RABIES BULLETIN EUROPE - Vol. 11/No 4/1987

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The BULLETIN is sponsored by the WORLD HEALTH ORGANIZATION in Geneva, and the INTERNATIONAL OFFICE OF EPIZOOTICS in Paris.

The financial support of the WHO Centre by the
BUNDESMINISTERIUM FÜR JUGEND, FAMILIE UND GESUNDHEIT,
Bonn-Bad Godesberg, is gratefully acknowledged.

1. INTRODUCTION

This BULLETIN describes the reported rabies cases in Europe for the fourth quarter 1987. The situation in general appears under 2., and in individual countries under 2.1 to 2.26.

In the miscellaneous section under 3.1 a review is given of the rabies cases in Europe from 1977 to 1987 reported to the WHO Collaborating Centre, Tübingen, usually presented in this BULLETIN under 'OTHER ANIMAL SPECIES'. Since bat rabies has been on the increase during the last two years in Europe, the Canadian experience on bat rabies, the history, epidemiology and prevention is abstracted from a paper by R.C. Rosatte under 3.2. Recent research in Yugoslavia is described in an article under 3.3 by M. Petrović concerning urban and sylvatic rabies.

The rabies case data are tabulated for the fourth quarter 1987 under 4.

The last section lists the official contributors to the BULLETIN.

The geographical distribution of cases in Europe in the fourth quarter 1987 is shown on the map of Europe and Turkey in the Annex. A third map is connected to the article under 3.1 and shows bat-rabies cases in Europe from 1977 to 1987.

2. RABIES IN EUROPE, 4TH QUARTER 1987 AND COMMENTS ON DEVELOPMENTS AND TRENDS IN 1987

Fourth Quarter 1987

During the fourth quarter 1987, 4280 rabies cases were reported in Europe. These were 3501 cases in wild animals (81.8%) and 779 cases in domestic animals (18.2%). Of the cases in wild animals 3181 (74.3% of total) were foxes, 42 badgers, 81 other mustelids, 127 deer and 70 other wild animals. Of the 779 cases in domestic animals 203 were dogs (of which 147 (72.4% of all dogs) were reported from Turkey, a country with dog-mediated rabies), 168 cats, 261 cattle, 24 horses, 118 small ruminants and 5 other domestic animals. These data are summarized in Table 1. Table 4 lists 'other animal species', less frequently involved in rabies.

Rabies-free countries in Europe participating in the surveillance were: Bulgaria, Finland, United Kingdom, Ireland, Iceland, Portugal and Sweden. There were no cases reported from Greece, Italy, Norway and Spain and there were no cases in terrestrial animals from Denmark and the Netherlands.

Bat-rabies cases were reported from Denmark (4), the Federal Republic of Germany (1) and the Netherlands (9).

No human case was reported.

Comments on Developments and Trends in 1987

Figures summarizing on 1987 can be found in Tables 2, 3 and 5.

The number of rabies cases in 1987 totals 16 690. This is a reduction compared to 1986 (17 169) by 2.8%.

The four quarters for 1987 compare as follows:

1st quarter	4 729
2nd quarter	3 865
3rd quarter	3 816
4th quarter	4 280

Wildlife or fox-mediated rabies

The wildlife rabies epizootic of central Europe is characterized by fluctuations in the incidence of the disease mainly due to the change in the fox population affected by rabies. The 12461 rabies cases (74.7% of total) diagnosed in foxes demonstrate the role of the animal as reservoir and the one passing the infection on to other species.

The incidence in the following countries has been on the increase: Austria, Czechoslovakia, German Democratic Republic, Hungary, Poland and Yugoslavia. Countries recording a decrease were: Belgium, Federal Republic of Germany, France, Luxembourg, Romania and Switzerland. In the countries Switzerland, Federal Republic of Germany, Italy, Austria (only the federal province Vorarlberg), Belgium and Luxembourg a field trial on oral immunization of foxes has clearly contributed to the reduction of rabies cases (see as well the report in BULLETIN 3/87, pp. 13-15).

Urban or Dog-Mediated Rabies

There is only one country showing the clear picture of urban rabies in Europe - Turkey. 69.2% of all cases 1987 were in dogs, 97.4% were accounted for by domestic animals. The number of rabies cases in 1987 totalled 1005; there were 1266 cases recorded in 1986.

That the urban rabies virus might not have disappeared completely in Yugoslavia is indicated by recent research (see the article under 3.3).

Bat Rabies

Bat-rabies can be clearly separated from the forementioned types and there is no evidence of this virus type in terrestrial animals.

With 140 bat-rabies cases in 1987, there were 18 cases more than 1986. While there was a decrease of cases in Denmark (from 105 in 1986 to 48 in 1987), and the Federal Republic of Germany (from 16 to 4), there were two new countries with bat-rabies reports: the Netherlands (86) and Spain (2).

Arctic Rabies

This type again can be distinguished from other types of rabies. The last cases occurred in Europe on the island of Svalbard in Norway, during 1980/81.

In 1987 there was one case reported in a reindeer in Svalbard.

Human Rabies

There was one imported case to the United Kingdom in 1987 from India. There are no doubt cases in Turkey, the country with urban rabies but unfortunately, there is no regular reporting to the Rabies Centre in Tübingen.

Individual country reports follow:

2.1 Rabies in Austria (AUT)
by E. Scharfen

During the fourth quarter 1987, 579 animal rabies cases were recorded, 34% more compared to the third quarter (432 cases) and 54.4% more than during the same period 1986 (375 cases). Of 523 rabid wild animals (90.3% of total) 475 were foxes, 22 roedeer, 11 badgers, 8 stone martens, 3 polecats, 2 red deer, 1 mouflon and 1 large weasel. Of 56 rabid domestic animals (9.7% of total) 31 were cattle, 14 cats, 9 sheep, 1 dog and 1 horse.

The epizootic occurs in the federal provinces (Bundesländer) Tyrol (in the districts (Bezirke) of Reutte and Lienz), Salzburg (districts Zell am See, Tamsweg, Hallein, Salzburg/Umgebung), Carinthia (all districts except Hermagor), Styria (districts Liezen, Murau, Judenburg, Knittelfeld, Leoben, Bruck an der Mur, Voitsberg, Graz/Umgebung, Deutschlandsberg, Leibnitz, Radkersburg, Weiz), Burgenland (districts Jennersdorf, Guessing, Oberwart, Oberpullendorf, Eisenstadt/Umgebung), Lower Austria to the north of the river Danube (districts Mistelbach, Horn, Krems an der Donau, Zwettl) and Upper Austria (districts Freistadt, Urfahr/Umgebung, Linz/Stadt, Gmunden).

The federal provinces Vorarlberg and Vienna are rabies-free.

In 1987 a total of 2042 rabies cases in animals were diagnosed, an increase of 47.2% in comparison with 1986 (1387 cases). Of 1954 rabid wild animals 1722 were foxes (1986-1159), 100 badgers (84), 72 roe deer (43), 45 stone martens (34), 8 polecats (4), 3 red deer (1), 1 large weasel, 1 wild boar, 1 mouflon and 1 hare. Of 88 rabid domestic animals 44 were cattle (1986-27), 20 cats (16), 18 sheep (10), 3 dogs (3), 2 horses (3) and 1 goat. The cases in domestic animals increased in 1987 by 44.3%.

2.2 Rabies in Belgium (BEL)
by J. Tambeur

During the prevailing quarter, 88 rabies cases were confirmed in the provinces of Liège, Luxembourg and Namur, 36 cases in domestic animals (2 dogs, 3 cats, 21 cattle, 2 horses and 8 sheep and goats) and 52 cases in wild animals (50 foxes and 2 mustelids).

There was an increase of cases in comparison with the previous quarter by 60% and compared to the same quarter 1986 by 5%. All cases were recorded to the south of the river Meuse.

There were 242 cases recorded in 1987 compared to 342 cases in 1986 amounting to a decrease of 29%.

In the region where a field trial of the oral vaccination of foxes against rabies was carried out, once in 1986 and twice in 1987, 29 cases of rabies were registered in 1987 compared to 122 in 1986, amounting to a decrease of 76%.

2.3 Bulgaria (BUL)

The country remained rabies-free.

2.4 Rabies in Czechoslovakia (CZE)
by M. Olach and J. Neumann

In the fourth quarter of 1987, rabies was ascertained in 421 cases (CSR-337, SSR-84). The number of rabies affected animals was by 7.1% (by 28 cases) higher than in the third quarter of 1987. In comparison with the same period of 1986 a decrease by 5.8% was recorded (4th quarter 1986-447 cases).

Rabies was ascertained in 387 wild animals (i.e. 91.9%) which included 364 foxes, 3 badgers, 14 martens and 6 roe-deer. In regard to domestic animals, rabies was ascertained in 5 dogs, 13 cats, 14 cattle and 2 sheep, i.e. 8.1% of the total number of rabies affected animals.

The total number of rabies cases of the CSSR in 1987 amounted to 1783, 19.6% more than in 1986 (1490 cases). The greatest number of rabies cases was registered in the CSR (1530). Compared to 1986 (1245 cases), there was an increase by 22.8%. On the other hand, only 253 cases were ascertained in the SSR, that is about the same as in 1986 (245 cases).

The fox accounted for the majority of cases 1605 compared to 1321 in 1986. Other affected wild animals were 7 badgers (in 1986-9), 37 martens (27), 1 polecat (3), 18 roe-deer (22), 2 wild boars (2), 1 raccoon dog (1), 1 fallow deer, and 1 brown rat. In comparison with the year 1986, the number of rabies cases increased in foxes by 21.5%, in martens by 37%. There was a decrease in badgers by 22.2%, in roe-deer by 18.2%, in polecats by 66.6%. In regard to domestic animals 27 dogs were affected (in 1986-36), 63 cats (55), 15 cattle (2), and 5 sheep (5). Thus, there was a decrease in dog cases by 25% and, on the other hand, an increase in cats by 14.5%.

The incidence of rabies reached its peak in the second quarter in April, the lowest incidence was recorded in the third quarter in July.

The highest figures of rabies cases were ascertained in the North Bohemian (553 cases), West Bohemian (274 cases), South Bohemian (235 cases) and South Moravian Region (150). In 1986, the South Moravian Region was first (275), followed by the South Bohemian (252), North Bohemian (234) and West Bohemian Region (230).

The absolutely highest incidence was found in the district Chomutov, followed by Louny, Trutnov, Litomerice, Ceská, Lípa, Karlovy Vary, Benesov, etc.

Rabies penetrated into the following districts: Komárno, Galanta, Nitra, Prievidza and Svidník which were free from rabies for a long time.

At the present time, rabies has been recorded in 418 foci involving 75 districts (CSR-347 foci in 52 districts, SSR-71 foci in 23 districts).

No case of rabies was recorded in man.

2.5 Rabies in Germany, Democratic Republic (DDR)

During the fourth quarter 1987, 409 rabies were diagnosed in the Democratic Republic of Germany, 40 cases more than during the previous quarter and 87 less in comparison with the fourth quarter 1986. Of the 409 cases 316 (77.3% of total) were in wild animals (283 foxes, 6 badgers, 9 stone martens, 15 roe deer, 1 fallow deer, 1 wild boar and 1 wild cat) and 93 (22.7% of total) were in domestic animals (9 dogs, 23 cats, 27 cattle, 3 horses and 31 sheep).

The distribution of cases was more concentrated in the south and the north and less concentrated in the central parts of the country.

The annual total amounts to 1693 cases, 123 more than during the previous year.

2.6 Bat-Rabies in Denmark (DEN)

During the fourth quarter 1987, there were 4 bat-rabies cases in Denmark.

The total for 1987 amounted to 48 bat-rabies cases. 47 of them occurred in Eptesicus serotinus and one in a Myotis daubentoni.

The country remained rabies-free in terrestrial animals.

2.7 Rabies in Germany, Federal Republic (DEU)

A total of 892 rabies cases were reported during the fourth quarter 1987, 46 cases more than during the previous quarter and 575 cases less than during the fourth quarter 1986 (-39.2%).

There was no major change in the distribution of animal species involved in the disease, it remains the picture of fox-mediated rabies.

There was a marked increase in the federal state (Bundesland) Hessen from 185 cases in the previous quarter to 249 during the fourth quarter, less marked in Rheinland-Pfalz (107 to 123), Baden-Württemberg (187 to 196) and Niedersachsen (24 to 29). A decrease was noticed in Nordrhein-Westfalen (85 to 53), Bayern (250 to 237) and Saarland (8 to 4).

The city states Hamburg, Bremen and Berlin remained rabies-free, as well as the federal state Schleswig-Holstein in terrestrial animals. The latter recorded 1 bat-rabies case close to the Danish border.

The field trial on oral rabies vaccination continued with several vaccination campaigns of the different federal states during autumn.

The annual figure for 1987 amounts to 3792 cases showing a substantial decrease compared to 1986 with 5260 cases.

Federal states with a rather favourable epizootiological situation and extra financial resources for the oral vaccination field trial had a noticeable

reduction in rabies cases, for example Niedersachsen from 507 in 1986 to 140 in 1987 and Nordrhein-Westfalen from 1121 to 467. All other states could improve the situation slightly or keep it at level.

2.8 Finland (FIN)

The country remained rabies-free.

2.9 Rabies in France (FRA)
by J. Blancou

498 rabies cases were reported during the fourth quarter 1987, 66 cases more than during the previous quarter. 381 cases were registered in the fox (76.5% of total), 17 in other wildlife species and 100 cases in domestic animals (8 dogs, 15 cats, 37 cattle, 8 horses and 32 small ruminants). The dèpartements (departments) with the greatest number of cases during the quarter were: Haut Saône with 54 cases, Aube with 53, and Côte d'Or with 50.

The situation at the rabies front remained, on the whole, stable. The total number of cases in 1987 amounted to 2068 compared to 2465 in 1986.

The area of 1000 km^2 where the SAD B19 vaccine was distributed for the oral immunization of foxes (departments of Moselle and of Doub) remained rabies-free since the last distribution campaign in September 1987.

Correction: Due to a misunderstanding while producing issue 3/87 the rabies cases for France were placed on the map on a department (dèpartement) level and not as usual on a community (commune) level. That, of course, does not represent a correct epidemiological picture.

The editors apologize.

2.10 Rabies in Greece (GRE)
by E. Tsaglas

During the fourth quarter 1987, no case of rabies was reported in Greece.

2.11 United Kingdom (GBR)

The country remained rabies-free.

2.12 Rabies in Hungary (HUN)
by L. Koltai

During the fourth quarter 1987, 381 rabies cases were registered in Hungary. In comparison with the same period last year (484 cases) there was a decrease by 21.3%. Foxes participated in the rabid diagnosed cases with 87.7% (4/1986 = 86.2%), cats with 3.4% (4/1986 = 8.7%) and cattle with 4.5% (4/1986 = 2.1%).

The provinces (Komitats) mostly affected were located in the western part of the country - Somogy with 47 cases and Baranya with 40 cases.

The annual total for 1987 amounted to 1466 cases, a figure which had not been reached before. The figure reflects on a situation in which present control methods might have to be changed.

2.13 Iceland (ISL)

The country remained rabies-free.

2.14 Ireland (IRE)

The country remained rabies-free.

2.15 Rabies in Italy (ITA)
by S. Prosperi

During the 4th quarter 1987, no case of rabies was reported in Italy.

During the whole year of 1987, there were no cases of rabies diagnosed in Italy. The last case was reported in July 1986 in Trento province. Nevertheless, the surveillance in the Alpine region continued. The figures for 1987 were as follows:
a) in Piemonte, Liguria and Valle d'Aosta 415 wild animals (268 foxes) and 107 domestic animals were examined;
b) in Lombardia 1483 wild animals (1294 foxes) and 215 domestic animals were examined;
c) in Veneto, Trentino Alto Adige, and Friuli Venezia Giulia 2702 wild animals (2240 foxes) and 297 domestic animals were examined.

Under the Ordinance of March 7, 1987 n.140 by the Ministry of Health, all dogs and grazing herbivores in Valle d'Aosta, Liguria, Lombardia, Trentino Alto Adige, Veneto, Friuli Venezia Giuli regions have to be vaccinated with ERA vaccine; in Piemonte region the vaccination was performed only along the border with Valle d'Aosta and only in dogs at risk (about 6000 hunting and shepherd dogs).

2.16 Rabies in Luxembourg (LUX)
by R. Frisch

The favourable development of the rabies situation in the second and third quarters continued during the fourth quarter 1987. Only 4 rabies cases were diagnosed, and of these 2 cases each in October and November. Again, all 4 cases were close to the German border.

The total of diagnosed rabies cases in 1987 amounted to 23, 115 cases less than in the previous year. The following animal species were affected by the disease in 1987:

14 foxes, 6 cattle, 2 cats, 1 sheep.

2.17 Bat-rabies in the Netherlands (NET)
by J.H.M. Nieuwenhuijs

During the fourth quarter of 1987, about 150 bats have been examined and 9 turned out to be rabies positive.

The number of positive bats in 1987 total 86 out of approximately 1250 bats examined.

83 positive bats were Eptesicus serotinus, three bats were Myotis dasycneme.

More than 51% of the positive bats came from the province of Friesland and here the greatest concentration was located in the southwestern part. The provinces of Zeeland, Noord-Brabant and Limburg remained rabies-free.

As far as terrestrial animals are concerned, the Netherlands remained rabies-free in 1987.

2.18 Rabies in Norway (NOR)

No case of rabies has been reported in Svalbard during the fourth quarter 1987.

2.19 Rabies in Poland (POL)
by J. Kolacz

A total of 528 cases of rabies were reported during the fourth quarter 1987. These are 32 cases more than during the previous quarter (an increase of 6.5%) and 119 cases more than during the fourth quarter in 1986 (an increase of 29.1%).

85.2% of the total cases were registered in wild animals, mainly in the fox (69.3% of total). Others were farm animals (6.4%), raccoon dogs (6.6%), cats (6.1%), roe deer (3.6%), dogs (1.9%).

Only six provinces (there are a total of 49) were rabies free during the said period.

The annual total amounted to 1686 cases compared to 1087 in 1986.

2.20 Rabies in Portugal (POR)

The country remained rabies-free.

2.21 Rabies in Romania (ROM)

Only 5 cases of rabies were reported during the fourth quarter 1987 in the northern half of Romania: 4 foxes and 1 horse.

The annual total amounts to 46 cases, 24 (52.2%) in domestic animals and 22 in wild animals. The fox was the animal mostly affected (21 cases = 45.7% of total).

2.22 Rabies in Spain (SPA)

There was no further case of bat-rabies as in the previous quarter.

The mainland of Spain remained rabies-free in terrestrial animals.

A total of 7 rabies cases (5 dogs and 2 cats) were recorded in 1987 in Ceuta and Melilla, Spanish territory located in North Africa.

2.23 Sweden (SWE)

The country remained rabies-free.

2.24 Rabies in Switzerland (SWI)
by A.I. Wandeler

During the fourth quarter of 1987, the Swiss Rabies Centre received 839 animals for examination. 25 (3.0%) of these were positive for rabies compared to 24 (5.4% of 442) in the previous quarter and 32 (2.9% of 1105) in the fourth quarter of 1986. 21 cases were observed in foxes, 1 in a stone marten, 1 in a cat, and 2 in cattle.

13 foxes, 1 stone marten and 1 cattle were registered in the cantons of Geneva, Jura and Vaud, close to the Swiss/French border. All animals originated from areas that had not yet been touched by oral vaccination campaigns, or from the immediate border zone between treated and non-treated regions (3 animals). 10 rabies cases were observed in the lower Rhone Valley in the canton of Valais, close to Lake Geneva. The canton of Valais had not been vaccinated since October 1986. 2 rabies cases had been registered there between October 1986 and August 1987. A severe outbreak took place late in September and in October of 1987. After an interruption of 13 months, another vaccination campaign took place in the area concerned by the end of November 1987.

One person was bitten by the rabid cat, no other bite exposure was recorded in the fourth quarter of 1987. The number of people treated for non-bite exposures is not recorded.

2.25 Rabies in Turkey (TUR)

During the fourth quarter 1987, 210 rabies cases were reported from Turkey. There were 207 cases in domestic animals: 147 dogs, 13 cats, 29 cattle, 2 horses, 1 donkey, 14 sheep and 1 other domestic animal; and only 3 wild animals: 1 fox, 1 wolf and 1 house mouse. There has been an increase of 11 cases compared to the previous quarter.

Concentrations of rabies cases were registered in the north in three provinces at the Black Sea - Samsun (29), Ordu (14) and Sakarya (14) - and at Kütalya province (13). All other provinces reported between 1 and 9 cases.

The annual figure for 1987 amounts to 1005 cases, thus, Turkey continues to report an annual figure lower than the previous year starting in 1981 with 2260 cases. Turkey stands for a country with typical urban

rabies: 97.4% of all affected animals in 1987 were domestic animals; of the grand total were 69.2% dogs, 8.4% cats, 15.4% cattle, 0.9% horses, 2.6% small ruminants and 1% others.

The provinces reporting most of the cases were Samsun (126) and Izmir (101), followed by Kütalia (56), Ordu (50), Sakarya (47), Manisa (43) and Bolu (43). All other provinces reported between 1 and 33 cases.

2.26 Rabies in Yugoslavia (YUG)

by M. Petrović

4th Quarter 1987

During the fourth quarter 1987, a total of 227 cases of rabies were registered. Of these were 214 wild animals (210 foxes, 2 badgers, 1 deer and 1 other wild animal) and 13 domestic animals (3 dogs, 8 cats, 1 bovine, 1 small ruminant). During the last quarter, 122 cases were registered, during the fourth quarter 1986 131.

Slovenia regported most of the cases (117), followed by Croatica (62), Vojvodina (24), Bosnia and Hercegovina (16) and Serbia (8).

Evaluation of rabies in 1987

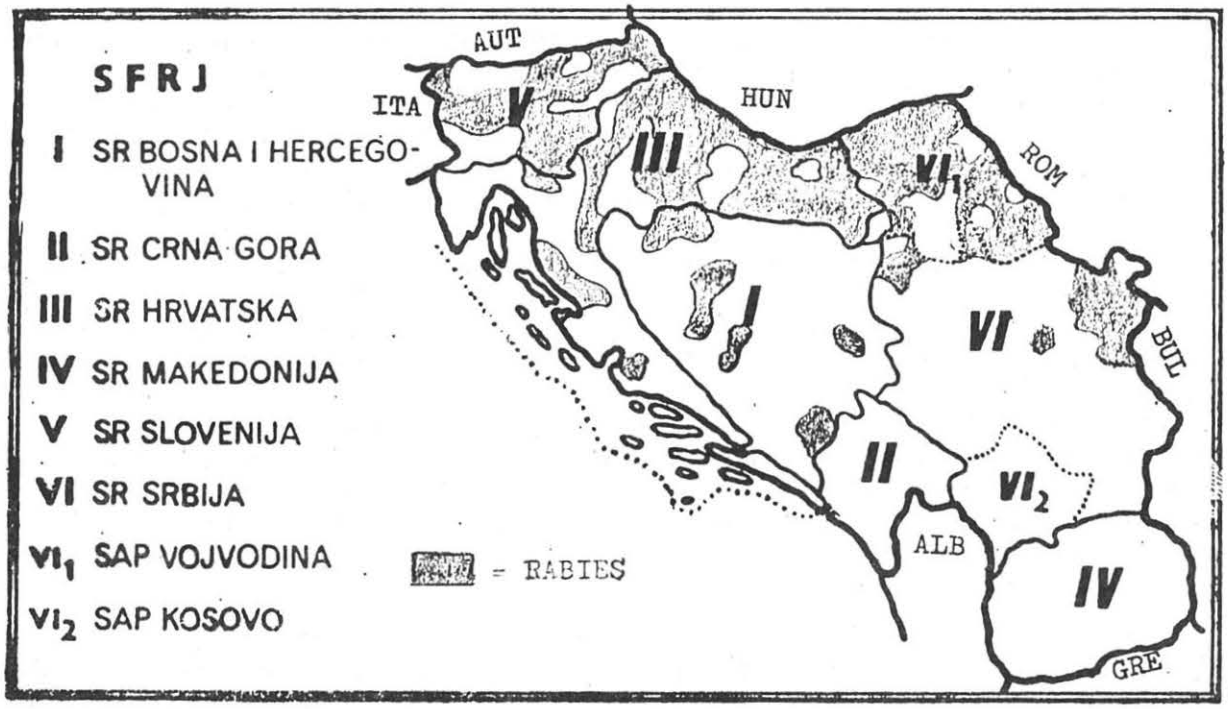
The territorial rabies distribution, shown by affected communities in 1987 was less, 121 communities in comparison with 1986 when 134 communities were affected. The decrease in the number of communities affected was particularly noted in western and southern Croatia with 46 communities in total compared to 66 in 1986. An insignificant decrease was registered in Bosnia and Hercegovina from 14 communities in 1986 to 9 in 1987. Nevertheless, there were two newly affected communities, Bileća and Han Pijesak, in the eastern part of the republic, where sylvatic rabies had never been noted before, but urban rabies did exist previously. An increase of sylvatic rabies in 1987 was noted in the northern and northwestern communities of Slovenia - 29 communities in total (24 in 1986), and less marked in Vojvodina (29 compared to 28 in 1986). In Serbia (without Vojvodina and Kosovo) 8 communities were affected in 1987 compared to 2 in 1986. An interesting observation was the appearance of a sylvatic rabies focus in the northeastern part of Serbia, close to the Rumanian and Bulgarian border namely the communities Majdanpek, Negotin, Bor and Zajecar. Beside a natural barrier, the river river Danube, the distance to the existing focus in Vojvodina is long. The adjacent territory of Rumania is also separated by the river Danube, whereas there is no natural barrier towards Bulgaria, where no rabies cases were reported. Consequently, the origin of the infection for this new focus remains obscure. The origin of 1 case in a dog in the community Svetozarevo is also unknown, whereas the communities Belgrade, Zemun and Sabac represent an extensive of sylvatic rabies from Vojvodina.

In contrast to the number of affected communities in 1987, the number of animal rabies cases has increased. During 1987, there were 599 animal cases registered, 100 (20%) more than in 1986. Rabies was confirmed in 31 (5.2%) domestic animals (11 dogs, 16 cats, 2 cattle, 1 sheep and 1 goat), and 568 (94.8%) wild animals (3 deer, 2 badgers, 2 martens, 1 wild cat, 1 bear and 559 foxes). The fox was the main vector and the most affected animal species (93.3% of total) which gives a typical picture of sylvatic

rabies. There were only 16 cats found rabid, although the vaccination of cats is not compulsary, and 11 dogs, in spite of the fact that yearly vaccination of all dogs is obligatory.

At the end we would like to emphasize that after 10 consecutive years (1971-1980) with human rabies cases, 1987 represents the seventh year without human victims of the disease, in spite of a very poor epizootiological situation in Yugoslavia.

RABIES IN YUGOSLAVIA, 1987



3. MISCELLANEOUS

3.1 Review of Rabies Case Data in Europe from 1977-1987 Usually Presented in this BULLETIN under 'OTHER ANIMAL SPECIES' as reported to the WHO Collaborating Centre, Tübingen

In the table 'Other Animal Species' of this BULLETIN animal rabies cases which usually occur less frequently are reported.

Nevertheless, rabies cases in any animal are a potential for further dissemination of the virus and they may become even more dangerous for man when they occur in animals not expected of being involved in rabies.

This article summarizes data at the WHO Collaborating Centre for Rabies Surveillance and Research from 1977 to 1987 for Europe. There are still quite a few information gaps due to the different reporting of the participating countries and the editors appeal to the contributors of this BULLETIN to correct and supplement figures so that the improved figures can be considered in the next summary reports planned for issue 4/89.

Eleven years of case data have been averaged in Tables 6 and 7 (pages 24 and 25) and species mentioned as far as known. There are still columns where the word 'other' often does not allow any further specification. More accurate recording and reporting from now on should improve this situation.

Table 6 and 7 confirm that the less frequent involved species in rabies are spill-over animals of the fox epizootic in Central Europe and, for Turkey, of the dog-mediated rabies. Exceptions are the animals involved in arctic rabies and bat rabies, they have developed a cycle of their own.

Arctic rabies

The strain causing rabies in the arctic region can clearly be distinguished from red-fox and dog-mediated rabies by monoclonal antibodies and the disease is separated geographically. Animals involved are the arctic fox, the reindeer (not mentioned in Table 6 since incorporated in the deer column) and the seal.

There was an outbreak of arctic rabies on the island of Svalbard, Norway, 1980/81. Again this year, 1987, one single case in a reindeer was reported.

Bat rabies

Bat rabies has become of importance during the last two years. There are three major features involved:

- the serotype is closely related to the DUVENHAGE virus, first isolated in Southern Africa,
- one bat species, Eptesicus serotinus, is mainly involved in the disease,
- there is a concentration of cases along the coastal areas of the North and Baltic Seas.

TABLE 1: Bat Rabies Europe

Species	Positive cases / Animals examined					
	DEN	DEU	GBR	NET	SWI	Total
E. serotinus	160/663	14/43	0/ 1	83/341	0/ 5	257/1053
M. daubentoni	2/ 48	1/38	0/ 1	0/ 34	0/ 3	3/ 124
M. dascycneme	1/ 8			3/ 65		4/ 73
P. pipistrellus	0/ 82	2/39	0/57	0/404	0/28	2/ 610
P. nathusii	0/ 6	1/ 1		0/ 33	0/11	1/ 51
M. myotis		0/ 2			0/ 9	0/ 11
V. murinus	0/150				0/ 5	0/ 155
N. noctula	0/ 18	0/14	0/ 6	0/ 11	0/27	0/ 76
P. auritus	0/ 43	0/ 7	0/43	0/ 34	0/12	0/ 139
M. nattereri	0/ 4		0/ 3			0/ 7
M. brandti	0/ 3					0/ 3
M. mystacinus	0/ 2		0/ 2		0/ 2	0/ 6
B. barbastellus	0/ 1					0/ 1
P. austriacus			0/ 1		0/ 2	0/ 3
N. leisleri				0/ 2	0/ 2	0/ 4
E. nilssoni					0/ 1	0/ 1
M. bechsteini					0/ 1	0/ 1
E. fuscus		1/ 1 (imported from Canada)				1/ 1
not determined	0/ 29	6/41	0/12	0/123	0/ 9	6/ 214
Total	163/1057	25/186	0/126	86/1047	0/117	274/2533

EDITORS NOTE: The figures in this table have 2 disadvantages, the detailed areas are not given where the samples were collected and they are partly incomplete. Therefore, epidemiological conclusions should be drawn with caution (see text as well).

In a Joint WHO/Green Cross Informal Discussion on Bat Rabies in Europe, 1986, in Marburg/FRG, it was recommended to stress above all dissemination of information on the subject.

Bats are an endangered species and it is recommended to sample only bats with obvious disease symptoms and/or after exposure to humans and then in collaboration with wildlife biologists or bat protectionists.

In Table 1 an attempt is made to demonstrate the infection rate of investigated bats on figures which are partly incomplete but can, nevertheless, give a general view. In Annex 3 a map is produced showing the distribution of reported bat rabies cases in Europe. During the period 1977 and 1987 they were reported as follows:

1982	1	1986	122
1983	1	1987	140
1985	14	Total	278

Raccoon dog rabies

In Table 6 the raccoon dog is the species with the highest rate of infection. No doubt the animal seems very adaptable to eastern Europe habitat and the distribution from the USSR westward continues. There are reports of rabid raccoon dogs in the CSSR (2 cases) and the German Democratic Republic (4) - 5 of these cases occurring during the last 2 years.

In Poland the figures have been on the rise for some time:

from 1977 to 1982 between 11 and 36 cases annually (Ø 20)

from 1983 to 1987 between 28 and 93 cases annually (Ø 57).

Domestic animals

The two domestic animal species with the highest number in Table 7 need no explanation - the donkey and the pig, except that one species is exposed more to the dog (in Turkey) and the other more to the fox (outdoor-keeping of pigs during sommer in Central Europe). All species in this table lead usually to a dead-end infection.

In regard to the three 'Other' columns of the table, it should be mentioned that usually zoo animals are listed under wild animals, but pets and animals for pelt-production under domestic animals.

3.2 Bat-Rabies in Canada: History, Epidemiology and Prevention

Since 1985 an increased number of bat rabies cases has been diagnosed in Europe creating a situation that makes an evaluation difficult.

Because of certain similarities to Europe, e.g. the prevalence of the disease in insectivorous bats, species preference and seasonal occurrence, the Canadian experience is presented here, abstracted from an article by R.C. Rosatte in the Canadian Veterinary Journal.

Nevertheless, one major difference can be observed, a characterisation of the Canadian and the European viruses with monoclonal antibodies reveals: while the first one is classified as serotype 1, according to a WHO recommendation, the European virus is classified as serotype 4 with the DUVENHAGE virus as prototype.

The first case of bat rabies reported in Canada was in British Columbia in 1957. The disease was later diagnosed in Ontario and Alberta in 1961 and 1971, respectively.

Bats are the most widely distributed mammals reported rabid in Canada, but, in part, have accounted for only 1% of the total diagnosed rabies cases.

During the last decade (1976-1986), 557 bats were diagnosed rabid, the majority (74%) in Ontario and Alberta (see Table 1).

TABLE I
Rabies in Bats in Canada (1976-1986)[a]

Province	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Ontario	9	17	14	22	32	19	22	47	51	35	45	313
British Columbia	8	8	1	5	10	8	7	9	5	11	9	81
Saskatchewan	6	9	5	4	3	3	2	2	3	7	5	49
Alberta	28	9	5	12	11	9	7	5	5	4	6	101
Manitoba	1								1			2
Quebec		2			1		2		2	1	1	9
Nova Scotia											1	1
New Brunswick									1			1
Total	52	45	25	43	57	39	40	63	68	58	67	557

[a]1976-1981 based on a fiscal year April 1-March 31.

The disease has been reported in several species of bats, the most common being big brown (Eptesicus fuscus), silver-haired (Lasionycteris noctivagaus), hoary (Lasiurus cinereus) and little brown (Myotis hicifugus) bats. All of these bats are insectivorous; noninsectivorous bats have not been reported rabid in Canada.

In the western Canadian provinces, the big brown bat is the one most commonly diagnosed rabid. It accounts for 95% of all cases in Ontario.

Prevalence of rabies in bats is usually about 1% in surveys of asymptomatic specimens. Infection rates for symptomatic suspect bats are approximately 5%, but vary on a species basis. The peak of bat rabies usually occurs during August and September, in most provinces of Canada, when swarming behavior allows extensive interspecies and intraspecies contact among bats.

In the past, it has been suggested that rabies in insectivorous bats in Canada is probably unrelated to other rabies enzootics in terrestrial mammals in Canada. Evidence to date has not proved otherwise. It appears that, in Canada, bats are not important sources of rabies infection for terrestrial mammals in that, in British Columbia, the disease is prevalent in bats in the absence of rabies in terrestrial mammals.

Rabies virus is maintained in local bat populations by interaction among colonial and solitary species, latency in hibernating bats, transplacental

transmission, and aggressive social interaction in colonial species. The great mobility of bats enables them to transmit rabies thousands of kilometers.

Monoclonal antibody analysis has indicated that there are many strains of bat rabies virus. Antigenic differences in the virus occur among bat species and between geographic areas.

In Canada, four antigenically different viral strains have been identified in bats. The first type was identified in big brown bats from Ontario. A second type was found in several species of bats from British Columbia, Alberta, ans Saskatchewan. Bats of the Myotis and Lasionycteris genera were detected with a third type in Ontario and New Brunswick. A fourth type was evident in big brown bats. Recently, a horse which died of rabies in British Columbia succumbed to a virus identical to the second type of bat rabies strain, prevalent in western Canada. To complicate the question of antigenicity even further, two different strains of rabies virus have been found in big brown bats from the same geographic area in the United States.

Human exposure to rabid bats is relatively seldom. In Ontario, only 2.9% (492/16 689) of the exposures of humans to potentially rabid animals were due to contact with bats between 1980-1986. Of the 21 documented human rabies deaths in Canada since 1925, only three were known to have been due to contact with an infected bat. One occurred in Saskatchewan in 1970, another in Nova Scotia in 1977, and the most recent in Alberta in 1985.

For the control of bat rabies the following is suggested:

- education of the public, especially explaining to children the hazards of handling bats;
- when humans are bitten the animal should be killed and submitted for rabies diagnosis;
- removal of bats from human habitation or from areas frequented by children, such as schools, should be undertaken;
- persons in professions such as veterinary medicine, wildlife research, etc. who handle bats should receive pre-exposure immunisation against rabies.

Population reduction or extermination of bats is generally not recommended for control of rabies.

The paper quotes 37 references.

(Taken from: "Bat Rabies in Canada: History, Epidemiology and Prevention", by R.C.Rosatte in Can.Vet.J., Vol. 28, No. 12, December 1987).

3.3 Urban and Sylvatic Rabies in Yugoslavia
by M. Petrović

In previous reports we stated that Yugoslavia was the part of Europe together with the Balkan Peninsula and the Mediterranean where typical enzootic urban rabies involving mainly dogs and other domestic animals was to be found, with the wolf as a urban rabies virus reservoir in nature and human rabies reveiling a relatively high incidence.

After World War II, because of the extensive veterinary sanitation measurements that had been carried out, before the annually obligatory vaccination of all dogs was enforced, urban rabies decreased and slowly started to disappear in the northern parts of the country (northern Serbia, Vojvodina, Croatia and Slovenia), but enzootically it still remained in the southern parts (southern Serbia, Bosnia and Herzegovina, Kosovo, Macedonia and Montenegro).

In the period from 1953 to 1975 Yugoslavia still had to be treated as a country with urban rabies, but with occasionally local sylvatic rabies epizootics in the eastern parts of Vojvodina (1953, 1955, 1963, 1973) and Slovenia (1973). The large wave of European sylvatic rabies involved Yugolsavia in 1977 from neighbouring Hungaria (Vojvodina and Croatia) and in 1979 from neighbouring Austria (Slovenia). From that period Yugoslavia represents the country of Europe in which both rabies types are present on separate territories: urban rabies in the southern parts and sylvatic in the northern parts of the country.

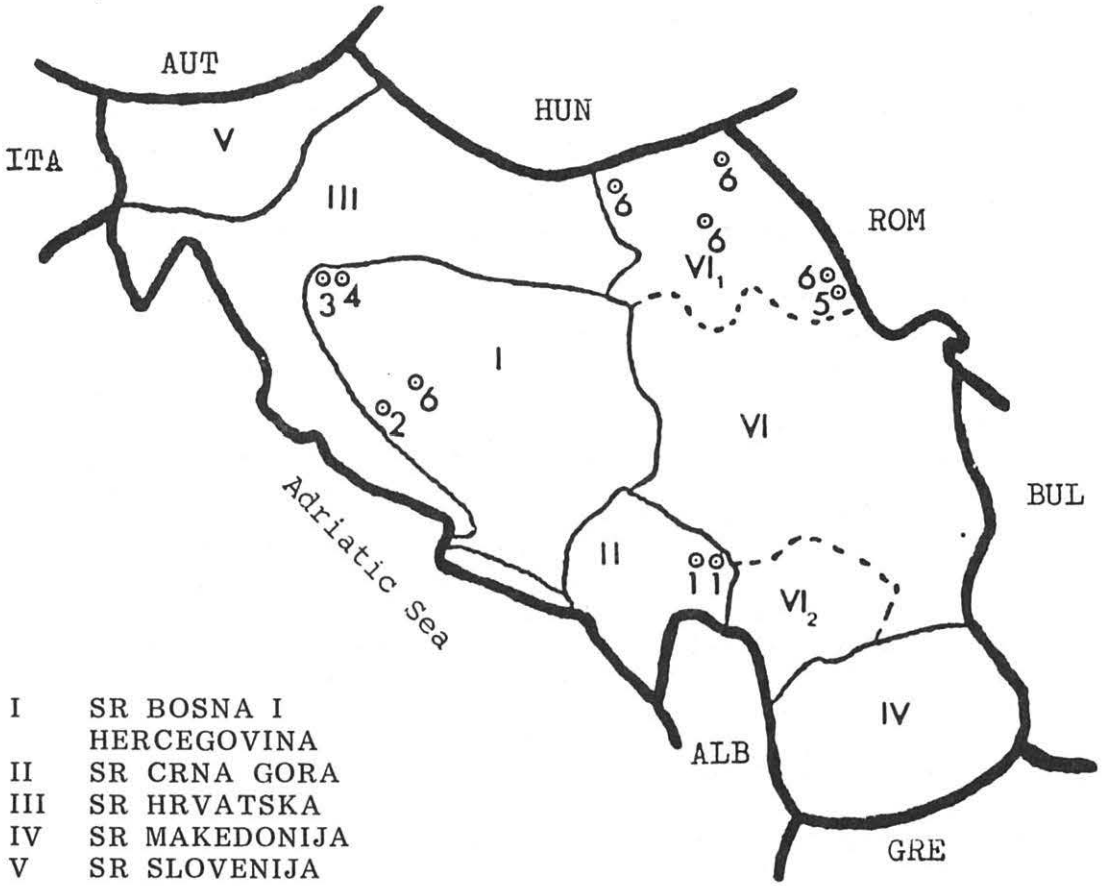
Since then, sylvatic rabies has spread over all communities in Vojvodina and almost all in Croatia and Slovenia, and in 1982 sylvatic rabies spread from affected territories into Bosnia and Herzegovina, i.e. into the territory on which classic urban rabies had been occurring 5 years earlier. From the epidemiological surveillance, particularly from the information about infected animal species, we made a hypothesis (RABIES BULLETIN EUROPE 4/83, p.9), that in Yugoslavia both major European types of rabies (urban and sylvatic) have met each other and persisted on the same territory. This hypothesis has recently been confirmed through assistance and courtesy of the director of the WHO Collaborating Centre for Reference and Research on Rabies, Prof.Dr. Pierre Sureau and Dr. Monique Lafon at the Pasteur Institute, Paris, France, to whom we express our gratitude here once again. Selected rabies virus isolates from our collection stored in liquid nitrogen or 50% glycerol at -20°C (from 2 cows bitten by wolves, 2 wolves, 2 dogs, and 5 foxes) had been refreshed by i.c. passage in white (NMRI) mice and mouse brains in 50% glycerol were sent by airmail to the Pasteur Institute, Paris. Isolates were tested by means of indirect FAT with a panel of 42 antinucleocapsid monoclonal antibodies. The results showed that 2 cow (wolf) isolates from Montenegro (Rozaje, 1978) and 1 wolf and 1 fox isolate from Bosnia and Hercegovina (Bosnasko Grahovo, 1984, and Mrkonjić Grad, 1986, respectively) were typical for our enzootic "classical urban rabies", while 1 dog and 1 fox isolate, also from Bosnia and Hercegovina (Velika Kladusa, 1986), turned out to be typical for sylvatic rabies, i.e. "European fox rabies". Isolates from Vojvodina (1 dog and 4 foxes), where epidemiologically the sylvatic type of rabies exist were characterized, for us unexpectedly as urban strains.

From the above result follows that in Yugoslavia on the territory of one of its republics strains of virus of both rabies types in Europe exist - urban and sylvatic, and that the epizootic of sylvatic rabies in Europe in general is caused by rabies virus strains of different antigenicity. We presume that in western Europe, in the absence of wolves and the other ecological factors, particular virus strains of fox rabies are present, in contrast to eastern Europe, where a permanent connection exists between sylvatic and urban rabies of wolves and dogs of eastern origin. We may wonder which one of two rabies virus strains present on the same territory would in the future become dominant, or if a new hybrid strain would appear as a result of co-existence of two different strains together, in the presence of other ecological factors. More detailed investigations of rabies virus strains of

Croatia and Slovenia and of other European countries (especially Hungary and Rumania) would by all means give further explanation.

The case data of animal and human rabies in Yugoslavia over the last 10 years (i.e. from the outbreak of the European sylvatic rabies epizootic 1977) has been presented in this BULLETIN, issue 4/86. The highest number of cases was registered in 1981 with 2116 rabid animals. It is interesting to state that there was no human case reported now for 7 years.

Rabies Virus Strains:
Antigenic Differences on the Territory of SFR Yugoslavia



I SR BOSNA I HERCEGOVINA
II SR CRNA GORA
III SR HRVATSKA
IV SR MAKEDONIJA
V SR SLOVENIJA
VI SR SRBIJA
VI_1 SAP VOJVODINA
VI_2 SAP KOSOVO

1 = Cattle (wolf) - urban rabies (Rozaje, 1978)
2 = Wolf - urban rabies (Bosansko Grahovo, 1984)
3 = Dog (fox) - sylvatic rabies (Velika Kladusa, 1986)
4 = Fox - sylvatic rabies (Velika Kladusa, 1986)
5 = Dog (fox) - urban rabies Bela Crkva, 1984)
6 = Fox - urban rabies (Mrkonjić Grad, 1986, Vrsac, 1976, Sombor, 1977, Novi Becej, 1986, Novi Knezevac, 1972)

TABLE 1

EUR EUROPE 4/87 RABIES CASES 1.10.87 - 31.12.87

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		
AUT	AUSTRIA	1	14	31	1	9	-	56	475	11	12	24	1	523		579
BEL	BELGIUM	2	3	21	2	8	-	36	50	-	2	-	-	52		88
BUL	BULGARIA *							0						0		0
CZE	CZECHOSLOVAKIA	5	13	14	-	2	-	34	364	3	14	6	-	387		421
DDR	GERMAN DEM. REPUBLIC	9	23	27	3	31	-	93	283	6	9	16	2	316		409
DEN	DENMARK							0	-	-	-	-	4	4		4
DEU	FED.REP. OF GERMANY	7	32	50	6	14	-	109	692	13	21	52	5	783		892
FIN	FINLAND *							0						0		0
FRA	FRANCE	8	15	37	8	32	-	100	381	2	6	7	2	398		498
GBR	UNITED KINGDOM *							0						0		0
GRE	GREECE *							0						0		0
HUN	HUNGARY	11	13	17	1	2	2	46	334	-	-	1	-	335		381
IRE	IRELAND *							0						0		0
ISL	ICELAND *							0						0		0
ITA	ITALY *							0						0		0
LUX	LUXEMBOURG	-	1	3	-	-	-	4						0		4
NET	NETHERLANDS							0	-	-	-	-	9	9		9
NOR	NORWAY *							0						0		0
POL	POLAND	10	32	29	-	5	1	77	366	5	16	20	44	451		528
POR	PORTUGAL *							0						0		0
ROM	ROMANIA	-	-	-	1	-	-	1	4	-	-	-	-	4		5
SPA	SPAIN *							0						0		0
SWE	SWEDEN *							0						0		0
SWI	SWITZERLAND + LIECHT	-	1	2	-	-	-	3	21	-	1	-	-	22		25
TUR	TURKEY	147	13	29	2	14	2	207	1	-	-	-	2	3		210
YUG	YUGOSLAVIA	3	8	1	-	1	-	13	210	2	-	1	1	214		227
TOTAL		203	168	261	24	118	5	779	3181	42	81	127	70	3501	0	4280
PER CENT		4.7	3.9	6.1	0.6	2.8	0.1	18.2	74.3	1.0	1.9	3.0	1.6	81.8	0.0	100.0

* NO CASES.

TABLE 2

EUR EUROPE 1987 RABIES CASES 1. 1.87 - 31.12.87

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		
AUT	AUSTRIA	3	20	44	2	19	–	88	1722	100	54	75	3	1954		2042
BEL	BELGIUM	5	18	43	3	18	1	88	140	3	9	2	–	154		242
BUL	BULGARIA *							0						0		0
CZE	CZECHOSLOVAKIA	27	63	15	–	5	–	110	1605	7	38	19	4	1673		1783
DDR	GERMAN DEM. REPUBLIC	86	95	70	9	107	1	368	1187	21	58	52	7	1325		1693
DEN	DENMARK							0	–	–	–	–	48	48		48
DEU	FED.REP. OF GERMANY	34	98	160	21	69	1	383	3013	75	120	188	13	3409		3792
FIN	FINLAND *							0						0		0
FRA	FRANCE	37	76	98	16	121	–	348	1640	13	37	23	7	1720		2068
GBR	UNITED KINGDOM 1)							0						0	1	1
GRE	GREECE	1	–	–	–	–	–	1						0		1
HUN	HUNGARY	49	67	53	1	5	8	183	1263	1	4	14	1	1283		1466
IRE	IRELAND *							0						0		0
ISL	ICELAND *							0						0		0
ITA	ITALY *							0						0		0
LUX	LUXEMBOURG	–	2	6	–	1	–	9	14	–	–	–	–	14		23
NET	NETHERLANDS							0	–	–	–	–	86	86		86
NOR	NORWAY							0	–	–	–	1	–	1		1
POL	POLAND	52	75	79	1	16	7	230	1209	18	56	67	106	1456		1686
POR	PORTUGAL *							0						0		0
ROM	ROMANIA	5	6	6	2	5	–	24	21	–	–	–	1	22		46
SPA	SPAIN 2)	5	2	–	–	–	–	7	–	–	–	–	2	2		9
SWE	SWEDEN *							0						0		0
SWI	SWITZERLAND + LIECHT	1	2	4	1	1	–	9	85	1	3	1	–	90		99
TUR	TURKEY	695	84	155	9	26	10	979	3	–	–	1	22	26		1005
YUG	YUGOSLAVIA	11	16	2	–	2	–	31	559	2	–	3	4	568		599
TOTAL		1011	624	735	65	395	28	2858	12461	241	379	446	304	13831	1	16690
PER CENT		6.1	3.7	4.4	0.4	2.4	0.2	17.1	74.7	1.4	2.3	2.7	1.8	82.9	0.0	100.0

* NO CASES. 1) IMPORTED FROM INDIA. 2) 7 CASES IN NORTH AFRICA, 2 BAT CASES IN THE MAINLAND.

TABLE 3: RABIES CASE RATES (% TOTAL) FOR INDIVIDUAL ANIMAL SPECIES AND FOR TOTAL CASES OF 10 EUROPEAN COUNTRIES RANKING HIGHEST IN 1987.

EUR EUROPE 1987 1. 1.87 - 31.12.87

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	1011	624	735	65	395	28	2858	12461	241	379	446	304	13831	1	16690
								PER CENT INVOLVEMENT / COUNTRY								
DEU	FED.REP. OF GERMANY	3.4	15.7	21.8	32.3	17.5	3.6	13.4	24.2	31.1	31.7	42.2	4.3	24.6		22.7
FRA	FRANCE	3.7	12.2	13.3	24.6	30.6	-	12.2	13.2	5.4	9.8	5.2	2.3	12.4		12.4
AUT	AUSTRIA	0.3	3.2	6.0	3.1	4.8	-	3.1	13.8	41.5	14.2	16.8	1.0	14.1		12.2
CZE	CZECHOSLOVAKIA	2.7	10.1	2.0	-	1.3	-	3.8	12.9	2.9	10.0	4.3	1.3	12.1		10.7
DDR	GERMAN DEM. REPUBLIC	8.5	15.2	9.5	13.8	27.1	3.6	12.9	9.5	8.7	15.3	11.7	2.3	9.6		10.1
POL	POLAND	5.1	12.0	10.7	1.5	4.1	25.0	8.0	9.7	7.5	14.8	15.0	34.9	10.5		10.1
HUN	HUNGARY	4.8	10.7	7.2	1.5	1.3	28.6	6.4	10.1	0.4	1.1	3.1	0.3	9.3		8.8
TUR	TURKEY	68.7	13.5	21.1	13.8	6.6	35.7	34.3	0.0	-	-	0.2	7.2	0.2		6.0
YUG	YUGOSLAVIA	1.1	2.6	0.3	-	0.5	-	1.1	4.5	0.8	-	0.7	1.3	4.1		3.6
BEL	BELGIUM	0.5	2.9	5.9	4.6	4.6	3.6	3.1	1.1	1.2	2.4	0.4	-	1.1		1.4
	TOTAL FROM 10 COUNTRIES	999	612	719	62	388	28	2808	12341	240	376	444	167	13568	0	16376
	EQUAL % TOTAL	98.8	98.1	97.8	95.4	98.2	100.0	98.3	99.0	99.6	99.2	99.6	54.9	98.1	0.0	98.1

TABLE 4

EUR E U R O P E 4/87

R A B I E S C A S E S
'OTHER ANIMAL SPECIES'

1.10.87 - 31.12.87

LOCATION CODE	NAME	OTHER DOMESTIC ANIMALS				OTHER WILD ANIMALS												TOTAL
		DONKEY	PIG	OTH.DOM HERBIVO	DOMEST RABBIT	WOLF	RACOON DOG	WILD CAT	LYNX	WILD BOAR	MOUFLON	INSECT BAT	SQUIRREL	HOUSE MOUSE	OTH.SM RODENT	HARE	OTHER	
AUT	AUSTRIA	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
DDR	GERMAN DEM.REP.	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	2
DEN	DENMARK	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	4
DEU	FED.REP.GERMANY	-	-	-	-	-	-	-	-	3	-	1	-	-	-	1	-	5
FRA	FRANCE	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2
HUN	HUNGARY	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
NET	NETHERLANDS	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	9
POL	POLAND	-	-	-	1	-	35	-	1	3	-	-	1	-	1	3	-	45
TUR	TURKEY	1	-	1	-	1	-	-	-	-	-	-	-	1	-	-	-	4
YUG	YUGOSLAVIA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
TOTAL		1	2	1	1	1	35	1	1	7	1	14	1	1	3	4	1	75
PER CENT		1.3	2.7	1.3	1.3	1.3	46.7	1.3	1.3	9.3	1.3	18.7	1.3	1.3	4.0	5.3	1.3	100.0

TABLE 5

EUR EUROPE 1987 — RABIES CASES 'OTHER ANIMAL SPECIES' — 1. 1.87 - 31.12.87

COUNTRY	OTHER DOMESTIC ANIMALS						OTHER WILD ANIMALS															TOTAL
	OTH.DOM. CARNIVOR	DONKEY	MULE	PIG	OTH.DOM. HERBIVOR	DOMESTIC RABBIT	WOLF	RACOON DOG	WILD CAT	LYNX	WILD BOAR	EUROPEAN BISON	MOUFLON	CHAMOIS	HEDGEHOG	INSECTIV BAT	SQUIRREL	BLACK RAT	HOUSE MOUSE	OTH.SMAL RODENTS	HARE	OTHERS	
AUT	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1	-	3
BEL	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
CZE	-	-	-	-	-	-	-	1	-	-	2	-	-	-	-	-	-	1	-	-	-	-	4
DDR	1	-	-	-	-	-	-	3	1	-	2	-	1	-	-	-	-	-	-	-	-	-	8
DEN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	-	-	-	-	-	-	48
DEU	-	1	-	-	-	-	-	-	-	-	4	1	2	-	1	4	-	-	-	-	1	-	14
FRA	-	-	-	-	-	-	-	-	3	-	-	-	-	1	-	-	-	-	-	2	1	-	7
HUN	-	-	-	8	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	9
NET	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	-	-	-	-	-	-	86
POL	6	-	-	-	-	1	-	93	-	1	3	-	-	-	2	-	1	1	-	1	4	-	113
ROM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
SPA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2
TUR	-	2	1	-	7	-	3	-	-	-	-	-	-	-	-	-	-	-	19	-	-	-	32
YUG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4
TOT.	7	3	1	8	7	2	3	97	4	1	13	1	4	1	3	140	1	2	19	3	7	5	332
%	2.1	0.9	0.3	2.4	2.1	0.6	0.9	29.2	1.2	0.3	3.9	0.3	1.2	0.3	0.9	42.2	0.3	0.6	5.7	0.9	2.1	1.5	100.

TABLE 6

EUR EUROPE 1977-1987 RABIES CASES 'OTHER ANIMAL SPECIES' 1. 1.77 - 31.12.87

COUNTRY	OTHER WILD ANIMALS																					TOTAL
	ARCTIC FOX	JACKAL	WOLF	RACOON DOG	WILD CAT	RACOON	OTH.WILD CARNIVOR	WILD BOAR	MOUFLON	CHAMOIS	OTHER UNGULATE	HEDGEHOG	INSECTIV BATS	SQUIRREL	MARMOT	BLACK RAT	HOUSE MOUSE	MUSKRAT	OTH.SMAL RODENTS	WILD RABBIT	HARE	OTHERS	
AUT	-	-	-	-	-	-	-	1	6	14	1 1)	-	-	-	1	-	-	1	-	-	2	6	32
CZE	1	-	1	2	12	-	4 2)	5	7	-	-	-	-	-	-	2	1	1	1 3)	-	-	13	50
DDR	-	-	-	4	3	3	-	29	13	-	-	3	1	6	-	3	-	-	1 4)	-	6	11	83
DEN	-	-	-	-	-	-	-	-	-	-	-	-	163	-	-	-	-	-	-	-	-	-	163
DEU	-	-	4	-	3	22	4 5)	44	17	-	7 6)	5	25	4	-	1	2	1	2	3	7	1	152
FRA	-	-	-	-	15	-	2 7)	14	2	3	-	2	-	-	1	-	-	-	3 8)	-	3	7	52
HUN	-	-	-	-	17	-	-	4	1	-	-	-	-	-	-	-	-	1	1 9)	3	-	6	33
ITA	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	2
LUX	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2
NET	-	-	-	-	-	-	-	-	-	-	-	-	86	-	-	-	-	-	-	-	-	-	86
NOR	14	-	-	-	-	-	1 10)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
POL	-	-	5	377	-	-	2 11)	25	-	-	-	6	1	32	-	7	-	11	3 12)	-	17	110 13)	596
ROM	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	15
SPA	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	2
SWI	-	-	-	-	-	1	-	2	-	21	-	-	-	-	3	-	-	-	-	-	-	2 14)	29
TUR	-	6	41	-	-	-	2 15)	1	-	-	-	-	-	5	-	2	182	-	1 16)	-	-	-	240
YUG	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	290 17)	292
TOT.	15	6	53	383	52	26	15	126	46	39	8	16	278	48	5	15	185	15	12	6	35	460	1844
%	0.8	0.3	2.9	20.8	2.8	1.4	0.8	6.8	2.5	2.1	0.4	0.9	15.1	2.6	0.3	0.8	10.0	0.8	0.7	0.3	1.9	24.9	100.0

1) 1 ibex,
2) 1 lynx, 2 brown bears, 1 dingo,
3) 1 dormouse,
4) 1 nutria,
5) included 2 other fox species,
6) included 2 European bisons, 1 ibex, 1 wild horse,
7) 2 lynxs,
8) 2 rats, 1 dormouse,
9) 1 vole,
10) 1 seal,
11) 1 other fox species, 1 lynx,
12) included 1 hamster, 1 nutria,
13) high figure for 1977 only,
14) 1 shrew, 1 wallaby kangaroo,
15) 2 coyotes,
16) 1 harvest mouse,
17) high figure due to reporting system.

TABLE 7

EUR EUROPE 1977-1987 RABIES CASES 'OTHER ANIMAL SPECIES' 1. 1.77 - 31.12.87

LOCATION CODE	NAME	OTHER DOMESTIC ANIMALS										TOTAL	UNSPEC.
		OTH.DOM. CARNIVOR	DONKEY	MULE	HINNY	PIG	OTH.DOM. HERBIVOR	DOMESTIC RABBIT	DOMEST. FOWL	CAT LIV WILD	OTHERS		
AUT	AUSTRIA	-	1	-	-	2	-	-	-	-	2	5	-
BEL	BELGIUM	-	-	-	-	3	-	1	-	-	-	4	-
BUL	BULGARIA	-	-	-	-	1	-	-	-	-	-	1	-
CZE	CZECHOSLOVAKIA	1 [1]	-	-	-	4	2	-	2	-	1	10	-
DDR	GERMAN DEM. REPUBLIC	3 [2]	1	-	-	9	-	7	-	-	3	23	-
DEU	FED.REP. OF GERMANY	- [3]	17	1	1	20	1 [4]	5	-	1	-	46	225 [5]
FRA	FRANCE	1	-	-	-	9	1	-	-	-	2	13	-
HUN	HUNGARY	-	1	-	-	17	-	-	-	-	2	20	-
LUX	LUXEMBOURG	-	1	-	-	1	-	-	-	-	-	2	-
POL	POLAND	11	-	-	-	9	-	3	1	-	1	25	-
ROM	ROMANIA	-	-	-	-	2	-	-	-	-	18	20	-
SWI	SWITZERLAND + LIECHT	-	4	-	-	4	-	2	1	-	2	13	-
TUR	TURKEY	-	275	14	-	1	55	-	-	-	4	349	861 [5]
YUG	YUGOSLAVIA	-	1	-	-	2	-	-	-	-	26	29	-
TOTAL		16	301	15	1	84	59	18	4	1	61	560	1086
PER CENT		2.9	53.8	2.7	0.2	15.0	10.5	3.2	0.7	0.2	10.9	100.0	-

1) 1 arctic fox as fur-bearing animal, 2) included 2 minks, 3) 1 ferret, 4) 1 lama, 5) high figure due to reporting system.

AUT AUSTRIA — RABIES CASES — 1.10.87 - 31.12.87

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		
103	EISENSTADT-LAND							0	1	-	-	-	-	1		1
104	GUESSING							0	32	-	1	-	-	33		33
105	JENNERSDORF							0	4	-	-	-	-	4		4
108	OBERPULLENDORF							0	4	-	-	1	-	5		5
109	OBERWART	1	-	-	-	-	-	1	4	-	-	-	-	4		5
201	KLAGENFURT-STADT							0	2	-	-	-	-	2		2
204	KLAGENFURT-LAND							0	13	-	-	-	-	13		13
205	SANKT VEIT AN DER GL	-	3	5	-	-	-	8	56	1	-	6	1	64		72
206	SPITTAL AN DER DRAU	-	1	1	-	-	-	2	9	-	1	-	-	10		12
207	VILLACH-LAND	-	1	1	-	-	-	2	3	-	1	-	-	4		6
208	VOELKERMARKT							0	1	-	-	-	-	1		1
209	WOLFSBERG							0	3	-	-	1	-	4		4
210	FELDKIRCHEN	-	-	3	-	3	-	6	19	-	-	2	-	21		27
308	GAENSERNDORF							0	1	-	-	-	-	1		1
311	HORN							0	2	-	2	-	-	4		4
313	KREMS AN DER DONAU-L							0	1	-	-	-	-	1		1
316	MISTELBACH							0	2	-	-	-	-	2		2
325	ZWETTL							0	1	-	-	-	-	1		1
401	LINZ-STADT							0	1	-	-	-	-	1		1
406	FREISTADT							0	14	1	1	-	-	16		16
407	GMUNDEN							0	34	1	-	-	-	35		35
416	URFAHR-LAND							0	1	-	-	-	-	1		1
417	VOECKLABRUCK							0	1	-	-	-	-	1		1
502	HALLEIN	-	-	-	-	2	-	2	5	-	-	-	-	5		7
503	SALZBURG-LAND							0	3	1	-	3	-	7		7
505	TAMSWEG	-	1	8	1	-	-	10	24	-	-	-	-	24		34
506	ZELL AM SEE	-	-	4	-	2	-	6	38	2	-	3	-	43		49
601	GRAZ-STADT							0	3	-	-	-	-	3		3
602	BRUCK AN DER MUR							0	2	-	-	-	-	2		2
603	DEUTSCHLANDSBERG							0	8	-	-	-	-	8		8
606	GRAZ-LAND	-	1	-	-	1	-	2	38	-	3	3	-	44		46
608	JUDENBURG	-	2	-	-	-	-	2	12	1	-	1	-	14		16
609	KNITTELFELD	-	1	-	-	-	-	1	3	-	-	1	-	4		5
610	LEIBNITZ	-	-	-	-	1	-	1	16	-	-	-	-	16		17
611	LEOBEN	-	-	1	-	-	-	1	29	4	1	1	-	35		36
612	LIEZEN	-	-	1	-	-	-	1	14	-	-	-	-	14		15
614	MURAU	-	4	6	-	-	-	10	51	-	2	2	-	55		65
615	RADKERSBURG							0	3	-	-	-	-	3		3
616	VOITSBERG							0	4	-	-	-	-	4		4
617	WEIZ							0	1	-	-	-	-	1		1
704	KITZBUEHEL							0	1	-	-	-	-	1		1
707	LIENZ							0	3	-	-	-	-	3		3
708	REUTTE	-	-	1	-	-	-	1	8	-	-	-	-	8		9
TOTAL		1	14	31	1	9	0	56	475	11	12	24	1	523	0	579
PER CENT		0.2	2.4	5.4	0.2	1.6	0.0	9.7	82.0	1.9	2.1	4.1	0.2	90.3	0.0	100.0

RABIES CASES 1.10.87 - 31.12.87

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		
BEL	**BELGIUM**															
LG	LIEGE	2	1	4	-	-	-	7	12	-	-	-	-	12		19
LX	LUXEMBOURG	-	2	16	-	7	-	25	35	-	2	-	-	37		62
NA	NAMUR	-	-	1	2	1	-	4	3	-	-	-	-	3		7
TOTAL		2	3	21	2	8	0	36	50	0	2	0	0	52	0	88
PER CENT		2.3	3.4	23.9	2.3	9.1	0.0	40.9	56.8	0.0	2.3	0.0	0.0	59.1	0.0	100.0
DEN	**DENMARK**															
050	SONDERJYLLAND							0	-	-	-	-	1	1		1
055	RIBE							0	-	-	-	-	1	1		1
065	RINGKOBING							0	-	-	-	-	1	1		1
070	ARHUS							0	-	-	-	-	1	1		1
TOTAL		0	0	0	0	0	0	0	0	0	0	0	4	4	0	4
LUX	**LUXEMBOURG**															
06	CLERVAUX	-	-	1	-	-	-	1						0		1
07	DIEKIRCH	-	-	2	-	-	-	2						0		2
11	ECHTERNACH	-	1	-	-	-	-	1						0		1
TOTAL		0	1	3	0	0	0	4	0	0	0	0	0	0	0	4
PER CENT		0.0	25.0	75.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
NET	**NETHERLANDS**															
02	FRIESLAND							0	-	-	-	-	5	5		5
07	NOORD-HOLLAND							0	-	-	-	-	2	2		2
08	OVERIJSSEL							0	-	-	-	-	1	1		1
10	ZUID-HOLLAND							0	-	-	-	-	1	1		1
TOTAL		0	0	0	0	0	0	0	0	0	0	0	9	9	0	9

CZE CZECHOSLOVAKIA RABIES CASES 1.10.87 - 31.12.87

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		
00	DISTRICT OF PRAGUE							0						0		0
01	CENTRAL BOHEMIA	-	1	-	-	-	-	1	35	-	-	-	-	35		36
02	SOUTH BOHEMIA	-	3	-	-	-	-	3	24	1	1	-	-	26		29
03	WEST BOHEMIA							0	60	-	-	-	-	60		60
04	NORTH BOHEMIA	-	5	2	-	2	-	9	135	2	10	5	-	152		161
05	EAST BOHEMIA							0	21	-	-	-	-	21		21
06	SOUTH MORAVIA	-	1	-	-	-	-	1	21	-	-	-	-	21		22
07	NORTH MORAVIA							0	8	-	-	-	-	8		8
0	CSR	-	10	2	-	2	-	14	304	3	11	5	-	323		337
10	DISTRICT OF BRATISLAV							0						0		0
11	WEST SLOVAKIA	1	-	-	-	-	-	1	14	-	2	-	-	16		17
12	CENTRAL SLOVAKIA	2	2	-	-	-	-	4	18	-	1	1	-	20		24
13	EAST SLOVAKIA	2	1	12	-	-	-	15	28	-	-	-	-	28		43
1	SSR	5	3	12	-	-	-	20	60	-	3	1	-	64		84
TOTAL		5	13	14	0	2	0	34	364	3	14	6	0	387	0	421
PER CENT		1.2	3.1	3.3	0.0	0.5	0.0	8.1	86.5	0.7	3.3	1.4	0.0	91.9	0.0	100.0

DDR GERMAN DEMOCRATIC REPUBLIC — R A B I E S C A S E S — 1.10.87 - 31.12.87

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		
01	HAUPTSTADT BERLIN							0						0		0
02	COTTBUS	1	3	5	-	-	-	9	26	-	-	1	-	27		36
03	DRESDEN	-	4	6	-	7	-	17	34	1	1	-	-	36		53
04	ERFURT	1	3	3	-	-	-	7	36	1	1	2	1	41		48
05	FRANKFURT/ODER							0	21	-	-	-	-	21		21
06	GERA	-	3	1	-	3	-	7	34	-	-	4	-	38		45
07	HALLE	1	4	-	-	-	-	5	14	-	1	-	-	15		20
08	KARL-MARX-STADT	-	1	5	-	20	-	26	18	-	3	1	-	22		48
09	LEIPZIG							0						0		0
10	MAGDEBURG	1	1	1	1	-	-	4	19	-	-	3	-	22		26
11	NEUBRANDENBURG	-	1	2	-	-	-	3	18	1	-	1	-	20		23
12	POTSDAM	2	-	-	-	-	-	2	3	-	-	2	-	5		7
13	ROSTOCK	1	1	3	-	1	-	6	26	2	1	1	-	30		36
14	SCHWERIN	2	1	1	2	-	-	6	11	1	2	-	-	14		20
15	SUHL	-	1	-	-	-	-	1	23	-	-	1	1	25		26
TOTAL		9	23	27	3	31	0	93	283	6	9	16	2	316	0	409
PER CENT		2.2	5.6	6.6	0.7	7.6	0.0	22.7	69.2	1.5	2.2	3.9	0.5	77.3	0.0	100.0

DEU FEDERAL REPUBLIC OF GERMANY — R A B I E S C A S E S — 1.10.87 - 31.12.87

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		
010	SCHLESWIG-HOLSTEIN							0	-	-	-	-	1	1		1
020	HAMBURG							0						0		0
031	BRAUNSCHWEIG	-	2	2	1	-	-	5	11	-	1	-	-	12		17
032	HANNOVER	1	1	3	-	-	-	5	7	-	-	-	-	7		12
033	LUENEBURG							0						0		0
034	WESER-EMS							0						0		0
040	BREMEN							0						0		0
051	DUESSELDORF							0						0		0
053	KOELN	-	2	2	-	-	-	4	18	-	1	-	-	19		23
055	MUENSTER							0						0		0
057	DETMOLD	1	1	-	-	-	-	2	15	-	-	6	1	22		24
059	ARNSBERG	-	1	3	-	-	-	4	2	-	-	-	-	2		6
061	DARMSTADT	-	1	13	1	7	-	22	57	1	-	9	-	67		89
062	KASSEL	1	8	14	-	2	-	25	117	1	6	11	-	135		160
071	KOBLENZ	-	1	-	2	1	-	4	47	1	1	2	-	51		55
072	TRIER	1	-	9	-	2	-	12	27	-	1	1	2	31		43
073	RHEINHESSEN-PFALZ	-	7	-	-	1	-	8	16	-	-	1	-	17		25
081	STUTTGART	1	-	2	-	-	-	3	46	-	-	2	1	49		52
082	KARLSRUHE	1	1	1	-	-	-	3	28	1	1	4	-	34		37
083	FREIBURG	-	2	1	-	-	-	3	47	2	2	5	-	56		59
084	TUEBINGEN							0	41	2	2	3	-	48		48
091	OBERBAYERN							0	23	1	1	-	-	25		25
092	NIEDERBAYERN							0	14	-	-	-	-	14		14
093	OBERPFALZ	-	2	-	1	1	-	4	60	-	1	2	-	63		67
094	OBERFRANKEN	-	1	-	-	-	-	1	36	-	-	-	-	36		37
095	MITTELFRANKEN							0	16	-	1	1	-	18		18
096	UNTERFRANKEN	1	2	-	1	-	-	4	44	3	3	4	-	54		58
097	SCHWABEN							0	16	1	-	1	-	18		18
100	SAARLAND							0	4	-	-	-	-	4		4
110	BERLIN (WEST)							0						0		0
TOTAL		7	32	50	6	14	0	109	692	13	21	52	5	783	0	892
PER CENT		0.8	3.6	5.6	0.7	1.6	0.0	12.2	77.6	1.5	2.4	5.8	0.6	87.8	0.0	100.0

FRA F R A N C E — R A B I E S C A S E S — 1.10.87 - 31.12.87

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		
01	AIN	-	1	-	-	-	-	1	4	-	-	-	-	4		5
02	AISNE	-	1	-	-	-	-	1	-	-	1	-	-	1		2
08	ARDENNES	-	3	1	1	3	-	8	10	-	-	-	-	10		18
10	AUBE	-	1	-	-	-	-	1	50	-	1	1	-	52		53
21	COTE D'OR	1	1	6	-	10	-	18	31	-	-	1	-	32		50
25	DOUBS	-	-	1	-	-	-	1	33	-	1	-	-	34		35
38	ISERE							0	-	-	-	-	1	1		1
39	JURA							0	28	-	-	-	-	28		28
51	MARNE	1	-	1	1	-	-	3	8	-	-	-	-	8		11
52	MARNE (HAUTE)	1	3	5	-	3	-	12	20	-	-	-	-	20		32
54	MEURTHE ET MOSELLE	-	1	7	-	1	-	9	9	-	-	-	-	9		18
55	MEUSE	-	-	5	1	-	-	6	11	-	-	1	-	12		18
57	MOSELLE	-	1	1	-	-	-	2	8	-	1	-	-	9		11
58	NIEVRE	-	1	3	-	7	-	11	24	-	-	-	-	24		35
60	OISE							0	5	1	-	1	-	7		7
62	PAS DE CALAIS	-	-	1	-	-	-	1						0		1
67	RHIN (BAS)	2	-	4	1	2	-	9	22	-	-	-	-	22		31
68	RHIN (HAUT)	2	-	-	-	-	-	2	8	-	1	-	1	10		12
70	SAONE (HAUTE)	-	-	-	1	5	-	6	47	-	-	1	-	48		54
74	SAVOIE (HAUTE)							0	6	-	-	1	-	7		7
77	SEINE ET MARNE	-	-	-	1	-	-	1	28	-	-	-	-	28		29
80	SOMME							0	1	-	-	-	-	1		1
88	VOSGES	1	2	2	1	-	-	6	10	-	1	1	-	12		18
89	YONNE	-	-	-	1	1	-	2	18	1	-	-	-	19		21
TOTAL		8	15	37	8	32	0	100	381	2	6	7	2	398	0	498
PER CENT		1.6	3.0	7.4	1.6	6.4	0.0	20.1	76.5	0.4	1.2	1.4	0.4	79.9	0.0	100.0

HUN HUNGARY

RABIES CASES

1.10.87 - 31.12.87

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		
01	BUDAPEST							0	7	-	-	-	-	7		7
02	BARANYA	1	3	2	-	-	-	6	34	-	-	-	-	34		40
03	BACS-KISKUN	2	1	1	1	-	-	5	15	-	-	-	-	15		20
04	BEKES	-	-	1	-	-	-	1	11	-	-	-	-	11		12
05	BORSOD-ABAUJ-ZEMPLEN	1	1	-	-	-	-	2	14	-	-	-	-	14		16
06	CSONGRAD	1	-	-	-	-	-	1	9	-	-	-	-	9		10
07	FEJER	-	3	1	-	-	-	4	20	-	-	-	-	20		24
08	GYOER-SOPRON							0	7	-	-	-	-	7		7
09	HAJDU-BIHAR	1	2	2	-	2	1	8	18	-	-	-	-	18		26
10	HEVES	1	-	1	-	-	-	2	5	-	-	-	-	5		7
11	KOMAROM	1	-	-	-	-	-	1	19	-	-	-	-	19		20
12	NOGRAD	-	1	-	-	-	-	1	10	-	-	-	-	10		11
13	PEST	-	-	4	-	-	1	5	31	-	-	-	-	31		36
14	SOMOGY	2	-	1	-	-	-	3	43	-	-	1	-	44		47
15	SZABOLCS-SZATMAR							0	20	-	-	-	-	20		20
16	SZOLNOK	1	-	2	-	-	-	3	8	-	-	-	-	8		11
17	TOLNA	-	-	1	-	-	-	1	17	-	-	-	-	17		18
18	VAS	-	1	1	-	-	-	2	13	-	-	-	-	13		15
19	VESZPREM	-	1	-	-	-	-	1	22	-	-	-	-	22		23
20	ZALA							0	11	-	-	-	-	11		11
TOTAL		11	13	17	1	2	2	46	334	0	0	1	0	335	0	381
PER CENT		2.9	3.4	4.5	0.3	0.5	0.5	12.1	87.7	0.0	0.0	0.3	0.0	87.9	0.0	100.0

POL POLAND — RABIES CASES — 1.10.87 - 31.12.87

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		
01	WARSZAWA	1	1	-	-	-	-	2	13	-	-	-	1	14		16
03	BIALA PODLASKA							0	3	-	-	-	-	3		3
05	BIALYSTOK	1	-	2	-	-	-	3	14	-	-	-	5	19		22
07	BIELSKO-BIALA							0	1	-	-	1	-	2		2
09	BYDGOSZCZ	-	1	1	-	-	-	2	9	1	-	-	-	10		12
11	CHELM	-	1	-	-	-	-	1	5	-	1	1	1	8		9
13	CIECHANOW	1	1	-	-	-	-	2	11	-	-	-	-	11		13
15	CZESTOCHOWA							0	8	-	-	-	-	8		8
17	ELBLAG							0	1	-	-	-	-	1		1
19	GDANSK	-	1	2	-	-	-	3	7	1	1	-	10	19		22
21	GORZOW	-	2	-	-	-	-	2	6	-	-	-	1	7		9
23	JELENIA GORA	-	-	3	-	-	-	3	16	-	-	-	-	16		19
25	KALISZ	-	1	-	-	-	-	1	11	-	1	-	-	12		13
27	KATOWICE	1	1	-	-	-	1	3	33	-	1	1	-	35		38
29	KIELCE	-	1	-	-	-	-	1	12	2	-	-	1	15		16
31	KONIN	1	-	-	-	-	-	1	1	-	2	-	-	3		4
33	KOSZALIN	-	2	-	-	-	-	2	5	-	1	1	2	9		11
37	KROSNO	1	-	-	-	-	-	1	2	-	-	1	-	3		4
39	LEGNICA							0	6	-	-	-	-	6		6
41	LESZNO							0	21	-	1	3	2	27		27
43	LUBLIN							0	7	-	-	-	-	7		7
45	LOMZA	-	-	1	-	-	-	1						0		1
49	NOWY SACZ							0	1	-	-	-	1	2		2
51	OLSZTYN	-	2	4	-	-	-	6	5	-	-	-	4	9		15
53	OPOLE	-	2	-	-	-	-	2	19	-	-	-	-	19		21
55	OSTROLEKA	-	1	1	-	-	-	2	7	-	1	-	1	9		11
57	PILA	1	-	2	-	-	-	3	12	1	1	-	-	14		17
61	PLOCK							0	1	-	-	1	1	3		3
63	POZNAN	-	6	2	-	-	-	8	35	-	3	5	2	45		53
65	PRZEMYSL							0	1	-	-	-	-	1		1
67	RADOM							0	1	-	-	-	-	1		1
69	RZESZOW							0	1	-	-	-	1	2		2
71	SIEDLCE							0	1	-	1	-	2	4		4
77	SLUPSK	-	1	-	-	3	-	4	12	-	-	3	-	15		19
79	SUWALKI	-	1	2	-	-	-	3	2	-	-	-	3	5		8
81	SZCZECIN	1	1	1	-	-	-	3	7	-	-	1	4	12		15
83	TARNOBRZEG							0	2	-	-	-	-	2		2
87	TORUN	-	1	2	-	-	-	3	-	-	1	-	2	3		6
89	WALBRZYCH	-	-	2	-	1	-	3	22	-	-	-	-	22		25
91	WLOCLAWEK	1	1	3	-	-	-	5						0		5
93	WROCLAW	-	1	-	-	-	-	1	6	-	-	-	-	6		7
95	ZAMOSC	-	2	-	-	-	-	2	4	-	-	-	-	4		6
97	ZIELONA GORA	1	1	1	-	1	-	4	35	-	1	2	-	38		42
TOTAL		10	32	29	0	5	1	77	366	5	16	20	44	451	0	528
PER CENT		1.9	6.1	5.5	0.0	0.9	0.2	14.6	69.3	0.9	3.0	3.8	8.3	85.4	0.0	100.0

TUR TURKEY

RABIES CASES

1.10.87 - 31.12.87

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		
001	ADANA	4	1	-	-	1	-	6						0		6
003	AFYON	2	1	-	-	-	-	3						0		3
005	AMASYA	1	-	1	-	-	-	2						0		2
006	ANKARA	1	2	-	-	-	-	3						0		3
007	ANTALYA	2	-	-	-	-	-	2						0		2
009	AYDIN	3	-	-	-	-	-	3						0		3
010	BALIKESIR	3	-	-	-	2	-	5						0		5
011	BILECIK	2	-	-	-	-	-	2						0		2
014	BOLU	6	-	3	-	-	-	9						0		9
015	BURDUR	1	-	-	-	-	-	1						0		1
016	BURSA	3	1	-	-	-	1	5						0		5
019	CORUM	1	-	-	-	-	-	1						0		1
020	DENIZLI	4	1	-	-	-	-	5						0		5
021	DIYARBAKIR	1	-	1	-	-	-	2						0		2
023	ELAZIG	1	-	-	-	-	-	1						0		1
025	ERZURUM	3	-	-	-	-	-	3	1	-	-	-	1	2		5
027	GAZIANTEP	1	-	-	-	-	-	1						0		1
029	GUEMUESHANE	-	-	1	-	-	-	1						0		1
031	HATAY	1	-	-	-	-	-	1						0		1
032	ISPARTA	1	-	-	-	-	-	1						0		1
034	ISTANBUL	6	-	-	-	-	-	6						0		6
035	IZMIR	5	-	-	-	-	-	5						0		5
036	KARS	1	-	1	-	-	-	2						0		2
037	KASTAMONU	2	-	1	-	-	-	3						0		3
039	KIRKLARELI	6	-	-	-	-	1	7						0		7
041	KOCAELI	4	-	1	-	-	-	5						0		5

TUR CONTINUED

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		
042	KONYA	3	1	-	-	-	-	4						0		4
043	KUETAHYA	6	-	-	1	6	-	13						0		13
044	MALATYA	1	-	-	-	-	-	1						0		1
045	MANISA	6	-	-	-	1	-	7						0		7
046	KAHRAMAN MARAS	3	-	1	-	-	-	4						0		4
047	MARDIN	1	-	-	-	-	-	1						0		1
050	NEVSEHIR	1	-	-	-	-	-	1						0		1
051	NIGDE	3	-	1	-	-	-	4						0		4
052	ORDU	8	3	-	-	1	-	12						0		12
054	SAKARYA	12	-	2	-	-	-	14						0		14
055	SAMSUN	19	1	6	-	2	-	28	-	-	-	-	1	1		29
056	SIIRT	-	1	-	-	-	-	1						0		1
057	SINOP	1	-	4	-	-	-	5						0		5
059	TEKIRDAG	1	-	-	-	-	-	1						0		1
060	TOKAT	1	-	-	-	-	-	1						0		1
061	TRABZON	2	1	2	-	-	-	5						0		5
063	URFA	5	-	-	1	1	-	7						0		7
064	USAK	3	-	4	-	-	-	7						0		7
065	VAN	1	-	-	-	-	-	1						0		1
066	YOZGAT	1	-	-	-	-	-	1						0		1
067	ZONGULDAK	4	-	-	-	-	-	4						0		4
TOTAL		147	13	29	2	14	2	207	1	0	0	0	2	3	0	210
PER CENT		70.0	6.2	13.8	1.0	6.7	1.0	98.6	0.5	0.0	0.0	0.0	1.0	1.4	0.0	100.0

RABIES CASES 1.10.87 - 31.12.87

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		
ROM	ROMANIA															
01	ALBA	-	-	-	1	-	-	1						0		1
04	BACAU							0	1	-	-	-	-	1		1
32	SALAJ							0	2	-	-	-	-	2		2
40	VRANCEA							0	1	-	-	-	-	1		1
TOTAL		0	0	0	1	0	0	1	4	0	0	0	0	4	0	5
PER CENT		0.0	0.0	0.0	20.0	0.0	0.0	20.0	80.0	0.0	0.0	0.0	0.0	80.0	0.0	100.0
SWI	SWITZERLAND AND LIECHTENSTEIN															
08	GENEVE							0	1	-	-	-	-	1		1
22	VAUD							0	3	-	1	-	-	4		4
23	VALAIS	-	1	1	-	-	-	2	8	-	-	-	-	8		10
26	JURA	-	-	1	-	-	-	1	9	-	-	-	-	9		10
TOTAL		0	1	2	0	0	0	3	21	0	1	0	0	22	0	25
PER CENT		0.0	4.0	8.0	0.0	0.0	0.0	12.0	84.0	0.0	4.0	0.0	0.0	88.0	0.0	100.0
YUG	YUGOSLAVIA															
10	SR BOSNA I HERCEGOVIN	-	-	1	-	-	-	1	15	-	-	-	-	15		16
30	SR HRVATSKA	1	1	-	-	1	-	3	59	-	-	-	-	59		62
50	SR SLOVENIJA	1	3	-	-	-	-	4	111	2	-	-	-	113		117
60	SR SRBIJA	1	1	-	-	-	-	2	4	-	-	1	1	6		8
61	SAP VOJVODINA	-	3	-	-	-	-	3	21	-	-	-	-	21		24
TOTAL		3	8	1	0	1	0	13	210	2	0	1	1	214	0	227
PER CENT		1.3	3.5	0.4	0.0	0.4	0.0	5.7	92.5	0.9	0.0	0.4	0.4	94.3	0.0	100.0

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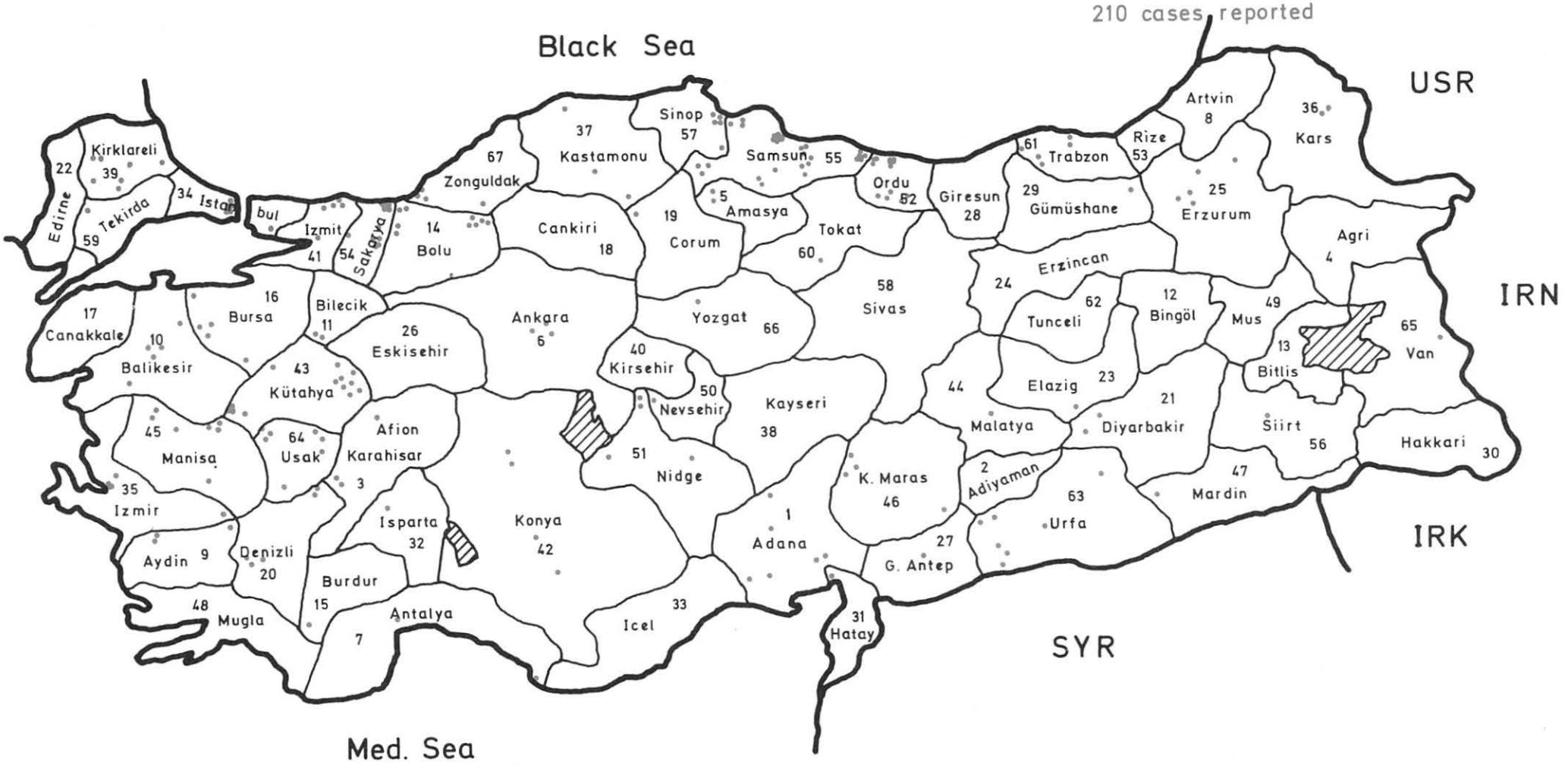
WHO Coll. Centre
Tuebingen / DEU

Rabies Cases Turkey
4th Quarter 1987
210 cases reported



WHO Coll. Centre
Tuebingen / DEU

Rabies Cases Europe
4th Quarter 1978 87

4 280 cases reported

14 bat rabies cases included

ISL
(rabies free)

NOR
(0)

FIN
(0)

SWE
(rabies free)

DEN
(4)

IRE
(rabies free)

GBR
(rabies free)

USR
(no data)

NET
(9)

BEL
(88)
(4)

DEU
(892)
(1)

DDR
(409)

POL
(528)

CZE
(421)

(579)
AUT

HUN
(381)

FRA
(498)

SWI (25)

ROM
(5)

ITA
(0)

YUG
(227)

BUL
(rabies free)

POR
(rabies free)

SPA
(0)

ALB
(no data)

GRE
(0)

TUR
(210)

0 50 100 km