

C O N T E N T S

	Page
1. INTRODUCTION	1
2. RABIES IN EUROPE, 3RD QUARTER 1984	1
2.1 - 2.27 Situation in Individual Countries	2 - 8
3. MISCELLANEOUS	8
3.1 WHO-Information - Concertation Meeting on the Control of Rabies in Strasbourg	8 - 9
3.2 WHO-Information - WHO Expert Committee on Rabies, Seventh Report, 1984	9 - 10
3.3 Systemic Allergic Reaction Following Immunization with Human Diploid Cell Rabies Vaccine	10 - 13
4. RABIES CASE DATA	
4.1 Table 1, Europe 3rd Quarter 1984	14
4.2 Table 2, Europe, Accumulated Totals for the Period 1 January - 30 September 1984	15
4.3 Table 3, Europe, Other Animal Species, 3rd Quarter 1984	16
4.4 Tables, European Countries in the 3rd Quarter 1984 and in the 2nd Quarter 1984 for Czechoslovakia	17 - 28
5. LIST OF CONTRIBUTORS	29 - 30
6. ANNEX 1: Map of Rabies Cases in Europe, 3rd Quarter 1984	
ANNEX 2: Map of Rabies Cases in Turkey, 3rd Quarter 1984	

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The RABIES BULLETIN EUROPE is compiled and edited  
by the

WHO Collaborating Centre for Rabies  
Surveillance and Research

Dr. L.G. S c h n e i d e r, Chief  
Dr. W.W. M u e l l e r, Ass.Chief  
K.-P. H o h n s b e e n, Statistician

At the  
Federal Research Institute for Animal  
Virus Diseases

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D 7400 TUEBINGEN, Postfach 1149  
Federal Republic of Germany

Tel. 07071 - 603 332      TELEX: 07 26 28 46

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## 1. INTRODUCTION

This BULLETIN describes the reported rabies cases in Europe for the third quarter 1984. The situation in general appears under 2., and in individual countries under 2.1 to 2.27.

Rabies data for the first to the third quarter 1984 have not yet been received for the European part of the Union of Soviet Socialist Republics (USSR) and not for the third quarter 1984 for Romania (ROM).

In the miscellaneous section under 3.1 information is given on a 'Concertation Meeting on the Control of Rabies in Strasbourg', under 3.2 on the recently published Seventh Report of the WHO Expert Committee on Rabies. Of general interest will be the report on 'Systemic Reactions Following Immunisation with Human Diploid Cell Rabies Vaccine'. Under 3.3 an abstract of an experience in U.S.A. published in Weekly Epidemiological Record is reproduced.

The rabies case data are tabulated for the third quarter 1984 under 4.

The geographical distribution of cases in Europe of the third quarter 1984 is shown on the maps of Europe and Turkey in the Annex.

## 2. RABIES IN EUROPE, 3RD QUARTER 1984

During the third quarter 1984, 5092 cases of rabies were reported in Europe. These were 3981 cases in wild animals (78.2%) and 1111 cases in domestic animals (21.8%). Of the cases in wild animals 3556 (69.8% of total) were foxes, 95 badgers, 125 other mustelids, 147 deer and 58 other and unspecified species. Of the 1111 cases in domestic animals 277 were dogs (of which 206 (74.4%) were reported from Turkey), 235 cats, 410 cattle, 18 horses, 158 small ruminants and 58 other domestic animals.

Compared to the previous quarter (5432 cases) a decrease is registered by 6.3%. This is the overall trend, but several countries (BEL, DDR, DEU, HUN, POL) report an increase.

Since the beginning of the European rabies surveillance in 1977 the Centre registered for the first (7511 cases), second (5432 cases) and third quarter 1984 the highest number of cases in comparison with the respective quarters of previous years. Thus an annual record for 1984 can be expected.

After 24 years, rabies has been reintroduced into Portugal (2.20).

Rabies-free countries are: Bulgaria, Denmark, Finland, United Kingdom, Ireland, Iceland, Norway, the mainland of Spain and Sweden. There were no cases reported for this quarter from Greece and the northern part of Africa belonging to Spain.

There were no cases of rabies in man reported to the Centre.

Individual country reports follow:

## 2.1 Rabies in Austria (AUT) by W. Krocza and E. Scharfen

During the third quarter 1984, rabies was registered in 239 foxes (78.9% of total) in 36 other wild animals (11.9%) and in 28 domestic animals (9.2%) - 22 cattle and 6 cats. Compared to the previous quarter (441 cases) a decrease is noted in reported cases by 31.3%, whereas in comparison with the third quarter 1983 (264 cases) there has been an increase by 14.8%.

The epizootic continues to advance from the Bundesland (federal province) Kärnten with all Bezirke (districts) involved, via the Bundesland Styria (Bezirk Murau) to Salzburg (Bezirke Tamsweg, St. Johann im Pongau, Zell am See).

In Upper Austria rabies occurs to the north of the river Danube in the Mühlviertel (Bezirke Rohrbach, Urfahr-Umgebung, Freistadt, Perg), in Lower Austria in the Wald- and Weinviertel (Bezirke Gmünd, Zwettl, Waidhofen/Thaya, Horn Krems/Land, Hollabrunn). The above two federal provinces to the south of the river Danube as well as Vienna were free of rabies.

The Burgenland had isolated cases (Bezirk Güssing) as well as Styria in the districts (Bezirke) of Mürzzuschlag, Hartberg, Weiz, Graz-Umgebung, Voitsberg, Leoben and Knittelfeld.

In Tyrol rabies cases increased in the Bezirk Kitzbühel and there were scattered cases in the Bezirke Kufstein, Innsbruck-Land and Reutte.

The Bundesland Vorarlberg had rabies cases in wild and domestic animals in all districts.

## 2.2 Rabies in Belgium (BEL) by R. Depierreux

During the third quarter 1984, 112 rabies cases were reported in 74 communities in 56 foxes, 43 cattle, 7 sheep, 1 goat, 3 cats, 1 stone marten and 1 roe deer.

The general rabies picture remains as observed during the previous quarter.

However, an increase of cases is to report:

- in the province of Limbourg, more particularly in the region bordering with the province of Liege where 6 cases were registered compared to one in the preceding quarter,
- in the province of Luxembourg, in the southern part, where 32 cases were registered compared to 14 in the preceding quarter.

One case was also diagnosed in the province of East Flanders (Flandre Orientale), in Bassevelde (Assenede), in a bovine. Anyway, this animal originates from an infected area in the province of Luxembourg (Ste Marie sur Semois-Etalle) and was the subject of a commercial transaction.

### 2.3 Bulgaria (BUL)

The country remained rabies-free.

### 2.4 Rabies in Czechoslovakia (CZE)

by M. Capka and J. Neumann

#### 2nd QUARTER 1984

During the second quarter 1984 the incidence of rabies decreased in the country by 239 cases compared to the previous quarter (802 cases). That is due to the seasonal character of the disease. Though, there was a reduction of cases in wild animals, the cases in domestic animals increased from 27 during the first quarter 1984 to 39 during the second one.

There was a total of 563 cases of rabies diagnosed during the second quarter 1984. Of these were 524 in wild living animals namely, 512 in foxes (90.9%), 5 in badgers (0.9%), 3 in martens (0.5%), 2 in polecats (0.4%), 2 in roe deer (0.4%) and 39 in domestic animals namely, 19 in dogs (3.4%), 19 in cats (3.4%) and 1 sheep (0.2%).

In the Czech Socialist Republic rabies was diagnosed in 493 animals involving wildlife with 95% of all cases while the Slovak Socialist Republic with 70 affected animals had only 77% of all cases involved in wildlife.

The areas mostly affected by the disease were North Bohemia with 27.5% of the total number of cases and South Moravia with 23.1% of the total number of cases.

At the present time, rabies has been recorded in 1087 foci involving 86 districts.

#### 3rd QUARTER 1984

During the third quarter of 1984, a total of 549 rabies cases were ascertained in the Czechoslovak Socialist Republic. Of these were 503 cases in the Czech Socialist Republic and 46 cases in the Slovak Socialist Republic.

In the Czech Socialist Republic rabies was primarily diagnosed in wild animals, in 451 foxes (90%), in 12 martens (2.4%), in 3 badgers (0.6%), in 2 polecats (0.4%) and in domestic animals in 21 cats (4.2%) and 3 dogs (0.6%).

In the Slovak Socialist Republic rabies was diagnosed in 37 foxes (80.4%), 8 cats (17.4%) and 1 dog (2.2%).

The largest number of cases was registered in North Bohemia and South Moravia with 30.0% and 20.4% respectively, of the total number of rabies cases in Czechoslovakia during the current quarter.

At the present time, rabies is recorded in 1128 foci involving 87 districts.

## 2.5 Rabies in Germany, Democratic Republic (DDR)

During the third quarter 1984, there were 572 cases of rabies diagnosed in the Democratic Republic of Germany, two more than during the first quarter of this year (570 cases) and 157 more than during the second quarter (415 cases). Compared to the third quarter 1983 (518 cases) we notice an increase in the number of rabies cases by 10.4%.

477 of the total cases during this quarter were in wild animals (83.4%), with 441 cases in foxes, and 95 cases of the total (16.6%) were in domestic animals.

Except for three departments (Bezirke), Magdeburg, Gera and Hauptstadt Berlin, there was an increase of rabies cases in all other departments compared to the previous quarter. An increase especially noticed in the Bezirk Suhl (from 22 to 64 cases).

Generally, there is a heavier density of cases in the departments of the mountaneous areas of the south and east of the country compared to the areas with lowlands.

## 2.6 Denmark (DEN)

The country remained rabies-free.

## 2.7 Rabies in Germany, Federal Republic of Germany (DEU)

A total of 1608 rabies cases were reported during the third quarter 1984. 85% (1366 cases) were in wild animals - 1187 foxes, 34 badgers, 72 stone marten, 3 polecats, 64 roe deer, 2 red deer, 3 fallow deer and 1 wild boar. In domestic animals, 9 dogs, 58 cats, 120 cattle, 6 horses, 46 sheep, 3 goats were reported rabid.

In comparison with the previous quarter (1514 cases) there has been an increase of 6.2%, whereas there has been an increase of 7.6% in comparison with the third quarter 1983.

There has been no significant changes for the Federal Republic of Germany (DEU) with regard to the area covered by rabies. Areas presently heavily infected are the Regierungsbezirke (departments) Oberbayern (143 cases) and Tübingen (119 cases) in the south of Germany, Kassel (109 cases) in Hessen and Koblenz (107 cases) in Rheinland-Pfalz.

## 2.8 Finland (FIN)

The country remained rabies-free.

## 2.9 Rabies in France (FRA)

by J. Blancou

During the third quarter 1984, 551 rabies cases were reported. These are 136 cases less than the previous quarter (a 19.8% reduction). 405 cases were registered in foxes (73.5% of total), 37 cases in other wildlife

species and 109 in domestic animals (14 dogs, 21 cats, 39 cattle, 30 small ruminants and 5 horses). The département (department) with the greatest number of cases, during this quarter, is again the département Meuse (with 50 cases) while, especially the département Seine et Marne has newly been heavily reinvaded (50 cases). There will be a strong pressure noticed in the whole region of Paris from the departments Seine et Marne, Val d'Oise and Seine Saint Denis.

#### 2.10 Rabies in Greece (GRE)

No case of rabies was reported during the 3rd quarter 1984.

#### 2.11 United Kingdom (GBR)

The country remained rabies-free.

#### 2.12 Rabies in Hungary (HUN)

by L. Koltai

The figures of rabies cases during the third quarters 1983 and 1984 are rather similar: the number of total cases were 174 and 183 respectively, and the percentage of foxes involved 93.1% and 90.2%. Next to the fox there were 6 other species affected during the prevailing quarter. Of major importance were cats with 4.9% (9 cases) and dogs with 2.2% (4 cases). There were sporadic cases in roe deer (2) cattle (1), badger (1) and wild rabbit (1).

#### 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. Proserpi

In 33 communities 54 cases of rabies were diagnosed during the third quarter 1984, namely, in 44 foxes, in 4 badgers, in 2 stone martens, in 2 roe deer and in 2 dogs.

Fourteen communities (a total of 373 km<sup>2</sup>) were infected for the first time: 5 in the province of Trento (112 km<sup>2</sup>), 4 in the province of Bolzano (111 km<sup>2</sup>), 1 in the province of Udine (35 km<sup>2</sup>; rabies occurred in a dog), 1 in the province of Bergamo (7 km<sup>2</sup>), 2 in the province of Como (23 km<sup>2</sup>), 1 in the province of Sondrio (85 km<sup>2</sup>).

During this quarter the disease spread within the province of Trento, almost reaching Lake Garda and, for the first time, 4 communities of the Bolzano province bordering with the infected zones of the Trento province.



2.16 Rabies in Luxembourg (LUX)  
by R. Frisch

A marked decrease of rabies cases in the Grand Duchy of Luxembourg continues. While there were 41 cases of rabies during the third quarter of last year, only 9 cases were recorded during the current quarter, 8 in foxes and one in a bovine.

It is likely that the present rabies situation relates to a high incidence of the disease in foxes during 1982 and 1983, causing the interruption of the chain of infection and thereafter a rabies-free recovery of the fox population in some of the formerly infected areas.

2.17 Rabies in the Netherlands (NET)  
by C.J. Vermeulen

During the third quarter 1984, two foxes were diagnosed rabies positive in the Netherlands.

Both cases were located in the south-east part of the province of Limburg close to the Belgian and German border.

2.18 Norway (NOR)

The country remained rabies-free.

2.19 Rabies in Poland (POL)

395 rabies cases were registered in Poland during the third quarter 1984, 13 cases more than during the first quarter and 111 cases more than during the second quarter 1984. In comparison with the third quarter 1983 (258 cases) there is an increase by 53.1%.

The following animal species were involved: of 318 wild animals (80.5% of total) were 253 in foxes, 16 in racoon dogs, 5 in badgers, 7 in pine martens, 2 in polecats, 22 in roe deer, 2 in red deer, each one in a fallow deer, moose, wild boar and hare, 2 in hedgehogs and 5 in squirrels and of 77 (19.5%) domestic animals, 23 in dogs, 39 in cats, 12 in cattle, 2 in sheep and 1 in a pig. It can be noticed that the cat is with 39 cases the second most species affected by the disease, after the fox.

The department which has for some time a rather high incidence of rabies is Poznan, standing out with 70 registered cases. It is followed only with 32 cases by the department Wroclaw and with 30 cases by the department Gorzow. Generally, there is at present a much higher density of cases in the western part of the country.

2.20 Rabies in Portugal (POR)  
by C.A.M. de Andrade Fontes

Portugal has been rabies-free since 1960.



There has been one case of rabies in a dog in August 1984, in Lagos, Faro district, in the province of Algarve, in the south of Portugal.

A female puppy was taken into Portugal on 10th August 1984 arriving from Mozambique at the Lisbon airport without the veterinary authorities being notified. The puppy, aged less than two months, died on 30th of August 1984. Rabies was confirmed by laboratory test.

Two dogs which had been in contact with the infected puppy are, at present, isolated and under official veterinary control.

#### 2.21 Rabies in Romania (ROM)

Data not received before going into press.

#### 2.22 Rabies in Spain (SPA)

There was no case reported from the African part of Spain.

The mainland of Spain remained rabies-free.

#### 2.23 Sweden (SWE)

The country remained rabies-free.

#### 2.24 Rabies in Switzerland and Liechtenstein (SWI and LIE) by A.I. Wandeler

During the 3rd quarter of 1984, the Swiss rabies diagnostic center received 865 animals for examination. 160 (18%) of these were positive for rabies, compared to 210 (18% of 1184) in the previous quarter and 256 (25% of 1011) in the 3rd quarter of 1983. 56% were in foxes, 16% in cattle, and 9% in cats. An additional 19 foxes were diagnosed histologically in canton Vaud. They bring the total of proven rabies cases to 179 (269 in the previous quarter).

There are 3 geographical areas of high case density: The border area between cantons Vaud and Fribourg, the eastern Jura mountains, and eastern canton Zürich. The prevalence of rabies cases clearly decreased in the zones of oral fox vaccination newly treated this spring (northern canton Aargau, western canton Zürich, canton Glarus). Old vaccination zones withstood the invasion by rabies.

During the 3rd quarter of 1983 five persons were bitten by proven rabid cats.

#### 2.25 Rabies in Turkey (TUR)

During the third quarter 1984, a total of 381 cases of rabies were diagnosed in Turkey. With only one badger and one house mouse affected, it is demonstrated that wildlife rabies is of no importance to this country. Of the 379 rabies cases in domestic animals are 206 in dogs (54.1% of

total), 25 in cats, 123 in cattle, 2 in horses, 5 in donkeys, 11 in sheep, 3 in goats, 4 in other domesticated animals.

Contrary to countries with fox rabies there are no repeated seasonal changes in the number of cases in urban or dog rabies noticed. During several quarters in the past years the figure mostly changes from ca. 300 to 600 cases but with an irregular frequency.

During the prevailing quarter a high incidence is recorded in the province of Adana, in the south of the country with 37 cases, followed by the provinces Kastamonu in the north and Izmir in the west with 26 and 25 cases respectively. The other affected provinces record between 1 and 20 cases.

## 2.26 Rabies in Yugoslavia (YUG)

Yugoslavia follows strongly a pattern of fox rabies. For several years the third quarter shows the lowest annual figure. With 193 cases during the third quarter 1984, only the third quarter of 1981 has a greater figure (250 cases). The accumulated cases for 1984 (1260) are already exceeding the annual figure for 1983 (1149), thus an upward trend can be noticed, related to a greater area affected by the southward advancing disease.

Of the 193 cases of rabies during the third quarter 1984, 159 were in foxes (82.4%), 9 in other wild animals and 25 in domestic animals (4 dogs, 4 cats, 6 cattle, 10 sheep, 1 other domesticated animal).

Croatia has again registered most of the cases (104), followed by Slovenia (64), Wojwodina (21) and Bosnia and Hercegovina (4). The geographic distribution resembles that of the previous quarter.

## 2.27 Rabies in the Union of the Soviet Socialist Republics (USSR)

Data not received before going to press.

## 3. MISCELLANEOUS

### 3.1 WHO-Information - Concertation Meeting on the Control of Rabies in Strasbourg

The World Health Organisation (W.H.O.) and its seven European Collaborating Centres, are organising on January 3 and 4, 1985 in liaison with the Office International des Epizooties (O.I.E.) and other agencies a first concertation meeting on the control of rabies in Europe.

This meeting, where 14 European countries involved in fox rabies will be represented (Austria, Belgium, Switzerland, Denmark, France, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, West Germany, the United Kingdom, and Czechoslovakia), will take place symbolically in the premises of the European Council in Strasbourg.

Its scientific and technical organisation has been entrusted to the WHO collaborating Centre for research and management in Zoonoses control (Nancy) in cooperation with the other European collaborating Centres.

It will be the first international event celebrating the hundredth anniversary of the first treatment against human rabies, tried on July 6, 1885 by Louis PASTEUR, on the young Alsatian Joseph MEISTER.

It will be followed by several other meetings, in France and abroad, showing both the desire of honoring the memory of PASTEUR and of reviving the control of a zoonosis whose recrudescence in developing countries is alarming.

### 3.2 WHO-Information

WHO Expert Committee on Rabies, Seventh Report, 1984 -  
Technical Report Series 709 - 104 pages.

The last report of a WHO Expert Committee on Rabies dates to December 1972 (WHO Technical Report Series, No. 523, 1973 - Sixth report of the WHO Expert Committee on Rabies). The report contains the collective views of an international group of experts in the field of rabies summarizing recent developments and making recommendations for further work needed. The seventh report was produced when the WHO Expert Committee met in Geneva from 20-27 September 1983.

It is stated that in several countries rabies is spreading. The epidemiological situation is particularly disquieting in developing countries, where control of human and canine rabies has become extremely urgent. In view of the significance of dog rabies control for the prevention of the disease in man, an important section of the report refers to management aspects of rabies control. - But the disease has also extended its hold in many developed countries. In Europe, rabies in foxes advances at present especially in southern direction. - In Central and South America, rabies in vampire bats and cattle is increasing with the expansion of the livestock industry.

In the decade that has passed since the Committee's sixth meeting, more progress has been made in investigating the disease. Three great advances stand out:

- the application of techniques using monoclonal antibodies permitting for the first time the identification of individual virus strains and variants. This has far-reaching implications for epidemiological surveillance, for the use of attenuated live virus strains in nature, and for the selection of vaccine strains to match best with locally occurring viruses.
- the use of cell culture technology to make better vaccines.
- the successful introduction of oral vaccines for the immunisation of wildlife.

The results of recent studies using monoclonal antibodies have led, for example, to the following classification of the rabies group of Rhabdoviridae, genus Lyssavirus:

- Serotype 1: prototype strain Challenge Virus Standard (CVS) 24; includes the majority of field viruses and laboratory strains from different parts of the world and the newly recognized rodent isolates from Central Europe.
- Serotype 2: prototype strain Lagos bat, first isolated from pooled brains of bats in Nigeria, then from a bat in Central African Republic.
- Serotype 3: prototype strain Mokola, first isolated from shrews in Nigeria, and then from man, and wild and domestic animals in several African countries.
- Serotype 4: prototype strain Duvenhage, first isolated from man in South Africa, and then from bats in South Africa and Central Europe.

In general, the Committee has prepared its report as a self-contained document and, as well as making new recommendations, has incorporated parts of the previous report that do not require modification. The subjects in 14 sections touch the most relevant fields in rabies with emphasis on control.

The last section formulates 21 recommendations for further work needed.

The report may be obtained through WHO offices or through booksellers. The price is Swiss Francs 9.--.

### 3.3 Systemic Allergic Reactions Following Immunization with Human Diploid Cell Rabies Vaccine

The following is based on a report from Morbidity and Mortality Weekly Report, 1984, 33 No 14, US Centers for Disease Control and the content is repeated in Weekly Epidemiological Record 1984, 59, 354-356 (WHO). Because of its importance for our readers, we present the text of the latter abstract in its entirety.

UNITED STATES OF AMERICA. - Human diploid cell rabies vaccine (HDCV) has been licensed for use since 1980. Approximately 400 000 doses have been administered to an estimated 100 000 persons in the country since that time. The majority of these were for post-exposure treatments. Information on possible adverse reactions to HDCV has been collected by the Centers for Disease Control (CDC) from individual physicians and from medical personnel in charge of providing rabies pre- and post-exposure prophylaxis to large cohorts of persons, such as veterinary students and animal-control workers. During the past 46 months, 108 clinical reports of systemic allergic reactions ranging from hives to anaphylaxis were reported to CDC (11 per 10 000 persons vaccinated). Few patients required hospitalization, and no deaths secondary to the reactions were reported.

The reports of systemic allergic reactions included 9 cases of presumed Type I immediate hypersensitivity (1 in 10 000), 87 cases of presumed Type III hypersensitivity reactions (9 in 10 000), and 12 cases of allergic reactions of indeterminate type (Table 1). These reactions were classified on the basis of clinical observations only. Type I hypersensitivity

reactions refer to immunoglobulin E (IgE)-mediated immediate reactions, such as anaphylaxis and atopy, whereas Type III hypersensitivity refers to immunoglobulin G (IgG)- or immunoglobulin M (IgM)-mediated immune complex disease characterized by antigen-antibody complex deposition in tissues, complement activation, and inflammation.

Table 1: Reports of Systemic Allergic Reactions Following Immunization with Human Diploid Cell Rabies Vaccine, United States of America, June 1980-March 1984.

Reaction Type*	Pre-exposure				Post-exposure		Total
	Primary Series		Booster Dose		Primary Series	Booster Dose	
	IM <sup>+</sup>	ID <sup>++</sup>	ID	IM	ID	IM	
Type I (immediate hypersensitivity)	1	0	0	0	8	0	9
Type III (immune complex disease)	1	0	42	34	5	5	87
Indeterminate (Type I or Type III)	0	0	0	0	11	1	12
Total	2	0	42	34	24	6	108

\* Characterization of reactions is based on clinical definition, not immunopathological changes.

Type I: Immediate hypersensitivity, as used here, refers to an immunological illness occurring within minutes to hours after a dose of HDCV and characterized by either bronchospasm, laryngeal oedema, generalized pruritic rash, urticaria, or angioedema.

Type III: Presumed immune complex disease, as used here, refers to an immunological illness occurring 2-21 days after a dose or doses of HDCV and characterized by a generalized pruritic rash or urticaria; the patient may also have arthralgias, arthritis, angioedema, nausea, vomiting, fever, and malaise.

+ = intramuscular  
++ = intradermal

Hypersensitivity reactions presumed to be Type III occurred 2-21 days after a dose or doses of HDCV; patients presented with a generalized or pruritic rash or urticaria, sometimes accompanied by arthralgias, angioedema, fever, nausea, vomiting, and malaise. All 9 of the presumed immediate hypersensitivity reactions occurred during either primary pre-exposure immunization (vaccine administered on days 0, 7, and 21 or 28) or post-exposure immunization (vaccine on days 0, 3, 7, 14, and 28 and rabies immunoglobulin on day 0). However, 81 (93%) of the 87 presumed Type III hypersensitivity reactions were observed following booster immunization. Although the presumed Type III reactions occurred in 6 persons during the primary immunization series, none were observed following the first dose of the primary series.



Routine boosters of HDCV at 2-year intervals have been recommended for persons with continuing risks of exposure. As increasing numbers of persons received their first routine 2-year boosters, reports of presumed Type III hypersensitivity reactions increased in frequency. In approximately half of known cohorts who received booster immunizations between January 1982 and March 1984, some recipients had presumed Type III hypersensitivity reactions. Sixty-seven (7%) of 962 persons in these cohorts fit the above case description for presumed Type III hypersensitivity reactions.

Table 2 illustrates the clinical features in 3 of the cohorts reporting presumed Type III reactions following booster immunization with HDCV. When performed, urinalyses, blood urea nitrogen, and serum creatinine determinations have been normal. Elevated white blood cell counts ranging from 14 000 to 24 000 (predominantly polymorphonuclear leukocytes) were reported in 2 cases. Serum complement levels (C-3, C-4, and CH-50) were depressed in 2 patients when serum was drawn at the time of most active clinical symptoms: 1 of these also had detectable cryoglobulins. Serum-complement levels were normal in 5 other patients whose sera were collected at other times. Respiratory distress was infrequently seen. Most patients' symptoms improved within 2-3 days when treated with antihistamines, but a few required systemic corticosteroids and epinephrine.

Table 2: Signs and Symptoms in 3 Cohorts Reporting Presumed Immune Complex-type Hypersensitivity Reactions\* after Booster Immunization with Human Diploid Cell Rabies Vaccine, United States of America, January 1982-March 1984

	Cohort A	Cohort B	Cohort C
No. with reaction/total persons given boosters (%)	23/226 (10%)	22/123 (18%)	6/29 (21%)
Route of booster	Intradermal	Intramuscular	Intramuscular
No. with sign or symptom (%)**			
Pruritic rash	16 (70%)	5 (18%)	1 (17%)
Urticaria	20 (87%)	20 (91%)	6 (100%)
Oedema	10 (43%)	10 (45%)	4 (67%)
Joint pain	4 (17%)	3 (14%)	-
Fever	1 (4%)	-	-
Difficulty breathing	1 (4%)	2 (9%)	-
Mean delay after booster before reaction (range)	9.4 days (3-13)	8.6 days (2-11)	10.5 days (8-11)

\* Coombs and Gell Type III.

\*\* Total in each cohort greater than 100%, because multiple signs and symptoms could be reported on each person.

Preliminary analysis of epidemiological features of the illness in several cohorts revealed a male/female relative risk of 2.3 (95% confidence limits, 1.2-4.4). No significant associations have been demonstrated between persons who reported presumed Type III hypersensitivity reactions and age, route of primary or booster immunization (intramuscular

or intradermal), timing of booster after primary immunization, history of other allergies, or history of previous immunization with rabies vaccines other than HDCV. HDCV produced by 2 different manufacturers has been associated with reactions. In 2 groups for which serological data were available, no difference was shown in pre-booster antibody titres between reactors and non-reactors, but post-booster titres were significantly higher in those who developed reactions. Most presumed Type III reactions were reported to have occurred following booster doses, but 6 occurred following 2 or more doses of HDCV given for primary immunization.

EDITORIAL NOTE: Primary immunization with HDCV appears to sensitize some recipients to an, as yet, unidentified component of the vaccine. When booster doses of HDCV are then administered, these persons develop a hypersensitivity reaction clinically consistent with Type III immune complex disease. Until this reaction problem can be resolved, it would be prudent to carefully assess each use of rabies vaccine for routine booster immunization. Persons who have experienced Type III hypersensitivity reactions should receive no further doses of HDCV unless: (1) they are exposed to rabies\* or (2) they are truly likely to be inapparently and/or unavoidably exposed to rabies virus and have unsatisfactory antibody titres. The routine use of booster immunization in persons without histories of hypersensitivity reactions is clearly indicated only in those subjected to inapparent and/or unavoidable exposures to rabies virus. All available data suggest an anamnestic antibody response will occur in any person who previously received primary pre-exposure immunization with HDCV, even when the antibody titre at the time of the booster was low or undetectable.

Individuals with histories of presumed Type III hypersensitivity to HDCV may be at higher risk of subsequent hypersensitivity reactions, and vaccine should be administered under appropriate medical supervision.

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\*Post-exposure prophylaxis in previously immunized persons consists of 2 1-ml intramuscular doses of HDCV, 1 each on days 0 and 3.



TABLE 1

EUR		EUROPE		3/84		RABIES CASES							1. 7.84 - 30. 9.84			
LOCATION		DOMESTIC ANIMALS						WILD ANIMALS						HUMAN CASES	TOTAL	
CODE	NAME	DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BAIGER	OTHER MUSTEL	DEER	OTHERS			TOTAL
AUT	AUSTRIA	-	6	22	-	-	-	28	239	17	6	11	2	275	303	
BEL	BELGIUM	-	3	43	-	8	-	54	56	-	1	1	-	58	112	
BUL	BULGARIA	*						0						0	0	
CZE	CZECHOSLOVAKIA	4	29	-	-	-	-	33	488	3	14	11	-	516	549	
DDR	GERMAN DEM. REPUBLIC	8	27	17	2	39	2	95	441	4	15	16	1	477	572	
DEN	DENMARK	*						0						0	0	
DEU	FED.REP. OF GERMANY	9	58	120	6	49	-	242	1187	34	75	69	1	1366	1608	
FIN	FINLAND	*						0						0	0	
FRA	FRANCE	14	21	39	5	30	-	109	405	16	-	3	18	442	551	
GBR	UNITED KINGDOM	*						0						0	0	
GRE	GREECE	*						0						0	0	
HUN	HUNGARY	4	9	1	-	-	-	14	165	1	-	2	1	169	183	
IRE	IRELAND	*						0						0	0	
ISL	ICELAND	*						0						0	0	
ITA	ITALY	2	-	-	-	-	-	2	44	4	2	2	-	52	54	
LUX	LUXEMBOURG	-	-	1	-	-	-	1	8	-	-	-	-	8	9	
NET	NETHERLANDS							0	2	-	-	-	-	2	2	
NOR	NORWAY	*						0						0	0	
POL	POLAND	23	39	12	-	2	1	77	253	5	9	26	25	318	395	
POR	PORTUGAL	1)	-	-	-	-	-	1						0	1	
ROM	ROMANIA	**													-	
SPA	SPAIN	*						0						0	0	
SWE	SWEDEN	*						0						0	0	
SWI	SWITZERLAND + LIECHT	2	14	26	3	6	-	51	109	10	3	6	-	128	179	
TUR	TURKEY	206	25	123	2	14	9	379	-	1	-	-	1	2	381	
YUG	YUGOSLAVIA	4	4	6	-	10	1	25	159	-	-	-	9	168	193	
TOTAL		277	235	410	18	158	13	1111	3556	95	125	147	58	3981	0	5092
PER CENT		5.4	4.6	8.1	0.4	3.1	0.3	21.8	69.8	1.9	2.5	2.9	1.1	78.2	0.0	100.0

\* NO CASES, \*\* NO DATA, 1) IMPORTED FROM MOZAMBIQUE.

TABLE 2: ACCUMULATED TOTALS OF RABIES CASES FOR THE PERIOD 1. JANUARY - 30. SEPTEMBER 1984.

EUR		EUROPE		1-3/84		RABIES CASES							1. 1.84 - 30. 9.84			
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
AUT	AUSTRIA	4	20	24	-	5	-	53	950	62	22	55	3	1092	1145	
BEL	BELGIUM	2	10	85	1	21	-	119	204	1	3	1	-	209	328	
BUL	BULGARIA	*						0						0	0	
CZE	CZECHOSLOVAKIA	30	67	-	-	2	-	99	1754	9	23	29	-	1815	1914	
DDR	GERMAN DEM. REPUBLIC	47	88	35	7	88	2	267	1178	5	40	64	3	1290	1557	
DEN	DENMARK	*						0						0	0	
DEU	FED.REP. OF GERMANY	52	151	230	31	146	5	615	3994	111	204	277	15	4601	5216	
FIN	FINLAND	*						0						0	0	
FRA	FRANCE	85	87	99	31	146	2	450	1716	26	-	12	40	1794	2244	
GBR	UNITED KINGDOM	*						0						0	0	
GRE	GREECE	*						0						0	0	
HUN	HUNGARY	19	32	12	1	3	-	67	727	1	1	5	3	737	804	
IRE	IRELAND	*						0						0	0	
ISL	ICELAND	*						0						0	0	
ITA	ITALY	4	2	1	-	-	-	7	287	18	9	2	-	316	323	
LUX	LUXEMBOURG	-	2	9	1	12	1	25	27	-	1	1	-	29	54	
NET	NETHERLANDS	-	-	6	-	10	-	16	34	9	-	1	-	44	60	
NOR	NORWAY	*						0						0	0	
POL	POLAND	74	104	38	-	2	4	222	661	14	27	78	59	839	1061	
POR	PORTUGAL	1)	-	-	-	-	-	1						0	1	
ROM	ROMANIA	**	3	8	1	68	2	82	19	3	-	-	2	24	106	
SPA	SPAIN	*						0						0	0	
SWE	SWEDEN	*						0						0	0	
SWI	SWITZERLAND + LIECHT	12	45	35	5	34	-	131	602	37	27	20	1	687	818	
TUR	TURKEY	730	80	248	7	42	27	1134	-	2	-	-	8	10	1144	
YUG	YUGOSLAVIA	15	19	20	1	13	4	72	1147	-	-	-	41	1188	1260	
TOTAL		1078	715	843	85	592	47	3360	13300	298	357	545	175	14675	0	18035
PER CENT		6.0	4.0	4.7	0.5	3.3	0.3	18.6	73.7	1.7	2.0	3.0	1.0	81.4	0.0	100.0

\* NO CASES, \*\* NO DATA FOR 3RD QUARTER, 1) IMPORTED FROM MOZAMBIQUE.

TABLE 3

EUR		EUROPE		3/84		RABIES CASES 'OTHER ANIMAL SPECIES'										1. 7.81 - 30. 9.81	
LOCATION		OTHER DOMESTIC ANIMALS					OTHER WILD ANIMALS										TOTAL
CODE	NAME	DONKEY	PIG	OTH.DO HERBIV	DOMEST RABBIT	OTHER	RACCOON DOG	WILD BOAR	MOUFLON	CHAMOIS	HEDGE HOG	SQUIRREL	HOUSE MOUSE	WILD RABBIT	HARE	OTHER	
AUT	AUSTRIA	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2
DDR	GERMAN DEM.REPUBLIC	-	1	-	1	-	-	-	1	-	-	-	-	-	-	-	3
DEU	FED.REP. OF GERMANY	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
FRA	FRANCE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	18
HUN	HUNGARY	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
POL	POLAND	-	1	-	-	-	16	1	-	-	2	5	-	-	1	-	26
TUR	TURKEY	5	-	4	-	-	-	-	-	-	-	1	-	-	-	-	10
YUG	YUGOSLAVIA	-	-	-	-	1	-	-	-	-	-	-	-	-	-	9	10
TOTAL		5	2	4	1	1	16	2	1	2	2	5	1	1	1	27	71
PER CENT		7.0	2.8	5.6	1.4	1.4	22.5	2.8	1.4	2.8	2.8	7.0	1.4	1.4	1.4	38.0	100.0

AUT

A U S T R I A

R A B I E S C A S E S

1. 7.84 - 30. 9.84

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
		DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS		
104	GUESSING						0	1	-	1	-	-	2		2
201	KLAGENFURT-STADT						0	1	-	-	-	-	1		1
203	HERMAGOR						0	1	-	-	-	-	1		1
204	KLAGENFURT-LAND						0	3	1	-	-	-	4		4
205	SANKT VEIT AN DER GL	-	1	8	-	-	9	38	4	-	2	-	44		53
206	SPITAL AN DER DRAU	-	-	3	-	-	3	-	-	-	1	-	1		4
208	VOELKERMARKT						0	-	-	-	-	1	1		1
209	WOLFSBERG						0	1	-	-	-	-	1		1
210	FELDKIRCHEN	-	1	-	-	-	1	8	-	1	-	-	9		10
309	GMUEND						0	4	-	-	-	-	4		4
310	HOLLABRUNN						0	2	-	-	-	-	2		2
311	HORN						0	6	1	1	-	-	8		8
313	KREMS AN DER DONAU-L						0	3	-	-	-	-	3		3
322	Waidhofen an der Tha	-	1	-	-	-	1	4	-	1	-	-	5		6
325	ZWETTL						0	38	1	-	2	-	41		41
406	FREISTADT						0	12	1	-	-	-	13		13
411	PERG						0	2	-	-	-	-	2		2
413	ROHRBACH						0	2	-	-	-	-	2		2
416	URFAHR-LAND	-	1	-	-	-	1	3	-	-	-	-	3		4
504	SANKT JOHANN IM PONG	-	-	1	-	-	1	13	2	-	-	-	15		16
505	TAMSWEG	-	-	3	-	-	3	24	1	1	2	1	29		32
506	ZELL AM SEE	-	-	1	-	-	1	20	-	-	1	-	21		22
606	GRAZ-LAND						0	3	-	-	-	-	3		3
607	HARTBERG						0	1	-	-	-	-	1		1
609	KNITTELFELD						0	1	-	-	-	-	1		1
611	LEOBEN						0	1	-	-	-	-	1		1
612	LIEZEN						0	1	-	-	-	-	1		1
613	MUERZZUSCHLAG						0	1	-	-	-	-	1		1
614	MURAU						0	7	3	-	1	-	11		11
616	VOITSBERG						0	3	-	-	1	-	4		4
617	WEIZ						0	2	1	-	-	-	3		3
703	INNSBRUCK-LAND						0	1	-	-	-	-	1		1
704	KITZBUEHEL	-	-	1	-	-	1	12	-	-	-	-	12		13
705	KUFSTEIN						0	1	-	-	-	-	1		1
708	REUTTE						0	3	-	1	-	-	4		4
801	BLUDENZ	-	-	5	-	-	5	6	-	-	1	-	7		12
802	BREGENZ	-	1	-	-	-	1	6	1	-	-	-	7		8
803	DORNBIRN						0	1	-	-	-	-	1		1
804	FELDKIRCH	-	1	-	-	-	1	3	1	-	-	-	4		5
TOTAL		0	6	22	0	0	28	239	17	6	11	2	275	0	303
PER CENT		0.0	2.0	7.3	0.0	0.0	9.2	78.9	5.6	2.0	3.6	0.7	90.8	0.0	100.0

## RABIES CASES

1. 7.84 - 30. 9.84

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
<b>BEL BELGIUM</b>															
HH HAINHAUT	-	-	4	-	1	-	5	5	-	-	-	-	5		10
LG LIEGE	-	-	9	-	1	-	10	23	-	-	-	-	23		33
LI LIMBURG	-	-	-	-	-	-	0	6	-	-	-	-	6		6
LX LUXEMBOURG	-	1	15	-	4	-	20	11	-	1	-	-	12		32
NA NAMUR	-	2	14	-	2	-	18	11	-	-	1	-	12		30
OV OOST-VLANDEREN	-	-	1	-	-	-	1	-	-	-	-	-	0		1
TOTAL	0	3	43	0	8	0	54	56	0	1	1	0	58	0	112
PER CENT	0.0	2.7	38.4	0.0	7.1	0.0	48.2	50.0	0.0	0.9	0.9	0.0	51.8	0.0	100.0
<b>LUX LUXEMBOURG</b>															
02 CAPELLEN							0	2	-	-	-	-	2		2
03 ESCH							0	1	-	-	-	-	1		1
06 CLERVAUX							0	1	-	-	-	-	1		1
07 DIEKIRCH							0	1	-	-	-	-	1		1
08 REDANGE							0	1	-	-	-	-	1		1
11 ECHTERNACH							0	1	-	-	-	-	1		1
12 GREVENMACHER	-	-	1	-	-	-	1	1	-	-	-	-	1		2
TOTAL	0	0	1	0	0	0	1	8	0	0	0	0	8	0	9
PER CENT	0.0	0.0	11.1	0.0	0.0	0.0	11.1	88.9	0.0	0.0	0.0	0.0	88.9	0.0	100.0
<b>NET NETHERLANDS</b>															
05 LIMBURG							0	2	-	-	-	-	2		2

CZE

CZECHOSLOVAKIA

RABIES CASES

1. 4.84 - 30. 6.84

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
00	DISTRICT OF PRAGUE							0						0		0
01	CENTRAL BOHEMIA	-	2	-	-	-	-	2	26	-	-	-	-	26		28
02	SOUTH BOHEMIA	1	1	-	-	1	-	3	43	-	1	-	-	44		47
03	WEST BOHEMIA	-	1	-	-	-	-	1	86	2	-	1	-	89		90
04	NORTH BOHEMIA	6	3	-	-	-	-	9	140	2	3	1	-	146		155
05	EAST BOHEMIA	-	1	-	-	-	-	1	17	-	-	-	-	17		18
06	SOUTH MORAVIA	2	4	-	-	-	-	6	123	1	-	-	-	124		130
07	NORTH MORAVIA	1	-	-	-	-	-	1	23	-	1	-	-	24		25
0	CSR	10	12	-	-	1	-	23	458	5	5	2	-	470		493
10	DISTRICT OF BRATISLAV							0						0		0
11	WEST SLOVAKIA							0	7	-	-	-	-	7		7
12	CENTRAL SLOVAKIA	3	5	-	-	-	-	8	24	-	-	-	-	24		32
13	EAST SLOVAKIA	6	2	-	-	-	-	8	23	-	-	-	-	23		31
1	SSR	9	7	-	-	-	-	16	54	-	-	-	-	54		70
TOTAL		19	19	0	0	1	0	39	512	5	5	2	0	524	0	563
PER CENT		3.4	3.4	0.0	0.0	0.2	0.0	6.9	90.9	0.9	0.9	0.4	0.0	93.1	0.0	100.0

CZE

CZECHOSLOVAKIA

RABIES CASES

1. 7.84 - 30. 9.84

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
00	DISTRICT OF PRAGUE							0						0		0
01	CENTRAL BOHEMIA	2	1	-	-	-	-	3	31	-	-	-	-	31		34
02	SOUTH BOHEMIA	1	6	-	-	-	-	7	36	-	2	1	-	39		46
03	WEST BOHEMIA	-	5	-	-	-	-	5	78	-	1	1	-	80		85
04	NORTH BOHEMIA	-	5	-	-	-	-	5	152	-	3	5	-	160		165
05	EAST BOHEMIA							0	7	1	2	-	-	10		10
06	SOUTH MORAVIA	-	3	-	-	-	-	3	97	2	6	4	-	109		112
07	NORTH MORAVIA	-	1	-	-	-	-	1	50	-	-	-	-	50		51
0	CSR	3	21	-	-	-	-	24	451	3	14	11	-	479		503
10	DISTRICT OF BRATISLAV							0						0		0
11	WEST SLOVAKIA	-	1	-	-	-	-	1	12	-	-	-	-	12		13
12	CENTRAL SLOVAKIA	-	7	-	-	-	-	7	11	-	-	-	-	11		18
13	EAST SLOVAKIA	1	-	-	-	-	-	1	14	-	-	-	-	14		15
1	SSR	1	8	-	-	-	-	9	37	-	-	-	-	37		46
TOTAL		4	29	0	0	0	0	33	488	3	14	11	0	516	0	549
PER CENT		0.7	5.3	0.0	0.0	0.0	0.0	6.0	88.9	0.5	2.6	2.0	0.0	94.0	0.0	100.0

DDR

GERMAN DEMOCRATIC REPUBLIC

R A B I E S C A S E S

1. 7.84 - 30. 9.84

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
01	HAUPTSTADT BERLIN						0	1	-	-	-	-	1		1	
02	COTTBUS						0	12	-	-	-	-	12		12	
03	DRESDEN	-	2	1	-	5	8	27	1	3	2	-	33		41	
04	ERFURT	-	-	2	-	-	2	51	1	-	1	-	53		55	
05	FRANKFURT/ODER	-	-	1	-	-	1	18	1	2	1	-	22		23	
06	GERA	-	1	-	-	5	6	15	-	-	-	-	15		21	
07	HALLE	1	3	-	1	-	5	46	-	-	3	-	49		54	
08	KARL-MARX-STADT	-	1	1	1	24	27	32	-	1	-	-	33		60	
09	LEIPZIG	1	2	-	-	-	3	23	-	-	-	-	23		26	
10	MAGDEBURG	3	3	6	-	2	14	46	-	2	2	-	50		64	
11	NEUBRANDENBURG	-	4	3	-	1	8	22	1	-	3	-	26		34	
12	POTSDAM	1	3	1	-	-	6	43	-	2	1	-	46		52	
13	ROSTOCK	-	1	-	-	-	1	23	-	-	2	-	25		26	
14	SCHWERIN	-	6	-	-	-	7	28	-	3	-	1	32		39	
15	SUHL	2	1	2	-	2	7	54	-	2	1	-	57		64	
TOTAL		8	27	17	2	39	2	95	441	4	15	16	1	477	0	572
PER CENT		1.4	4.7	3.0	0.3	6.8	0.3	16.6	77.1	0.7	2.6	2.8	0.2	83.4	0.0	100.0



DEU

FEDERAL REPUBLIC OF GERMANY

R A B I E S C A S E S

1. 7.84 - 30. 9.84

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							0	10	-	1	-	-	11		11
032	HANNOVER	1	-	14	1	2	-	18	62	1	3	1	-	67		85
033	LUENEBURG	1	1	3	1	2	-	8	38	-	1	1	-	40		48
034	WESER-EMS	-	-	-	-	1	-	1	4	-	-	-	-	4		5
040	BREMEN							0						0		0
051	DUESSELDORF	1	1	-	-	-	-	2	16	-	-	-	-	16		18
053	KOELN	1	2	8	-	-	-	11	54	2	1	4	-	61		72
055	MUENSTER							0						0		0
057	DETMOLD	-	-	3	-	1	-	4	8	-	-	-	-	8		12
059	ARNSBERG	-	1	6	-	2	-	9	65	1	1	5	-	72		81
061	DARMSTADT	1	3	1	-	6	-	11	63	-	8	9	-	80		91
062	KASSEL	-	6	13	1	3	-	23	74	1	8	3	-	86		109
071	KOBLENZ	2	2	9	-	1	-	14	81	2	3	7	-	93		107
072	TRIER	-	4	24	1	3	-	32	22	2	1	-	-	25		57
073	RHEINHESSEN-PFALZ	1	11	1	-	4	-	17	51	-	6	6	-	63		80
081	STUTTGART	-	-	2	-	10	-	12	45	5	5	6	-	61		73
082	KARLSRUHE							0	31	2	1	1	-	35		35
083	FREIBURG	-	-	6	-	4	-	10	67	5	1	8	1	82		92
084	TUEBINGEN	-	3	6	-	2	-	11	98	2	4	4	-	108		119
091	OBERBAYERN	-	4	15	1	3	-	23	109	2	6	3	-	120		143
092	NIEDERBAYERN	-	3	-	-	2	-	5	40	2	7	1	-	50		55
093	OBERPFALZ	1	7	-	-	-	-	8	74	1	4	5	-	84		92
094	OBERFRANKEN	-	3	-	-	-	-	3	36	-	2	2	-	40		43
095	MITTELFRANKEN							0	13	1	-	1	-	15		15
096	UNTERFRANKEN	-	4	1	-	1	-	6	56	3	3	2	-	64		70
097	SCHWABEN	-	3	8	1	1	-	13	54	2	7	-	-	63		76
100	SAARLAND	-	-	-	-	1	-	1	12	-	2	-	-	14		15
110	BERLIN (WEST)							0	3	-	-	-	-	3		3
TOTAL		9	58	120	6	49	0	242	1187	34	75	69	1	1366	0	1608
PER CENT		0.6	3.6	7.5	0.4	3.0	0.0	15.0	73.8	2.1	4.7	4.3	0.1	85.0	0.0	100.0

FRA

FRANCE

RABIES CASES

1. 7.84 - 30. 9.84

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	2	-	-	2	-	5	29	2	-	-	-	31		36
02 AISNE	-	-	-	1	1	-	2	8	-	-	-	3	11		13
08 ARDENNES	1	4	15	1	3	-	24	9	-	-	-	-	9		33
10 AUBE	1	-	2	-	-	-	3	11	-	-	-	-	11		14
21 COTE D'OR	-	1	1	-	4	-	6	18	1	-	-	1	20		26
25 DOUBS	-	1	1	-	1	-	3	32	1	-	-	2	35		38
39 JURA	-	-	-	-	-	-	0	29	1	-	-	2	32		32
42 LOIRE	-	-	1	-	-	-	1	-	-	-	-	-	0		1
51 MARNE	-	1	-	-	1	-	2	11	1	-	-	-	12		14
52 MARNE (HAUTE)	-	2	2	-	1	-	5	21	-	-	-	2	23		28
54 MEURTHE-ET-MOSELLE	2	2	1	-	-	-	5	23	1	-	-	3	27		32
55 MEUSE	1	2	14	-	6	-	23	23	1	-	1	2	27		50
57 MOSELLE	1	1	-	-	1	-	3	7	-	-	-	1	8		11
58 NIEVRE	-	-	-	1	-	-	1	1	-	-	-	-	1		2
60 OISE	-	1	-	-	-	-	1	8	-	-	-	-	8		9
67 RHIN (BAS)	1	1	-	1	1	-	4	9	-	-	-	-	9		13
68 RHIN (HAUT)	-	-	-	-	-	-	0	25	3	-	1	-	29		29
70 SAONE (HAUTE)	1	-	-	-	2	-	3	15	3	-	-	-	18		21
71 SAONE-ET-LOIRE	-	-	-	-	3	-	3	-	-	-	-	-	0		3
73 SAVOIE	-	-	-	-	-	-	0	4	-	-	-	-	4		4
74 SAVOIE (HAUTE)	1	2	1	-	-	-	4	3	2	-	1	-	6		10
77 SEINE-ET-MARNE	1	-	1	1	-	-	3	47	-	-	-	-	47		50
88 VOSGES	1	1	-	-	1	-	3	22	-	-	-	1	23		26
89 YONNE	-	-	-	-	-	-	0	6	-	-	-	1	7		7
90 TERR. DE BELFORT	1	-	-	-	3	-	4	9	-	-	-	-	9		13
93 SEINE SAINT DENIS	-	-	-	-	-	-	0	10	-	-	-	-	10		10
95 VAL D'OISE	1	-	-	-	-	-	1	25	-	-	-	-	25		26
TOTAL	14	21	39	5	30	0	109	405	16	0	3	18	442	0	551
PER CENT	2.5	3.8	7.1	0.9	5.4	0.0	19.8	73.5	2.9	0.0	0.5	3.3	80.2	0.0	100.0

HUN HUNGARY

## RABIES CASES

1. 7.84 - 30. 9.84

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	2	-	-	-	-	2		2
02 BARANYA	2	-	-	-	-	-	2	9	-	-	-	-	9		11
03 BACS-KISKUN							0	4	-	-	-	-	4		4
04 BEKES							0	4	-	-	-	-	4		4
05 BORSOD-ABAUJ-ZEMPLEN	-	2	1	-	-	-	3	12	-	-	-	-	12		15
06 CSONGRAD							0	3	-	-	-	-	3		3
07 FEJER	-	1	-	-	-	-	1	17	-	-	1	-	18		19
08 GYDER-SOPRON	1	-	-	-	-	-	1	9	-	-	-	-	9		10
09 HAJDU-BIHAR	-	1	-	-	-	-	1	5	-	-	-	-	5		6
10 HEVES							0	9	-	-	-	-	9		9
11 KOMAROM							0	4	-	-	-	1	5		5
12 NOGRAD	-	1	-	-	-	-	1	4	-	-	-	-	4		5
13 FEST							0	15	-	-	-	-	15		15
14 SOMOGY	1	1	-	-	-	-	2	10	-	-	1	-	11		13
15 SZABOLCS-SZATMAR							0	14	1	-	-	-	15		15
16 SZOLNOK	-	1	-	-	-	-	1	2	-	-	-	-	2		3
17 TOLNA	-	1	-	-	-	-	1	4	-	-	-	-	4		5
18 VAS							0	15	-	-	-	-	15		15
19 VESZPREM							0	16	-	-	-	-	16		16
20 ZALA	-	1	-	-	-	-	1	7	-	-	-	-	7		8
TOTAL	4	9	1	0	0	0	14	165	1	0	2	1	169	0	183
PER CENT	2.2	4.9	0.5	0.0	0.0	0.0	7.7	90.2	0.5	0.0	1.1	0.5	92.3	0.0	100.0

## R A B I E S   C A S E S

1. 7.84 - 30. 9.84

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>ITA    I T A L Y</b>																
22	COMO	1	-	-	-	-	-	1	8	-	-	-	-	8		9
23	SONDRIO							0	11	3	-	1	-	15		15
24	BERGAMO							0	4	-	-	-	-	4		4
25	BRESCIA							0	2	-	1	-	-	3		3
33	UDINE	1	-	-	-	-	-	1						0		1
34	TRIESTE E GORIZIA							0	1	-	-	-	-	1		1
38	TRENTO							0	11	1	1	1	-	14		14
39	BOLZANO							0	7	-	-	-	-	7		7
TOTAL		2	0	0	0	0	0	2	44	4	2	2	0	52	0	54
PER CENT		3.7	0.0	0.0	0.0	0.0	0.0	3.7	81.5	7.4	3.7	3.7	0.0	96.3	0.0	100.0
<b>POR    P O R T U G A L</b>																
03	ALGARVE	1)	1	-	-	-	-	-	1					0		1
<b>YUG    Y U G O S L A V I A</b>																
I	SR BOSNA I HERCEGOVI	1	-	-	-	-	-	1	3	-	-	-	-	3		4
III	SR HRVATSKA	3	3	5	-	10	1	22	79	-	-	-	3	82		104
V	SR SLOVENIJA	-	-	1	-	-	-	1	57	-	-	-	6	63		64
VI1	SAP VOJVODINA	-	1	-	-	-	-	1	20	-	-	-	-	20		21
TOTAL		4	4	6	0	10	1	25	159	0	0	0	9	168	0	193
PER CENT		2.1	2.1	3.1	0.0	5.2	0.5	13.0	82.4	0.0	0.0	0.0	4.7	87.0	0.0	100.0

1) IMPORTED FROM MOZAMBIQUE.

POL POLAND

## RABIES CASES

1. 7.84 - 30. 9.84

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
03	BIALA PODLASKA							0	1	-	-	-	-	1		1
05	BIALYSTOK							0	4	-	-	-	2	6		6
09	BYDGOSZCZ	3	1	1	-	-	-	5	8	1	1	-	-	10		15
11	CHELM	-	1	-	-	-	-	1	1	-	-	-	-	1		2
17	ELBLAG	-	-	1	-	-	-	1	7	-	2	-	2	11		12
19	GDANSK							0	4	-	-	-	-	4		4
21	GORZOW	3	1	-	-	-	1	5	19	-	-	3	3	25		30
23	JELENIA GORA	-	1	-	-	-	-	1	12	-	-	-	-	12		13
25	KALISZ							0	7	-	-	-	1	8		8
27	KATOWICE	-	1	-	-	-	-	1	1	-	-	-	1	2		3
31	KONIN							0	3	-	-	-	-	3		3
33	KOSZALIN	2	11	-	-	1	-	14	7	-	-	-	1	8		22
35	KRAKOW							0	-	-	-	1	-	1		1
37	KROSNO							0	2	-	-	-	-	2		2
39	LEGNICA							0	4	-	-	-	-	4		4
41	LESZNO	-	1	-	-	-	-	1	9	-	-	-	-	9		10
43	LUBLIN	-	2	-	-	-	-	2	4	-	-	-	-	4		6
49	NOWY SACZ							0	1	-	-	-	-	1		1
51	OLSZTYN	1	2	3	-	-	-	6	10	-	-	1	4	15		21
53	OPOLE	1	1	-	-	-	-	2	19	-	-	-	-	19		21
57	PILA	-	1	-	-	-	-	1	5	-	-	2	-	7		8
59	PIOTRKOW TRYB							0	-	1	-	-	-	1		1
61	PLOCK	-	1	-	-	-	-	1						0		1
63	POZNAN	2	4	1	-	-	-	7	50	-	2	9	2	63		70
65	PRZEMYSL							0	1	-	-	-	-	1		1
67	RADOM							0	1	-	-	-	-	1		1
75	SKIERNIEWICE							0	-	-	-	1	-	1		1
77	SLUPSK	5	4	1	-	-	-	10	11	-	-	1	-	12		22
79	SUWALKI	-	2	3	-	-	-	5	1	-	-	3	7	11		16
81	SZCZECIN	2	1	-	-	-	-	3	8	1	-	3	1	13		16
87	TORUN	2	3	1	-	-	-	6	6	2	-	-	-	8		14
89	WALBRZYCH	-	-	1	-	1	-	2	7	-	-	-	-	7		9
93	WROCLAW							0	26	-	4	1	1	32		32
95	ZAMOSC	1	-	-	-	-	-	1						0		1
97	ZIELONA GORA	1	1	-	-	-	-	2	14	-	-	1	-	15		17
TOTAL		23	39	12	0	2	1	77	253	5	9	26	25	318	0	395
PER CENT		5.8	9.9	3.0	0.0	0.5	0.3	19.5	64.1	1.3	2.3	6.6	6.3	80.5	0.0	100.0

TUR

TURKEY

RABIES CASES

1. 7.84 - 30. 9.84

LOCATION		DOMESTIC ANIMALS						WILD ANIMALS					HUMAN CASES	TOTAL	
		DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER			OTHERS
001	ADANA	17	-	19	-	-	-	36	-	1	-	-	-	1	37
003	AFYON	5	-	3	-	-	1	9	-	-	-	-	-	0	9
004	AGRI	1	1	-	-	-	-	2	-	-	-	-	-	0	2
005	AMASYA	2	-	1	1	-	-	4	-	-	-	-	-	0	4
006	ANKARA	13	3	-	-	2	2	20	-	-	-	-	-	0	20
007	ANTALYA	3	-	6	-	-	1	10	-	-	-	-	-	0	10
008	ARTVIN	-	-	1	-	-	-	1	-	-	-	-	-	0	1
009	AYDIN	4	1	-	-	-	-	5	-	-	-	-	-	0	5
010	BALIKESIR	3	1	6	-	-	-	10	-	-	-	-	-	0	10
014	BOLU	6	1	3	-	-	-	10	-	-	-	-	-	0	10
016	BURSA	5	1	-	-	-	-	6	-	-	-	-	-	0	6
017	CANAKKALE	-	-	-	-	1	-	1	-	-	-	-	-	0	1
018	CANKIRI	1	-	-	-	1	-	2	-	-	-	-	-	0	2
019	CORUM	2	-	-	-	-	-	2	-	-	-	-	-	0	2
020	DENIZLI	6	-	-	-	1	-	7	-	-	-	-	-	0	7
022	EDIRNE	1	-	-	-	-	-	1	-	-	-	-	-	0	1
024	ERZINCAN	2	-	-	-	-	-	2	-	-	-	-	-	0	2
025	ERZURUM	2	1	3	-	-	-	6	-	-	-	-	-	0	6
026	ESKISEHIR	3	-	2	-	-	-	5	-	-	-	-	-	0	5
027	GAZIANTEP	5	-	2	-	1	-	8	-	-	-	-	-	0	8
028	GIRESUN	-	1	-	-	-	-	1	-	-	-	-	-	0	1
029	GUEMUESHANE	-	-	1	-	-	-	1	-	-	-	-	-	0	1
031	HATAY	4	-	-	-	-	-	4	-	-	-	-	-	0	4
033	ICEL	3	2	1	-	-	1	7	-	-	-	-	-	0	7
034	ISTANBUL	11	-	1	-	1	-	13	-	-	-	-	-	0	13
035	IZMIR	17	3	3	-	2	-	25	-	-	-	-	-	0	25
036	KARS	2	1	-	-	-	-	3	-	-	-	-	-	0	3
037	KASTAMONU	11	-	13	-	1	1	26	-	-	-	-	-	0	26
038	KAYSERI	1	-	1	-	-	-	2	-	-	-	-	-	0	2

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
039 KIRKLARELI	-	-	-	-	1	-	1						0	1	
040 KIRSEHIR	1	-	1	-	-	-	2						0	2	
041 KOCAELI	6	-	4	-	1	-	11						0	11	
042 KONYA	9	1	-	-	-	-	10						0	10	
043 KUETAHYA	3	-	1	-	-	-	4						0	4	
045 MANISA	5	-	1	-	-	-	6						0	6	
046 KAHRAMAN MARAS	1	-	4	-	2	-	7						0	7	
047 MARDIN	1	-	2	-	-	1	4						0	4	
048 MUGLA	1	-	3	-	-	-	4						0	4	
049 MUS	1	-	1	-	-	-	2						0	2	
050 NEVSEHIR	3	-	-	-	-	-	3						0	3	
051 NIGDE	1	-	-	-	-	-	1						0	1	
052 ORDU	4	1	1	-	-	1	7	-	-	-	-	1	1	8	
054 SAKARYA	9	1	4	-	-	-	14						0	14	
055 SAMSUN	7	5	5	1	-	-	18						0	18	
057 SINOP	2	-	12	-	-	1	15						0	15	
058 SIVAS	2	-	1	-	-	-	3						0	3	
059 TEKIRDAG	1	-	-	-	-	-	1						0	1	
060 TOKAT	3	-	1	-	-	-	4						0	4	
061 TRABZON	5	1	-	-	-	-	6						0	6	
063 URFA	1	-	1	-	-	-	2						0	2	
064 USAK	1	-	1	-	-	-	2						0	2	
066 YOZGAT	2	-	1	-	-	-	3						0	3	
067 ZONGULDAK	7	-	13	-	-	-	20						0	20	
TOTAL	206	25	123	2	14	9	379	0	1	0	0	1	2	0	381
PER CENT	54.1	6.6	32.3	0.5	3.7	2.4	99.5	0.0	0.3	0.0	0.0	0.3	0.5	0.0	100.0



SWI

SWITZERLAND AND LIECHTENSTEIN

RABIES CASES

1. 7.84 - 30. 9.84

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 AARGAU							0	8	-	-	2	-	10		10
02 APPENZEL A.RH.	-	1	-	-	-	-	1						0		1
05 BASEL-LAND							0	10	-	-	-	-	10		10
06 BERN							0	2	1	-	-	-	3		3
07 FRIBOURG							0	7	-	1	-	-	8		8
08 GENEVE	-	-	-	-	1	-	1	3	2	-	-	-	5		6
09 GLARUS							0	1	-	-	-	-	1		1
15 SCHAFFHAUSEN							0	4	-	-	-	-	4		4
17 SOLOTHURN	-	2	-	-	-	-	2	4	-	-	-	-	4		6
18 ST.GALLEN	-	3	4	-	-	-	7	13	1	-	1	-	15		22
20 THURGAU							0	5	1	-	-	-	6		6
22 VAUD	-	2	1	-	-	-	3	23	-	-	-	-	23		26
25 ZUERICH	2	4	7	-	2	-	15	24	4	1	1	-	30		45
26 JURA	-	2	14	3	2	-	21	5	1	1	2	-	9		30
LI LIECHTENSTEIN	-	-	-	-	1	-	1						0		1
TOTAL	2	14	26	3	6	0	51	109	10	3	6	0	128	0	179
PER CENT	1.1	7.8	14.5	1.7	3.4	0.0	28.5	60.9	5.6	1.7	3.4	0.0	71.5	0.0	100.0

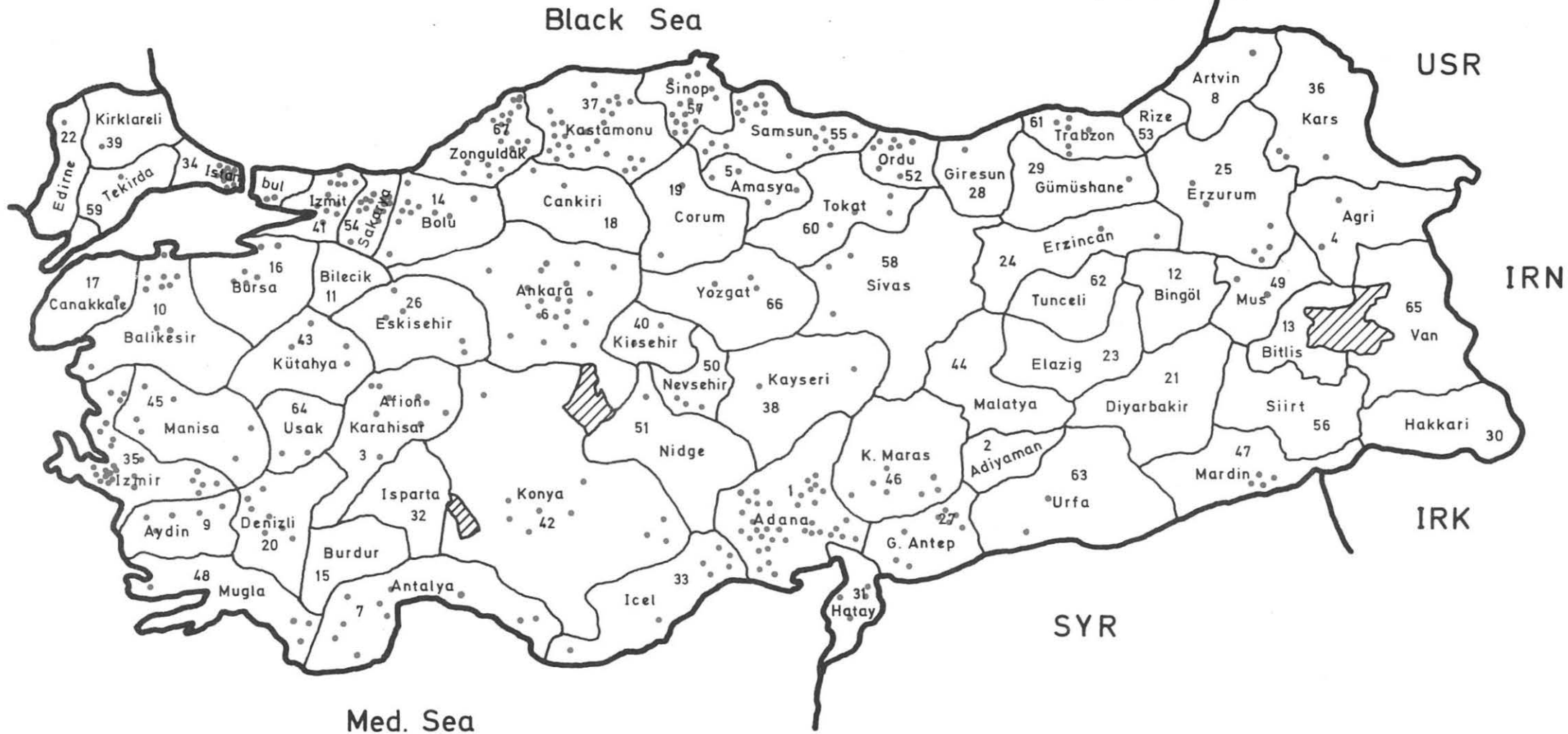
## LIST OF CONTRIBUTORS

- AUT AUSTRIA**  
 Dr. W. K r o c z a  
 Director  
 Dr. E. S c h a r f e n  
 Bundesanstalt für Tierseuchen-  
 bekämpfung  
 Robert-Koch-Gasse 17  
 A-2340 Mödling /Austria
- BEL BELGIUM**  
 Dr. R. D e p i e r r e u x  
 Ministère de l'Agriculture  
 -Inspection Vétérinaire-  
 18, Bd. de Berlaimont  
 B-1000 Bruxelles /Belgium
- BUL BULGARIA**  
 Dr. N. T. B e l e v  
 Directeur Général des Services  
 Vétérinaires  
 Ministry of Agriculture  
 Sofia /Bulgaria
- CZE CZECHOSLOVAKIA**  
 Dr. M. C a p k a  
 Chief Veterinary Officer  
 Dr. J. N e u m a n n  
 Federal Ministry of Agri-  
 culture and Food  
 11006 Praha-Tesnov /CSR
- DDR GERMAN DEMOCRATIC REPUBLIC**  
 Dr. K.-H. L e b e n t r a u  
 Ministerrat der Deutschen  
 Demokratischen Republik  
 Min. f. Gesundheitswesen  
 Hauptabt. Internationale Be-  
 ziehungen /Abt. Nichtsozia-  
 listische Staaten / WHO  
 Rathausstr. 3  
 DDR 102 Berlin
- DEN DENMARK**  
 Dr. E. S t o u g a a r d  
 Chief Vet. Officer  
 Veterinaerdirektoratet  
 Frederiksgade 21  
 DK-1265 Copenhagen /Denmark  
 Dr. S. M ø l l g a a r d  
 Senior Veterinary Officer  
 Solsortevej 3B  
 DK-8210 Aarhus /Denmark  
 Dr. J. M u e l l e r  
 State Veterinary Serum Lab.  
 Bülowsvej 27  
 DK-1870 Copenhagen /Denmark
- FIN FINLAND**  
 Dr. R. B e r g e r  
 Chief of Animal Health Division  
 Ministry of Agriculture and  
 Forestry, Veterinary Department  
 Helsinki /Finland
- FRA FRANCE**  
 Dr. J. B l a n c o u  
 Directeur  
 Centre d'Etudes sur la Rage  
 de Nancy  
 B.P. No. 9  
 Malzeville /France
- GBR UNITED KINGDOM**  
 Dr. W.H.G. R e e s  
 Chief Veterinary Officer  
 Ministry of Agriculture,  
 Fisheries & Food  
 -Animal Health Division-  
 Tolworth Surbiton/Surrey
- GRE GREECE**  
 Dr. V. H a n t z i s  
 Director of Zooanthrop. Div.  
 Dr. E. T s a g l a s  
 Veterinary Officer  
 Dep. of Echinococcosis-Rab.  
 Veterinary Services  
 Ministry of Agriculture  
 Hellenic Republic  
 2, Acharnon Street  
 Athens (102) /Greece
- HUN HUNGARY**  
 Dr. A. G l ó z i k  
 Director of Veterinary Services  
 Dr. Laszlo K o l t a i  
 Ministry of Agriculture  
 Kossuth L. tér 9-11  
 Budapest V. /Hungary
- ISL ICELAND**  
 Dr. Páll A. P á l s s o n  
 Chief Veterinary Officer  
 Postbox 110  
 Reykjavik /Iceland
- IRE IRELAND**  
 Dr. P. J. O' C o n n o r  
 Deputy Director Veterinary Serv.  
 Dr. P. J. R o g a n  
 Veterinary Liaison Officer  
 Department of Agriculture  
 Agriculture House  
 Dublin 2 /Ireland

- ITA ITALY  
Dr. A. Mantovani  
 Laboratorio di Parassitologia  
 Istituto Superiore di Sanità  
 Viale Regina Elena, 299  
 I-00161 Roma  
  
 Dr. S. Prosperi  
 Istituto di Malatti Infettive  
 Univ. degli Studi di Bologna  
 Via S. Giacomo 9/2  
 I-40126 Bologna /Italy
- LUX LUXEMBOURG  
Dr. R. Frisch  
 Directeur de l'Inspect. Gén. Vét.  
 Ministère de l'Agriculture  
 89, Rue d'Anvers  
 B.P. 1403  
 Luxembourg
- NET NETHERLANDS  
Dr. C.J. Vermeulen  
 Staatsoezicht op de  
 Volksgezondheid  
 Veterinaire Hoofdinspectie  
 v.d. Volksgezondheid  
 Postbus 439  
 2260 AK Leidschendam /Netherl.
- NOR NORWAY  
Dr. Olav Sandvik  
 Director of Vet. Services  
  
 Dr. H.O. Bach-Gansmo  
 Deputy Dir. of Vet. Services  
 Det Kongelige Landbruksdepartm.  
 Akersgate 42/Postboks 8007 Dep.  
 Oslo 1 /Norway
- POL POLAND  
Dr. Andrzej Badyoczek  
 Head of Animal Health Division  
 -Veterinary Department-  
 Ministry of Agriculture  
 ul. Wspolna  
 00-930 Warszawa /Poland  
  
 Dr. Danuta Serokowa  
 Head of Anthroozoonoses Lab.  
 National Institute of Hygiene  
 ul. Chocimska 24  
 00-791 Warszawa /Poland
- POR PORTUGAL  
Dr. C.A.M. de Andrade Fontes  
 Direccao-Geral da Pecuaria  
 Rua Vitor Cordon, 4  
 1294 Lisboa /Codex /Portugal
- ROM ROMANIA  
Dr. Valer Teusdea  
 Directeur de la Direction  
 Sanitaire Vétérinaire  
 Ministère de l'Agriculture  
 B-dul Republicii 24  
 Bucuresti 3 /Romania
- SPA SPAIN  
Dr. M.A. Diaz Yubero  
 Subdirector General de Sanidad  
 Animal  
 Ministerio de Agricultura  
 Madrid /Espagne
- SWE SWEDEN  
Dr. B. Henriksen  
 Head of Department  
 Lantbruksstyrelsen  
 National Board of Agriculture  
 Veterinary and Animal  
 Production Department  
 Vallgatan 6  
 S-551 83 Jönköping /Sweden
- SWI SWITZERLAND  
Dr. A.I. Wandeler  
 Vet. Bacteriological Institute  
 University of Berne  
 Länggass Str. 122  
 CH-3001 Berne /Switzerland
- TUR TURKEY  
Dr. Hasan Ertan  
 General Director of Vet. Serv.  
 Dr. F. Yücel  
 Director, Zoonoses Department  
 Tarım ve Orman Bakanligi,  
 Ministry of Agriculture  
 Ankara /Turkey
- USR UNION OF SOVIET SOCIALIST  
 REPUBLICS  
Prof. B. Cherkasskiy  
 Chief of Zoonoses Laboratory  
 Acad. V. Pokrovskiy  
 Head of Central Institute  
 Central Institute of Epidemiology  
 Ministry of Public Health  
 Moscow /USSR
- YUG YUGOSLAVIA  
Dr. M. Radovanovic  
 Adviser, Veterinary Department  
 Federal Committee for Agriculture  
 Belgrad /Yugoslavia  
 Dr. Milos Petrović  
 Institut Pasteur  
 Hajduk Veljkova 1  
 21000 Novi Sad /Yugoslavia

WHO Coll. Centre  
Tuebingen / DEU

Rabies Cases Turkey  
3rd Quarter 1984  
381 cases reported





ISL  
(rabies free)

NOR  
(rabies free)

FIN  
(rabies free)

SWE  
(rabies free)

DEN  
(rabies free)

IRE  
(rabies free)

GBR  
(rabies free)

NET  
(2)

(1608)

DDR  
(572)

POL  
(395)

BEL  
(112)

DEU

CZE  
(549)

FRA  
(551)

AUT  
(303)

HUN  
(183)

SWI  
(179)

ITA  
(54)

YUG  
(193)

ROM  
(no data)

POR  
(1)  
(imported from  
Mozambique)

SPA  
(mainland rabies free)

BUL  
(rabies free)

ALB  
(no data)

TUR  
(381)

GRE  
(0)

Rabies Cases Europe  
3rd Quarter 1984  
5092 cases reported

