-	-	0	-	1	-	-	-	1		1
09	Jekabpils	-	1	-	-	-	-	1	-	-	-	-	2	2		3
10	Jelgava	1	-	-	-	-	-	1	1	-	-	-	1	2		3
11	Kraslava	-	-	1	-	-	-	1	-	-	-	-	-	0		1
12	Kuldiga	-	-	-	-	-	-	0	2	-	-	-	4	6		6
13	Liepaja	3	4	-	-	-	-	7	8	1	1	-	5	15		22
14	Limbazi	-	-	-	-	-	-	0	2	-	-	-	-	2		2
16	Madona	-	1	-	-	-	-	1	3	-	-	-	1	4		5
17	Ogre	-	-	-	-	-	-	0	4	-	-	-	1	5		5
18	Preili	-	-	1	-	-	-	1	1	-	-	-	2	3		4
20	Riga	1	-	-	1	-	-	2	3	-	-	-	2	5		7
21	Saldus	1	-	2	-	-	-	3	2	1	-	-	5	8		11
22	Talsi	1	2	-	-	-	-	3	6	-	1	-	-	7		10
23	Tukums	-	1	-	-	-	-	1	3	-	-	-	-	3		4
24	Valka	-	-	-	-	-	-	0	1	-	-	-	-	1		1
25	Valmiera	-	1	-	-	-	-	1	-	-	-	-	0	1		1
26	Ventspils	1	1	-	-	-	-	2	-	-	-	-	0	2		2
TOTAL		10	12	9	1	0	0	32	54	3	3	0	31	91	0	123
PER CENT		8.1	9.8	7.3	0.8	0.0	0.0	26.0	43.9	2.4	2.4	0.0	25.2	74.0	0.0	100.0

R A B I E S C A S E S															1.10.00 - 31.12.00	
LOCATION		D O M E S T I C A N I M A L S						W I L D A N I M A L S						HUMAN CASES	TOTAL	
CODE	NAME	DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS			TOTAL
CRO C R O A T I A																
01	Zagrebacka	1	-	-	-	-	-	1	40	-	-	-	-	40		41
02	Krapinsko-Zagorska	-	1	-	-	-	-	1	10	-	-	-	-	10		11
03	Sisacko-Moslavaca							0	7	-	-	-	-	7		7
04	Karlovacka							0	14	-	-	-	-	14		14
05	Varazdinska							0	2	-	-	-	-	2		2
06	Koprivnicko-Krizevack							0	14	-	-	-	-	14		14
07	Bjelovarsko-Bilogorsk							0	9	-	-	-	-	9		9
08	Primorsko-Goranska							0	13	1	1	-	-	15		15
09	Licko-Senjska							0	3	-	-	-	-	3		3
10	Viroviticko-Podravska	1	-	-	-	-	-	1	28	-	-	-	-	28		29
11	Pozesko-Slavonska	1	2	-	-	-	-	3	12	-	-	-	-	12		15
12	Brodsko-Posavska	1	-	-	-	-	-	1	9	-	-	-	-	9		10
13	Zadarska	-	-	2	-	-	-	2	1	-	-	-	-	1		3
14	Osijecko-Baranjska	1	2	-	-	-	-	3	22	-	-	-	-	22		25
15	Sibensko-Kninska							0	5	-	-	-	-	5		5
16	Vukovarsko-Srijemska	3	-	-	-	-	-	3	18	-	-	-	-	18		21
17	Splitsko-Dalmatinska	-	1	-	-	-	-	1	8	-	-	-	-	8		9
18	Istarska							0	7	-	-	-	-	7		7
19	Dubrovačko-Neretvanska	-	-	1	-	-	-	1						0		1
21	Zagreb							0	2	-	-	-	-	2		2
TOTAL		8	6	3	0	0	0	17	224	1	1	0	0	226	0	243
PER CENT		3.3	2.5	1.2	0.0	0.0	0.0	7.0	92.2	0.4	0.4	0.0	0.0	93.0	0.0	100.0
SVK S L O V A K R E P U B L I C																
1	Bratislavsky kraj	-	-	-	-	-	1	1	7	-	-	-	-	7		8
2	Trnavsky kraj							0	3	-	-	-	-	3		3
3	Trenciansky kraj							0	1	-	-	-	-	1		1
4	Nitriansky kraj	1	1	-	-	-	-	2	4	-	-	-	-	4		6
5	Zilinsky kraj							0	5	-	1	-	-	6		6
6	Banskobystricky kraj	2	7	3	-	-	-	12	18	-	-	-	-	18		30
7	Presovsky kraj	2	3	-	-	-	-	5	8	-	1	-	1	10		15
8	Kosicky kraj	-	3	-	-	-	-	3	8	-	-	-	-	8		11
TOTAL		5	14	3	0	0	1	23	54	0	2	0	1	57	0	80
PER CENT		6.3	17.5	3.8	0.0	0.0	1.3	28.8	67.5	0.0	2.5	0.0	1.3	71.3	0.0	100.0

R A B I E S C A S E S															1.10.00 - 31.12.00	
LOCATION		D O M E S T I C A N I M A L S						W I L D A N I M A L S						HUMAN CASES	TOTAL	
CODE	NAME	DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS			TOTAL
CZH C Z E C H R E P U B L I C																
	01 Central Bohemia	-	3	-	-	-	-	3	6	1	-	1	-	8		11
	05 East Bohemia	1	-	2	-	2	-	5	46	2	-	1	-	49		54
	07 North Moravia							0	-	-	-	1	-	1		1
TOTAL		1	3	2	0	2	0	8	52	3	0	3	0	58	0	66
PER CENT		1.5	4.5	3.0	0.0	3.0	0.0	12.1	78.8	4.5	0.0	4.5	0.0	87.9	0.0	100.0
DEU F E D . R E P . O F G E R M A N Y																
	01 Schleswig-Holstein							0	-	-	-	-	1	1		1
	03 Niedersachsen							0	-	-	-	-	1	1		1
	05 Nordrhein-Westfalen	-	-	-	-	1	-	1	8	-	-	-	-	8		9
	06 Hessen	-	1	2	-	2	-	5	20	-	-	4	-	24		29
	09 Bayern	-	-	1	-	-	-	1	9	-	-	-	-	9		10
	14 Sachsen	-	-	-	-	1	-	1						0		1
TOTAL		0	1	3	0	4	0	8	37	0	0	4	2	43	0	51
PER CENT		0.0	2.0	5.9	0.0	7.8	0.0	15.7	72.5	0.0	0.0	7.8	3.9	84.3	0.0	100.0
FRA F R A N C E																
	52 Haute Marne							0	-	-	-	-	1	1		1
	66 Pyrenees Orientales							0	-	-	-	-	1	1		1
TOTAL		0	0	0	0	0	0	0	0	0	0	0	2	2	0	2
SPA S P A I N																
	52 MELILLA (NORTH AFRICA)	1	-	-	-	-	-	1						0		1

R A B I E S C A S E S																1.10.00 - 31.12.00	
LOCATION		D O M E S T I C A N I M A L S						W I L D A N I M A L S						HUMAN CASES	TOTAL		
CODE	NAME	DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS	TOTAL			
EST E S T O N I A																	
05	Jaervamaa							0	2	-	-	-	5	7		7	
06	Laeaenemaa							0	1	-	-	-	-	1		1	
07	Laeaene-Virumaa	-	-	1	-	-	-	1						0		1	
08	Polvamaa							0	3	-	-	-	2	5		5	
09	Paernumaa	1	-	-	-	-	-	1	1	-	-	-	-	1		2	
10	Raplamaa							0	1	-	-	-	-	1		1	
12	Tartumaa							0	1	-	-	-	4	5		5	
13	Valgamaa							0	2	-	-	-	1	3		3	
14	Viljandimaa							0	2	-	-	-	-	2		2	
15	Vorumaa	-	1	-	-	-	-	1	2	-	-	-	1	3		4	
TOTAL		1	1	1	0	0	0	3	15	0	0	0	13	28	0	31	
PER CENT		3.2	3.2	3.2	0.0	0.0	0.0	9.7	48.4	0.0	0.0	0.0	41.9	90.3	0.0	100.0	
SVN S L O V E N I A																	
032	GROSUPLJE							0	2	-	-	-	-	2		2	
038	ILIRSKA BISTRICA							0	2	-	-	-	1	3		3	
039	IVANCNA GORICA							0	6	-	-	-	-	6		6	
043	KAMNIK							0	1	-	-	-	-	1		1	
048	KOCEVJE							0	2	-	-	-	-	2		2	
054	KRSKO							0	1	-	-	-	-	1		1	
057	LASKO							0	1	-	-	-	-	1		1	
060	LITIJA							0	17	2	-	3	-	22		22	
070	MARIBOR	-	1	-	-	-	-	1						0		1	
073	METLIKA							0	1	-	-	-	-	1		1	
085	NOVO MESTO	-	1	-	-	-	-	1	1	-	-	-	-	1		2	
091	PIVKA							0	1	-	-	-	-	1		1	
104	RIBNICA							0	1	-	-	-	-	1		1	
123	SKOFLJICA							0	1	-	-	-	-	1		1	
124	SMARJE PRI JELSAH							0	4	-	-	-	-	4		4	
130	TREBNJE							0	4	-	-	-	-	4		4	
142	ZAGORJE OB SAVI							0	1	-	-	-	-	1		1	
TOTAL		0	2	0	0	0	0	2	46	2	0	3	1	52	0	54	
PER CENT		0.0	3.7	0.0	0.0	0.0	0.0	3.7	85.2	3.7	0.0	5.6	1.9	96.3	0.0	100.0	

R A B I E S C A S E S																1.10.00 - 31.12.00	
LOCATION		D O M E S T I C A N I M A L S						W I L D A N I M A L S						HUMAN CASES	TOTAL		
CODE	NAME	DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS			TOTAL	
FRY F E D . R E P . O F Y U G O S L A V I A																	
01	Beograd	1	-	-	-	-	-	1	4	-	-	-	-	4	5		
02	Pancevo	-	-	-	-	-	-	0	1	-	-	-	-	1	1		
03	Novi Sad	-	2	-	-	-	-	2	11	-	-	-	-	11	13		
04	Zrenjanin	-	3	-	-	-	-	3	1	-	-	-	-	1	4		
05	Subotica	-	4	-	-	-	-	4	2	-	-	-	-	2	6		
06	Sombor	-	2	-	-	-	-	2	7	-	-	-	-	7	9		
07	Sabac	-	-	-	-	-	-	0	2	-	-	-	-	2	2		
08	Pozarevac	-	-	-	-	-	-	0	1	-	-	-	-	1	1		
09	Jagodina	1	-	-	-	-	-	1	3	-	-	-	-	3	4		
10	Zajecar	-	-	-	-	-	-	0	1	-	-	-	-	1	1		
11	Kraljevo	-	-	-	-	-	-	0	4	-	-	-	-	4	4		
12	Nis	-	-	-	-	-	-	0	3	-	-	-	-	3	3		
13	Podgorica	-	-	2	-	-	-	2	2	-	-	-	-	2	4		
TOTAL		2	11	2	0	0	0	15	42	0	0	0	0	42	0	57	
PER CENT		3.5	19.3	3.5	0.0	0.0	0.0	26.3	73.7	0.0	0.0	0.0	0.0	73.7	0.0	100.0	
TUR T U R K E Y																	
10	BALIKESIR	1	-	-	-	-	-	1						0	1		
16	BURSA	4	-	-	-	-	-	4						0	4		
23	ELAZIG	-	-	1	-	-	-	1						0	1		
24	ERZINCAN	-	-	-	-	-	-	0	1	-	-	-	1	2	2		
25	ERZURUM	-	-	1	-	-	-	1						0	1		
27	GAZIANTEP	1	-	-	-	-	-	1						0	1		
31	HATAY	2	-	-	-	-	-	2						0	2		
33	ICEL	1	-	-	-	-	-	1						0	1		
34	ISTANBUL	11	-	-	-	-	-	11						0	11		
35	IZMIR	9	-	2	-	-	-	11						0	11		
45	MANISA	-	-	1	-	-	-	1	1	-	-	-	-	1	2		
52	ORDU	2	-	-	-	-	-	2						0	2		
55	SAMSUN	1	-	-	-	-	-	1						0	1		
61	TRABZON	1	-	-	-	-	-	1						0	1		
63	SANLIURFA	-	-	1	-	-	-	1						0	1		
65	VAN	1	-	-	-	-	-	1						0	1		
TOTAL		34	0	6	0	0	0	40	2	0	0	0	1	3	0	43	
PER CENT		79.1	0.0	14.0	0.0	0.0	0.0	93.0	4.7	0.0	0.0	0.0	2.3	7.0	0.0	100.0	

R A B I E S C A S E S															1.10.00 - 31.12.00	
LOCATION		D O M E S T I C A N I M A L S						W I L D A N I M A L S						HUMAN CASES	TOTAL	
CODE	NAME	DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS			TOTAL
HUN H U N G A R Y																
01	Budapest							0	4	-	-	-	-	4	4	
02	Baranya							0	1	-	-	-	-	1	1	
03	Bacs-Kiskun	1	6	4	1	-	-	12	19	-	-	-	-	19	31	
04	Bekes	1	-	-	-	-	-	1	7	-	-	-	-	7	8	
05	Borsod-Abauj-Zemplen	-	3	-	-	-	-	3	12	-	1	-	-	13	16	
06	Csongrad							0	7	-	-	-	-	7	7	
09	Hajdu-Bihar	2	2	2	-	-	1	7	8	-	-	-	-	8	15	
10	Heves	-	2	-	-	-	-	2	7	-	-	-	-	7	9	
12	Nograd	2	-	-	-	-	-	2	6	-	-	-	-	6	8	
13	Pest	1	2	1	-	-	-	4	17	-	-	-	-	17	21	
14	Somogy							0	1	-	-	-	-	1	1	
15	Szabolcs-Szatmar-Bere							0	8	-	-	-	-	8	8	
16	Jasz-Nagykun-Szolnok	-	1	-	-	-	-	1	2	-	-	-	-	2	3	
18	Vas							0	1	-	-	-	-	1	1	
TOTAL		7	16	7	1	0	1	32	100	0	1	0	0	101	0	133
PER CENT		5.3	12.0	5.3	0.8	0.0	0.8	24.1	75.2	0.0	0.8	0.0	0.0	75.9	0.0	100.0
POL P O L A N D																
02	Dolnoslaskie							0	4	-	-	-	-	4	4	
04	Kujawsko-Pomorskie							27	36	-	1	-	7	44	71	
06	Lubelskie	7	11	-	-	-	-	18	93	-	4	-	4	101	119	
10	Lodzkie	-	2	-	-	-	-	2	14	-	2	-	-	16	18	
12	Malopolskie	4	4	1	-	1	-	10	106	-	-	-	-	106	116	
14	Mazowieckie	-	3	8	-	-	-	11	91	1	2	-	5	99	110	
18	Podkarpackie	1	4	-	-	-	-	5	82	-	1	-	1	84	89	
20	Podlaskie	-	-	20	1	-	-	21	54	-	-	1	13	68	89	
22	Pomorskie	-	1	-	-	-	-	1	5	-	-	-	1	6	7	
24	Slaskie							0	1	-	-	-	-	1	1	
26	Swietokrzyskie	1	2	2	-	-	-	5	65	1	-	-	1	67	72	
28	Warminsko-Mazurskie	9	21	34	3	1	-	68	64	1	6	1	44	116	184	
30	Wielkopolskie	1	-	1	-	-	-	2	19	-	-	-	11	30	32	
TOTAL		23	53	88	4	2	0	170	634	3	16	2	87	742	0	912
PER CENT		2.5	5.8	9.6	0.4	0.2	0.0	18.6	69.5	0.3	1.8	0.2	9.5	81.4	0.0	100.0

LTU		L I T H U A N I A						R A B I E S C A S E S						1.10.00 - 31.12.00		
LOCATION		D O M E S T I C A N I M A L S						W I L D A N I M A L S						HUMAN CASES	TOTAL	
CODE	NAME	DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS			TOTAL
33	Alytaus	-	-	-	1	-	-	0	1	-	-	-	2	3	3	
34	Anyksciu	-	-	-	-	-	-	1	-	-	2	-	2	4	5	
36	Birzu	-	-	1	-	-	-	1	-	-	1	-	1	2	3	
38	Varenos	1	-	-	-	-	-	1	-	-	-	-	2	2	3	
39	Vilkaviskio	-	-	1	-	-	-	1	-	-	-	-	1	1	2	
41	Vilniaus	1	-	2	-	-	-	3	1	-	1	-	-	2	5	
43	Zarasu	-	-	-	-	-	-	0	-	-	-	-	2	2	2	
45	Ignalinos	-	-	-	-	-	-	0	1	-	-	-	11	12	12	
47	Joniskio	-	3	-	-	-	-	3	-	-	-	-	-	0	3	
49	Kaisiadoriu	-	-	-	-	-	-	0	1	-	1	-	-	2	2	
51	Marijampoles	-	-	8	-	-	-	8	-	-	-	-	-	0	8	
52	Kauno	-	-	7	-	-	-	7	3	-	1	-	2	6	13	
53	Kedainiai	1	3	2	-	-	-	6	1	-	-	-	5	6	12	
54	Kelmes	1	-	3	-	-	-	4	1	-	-	-	1	2	6	
55	Klaipedos	1	-	3	-	-	-	4	-	-	-	-	-	0	4	
56	Kretdingos	1	-	2	-	-	-	3	2	-	-	-	-	2	5	
57	Kupiskio	-	-	-	-	-	-	0	1	-	-	-	-	1	1	
59	Lazdiju	1	1	3	-	-	-	5	6	-	1	-	8	15	20	
61	Mazeikiu	-	-	2	-	1	-	3	1	-	-	-	-	1	4	
62	Moletu	-	-	1	1	-	-	2	-	-	-	-	2	2	4	
65	Pakruojo	-	-	-	-	-	-	0	-	-	-	-	2	2	2	
66	Panevezio	3	-	6	-	-	-	9	5	-	-	-	1	6	15	
67	Pasvalio	-	3	-	1	-	-	4	-	-	2	-	1	3	7	
68	Plunges	-	-	6	-	-	1	7	-	-	-	-	-	0	7	
69	Prienu	-	2	1	-	-	-	3	-	-	-	-	2	2	5	
71	Radviliskio	-	-	-	-	-	-	0	2	-	-	-	2	2	5	
72	Raseiniai	1	1	4	-	-	-	6	1	-	-	-	2	3	9	
73	Rokiskio	1	-	-	-	-	-	1	-	-	1	-	2	3	4	
75	Skuodo	-	2	8	1	-	-	11	1	-	-	-	1	2	13	
77	Taurages	-	1	2	-	-	-	3	1	-	2	-	9	12	15	
78	Telsiu	-	-	3	-	-	-	3	1	-	-	-	-	1	4	
79	Traku	-	1	1	-	-	-	2	-	-	1	-	1	2	4	
81	Ukmerges	-	-	2	-	-	-	2	3	-	-	-	2	5	7	
82	Utenos	-	-	-	-	-	-	0	-	-	-	-	3	3	3	
84	Sakiu	-	-	1	-	-	-	1	-	-	-	-	1	1	2	
85	Salcininku	-	-	-	-	-	-	0	1	-	-	-	-	1	1	
87	Silales	-	-	3	-	-	-	3	4	-	-	-	1	5	8	
88	Silutes	-	-	2	-	-	-	2	-	-	-	-	-	0	2	
89	Sirvintu	-	-	1	-	-	-	1	2	-	-	-	3	5	6	
91	Siauliu	2	-	2	-	-	-	4	1	-	2	-	2	5	9	
94	Jurbarko	1	1	1	-	-	-	3	2	-	1	-	9	12	15	
TOTAL		15	18	78	4	1	1	117	43	0	17	0	83	143	0	260
PER CENT		5.8	6.9	30.0	1.5	0.4	0.4	45.0	16.5	0.0	6.5	0.0	31.9	55.0	0.0	100.0

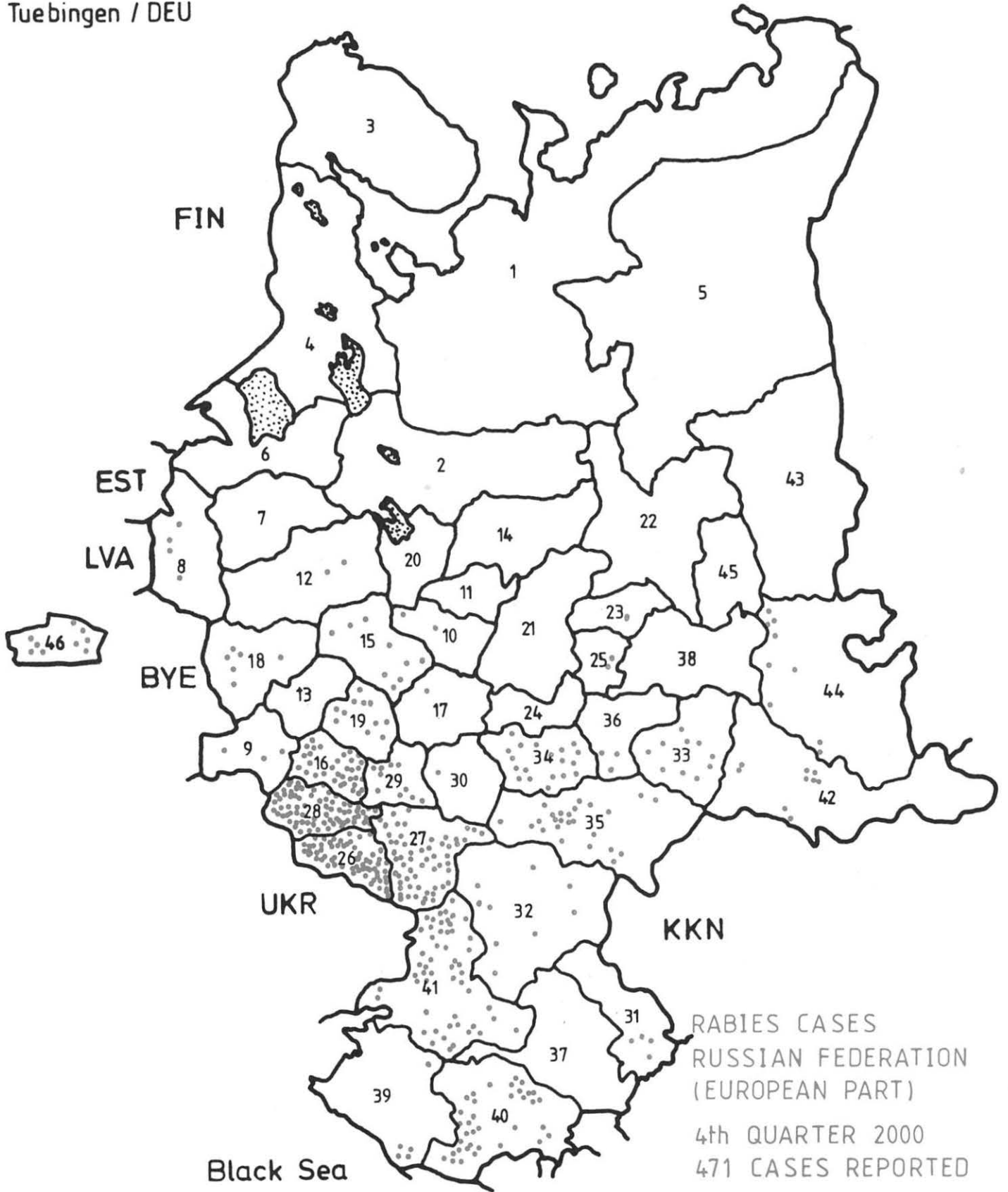
RUS		RUSSIAN FEDERATION						R A B I E S C A S E S						1.10.00 - 31.12.00		
LOCATION		D O M E S T I C A N I M A L S						W I L D A N I M A L S						HUMAN CASES	TOTAL	
CODE	NAME	DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS			TOTAL
08	Pskov Region	1	-	1	-	-	-	2	2	-	-	-	-	2	4	
09	Bryansk Region	-	1	1	-	-	-	2	1	-	-	-	-	1	3	
10	Vladimir Region	1	-	-	-	-	-	1	-	-	-	-	1	1	2	
12	Tver Region	-	-	-	-	-	-	0	1	-	-	-	1	2	2	
15	Moscow Region	1	3	-	-	-	-	4	5	-	-	-	-	5	9	
16	Oryol Region	3	3	15	-	-	-	21	12	-	-	-	-	12	33	
17	Ruazan Region	-	1	-	-	-	-	1	-	-	-	-	-	0	1	
18	Smolensk Region	-	-	-	-	-	-	0	6	-	-	-	-	6	6	
19	Tula Region	2	4	3	-	-	-	9	2	-	-	-	-	2	11	
23	Rep. of Mari-El	-	-	-	-	-	-	0	1	-	-	-	-	1	1	
25	Rep. of Chuvashiya	1	-	-	-	-	-	1	1	-	-	-	-	1	2	
26	Belgorod Region	12	13	15	-	-	-	40	24	-	-	-	-	24	64	
27	Voronezh Region	8	6	27	-	-	-	41	14	-	-	-	2	16	57	
28	Kursk Region	4	19	18	-	1	1	43	29	-	-	-	1	30	73	
29	Lipetsk Region	1	1	4	-	-	-	6	4	-	-	-	-	4	10	
30	Tambov Region	-	-	1	-	-	-	1	-	-	-	-	-	0	1	
31	Astrakhan Region	1	2	-	-	-	-	3	-	-	-	-	1	1	4	
32	Volgograd Region	1	3	2	-	-	-	6	1	-	-	-	2	3	9	
33	Samara Region	2	1	2	-	-	-	5	4	-	-	-	1	5	10	
34	Penza Region	5	-	-	-	-	-	5	14	-	-	-	-	14	19	
35	Saratov Region	4	3	7	1	-	-	15	10	-	-	-	-	10	25	
36	Ulyanovsk Region	-	-	1	-	-	-	1	2	-	-	-	-	2	3	
39	Krasnodar Territory	4	-	-	-	-	-	4	1	-	-	-	-	1	5	
40	Stavropol Territory	1	3	23	2	-	-	29	6	-	-	-	1	7	36	
41	Rostov Region	14	5	22	-	1	-	42	10	-	-	-	2	12	54	
42	Orenburg Region	5	2	1	1	-	-	9	-	-	-	-	-	0	9	
44	Rep. of Bashkortostan	3	2	1	-	-	-	6	3	-	-	-	-	3	9	
46	Kaliningrad Region	-	-	4	-	-	-	4	3	1	-	-	1	5	9	
TOTAL		74	72	148	4	2	1	301	156	1	0	0	13	170	0	471
PER CENT		15.7	15.3	31.4	0.8	0.4	0.2	63.9	33.1	0.2	0.0	0.0	2.8	36.1	0.0	100.0

4th Quarter: October - December 2000

page 37

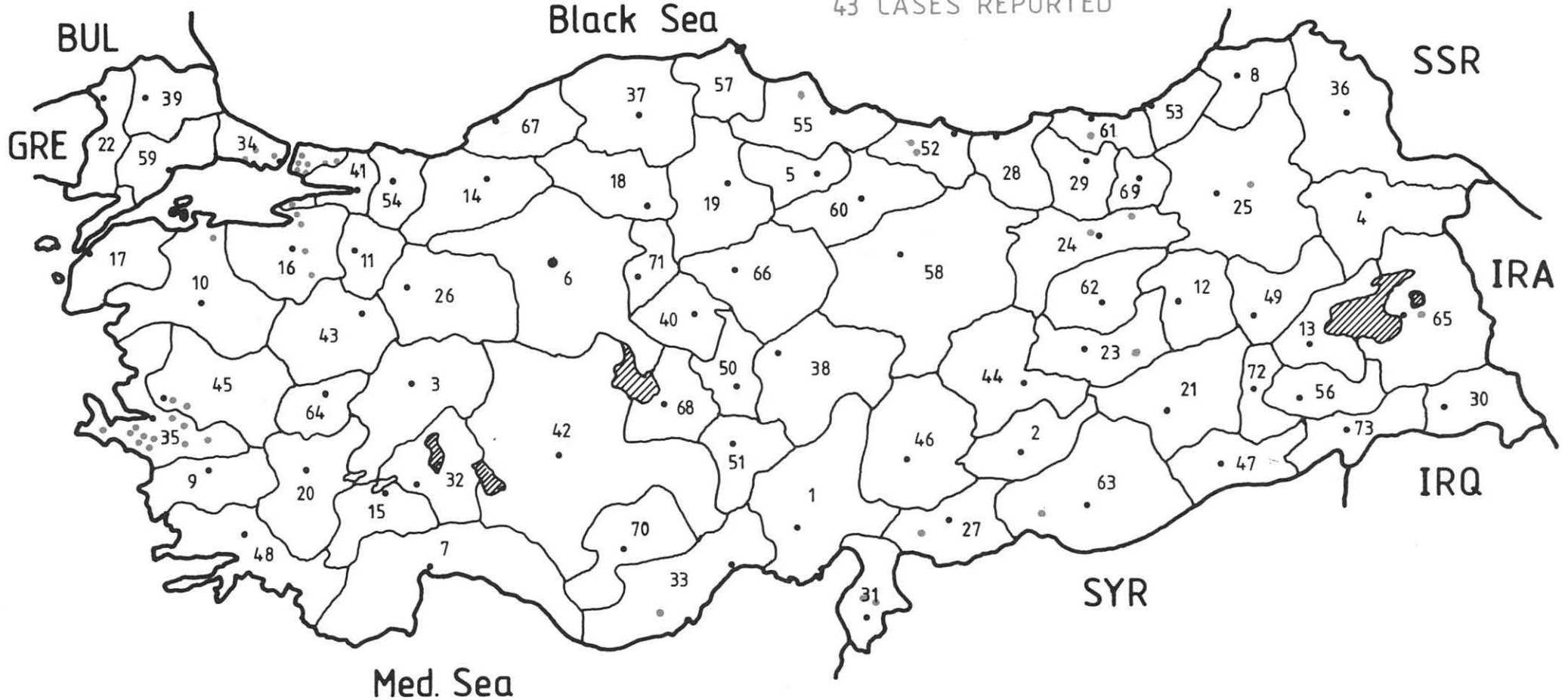
6. LIST OF CONTRIBUTORS

Albania ALB	France FRA	Moldova MLD	Slovak Republic SVK
Ass.Prof.Dr.D. Mati Ministry of Agriculture and Food Ass.Prof.Dr.K. Berxholi Inst. of Veterinary Research	Dr.Florence Cliquet Agence Francaise de Securite Sanitaire des Ali-ments (affsa)	Dr. V. Bahau, Dr. A. Ganea Dr. V. Kilyary Ministry of Agriculture	Prof. Dušan Magic Dr. B. Lovas State Veterinary Administration
Austria AUT	Germany DEU	Netherlands NET	Slovenia SVN
Dr. W. Schuller Dr. H. Schnabl Bundesanstalt für vet.med. Untersuchungen	Dr. H. Schlüter WHO Collaborating Centre for Rabies Surveillance and Research, Wusterhausen Dr. W.W. Müller WHO Collaborating Centre for Rabies Surveillance and Research, Tübingen	Dr. Gerard Visser Inspectorate for Health Protection, Commodities and Veterinary Public Health, Regional Inspectorate East Dr. J.A. Smak National Inspection Service for Livestock and Meat, Ministry of Agriculture, Nature Environment and Fisheries	Dr. Zoran Kovač Ministry of Agriculture, Forestry and Food
Belarus BYE	Greece GRE	Norway NOR	Spain SPA
Dr. A.M. Axenov Ministry of Agriculture and Food	Dr. B. Stylas Ministry of Agriculture	Dr. Eivind Liven Norwegian Animal Health Authority Central Unit	Dr.O.González Gutiérrez-Solana Dr. C. Abellán García Ministerio de Sanidad y Consumo Dr. I. Sanchez Esterban Ministerio de Agricultura, Pesca y Alimentation
Belgium BEL	Hungary HUN	Poland POL	Sweden SWE
Dr. L. Lengele Ministère de l'Agriculture	Dr. Antal Németh Dr. Zsolt Földi Ministry of Agriculture	Dr. Andrzej Komorowski Ministry of Agriculture Dr. Danuta Serokova National Institute of Hygiene	Dr. B. Nordblom Nat. Board of Agriculture Veterinary and Animal Production Department Prof. A. Engvall National Veterinary Institute
Bosnia and Herzegovina BIH	Iceland ICE	Portugal POR	Switzerland SWI
Bulgaria BUL	Ireland IRE	Dr.C.A.M.de Andrade Fontes Direccao-Geral da Pecuaria	Prof. R. Zanoni Dr. U. Breitenmoser Swiss Rabies Centre Institute of Veterinary Virology
Dr. L. Lavchev Ministère de l'Agriculture	Dr. J. Melville Dr. Patrick Corkery Department of Agriculture Food and Rural Development	Romania ROM	Turkey TUR
Croatia CRO	Italy ITA	Dr. Dragos Corlateanu Ministry of Agriculture, Food and Forestry	Dr. Hüseyin Sungur Ministry of Agriculture, Forestry and Rural Affairs
Dr. Mate Brstilo Ministry of Agriculture, Forestry and Water Management Dr. Josip Marković State Veterinary Service Dr. Ž. Čač Croatian Veterinary Institute	Dr. Franco Mutinelli Istituto Zooprofilattico Sperimentale delle Venezie	Russian Federation RUS (European part only) Prof. V.A. Vedernikov WHO Coll. Centre on Prev. and Control of Zoonoses The Kovalenko All-Union Inst. of Exper.Veterinary Medicine,Moscow Dr. V.V. Seliverstov Veterinary Dept., Moscow Prof. B.L. Cherkasskiy WHO Collaborating Centre on Zoonoses, Moscow Central Research Inst.of Epidemiology, Ministry of Public Health, Moscow	Ukraine UKR
Czech Republic CZH	Latvia LVA		United Kingdom UNK
Dr. J. Vitásek State Vet. Administration Dr. O. Matouch National Rabies Laboratory State Veterinary Institute	Dr. J. Rimeicāns Dr. E. Jēgers State Veterinary Service		Dr. J.M. Scudamore Dr. F. Landeg Ministry of Agriculture, Fisheries and Food
Denmark DEN	Lithuania LTU		Yugoslavia FRY
Dr. Preben Willeberg Veterinaerdirektoratet	Dr. K. Lukauskas Dr. A. Dranseika State Veterinary Service		Dr.Živko Davidović Fed. Committee Agriculture
Estonia EST	Luxembourg LUX		Dr. Dušan Lalošević Pasteur Institute, Novi Sad
Dr. M. Nautras Ministry of Agriculture	Dr. A. Besch Ministère de l'Agriculture		
Finland FIN			
Dr. Vaana Husu-Kallio Dr. Nina Sarén Ministry of Agriculture and Forestry			



WHO Coll. Centre
Tuebingen / DEU

RABIES CASES TURKEY
4th QUARTER 2000
43 CASES REPORTED



ICE
(rabies free)

RABIES CASES EUROPE
4th QUARTER 2000
2698 CASES REPORTED
6 BAT RABIES CASES INCLUDED



(rabies free) = NO INDIGENOUS CASE REPORTED FOR AT LEAST TWO YEARS