

# RABIES BULLETIN EUROPE

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## 1. INTRODUCTION

This BULLETIN describes the **reported rabies cases in Europe** for the **Fourth Quarter 1999**, subsequently referred to as "*This Quarter*".

In SECTION 2 a **summary of the rabies situation of the fourth quarter 1999 and the development in the year 1999** 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 the editors announce that the **RABIES BULLETIN EUROPE** can be viewed online in the future. In 4.2 the mass treatment of humans who drank unpasteurized milk from rabid cows is described on the basis of 2 incidents (1996 and 1998) in Massachusetts, USA. Under 4.3 a summary article refers to the present rabies situation in the Russian Federation.

The **rabies case data** are tabulated for the **Fourth Quarter 1999** and three tables on the year 1999 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 1999** is shown on maps of the Russian Federation, Turkey and Europe in the ANNEX.

## 2. SUMMARY OF RABIES IN EUROPE

### 2.1 Fourth Quarter 1999

During "*This Quarter*", **1897 rabies cases** were reported in Europe. Of these 1319 were in wild animals, 577 in domestic animals and 1 in a human.

Of the **1319 cases in wild animals**, 1111 (58.6% of total) were foxes, 2 other fox species, 1 wolf, 136 raccoon dogs, 9 badgers, 7 stone martens, 20 pine martens, 5 polecats, 1 ferret, 3 roe deer, 1 red deer, 1 fallow deer, 1 moose, 7 wild boars, 2 bats, 1 hare, 8 other wild animals and 3 unspecified animals. Of the **577 domestic animals**, 168 were dogs, 163 cats, 9 horses, 1 donkey, 1 pig, 219 bovines, 12

sheep, 4 goats.

The **1 human case** mentioned was reported from the Russian Federation.

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 (1134 cases - corrected figure) an increase is noticed (by 763 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 increased contact rate and thus, the possibility to pass

on the disease. Nearly all the countries recorded this increase.

Turkey, the only country in Europe with **dog-mediated rabies** and **not showing obvious seasonality** of the disease recorded an increase as well, from 48 cases in the previous quarter to 90 cases in "*This Quarter*".

There were 2 **bat rabies** cases, 1 in Denmark and 1 in Germany. Because of the distinct epidemiological features of the disease in bats, these cases are shown in green on the map in the ANNEX.

**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** in Belgium, France, Luxembourg and 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 1999

### Summary

Rabies case data summarizing the year 1999 can be found in TABLES 5.2, 5.4 and 5.5 of SECTION 5.

The number of cases in Europe in 1999 total 6591. The four quarters compare as follows (corrected figures):

1 <sup>st</sup> quarter	-	2201
2 <sup>nd</sup> quarter	-	1359
3 <sup>rd</sup> quarter	-	1134
4 <sup>th</sup> quarter	-	1897

It can be noticed that in spite of the extension and success with the oral vaccination of foxes the total number of cases in Europe do not diminish continuously. The total number of cases for 1997 amounted to 5076, for 1998 to 6250, and for 1999 to 6591.

### Wildlife or fox-mediated rabies

Oral vaccination of foxes remains the best method to combat rabies. However, it is often hampered by two facts: to have the financial resources available and the extreme ef-

forts during the final eradication of the disease when fox populations are very dense (see articles RBE issue 1/95, pp 14-15; 1/96, pp 10-13; 4/95, pp 13-16 and 2/98, pp 9-12). Over the recent years success and failure have been reported for several countries.

A successful example will be given here for the 15 countries of the European Union (EU) by comparing figures with 1997. It had been mentioned in issue 4/97 that the annual total for the EU was 103, not considering the bat rabies cases, the 1 imported human case and the 5 cases from Spain in North Africa. A similar analysis for 1999 brings us to a total of 61 cases. There are several candidate countries to become rabies-free; i.e. Austria, Belgium, France, the Grand Duchy of Luxembourg, etc. The countries Denmark and The Netherlands are, in fact, rabies-free in terrestrial animals, but regularly report bat rabies cases.

### Urban- or dog-mediated rabies

Normally, Turkey is listed among the European countries. However, it is of a different rabies pattern altogether - the urban or dog-mediated rabies. In 1999 the cases accounted for only 3.2% of the total in Europe.

In 1999 Turkey recorded 208 cases in domestic animals (of these 181 dogs) and 1 in a fox. There were 128 cases in the previous year.

### Bat rabies

Bat rabies has its own

epidemiological pattern and is therefore separately presented wherever possible. Bat cases in the maps are drawn in a different colour.

With 142 cases recorded in 1987, cases have diminished to 6 in 1995. Then, cases were rising again: 1996-16, 1997-25, 1998-35, 1999-42.

The countries affected in 1999 were: Czech Republic (2), Denmark (10), Germany (15), France (1 imported bat, virus diagnosed as „Lagos bat“), Hungary (1), Netherlands (6), Poland (3) and Spain (4). Of the 42 cases only 6 were identified, all as *Eptesicus serotinus*, in the Czech Republic (2), Hungary (1) and Spain (3).

### Human rabies

There were 5 human cases reported in 1999, all in the Russian Federation.

Unfortunately, human rabies cases are not reported regularly by all countries participating in the European surveillance.

\*\*\*\*\*

### 3. RABIES IN INDIVIDUAL COUNTRIES

#### 3.1 Albania ALB

by Kristaq Berxholi

The country remained **rabies-free**.

##### Surveillance:

A total of 26 animals (24 foxes, 1 badger, 1 cat) was examined for rabies revealing negative results.

#### 3.2 Austria AUT

by Helmut Schnabl

Out of 6722 animal samples examined for rabies during "*This Quarter*", 3 (2 foxes and 1 roe deer) were diagnosed positive.

All three cases occurred in the district of Mistelbach of the federal province of Niederösterreich close to the state border of the Czech Republic.

##### Summary 1999

The total of cases amounted to 5 (3 foxes, 1 roe deer, 1 imported dog) compared to 3 (foxes) in the previous year. In all infected areas of Austria oral vaccination of foxes against rabies is practised.

#### 3.3 Belgium BEL

by L. Hallet

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

##### Summary 1999

In 1999 only 1 case of rabies in a bovine was diagnosed on 17 July in the region of Bastogne in the province of Luxembourg. The case relates to a residual focus; on 3 April 1998 a fox was diagnosed rabid in the same community (long incubation time!) As from the latter event there was no further case of rabies in wildlife.

The institute Pasteur of Brussels investigated 905 samples for rabies with negative results. Of these 549 were foxes (61%), 213 bovines, 53 cats, 20 dogs, 30 small ruminants and 40 others (8 stone martens, 18 badgers, 3 bats, 1 pine marten, 1 hedgehog, 1 wild boar, 5 cervides, 1 squirrel, 1 vole and 1 swan).

Oral vaccination campaigns in 1999:

→ April. In an area of 5126 km<sup>2</sup> 87,210 vaccine baits were distributed by helicopter (a density of approx. 17 vaccine baits per km<sup>2</sup>).

→ May. Distribution of vaccine baits by hand in an area of 4600 km<sup>2</sup>. At 4119 dens with 16,720 entrances 37,230 vaccine baits were deposited.

→ September. In an urgency

campaign following a rabies diagnoses in a fox on 3 August at the community Beho (district of Gouvy) 14,000 vaccine baits in an area of 738 km<sup>2</sup> (approx. 19 per km<sup>2</sup>).

On 18 October the Institute Pasteur of Brussels invalidated the diagnosis of the fox. The laboratory test was judged as an unspecific reaction.

→ October. Autumn campaign by helicopter. 100,165 vaccine baits distributed in an area of 5,983 km<sup>2</sup> (density approx. 17 per km<sup>2</sup>).

##### Editors note:

*The above mentioned case of Beho (Gouvy) reported in the previous quarter of the Rabies Bulletin Europe has been corrected in the data bank.*

#### 3.4 Bosnia and Herzegovina BIH

No data.

#### 3.5 Bulgaria BUL

by L. Lavchev

During "*This Quarter*", 3 rabies cases were reported in Bulgaria.

##### Summary 1999

25 cases were reported in 1999 compared to 11 in the previous year. The animal species affected by the disease was not supplied.

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### **3.6 Belarus BYE**

by A.M. Axenov

During "*This Quarter*", 32 cases were reported in 5 of 6 administrative regions. Affected were 12 foxes, 2 raccoon dogs, 6 dogs, 8 cats, 1 horse and 3 bovines.

#### Summary 1999

The total number of cases amounted to 105. However, data for the months of January, May and June are missing. In 1998 there were 97 cases with data missing for November and December.

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### **3.7 Croatia CRO**

by Sanja Šeparović

During "*This Quarter*", out of 2949 animals investigated 473 were positive for rabies in 70 municipalities. That represents an increase of 326 cases (221.8%) compared with the same period in 1998, and of 294 cases (164.2%) compared to the previous quarter.

There were 437 wild animals (92.4% of total) affected by the disease and 36 domestic animals (7.6%).

Of the wild animals 423 were foxes (89.4% of total), 2 badgers, 4 martens, 1 deer and 7 wild boars.

Of the domestic animals 12 were dogs, 14 cats, 2 bovines, 1 donkey, 5 sheep and 2 goats.

The great increase in

the number of the rabies cases called for an extra effort of control. Thus, the Ministry of Agriculture and Forestry enacted on the basis of Article 41, paragraph 5 of the Veterinary Law (Official Gazette No. 70/97) the intensified shooting of foxes (Official Gazette No. 119/99). This affects the whole country with the exception of the islands. In the Ordinance it is laid down that the persons with a hunter's licence may shoot foxes in accordance with the provision of the Law on Hunting (Official Gazette No. 10/94 and 29/99). The killed foxes have to be taken to the nearest approved laboratory for rabies diagnosis. For each killed fox delivered to an approved laboratory the Ministry of Agriculture and Forestry pays a bounty. The decision about the aforesaid compensation was started on 11 November 1999 and shall last to the 14<sup>th</sup> February 2000.

#### Summary 1999

A total of 1042 cases was reported in 1999, 654 more than in 1998 (388).

---

### **3.8 Czech Republic CZH**

by Oldrich Matouch

A total of 43 rabies cases was reported during "*This Quarter*", 3 cases more than during the previous quarter and 13 cases more than during the fourth quarter 1998. Of these were 41 cases (95.3%) in wild animals (37 foxes, 1 roe deer, 1

marten, 1 badger, 1 fallow deer) and 2 cases in domestic animals (2 cats).

Two districts (Kladno - 10 cases, Praha - západ - 5 cases) in Central Bohemia and four districts (Česká Lípa - 4, Děčín - 7, Litoměřice - 6, Ústí nad Labem - 3) in North Bohemia were the most affected areas.

An oral vaccination campaign was carried out in October 1999 covering an area of 42991 km<sup>2</sup> in 54 districts. Czech-made SAD-Bern vaccine was used. Aerial distribution was performed in 12 highly affected districts in North and South Bohemia on the territory of 9872 km<sup>2</sup> (246,800 doses). 42 districts (33,119 km<sup>2</sup>) were vaccinated manually using 597,000 doses.

#### Summary 1999

In 1999, a total of 8995 animals were examined for rabies. The disease was diagnosed in 214 cases, of which 192 (90%) were foxes. There was a considerable increase by 129 cases in comparison to 1998 (85 cases). Despite of this fact, the geographical distribution of rabies cases was similar to the previous year. The majority of the cases occurred in areas of North Bohemia (112), followed by Central Bohemia (39), South Bohemia (31) and South Moravia (27).



**3.9 Denmark DEN**

by Preben Willeberg

One bat rabies case was reported in Denmark in southern Jutland.

Summary 1999

Altogether 10 bat rabies cases were reported from Denmark in 1999. In 1998 15 cases caused by the bat rabies were recorded, 12 in bats and 3 in sheep.

**3.10 Germany, Federal Republic DEU**

by Winfried W. Müller and Hartmut Schlüter

During "This Quarter", 16 rabies cases in 5 federal states were reported. There were 8 cases in Nordrhein-Westfalen (7 foxes, 1 bovine), 2 cases in Hessen (2 foxes), 4 cases in Bayern (4 foxes), 1 case in Sachsen (1 cat) and 1 bat rabies case in Schleswig-Holstein.

Summary 1999

The annual total amounted to 70, 38 cases less than in the previous year.

There were 15 bat rabies cases included in the total of 1999, 11 more than in the previous year.

**3.11 Estonia EST**

by Matti Nautras

In 11 of 15 districts of Estonia 29 rabies cases were

diagnosed during "This Quarter". There were 21 cases in wild animals and 8 in domestic animals.

Summary 1999

The total in 1999 amounted to 120 cases, 50 less than in the previous year.

Of the 120 cases 52 were foxes, 29 raccoon dogs, 2 lynx, 3 badgers, 1 pine marten, 1 ferret, 1 squirrel, 11 dogs, 15 cats and 5 bovines.

**3.12 Finland FIN**

by Elise Saario

The country remained **rabies-free**.

Surveillance:

A total of 91 animals were examined for rabies by immunofluorescence test on brain tissue during "This Quarter", all with negative results. Of the animals 26 were foxes, 32 raccoon dogs, 2 wolves, 10 brown bears, 1 pine marten, 1 ermine, 2 elks, 1 muskrat, 6 meadow voles, 5 dogs, 2 bovines, 2 cats, 1 horse.

**3.13 France FRA**

by Michel F.A. Aubert

No rabies case was reported during "This Quarter".

Surveillance:

602 samples were examined for rabies during "This Quarter" with negative results.

**3.14 Federal Republic of Yugoslavia FRY**

by Živko Davidović

A total of 44 rabies cases (31 foxes, 1 other wild animal, 11 cats, 2 bovines) were registered during "This Quarter" in the Federal Republic of Yugoslavia.

There was a concentration of cases in the north (Vojvodina); cases in the centre of the country were scattered.

Summary 1999

The annual total amounted to 81 cases, 6 cases less than in the previous year.

**3.15 Greece GRE**

The country remained **rabies-free**.

**3.16 Hungary HUN**

by Bálint Kerekes

During "This Quarter", 113 rabies cases in animals were reported. Of these, 93 were foxes (82.3% of total), 11 cats, 6 bovines, 1 dog, 1 polecat and 1 red deer.

Four cases were located west of the river Danube and 109 east of it.

Summary 1999

There was a total of 398 cases in 1999, 156 cases less than in 1998.

**3.17 Iceland ICE**

The country remained rabies-free.

**3.18 Ireland IRE**

The country remained rabies-free.

**3.19 Italy ITA**

by Santino Proserpi

The country remained rabies-free.

Surveillance and Control in 1999

3299 wild animals (2993 foxes) and 203 domestic animals were examined in Trentino Alto Adige, Veneto and Friuli Venezia Giulia in the north east Alpine regions with negative results.

On 2 March 1999, an Ordinance of the Ministry of Health made the vaccination compulsory for dogs, cattle, sheep, goats and equines in areas at risk of Friuli Venezia Giulia Region.

Oral vaccination of foxes was carried out in May 1999 in the provinces of Trieste, Gorizia and Udine in an area of 1,600 km<sup>2</sup> using 25,000 vaccine baits.

**3.20 Lithuania LTU**

by K. Lukauskas and A. Dranseika

During "*This Quarter*", there were 172 cases of rabies in 37 districts. The rabies cases increased in comparison with the fourth quarter 1998 by 86 cases. Of the total, 56 cases were diagnosed in domestic animals and 116 in wild animals. There was no human case during "*This Quarter*".

Of 37 infected districts, the most affected were Lazdijai - 19 cases, Kedainiai - 13 cases, Pasvalys - 14 cases, Panevėžys - 10 cases, Prienai - 11 cases.

During "*This Quarter*" more than 21 thousand dogs, 4 thousand cats and 3,7 thousand bovines were vaccinated against rabies. The oral vaccination of foxes was practised in November. 100,000 Rabifox baits were distributed in 22 districts, using approx. 15 baits per km<sup>2</sup>.

Summary 1999

The annual total amounted to 357 cases, 134 more than in the previous year.

**3.21 Luxembourg LUX**

by Arthur Besch

During "*This Quarter*", no rabies case was recorded in the Grand Duchy of Luxembourg. The last case occurred on 21 January 1999. The last case in a fox occurred 2 years ago.

However, considering the rabies situation in Belgium and France and the last case in a pony in northern Luxembourg the oral vaccination of foxes is going to be continued in 2000. It is planned to have a vaccination campaign to be carried out in the end of March and one end of September. 92,000 vaccine baits are going to be distributed by helicopter covering the whole country. Additionally, there will be a distribution campaign by hand end of May to beginning of June with the help of hunters. 16,000 Raboral vaccine baits will be placed near the dens.

Summary 1999

Out of 61 animals examined for rabies only 1 pony was diagnosed rabid compared to no case in 1998 and 2 cases in 1997.

**3.22 Latvia LVA**

by J. Rimeicans and E. Jegers

54 rabies cases were registered during "*This Quarter*" in 18 districts. 37 cases were diagnosed in wild animals (68,5% of total). 21 of these were foxes, 12 racoon dogs, 2 badgers, 1 polecat and 1 hare. Of 17 rabies cases in domestic animals 8 were cats, 5 bovines and 4 dogs. The most affected district was Ventspils with 11 cases.

Summary 1999

The annual total amounted to 169, 41 less than in the previous year.



**3.23 Moldova MLD**

by Vasile Bahau

During "*This Quarter*", out of 31 samples examined for rabies 7 wild animals were diagnosed rabid.

Summary 1999

The annual total of rabies cases amounted to 43. In 1998 there were 37 cases.

**3.24 Netherlands NET**

by Gerard Visser

During "*This Quarter*", 10 animals (6 bats, 1 donkey, 1 dog and 2 foxes) were investigated for rabies, all with negative results.

Summary 1999

In 1999 a total of 84 animals were investigated for rabies - 6 foxes, 3 dogs, 5 cats, 10 squirrels, 1 mouse, 1 hyena, 1 donkey, 57 bats. The hyena originated from the zoo in Amsterdam, 8 of 10 squirrels were of foreign origin, 1 bat was from Finland.

Out of the 84 animals examined 6 bats were diagnosed rabid. There were 7 rabid bats reported in 1998.

Erratum:

*There was 1 rabid bat reported late for the third quarter 1999. This bat is now included in the total.*

**3.25 Norway NOR**

by Eivind Liven

The country remained **rabies-free**.

**3.26 Poland POL**

by Andrzej Komorowski

A total of 397 animal rabies cases were registered in Poland during "*This Quarter*". 288 cases (72.5% of total) were in wild animals and 109 in domestic animals.

Summary 1999

The total of cases amounted to 1147, 185 cases less than in 1998.

Oral vaccination of foxes, started in 1993, has freed the western half of the country. Rabies cases have been reduced by 1937 when compared to the total of 1992 (3084 cases) prior to vaccination.

**3.27 Portugal POR**

The country remained **rabies-free**.

**3.28 Romania ROM**

by Mircea Chertes

A total of 15 cases of rabies (6 foxes, 4 cats, 4 horses, 1 bovine) were reported in Romania during "*This Quarter*". The cases were scattered

throughout the country.

Summary 1999

The annual total amounted to 45 cases, 5 less than in 1998.

**3.29 Russia RUS  
European part only**

by V.A.Vedernikov, V.A.Sedov,  
I.V. Baldina, A.M.Gulyukin,  
E.G.Troizkaya,  
B.L.Cherkasskiy, V.J. Ladnyi,  
V.V.Seliverstov, Dr. V.N. Abramov,  
and S.A. Kolomizev

During "*This Quarter*", 288 rabies cases in animals were reported. Of these 180 were in domestic animals - 45 dogs, 64 cats, 66 cattle, 1 horse, 3 sheep, 1 pig. Of 108 wild animals rabies was diagnosed in 100 foxes, 1 wolf, 3 raccoon dogs, 1 korsak (*Vulpes corsak* L.), 1 elk, 2 pine martens.

Most affected were the Kursk Region with 72 cases, the Oryol Region with 24 cases, the Belgorod Region with 26 cases, the Saratov Region with 20 cases.

There was 1 human case reported - in the Tver Region.

Summary 1999

The annual total amounted to 2021 cases in animals and 5 in humans. There were 2301 animal and 4 human cases in 1998.

A campaign of oral immunization of foxes and an increase of prophylactic vaccination of dogs resulted in the second half of 1999 in a noticeable improvement of the rabies situation in a number of the

regions of the country. However, in the areas bordering to the Ukraine, the situation remains difficult. The increase of rabies cases in cats calls for concern.

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### **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 rabid dog reported from Melilla in the Spanish territory of North Africa.

#### Summary 1999

The annual total amounted to 7, 4 bats in the mainland and 3 dogs in the Spanish territory of Africa.

In 1998 there were 7 dog cases, all in the Spanish territory of North Africa.

#### Erratum:

*There were 2 rabid bats (both Eptesicus serotinus) reported late for the third quarter 1999 in Sevilla. These cases are now included in the total of 1999.*

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### **3.31 Slovak Republic SVK**

by Jozef Sokol and Bohuslav Lovas

A total of 113 rabies cases in animals was reported in the Slovak Republic during "*This Quarter*". Of these 93 (82.3%) were in wild animals

(55 foxes, 1 other fox species, 2 stone martens, 2 pine martens) and 20 in domestic animals (8 dogs, 8 cats, 3 bovines, 1 goat).

#### Summary 1999

The annual total amounted to 503, 89 cases more than in the previous year.

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### **3.32 Slovenia SVN**

by Zoran Kovač

There were 2 rabies cases reported during "*This Quarter*", both in the south-east of the country.

#### Summary 1999

A total of 6 cases was reported in 1999 (5 foxes and 1 cat). There were 14 cases in 1998.

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### **3.33 Sweden SWE**

The country remained rabies-free.

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### **3.34 Switzerland SWI**

by Uli Müller

The country remained rabies-free.

#### Surveillance:

During "*This Quarter*", 99 animals were examined for rabies with negative results: 64 foxes, 3 mustelids, 2 other wild animals, 4 dogs, 5 cats, 2 bovines, 1 horse, 1 small ruminant, 1 other domestic animal and 16

bats (4 *Pipistrellus kuhli*, 5 *Pipistrellus pipistrellus*, 2 *Pipistrellus nathusii*, 1 *Myotis myotis*, 2 *Myotis mystacinus*).

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### **3.35 Turkey TUR**

by Hüseyin Sungur

During "*This Quarter*", 90 rabies cases in animals were reported in Turkey. The disease occurred in 76 dogs, 8 bovines, 1 horse, 4 sheep. Only 1 fox was diagnosed rabid.

Mostly affected were the provinces (II) Istanbul, Izmir and Bursa with 31, 20 and 20 cases recording respectively, all other provinces reported between 1 and 5 cases only.

#### Summary 1999

The total of cases amounted to 209, 81 cases more than in the previous year.

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### **3.36 Macedonia TYM**

The country remained rabies-free.

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### **3.37 Ukraine UKR**

No data.

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### **3.38 United Kingdom UNK**

by Adam Barclay

The country remained rabies-free.

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## 4. MISCELLANEOUS ARTICLES

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### 4.1 INFORMATION -

#### RABIES BULLETIN EUROPE (RBE) ONLINE

by W.W. Müller

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at the Federal Research Centre for Virus Diseases of Animals, Institute of Immunology,  
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The editors of the RBE have made preparations that the RBE can be viewed in the Internet. The hard-copy will, however, be distributed as usual.

The efforts to establish the first test issue centered around issue 1/99 of the RBE. As of this issue (4/99), issue 1/99 can be viewed. It is intended to now prepare issue 4/99 for the Internet and then go back on certain back issues later.

#### The path

There are at this point two web-site addresses for access to the Internet version of the RBE:

**[www.who-rabies-bulletin.org](http://www.who-rabies-bulletin.org)**

and

**[www.rabnet.who.int](http://www.rabnet.who.int)**

If any changes will occur it will be announced in the BULLETIN.

#### Usage

The utilization of the RBE Internet version should be unproblematical. The HELP button might be useful.

However, comments and questions regarding the system are welcome. The feedback will help to improve the system.

#### Future communication

With the start of this Internet version it is hoped too that electronic data supply may increase. There are only very few countries making use of this possibility.

We may take this opportunity to point out where we see specific improvements necessary:

- data on human rabies
- surveillance data in addition to the case reporting
- text reporting on control measures in the different countries.

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## 4.2 Mass Treatment of Humans Who Drank Unpasteurized Milk from Rabid Cows - Massachusetts, 1996-1998

Rabies is a viral zoonosis that is usually transmitted by the bite of an infected mammal. However, in Massachusetts, two incidents have been reported since 1996 of potential mass exposures to rabies through drinking unpasteurized milk. This report presents the investigations of these two incidents.

### Incident 1

On November 12, 1998, the Virology Laboratory of the Massachusetts Department of Public Health (VLMDPH) diagnosed rabies in a 6-year-old Holstein dairy cow from a farm in Worcester County. Further analysis of the cow's brain tissue with monoclonal antibodies revealed the cow was infected with a variant of the rabies virus associated with raccoons in the eastern United States.

The cow had loss of appetite beginning November 4 and hypersalivation beginning November 6. An intestinal obstruction was suspected initially as the cause of illness. However, the cow became ataxic and aggressive and died on November 8.

The cow had been milked 12 times during the week before death. Milk from the cow had been pooled with milk collected from other cows, and an unpasteurized portion was distributed for human consumption. Public health investigations identified 66 persons who drank unpasteurized milk collected from this dairy during October 23-November 8. All 66 received rabies post-exposure prophylaxis (PEP). In addition, five persons received PEP because of exposure to the cow's saliva during the 15 days preceding her death. Neither milk nor mammary tissue from the rabid cow was available for examination for the presence of rabies virus.

### Incident 2

On November 12, 1996, the VLMDPH diagnosed rabies in a 14-year-old Jersey dairy cow from a different farm in Worcester County. Analysis with monoclonal antibodies

revealed the cow was infected with a variant of the rabies virus associated with raccoons in the eastern United States.

The cow developed tenesmus and depression on November 6 and was euthanised on November 10. The cow had been milked during October 26-November 2. An investigation identified 14 persons who drank unpasteurized milk collected from this cow during this period. All 14 persons received rabies PEP. In addition, four persons received PEP because of exposure to the rabid cow's saliva during the 15 days preceding her death.

**MMWR's Editorial Note:** Management of mass human exposures to rabid animals requires public health officials to balance knowledge of rabies epidemiology, risk for transmission, and pathogenesis with the perceived risk for death among exposed persons. Because of the nearly 100% case-fatality ratio of human rabies and the virtually complete effectiveness of PEP, many mass exposure incidents prompt administration of rabies immune globulin and vaccine, even if the circumstances do not meet the criteria for exposure.

During 1990-1996, CDC (Centers for Disease Control) received reports of 22 incidents of mass human exposures to rabid or presumed-rabid animals in the United States, resulting in 1908 persons receiving PEP (median: 33 persons per incident). In Massachusetts during 1991-1995, the median cost for PEP was \$2376 per person, including physician and facility charges. Prolific administration of PEP in response to these incidents strains the availability of rabies biologics, especially human rabies immune globulin, which has a short shelf-life and tightly controlled distribution by the manufacturers.

An average of 150 rabid cattle have been reported to CDC in the United States each year since 1990. In addition to concerns about rabies transmission from animals to humans through bites, rabid livestock raise the

potential for food borne transmission. The National Association of State Public Health Veterinarians recommends against consuming tissues and milk from rabid animals. However, because rabies virus is inactivated by temperatures below those used for cooking and pasteurization, eating cooked meat or drinking pasteurized milk from a rabid animal is not an indication for PEP.

Rabies virus can be transmitted by direct contact with infected material, such as saliva from an animal infected with rabies, and mucous membranes, including the oral and gastric mucosae. In addition to saliva and neural tissue, rabies virus also has been detected in the kidney, prostate, pancreas, and other tissues and body fluids. However, saliva and

neural tissue are the primary proven vehicles for rabies virus in naturally occurring cases. Anecdotal reports exist of rabies transmission by ingestion of milk from rabid animals (e.g., from a rabid sheep to a nursing lamb). In these reports, the more conventional routes (e.g., bite or mucous membrane exposure) could not be completely excluded.

Transmission of rabies virus in unpasteurized milk and mammary tissue were collected from rabid livestock and assayed for the presence, viability, and infectivity of rabies virus. Regardless of the amount of viable rabies virus that may be shed in cows' milk, the theoretical risk for transmission of rabies from this route can be eliminated if all dairy products are pasteurized before consumption.

(Taken from *Morbidity and Mortality Weekly Report [MMWR]*, Vol. 48, No. 11, 1999; Centers for Disease Control and Prevention, Atlanta, Georgia 30333, U.S.A.)

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### 4.3 Summary of Rabies in the Russian Federation - Particularities of the Present Situation

by

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Preventive measures of rabies which were regularly carried out on the territory of the former USSR had the effect of stabilizing the epizootiological situation and at times control would even improve the situation. However, during the last years, with the background of the aggravation of social problems, the situation has essentially changed. Rabies epizootics were on the rise. This rise actually started at the end of 1994 in a number of areas of the Ural, Povolzhsky regions and Central Chernozemye. In these regions the rabies foci spread and the rabies situation deteriorated.

In 1995, 1168 cases of rabies were

registered in animals as a total of the Russian Federation. In 1996, the number of rabies cases increased to 1879, in 1997 it decreased to 1994, and in 1998 it again increased to 2868. The increase continued during the first months of 1999. In the second half of the year the situation improved (see FIGURE 4.3.1).

The main reasons for the declining situation were the discontinuance of an effective reduction of the wild predator population density (when this predator was the reservoir species), the growth of the number of homeless dogs and cats and, the weakening of special preventive measures, like vaccinations.



An increase of rabies cases has been noticed in both wild and domestic animals. The number of rabies cases reported in dogs increased from 163 in 1993 to 520 in 1998, in cats from 53 to 288 cases for the same period. And, a peak of 1211 cases was registered in wild animals in 1998.

The reservoir species of the rabies virus and the main animals distributing the disease were the wild carnivores - foxes, wolves, raccoon dogs, corsacs, and in the tundra the polar foxes. The fox-mediated rabies represented approx. 90%. However, the epizootiological and epidemiological importance of wolf-mediated rabies has increased. During the last 4-5 years there were more cases reported in badgers, polecats, martens, lynxes, wild cats, gray rats, beavers, elks and mice. There were also cases of rabies in squirrels, hamsters, muskrats, nutrias and even in bears.

There is a correlation between the infected wild predators and the other affected species depending on the population density of the predators. The distribution of the infected animals species involved in the disease and their population density again depends on the environment - steppe, forest-steppe, deciduous woods, islands, etc. According to the predator and the environment rabies develops its own course. Thus, there is a set prevalence of rabies cases determined by the seasons. FIGURE 4.3.1 shows such regular seasonal changes. It is determined by the fox as approx. 90% of all rabies in the Russian Federation is fox-mediated (see above).

A new epizootiological situation arose as an increased number of cats and dogs mingled with the wild predators. Stray and neglected dogs and cats gathered in outskirts and suburbs with easy of access provender. On the other hand wild predators moved as well into such areas of human settlement. For instance, foxes have become a common sight in urban areas.

Under such conditions, it does not surprise that reports of rabies cases in dogs, cats and foxes in the cities and big villages

have increased.

Rabies ignores administrative and state borders. This has lead repeatedly to complications in such areas, inasmuch as rabies epizootics developed, for example at the state borders with Estonia, Latvia, the Ukraine, and in particular - with Kazakhstan. The same situation arises often at the administrative borders within the Russian Federation.

A continuous surveillance in the territory of the Russian Federation allows to locate the areas with particular problems. Accordingly, preventive vaccinations of the domestic animals can be planned. Such control measures combined with the reduction of vector species help to improve the rabies situation. However, even with great efforts there is no possibility to eradicate the disease. In this connection, considering the experience of other countries, the oral vaccination of wild carnivores is being extended within the country. Here might be a chance to delete foci of wildlife rabies altogether.

In regard to rabies in humans (hydrophobia) there is an urgent need to improve the preventive measures for the public. Looking at the annual statistics from 1990 to 1999 (TABLE 4.3.1) the data show that the efforts of the health authorities can only keep the mortality rate of humans in the country at a comparatively constant level. In 10 years, from 1990 to 1999, there were between 6 and 16 cases annually totalling 98 cases. Those cases were in the Central, Centralno-Chernozemny, South-Caucasian, Ural, Far East, West Siberian, and East Siberian regions of the country.

However, while the number of people applying for anti-rabies treatment did not exceed 200,000 per year up to 1990, in recent years it has exceeded 400,000.



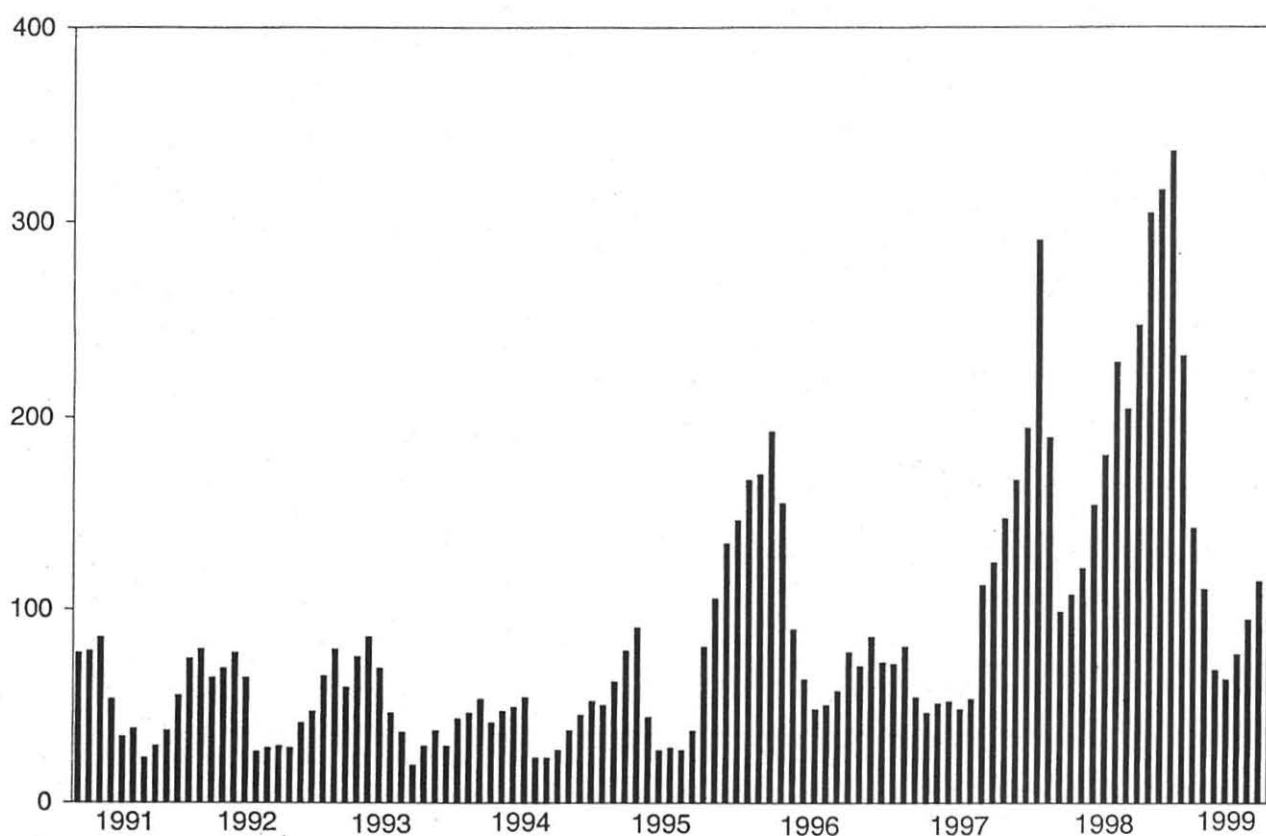
**TABLE 4.3.1:**

Cases of hydrophobia in humans, registered in the Russian Federation from 1990 to 1999

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Total
Number of cases	12	16	9	7	7	11	6	12	7	11	98

**FIGURE 4.3.1:**

Rabies in the Russian Federation 1991-1999 - (cases by the month)



Бешенство в РФ за 1991-1999гг.

TABLE 5.1

EUR		EUROPE		4/99		RABIES CASES							1.10.99 - 31.12.99			
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	-	-	1	-	3		3
BEL	BELGIUM *							0						0		0
BIH	BOSNA I HERCEGOWIN**							0						0		0
BUL	BULGARIA							0					3	3		3
BYE	BELARUS	6	8	3	1	-	-	18	12	-	-	-	2	14		32
CRO	CROATIA	12	14	2	-	7	1	36	423	2	4	1	7	437		473
CZH	CZECH REPUBLIC	-	2	-	-	-	-	2	37	1	1	2	-	41		43
DEN	DENMARK							0	-	-	-	-	1	1		1
DEU	FED.REP.OF GERMANY	-	1	1	-	-	-	2	13	-	-	-	1	14		16
EST	ESTONIA	3	3	2	-	-	-	8	12	1	2	-	6	21		29
FIN	FINLAND *							0						0		0
FRA	FRANCE *							0						0		0
FRY	FED.REP.OF YUGOSLA	-	11	1	-	-	-	12	31	-	-	-	1	32		44
GRE	GREECE *							0						0		0
HUN	HUNGARY	1	11	6	-	-	-	18	93	-	1	1	-	95		113
ICE	ICELAND *							0						0		0
IRE	IRELAND *							0						0		0
ITA	ITALY *							0						0		0
LTU	LITHUANIA	6	14	34	1	1	-	56	52	-	5	-	59	116		172
LUX	LUXEMBOURG *							0						0		0
LVA	LATVIA	4	8	5	-	-	-	17	21	2	1	-	13	37		54
MLD	MOLDOVA							0	-	-	-	-	7	7		7
NET	NETHERLANDS *							0						0		0
NOR	NORWAY *							0						0		0
POL	POLAND	6	15	87	1	-	-	109	218	3	13	-	54	288		397
POR	PORTUGAL *							0						0		0
ROM	ROMANIA	-	4	1	4	-	-	9	6	-	-	-	-	6		15
RUS	RUSSIAN FEDERATION	45	64	66	1	3	1	180	100	-	2	1	5	108	1	289
SPA	SPAIN	1	-	-	-	-	-	1						0		1
SVK	SLOVAK REPUBLIC	8	8	3	-	1	-	20	88	-	4	-	1	93		113
SVN	SLOVENIA							0	2	-	-	-	-	2		2
SWE	SWEDEN *							0						0		0
SWI	SWITZERLAND + LIEC*							0						0		0
TUR	TURKEY	76	-	8	1	4	-	89	1	-	-	-	-	1		90
TYM	MAKEDONIJA *							0						0		0
UKR	UKRAINE **							0						0		0
UNK	UNITED KINGDOM *							0						0		0
TOTAL		168	163	219	9	16	2	577	1111	9	33	6	160	1319	1	1897
PER CENT		8.9	8.6	11.5	0.5	0.8	0.1	30.4	58.6	0.5	1.7	0.3	8.4	69.5	0.1	100.0

\* NO CASES \*\* NO DATA

TABLE 5.2

EUR		EUROPE		1999				RABIES CASES						1. 1.99 - 31.12.99			
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	1)	1	-	-	-	-	1	3	-	-	1	-	4	5		
BEL	BELGIUM		-	-	1	-	-	1						0	1		
BIH	BOSNA I HERCEGOWIN**							0						0	0		
BUL	BULGARIA							0	-	-	-	-	25	25	25		
BYE	BELARUS	2)	14	20	7	3	-	45	52	-	-	-	8	60	105		
CRO	CROATIA		41	37	7	1	15	103	916	3	8	1	11	939	1042		
CZH	CZECH REPUBLIC		1	3	-	-	1	5	192	4	6	5	2	209	214		
DEN	DENMARK							0	-	-	-	-	10	10	10		
DEU	FED.REP.OF GERMANY		-	2	1	1	7	11	37	-	1	6	15	59	70		
EST	ESTONIA		11	15	5	-	-	31	52	3	2	-	32	89	120		
FIN	FINLAND	*						0						0	0		
FRA	FRANCE							0	-	-	-	-	1	1	1		
FRY	FED.REP.OF YUGOSLA3)		1	21	2	-	-	24	56	-	-	-	1	57	81		
GRE	GREECE	*						0						0	0		
HUN	HUNGARY		19	41	15	2	2	80	310	-	3	1	4	318	398		
ICE	ICELAND	*						0						0	0		
IRE	IRELAND	*						0						0	0		
ITA	ITALY	*						0						0	0		
LTU	LITHUANIA		10	27	49	3	1	90	126	1	17	2	121	267	357		
LUX	LUXEMBOURG		-	-	-	1	-	1						0	1		
LVA	LATVIA		21	20	7	1	-	49	79	10	2	1	28	120	169		
MLD	MOLDOVA		11	6	6	-	-	24	12	-	-	-	7	19	43		
NET	NETHERLANDS							0	-	-	-	-	6	6	6		
NOR	NORWAY	*						0						0	0		
POL	POLAND		29	46	147	1	-	225	718	12	34	3	155	922	1147		
POR	PORTUGAL	*						0						0	0		
ROM	ROMANIA		5	8	4	4	-	25	17	-	-	-	3	20	45		
RUS	RUSSIAN FEDERATION		405	227	509	51	57	58	1307	662	4	3	4	41	714	5	2026
SPA	SPAIN	4)	3	-	-	-	-	3	-	-	-	-	4	4	7		
SVK	SLOVAK REPUBLIC		27	45	8	1	1	83	392	3	15	3	7	420	503		
SVN	SLOVENIA		-	1	-	-	-	1	5	-	-	-	-	5	6		
SWE	SWEDEN	*						0						0	0		
SWI	SWITZERLAND + LIEC*							0						0	0		
TUR	TURKEY		181	-	19	2	6	-	208	1	-	-	-	1	209		
TYM	MAKEDONIJA	*						0						0	0		
UKR	UKRAINE	**						0						0	0		
UNK	UNITED KINGDOM	*						0						0	0		
TOTAL			780	519	787	71	94	66	2317	3630	40	91	27	481	4269	5	6591
PER CENT			11.8	7.9	11.9	1.1	1.4	1.0	35.2	55.1	0.6	1.4	0.4	7.3	64.8	0.1	100.0

\* NO CASES \*\* NO DATA

1) DOG CASE IMPORTED FROM TURKEY  
3) NO DATA FOR 1ST QUARTER2) NO DATA FOR JANUARY, MAY AND JUNE  
4) 3 DOG CASES IN NORTH AFRICA

TABLE 5.3

EUR		EUROPE		4/99		RABIES CASES 'OTHER ANIMAL SPECIES'					1.10.99 - 31.12.99	
LOCATION		OTHER DOMEST. ANIMALS		OTHER WILD ANIMALS						UNSPECIF.	TOTAL	
CODE	NAME	DONKEY	PIG	OTH.FOX SPECI.	WOLF	RACCOON DOG	WILD BOAR	INSECTIV BAT	HARE			OTH.WILD ANIMAL
BUL	BULGARIA	-	-	-	-	-	-	-	-	-	3	3
BYE	BELARUS	-	-	-	-	2	-	-	-	-	-	2
CRO	CROATIA	1	-	-	-	-	7	-	-	-	-	8
DEN	DENMARK	-	-	-	-	-	-	1	-	-	-	1
DEU	FED.REP.OF GERMANY	-	-	-	-	-	-	1	-	-	-	1
EST	ESTONIA	-	-	-	-	6	-	-	-	-	-	6
FRY	FED.REP.OF YUGOSLA	-	-	-	-	-	-	-	-	1	-	1
LTU	LITHUANIA	-	-	-	-	59	-	-	-	-	-	59
LVA	LATVIA	-	-	-	-	12	-	-	1	-	-	13
MLD	MOLDOVA	-	-	-	-	-	-	-	-	7	-	7
POL	POLAND	-	-	-	-	54	-	-	-	-	-	54
RUS	RUSSIAN FEDERATION	-	1	1	1	3	-	-	-	-	-	6
SVK	SLOVAK REPUBLIC	-	-	1	-	-	-	-	-	-	-	1
TOTAL		1	1	2	1	136	7	2	1	8	3	162
PER CENT		0.6	0.6	1.2	0.6	84.0	4.3	1.2	0.6	4.9	1.9	100.0

TABLE 5.4

EUR		EUROPE		1999		RABIES CASES 'OTHER ANIMAL SPECIES'																	1. 1.99 - 31.12.99				
COUNTRY	OTHER DOMESTIC ANIMALS						OTHER WILD ANIMALS														UNSPECI- FIED	TOTAL					
	OTH. DOM. CARNIVOR	DONKEY	PIG	OTH. DOM. HERBIVOR	DOMESTIC RABBIT	CAT LIV. WILD	ARCTIC FOX	OTH. FOX SPECIES	JACKAL	WOLF	RACCOON DOG	WILD CAT	LYNX	WILD BOAR	MOUFLO	BAT	SQUIRREL	HAMSTER	BLACK RAT	NORVEGIA RAT			HOUSE MOUSE	WILD RABBIT	HARE	OTHERS	
BUL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	25	
BYE	-	-	1	-	-	-	-	-	-	2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9
CRO	-	1	-	-	1	-	-	-	-	-	-	1	-	8	-	-	-	-	1	-	-	1	-	-	-	-	13
CZH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2
DEN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	10
DEU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	15
EST	-	-	-	-	-	-	-	-	-	-	29	-	2	-	-	-	1	-	-	-	-	-	-	-	-	-	32
FRA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
FRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
HUN	-	-	1	-	-	-	-	-	-	-	-	1	-	1	1	1	-	-	-	-	-	-	-	-	-	-	5
LTU	-	-	-	-	-	-	-	-	-	-	121	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	121
LVA	-	-	-	-	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	28
MLD	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	8	
NET	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	6
POL	2	-	-	-	-	-	-	-	1	150	-	-	-	-	-	3	-	-	1	-	-	-	-	-	-	-	157
ROM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	3	
RUS	-	-	3	55	-	-	5	8	1	11	12	-	-	-	-	-	1	-	-	2	1	-	-	-	-	99	
SPA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	4
SVK	-	-	-	-	-	1	-	1	-	1	-	2	-	1	-	-	-	2	-	-	-	-	-	-	-	-	8
TOT	2	1	6	55	1	1	5	9	1	15	345	4	2	10	1	42	2	2	2	2	1	1	1	11	25	547	
%	0.4	.2	1.1	10.1	0.2	0.2	0.9	1.6	.2	2.7	63.1	.7	.4	1.8	.2	7.7	.4	.4	0.4	0.4	0.2	0.2	.2	2.0	4.6	100.	

TABLE 5.5: RABIES CASE RATES (% TOTAL) FOR INDIVIDUAL ANIMAL SPECIES AND FOR TOTAL CASES OF 10 EUROPEAN COUNTRIES RANKING HIGHEST IN 1999.

EUR		EUROPE											1999		1. 1.99 - 31.12.99	
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
EUROPE																
TOTAL RABIES CASES		780	519	787	71	94	66	2317	3630	40	91	27	481	4269	5	6591
PER CENT INVOLVEMENT / COUNTRY																
RUS	RUSSIAN FEDERATION	51.9	43.7	64.7	71.8	60.6	87.9	56.4	18.2	10.0	3.3	14.8	8.5	16.7	100.0	30.7
POL	POLAND	3.7	8.9	18.7	1.4	-	3.0	9.7	19.8	30.0	37.4	11.1	32.2	21.6		17.4
CRO	CROATIA	5.3	7.1	0.9	1.4	16.0	3.0	4.4	25.2	7.5	8.8	3.7	2.3	22.0		15.8
SVK	SLOVAK REPUBLIC	3.5	8.7	1.0	1.4	1.1	1.5	3.6	10.8	7.5	16.5	11.1	1.5	9.8		7.6
HUN	HUNGARY	2.4	7.9	1.9	2.8	2.1	1.5	3.5	8.5	-	3.3	3.7	0.8	7.5		6.0
LTU	LITHUANIA	1.3	5.2	6.2	4.2	1.1	-	3.9	3.5	2.5	18.7	7.4	25.2	6.3		5.4
CZH	CZECH REPUBLIC	0.1	0.6	-	-	1.1	-	0.2	5.3	10.0	6.6	18.5	0.4	4.9		3.2
TUR	TURKEY	23.2	-	2.4	2.8	6.4	-	9.0	0.0	-	-	-	-	0.0		3.2
LVA	LATVIA	2.7	3.9	0.9	1.4	-	-	2.1	2.2	25.0	2.2	3.7	5.8	2.8		2.6
EST	ESTONIA	1.4	2.9	0.6	-	-	-	1.3	1.4	7.5	2.2	-	6.7	2.1		1.8
TOTAL FROM 10 COUNTRIES		745	461	766	62	83	64	2181	3448	40	90	20	401	3999	5	6185
EQUAL % TOTAL		95.5	88.8	97.3	87.3	88.3	97.0	94.1	95.0	100.0	98.9	74.1	83.4	93.7	100.0	93.8



R A B I E S   C A S E S															1.10.99 - 31.12.99	
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
<b>AUT</b> A U S T R I A																
316	MISTELBACH							0	2	-	-	1	-	3	3	
<b>CZH</b> C Z E C H   R E P U B L I C																
00	District of Prague							0	1	-	-	-	-	1	1	
01	Central Bohemia							0	14	-	1	-	-	15	15	
02	South Bohemia	-	1	-	-	-	-	1	1	-	-	-	-	1	2	
04	North Bohemia	-	1	-	-	-	-	1	16	1	-	2	-	19	20	
06	South Moravia							0	5	-	-	-	-	5	5	
TOTAL		0	2	0	0	0	0	2	37	1	1	2	0	41	0	43
PER CENT		0.0	4.7	0.0	0.0	0.0	0.0	4.7	86.0	2.3	2.3	4.7	0.0	95.3	0.0	100.0
<b>DEN</b> D E N M A R K																
050	SONDERJYLLAND							0	-	-	-	-	1	1	1	
<b>DEU</b> F E D . R E P . O F   G E R M A N Y																
01	Schleswig-Holstein							0	-	-	-	-	1	1	1	
05	Nordrhein-Westfalen	-	-	1	-	-	-	1	7	-	-	-	-	7	8	
06	Hessen							0	2	-	-	-	-	2	2	
09	Bayern							0	4	-	-	-	-	4	4	
14	Sachsen	-	1	-	-	-	-	1						0	1	
TOTAL		0	1	1	0	0	0	2	13	0	0	0	1	14	0	16
PER CENT		0.0	6.3	6.3	0.0	0.0	0.0	12.5	81.3	0.0	0.0	0.0	6.3	87.5	0.0	100.0
<b>SPA</b> S P A I N																
52	MELILLA (NORTH AFRICA)	1	-	-	-	-	-	1						0	1	

R A B I E S   C A S E S															1.10.99 - 31.12.99	
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
<b>BUL</b> B U L G A R I A																
06	VRATZA							0	-	-	-	-	1	1		1
11	LOVETCH							0	-	-	-	-	1	1		1
15	PLEVEN							0	-	-	-	-	1	1		1
TOTAL		0	0	0	0	0	0	0	0	0	0	0	3	3	0	3
<b>RUS</b> R U S S I A N   F E D E R A T I O N																
08	Pskov Region	3	-	-	-	-	-	3	3	-	1	1	1	6		9
12	Twer Region	1	-	-	-	-	-	1	5	-	-	-	-	5	1	7
15	Moscow Region	1	-	-	-	-	-	1	8	-	-	-	1	9		10
16	Oryol Region	3	7	9	-	-	-	19	4	-	1	-	-	5		24
17	Ruazan Region	-	1	1	-	-	-	2	1	-	-	-	-	1		3
19	Tula Region	1	2	1	-	-	-	4	3	-	-	-	-	3		7
24	Rep. of Mordoviya	-	-	1	-	-	-	1	1	-	-	-	-	1		2
25	Rep. of Chuvashiya	-	-	-	-	-	-	0	6	-	-	-	-	6		6
26	Belgorod Region	5	7	5	-	1	-	18	8	-	-	-	-	8		26
27	Voronezh Region	-	8	3	-	-	-	11	3	-	-	-	-	3		14
28	Kursk Region	9	20	15	-	-	-	44	27	-	-	-	1	28		72
29	Lipetsk Region	-	1	1	-	-	-	2	-	-	-	-	-	0		2
30	Tambov Region	-	-	1	-	-	-	1	-	-	-	-	-	0		1
31	Astrakhan Region	3	3	1	1	-	1	9	-	-	-	-	1	1		10
32	Volgograd Region	1	-	3	-	1	-	5	-	-	-	-	-	0		5
33	Samara Region	1	3	2	-	-	-	6	1	-	-	-	-	1		7
34	Penza Region	1	2	-	-	-	-	3	12	-	-	-	-	12		15
35	Saratov Region	2	5	5	-	-	-	12	8	-	-	-	-	8		20
36	Ulyanovsk Region	1	-	-	-	-	-	1	-	-	-	-	-	0		1
37	Rep. of Kalmykiya	1	-	-	-	-	-	1	-	-	-	-	-	0		1
38	Rep. of Tatarstan	-	1	1	-	-	-	2	3	-	-	-	-	3		5
39	Krasnodar Territory	3	1	-	-	-	-	4	1	-	-	-	-	1		5
40	Stavropol Territory	-	1	4	-	-	-	5	2	-	-	-	-	2		7
41	Rostov Region	2	-	4	-	-	-	6	-	-	-	-	-	0		6
42	Orenburg Region	1	1	1	-	1	-	4	1	-	-	-	1	2		6
44	Rep. of Bashkortostan	4	1	8	-	-	-	13	1	-	-	-	-	1		14
46	Kaliningrad Region	2	-	-	-	-	-	2	2	-	-	-	-	2		4
TOTAL		45	64	66	1	3	1	180	100	0	2	1	5	108	1	289
PER CENT		15.6	22.1	22.8	0.3	1.0	0.3	62.3	34.6	0.0	0.7	0.3	1.7	37.4	0.3	100.0

R A B I E S   C A S E S															1.10.99 - 31.12.99	
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		
<b>BYE</b> B E L A R U S																
01	Brest Region	-	1	-	-	-	-	1						0		1
02	Vitebsk Region	2	1	2	1	-	-	6	2	-	-	-	2	4		10
03	Gomel Region	-	2	-	-	-	-	2	2	-	-	-	-	2		4
04	Grodno Region	1	2	-	-	-	-	3	5	-	-	-	-	5		8
05	Minsk Region	3	2	1	-	-	-	6	3	-	-	-	-	3		9
TOTAL		6	8	3	1	0	0	18	12	0	0	0	2	14	0	32
PER CENT		18.8	25.0	9.4	3.1	0.0	0.0	56.3	37.5	0.0	0.0	0.0	6.3	43.8	0.0	100.0
<b>CRO</b> C R O A T I A																
01	Zagrebacka	-	3	-	-	-	-	3	28	-	-	-	-	28		31
02	Krapinsko-Zagorska	-	3	-	-	-	-	3	42	1	2	-	-	45		48
03	Sisacko-Moslavaca	1	-	-	-	2	-	3	25	-	-	-	-	25		28
04	Karlovacka	1	3	-	-	-	-	4	29	-	-	-	-	29		33
05	Varazdinska							0	19	-	-	-	-	19		19
06	Koprivnicko-Krizevack	1	2	-	-	-	-	3	65	-	-	-	-	65		68
07	Bjelovarsko-Bilogorsk	2	1	-	-	3	-	6	50	-	-	1	-	51		57
08	Primorsko-Goranska							0	5	1	-	-	-	6		6
09	Licko-Senjska	-	1	-	-	-	-	1	3	-	-	-	-	3		4
10	Viroviticko-Podravska							0	15	-	-	-	-	15		15
11	Pozesko-Slavonska							0	10	-	-	-	-	10		10
12	Brodsko-Posavska							0	12	-	-	-	-	12		12
13	Zadarska	1	-	-	-	-	-	1						0		1
14	Osijecko-Baranjska	3	1	1	-	-	-	5	34	-	-	-	-	34		39
15	Sibensko-Kninska	-	-	1	-	-	-	1	12	-	-	-	1	13		14
16	Vukovarsko-Srijemska	1	-	-	-	2	1	4	16	-	-	-	-	16		20
17	Splitsko-Dalmatinska							0	11	-	1	-	6	18		18
18	Istarska	1	-	-	-	-	-	1	25	-	1	-	-	26		27
19	Dubrovačko-Neretvanska							0	1	-	-	-	-	1		1
20	Medimurska	1	-	-	-	-	-	1	4	-	-	-	-	4		5
21	Zagreb							0	17	-	-	-	-	17		17
TOTAL		12	14	2	0	7	1	36	423	2	4	1	7	437	0	473
PER CENT		2.5	3.0	0.4	0.0	1.5	0.2	7.6	89.4	0.4	0.8	0.2	1.5	92.4	0.0	100.0

R A B I E S   C A S E S															1.10.99 - 31.12.99	
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
<b>EST</b> E S T O N I A																
01	Harjumaa	-	1	-	-	-	-	1	3	-	1	-	-	4		5
05	Jaervamaa							0	1	-	-	-	-	1		1
06	Laeaeenemaa							0	-	-	-	-	2		2	
07	Laeaeene-Virumaa							0	1	-	-	-	-	1		1
08	Polvamaa							0	1	-	-	-	-	1		1
09	Paernumaa							0	-	-	-	-	1		1	
10	Raplamaa	1	-	-	-	-	-	1	1	-	-	-	-	1		2
12	Tartumaa							0	1	1	1	-	2	5		5
13	Valgamaa	1	1	1	-	-	-	3	2	-	-	-	1	3		6
14	Viljandimaa	-	1	-	-	-	-	1						0		1
15	Vorumaa	1	-	1	-	-	-	2	2	-	-	-	-	2		4
TOTAL		3	3	2	0	0	0	8	12	1	2	0	6	21	0	29
PER CENT		10.3	10.3	6.9	0.0	0.0	0.0	27.6	41.4	3.4	6.9	0.0	20.7	72.4	0.0	100.0
<b>LVA</b> L A T V I A																
02	Aluksne	1	-	-	-	-	-	1	2	-	-	-	1	3		4
04	Bauska	-	1	-	-	-	-	1	1	-	-	-	1	3		4
05	Cesis							0	-	-	-	-	1	1		1
07	Dobele							0	1	-	-	-	2	3		3
08	Gulbene	1	-	-	-	-	-	1	1	-	-	-	-	1		2
09	Jekabpils							0	1	-	-	-	-	1		1
10	Jelgava							0	1	-	-	-	-	1		1
11	Kraslava		1	4	-	-	-	5					0	5		5
13	Liepaja		1	-	-	-	-	1	1	-	-	-	-	1		2
14	Limbazi	1	-	-	-	-	-	1	-	1	-	-	-	1		2
15	Ludza							0	3	-	-	-	2	5		5
17	Ogre							0	1	-	-	-	-	1		1
18	Preili							0	1	-	-	-	-	1		1
19	Rezekne		1	-	-	-	-	1	1	-	-	-	-	1		2
20	Riga		1	-	-	-	-	1	3	-	-	-	-	3		4
21	Saldus	1	-	-	-	-	-	1	-	-	1	-	1	2		3
25	Valmiera		2	-	-	-	-	2					0		2	
26	Ventspils		1	1	-	-	-	2	4	1	-	-	4	9		11
TOTAL		4	8	5	0	0	0	17	21	2	1	0	13	37	0	54
PER CENT		7.4	14.8	9.3	0.0	0.0	0.0	31.5	38.9	3.7	1.9	0.0	24.1	68.5	0.0	100.0

## R A B I E S   C A S E S

1.10.99 - 31.12.99

LOCATION CODE    NAME		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	
		DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS			TOTAL
<b>FRY</b> F E D . R E P . O F   Y U G O S L A V I A																
01	Beograd	-	2	-	-	-	-	0	2	-	-	-	-	2	2	
02	Pancevo	-	2	-	-	-	-	2	2	-	-	-	-	2	4	
03	Novi Sad	-	2	-	-	-	-	2	7	-	-	-	-	7	9	
04	Zrenjanin	-	3	-	-	-	-	3	1	-	-	-	1	2	5	
05	Subotica	-	2	-	-	-	-	2	8	-	-	-	-	8	10	
06	Sombor	-	2	1	-	-	-	3	5	-	-	-	-	5	8	
07	Sabac	-	-	-	-	-	-	0	1	-	-	-	-	1	1	
09	Jagodina	-	-	-	-	-	-	0	1	-	-	-	-	1	1	
11	Kraljevo	-	-	-	-	-	-	0	2	-	-	-	-	2	2	
13	Podgorica	-	-	-	-	-	-	0	2	-	-	-	-	2	2	
TOTAL		0	11	1	0	0	0	12	31	0	0	0	1	32	0	44
PER CENT		0.0	25.0	2.3	0.0	0.0	0.0	27.3	70.5	0.0	0.0	0.0	2.3	72.7	0.0	100.0
<b>HUN</b> H U N G A R Y																
03	Bacs-Kiskun	1	2	3	-	-	-	6	17	-	-	-	-	17	23	
04	Bekes	-	1	-	-	-	-	1	12	-	-	-	-	12	13	
05	Borsod-Abauj-Zemlen	-	3	2	-	-	-	5	13	-	-	-	-	13	18	
06	Csongrad	-	1	-	-	-	-	1	6	-	-	-	-	6	7	
09	Hajdu-Bihar	-	1	-	-	-	-	1	15	-	-	-	-	15	16	
10	Heves	-	1	-	-	-	-	1	2	-	-	-	-	2	3	
11	Komarom-Esztergom	-	1	-	-	-	-	1	-	-	-	-	-	0	1	
12	Nograd	-	-	-	-	-	-	0	7	-	-	-	-	7	7	
13	Pest	-	1	1	-	-	-	2	13	-	1	-	-	14	16	
15	Szabolcs-Szatmar-Bere	-	-	-	-	-	-	0	3	-	-	-	-	3	3	
16	Jasz-Nagykun-Szolnok	-	-	-	-	-	-	0	3	-	-	-	-	3	3	
17	Tolna	-	-	-	-	-	-	0	2	-	-	-	-	2	2	
19	Veszprem	-	-	-	-	-	-	0	-	-	-	1	-	1	1	
TOTAL		1	11	6	0	0	0	18	93	0	1	1	0	95	0	113
PER CENT		0.9	9.7	5.3	0.0	0.0	0.0	15.9	82.3	0.0	0.9	0.9	0.0	84.1	0.0	100.0
<b>MLD</b> M O L D O V A																
01	MOLDOVA	-	-	-	-	-	-	0	-	-	-	-	7	7	7	

LTU		L I T H U A N I A						R A B I E S C A S E S						1.10.99 - 31.12.99		
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
32	Akmenes	-	-	2	-	-	-	0	1	-	-	-	-	1	1	
33	Alytaus	-	-	-	-	-	-	2	3	-	-	-	-	3	5	
34	Anyksciu	-	-	-	-	-	-	0	-	-	2	-	2	4	4	
36	Birzu	-	-	1	-	-	-	1	1	-	-	-	-	1	2	
38	Varenos	-	-	-	-	-	-	0	3	-	-	-	-	3	3	
39	Vilkaviskio	-	-	3	-	-	-	3	1	-	-	-	-	1	4	
41	Vilniaus	-	-	-	-	-	-	0	1	-	-	-	-	1	1	
46	Jonavos	-	-	-	-	-	-	0	1	-	-	-	-	1	1	
47	Joniskio	1	1	1	-	-	-	3	-	-	-	-	1	1	4	
49	Kaisiadoriu	-	3	1	-	-	-	4	1	-	-	-	1	2	6	
51	Marijampoles	-	-	4	-	-	-	4	-	-	-	-	1	1	5	
52	Kauno	-	-	-	-	-	-	0	-	-	1	-	5	6	6	
53	Kedainiai	-	-	2	-	-	-	2	4	-	-	-	7	11	13	
54	Kelmes	-	1	1	-	-	-	2	1	-	-	-	-	1	3	
55	Klaipedos	-	-	3	-	1	-	4	3	-	-	-	3	6	10	
56	Kretdingos	-	-	-	-	-	-	0	-	-	-	-	1	1	1	
57	Kupiskio	-	1	-	-	-	-	1	-	-	-	-	1	1	2	
59	Lazdiju	-	-	1	-	-	-	1	11	-	-	-	7	18	19	
62	Moletu	-	-	-	-	-	-	0	-	-	-	-	2	2	2	
65	Pakruojo	2	-	2	-	-	-	4	-	-	-	-	2	2	6	
66	Panevezio	-	2	2	-	-	-	4	3	-	-	-	3	6	10	
67	Pasvalio	-	3	5	1	-	-	9	2	-	1	-	2	5	14	
69	Prienu	-	1	1	-	-	-	2	2	-	-	-	7	9	11	
71	Radviliskio	2	-	1	-	-	-	3	3	-	-	-	-	3	6	
72	Raseiniai	-	1	-	-	-	-	1	-	-	-	-	0	1	1	
73	Rokiskio	-	1	2	-	-	-	3	-	-	-	-	1	1	4	
77	Taurages	1	-	-	-	-	-	1	-	-	-	-	1	0	1	
79	Traku	-	-	-	-	-	-	0	2	-	-	-	-	2	2	
81	Ukmerges	-	-	1	-	-	-	1	-	-	-	-	-	0	1	
82	Utenos	-	-	1	-	-	-	1	-	-	-	-	6	6	7	
84	Sakiu	-	-	-	-	-	-	0	2	-	-	-	-	2	2	
85	Salcininku	-	-	-	-	-	-	0	1	-	-	-	-	1	1	
87	Silales	-	-	-	-	-	-	0	1	-	-	-	-	1	1	
88	Silutes	-	-	-	-	-	-	0	3	-	-	-	1	4	4	
89	Sirvintu	-	-	-	-	-	-	0	2	-	-	-	3	5	5	
91	Siauliu	-	-	-	-	-	-	0	-	-	1	-	-	1	1	
94	Jurbarko	-	-	-	-	-	-	0	-	-	-	-	3	3	3	
TOTAL		6	14	34	1	1	0	56	52	0	5	0	59	116	0	172
PER CENT		3.5	8.1	19.8	0.6	0.6	0.0	32.6	30.2	0.0	2.9	0.0	34.3	67.4	0.0	100.0



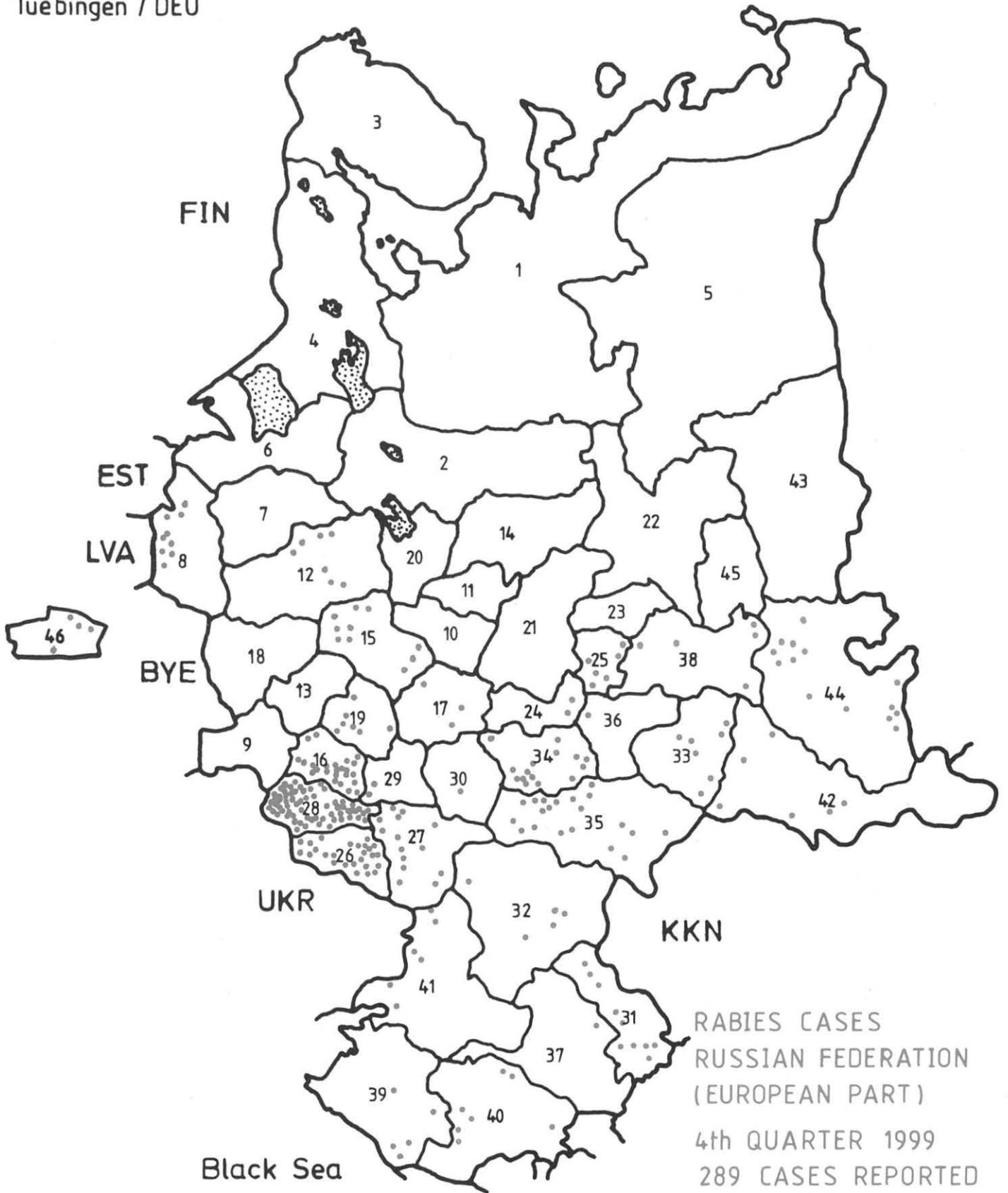
R A B I E S C A S E S															1.10.99 - 31.12.99	
LOCATION		D O M E S T I C A N I M A L S						W I L D A N I M A L S						HUMAN CASES	TOTAL	
CODE	NAME	DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS			TOTAL
<b>POL</b> P O L A N D																
04	Kujawsko-Pomorskie	1	1	23	1	-	-	26	24	-	2	-	6	32		58
06	Lubelskie	-	2	-	-	-	-	2	20	-	1	-	-	21		23
10	Lodzkie	1	-	-	-	-	-	1	3	-	-	-	-	3		4
12	Malopolskie	-	-	1	-	-	-	1	7	-	-	-	-	7		8
14	Mazowieckie	2	2	4	-	-	-	8	38	-	-	-	4	42		50
18	Podkarpackie	-	4	-	-	-	-	4	31	-	2	-	1	34		38
20	Podlaskie	1	1	22	-	-	-	24	34	-	2	-	4	40		64
22	Pomorskie	-	-	-	-	-	-	0	1	-	-	-	-	1		1
24	Slaskie	-	-	1	-	-	-	1	-	-	-	-	-	0		1
26	Swietokrzyskie	-	-	-	-	-	-	0	20	-	-	-	-	20		20
28	Warminsko-Mazurskie	1	4	36	-	-	-	41	36	3	5	-	39	83		124
30	Wielkopolskie	-	1	-	-	-	-	1	4	-	1	-	-	5		6
TOTAL		6	15	87	1	0	0	109	218	3	13	0	54	288	0	397
PER CENT		1.5	3.8	21.9	0.3	0.0	0.0	27.5	54.9	0.8	3.3	0.0	13.6	72.5	0.0	100.0
<b>SVK</b> S L O V A K R E P U B L I C																
1	Bratislavsky kraj	-	-	-	-	-	-	0	12	-	-	-	-	12		12
2	Trnavsky kraj	3	-	-	-	-	-	3	9	-	-	-	-	9		12
3	Trenciansky kraj	-	1	1	-	-	-	2	5	-	-	-	-	5		7
4	Nitriansky kraj	1	2	-	-	-	-	3	2	-	1	-	-	3		6
5	Zilinsky kraj	-	-	-	-	-	-	0	4	-	1	-	-	5		5
6	Banskobystricky kraj	4	2	-	-	1	-	7	22	-	-	-	-	22		29
7	Presovsky kraj	-	2	2	-	-	-	4	25	-	2	-	1	28		32
8	Kosicky kraj	-	1	-	-	-	-	1	9	-	-	-	-	9		10
TOTAL		8	8	3	0	1	0	20	88	0	4	0	1	93	0	113
PER CENT		7.1	7.1	2.7	0.0	0.9	0.0	17.7	77.9	0.0	3.5	0.0	0.9	82.3	0.0	100.0
<b>SVN</b> S L O V E N I A																
009	BREZICE							0	1	-	-	-	-	1		1
017	CRNOMELJ							0	1	-	-	-	-	1		1
TOTAL		0	0	0	0	0	0	0	2	0	0	0	0	2	0	2

R A B I E S   C A S E S															1.10.99 - 31.12.99	
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
<b>ROM</b> R O M A N I A																
10	BUZAU							0	1	-	-	-	-	1		
21	HARGHITA	-	1	-	2	-	-	3	1	-	-	-	-	1	4	
28	NEAMT							0	1	-	-	-	-	1	1	
31	SATU-MARE	-	1	-	-	-	-	1						0	1	
32	SALAJ							0	1	-	-	-	-	1	1	
35	TELEORMAN	-	-	-	1	-	-	1	1	-	-	-	-	1	2	
36	TIMIS	-	1	-	-	-	-	1						0	1	
38	VASLUI	-	1	1	1	-	-	3						0	3	
40	VRANCEA							0	1	-	-	-	-	1	1	
TOTAL		0	4	1	4	0	0	9	6	0	0	0	0	6	0	15
PER CENT		0.0	26.7	6.7	26.7	0.0	0.0	60.0	40.0	0.0	0.0	0.0	0.0	40.0	0.0	100.0
<b>TUR</b> T U R K E Y																
09	AYDIN	-	-	-	1	-	-	1						0	1	
10	BALIKESIR	1	-	-	-	-	-	1						0	1	
16	BURSA	17	-	-	-	3	-	20						0	20	
21	DIYARBAKIR	1	-	-	-	-	-	1						0	1	
27	GAZIANTEP	-	-	1	-	-	-	1						0	1	
29	GUEMUESHANE	1	-	-	-	-	-	1						0	1	
31	HATAY	-	-	-	-	1	-	1						0	1	
34	ISTANBUL	28	-	3	-	-	-	31						0	31	
35	IZMIR	17	-	2	-	-	-	19	1	-	-	-	-	1	20	
45	MANISA	5	-	-	-	-	-	5						0	5	
47	MARDIN	1	-	-	-	-	-	1						0	1	
52	ORDU	1	-	-	-	-	-	1						0	1	
55	SAMSUN	3	-	-	-	-	-	3						0	3	
60	TOKAT	-	-	1	-	-	-	1						0	1	
63	SANLIURFA	-	-	1	-	-	-	1						0	1	
68	AKSARAY	1	-	-	-	-	-	1						0	1	
TOTAL		76	0	8	1	4	0	89	1	0	0	0	0	1	0	90
PER CENT		84.4	0.0	8.9	1.1	4.4	0.0	98.9	1.1	0.0	0.0	0.0	0.0	1.1	0.0	100.0

## 6. LIST OF CONTRIBUTORS

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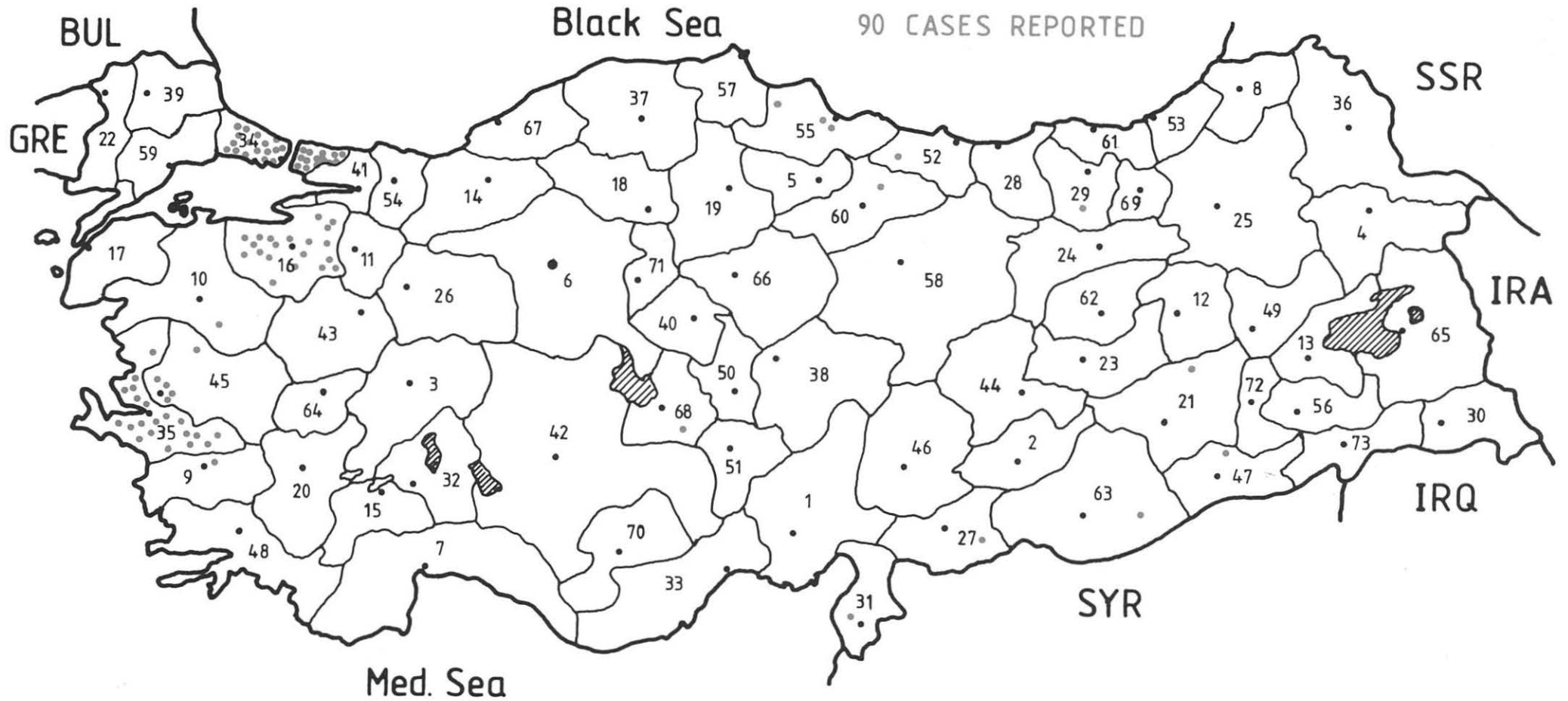






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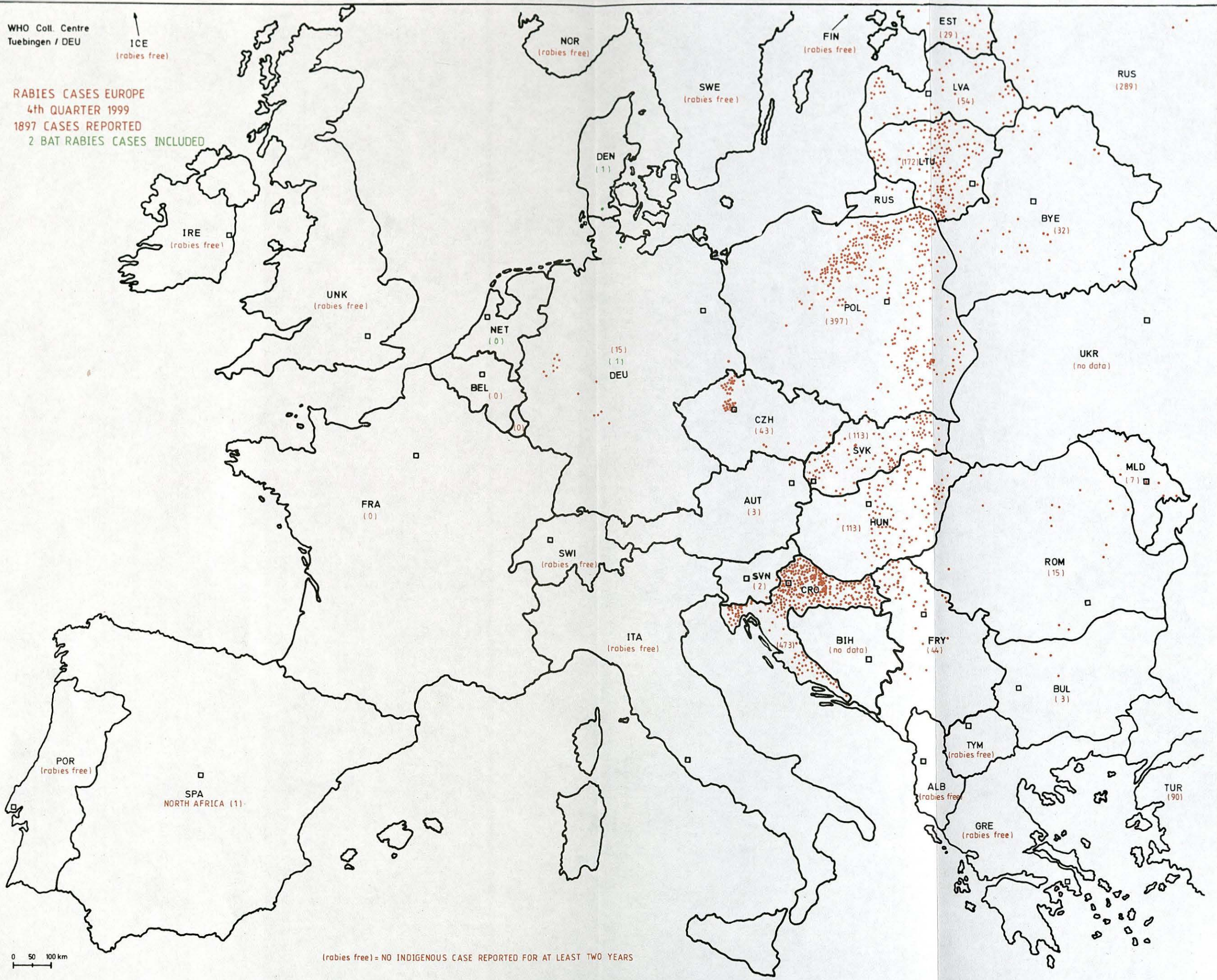
RABIES CASES TURKEY  
4th QUARTER 1999  
90 CASES REPORTED





ICE  
(rabies free)

**RABIES CASES EUROPE**  
4th QUARTER 1999  
1897 CASES REPORTED  
2 BAT RABIES CASES INCLUDED



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