RABIES BULLETIN EUROPE - Vol.1/Nr.2/1977

C O N T E N T S

(continued overleaf)

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1. INTRODUCTION

In this 2nd issue of the Rabies Bulletin the national coverage of reporting has been extended to further European countries, such as Portugal, Spain, the German Democratic Republic, the Scandinavian countries and the majority of Southeast European states. These new participants have been asked for their rabies data of the 1st and 2nd but not of the 3rd quarter of 1977. Rabies case data for the 3rd quarter are given in this issue only for those countries which contributed to the 1st Rabies Bulletin. This may create some confusion, but could not be avoided for several reasons. You, therefore, will find in this issue Tables of rabies case data for the 3rd quarter followed by supplementing Tables for the 1st and 2nd quarter of 1977. We hope that the presently existing differences will be levelled in the next Rabies Bulletin.

1.1. Contents of the Bulletin.

Within the text, newly participating countries give a description of their individual rabies situations. Under the heading 'Miscellaneous' there is a short summary of 1976 rabies in the Americas. An abstract of a forthcoming publication describing the European rabies scene during 1975/76 is followed by 3 human case histories, an imported one in Great Britain and two cases from Switzerland. Finally, further account is given on the improving New York laboratory technician suffering from an airborne rabies infection. Consequences were drawn from this case resulting in the improvement of existing safety measures in the rabies laboratories of the Centre for Disease Control, Atlanta, Ga., USA. These regulations represent helpful guidelines for National Laboratories engaged in rabies research or vaccine production and are therefore fully quoted.

1.2. Rabies maps.

As pointed out in the previous Rabies Bulletin, 2 rabies maps of Europe have been prepared and are added as annexes to this issue. The maps are intended to give a visual account of the rabies situation separately for the 1st and 2nd quarter of 1977. Each rabies case is represented by a dot. The location of the dots corresponds to the locality as provided to us by individual governments. For example, the rabies cases in Luxembourg, France, Switzerland, Austria, Italy and parts of Germany (Schleswig-Holstein, Hessen, Baden-Württemberg) can be located at the smallest administrative level which is the community. This, of course gives the most accurate picture, also in small-scale maps, in which the dots, more or less aggregated, help to convey the impression of areas with higher or lower rabies densities. In the countries in which this type of detailed information was not available to us, we have constructed the rabies maps by distributing the number of recorded rabies cases more or less evenly over the area of the respective administrative unit (Department, Kreis, Bezirk, Komitat etc.). Consequently, the resolution of the maps is only as accurate as the information made available to us.

1.3. Coverage of rabies maps.

All rabies cases reported in Europe during the first half year of 1977 are shown in the 2 maps with the exception of those occurring in Albania, Bulgaria, the USSR and the European part of Turkey. Freeness of rabies was reported from Portugal (since 1960), Great Britain (since 1922), Denmark (since 1970), Finland (since 1959), Sweden (since 1871) and Norway (no animal case ever recorded).

1.4. Type of animal rabies in Europe.

True canine rabies without wildlife involvement was reported from Greece only. In Spain, the Malaga outbreak during 1975 and 1976 was limited to domestic animals (mainly dogs and cats), however, in the 3rd quarter of 1977 the first case of a rabid fox became known; further wildlife rabies could not be demonstrated so far.

All other European countries, from France to Rumania, clearly show the fox to be the main vector of the epizootic.

1.5. Recent rabies trends. As predicted in the 1st Rabies Bulletin, rabies has made its reapparance in Denmark. Between September 12, and October 1, 1977, three cases in foxes were reported in South Jutland, close to the German-Danish border.

In Italy, the fox epizootic observed since February 1977 near the border to Austria has claimed further victims among foxes and deer but has remained stationary so far.

Following a 6 months period of rabies freeness, Holland has experienced a new case in a fox.

2. RABIES SITUATION IN EUROPE

2.1. Rabies in Denmark.

by Erik Stougaard

(case data on page 17)

Having been absent from Denmark since November 1970, rabies has reappeared and was diagnosed anew 12 September 1977. This outbreak concerned a fox which was found dead approximately 500 m north of the German-Danish frontier in a field belonging to the farm named "Christiansminde" near Padborg.

Following this first outbreak rabies has up to 1 October been diagnosed in two more foxes shot in the same area.

According to reports on rabies outbreaks received from Schleswig-Holstein during the winter and spring 1977 it became evident that the disease was emerging northward toward the Danish border, and during the summer 1977 a number of outbreaks occurred in foxes close to the Danish border, as a consequence of which the disease could be expected to penetrate into Danish territory during the autumn of this year or in the spring 1978.

During the summer 1977 the State Veterinary Service planned protective measures with a view to prevent the disease from establishing itself permanently in Denmark. These measures are:

According to Order no 459 of 8 September 1977 by the Ministry of Agriculture a combat area will be designated as off 1 October 1977 including the administrative unit named "Sønderjyllands amtskommune" and that part of the administrative unit named "Ribe amtskommune", which is situated south of "Kongeaaen" (see map).

D E N M A R K

Rabies combat zone shaded

Within this combat area compulsory vaccinations at government expense of all dogs above the age of 3 months will be initiated on 1 October. Exhibitions of dogs and cats as well as field-trials for sporting dogs within the area will be allowed only according to special permit from the State Veterinary Service. Underground use of dogs for fox hunting is prohibited.

From 1 January 1978 extinction of foxes and badgers by gas will be initiated in the whole combat zone.

Because of geographical peculiarities of the area it is hoped that the establishment of this 60 km deep combat zone will prevent rabies from spreading into other parts of Denmark.

The regulations concering import and transit of dogs and cats enforced as from 1 June 1975 remain in force. These rules are:

The entry of dogs and pet cats is permitted provided that

1) each individual animal is accompanied by a veterinary certificate issued on a form approved by the State Veterinary Service from which it appears that the animal in question has been vaccinated against rabies at least one month and at the most twelve months prior to its entry, and

2) the animal is found to be healthy according to a health examination undertaken immediately after arrival by the border veterinary officer.

Sec. 1 The vaccination is not required for animals younger than 4 months and not for animals coming directly from Finland, the Faroe Islands, Iceland, Norway, Sweden, Great Britain, Ireland, Japan, New Zealand and Australia.

Sec. 2 The health examination is not required if the animals are accompanying persons on travel.

Entry without personal attendance can only take place through one of the following places of entry i.e. Copenhagen, Billund, Esbjerg, Frederikshavn, Gedser, Helsingør, Kruså, Padborg, Rødby and Rønne.

All expenses in connection with importation including fee for examination of health shall be met by the importer (the owner) in accordance with rules established by the Ministry of Agriculture.

2.2. Rabies in France.
by L. Andral

(case data on page 19)

A comparison of the total number of rabies cases registered in France in the course of the first three quarters of 1976 and 1977.

	1976	1977
Departments involved	20	24
Rabies cases, total	2151	1281
Wild-living animals	1839	1030
foxes incl.	1767	982
Domestic animals	312	251
Herbivores	186	150
cattle incl.	115	110
and sheep incl.	56	29
Carnivores	124	101
cats incl.	75	68

The comparison of the total number of rabies cases recorded in 1977 shows a remarkable decrease of incidences in all animal species found rabid in France up to now although the number of infected departments has increased from 20 in 1976 to 24 in 1977.

There are several possible explanations of that phenomenon:

1. We make a contribution to the world-wide aim to reduce rabies incidences by appropriate prophylactic control measures such as reduction of the fox population in France and vaccination of domestic animals.

2. The diminution of the registered rabies cases in wild-living animals is among other reasons probably due to certain difficulties in the mailing of rabies specimens to the investigating laboratories. There

is, indeed, since December 1976 only one post-office per department which is authorized to receive parcels containing rabies suspected material.

3. The decrease of the registered number of rabid domestic animals is obviously the result of the improved use of prophylactic vaccination.

2.3. Rabies in the Netherlands.
by C. J. Vermeulen

(case data on page 17)

After having been free from rabies this year for nearly 6 months, there was a second case in a fox on July 17th, although the obligation to vaccinate dogs was withdrawn on July 25th, 1977.

In the same period in 1976 we had 7 cases of rabies in wild animals.

2.4. Rabies in Switzerland.
by A. Wandeler

(case data on page 21)

The epidemiological situation in Switzerland has changed only little in the past 3 months. In this time the first 14 cases in canton Fribourg were diagnosed. All of them were foxes. Differing from previous experiences an unusually high number (17) of cats were confirmed rabid in canton Waadt. Most of these cats had bitten one or several people.

2.5. Rabies in the German Democratic Republic.
Überarb. wurde vom Verfasser angegeben!

Past: In 1947 rabies entered the territory of the German Democratic Republic from heavily infected Polish border areas. During the following years the rabies epizootic spread in western and southwestern direction and the annual rabies incidence rose from 10 cases in 1947 to 2476 in the peak year of 1957. Wildlife rabies which during the first 4 years accounted for only 10% of the total cases amounted to 75% in 1957.

Present: Similar to other European countries, rabies has established itself among wildlife animals, especially the fox which alone accounts for 70% of all cases registered during the last 10 years. The rabies incidences from 1967-1976 are given in the Table on page 31. The country-wide distribution of cases for the first 6 months of 1977 is shown in the maps of the Annex. For case data see also pages 24-25.

2.6. Rabies in Portugal.
by Mário Teixeira

In 1960, the last rabies cases were recorded in four sick animals (two dogs and two cats). These cases occurred in our Province at the Lower Alentejo, near the frontier with Spain. From the Sanitary inquiry we knew that the two dogs had been wounded by wolves, probably coming from Serra Morena, in Spain, and that the two cats were contamined by one of those dogs.

The surveillance of rabies is based on the attentive accomplishment of the following measures:

1. Annual compulsory antirabic vaccination of dogs, older than four months. In 1976, 514,859 dogs were vaccinated all over the country, what means more than 90 % of the total, calculated to be 565,000 animals.

2. The antirabic vaccination of cats is not compulsory, but this measure was only recommended since 1977.

3. The used Antirabic Vaccine, made in Portugal, is inactivated, of ovine origin, and contains 10 % nervous substance. Each lot of this vaccine is submitted to control in the Official Laboratory only being approved when the immunizing capacity is more than 5000 Habel units.

4. The Municipal Services for Rabies Surveillance, mainly in the urban centers, try to keep a permanent control on vagabond or vagrant dogs and cats. Animals not claimed by their owners are killed and destroyed within three days after their capture.

5. The owners of dogs, older than one year, are obliged to register them and pay, per year, a "licence of owner-ship and transit". These prices depend on the animal's utilization (watchdog, hound, luxury dog), and are likely to become more and more expensive.

6. The Veterinary Sanitation Department through their services of Ports and Frontiers, keep a permanent control at customs, airports, sea and land stations, imposing a quarantine at the arrival and administering the Antirabic Vaccine to the dogs vaccinated more than one year ago.

7. To support the Antirabic control, the Veterinary Sanitary Department started in 1974 an education campaign on the disease for the public, using audiovisual means, T.V. and Radio programs, delivering posters, pamphlets and sticking papers, having received the best results.

2.7. Rabies in Spain.
by J. R. Prieto Herrero

Past. Between 1965 and 1975 no rabies was recorded in Spain until, in July 1975, the diagnosis of a rabies case marked the beginning of an epizootic in the province of Malaga.

Although this first rabies case was diagnosed in July 1975, rabies must have existed before in the area, since a man was bitten on June 5th, 1975 by his own dog and died 3 months later, September 2nd, from rabies. The dog which transmitted the rabies infection to his owner had been killed and buried without further examination. It was also noted that, during May 1975, a stray dog showing "signs of rabies" was seen but despite of repeated efforts could not be captured. It may well be that this very dog was the one which infected the aforementioned dog which subsequently transmitted the disease to its owner.

Despite of intensive investigations the exact origin of the disease could not be traced down. The city of Malaga is very likely to have been the primary focus of the epizootic since subsequently an encreasing number of rabies cases were registered in the vicinity of this town. The most plausible explanation is that rabies was introduced by a tourist-owned dog (maybe that seen roaming freely about in May) which originated either from Central Europe or with lesser probability from Africa. Supposedly being in the stage of incubation this dog succeeded in escaping from his owner, a natural tendency of this animal species affected with rabies. The closely spaced appearance of 5 cases of dog rabies between the 9th and the 30th of July seems to support the assumption, that the animal initiating the epizootic was not localized but roamed freely in the tourist zone of Malaga and spread the disease into the vicinity resulting in 5 further deaths from rabies in other animals diagnosted between August 1st and 13th.

Until the 31st of December, 1975, a total of 79 positive animals (50 dogs, 28 cats and 1 goat) were diagnosed in 11 municipalities of the province of Malaga (town of Malaga, Alhaurin de la Torre, Rincón de la Victoria, Casabermeja, Frigiliana, Mijas, Sayalonga, Ronda, Benalmádena, Fuengirola, Cártama and vicinity of Melilla).

During 1976 the number of positive animals was 43 (23 dogs, 17 cats and 3 hamsters bred in captivity), distributed over 9 municipalities: Malaga, Alhaurin de la Torre, Casabermeja, Benalmádena, Fuengirola, Rincón de la Victoria, Cártama, Vélez Málaga y Antequera and the vicinity of Melilla.

For the laboratory diagnosis of rabies, both immunofluorescent and mouse inoculation techniques are employed due to their high degree of sensitivity. For FA tests,brain smears are prepared from the ammonshorn, cerebrum, brain stem and cerebellum. The biological test carried out in 21-days old white mice is used in two instances: (1) Confirmation of positive FA-results in bite-cases, and in order to isolate the virus strain for further tests or research purposes; (2) for confirmation or correction of negative FA-results of dead or sacrificed animals inflicted in bite-cases. The histopathological diagnosis, especially the demonstration of Negri bodies is used only on exceptional occasions.

Present situation: Up to the 2nd September of 1977 three further cases were established in the province of Malaga, two of which occurred in the city limits of Malaga: one stray dog in Torremolinos, and one fox which had entered a fenced-in farm within the suburbs of Malaga. This fox bit a person who succeeded in killing the biting animal. This is the first and only case of wildlife rabies recorded until now in the present epizootic in Spain. The 3rd rabies case was registered in the last days of August in a dog near Melilla.

The control of rabies in Spain is mainly based on the compulsory mass vaccination of the dog population. For this purpose, all dogs within a township are registered in a special list which serves also for registration on a provincial level. For identification and following the first vaccination each dog carries during his lifetime a metal dog-tag which is irreversibly fixed to the collar. At the same time the dog owner obtains a dog health certificate with the exact description of the outer markings of the animal and a stamp of the annual vaccination campaign which testifies that this animal has properly been vaccinated in each year.

Dogs without a dog-tag are considered stray or owner-less dogs which after being captured are kept for 24-48 hours before they are killed unless the owner claims the dog. In the latter case, the dog is impounded for 2 weeks, and vaccinated before it is returned to the owner.

The application of these measures has resulted in the past that Spain was rabies free for a ten year period.

Following the confirmation of the first rabies cases in the province of Malaga, a programme was intensified in all Spain which aimed at the destruction of stray dogs and cats, as well as at the trapping of wildlife animals, especially foxes. From 49 communities of the province of Malaga a

total of 1082 healthy appearing animals were submitted for rabies examination, 2.5% of the dogs and 2.8% of the cats yielding positive results.

During the first weeks of the Malaga epizootic the Institute for Natural Conservation (Instituto para la Conservación de la Naturaleza = ICONA) has captured within the province of Malaga 1815 dogs, 248 cats, 674 foxes, 8 wild cats, 7 badgers and 13 other wildlife animals. By laboratory testing, 27 foxes were examined for rabies with negative results.

Further captures in the Pyrenees by ICONA yielded 52 foxes, 17 wild dogs and 9 wolves; all were examined with negative results.

Following the first rabies case in a fox in Malaga, a total of 42 foxes, 1 squirrel, 1 ferret and 1 wild cat were submitted and examined for rabies with negative results. This indicates that rabies - at least until today - is not too widespread among wildlife animals in Spain.

2.8. Rabies in Norway.
by Reidar Vollan

No outbreak of rabies in any animal, in or out of quarantine, is known to have occurred e v e r in Norway. A single case of human rabies contracted abroad was registered in 1815.

Rabies control in Norway. All importation of live animals and animal produce is prohibited. Exceptions are made on conditions given in each case following application to the Ministry of Agriculture, Division of Veterinary Services.

Importation of dogs and cats from rabies infected countries is allowed only when the animal is quarantined for 4 months in the State Animal Quarantine Station and kept on leash for 2 months after release from quarantine, no private quarantines are accepted. Due to insufficient quarantine capacity consent has been given to quarantine animals in approved kennels in other rabies free countries in transit from infected countries.

Vaccination against rabies is not allowed, but exceptions are made for animals to be exported.

The Norwegian Division of Veterinary Services may classify a country as infected with rabies due to its communication with rabies infected countries in spite of the fact that the same country is listed as free in the FAO-WHO-OIE Annual Health Yearbook.

To keep rabies out of Norway, a major anti-rabies campaign has been launched in 1977 for the first time. The efforts are directed at:

a) arousing public awareness against illegal importation of animals,

b) stressing to authorites and organizations involved the necessity for strict animal import control and for immediate actions in cases of breech of regulations,

c) increasing penal reaction for importation in violation of the law,

d) planning for the event that suspect cases are introduced,

e) increase of quarantine capacity,

f) keeping close communication with the health authorities.

2.9. Rabies in Sweden.
by B. Henricson

Rabies has not been detected in Sweden since 1871. Animals susceptible to the disease coming from countries not accepted as free of rabies are quarantinized for 4 months. In 1976, one young dog died in quarantine with the diagnosis of a mixed infection by distemper and rabies virus. The dog had been vaccinated against rabies shortly before.

Great concern is given for foreign tourists visiting Swedish shores in private boats bringing dogs or cats. The animals are not permitted to visit Swedish land.

Internal campaigns are undertaken to inform about the seriousness of the disease both for animals and man. This has the primary aim to prevent smuggling of pet animals.

Vaccination is only permitted for exportation of dogs or cats. An inactivated vaccine shall be used.

2.10. Rabies in Finland.
by R. Berger

Present:

Finland has been free from rabies since 1959. The Veterinary Service tries to maintain the favourable situation by prohibiting import of animals from rabies areas or by allowing it only under strict control and compulsory quarantine requirements. In Europe, only Iceland, Norway, Sweden, Great Britain, Northern Ireland and Ireland are at present considered to be rabies free areas. Should rabies occur near the border of Finland or spread into the country, beside other measures, fox and raccoon dog control operations would immediately be carried out.

Past:

From 1897 to 1935 rabies cases were confirmed yearly in the country. After 1935 the occurrence of the disease became more sporadic. From 1952 to 1959 a total of 56 rabies cases were recorded. Dogs accounted for 53, cats for 2 and foxes for 1 of the recorded cases. All cases occurred in the southeastern border area of Finland with limited spread. The measures taken to control the disease in the area were

- restrictions of movement of animals
- strict prohibition to keep dogs and cats unleashed
- compulsary vaccination of animals against rabies using inactivated domestic vaccine
- increased shooting and poisoning of foxes.

In 1959 eight (8) cases of rabies were recorded. Since then Finland has remained free from the disease.

2.11. Rabies in the Slovakian Socialist Republic (SSR).
by Stefan Haladej

(case data on pages 26-27)

Rabies in domestic and wild animals occurs on the territory of Slovakia mostly in mountain areas. In the first half of 1977 rabies infection was established in 23 domestic and 77 wild animals. Most cases of rabies occurred in foxes - 70 animals - representing 70 % of the total rabies incidence.

The infection was investigated monthly. Most cases occurred in March (31), least in June (8).

Rabies diagnosis is a concern of the Central State Veterinary Institute in Bratislava, which is the national reference centre for rabies. The infection is investigated on a smaller scale at the State Veterinary Institute in Kosice within the East Slovakian Region. The following measures are taken in domestic animals:

- compulsory prophylactic vaccination of dogs against rabies, once a year,
- prophylactic vaccination of other domestic animals (cattle, sheep) in case of incidence of rabies in these species, or, if the animals are grazing in endangered areas,
- prohibition of free movement of dogs, cats and small animals within the centres of rabies infection and control zones,
- obligatory registration of dogs.

In April 1977, on the territory of Central Slovakia foxes were exterminated with gas cartridges.

In the first half of 1977 no cases of rabies in man were reported.

2.12. Rabies in Yugoslavia.
by M. Bugarski

(case data on pages 28-29)

By organized action at general level against rabies immediately after the Second World War, by inforcement of registration and regular vaccination of dogs against rabies, and by destruction of stray dogs and other wild animals applying strict veterinary-sanitary measures, the cases of rabies in animals -in the period from 1950 to 1970- were reduced to an inconsiderable number.

Since 1971, the number of natural rabies foci has increased so that in 1972 there were 110 cases, in 1973: 115, in 1974: 243, in 1975: 106, in 1976: 57, and in the first half of this year 23 cases.

The unfavourable situation regarding rabies is related to the increase of the number of foxes, specially in the border areas in the north of our country where no cases of rabies occurred during the last twenty years.

The measures applied in order to suppress rabies in our country are as follows:

- preventive vaccination of dogs;
- reduction of population of dogs, foxes and other wild animals;
- registration of dogs and control of dog trade.

In enforcement of veterinary-sanitary measures, complete cooperation with health services, hunting organisations and services dealing with education and propaganda has been realized.

2.13. Rabies in Rumania.
by M. Movanu (case data on pages 28-29)

In Rumania the control of rabies was taken in action in 1951 according to a special governmental order. The initial control measures were mainly directed to rabies in domestic animals - primarily in dogs - aiming at the limitation of the dog population in the country and further at the preventive vaccination of dogs.

This first campaign (1951 to 1958) resulted in a decrease from 2232 positive cases in animals and 95 human cases recorded in 1950 to 811 animal and 61 human cases in 1958.

In 1959, the compulsory vaccination of dogs - still in effect today - was introduced resulting in a further gradual decrease of rabies incidences in both animals and human beings. In 1966, 110 cases in animals and 4 human cases have been recorded which means a reduction by 95 % and 96 %, respectively, compared to 1950.

In the course of the year 1967 a renewed increase of rabies incidences was recorded as a consequence of the spread of the disease to wild-living animals, mainly to foxes which are the main transmitter of the disease. In the period from 1967 to 1976 the disease had its peak incidence in 1968 with 271 cases in animals and 6 cases in humans. During the last 10 years foxes accounted for 66 % of the total number of cases.

In the course of the year, an increasing frequency of cases is noted during autumn, with peak incidences in winter and spring, and a minimum of cases in the summer.

With regard to the natural concentration characterizing the present rabies situation in Rumania - as in other European countries too - the anti-rabies control measures have been completed as follows.

1.1. Restriction of free circulation of dogs in outbreak areas.

1.2. Surveillance of the compulsary vaccination of dogs and vaccination of those which have eventually evaded that action.

1.3. Repeated vaccinations of dogs in the outbreak-areas if necessary and intensification of destruction of stray dogs.

2. Prophylactic vaccination of domestic animals pasturing in outbreak areas.

3. Gassing of fox dens was started in 1975 in some districts of the country. The results of that measure are presently not yet conclusive.

2.14. Rabies in Greece.
by P. N. Dragonas

(case data on pages 26-27)

In 1966 the reported rabies cases amounted to 248 (172 dogs, 2 cats, 74 farm animals). Wild animals were not involved.

In 1976 the cases decreased to 18 (10 dogs and 8 farm animals). These cases were reported in four Districts (Evros 9, Lakonia 6, Larissa 2, Messinia 1).

This significant decrease in rabies cases make us believe that the adopted measures against the disease give the expected results and that in few years we will be able to confine the cases of the disease to a very limited number.

The adopted measures for the elimination of the disease can be summarized as follows.

- Control of imported animals
- Vaccination of dogs
- Collection and destruction of stray dogs
- Elimination of wild carnivorous animals

During 1976, 36,288 dogs have been vaccinated and further 14,243 were euthanized. In the same periode 70,617 wild animals were eliminated (787 wolves, 64,855 foxes, 1,183 jackals and 4,792 badgers) i.e. 25 % of the whole population of these animals.

3. MISCELLANEOUS

3.1. 1976 Summary of Rabies in the Americas.

In 1976, a total of 20,698 laboratory-confirmed cases of rabies were registered, 20,515 of which were in animals and 183 in humans. In particular, 12,082 dogs, 904 cats, 3014 cattle, 338 other domestic animals, 1266 wildlife and 2911 unspecified accounted for the total number of animal cases.

In the United States of America and in Canada rabies is predominant in wild-living animals, whereas in the remainder of the American continent rabies is most frequent in urban domestic animals, mainly in dogs and, consequently also in men. In 1976 only 87 (0.7%) out of 12,082 cases in dogs and 2 (1.1%) out of 183 human cases were recorded in the USA and Canada.

Remarkable incidences of canine and human rabies were observed in the metropolitain area of Buenos Aires, Argentinia with 4300 rabid dogs and 15 cases in men, and in Honduras, where 11 human cases were reported in a 6 months period.

The reported cases of rabies in cattle transmitted by vampire bats is relatively low as compared with the impairment of livestock production due to this disease in the tropical and subtropical areas. In all these countries the administration of vaccines and anticoagulants is carried out.

In the United States of America a total of 3146 cases of rabies were reported in 1976, 2724 of which (86.6%) were confirmed in wild-living animals, 420 (13.3%) in domestic animals and 2 (0.64%) in humans. In particular, rabies was reported, by percentage of total cases, in skunks 47%, bats 23%, raccoons 9%, foxes 6%, cattle 5%, dogs 4%, cats 3% and horses, mules and others 3%. One boy bitten by a dog died in Texas and a 52-years-old woman from Maryland succumbed to the infection after being bitten by a bat.

Quoted from Weekly Epidem. Rec.: No. 33 19 Aug. 1977 and from CDC Vet. Publ. Health Notes, August 1977.

3.2. Rabies in Europe during 1975/1976.

The European rabies scenario is illuminated in a forthcoming publication by E. Kauker (Vorkommen und Verbreitung der Tollwut in Europa von 1975-1976. Berl. Münch. tierärztl. Wschr. 90, 1977, in print). The author's summary reads as follows.

Based on the reports on animal diseases published by the official veterinary authorities, the situation of rabies in Europe up to the end of 1976 has been studied. The predominant form, silvatic rabies, has continued to spread and shows no signs of stopping. The reduction of the fox population remains problematic; a proposal is made for this. In 1974, 16 persons died of rabies in Europe (excluding Turkey and the Soviet Union), 10 cases were caused by dogs, 3 by foxes, 2 by cats and 1 by a wolf. The WHO reported 412 human deaths for 1974.

3.3. An Imported Case of Human Rabies in the United Kingdom.
by Lila M. Roots

An imported case of rabies first presented on March 8th, 1977.

A twelve year-old Pakistani boy was bitten by a dog on the upper thigh on about 1st January, 1977 when in Pakistan staying with his grandparents. No treatment was given at the time.

He returned to England on 17th February, 1977. On March 8th he complained of aching legs and was seen at a clinic where bruising of the left thigh was noted. He was sent for examination, but as he gave no history of a dog bite at this time he was not admitted to hospital.

On March 13th he presented definite signs (difficulty in swallowing, excess salivation and pain radiating from the site of the bite on the thigh) which his parents recognised as rabies. He was admitted to the Intensive Care Unit in hospital and died two hours after admission.

Twenty contacts were vaccinated and followed up and so far there has been no evidence of transmission of the disease from this boy.

There has been no case of indigenous rabies reported in England and Wales since 1902 but from time to time, individual instances of imported rabies do occur after infection by rabid animals abroad. There have been twelve such cases since 1946.

3.4. Human Rabies Deaths in Switzerland.

by A. Wandeler

The first human death due to rabies in Switzerland in this epizootic occurred in February 1977, ten years after the first wildlife cases. By the end of January, a 36 year-old man became unable to work having first flu-like symptoms. On February 2nd he became hydrophobic, then he showed hemiparesis and later flaccid paralysis. He died on February 7th in a hospital in canton Aargau. Rabies was confirmed by fluorescent antibody technique and virus isolation. An anamnestic investigation revealed that he had been bitten severely in the hand by a vicious cat 6 months before on August 28th. By the physician visited he received antitetanus, but no antirabies treatment. The cat disappeared after biting and was never examined. Another cat from the same village showed confirmed rabies three weeks later.

The second case occurred only a short time thereafter. In May and April of 1976 a veterinarian was preimmunized against rabies by 4 injections, each one a week apart, with a duck embryo vaccine. On August 9th 1976 he examined a cow showing nervous disorders. With bare hands he opened the cows mouth and explored throat and pharynx. Rabies was confirmed in that animal thereafter. The veterinarian did not have his antibody titer checked before or afterward. He also did not receive booster injections of vaccine after the exposure. Seven months later, by early February 1977, he felt severe pain in the left arm and then tremor of that arm. Later he became confused and showed dysphagia, but no hydrophobia. On February 13th his general status deteriorated. Inability to swallow was followed by jerks, coma and respiratory paralysis. He was provided with intensive medical care for 4 weeks until he died on March 19th. No rabies antigen was found by fluorescent antibody technique in the brain in which all neurons had completely disappeared. Attempts to isolate virus also failed. The diagnosis was made on the basis of antibody titer rise. There was no detectable neutralizing antibody in serum and cerebrospinal fluid on February 14th. In the course of the disease the titers increased to 1:33,900 in the serum and to 1:36,300 in the cerebrospinal fluid.

3.5. Rabies in a pre-immunized Laboratory Worker and Laboratory Safety Requirements.

As quoted in the No 1/77 issue (p. 10) of this BULLETIN, a New York laboratory technician, believed to be protected against rabies, was reported, to have acquired rabies, presumably by the inhalation route. Since May 4 (20 days after the onset of symptoms) the patient was reported to show gradual but noticeable improvement.

As of June 29 the patient was able to sit up in bed and show awareness of his surroundings. Since mid-July motor function recovery was remarkable. Serum antibody levels of 1:175,000 remained unchanged since it peaked at that level in and mid-may. The patient is still hospitalized.

Conclusions drawn from this case are as follows:

- This case and previously recorded episodes indicate that persons exposed to air-borne virus appear to be at increased risk.

- Serum neutralizing antibody is well documented as a conventional protective measure against subsequent challenge by inoculation or bite exposure. The relationship between serum neutralizing antibody levels and protection against aerosol exposure is not known.
- It is known that fixed virus strains (challenge virus standard [CVS] and production virus [PV]) are pathogenic for man.

In view of this findings the following s a f e t y m e a s u r e s have been introduced to the laboratories of CDC, Atlanta, USA.

- Any procedure which can produce virus aerosols will be performed in a biological safety cabinet or other physical containment system. Such procedures would include homogenization, pellet resuspension, and sonication. Centrifugation, which can also generate aerosols, will utilize sealed safety cups opened only in a biological safety cabinet or similar barrier system.
- Activities involving work with large volumes of rabies virus, regardless of viral strain or titer, will be conducted in a biological safety cabinet or other physical containment system.
- Protective gloves will be worn when performing any operation which might result in spillage of an infectious virus.
- No person will work with rabies virus in the laboratory, even on a temporary basis, who has not demonstrated a seroconversion following immunization; a titer of $\geq$ 1:16 by the rapid fluorescent focus inhibition (RFFI) test or an equivalent titer by another test is considered as evidence of seroconversion.
- Antibody levels in persons working with rabies virus will be tested at least annually; revaccination will be given if the titer is below 1:16.

  (quoted from CDC Vet. Publ. Hlth. Notes, June 1977 and MMWR 26: 149, 1977).

3.6. ERRATUM - Rabies Bulletin 1/1/77

- page 6, para 4, line 2: change February 1972 in February 1970.
- pages 16 and 17, BEL: the name of the 1st province reads Liège (not Liêge).
- page 30, DEN: the address of Dr. Møllgaard reads Solsortevej (not Solstortevej).
- Change page 20 in 21, 21 in 20, 22 in 23, 23 in 22.

N O T I C E :

The Tables on the following pages comprise case data for different time periods.

Rabies cases for the 3rd Quarter, 1977 are shown on pages 16-23 from Austria, Denmark, Belgium, Netherlands, Italy, CSR, DEU, France, Hungary, Switzerland, Liechtenstein, and Poland. No report was submitted by Luxembourg.

Rabies cases for the 1st and 2nd Quarter, 1977 are presented on pages 24-29 from DDR, Slovakia, Greece, Yugoslavia, and Rumania.

The annual rabies cases of DDR between 1967-1976 are tabulated on page 31.

AUT

AUSTRIA: Rabies Cases 1.7. - 30.9.1977

CODE	NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
		DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL		
V 2	Bregenz							0	2	1	1	2	-	6		6
V 4	Dornbirn	-	-	2	-	1	-	3	12	-	-	-	-	12		15
T 2	Innsbruck							0	10	-	-	-	-	10		10
T 3	Kitzbühel							0	2	-	-	-	-	2		2
T 4	Kufstein	-	-	1	-	-	-	1	-	-	-	1	-	1		2
T 6	Lienz	1	2	-	-	1	-	4	33	1	-	3	-	37		41
T 7	Reutte	1	2	-	-	-	-	3	6	-	1	-	-	7		10
T 8	Schwaz							0	12	1	-	1	-	14		14
S 1	Hallein	-	-	-	-	1	-	1	5	1	-	-	-	6		7
S 2	Salzburg/U.							0	9	-	1	4	-	14		14
S 3	St. Johann	-	4	3	-	-	-	7	21	4	-	3	-	28		35
S 4	Tamsweg	-	-	2	1	-	-	3	80	1	-	2	-	83		86
S 5	Zell/See	-	-	2	-	-	-	2	3	1	-	-	-	4		6
O 1	Braunau							0	13	-	-	-	-	13		13
O 4	Gmunden	-	1	-	-	-	-	1	26	6	1	-	-	33		34
O 14	Vöcklabruck							0	4	-	-	-	-	4		4
K 1	Hermagor							0	1	-	-	-	-	1		1
K 2	Klagenfurt							0	1	-	-	-	-	1		1
K 3	St. Veit/Gl.							0	4	-	-	1	-	5		5
K 4	Spital/Dr.	-	1	5	1	-	-	7	24	1	1	5	-	31		38
ST 11	Liezen	1	1	14	-	-	-	16	103	4	2	13	1	123		139
ST 13	Murau	-	2	-	-	-	-	2	6	1	1	-	-	8		10
B 2	Güssing							0	2	-	-	-	-	2		2
B 3	Jennersdorf							0	1	-	-	-	-	1		1
B 5	Neusiedl/See							0	1	-	-	-	-	1		1
B 6	Oberpullendorf							0	1	-	-	-	-	1		1
B 7	Oberwart							0	5	1	-	1	-	7		7
	Total:	3	13	29	2	3	-	50	387	23	8	36	1	455	-	505

Rabies Cases: 1.7. - 30.9.1977

CODE	NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
		DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL		
DEN	DENMARK															
050503	Bov							0	2	-	-	-	-	2		2
050539	Tinglev							0	1	-	-	-	-	1		1
	Total:							0	3	-	-	-	-	3	-	3
BEL	BELGIUM															
Lg	Liège	-	-	-	1	-	-	1						0		1
Lug	Luxembourg	-	-	2	1	-	-	3	1	-	-	-	-	1		4
Na	Namur							0	1	-	-	-	-	1		1
	Total:	-	-	2	2	-	-	4	2	-	-	-	-	2	-	6
NET	NETHERLANDS															
990	Wittem							0	1	-	-	-	-	1		1
ITA	ITALY															
39030-S	Valle Aurina							0	22	3	-	6	-	31		31
39032	Campo Tures							0	7	-	-	1	-	8		8
	Total:							0	29	3	-	7	-	39	-	39
CSR	CZECH SOC.REP.															
00	District of Prague							0						0		0
03	Central Bohemia	-	1	-	-	-	-	1	9	-	-	1	-	10		11
04	South Bohemia							0	2	-	-	-	-	2		2
02	West Bohemia	-	1	-	-	-	-	1	59	-	1	1	-	61		62
01	North Bohemia							0	36	1	-	1	-	38		38
05	East Bohemia							0	4	-	-	1	-	5		5
06	South Moravia							0						0		0
07	North Moravia	-	3	-	-	-	-	3	6	-	-	-	-	6		9
	Total:	-	5	-	-	-	-	5	116	1	1	4	-	122	-	127

DEU FEDERAL REPUBLIC OF GERMANY: Rabies Cases 1.7. - 30.9.1977

CODE	NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
		DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL		
010	Schleswig-Holstein	1	1	9	-	1	-	12	38	-	1	-	-	39		51
020	Hamburg							o						o		o
031	Hannover	-	1	-	-	-	-	1	7	-	-	1	-	8		9
032	Hildesheim	1	2	2	-	-	-	5	13	1	1	-	-	15		20
033	Lüneburg	3	2	8	1	-	-	14	40	-	4	-	4	48		62
034	Stade	-	-	1	-	-	-	1	3	-	-	-	1	4		5
035	Osnabrück							o	2	-	-	-	-	2		2
036	Aurich							o	1	-	-	-	-	1		1
037	Braunschweig							o	15	-	1	-	1	17		17
038	Oldenburg							o	1	-	-	-	-	1		1
040	Bremen							o						o		o
051	Düsseldorf	-	-	1	-	-	-	1	1	-	-	-	-	1		2
053	Köln	-	3	2	-	-	1	6	9	-	-	-	1	10		16
055	Münster							o	9	-	-	-	-	9		9
057	Detmold							o	6	-	-	-	1	7		7
059	Arnsberg	-	-	1	-	-	-	1	8	-	-	3	-	11		12
061	Darmstadt	1	1	-	-	-	-	2	37	-	2	4	1	44		46
062	Kassel	-	4	4	-	3	-	11	61	-	1	6	-	68		79
071	Koblenz	-	3	3	-	-	-	6	27	1	1	5	1	35		41
072	Trier	-	2	-	-	-	-	2	9	1	1	-	-	11		13
073	Rheinhessen-Pfalz							o	1	-	-	-	-	1		1
081	Stuttgart	1	-	1	-	2	-	4	49	-	1	6	-	56		60
082	Karlsruhe	1	-	1	-	-	-	2	48	4	2	7	1	62		64
083	Freiburg	1	2	1	-	2	-	6	152	2	5	6	2	167		173
084	Tübingen	-	2	2	-	-	-	4	59	2	3	1	-	65		69
091	Oberbayern	1	1	3	-	-	-	5	90	3	7	4	2	106		111
092	Niederbayern	1	-	-	-	-	-	1	30	-	3	1	-	34		35
093	Oberpfalz	-	-	1	-	-	-	1	38	1	2	2	-	43		44
094	Oberfranken	-	2	-	-	-	-	2	10	1	2	1	2	16		18
095	Mittelfranken	-	1	-	-	-	-	1	13	-	2	-	-	15		16
096	Unterfranken							o	18	-	2	-	-	20		20
097	Schwaben	-	1	16	-	-	-	17	37	-	5	1	-	43		60
100	Saarland							o	2	-	-	-	-	2		2
110	Berlin							o						o		o
	Total	11	28	56	1	8	1	105	814	16	46	48	17	961	-	1066

FRA F R A N C E : Rabies Cases 1.7. - 30.9.1977

CODE NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
	DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL		
01 Ain	-	1	2	-	-	-	3	33	1	-	-	-	34		37
02 Aisne	-	2	-	-	-	-	2	16	-	-	-	-	16		18
08 Ardennes	2	1	4	-	-	-	7	6	-	-	-	-	6		13
21 Côte d'Or	-	1	-	-	-	-	1	5	-	-	-	-	5		6
25 Doubs	1	1	-	1	1	-	4	6	-	-	-	1	7		11
39 Jura	-	9	5	-	2	-	16	36	1	-	-	-	37		53
51 Marne	-	1	-	-	-	-	1	5	-	-	-	-	5		6
52 Marne Haut							o	1	-	-	-	-	1		1
54 Meurthe&Moselle	2	1	5	-	1	-	9	16	-	-	-	-	16		25
55 Meuse	-	1	8	1	1	-	11	24	-	-	-	-	24		35
57 Moselle	-	1	3	1	-	-	5	7	-	-	-	1	8		13
58 Nièvre							o	5	-	-	-	-	5		5
60 Oise	-	1	-	-	-	-	1	11	-	-	-	-	11		12
67 Rhin Bas	1	1	4	-	-	-	6	8	-	-	-	1	9		15
68 Rhin Haut	2	4	2	-	1	-	9	38	1	-	-	-	39		48
70 Saône Haute							o	1	-	-	-	-	1		1
77 Seine & Marne							o	3	-	-	-	-	3		3
80 Somme							o	9	-	-	-	2	11		11
88 Vosges	1	2	-	-	-	-	3	15	-	-	-	-	15		18
89 Yonne							o	10	-	-	-	-	10		10
90 Territoire de Belfort							o	5	-	-	-	-	5		5
95 Val d'Oise	-	-	1	-	-	-	1	7	-	-	-	-	7		8
T o t a l :	9	27	34	3	6	-	79	267	3	-	-	5	275	-	354

HUN HUNGARY: Rabies Cases 1.7. - 30.9.1977

CODE NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
	DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL		
01 Baranya	1	-	-	-	-	-	1						0		1
02 Bács							0	7	-	-	-	-	7		7
03 Békés							0	6	-	-	-	-	6		6
04 Borsod	-	1	-	-	-	-	1	8	-	-	-	-	8		9
05 Csongrád							0	5	-	-	-	-	5		5
06 Fejér							0	5	-	-	-	-	5		5
07 Győr							0	1	-	-	-	-	1		1
08 Hajdu							0	7	-	-	-	-	7		7
09 Heves	-	-	2	-	-	-	2	3	-	-	-	-	3		5
10 Komárom							0	1	-	-	-	-	1		1
11 Nógrád							0	3	-	-	-	-	3		3
12 Pest							0	4	-	-	-	-	4		4
13 Somogy							0	4	-	-	-	1	5		5
14 Szabolcs							0	2	-	-	-	-	2		2
15 Szolnok							0	1	-	-	-	-	1		1
16 Tolna	1	-	1	-	-	-	2	1	-	-	-	-	1		3
17 Vas							0	10	-	-	-	-	10		10
18 Veszprém							0	22	-	-	-	-	22		22
19 Zala							0	2	-	-	-	-	2		2
20 Budapest							0						0		0
Total:	2	1	3	-	-	-	6	92	-	-	-	1	93	-	99

Rabies Cases: 1.7. - 30.9.1977

CODE / NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
	DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL		
SWI SWITZERLAND															
1 Aargau	-	1	-	-	-	-	1	3	-	-	-	-	3		4
2 Appenzell AR							o	2	-	-	-	-	2		2
3 Appenzell AI							o	1	-	-	-	-	1		1
5 Basel-Land							o	2	-	-	-	-	2		2
6 Bern	1	-	-	-	1	-	2	35	-	1	-	-	36		38
7 Freiburg							o	14	-	-	-	-	14		14
10 Graubünden	-	1	2	-	-	-	3	33	4	1	1	-	39		42
11 Luzern	-	1	-	-	-	-	1	4	-	-	-	-	4		5
12 Neuenburg							o	4	-	1	-	-	5		5
17 Solothurn							o	2	2	-	1	-	5		5
18 St. Gallen	-	-	1	-	1	-	2	7	-	1	1	-	9		11
20 Thurgau							o	7	-	2	-	-	9		9
22 Waadt	1	17	2	2	4	1	27	21	1	6	-	-	28		55
24 Zug							o	-	2	-	1	-	3		3
25 Zürich	-	-	1	-	-	-	1	8	1	-	-	-	9		10
Total:	2	20	6	2	6	1	37	143	10	12	4	-	169		206
LIE LIECHTENSTEIN							o	5	-	-	-	-	5	-	5

Rabies Cases: 1.7. - 30.9.1977

CODE / NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
	DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL		
POL POLAND															
01 Warszawa							0	3	-	-	-	1	4		4
03 Biala Podlaska	-	1	-	-	-	-	1	1	-	-	-	-	1		2
05 Bialystok							0	5	-	-	-	-	5		5
07 Bielsko-Biala							0	3	-	-	-	-	3		3
09 Bydgoszcz	1	13	1	-	-	-	15	21	-	-	20	17	58		73
11 Chelm	-	2	-	-	-	-	2	1	-	-	-	-	1		3
13 Ciechanów							0	9	-	-	-	-	9		9
15 Czestochowa							0						0		0
17 Elblag	3	1	1	-	-	-	5	4	-	-	1	-	5		10
19 Gdańsk	1	3	-	-	-	-	4	2	-	-	1	-	3		7
21 Gorzów Wlkp	-	1	-	-	-	-	1	9	-	-	-	-	9		10
23 Jelenia Góra	-	-	-	-	1	-	1	16	-	-	-	-	16		17
25 Kalisz	-	-	-	1	-	-	1	2	-	-	2	-	4		5
27 Katowice							0						0		0
29 Kielce	-	1	-	-	-	-	1	2	-	-	1	-	3		4
31 Konin							0	-	1	-	-	-	1		1
33 Koszalin	-	1	-	-	-	-	1	3	-	-	2	-	5		6
35 Kraków							0	1	-	-	-	-	1		1
37 Krosno	1	-	-	-	-	1	2	1	-	-	-	-	1		3
39 Legnica							0	1	-	-	-	-	1		1
41 Leszno	1	1	-	-	-	-	2	6	-	-	-	-	6		8
43 Lublin							0						0		0
45 Lomza							0	-	1	-	-	-	1		1
47 Lódź							0						0		0
49 Nowy Sacz	1	-	-	-	-	-	1	1	-	-	1	-	2		3
51 Olsztyn	1	3	2	-	-	-	6	8	1	-	3	2	14		20
53 Opole							0						0		0
55 Ostroleka							0						0		0

Rabies Cases: 1.7. - 30.9.1977

CODE	NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
		DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL		
POL	POLAND cont'd															
57	Pila	-	2	-	-	-	-	2	3	-	-	1	1	5		7
59	Piotrków Tryb.							o						o		o
61	Plock	-	1	-	-	-	-	1						o		1
63	Poznań	-	3	-	-	-	-	3	12	-	-	5	-	17		20
65	Przemyśl							o						o		o
67	Radom							o	1	-	-	1	-	2		2
69	Rzeszów	1	-	-	-	-	-	1	1	-	-	-	-	1		2
71	Siedlce							o	1	2	-	-	-	3		3
73	Sieradz							o						o		o
75	Skierniewice							o						o		o
77	Slupsk	1	-	-	-	-	-	1	7	-	1	1	7	16		17
79	Suwalki	-	1	5	-	-	-	6	1	-	-	-	1	2		8
81	Szczecin	4	-	-	-	-	-	4	17	-	-	2	7	26		30
83	Tarnobrzeg	-	1	-	-	-	-	1						o		1
85	Tarnów	1	-	-	-	-	-	1	2	-	-	-	-	2		3
87	Toruń	1	9	2	-	-	-	12	3	1	-	9	11	24		36
89	Walbrzych	3	2	2	-	1	-	8	12	-	-	-	1	13		21
91	Wloclawek	1	3	2	1	-	-	7	9	-	-	6	2	17		24
93	Wroclaw	-	1	-	-	-	-	1	8	-	-	1	1	10		11
95	Zamość	1	2	-	-	-	-	3	1	-	-	-	-	1		4
97	Zielona Góra							o	7	-	-	1	-	8		8
	Total:	22	52	15	2	2	1	94	184	6	1	58	51	300	-	394

DDR GERMAN DEMOCRATIC REPUBLIC: 1.1.1977 - 31.3.1977

CODE / NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
	DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL		
I Rostock	1	1	-	-	-	-	2	25	-	-	-	-	25		27
II Schwerin	4	-	1	-	1	-	6	21	-	-	3	-	24		30
III Neubrandenburg	3	1	-	-	-	-	4	17	-	-	-	-	17		21
IV Potsdam	4	4	2	-	-	-	10	21	-	1	3	-	25		35
V Frankfurt/Oder	6	-	1	-	-	-	7	22	-	2	3	-	27		34
VI Cottbus	5	7	-	-	-	-	12	28	-	1	4	1	34		46
VII Magdeburg	3	-	-	-	-	-	3	35	-	-	-	-	35		38
VIII Halle	-	4	-	-	-	-	4	19	1	1	2	-	23		27
IX Erfurt	9	1	1	-	1	-	12	66	-	2	1	-	69		81
X Gera	4	1	1	-	1	-	7	15	-	-	-	-	15		22
XI Suhl	2	3	1	-	-	-	6	30	-	-	1	-	31		37
XII Dresden	3	2	-	-	-	-	5	45	-	1	2	-	48		53
XIII Leipzig	2	-	-	-	-	-	2	8	-	2	2	-	12		14
XIV Karl-Marx-Stadt	10	2	1	-	7	-	20	85	-	-	3	-	88		108
XV Hauptstadt der DDR Berlin							o						o		o
Total:	56	26	8	-	10	-	100	437	1	10	24	1	473	-	573

DDR GERMAN DEMOCRATIC REPUBLIC: 1.4.1977 - 30.6.1977

CODE / NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
	DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL		
I Rostock	4	1	-	-	-	-	5	19	-	-	-	-	19		24
II Schwerin	2	2	-	-	-	-	4	14	-	1	2	-	17		21
III Neubrandenburg	1	1	1	1	-	-	4	11	-	-	-	-	11		15
IV Potsdam	3	2	3	-	-	-	8	19	-	-	-	-	19		27
V Frankfurt/Oder	1	-	-	-	-	-	1	13	-	1	2	-	16		17
VI Cottbus	6	2	1	-	1	-	10	13	1	1	3	-	18		28
VII Magdeburg	2	5	1	-	-	-	8	19	-	1	1	-	21		29
VIII Halle	1	5	-	-	-	-	6	8	-	2	1	-	11		17
IX Erfurt	1	1	1	-	-	-	3	30	-	1	2	-	33		36
X Gera	4	5	1	-	1	-	11	15	-	1	-	1	17		28
XI Suhl	2	1	-	-	-	-	3	10	-	1	-	-	11		14
XII Dresden	2	2	1	-	-	-	5	39	1	2	2	-	44		49
XIII Leipzig	-	-	1	-	-	-	1	6	-	-	-	-	6		7
XIV Karl-Marx-Stadt	1	-	-	-	-	-	1	45	-	-	2	-	47		48
XV Hauptstadt der DDR Berlin							o						o		o
Total:	30	27	10	1	2	-	70	276	2	11	15	1	290	-	360

Rabies Cases: 1.1. - 31.3.1977

CODE	NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
		DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL		
SSR	SLOVAKIA															
1000	District Bratislava							o	1	-	-	-	-	1		1
1100	West Slovakia:															
1106	Levice	-	3	-	-	-	-	3	3	-	-	-	-	3		6
1107	Nitra							o	1	-	-	-	-	1		1
1110	Topoľčany							o	3	-	-	-	-	3		3
1200	Central Slovakia:															
1201	Banská Bystrica							o	3	-	-	-	1	4		4
1204	Lipt.Mikuláš	1	-	-	-	-	-	1	1	-	-	-	-	1		2
1205	Lučenec							o	4	-	-	-	1	5		5
1206	Martin							o	2	-	-	-	-	2		2
1208	Prievidza							o	2	-	-	-	-	2		2
1209	Rim.Sobota							o	4	-	-	-	-	4		4
1210	Veľký Krtíš							o	5	-	-	-	-	5		5
1211	Zvolen							o	1	-	-	-	-	1		1
1212	Žiar nad Hr.	1	-	-	-	-	-	1	3	-	-	-	1	4		5
1300	East Slovakia:															
1301	Bardejov	2	-	-	-	-	-	2						o		2
1302	Humenné							o	6	-	-	1	-	7		7
1307	Rožňava	1	-	-	-	-	-	1	1	-	-	-	-	1		2
1308	Sp.Nová Ves	-	1	-	-	-	-	1	1	-	-	-	-	1		2
1310	Svidník							o	1	-	-	-	-	1		1
	Total	5	4	-	-	-	-	9	42	-	-	1	3	45	-	54
GRE	GREECE															
10	Evros	3	-	-	-	-	-	3						o		3
28	Lakonia	1	-	-	-	-	-	1						o		1
29	Larissa	1	-	-	-	-	-	1						o		1
	Total	5	-	-	-	-	-	5	-	-	-	-	-	-	-	5

Rabies Cases: 1.4. - 30.6.1977

CODE / NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
	DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL		
SSR SLOVAKIA															
1100 West Slovakia:															
1102 Bratislava-vidiek							0	1	-	-	-	-	1		1
1106 Levice							0	1	-	-	-	-	1		1
1107 Nitra							0	3	-	-	-	-	3		3
1108 Nové Zámky							0	-	-	-	-	1	1		1
1110 Topoľčany							0	7	-	-	-	-	7		7
1112 Trnava	1	-	-	-	-	-	1						0		1
1200 Central Slovakia:															
1201 Banská Bystrica							0	3	-	-	-	-	3		3
1202 Čadca	1	-	-	-	-	-	1						0		1
1204 Lipt.Mikuláš	2	-	-	-	-	-	2	2	-	-	-	-	2		4
1205 Lučenec							0	1	-	-	-	-	1		1
1209 Rim.Sobota							0	-	-	-	-	2	2		2
1210 Veľký Krtíš	2	-	-	-	-	-	2	1	-	-	-	-	1		3
1211 Zvolen	1	1	-	-	-	-	2	2	-	1	-	-	3		5
1212 Žiar nad Hr.	2	1	-	-	-	-	3						0		3
1300 East Slovakia:															
1302 Humenné							0	1	-	-	-	-	1		1
1304 Michalovce	1	-	-	-	-	-	1						0		1
1305 Poprad	-	1	-	-	-	-	1	1	-	-	-	-	1		2
1307 Rožňava							0	5	-	-	-	-	5		5
1308 Sp.Nová Ves	-	1	-	-	-	-	1	1	-	-	-	-	1		2
Total	10	4	-	-	-	-	14	28	-	1	-	3	32	-	46
GRE GREECE															
10 Evros	2	-	-	-	-	-	2						0		2

Rabies Cases: 1.1. - 31.3.1977

CODE NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
	DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL		
YUG YOUGOSLAVIA															
V -56 Lendava							0	3	-	-	-	-	3		3
IV -11 Gostivar	5	-	-	-	-	-	5	-	-	-	-	1	1		6
VI -101 Vranje	1	-	-	-	-	-	1						0		1
VI_1- 35 Bač.Topola							0	-	-	-	1	-	1		1
VI_2- 1 Priština	1	-	-	-	-	-	1						0		1
VI_2- 3 K.Kamenica	-	-	1	-	-	-	1						0		1
IV^2- 2 Tetovo	1	-	-	-	-	-	1						0		1
VI_1- 28 Kikinda							0	1	-	-	-	-	1		1
VI_1- 40 Sombor							0	1	-	-	-	-	1		1
VI_2- 4 Gnjilane	-	-	1	-	-	-	1						0		1
Total	8	-	2	-	-	-	10	5	-	-	1	1	7	-	17
RUM RUMANIA															
1 - Alba	-	-	1	-	-	-	1	-	-	1	-	-	1		2
2 - Arad	2	1	-	-	-	1	4	1	-	-	-	-	1		5
4 - Bacău							0	1	-	-	-	-	1		1
12 - Cluj	-	-	-	-	2	-	2	8	-	1	-	-	9		11
20 - Hunedoara	-	1	-	-	-	-	1						0		1
21 - Ialomiţa	-	1	-	-	-	-	1	1	-	-	-	-	1		2
22 - Iaşi	1	2	-	-	-	-	3	-	-	1	-	-	1		4
26 - Mureş	-	1	-	-	-	-	1						0		1
29 - Prahova	1	-	-	-	-	-	1						0		1
37 - Vaslui	1	-	-	-	-	2	3	1	-	-	-	-	1	1	5
Total	5	6	1	-	2	3	17	12	-	3	-	-	15	1	33

Rabies Cases: 1.4. - 30.6.1977

CODE / NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
	DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL		
YUG YOUGOSLAVIA															
III-52 B. Manastir	1	-	-	-	-	-	1						o		1
III-31 Koprivnica	1	-	-	-	-	-	1	2	-	-	-	-	2		3
IV-11 Gostivar	-	-	1	-	-	-	1						o		1
VI$_1$-35 B. Topola							o	3	-	-	-	-	3		3
VI$_1$-40 Sombor							o	3	-	-	-	-	3		3
IV^1-10 Kičevo	1	-	-	-	-	-	1						o		1
VI$_1$-39 Subotica							o	2	-	-	-	-	2		2
VI$_2^1$-1 Priština	1	-	-	-	-	-	1						o		1
IV-2 Tetovo	1	-	-	-	-	-	1						o		1
Total:	5	-	1	-	-	-	6	10	-	-	-	-	10	-	16
RUM RUMANIA															
1 - Alba	2	-	1	-	-	-	3	3	-	-	-	-	3		6
12 - Cluj	-	2	-	-	-	-	2	2	-	-	-	-	2		4
22 - Iaşi	-	-	1	-	-	1	2						o	1	3
25 - Mehedinţi	1	-	-	-	-	-	1						o		1
26 - Mureş	3	-	1	-	-	-	4						o		4
27 - Neamţ	1	-	-	-	-	-	1						o		1
28 - Vaslui							o						o	1	1
Total:	7	2	3	-	-	1	13	5	-	-	-	-	5	2	20
SPAIN															
Malaga	1	-	-	-	-	-	1						o		1

DDR GERMAN DEMOCRATIC REPUBLIC: Rabies Cases 1967 - 1976

	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
	DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL		
YEAR															
1967	93	113	58	4	10	-	278	817	9	29	130	11	996		1274
1968	148	146	125	3	16	8	446	1183	13	43	165	15	1419		1865
1969	107	114	78	1	14	2	316	1002	15	62	109	9	1197		1513
1970	112	90	69	1	7	3	282	1054	6	40	100	5	1205		1487
1971	69	98	77	1	5	-	250	1042	4	43	68	4	1161		1411
1972	100	112	61	1	6	2	282	1046	4	57	95	3	1205		1487
1973	69	80	53	3	7	-	212	980	2	50	51	4	1087		1299
1974	55	62	46	1	5	-	169	862	6	37	76	9	990		1159
1975	42	49	27	2	3	-	123	724	5	24	40	3	796		919
1976	120	87	59	2	47	2	317	1162	4	36	60	-	1262		1579
1967 - 1976 :	915	951	653	19	120	17		9872	68	421	894	63			13993
							2675						11318		
% *Percent:*	*6.54*	*6.80*	*4.67*	*0.14*	*0.86*	*0.12*		*70.55*	*0.49*	*3.01*	*6.39*	*0.45*			
							19.12						*80.88*		

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6. NOTES TO RABIES MAPS OF EUROPE.

The construction and the coverage of the maps in the Annex is described under item 1.2 and 1.3 on page 1.

To summarize:

- All rabies cases reported to us from European countries shown on the maps have been entered with the exception of those from Albania, Bulgaria, USSR and Turkey. According to the Int. Office of Epizootics in Paris, Bulgaria remained free from rabies since 1975, Albania reported the last case in April 1975.
- Rabies cases were entered separately for the 1st and 2nd Quarter of 1977.
- Each rabies case is represented by a single red dot.
- The location of the dots corresponds to the locality as provided to us by individual governments.
  The location is most accurate when cases are reported at the community level as is the case with Luxembourg, France, Switzerland, Austria, Italy and parts of Germany (Schleswig-Holstein, Hessen, Baden-Württemberg).
  The accuracy lessens the larger the administrative units become for which the rabies cases are reported. These cases are then more or less evenly distributed over the area of the respective administrative unit.
- Since the size of the dots representing rabies cases is constant in areas of high and low rabies densities, individual dots should not be overlooked, as may happen in Spain (2nd quarter), Greece and Yugoslavia.

As may be seen from the maps, there are presently several rabies frontwave movements discernibel in Central Europe.

- In France, the western rabies front is clearly seen with a centre in the north approaching and/or surrounding Paris, and a 2nd centre moving in southwestern direction along the Swiss border.
- In Switzerland a parallel movement is seen in the Swiss Jura. The rabies focus in the Kanton Graubünden seems to remain stationary but rabies is jumping back and forth from valley to valley.
- In Austria, a massive eastward-bound frontwave with enormous casuality rates among wildlife animals in Salzburg and Tirol is threatening Oberösterreich, Steiermark and Kärnten. A second focus in the east of Austria is closely connected with rabies in Hungary and Slovakia, whereas Northern Austria and Central Czechoslovakia are presently still free of the disease.
- In the North of Germany, in Schleswig-Holstein, rabies was constantly moving northward towards the Danish border since it had crossed the channel connecting North and Baltic sea in April 1976. During the 3rd Quarter of 1977, rabies has made its reappearance in Denmark.

WHO Coll. Centre
Tuebingen / DEU

Rabies Cases Europe
1.4. - 30.6.1977