RABIES BULLETIN EUROPE

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Contents

The **Rabies Bulletin Europe** has been compiled and edited by the

WHO Collaborating Centre for Rabies Surveillance & Research

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

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

Phone (0)-7071-967-210
Phone (0)-7071-967-226
Fax (0)-7071-967-303
e-mail WHO-RABIES@TUE.BFAV.DE

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1. INTRODUCTION

This BULLETIN describes the **reported rabies cases in Europe** for the **Second Quarter 1997**, subsequently referred to as ***"This Quarter"***.

In SECTION 2 a **summary of the rabies situation** in general is given.

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

In the Miscellaneous SECTION (4) under 4.1 two human rabies cases are described, initially suspected to be Creutzfeld-Jakob disease. 4.2 draws attention to a more recent WHO publication on rabies post-exposure treatment.

The **rabies case data** are tabulated **for the Second Quarter 1997** in SECTION 5. The arrangement of countries follows practical considerations, not alphabetical ones.

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

The **geographical distribution** of rabies cases in Europe **of the Second Quarter 1997** is shown on maps of the Russian Federation, Turkey and Europe in the ANNEX.

2. SUMMARY OF RABIES IN EUROPE

During ***"This Quarter"***, **1087 rabies cases** were reported **in Europe**. Of these 714 were in wild animals (65.7% of total), 368 in domestic animals and 5 in humans.

Of the **714 cases in wild animals**, 602 (55.4% of total) were foxes, 1 wolf, 47 raccoon dogs, 1 lnyx, 8 badgers, 3 stone martens, 11 pine martens, 3 polecats, 1 ferret, 6 roe deer, 2 bats, 1 beaver, 1 black rat, 1 house mouse, 18 unspecified wild animals and 8 undescribed animals. Of the **368 domestic animals**, 158 were dogs, 98 cats, 1 other domesticated carnivore, 10 horses, 1 donkey, 2 pigs, 83 bovines, 14 sheep, 1 goat.

There were **5 human cases** reported from the Russian Federation.

The **2 bat rabies cases** occurred in Denmark and the Netherlands. Because of the distinct epidemiologicial feature of the disease, the cases are marked in a different colour in the map of the ANNEX.

The **dog-mediated rabies** is only found in Europe in Turkey. Out of 47 animals affected during ***"This Quarter"*** only 2 cases were in wild animals (1 fox, 1 house mouse) and 45 cases in domestic animals (37 dogs, 4 cats, 3 bovines, 1 donkey).

There has been a reduction of cases from 1583 in the previous quarter to 1087 during ***"This Quarter"***. It is the expected seasonal decrease in **fox-mediated rabies** countries. It can be noted that ***"This Quarter"*** is the lowest figure recorded in our European surveillance which was started in 1977 for one single quarter, the highest being 7511 cases recorded in the first quarter 1984.

Rabies-free countries in Europe during ***"This Quarter"*** were: Finland, Greece, Iceland, Ireland, Norway, Portugal, the mainland and islands of Spain, Sweden and Macedonia.

There were no cases in France, Italy, Luxembourg, Switzerland and the United Kingdom of Britain and Northern Ireland, but the last indigenously acquired case (terrestrial or bat) was less than two years ago.

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

3. RABIES IN INDIVIDUAL COUNTRIES

3.1 Albania ALB

No data.

3.2 Austria AUT

by Helmut Schnabl

Of 3887 samples examined for rabies *"This Quarter"* only 2 (0.05%) were diagnosed rabid. The rabid animals were both foxes from the federal province Burgenland in the east of the country.

3.3 Belgium BEL

by L. Hallet

During *"This Quarter"*, 1 rabies case was diagnosed in a marten at Salzinnes in the province of Namur. For many years there was no rabies case in a radius of 35 km of Salzinnes. Therefore it is assumed that the marten was transported here from an infected area.

3.4 Bosnia and Hercegovina BIH

No data.

3.5 Bulgaria BUL

by L. Lavchev

In 5 provinces of Bulgaria 8 rabies cases were reported during *"This Quarter"*, 7 in the north of the country, 1 in the south.

Editors note: The animal species was not reported.

3.6 Belarus BYE

by S.N. Shpilevsky

During *"This Quarter"*, 26 rabies cases were reported (in 18 wild animals not specified, 6 dogs and 2 cats).

18 cases occurred in the Vitebsk region, 6 in the Minsk region and 1 each in Gomel and Grodno region.

Editors note: Data refer to the months of April and May, the June data have not yet been received.

3.7 Croatia CRO

by Sanja Šeparović

During *"This Quarter"*, there were 34 infected municipalities in Croatia with a total of 74 cases of rabies in 62 wild and 12 domestic animals, 8 cases more if compared to the same quarter of the year 1996 or 100 cases less in comparison with the 1st quarter 1997. Of the wild animals 59 were foxes (79.7% of total) and 3 other wild animals. Of the domestic animals 3 were cats, 6 bovines, 1 horse 1 sheep and 1 goat.

The epizootiological situation in Croatia regarding rabies was a cause of concern over the last few months, particularly in the month of May 1997, due to the increased number of rabies cases in domestic animals in certain areas. Therefore, to intensify rabies control the following measures were taken in the three districts of Splitsko-dalmatinski, Šibensko-kninski and Zadarski:

- the reduction of the fox population in co-operation with the Hunting Association of Croatia in-as-much as 2 hunting campaigns were to be organised till the end of August, 1997. Basis was the regulation to control rabies in animals ("Official Gazette" No. 69/91);
- an obligatory registration and vaccination of dogs;
- the removal of stray dogs and stray cats;
- the obligatory vaccination of other domestic animals against rabies, to be specified by the veterinary department ("Official Gazette", No. 69/91), which determines as well time of vaccination and type of vaccine.

3.8 Czech Republic CZH

by Oldrich Matouch

During *"This Quarter"*, 2681 samples (2246 wild

and 435 domestic animals) were examined for rabies in the Czech Republic.

Rabies was diagnosed in 59 cases, 19 more than in the second quarter 1996. Of the 59 rabies cases 55 were in wild animals (51 foxes, 2 martens, 1 roe-deer and 1 badger) and 4 in domestic animals (all in cats).

The highest concentration of rabies cases was in Central Bohemia (32) and South Bohemia (14).

The oral vaccination of foxes using Lysvulpen (SAD Bern) vaccine was carried out in April 1997. 852,000 vaccine doses were distributed in 57 distristcs covering an area of 47,500 km². Besides manual placement of vaccine baits an aerial distribution was practiced in 5 districts of North Bohemia and North Moravia.

3.9 Denmark DEN

by Eric Stougaard

One bat rabies case was reported during ***"This Quarter"*** from Denmark. It occurred in Bryrup in the district of Them not far from Arhus.

3.10 Germany, Federal Republic DEU

by Winfried W. Müller and Hartmut Schlüter

A total of 15 rabies cases was reported during ***"This Quarter"***. There were 26 cases during the second quarter 1996. The cases in the active foci of the previous 2 years in western Germany have continuously decreased after an increase of vaccine baits applicated per km². During ***"This Quarter"*** only 4 federal states were reporting cases.

3.11 Estonia EST

by Matti Nautras

During ***"This Quarter"***, 47 rabies cases were registered in Estonia, 21 cases more than during the previous quarter. The animals rabid were: 25 foxes, 14 raccoon dogs, 1 badger, 4 dogs, 2 cats and 1 bovine. Of 15 districts 11 reported between 1 and 10 cases, 4 recorded no cases.

3.12 Finland FIN

by Riitta Heinonen

The country remained rabies-free.

Surveillance of 1st and 2nd Quarter 1997:

A total of 196 animals were examined for rabies by immunofluorescence on brain tissue, all with negative result. Of the animals 2 were lynx, 79 foxes, 9 cats, 3 dogs, 6 ermines, 16 minks, 13 badgers, 2 bovines, 5 pine martens, 1 common otter and 60 raccoon dogs.

3.13 France FRA

by Michel F.A. Aubert

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

Surveillance: 1275 samples were investigated for rabies with negative results.

3.14 Federal Republic of Yugoslavia FRY

by Milijana Simić

23 rabies cases (in 15 foxes, 6 dogs, and 2 cats) were registered during ***"This Quarter"*** in the Federal Republic of Yugoslavia, 20 cases less than in the previous quarter.

11 cases were located in Serbia and 12 cases in Wojwodina.

3.15 Greece GRE

by B. Stylas

The country remained rabies-free.

3.16 Hungary HUN

by Bálint Kerekes

During ***"This Quarter"***, 97 rabies cases in animals were registered, 79 cases less than during the previous quarter and 150 cases less than during the second quarter 1996.

Of the grand total 68 cases were in foxes (70.1%), 1 in a roe deer and 28 (5 dogs, 17 cats, 5 bovines, 1 pig) in domestic animals.

The rabies situation west of the river Danube has much improved, due to oral vaccination of foxes.

3.17 Iceland ICE

The country remained rabies-free.

3.18 Ireland IRE

The country remained rabies-free.

3.19 Italy ITA

by Santino Prosperi

During *"This Quarter"*, no rabies cases were diagnosed in domestic and wild animals in Italy.

3.20 Lithuania LTU

by K. Lukauskas and A. Dranseika

During *"This Quarter"*, there were 19 cases of rabies. 12 cases were diagnosed in wild animals (8 foxes, 2 polecats and 2 raccoon dogs and 7 in domestic animals (3 bovines, 1 cat, 2 dogs and 1 horse). The disease occurred in 12 districts.

There was no human rabies case reported in the country.

During *"This Quarter"* more than 90,000 dogs were vaccinated against rabies. Oral vaccination of foxes was practiced. 50,000 vaccine baits were distributed during *"This Quarter"*.

3.21 Luxembourg LUX

by Joseph Kremer

During *"This Quarter"*, no case of rabies was registered. The last case in the Grand Duchy of Luxembourg was in August 1996.

Surveillance: 7 foxes, 1 marten, 1 roe deer, 2 squirrels and 1 ferret were investigated for rabies with negative results.

3.22 Latvia LVA

by V.Grapmanis, Z. Andersons and A. Dedzinš

During *"This Quarter"*, there were 47 rabies cases in 16 districts, 17 cases more than during the previous quarter. Of these 38 were in wild animals (80.9% of total) and 9 in domestic animals.

Of the cases in wild animals 33 were foxes, 4 raccoon dogs and 1 lynx. Of the 9 domestic animals 7 were dogs, 1 cat and 1 bovine.

The most affected district was Saldus with 10 cases.

There were no rabies cases in humans.

3.23 Moldova MLD

by V. Bahau, V. Orlov and L. Tertiak

During *"This Quarter"*, 22 samples (bovine 1, dogs 13, cats 5, fox 1, raccoon 1, wild goat 1) from 17 regions of Moldova were tested for rabies. There were 2 cases diagnosed positive: the fox in the Slobadzeya and the bovine in the Yaloveny region.

3.24 Netherlands NET

by G. Visser

During *"This Quarter"*, 19 animals were investigated for rabies (10 bats, 3 foxes, 3 dogs, 2 cats, 1 squirrel).

One bat in the province of Drenthe was diagnosed rabid.

3.25 Norway NOR

by Gudbrand Bakken

The country remained rabies-free.

3.26 Poland POL

by Henryk Maciolek

A total of 364 rabies cases was registered in Poland during *"This Quarter"*, 151 cases less than in the previous quarter and 503 cases (!) less than during the second quarter

1996. There were 272 cases in foxes (74.7% of total), 43 in other wild animals and 49 in domestic animals.

The western half of the country has a good record due to the oral vaccination practiced there for several years.

Editors note: However, one province (voivodeship), namely Gorzow, has a record of 4 cases, more than has been recorded since the second quarter 1994. As data supplied from Poland are not on a community level, it is unfortunately not possible to judge how important these foci are in connection with the state border to Germany.

3.27 Portugal POR

The country remained rabies-free.

3.28 Romania ROM

by Liviu Ioan Mitrea

During ***"This Quarter"***, 15 rabies cases were registered in Romania in 6 foxes, 1 marten, 4 dogs, 1 cat, 2 horses and 1 bovine. The cases were scattered throughout the country occuring in 8 provinces.

3.29 Russia RUS (European part only)

by V.A.Vedernikov, P.N.Pitalev, V.E.Semljanova, B.L.Cherkasskiy, V.V.Seliverstov, V.F.Pilinin, and S.A. Kolomizev

During ***"This Quarter"***, 193 rabies cases in animals were reported. Of the total number of cases 165 were in domestic animals - 66 dogs, 28 cats, 54 bovines, 3 horses, 13 sheep, 1 pig. Of 28 wild animals, rabies was diagnosed in 23 foxes, 2 raccoon dogs, 1 ferret, 1 beaver, 1 rat.

Most affected were areas in the Rep. of Bashkortostan with 26 cases, Krasnodar Territory with 23 cases and the Orenburg Region with 18 cases.

There were 5 human cases reported: one each in Orjol Region, Kursk Region, Astrakhan Region, Krasnodar Territory, and Bashkortostan.

3.30 Spain SPA

by Carlos Abellán García

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

There was 1 case of a horse in Melilla in the Spanish territory in North Africa.

3.31 Slovak Republic SVK

by Jozef Sokol and Bohuslav Lovas

The number of rabies cases diagnosed in the Slovak Republic during ***"This Quarter"*** amounted to 35. Of these were 24 (68.6% of total) wild animals (23 foxes, 1 pine marten) and 11 (31.4% of total) domestic animals (7 dogs, 4 cats).

An oral immunization campaign of foxes against rabies was carried out in April 1997, on the territory of 15 districts of the Slovak Republic (see black areas in the following map). The vaccine KA-MARK was distributed by hand. A total of 61,455 vaccine baits was used.

3.32 Slovenia SVN

by Zoran Kovač

Only 5 rabies cases (3 cats, 2 foxes) were reported in Slovenia during ***"This Quarter"*** compared to 51 during the second quarter of 1996. These cases were scattered throughout the country.

3.33 Sweden SWE

The country remained rabies-free.

3.34 Switzerland SWI

by Urs Breitenmoser

During ***"This Quarter"***, a total of 172 animals (97 red foxes) were analysed for rabies by the Swiss Rabies Centre. None of them (0%) were positive. There was no case of rabies detected in Swit-

zerland in the previous quarter, too, whereas in the second quarter of 1996, we still found 2 domestic cats to be rabid. The potential area of rabies in Switzerland is situated in the north-west of the country, from the Canton of Neuchâtel in the west to the Canton of Aargau in the north. This region is the same as the area of oral vaccination of the red fox population, extending over parts of the cantons of Vaud, Neuchâtel, Jura, Bern, Solothurn, Basel-Landschaft, Basel-Stadt, Aargau, Luzern, Zürich, and Schaffhausen.

The decline in the number of rabies cases will result in a further reduction of the area of oral vaccination of red foxes for the coming fall campaign. The decrease of both, the epizootic and the rabies control measures, risks to lower the vigilance for this disease. This is obvious from the development of the number of foxes that were forwarded to the Swiss Rabies Centre for control analyses. In the first six months of 1995, 930; 1996, 801; and 1997, only 367 foxes. As a consequence, the sampling system for the surveillance was now altered, collecting not only foxes from the areas of oral vaccination, but including the areas that have recently be released from the rabies control measures. There is no doubt that a undiscovered residual focus still existing in a certain spot at the moment of the halt of the vaccination campaigns would soon show up. However, regarding the high turn over of the fox population, it could be crucial to discover it as early as possible, in order to respond immediately to a new outbreak.

4 bats (1 *Pipistrellus nathusii*, 1 *Pipistrellus pipistrellus, 1 Myotis daubentoni,* and 1 *Myotis mystacinus*) were examined for rabies in ***"This Quarter"***, all were found to be negative for rabies.

A quarterly report of the Swiss Rabies Centre at the University of Bern is also available on the Internet (http://ubeclu.unibe.ch/ivv/index.html) in English, German, and French.

3.35 Turkey TUR

by Mehdi Eker

During ***"This Quarter"***, 47 rabies cases were reported in Turkey in 37 dogs, 4 cats, 3 bovines, 1 donkey, 1 fox and 1 house mouse.

There were 16 cases in the province (Il) of Istanbul and betwen 1 and 9 cases in 12 other provinces.

3.36 Macedonia TYM

The country remained rabies-free.

3.37 Ukraine UKR

No data.

3.38 United Kingdom UNK

by W.J. Pollitt

The country remained rabies-free in terrestrial mammals.

No cases of European Bat Lyssavirus have been reported during ***"This Quarter"***.

Surveillance 1997

First Quarter 1997

A report of suspect rabies outside quarantine was investigated in one cat during the first quarter of 1997. This case was resolved by veterinary staff.

14 bats were examined for rabies during the period, all with negative results.

Second Quarter 1997

Reports of suspect rabies were investigated on five occasions during this quarter, involving two foxes, two dogs and one cat. Veterinary staff resolved four incidents at the initial veterinary investigation and material from the other was examined at the Central Veterinary Laboratory were a negative diagnosis was reached.

45 bats were examined during ***"This Quarter"*** all with negative results.

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4. MISCELLANEOUS ARTICLES

4.1 Rabies and Suspected Creutzfeld-Jakob Disease (CJD) - Human Rabies in Montana and Washington, USA, 1997

On January 5 and January 18, 1997, respectively, **a man in Montana and a man in Washington died of neurologic illnesses initially suspected to be Creutzfeldt-Jakob disease** (CJD) but diagnosed as rabies encephalitis during subsequent histologic examination on autopsy. The cases were not linked epidemiologically, and no secondary cases occurred. **Postexposure prophylaxis (PEP) for rabies was administered to 113 potential contacts**. This report summarizes the clinical presentations of the cases and the epidemiologic investigations by the Montana Department of Public Health and Human Services and the Washington State Department of Health; **nucleic acid sequencing indicated that the silver-haired bat (*Lasionycteris noctivagans*) and the big brown bat (*Eptesicus fuscus*), respectively, were the probable sources of exposure**.

Case 1

On December 20, 1996, family members of a 65-year-old male resident of Blaine County, Montana, observed him experiencing apparent visual hallucinations. This behavior recurred, and he subsequently had slurred speech and complained of diffuse left-arm pain and weakness. He was admitted to a northern Montana hospital on December 23 and was evaluated for a possible transient ischemic attack or worsening of pre-existing Parkinson's disease. A computerized tomography (CT) scan of the brain was normal. On December 24, he developed respiratory arrest and was intubated and mechanically ventilated. During the following 2 days, he developed increased myoclonic activity of his left leg and trunk and was transferred to a second hospital for further evaluation.

On admission to the second hospital, he had diffuse total body myoclonic spasms. However, an electroencephalogram (EEG) was negative for epileptiform discharges suggestive of seizure activity, and a magnetic resonance imaging study of the brain was normal. He developed fever, and treatment with antibiotics was initiated for diagnoses of parasinusitis and left lower lobe pneumonitis. Sustained diffuse myoclonic activity persisted, and complete muscle paralysis was maintained with medication until January 3, 1997, when poorly reactive pupils and absent corneal reflexes were noted. When cerebrospinal fluid (CSF) was obtained on January 3, the opening pressure was 46 cm of H_2O (normal: 10-20 cm of H_2O). CSF analysis indicated a glucose level of 211 mg/dL, total protein level of 67 mg/dL (normal: <40 mg/dL), a red blood cell (RBC) count of 30 cells/mm^3 (normal: 0 cells/mm^3), and a white blood cell (WBC) count of 10 cells/mm^3 (normal: 0-5 cells/mm^3) with a differential of 50% polymorphonuclear neutrophils (PMNs) (normal: 0 PMNs). All subsequent viral and bacterial cultures of the CSF were negative. Laboratory findings on January 4 included a blood urea nitrogen of 28 mg/dL (normal: 9-19 mg/dL), a serum creatinine of 1.8 mg/dL (normal: 0.3-1.3 mg/dL), peripheral WBC count of 15,500 cells/mm^3 (normal: 4800-10,800 cells/mm^3), a hematocrit of 27% (normal: 42%-52%), platelets of 264,000/mm^3 (normal: 150,000-450,000/mm^3), and a negative serum rapid plasmin reagin test. On January 5, the myoclonic spasms ceased spontaneously, cranial nerve reflexes were absent, and the patient could not breathe without the aid of a ventilator. The family elected to discontinue me-

chanical ventilation, and he died. An autopsy was performed to confirm the suspected diagnosis of spongiform encephalopathy, or CJD. Microscopic examination of brain tissue was delayed until February 10 because of a prolonged formalin fixation and decontamination protocol required in the preparation of specimens suspected to contain elements capable of transmitting spongiform encephalopathy. Gross examination of the brain initially was negative for areas of focal necrosis, tumor, and hemorrhage. However, microscopic examination revealed diffuse panencephalitis with neuronal necrosis and mononuclear infiltration of the meninges, and Negri bodies throughout the brain tissue with highest density in the cerebellum and hippocampus. No findings were consistent with spongiform encephalopathy.

Paraffin-blocked brain tissues and formalin-fixed hippocampus were sent to CDC for confirmation and on February 14 tested positive for rabies by the direct fluorescent antibody (DFA) test and reverse transcriptase polymerase chain reaction (RT-PCR). Nucleotide sequence analysis of the viral nucleic acid implicated a variant associated with the silver-haired bat, with 99% homology with a variant identified in a previous case of human rabies in Montana in 1996 (1).

The patient had been retired for several years but performed odd jobs around the area where he lived. His main hobbies included hunting and trapping. His family could not recall any history of contact with ill animals during these activities but reported that he baited traps with decayed animals he had collected from roadsides, often removing meat from the carcasses without wearing gloves. They also recalled that a bat had entered their home through the bedroom window in late summer 1996. On subsequent days, the bat was observed to be roosting during the daytime and flying around the house at dusk, and the patient eventually forced the bat out of the house with a broom. The patient's wife denied known contact with the bat and did not recall her husband having reported direct contact with the animal at any time. The bat had been driven from the house approximately 4 months before the onset of the patient's illness.

Sixty persons (two family members and 58 health-care workers) received PEP because of possible percutaneous or mucous membrane exposure to the patient's saliva.

Case 2

On December 30, 1996, a 64-year-old man from Mason County, Washington, was hospitalized because of an exacerbation of chronic back pain and new onset of weakness and numbness of his left arm. He had a history of a trial fibrillation, cardiomyopathy, and hypertension. The initial diagnosis was possible myocardial infarction (MI) or cerebrovascular accident. On admission, a CT scan of the head revealed mild brain atrophy, and diagnostic tests for acute MI were negative. On December 31, he developed profound generalized myoclonus that began in his left arm. Anticonvulsive medications were administered without effect, and he was intubated for airway control.

A neuromuscular blokking agent was administered to control the diffuse myoclonus after an EEG revealed no seizure activity and CSF analysis was reported as normal. He developed increased lacrimation and hypersalivation requiring constant oropharyngeal suctioning. On January 5, 1997, he was transferred to a hospital in Seattle for further evaluation. A repeat CSF analysis revealed a glucose level of 85 mg/dL and a protein level of 93 mg/dL; WBCs and bacteria were not detected in the CSF. PCR evaluations of the CSF for herpes simplex virus and enterovirus were negative. Acute tetanus was considered as a diagnosis because of the intractable myoclonus and a history of hand wounds the patient had sustained while gardening, and tetanus immune globulin was administered.

On January 15, all antiseizure medications and neuromuscular blocking agents were discontinued. He remained obtunded, and a repeat CT of the head remained unchanged. At that time, a diagnosis of rapidly progressive CJD was suspected. His condition dete-

riorated to profound autonomic instability, and he died on January 18. On autopsy, brain tissue was collected for evaluation for CJD.

In late February 1997, examination of brain tissue showed round, eosinophilic, cytoplasmic inclusion (Negri) bodies, and a provisional diagnosis of rabies was made. Additional brain tissue sent to CDC for confirmation tested positive on February 28 for rabies antigen by the DFA test. Analysis of the viral RT-PCR sequence isolated from the brain tissue was consistent with a variant previously identified from the big brown bat in the western United States.

The patient lived in a heavily wooded rural area adjacent to a large lake. Although bats were common in the area, none were reported in the house or other buildings on the property. Inspections of the buildings on the premises after his death revealed no evidence of bat infestation. Before his illness, the patient's outdoor activities included landscaping, gardening, and cleaning out a well house; he often engaged in these activities after dark. Family members reported that the patient had no known history of exposure to bats or other animals during the months before his illness or during trips to Mazatlán, Mexico, in February 1996, or Missoula, Montana, in September 1996.

PEP was administered to 53 persons at the two hospitals (34 nurses, nine physicians, nine respiratory technicians, and one laboratory worker), one family member, and one emergency medical technician working on the ambulance transport.

MMWR's Editorial Note:
This report describes the first two cases of human rabies documented in the United States during 1997 and the second case of human rabies in both Washington and Montana since 1995. Before 1995, neither state had had a reported case of human rabies for several decades. Before examination of tissue obtained on autopsy, the diagnosis initially suspected for both of these cases was CJD. However, illness for both patients was subsequently related to infection with variants of rabies virus associated with bats; since 1980, a total of 19 (56%) of the 34 cases of rabies diagnosed in the United States have been associated with these variants, and the silver-haired bat variant has accounted for 13 (68%) of the 19 bat-related rabies cases. Case 2 in this report is the first human rabies fatality in the United States ever to have been documented involving a rabies virus variant associated with the big brown bat species.

A definite history of animal bite could not be documented in either case in this report and has been documented for only one of the 19 bat-related cases of human rabies since 1980. Of the remaining 18 such cases, physical contact with a bat without an evident bite or other potential exposing event was reported for eight. A history of bat contact could not be established or excluded for the remaining 10 bat-related cases, including both cases in this report. These data suggest that seemingly insignificant physical contact with bats may result in viral transmission, even without a clear history of animal bite (1). In all instances of bat-human contact in which rabies transmission is under consideration, the bat in question should be collected, if possible, and submitted for rabies testing.

Rabies PEP is recommended for all persons with bite, scratch, or mucous membrane exposure to a bat unless the bat is available for testing and is negative for evidence of rabies.The inability of healthcare providers to elicit information surrounding potential exposures may be influenced by the limited injury inflicted by a bat bite (in comparison with lesions inflicted by terrestrial carnivores) or by circumstances that hinder accurate recall of events. Therefore, PEP is also appropriate even in the absence of a demonstrable bite or scratch, in situations in which there is reasonable probability that such contact occurred (e.g., a sleeping person awakes to find a bat in the room or an adult witnesses a bat in the room with a previously unattended child, mentally disabled person, or intoxicated person). This recommendation used in conjunction with current Advisory Committee for Immunization Practices guidelines (2)

should maximize a health-care provider's ability to respond to situations where accurate exposure histories may not be obtainable and minimize inappropriate PEP.

Although human rabies is rare in the United States, this infection should be considered in the differential diagnosis of persons presenting with unexplained rapidly progressive encephalitis. In both of the cases in this report, rabies was not suspected before death and, therefore, was not diagnosed until histologic examination of the brain tissue on autopsy. Because CJD was suspected in both cases, the process required to prepare histologic specimens (3) further delayed diagnosis and prophylaxis of health-care workers and family members who had had mucous membrane exposure to the patient's saliva. In both of these cases, the presence of myoclonus suggested the possibility of CJD; however, this feature is only rarely a presenting clinical sign and is less likely to be generalized as was reported in both cases. An elevated CSF protein also was present in both of these cases, suggesting a diagnosis other than CJD, which usually is not associated with CSF abnormalities. The progression of illness from onset of clinical symptoms to death also was more rapid (16 and 18 days) than that characterizing CJD (months) (4, 5).

Bat rabies is enzootic in the contiguous United States (6); however, the reduction of bat populations is not a feasible or desirable strategy for rabies control in this reservoir. To minimize human and animal contact with bats, these animals should be physically excluded from houses and surrounding structures by sealing potential entrances (7). In addition, because of the risk for rabies associated with bats, they should never be handled by the public or kept as pets. Finally, rabies vaccination for dogs and cats should be kept current to provide a barrier to indirect human exposures to wildlife rabies through infected domestic animals.

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(Taken from Morbidity and Mortality Weekly Report [MMWR] No. 33, Vol. 46, August 21, 1997; Centers for Disease Control and Prevention, Atlanta, Georgia 30333, U.S.A.)

4.2 WHO Recommendations on Rabies Post-Exposure Treatment and the Correct Technique of Intradermal Immunization against Rabies

by W.W. Müller
WHO Collaborating Centre for Rabies Surveillance and Research
at the Federal Research Centre for Virus Disases of Animals,
P.O. Box 1149, D-72001 Tübingen, FRG

The above is the title of a publication prepared by the Division of Emerging and other Communicable Diseases Surveillance and Control of the WHO which updates WHO recommendations on rabies post-exposure treatment and supplements this subject published in: "WHO Expert Committee on Rabies, Eighth Report. Technical Report Series 824. Geneva: World Health Organization, 1992". The document is divided into 2 parts:

PART 1

This part is a guide for rabies post-exposure treatment.

First of all, the decision to treat is elaborated on. The actual treatment distinguishes first aid and treatment by, or under direction of a physician.

There is a multiple choice of regimens for the intramuscular and intradermal application offered for the vaccines recommended.

Furthermore, there are suggestions on the use of rabies immune globuline (RIG), the post-exposure treatment of previously vaccinated patients and on the indication of pre-exposure vaccination.

PART 2

The second part is headed: guidelines for the correct technique of intradermal immunization against rabies. It has coloured pictures on the equipment and the appearance of the intradermal vaccination.

Next to the technique described, reasons are given as to when intradermal immunization should be used:

The method is particularly appropriate where vaccine or money are in short supply, and in centres dealing with numbers of bitten patients, where there is an established cold chain and well-trained staff. The 8-site intradermal regimen should be considered when no rabies immune globuline is available.

There are 16 references cited on the subject.

REQUESTS OF THE DOCUMENT

The document WHO/EMC/ZOO.96.6,published in English only, can be requested from the Division of Emerging and other Communicable Disease Surveillance and Control, WHO, CH-1211 Geneva 27, Switzerland (Fax (...) 41-22-791-4893 or e-mail: meslinf@who.ch).

Rabies Case Data from Europe are tabulated on the following pages of Section 5

TABLE 5.1

EUR EUROPE 2/97 RABIES CASES 1. 4.97 - 30. 6.97

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		
ALB	ALBANIA **							0						0		0
AUT	AUSTRIA							0	2	-	-	-	-	2		2
BEL	BELGIUM							0	-	-	1	-	-	1		1
BIH	BOSNA I HERCEGOWI**							0						0		0
BUL	BULGARIA							0	-	-	-	-	8	8		8
BYE	BELARUS 1)	6	2	-	-	-	-	8	-	-	-	-	18	18		26
CRO	CROATIA	-	3	6	1	2	-	12	59	1	-	1	1	62		74
CZH	CZECH REPUBLIC	-	4	-	-	-	-	4	51	1	2	1	-	55		59
DEN	DENMARK							0	-	-	-	-	1	1		1
DEU	FED.REP. OF GERMANY	-	1	1	-	-	-	2	13	-	-	-	-	13		15
EST	ESTONIA	4	2	1	-	-	-	7	25	1	-	-	14	40		47
FIN	FINLAND *							0						0		0
FRA	FRANCE *							0						0		0
FRY	FED.REP.OF YUGOSLAVI	6	2	-	-	-	-	8	15	-	-	-	-	15		23
GRE	GREECE *							0						0		0
HUN	HUNGARY	5	17	5	-	-	1	28	68	-	-	1	-	69		97
ICE	ICELAND *							0						0		0
IRE	IRELAND *							0						0		0
ITA	ITALY *							0						0		0
LTU	LITHUANIA	2	1	3	1	-	-	7	8	-	2	-	2	12		19
LUX	LUXEMBOURG *							0						0		0
LVA	LATVIA	7	1	1	-	-	-	9	33	-	-	-	5	38		47
MLD	MOLDOVA	-	-	1	-	-	-	1	1	-	-	-	-	1		2
NET	NETHERLANDS							0	-	-	-	-	1	1		1
NOR	NORWAY *							0						0		0
POL	POLAND	14	25	7	2	-	1	49	272	5	10	3	25	315		364
POR	PORTUGAL *							0						0		0
ROM	ROMANIA	4	1	1	2	-	-	8	6	-	1	-	-	7		15
RUS	RUSSIAN FEDERATION	66	28	54	3	13	1	165	23	-	1	-	4	28	5	198
SPA	SPAIN	-	-	-	1	-	-	1						0		1
SVK	SLOVAK REPUBLIC	7	4	-	-	-	-	11	23	-	1	-	-	24		35
SVN	SLOVENIA	-	3	-	-	-	-	3	2	-	-	-	-	2		5
SWE	SWEDEN *							0						0		0
SWI	SWITZERLAND + LIEC*							0						0		0
TUR	TURKEY	37	4	3	-	-	1	45	1	-	-	-	1	2		47
TYM	MAKEDONIJA *							0						0		0
UKR	UKRAINE **							0						0		0
UNK	UNITED KINGDOM *							0						0		0
TOTAL		158	98	83	10	15	4	368	602	8	18	6	80	714	5	1087
PER CENT		14.5	9.0	7.6	0.9	1.4	0.4	33.9	55.4	0.7	1.7	0.6	7.4	65.7	0.5	100.0

* NO CASES ** NO DATA 1) NO DATA FOR JUNE 1997

TABLE 5.2

EUR EUROPE 1-2/97 RABIES CASES 1. 1.97 - 30.06.97

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		
ALB ALBANIA **							0						0		0
AUT AUSTRIA	-	-	1	-	-	-	1	6	-	-	-	-	6		7
BEL BELGIUM	-	-	1	-	-	-	1	5	-	1	-	-	6		7
BIH BOSNA I HERCEGOWI**							0						0		0
BUL BULGARIA	1	-	-	1	-	1	3	-	-	-	-	10	10		13
BYE BELARUS 1)	11	3	1	-	-	-	15	-	-	-	-	37	37		52
CRO CROATIA	8	9	8	1	2	1	29	211	2	-	1	5	219		248
CZH CZECH REPUBLIC	-	6	-	-	-	-	6	163	1	4	2	-	170		176
DEN DENMARK							0	-	-	-	-	1	1		1
DEU FED.REP. OF GERMANY	-	2	5	-	1	-	8	39	-	-	2	-	41		49
EST ESTONIA	7	3	1	-	-	-	11	41	1	-	-	20	62		73
FIN FINLAND *							0						0		0
FRA FRANCE							0	-	-	-	-	1	1		1
FRY FED.REP.OF YUGOSLAVI	12	6	-	-	2	-	20	46	-	-	-	-	46		66
GRE GREECE *							0						0		0
HUN HUNGARY	11	26	9	-	-	1	47	217	-	3	5	1	226		273
ICE ICELAND *							0						0		0
IRE IRELAND *							0						0		0
ITA ITALY *							0						0		0
LTU LITHUANIA	2	6	4	1	-	-	13	19	-	3	-	3	25		38
LUX LUXEMBOURG *							0						0		0
LVA LATVIA	10	2	1	-	-	-	13	53	-	-	-	11	64		77
MLD MOLDOVA	1	-	1	-	1	-	3	4	-	-	-	-	4		7
NET NETHERLANDS							0	-	-	-	-	1	1		1
NOR NORWAY *							0						0		0
POL POLAND	39	49	16	3	-	1	108	688	6	23	7	47	771		879
POR PORTUGAL *							0						0		0
ROM ROMANIA	4	1	2	2	-	-	9	9	-	1	-	1	11		20
RUS RUSSIAN FEDERATION	158	66	100	5	19	4	352	90	-	1	-	8	99	5	456
SPA SPAIN	-	-	-	1	-	-	1						0		1
SVK SLOVAK REPUBLIC	14	14	1	-	-	1	30	108	-	3	-	2	113		143
SVN SLOVENIA	1	6	1	-	-	-	8	7	-	1	-	-	8		16
SWE SWEDEN *							0						0		0
SWI SWITZERLAND + LIEC*							0						0		0
TUR TURKEY	52	5	5	-	-	1	63	1	-	-	-	2	3		66
TYM MAKEDONIJA *							0						0		0
UKR UKRAINE **							0						0		0
UNK UNITED KINGDOM *							0						0		0
TOTAL	331	204	157	14	25	10	741	1707	10	40	17	150	1924	5	2670
PER CENT	12.4	7.6	5.9	0.5	0.9	0.4	27.8	63.9	0.4	1.5	0.6	5.6	72.1	0.2	100.0

* NO CASES ** NO DATA 1) NO DATA FOR JUNE 1997

TABLE 5.3

EUR EUROPE 2/97 — RABIES CASES 'OTHER ANIMAL SPECIES' — 1. 4.97 - 30. 6.97

LOCATION		OTHER DOMESTIC ANIMALS			OTHER WILD ANIMALS								UNSPECI-FIED	TOTAL
CODE	NAME	OTH.DOM CARNIV.	DONKEY	PIG	WOLF	RACCOON DOG	LYNX	INSECTIV. BATS	BEAVER	BLACK RAT	HOUSE MOUSE	OTHERS		
BUL	BULGARIA	-	-	-	-	-	-	-	-	-	-	-	8	8
BYE	BELARUS	-	-	-	-	-	-	-	-	-	-	18	-	18
CRO	CROATIA	-	-	-	1	-	-	-	-	-	-	-	-	1
DEN	DENMARK	-	-	-	-	-	-	1	-	-	-	-	-	1
EST	ESTONIA	-	-	-	-	14	-	-	-	-	-	-	-	14
HUN	HUNGARY	-	-	1	-	-	-	-	-	-	-	-	-	1
LTU	LITHUANIA	-	-	-	-	2	-	-	-	-	-	-	-	2
LVA	LATVIA	-	-	-	-	4	1	-	-	-	-	-	-	5
NET	NETHERLANDS	-	-	-	-	-	-	1	-	-	-	-	-	1
POL	POLAND	1	-	-	-	25	-	-	-	-	-	-	-	26
RUS	RUSSIAN FEDERATION	-	-	1	-	2	-	-	1	1	-	-	-	5
TUR	TURKEY	-	1	-	-	-	-	-	-	-	1	-	-	2
TOTAL		1	1	2	1	47	1	2	1	1	1	18	8	84
PER CENT		1.2	1.2	2.4	1.2	56.0	1.2	2.4	1.2	1.2	1.2	21.4	9.5	100.0

RABIES CASES 1. 4.97 - 30. 6.97

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**															
107	NEUSIEDL AM SEE							0	1	-	-	-	-	1		1
108	OBERPULLENDORF							0	1	-	-	-	-	1		1
TOTAL		0	0	0	0	0	0	0	2	0	0	0	0	2	0	2
BEL	**BELGIUM**															
NA	NAMUR							0	-	-	1	-	-	1		1
DEN	**DENMARK**															
070749	THEM/BRYRUP							0	-	-	-	-	1	1		1
DEU	**FEDERAL REPUBLIC OF GERMANY**															
05	NORDRHEIN-WESTFALEN							0	2	-	-	-	-	2		2
06	HESSEN							0	3	-	-	-	-	3		3
07	RHEINLAND-PFALZ	-	1	-	-	-	-	1	1	-	-	-	-	1		2
10	SAARLAND	-	-	1	-	-	-	1	7	-	-	-	-	7		8
TOTAL		0	1	1	0	0	0	2	13	0	0	0	0	13	0	15
PER CENT		0.0	6.7	6.7	0.0	0.0	0.0	13.3	86.7	0.0	0.0	0.0	0.0	86.7	0.0	100.0
NET	**NETHERLANDS**															
01	DRENTHE							0	-	-	-	-	1	1		1
SPA	**SPAIN**															
52	MELILLA (NORTH AFRICA	-	-	-	1	-	-	1						0		1

RABIES CASES 1. 4.97 - 30. 6.97

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		
BUL	BULGARIA															
08	DOBRICH							0	-	-	-	-	3	3		3
15	PLEVEN							0	-	-	-	-	1	1		1
19	SILISTRA							0	-	-	-	-	2	2		2
25	TARGOVITCHE							0	-	-	-	-	1	1		1
26	HASSKOVO							0	-	-	-	-	1	1		1
TOTAL		0	0	0	0	0	0	0	0	0	0	0	8	8	0	8
PER CENT		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0
TUR	TURKEY															
01	ADANA	2	1	-	-	-	-	3						0		3
02	ADIYAMAN	1	-	1	-	-	-	2						0		2
10	BALIKESIR	1	-	-	-	-	-	1						0		1
11	BILECIK	1	-	-	-	-	-	1						0		1
14	BOLU	2	-	-	-	-	-	2						0		2
16	BURSA	2	-	-	-	-	-	2						0		2
21	DIYARBAKIR	1	-	-	-	-	-	1						0		1
27	GAZIANTEP	5	-	1	-	-	1	7						0		7
31	HATAY	1	-	-	-	-	-	1						0		1
34	ISTANBUL	13	2	-	-	-	-	15	1	-	-	-	-	1		16
35	IZMIR	8	1	-	-	-	-	9						0		9
43	KUETAHYA							0	-	-	-	-	1	1		1
63	SANLIURFA	-	-	1	-	-	-	1						0		1
TOTAL		37	4	3	0	0	1	45	1	0	0	0	1	2	0	47
PER CENT		78.7	8.5	6.4	0.0	0.0	2.1	95.7	2.1	0.0	0.0	0.0	2.1	4.3	0.0	100.0

RABIES CASES 1. 4.97 - 30. 6.97

LOCATION CODE	NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
		DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS	TOTAL		
BYE	BELARUS															
02	Vitebsk Region	4	2	-	-	-	-	6	-	-	-	-	12	12		18
03	Gomel Region							0	-	-	-	-	1	1		1
04	Grodno Region							0	-	-	-	-	1	1		1
05	Minsk Region	2	-	-	-	-	-	2	-	-	-	-	4	4		6
TOTAL		6	2	0	0	0	0	8	0	0	0	0	18	18	0	26
PER CENT		23.1	7.7	0.0	0.0	0.0	0.0	30.8	0.0	0.0	0.0	0.0	69.2	69.2	0.0	100.0
LTU	LITHUANIA															
34	Anyksciu							0	-	-	1	-	-	1		1
39	Vilkaviskio	-	1	1	-	-	-	2						0		2
41	Vilniaus	-	-	1	-	-	-	1						0		1
54	Kelmes							0	-	-	-	-	1	1		1
56	Kretdingos	-	-	-	1	-	-	1	1	-	-	-	-	1		2
65	Pakruojo							0	-	-	1	-	-	1		1
75	Skuodo							0	1	-	-	-	-	1		1
77	Taurages							0	2	-	-	-	-	2		2
81	Ukmerges							0	-	-	-	-	1	1		1
88	Silutes	1	-	1	-	-	-	2						0		2
91	Siauliu	1	-	-	-	-	-	1	3	-	-	-	-	3		4
94	Jurbarko							0	1	-	-	-	-	1		1
TOTAL		2	1	3	1	0	0	7	8	0	2	0	2	12	0	19
PER CENT		10.5	5.3	15.8	5.3	0.0	0.0	36.8	42.1	0.0	10.5	0.0	10.5	63.2	0.0	100.0

BYE NO DATA FOR JUNE 1997

CRO CROATIA RABIES CASES 1. 4.97 - 30. 6.97

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		
004	BJELOVAR							0	2	-	-	-	-	2		2
019	DUBROVNIK	-	-	-	-	1	-	1	1	-	-	-	-	1		2
020	DUGA RESA							0	2	-	-	-	-	2		2
026	GLINA	-	1	-	-	-	-	1	1	-	-	-	-	1		2
027	GOSPIC							0	2	1	-	-	-	3		3
032	IVANEC							0	1	-	-	-	-	1		1
033	IVANIC GRAD							0	1	-	-	-	-	1		1
034	JASTREBARSKO							0	1	-	-	-	-	1		1
040	KOPRIVNICA							0	4	-	-	-	-	4		4
043	KRAPINA	-	1	-	-	-	-	1						0		1
044	KRIZEVCI							0	6	-	-	-	-	6		6
046	KUTINA							0	1	-	-	-	-	1		1
050	MAKARSKA							0	5	-	-	-	-	5		5
053	NOVA GRADISKA							0	1	-	-	-	-	1		1
054	NOVI MAROF							0	2	-	-	-	-	2		2
055	NOVSKA							0	1	-	-	-	-	1		1
056	OBROVAC	-	-	-	1	1	-	2	1	-	-	-	-	1		3
057	OGULIN							0	1	-	-	-	-	1		1
062	OTOCAC							0	1	-	-	-	-	1		1
066	PAZIN							0	1	-	-	-	-	1		1
069	POREC							0	2	-	-	-	-	2		2
071	PULA							0	4	-	-	1	-	5		5
077	SISAK							0	3	-	-	-	-	3		3
078	POZEGA							0	1	-	-	-	-	1		1
080	SLUNJ							0	1	-	-	-	-	1		1
081	SOLIN	-	-	4	-	-	-	4						0		4
082	SPLIT	-	-	2	-	-	-	2	1	-	-	-	1	2		4
092	VRBOVEC							0	4	-	-	-	-	4		4
098	ZADAR	-	1	-	-	-	-	1						0		1
099	SVETI IVAN ZELINA							0	1	-	-	-	-	1		1
100	ZLATAR BISTRICA							0	1	-	-	-	-	1		1
102	GRAD ZAGREB							0	6	-	-	-	-	6		6
TOTAL		0	3	6	1	2	0	12	59	1	0	1	1	62	0	74
PER CENT		0.0	4.1	8.1	1.4	2.7	0.0	16.2	79.7	1.4	0.0	1.4	1.4	83.8	0.0	100.0

RABIES CASES														1. 4.97 - 30. 6.97	
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		
CZH CZECH REPUBLIC															
00 District of Prague							0	2	-	-	-	-	2		2
01 Central Bohemia							0	28	1	2	1	-	32		32
02 South Bohemia	-	4	-	-	-	-	4	10	-	-	-	-	10		14
04 North Bohemia							0	10	-	-	-	-	10		10
06 South Moravia							0	1	-	-	-	-	1		1
TOTAL	0	4	0	0	0	0	4	51	1	2	1	0	55	0	59
PER CENT	0.0	6.8	0.0	0.0	0.0	0.0	6.8	86.4	1.7	3.4	1.7	0.0	93.2	0.0	100.0
SVK SLOVAK REPUBLIC															
1 Bratislavsky kraj							0	2	-	-	-	-	2		2
2 Trnavsky kraj	1	-	-	-	-	-	1	5	-	-	-	-	5		6
6 Banskobystricky kraj							0	3	-	-	-	-	3		3
7 Presovsky kraj	3	2	-	-	-	-	5	8	-	-	-	-	8		13
8 Kosicky kraj	3	2	-	-	-	-	5	5	-	1	-	-	6		11
TOTAL	7	4	0	0	0	0	11	23	0	1	0	0	24	0	35
PER CENT	20.0	11.4	0.0	0.0	0.0	0.0	31.4	65.7	0.0	2.9	0.0	0.0	68.6	0.0	100.0

RABIES CASES 1. 4.97 - 30. 6.97

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		
EST	ESTONIA															
01	Harjumaa	2	-	-	-	-	-	2	7	-	-	-	1	8		10
04	Jogevamaa							0	1	-	-	-	-	1		1
05	Jaervamaa	-	1	-	-	-	-	1	4	-	-	-	4	8		9
06	Laeaenemaa							0	1	-	-	-	-	1		1
07	Laeaene-Virumaa	-	1	-	-	-	-	1	4	1	-	-	1	6		7
08	Polvamaa	1	-	-	-	-	-	1	1	-	-	-	-	1		2
09	Paernumaa							0	2	-	-	-	2	4		4
10	Raplamaa							0	1	-	-	-	-	1		1
11	Saaremaa	1	-	1	-	-	-	2	1	-	-	-	1	2		4
14	Viljandimaa							0	2	-	-	-	4	6		6
15	Vorumaa							0	1	-	-	-	1	2		2
TOTAL		4	2	1	0	0	0	7	25	1	0	0	14	40	0	47
PER CENT		8.5	4.3	2.1	0.0	0.0	0.0	14.9	53.2	2.1	0.0	0.0	29.8	85.1	0.0	100.0
LVA	LATVIA															
01	Aizkraukle	1	-	-	-	-	-	1	-	-	-	-	1	1		2
02	Aluksne	1	-	-	-	-	-	1	3	-	-	-	-	3		4
04	Bauska							0	1	-	-	-	-	1		1
11	Kraslava							0	1	-	-	-	-	1		1
12	Kuldiga							0	2	-	-	-	-	2		2
13	Liepaja	-	1	-	-	-	-	1	-	-	-	-	2	2		3
15	Ludza	1	-	-	-	-	-	1	1	-	-	-	-	1		2
16	Madona							0	1	-	-	-	-	1		1
17	Ogre							0	4	-	-	-	-	4		4
18	Preili	1	-	-	-	-	-	1						0		1
19	Rezekne							0	1	-	-	-	-	1		1
20	Riga							0	7	-	-	-	1	8		8
21	Saldus	2	-	1	-	-	-	3	6	-	-	-	1	7		10
22	Talsi	1	-	-	-	-	-	1	2	-	-	-	-	2		3
23	Tukums							0	2	-	-	-	-	2		2
25	Valmiera							0	2	-	-	-	-	2		2
TOTAL		7	1	1	0	0	0	9	33	0	0	0	5	38	0	47
PER CENT		14.9	2.1	2.1	0.0	0.0	0.0	19.1	70.2	0.0	0.0	0.0	10.6	80.9	0.0	100.0

RABIES CASES 1. 4.97 - 30. 6.97

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		
FRY	FED.REP.OF YUGOSLAVIA															
60	SR SRBIJA	3	1	-	-	-	-	4	7	-	-	-	-	7		11
61	SAP VOJVODINA	3	1	-	-	-	-	4	8	-	-	-	-	8		12
TOTAL		6	2	0	0	0	0	8	15	0	0	0	0	15	0	23
MLD	MOLDOVA															
01	MOLDOVA	-	-	1	-	-	-	1	1	-	-	-	-	1		2
ROM	ROMANIA															
01	ALBA	-	-	-	1	-	-	1						0		1
10	BUZAU	1	-	-	-	-	-	1						0		1
19	GIURGIU							0	1	-	-	-	-	1		1
31	SATU-MARE	1	-	-	-	-	-	1	-	-	1	-	-	1		2
34	SUCEAVA	1	-	-	-	-	-	1	2	-	-	-	-	2		3
36	TIMIS	-	1	-	-	-	-	1						0		1
38	VASLUI	1	-	-	-	-	-	1	3	-	-	-	-	3		4
40	VRANCEA	-	-	1	1	-	-	2						0		2
TOTAL		4	1	1	2	0	0	8	6	0	1	0	0	7	0	15
PER CENT		26.7	6.7	6.7	13.3	0.0	0.0	53.3	40.0	0.0	6.7	0.0	0.0	46.7	0.0	100.0

RABIES CASES 1. 4.97 - 30. 6.97

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		
HUN HUNGARY															
01 BUDAPEST							0	1	-	-	-	-	1		1
02 BARANYA	1	1	-	-	-	-	2	4	-	-	-	-	4		6
03 BACS-KISKUN	1	2	1	-	-	-	4	9	-	-	-	-	9		13
04 BEKES	-	4	-	-	-	-	4	4	-	-	-	-	4		8
05 BORSOD-ABAUJ-ZEMPLEN	1	5	1	-	-	-	7	7	-	-	-	-	7		14
06 CSONGRAD	-	-	-	-	-	1	1	4	-	-	1	-	5		6
07 FEJER	-	2	-	-	-	-	2	5	-	-	-	-	5		7
08 GYOER-SOPRON							0	1	-	-	-	-	1		1
09 HAJDU-BIHAR							0	3	-	-	-	-	3		3
10 HEVES							0	3	-	-	-	-	3		3
11 KOMAROM							0	2	-	-	-	-	2		2
12 NOGRAD							0	1	-	-	-	-	1		1
13 PEST							0	8	-	-	-	-	8		8
14 SOMOGY	-	2	-	-	-	-	2	3	-	-	-	-	3		5
15 SZABOLCS-SZAT							0	5	-	-	-	-	5		5
16 SZOLNOK	-	-	3	-	-	-	3	4	-	-	-	-	4		7
17 TOLNA	1	-	-	-	-	-	1	3	-	-	-	-	3		4
19 VESZPREM							0	1	-	-	-	-	1		1
20 ZALA	1	1	-	-	-	-	2						0		2
TOTAL	5	17	5	0	0	1	28	68	0	0	1	0	69	0	97
PER CENT	5.2	17.5	5.2	0.0	0.0	1.0	28.9	70.1	0.0	0.0	1.0	0.0	71.1	0.0	100.0
SVN SLOVENIA															
001 AJDOVSCINA	-	1	-	-	-	-	1						0		1
043 KAMNIK	-	1	-	-	-	-	1	1	-	-	-	-	1		2
057 LASKO							0	1	-	-	-	-	1		1
096 PTUJ	-	1	-	-	-	-	1						0		1
TOTAL	0	3	0	0	0	0	3	2	0	0	0	0	2	0	5
PER CENT	0.0	60.0	0.0	0.0	0.0	0.0	60.0	40.0	0.0	0.0	0.0	0.0	40.0	0.0	100.0

POL POLAND — RABIES CASES — 1. 4.97 - 30. 6.97

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							0	26	1	-	1	-	28		28
05	BIALYSTOK							0	16	-	1	-	-	17		17
07	BIELSKO-BIALA							0	2	-	-	-	-	2		2
13	CIECHANOW	2	1	1	-	-	-	4	20	-	-	-	-	20		24
15	CZESTOCHOWA							0	1	1	-	-	-	2		2
17	ELBLAG	-	2	-	-	-	-	2	1	-	-	-	1	2		4
19	GDANSK							0	1	-	1	-	-	2		2
21	GORZOW							0	4	-	-	-	-	4		4
25	KALISZ							0	2	-	-	-	-	2		2
27	KATOWICE	1	1	-	-	-	-	2						0		2
29	KIELCE	1	1	-	-	-	-	2	18	-	-	-	-	18		20
31	KONIN							0	5	-	-	-	-	5		5
35	KRAKOW	1	2	-	-	-	-	3	26	1	2	-	-	29		32
37	KROSNO							0	1	-	-	-	-	1		1
43	LUBLIN							0	1	-	-	-	-	1		1
45	LOMZA	-	-	1	-	-	-	1	2	-	-	-	-	2		3
49	NOWY SACZ							0	1	-	-	-	-	1		1
51	OLSZTYN	-	3	4	-	-	-	7	28	-	1	-	10	39		46
55	OSTROLEKA	-	4	-	2	-	-	6	21	1	-	-	1	23		29
59	PIOTRKOW TRYB	1	1	-	-	-	1	3	8	-	2	-	-	10		13
61	PLOCK							0	5	-	-	-	-	5		5
63	POZNAN							0	1	-	-	-	-	1		1
65	PRZEMYSL	-	1	-	-	-	-	1	1	-	-	-	-	1		2
67	RADOM	1	2	-	-	-	-	3	2	-	-	-	-	2		5
69	RZESZOW	1	1	-	-	-	-	2	5	-	-	-	-	5		7
71	SIEDLCE	1	1	-	-	-	-	2	14	-	-	-	-	14		16
73	SIERADZ							0	3	-	-	-	-	3		3
75	SKIERNIEWICE							0	2	-	-	-	-	2		2
79	SUWALKI							0	18	-	2	-	10	30		30
83	TARNOBRZEG	1	-	-	-	-	-	1	7	-	-	2	-	9		10
85	TARNOW	3	2	1	-	-	-	6	23	1	-	-	-	24		30
87	TORUN	1	2	-	-	-	-	3	5	-	1	-	3	9		12
91	WLOCLAWEK	-	1	-	-	-	-	1	1	-	-	-	-	1		2
95	ZAMOSC							0	1	-	-	-	-	1		1
TOTAL		14	25	7	2	0	1	49	272	5	10	3	25	315	0	364
PER CENT		3.8	6.9	1.9	0.5	0.0	0.3	13.5	74.7	1.4	2.7	0.8	6.9	86.5	0.0	100.0

RUS RUSSIAN FEDERATION — RABIES CASES — 1. 4.97 - 30. 6.97

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		
08	Pskov Region	5	2	1	-	-	-	8	5	-	1	-	3	9		17
12	Twer Region							0	2	-	-	-	-	2		2
13	Kaluga Region							0	1	-	-	-	-	1		1
15	Moscow Region							0	7	-	-	-	-	7		7
16	Oryol Region	2	-	2	-	-	-	4	1	-	-	-	-	1	1	6
17	Ruazan Region	3	-	-	-	-	-	3						0		3
18	Smolensk Region	1	1	-	-	-	-	2	1	-	-	-	-	1		3
19	Tula Region	2	3	1	-	-	-	6						0		6
26	Belgorod Region	1	-	3	-	-	-	4						0		4
27	Voronezh Region	4	7	-	-	-	-	11						0		11
28	Kursk Region	-	2	-	-	-	-	2						0	1	3
31	Astrakhan Region	4	5	4	-	2	-	15						0	1	16
32	Volgograd Region	1	-	3	-	-	-	4						0		4
33	Samara Region	2	-	1	-	-	-	3	1	-	-	-	-	1		4
34	Penza Region	-	-	1	-	-	-	1						0		1
35	Saratov Region	3	-	2	-	-	-	5						0		5
37	Republic of Kalmykiya	2	-	-	-	10	-	12						0		12
38	Republic of Tatarstan	1	-	3	-	-	-	4	1	-	-	-	-	1		5
39	Krasnodar Territory	17	2	1	1	-	1	22						0	1	23
40	Stavropol Territory	-	-	2	-	-	-	2						0		2
41	Rostov Region	2	1	5	-	1	-	9						0		9
42	Orenburg Region	10	2	3	-	-	-	15	2	-	-	-	1	3		18
43	Perm Region	-	-	4	-	-	-	4						0		4
44	Republic of Bashkorto	6	3	12	2	-	-	23	2	-	-	-	-	2	1	26
46	Kaliningrad Region	-	-	6	-	-	-	6						0		6
TOTAL		66	28	54	3	13	1	165	23	0	1	0	4	28	5	198
PER CENT		33.3	14.1	27.3	1.5	6.6	0.5	83.3	11.6	0.0	0.5	0.0	2.0	14.1	2.5	100.0

6. LIST OF CONTRIBUTORS

Albania ALB
Dr. A. Rako
Ministry of Agriculture and Food

Austria AUT
Dr. W. Schuller
Dr. H. Schnabl
Bundesanstalt für Tierseuchenbekämpfung

Belarus BYE
Dr. S.N. Shpilevsky
Chief Veterinary Officer

Belgium BEL
Dr. L. Hallet
Ministère de l'Agriculture

Bulgaria BUL
Dr. Ion Teveloiu
Ministère de l'Agriculture

Croatia CRO
Dr. M. Brstilo
Ministry of Agriculture, Forestry and Water Management

Dr. S. Šeparović
State Veterinary Service

Dr. Ž. Čač
Croatian Veterinary Institute

Czech Republic CZH
Dr. O. Matouch
National Rabies Laboratory
State Veterinary Institute

Denmark DEN
Dr. E. Stougaard
Veterinaerdirektoratet

Estonia EST
Dr. M. Nautras
Ministry of Agriculture

Finland FIN
Dr.. Saara Reinius
Dr. Riitta Heinonen
Ministry of Agriculture and Forestry

France FRA
Dr. M. Aubert
WHO Collaborating Centre for Research and Management in Zoonoses (CNEVA)
Nancy

Germany DEU
Dr. H. Schlüter
WHO Collaborating Centre for Rabies Surveillance and Research, Wusterhausen
Dr. W.W. Müller
WHO Collaborating Centre for Rabies Surveillance and Research, Tübingen

Greece GRE
Dr. P. Fidiarakis
Ministry of Agriculture

Hungary HUN
Dr. Tibor Balint
Dr. Bálint Kerekes
Ministry of Agriculture

Iceland ICE
Dr. Brynjolfur Sandholt
Chief Veterinary Officer

Ireland IRE
Dr. J.A. Costelloe
Dr. T. Mac White
Department of Agriculture, Food and Forestry

Italy ITA
Dr. S. Prosperi
Istituto di Malatti Infettive
Univ. degli Studi di Bologna

Latvia LVA
Prof. J. Rimeicans
State Veterinary Department
Dr. Z. Andersons
Latvian State Scientific Research Institute

Lithuania LTU
Dr. K. Lukauskas
Dr. A. Dranseika
State Veterinary Service

Luxembourg LUX
Dr. J. Kremer
Ministère de l'Agriculture

Moldova MLD
Dr. I.V. Groushko
Dr. O.V. Anatolievich
Dr. N.L. Nikolaevna
Ministry of Agriculture

Netherlands NET
Dr. J.H.M. Nieuwenhuijs
Ministry of Welfare, Health and Cultural Affairs

Dr. J.A. Smak
Veterinary Service
Ministry of Agriculture and Fisheries

Norway NOR
Dr. G. Bakken
Royal Norwegian Ministry of Agriculture
Department of Veterinary Services

Poland POL
Dr. H. Maciolek
Ministry of Agriculture

Dr. Danuta Serokova
National Institute of Hygiene

Portugal POR
Dr.C.A.M.de Andrade Fontes
Direccao-Geral da Pecuaria

Romania ROM
Dr. Liviu Ioan Mitrea
Ministère de l'Agriculture

Russian Federation RUS
(European part only)

Prof. V.A. Vedernikov
WHO Coll. Centre on Prev. and Control of Zoonoses
The Kovalenko All-Union Inst. of Exper.Veterinary Medicine,Moscow
Dr. Selivezstov
Veterinary Dept., Moscow
Prof. B.L. Cherkasskiy
WHO Collaborating Centre on Zoonoses, Moscow
Central Research Inst.of Epidemiology, Ministry of Public Health, Moscow

Slovak Republic SVK
Dr. J. Sokol
Dr. B. Lovas
State Veterinary Administration

Slovenia SVN
Dr. Zoran Kovač
Ministry of Agriculture, Forestry and Food

Spain SPA
Dr. C. Abellán García
Dr. Julián Martín Pérez
Ministerio de Sanidad y Consumo

Dr. Q. Perez Bonilla
Ministerio de Agricultura, Pesca y Alimentacion

Sweden SWE
Dr. B. Nordblom
National Board of Agriculture
Veterinary and Animal Production Department

Switzerland SWI
Dr. R. Zanoni
Dr. U. Breitenmoser
Swiss Rabies Centre
Institute of Veterinary Virology

Turkey TUR
Dr. M. Eker
Ministry of Agriculture, Forestry and Rural Affairs

United Kingdom UNK
Dr. K.C. Meldrum
Dr. W.J. Pollitt
Ministry of Agriculture, Fisheries and Food

Yugoslavia FRY
Dr. M. Simić
Fed. Committee Agriculture

Dr. Dušan Lalošević
Pasteur Institute, Novi Sad

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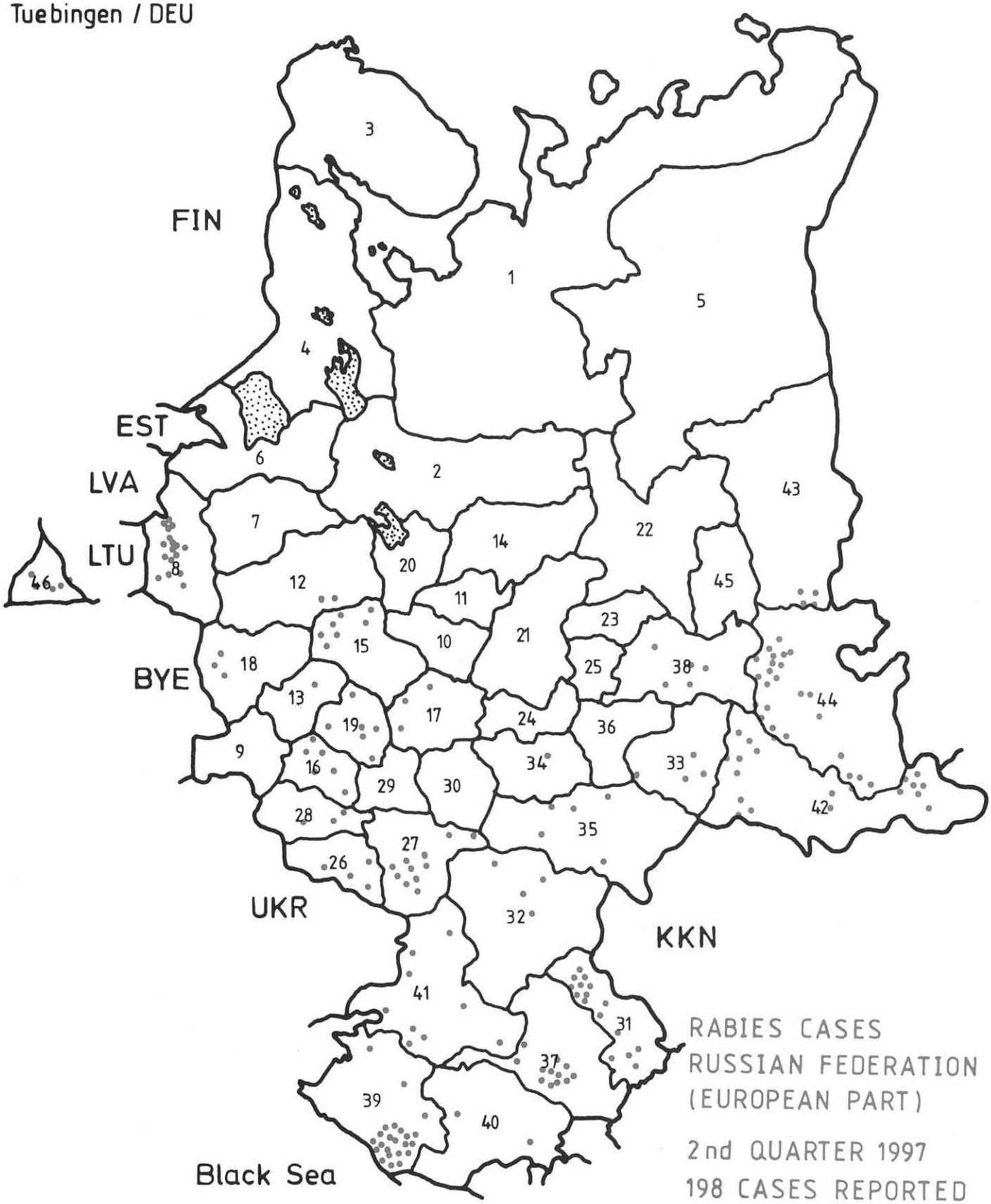
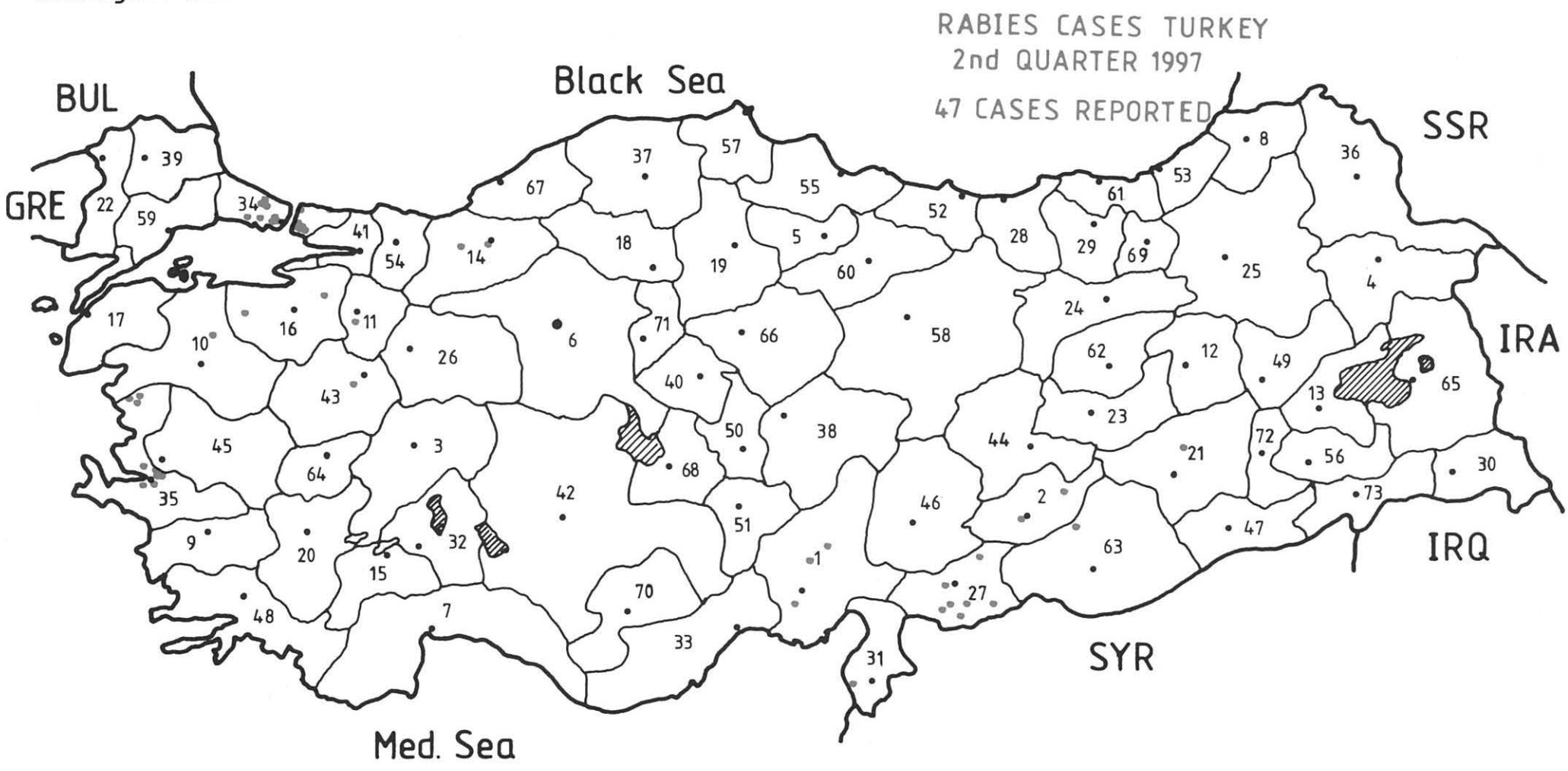


RABIES CASES
RUSSIAN FEDERATION
(EUROPEAN PART)

2nd QUARTER 1997
198 CASES REPORTED

WHO Coll. Centre
Tuebingen / DEU



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RABIES CASES EUROPE
2nd QUARTER 1997
1087 CASES REPORTED
2 BAT RABIES CASES INCLUDED

ICE
(rabies free)

NOR
(rabies free)

FIN
(rabies free)

EST
(47)

SWE
(rabies free)

LVA
(47)

RUS
(198)

(1)
DEN

LTU
(19)

RUS

BYE
(26)
(no data for June)

IRE
(rabies free)

UNK
(0)

POL
(364)

NET
(1)

UKR
(no data)

DEU
(15)

BEL
(1)

(0)

CZH
(59)

SVK
(35)

MLD
(2)

FRA
(0)

AUT
(2)

HUN
(97)

SWI
(0)

ROM
(15)

SVN
(5)

CRO (74)

ITA
(0)

BIH
(no data)

FRY
(23)

BUL
(8)

TYM
(rabies free)

POR
(rabies free)

SPA
(mainland rabies free)

North Africa
(1)

ALB
(no data)

TUR
(47)

GRE
(rabies free)

0 50 100 km

(rabies free) = no indigenous case reported for at least two years