RABIES BULLETIN EUROPE - Vol. 7/No 2/1983

C O N T E N T S

The RABIES BULLETIN EUROPE is compiled and edited by the

WHO Collaborating Centre for Rabies Surveillance and Research

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

At the
Federal Research Institute for Animal Virus Diseases

D 7400 TUEBINGEN, Postfach 1149
Federal Republic of Germany

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

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

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

1. INTRODUCTION

This issue describes the reported rabies cases in Europe for the second quarter 1983. The situation in general is described under 2., and in individual countries under 2.1 to 2.26.

Rabies data for the second quarter 1983 have not yet been received from the European part of the USSR. Data are included for the European part of the USSR from the 4th quarter 1982 and the first quarter 1983.

Miscellaneous rabies issues of current interest are reported in section 3. We have continued WHO consultations on oral and enteric mass immunisation of wildlife from our previous issue 1/83. In 3.2 we abstracted from a publication on a field trial of fox immunisation in Germany (DEU), emphasizing the planning, implementation and evaluation of the trial. 3.3 is a review of rabies control 1982/83 in Canada and 3.4 describes an imported human case in the U.S.A.

The rabies case data are tabulated for the 2nd quarter 1983 under 4.

The last part lists the official contributors to this Bulletin.

The geographical distribution of cases in Europe of the 2nd quarter 1983 is shown on the maps of Europe and Turkey in the Annex.

2. RABIES IN EUROPE, 2ND QUARTER 1983

During the second quarter 1983, 4625 cases were reported in Europe. These were 1050 cases in domestic animals (22.7%) and 3575 cases in wild animals (77.3%). Of the cases in wild animals 3188 (68.9% of total) were foxes, 106 badgers, 126 other mustelids, 124 deer and 31 in other and unspecified species. Of the 1050 cases in domestic animals 427 were dogs (of which 77.5% were reported from Turkey), 221 cats, 222 cattle, 18 horses, 143 small ruminants and 19 other domestic animals.

Compared to the previous quarter (6606 cases) we register a decrease by 42.8%. This is due to the reduced number of foxes reported rabid (1/83 4993 and 2/83 3188) and is the usual annual trend of fox rabies.

In comparison with the second quarter 1982 (5095 cases) we notice a decrease by 10.2%.

Bulgaria, Finland, Great Britain, Ireland, Norway, Portugal and the mainland of Spain continued to remain rabies-free. There were no cases reported for this quarter from Denmark, Greece and the Netherlands.

The geographical distribution of rabies remained grossly in the borders of the previous quarter.

There were no cases of rabies in man reported.

Individual country reports follow:

2.1 Rabies in Austria (AUT)

by W. Krocza and E. Scharfen

During the second quarter 1983, 375 cases of rabies were recorded in Austria. 312 of these were in foxes, 55 in other wild animals and 8 in domestic animals. Compared to the second quarter 1982 with 289 rabies cases registered (225 foxes, 53 other wild animals and 11 domestic animals) an increase of 29.8% to this quarter can nearly all be accounted for by foxes.

Vienna was rabies-free during the reporting period, the Bundesländer (federal provinces) Upper Austria and Vorarlberg had each one case on their northern border. There were isolated cases in Burgenland near the eastern border and at the northern border of Lower Austria. We have the heaviest density of cases in Oberkärnten in the districts (Bezirke) of St. Veit an der Glan, Feldkirchen, Villach/Land, Spittal/Drau) and Obersteiermark (Bezirk Murau). From here the frontwave of rabies progresses westwards into the Bundesland Salzburg (Bezirk Tamsweg).

The incidence of rabies is somewhat decreasing in the areas from where the wave originally moved toward east; these are in Styria the Bezirke (districts) Knittelfeld, Leoben, Voitsberg, Graz-Umgebung and Weiz and in the southern part of Lower Austria the Bezirke Scheibbs, Lilienfeld and Neunkirchen.

2.2 Rabies in Belgium (BEL)

by R. Depierreux

During the second quarter 1983, 119 rabies cases were reported from 64 communities 63 in foxes, 23 in cattle, 15 in sheep, 1 horse, 4 dogs, 8 cats, 2 badgers, 2 weasels and 1 roe deer.

The tendency observed during the first quarter 1983 was confirmed. Indeed, one notices a distinct decrease of recorded cases (from 208 cases in the first quarter 1983), marking the seasonal feature of fox rabies, as well as a stabilisation of the disease in its geographical distribution.

In the province of Namur the disease remained within the limits of the greatest distribution it had reached in previous epizootics.

2.3 Bulgaria (BUL)

The country remained rabies-free.

2.4 Rabies in Czechoslovakia (CZE)

by J. Neumann

During the second quarter of 1983, rabies was diagnosed in 466 animals. 437 cases occurred in the Czech Socialist Republic (93.77%) and 29 in the Slovak Socialist Republic (6.23%).

The fox accounted again for the majority of cases (422 cases = 90.6%). In other wildlife species, rabies was diagnosed in 4 badgers, 7 martens, 2 polecats, 4 roe deer and 1 mouflon (in the district Ceská Lípa). In domestic animals, rabies was ascertained in 9 dogs, 12 cats and 4 sheep.

The number of cases in the 2nd quarter of last year (460 cases) is not only close to this quarter, but resembles the distribution of animal species as well.

At present 941 foci are recorded in 74 districts.

No case of rabies was ascertained in man.

2.5 Rabies in Denmark (DEN)

There were no cases reported during the second quarter 1983.

2.6 Rabies in Germany, Democratic Republic (DDR)

During the second quarter 1983, 533 cases of rabies were reported. 446 of these (83.7%) were in wild animals (404 foxes, 5 badgers, 13 stone martens, 1 fish otter, 20 roe deer, 1 red deer, 1 squirrel and 1 wild boar) and 87 (16.3%) in domestic animals (18 dogs, 37 cats, 19 cattle and 13 sheep).

Compared to the previous quarter (680 cases) there is a reduction of reported cases by 27.6%, mainly due to foxes. We notice a slight rise of cases amongst domestic animals. In comparison to the second quarter 1983 (399 cases) we state an increase to this one by 33.6%.

The geographical distribution of cases remains generally as in the previous quarter, with the exception of one department (Bezirk): Bezirk Gera on the southern border had an increase of cases and becomes the area with the heaviest density of rabies cases.

2.7 Rabies in Germany, Federal Republic (DEU)

A total of 1333 rabies cases were reported during the second quarter 1983. 1181 of these (88.6%) were in wild animals (996 foxes, 38 badgers, 69 stone martens, 5 polecats, 1 ferret, 66 roe deer, 2 fallow deer, 1 racoon, 1 mouflon, 2 wild boars) and 152 (11.4%) in domestic animals (18 dogs, 41 cats, 39 cattle, 3 horses, 51 sheep).

Due to the seasonal decrease in fox rabies all figures were reduced compared to the first quarter 1983 (total of 2074 cases). In comparison with the second quarter 1982 (1246 cases) we notice an increase by 7%.

There were no major changes in regard to the geographical distribution of cases.

2.8 Finland (FIN)

The country remained rabies-free.

2.9 Rabies in France (FRA)
by J. Blancou

464 rabies cases were reported during the second quarter 1983, 338 cases less compared to the previous quarter (57.9% reduction). 346 cases were accounted for by foxes (74.6%), 22 other wild animals and 96 domestic animals (12 dogs, 25 cats, 28 cattle, 24 small ruminants and 6 horses). The departement Jura had the highest figure with 93 cases registered.

The general tendency remains as described for the previous quarter, the advance continues slowly southward in the department Savoie and the front in the north recedes.

An erratic case occured in Roche sur Son (department Vendée), of which the virus has been identified with monoclonal antibodies as being a rabies strain of African origin. Whether there is a connection between this case and the one which occured in December 1982 in Morlaix (Department Finistère), originating from Sierra Leone, has at this point not yet been established.

2.10 Rabies in Greece (GRE)

There was no case reported in the second quarter 1983.

2.11 United Kingdom (GBR)

The country remained rabies-free.

2.12 Rabies in Hungary (HUN)

129 cases of rabies were diagnosed in Hungary during the second quarter 1983. Of these 109 cases (84.5%) were in wild animals (107 foxes, 1 polecat, 1 roe deer) and 20 cases (15.5%) in domestic animals (8 dogs, 9 cats, 2 cattle, 1 pig).

Hungary, with a heavy rate in wildlife rabies has thus also a drastic reduction due to the seasonal fox rabies from the mating season in the first quarter of the year. There were 373 foxes diagnosed positive in the first quarter 1983, in this quarter only 107 (reduction by 248.6%). In all departments (Komitats) previously infected, we notice a reduction of cases.

Compared to the second quarter 1982 (total of 246 cases) there is a decrease to this quarter's total by 90.7%.

2.13 Ireland (IRE)

The country remained rabies-free.

2.14 Rabies in Italy (ITA)
by S. Prosperi

During the second quarter 1983, 3 cases were reported in domestic animals (2 dogs, 1 sheep), whereas 112 cases were diagnosed in wild animals (96 foxes, 8 badgers, 6 stone martens, 1 pine marten, 1 roe-deer).

Sixty-one municipalities belonging to 9 provinces were involved (Bolzano, Udine, Trieste, Trento, Belluno, Brescia, Bergamo, Como, Sondrio). The disease was diagnosed for the first time in the province of Trento (4 municipalities, 184 km^2).

During this quarter, a total of 19 municipalities in total were involved for the first time, adding to the previously infected area in Italy a total of 630 km^2.

2.15 Rabies in Luxembourg (LUX)

by R. Frisch

During the second quarter 1983 the rabies cases in the Grand Duchy of Luxembourg were greatly reduced. Only 15 cases were diagnosed altogether, 20 cases less than the first quarter 1983. The 15 cases are accounted for by the following animal species: 7 foxes, 4 sheep, 1 bovine, 1 horse, 1 dog and 1 cat.

2.16 Rabies in the Netherlands (NET)

No cases of rabies were reported during the second quarter 1983.

2.17 Norway (NOR)

The country remained rabies-free.

2.18 Rabies in Poland (POL)

A total of 96 rabies cases were reported during the second quarter 1983, 42 cases (43.6%) less than the previous quarter, and only 3 cases less than the second quarter 1982.

Of the total number of cases there were 69 in wild animals (58 foxes, 1 badger, 1 pine marten, 1 ferret, 3 roe deer, 1 wolf 2 racoon dogs, 1 squirrel, 1 hare) and 27 in domestic animals (10 dogs, 13 cats, 2 cattle and 2 horses).

The geographical distribution of cases resembles the recording of the previous quarter.

2.19 Portugal (POR)

The country remained rabies-free.

2.20 Rabies in Rumania (RUM)

Only 14 cases were reported from Rumania during the second quarter 1983, 7 cases less than in the previous quarter and 6 cases less than in the second quarter of last year.

The cases are isolated ones with 1-2 cases in one province, except for Salaj with 6 cases.

2.21 Spain (SPA)

The mainland of Spain remained rabies-free.

There was no case reported from North Africa.

2.22 Sweden (SWE)

The country remained rabies-free.

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

During the 2nd quarter of 1983, the Swiss rabies diagnostic center received 951 animals for examination. 188 of these (20%) were positive for rabies, compared to 195 (15% of 1352) in the previous quarter and to 242 (23% of 1054) in the 2nd quarter of 1982. 71% were in foxes, 5% in badgers and 20% in domestic animals. An additional 12 foxes and 1 marten were diagnosed histologically in canton Vaud, bringing the total of proven rabies cases to 201 (212 in the previous quarter).

There were only minor changes in the geographical distribution of rabies cases when compared to the previous quarter. In most areas the number of rabies cases slightly decreased or remained unchanged. A clear increase of rabies incidence was seen in canton Glarus.

During the 2nd quarter of 1983 eleven persons were bitten by proven rabid animals, 7 by cats, 3 by foxes and 1 by a stone marten.

2.24 Rabies in Turkey (TUR)

During the second quarter 1983, a total of 511 cases of rabies were diagnosed in Turkey. These are 28 cases more than the previous quarter and 134 cases (26.2%) less than the second quarter 1982. 506 (99%) of the 511 cases were in domestic animals (331 dogs, 50 cats, 90 cattle, 4 horses, 10 sheep, 6 goats and 15 donkeys) and only 5 in wild animals (1 fox and 4 house mice).

Concentrations of rabies cases were reported from the western and middle part of Turkey, especially in coastal areas like Izmir, Aydin, Istanbul; in the eastern part of Turkey the reported cases were few and isolated.

2.25 Rabies in Yugoslavia (YUG)

With 251 cases of rabies during the second quarter 1983, Yugoslavia shows the seasonal change of fox rabies compared to the first quarter (381 cases) of the year. Percentages of domestic and wild animals involved remain approximately the same. In comparison with the second quarter last year (266 cases) there is a slight reduction of cases (by 6%) though the area infected at the moment is larger.

The rabies epidemic approaching Bosnia in 1982 from the north in a south-westerly direction has established itself, with a concentration of cases in the coastal area (Croatia).

There was no report during this quarter from the area usually considered as infected with urban or dog rabies in the southeastern part of the country.

2.26 Rabies in the Union of Soviet Socialist Republics (USSR)

by V. Pokrovskiy and B. Cherkasskiy

4th Quarter 1982

During the fourth quarter 1982, 220 cases of rabies in animals were recorded in the European part of the USSR territory. This is an increase of 52 cases compared to the previous quarter of the year and of 60 cases as compared to the fourth quarter of 1981. The increase for this quarter is mainly due to the Povoljye and Ural regions (20 cases), the Ukrainian Soviet Socialistic Republic (10 cases) and the North Caucasus region (17 cases). The other regions had little increase or remained infected as in the previous quarter.

As previously recorded, the majority of cases originate from the Ukrainian Soviet Socialist Republic (44.6% of total). The next to follow are: Povoljye and Ural regions (13.6%), Byelorussia (11.8%), North Caucasus region (10.9%) and the Central regions (8.2%). No cases were reported from the north and north-west of the European part of the USSR.

1st Quarter 1983

During the first quarter 1983, 153 cases of animal rabies were recorded, 67 cases less than the previous quarter and 63 cases less than in the first quarter 1982.

The majority of cases originate from the Ukranian region (39.9%), followed by Povoljye and Ural regions (23.5%) and Byelorussia and North Caucasus regions with 11.1% each. The distribution of cases in the other regions resembles that in the last quarter.

The decrease of cases in the European part of the USSR compared to the last quarter is mainly due to the Ukrainian region (37 cases less), the Center regions (10 cases less), Byelorussia (9 cases less) and the North Caucasus (7 cases less).

3. MISCELLANEOUS

3.1 Information on WHO Consultations

Report of consultations on oral and enteric mass immunization of wildlife - 20-22 September 1982, Geneva (cont.)

The first part of this information was printed in our RABIES BULLETIN EUROPE 1/83.

Surveillance requirements

1. Surveillance before vaccination trial. Intensive surveillance for animal rabies has to be started well before (at least 12 months) the vaccination trials in order to adjust the vaccination zone optimally to the epidemiological situation.

All the wild and domestic animals suspected of rabies from the planned vaccination zone have to be sent to the designated diagnostic laboratory.

An estimation of fox density and population must be done as accurately as possible and also, if possible, an inventory of other wildlife species should be carried out in the area.

The characterization by monoclonal antibodies or other suitable techniques of the wild strain of rabies present in the area or in the neighbouring zone must be conducted before initiation of the vaccination trial.

2. Surveillance during the vaccination trial. All foxes killed during hunting in the trial area should be sent to the laboratory in order to detect bait uptake and antibody formation (starting one month after the vaccination trial). Small mammals (one to two per km^2) should be trapped periodically in the vaccination zone, beginning one month after the trial, and examined for rabies virus.

All wild and domestic animals suspected of rabies from the vaccination zone have to be sent to the designated diagnostic laboratory.

Virus isolates from the trial area should be characterized by appropriate laboratory methods.

Any incident where people or domestic animals are exposed to liquid vaccine should be reported.

3. Surveillance after completion of vaccination trial. Surveillance should continue for several years after vaccination trials to establish the elimination of rabies from the trial area, and should be maintained at a level sufficient to give correct information. This surveillance includes examination of foxes and other wild animals for the presence of rabies antigen, markers, and antibody level.

This surveillance permits assessment of field trials with a view to improving the future application of oral vaccines.

Planning and implementation of national projects

Experimental field application of oral immunization of foxes against rabies should be based on a comprehensive plan which describes the objectives, justification, technical and organizational details of the project execution and defines the responsibilities of the collaborating institutions as well as the budgetary requirements.

A short description of such a comprehensive plan is given below, with emphasis on the particularities of application of a live, modified rabies virus in wildlife.

The following paragraphs are based on a WHO unpublished document (K. Bögel, Planning and formulation of comprehensive national programmes in zoonoses control, WHO/VPH Consultations, 19-21 May 1982, Geneva), and suggests the following specifications:

A. Summary A short description of the objectives, the activities at different phases of implementation, including surveillance, the budgetary consequences and the institutions involved.

B. Objectives of the field trial The aims of the oral immunization study in foxes are:

1. To establish an immunological barrier to the spread of rabies when methods of population reduction have not been successful.

2. To eliminate rabies from selected rabies-infected areas.

3. To scrutinize the efficiency and safety of oral immunization with live, modified virus, under the special regional and ecological conditions, according to the methods which have been successfully applied in Switzerland.

4. To optimize interdisciplinary collaboration.

C. Particularities The field application of live, modified virus for the control of rabies being a novelty, close scientific surveillance of the field trial is of the utmost importance. For this purpose, ways and means to achieve cooperation between the local executing organizations, competent diagnostic laboratories, scientific institutions responsible for surveillance and evaluation, and national as well as international rabies reference centres are to be listed here.

D. Justification Here, the development of the epidemiological situation in general and particularly in the zone of the intended application are to be presented, and application of wildlife immunization is to be justified with reference to up-to-date publications.

E. Institutional framework and organization

1. The experimental plan should be approved by the appropriate national authorities.

2. The collaboration of the national rabies research unit and the appropriate diagnostic laboratory has to be assured for characterization of virus strains and surveillance.

3. Regional institutions have to cooperate in bait production, in distribution of baits, including transportation, and surveillance in the field.

4. Information services through:

- public information office
- local veterinarians and local medical practitioners by their respective regional offices
- schools
- wildlife officers and local police.

5. The experiment should be coordinated by a regional committee including all respective services, under the guidance of the regional veterinary officer.

6. International cooperation with neighbouring countries, WHO/VPH unit, Geneva, and with WHO Collaborating Centres for technical assistance is part of the project.

F. Activities

1. The planning stage includes:

   a) vaccine production

   b) organisation of bait preparation (material, personnel, locality)

   c) organisation of bait distribution. Particular emphasis has to be placed on the proper choice of the experimental area, based on epidemiological information and natural barriers.

2. Information of medical and veterinary practitioners by letter and of the general public by local news media and radio and in schools about the campaign and measures of precaution. Information of hunters, game wardens and local police.

   Instruction of collaborators at all levels about the objectives, proper execution, evaluation and potential risks.

3. Bait preparation One person has to be designated as responsible for this activity, which includes locality, working benches, equipment and material, assignment of tasks, counting and distribution of vaccine baits into insulated cooled boxes, cleaning and disinfection.

4. Bait distribution campaign according to plans prepared beforehand.

5. Surveillance has to be established according to the recommendations (see above).

G. Work plan A detailed working plan and time schedule has to be set up.

H. Project costs A detailed budget has to be laid down for each campaign, including the following items: cost of vaccine, transportation, equipment and disposable material, allowances for distribution teams, vaccination of personnel, surveillance (trapping of small mammals, laboratory examinations, transportation).

I. Evaluation of the field trial. Evaluation should, in particular, consider the following points:

1. Determination of the proportion of foxes which became immunized, or which took up the baits. This should be brought into relation to an estimated fox population (hunting statistics).

2. Observation of bait uptake by controlling about 200 baits up to 10 days after their distribution.

3. Influence of the vaccination campaign on the epidemiological development.

4. Efficacy of the public information campaigns.

5. Registration of all incidents of persons coming into unwanted contact with vaccine.

6. Examination of all suspected cases of vaccine-induced rabies and characterization of virus isolates.

7. Improvement at the level of planning organization and execution.

8. Cost/benefit analysis.

(Taken from WHO document WHO/Rab.Res./82.16)

3.2 A Field Trial for the Oral Immunisation of Foxes against Rabies in the Federal Republic of Germany (DEU)

In our last RABIES BULLETIN EUROPE 1/83 we reported on the above field trial with emphasis on safety, efficacy and stability of the SAD B19 vaccine in use. In this publication[1] details are given on the planning, implementation and evaluation of the trial, and experience gained in the two test areas in the Federal Provinces Hessen and Bavaria.

Objectives of the trial

1. To establish an immunological barrier to prevent the spreading of rabies into rabies-free areas.

2. To eliminate rabies in areas where other control measures have failed.

3. To test the vaccine under field conditions different from those in Switzerland[2] (see also RABIES BULLETIN EUROPE 1/82, p. 9).

4. To optimize interdisciplinary collaboration of scientific and governmental institutions as well as with hunters.

Organisation

In the field trial refered to, the responsibilities are entrusted to: the Federal Research Institute for Animal Virus Diseases, Tübingen, which is a WHO Collaborating Center for Rabies and coordinates the field trial, the Center is directly responsible to the Ministry of Agriculture in Bonn.

The administrative authorities of the Federal Provinces (Landesbehörden) Hessen and Bavaria and the Paul-Ehrlich-Institute for Vaccine Testing, Frankfurt/Main, approved the use of the live virus vaccine. The local authorities were mainly responsible for the implementation of the trial, involving the veterinary diagnostic centres, the government veterinarians, the forestry department and the hunters.

The authors (Schneider et al.) present a useful table on the bait distribution campaign starting with details ranging from 100 days before to 200 days after the trial. To mention a few: responsibilities, budgeting, information of participating bodies (veterinary, medical, police, press, forestry, hunters, schools, etc.), place of baiting campaign, preparation of maps for this area, calculation of the number of required baits, transport of vaccine and chicken heads, meetings of the organizers with bait distribution teams shortly before the day of baiting. For the time after the baiting campaign: control of bait take, trapping of small mammals and other non-target animals for virological testing, virological and serological testing of wild carnivores from the baiting zone and from a control area, evaluation of samples and of the baiting campaign.

The preparation of the baits was carried out shortly before distribution in the field by the veterinary diagnostic centres and involved injecting the tetracycline into the chicken heads (as marker, to be tested

---

1) Abstracted from: Ein Feldversuch zur oralen Immunisierung von Füchsen gegen Tollwut in der Bundesrepublik Deutschland. II. Planung, Durchführung und Auswertung des Feldversuchs. Schneider, L.G., G. Wachendörfer, E. Schmittdiehl und J.H. Cox. Tierärztl. Umschau 38: 476-480 (1983).

2) Steck, F., Wandeler, A., Bichsel, P., Capt, S. and L.G. Schneider. Oral Immunisation of Foxes against Rabies. A Field Study. Zbl. Vet. Med. B, 29: 372-396 (1982).

in the bones of the foxes), and the placing of the vaccine container into the beak cavity. Experience shows that ca. 7-8 persons are needed for the preparation of 1000 baits per hour.

For the distribution of baits the following should be considered:

- field and forest areas should be uniformly baited up close to settled areas.
- bait density should reach 15-20 baits/km^2.
- the placing of the individual bait should be planned beforehand by persons knowing the area well and should be entered in maps to be used during the actual baiting.

In selecting the area where foxes are to be immunised, a marginal zone of approximately 20 km depth should be included, and for negative control samples a rabies-free area is recommended. Further information needed is:

- rabies epidemiological data for at least 5-10 years;
- geographical habitat to make use of so-called natural barriers;
- landscape characteristics (forest, cultivated areas, etc.);
- figures on fox as well as other relevant wild animal populations (hunting bag records).

Every effort has to be taken to inform the public before, during and after the baiting campaign for optimal cooperation. Besides local press, radio, television, leaflets to physicians and veterinarians, the addressing of schools proved to be especially valuable. A meeting was held with interested private groups, such as Dog Keeping Societies, Societies for the Protection of Animals, industry, and German Government officials (see also RABIES BULLETIN EUROPE 1/83, p. 14) in order to inform them on the subject and to motivate for future collaboration.

Evaluation

The field trial will go on for several years and may answer questions on the efficacy of the method and thus function as a possible means of control. Details to learn about are the bait uptake by foxes, the effect of vaccine on foxes and the so-called non-target species, and the general development of the rabies epizootic in the trial area as well as in a surrounding zone of at least 20 km depth.

The bait uptake can be determined by checking on baits several days after the start of the campaign. Mistakes can arise if the baits are taken by other animals than foxes and if the placing of the bait is not marked well. Wild animals shot or caught in the trial area can be checked for tetracycline deposited in their bones and this be compared with their rabies titre. It is recommended to have at least a sample of 10 foxes per 100 km^2 tested in the trial area.

Each rabies virus isolate from animals from the trial area has to be properly identified. With the monoclonal antibody technique one can distinguish if the death was caused by the field virus or the vaccine virus.

The general development of rabies in the area will be reflected in the recorded rabies cases over a lengthy period. Additional data on the population of foxes and other non-target animals should be recorded (hunting bag records).

3.3 Rabies Control in Canada, 1982-1983

by D.J. Gregory

Introduction

The question of how long rabies has been present in Canada remains unanswered. However, the early history and epizootiology of rabies in Canada has been well described[1]. Three distinct epizootiological manifestations of rabies have developed in Canada since 1945 differing in their major vector species. Firstly, an epizootic of fox rabies originating in arctic Canada in the late forties spread southward involving all provinces from British Columbia to New Brunswick. This episode led to the present rabies enzootics in Ontario and Quebec. Secondly, an epizootic of skunk rabies spread into southern Manitoba from neighbouring North Dakota in 1959. This outbreak has slowly extended to the northwest through Saskatchewan and into Alberta. Skunk rabies is, at present, enzootic in these prairie provinces. Thirdly, rabies has been diagnosed in insectivorous bats in all but the four Atlantic provinces but appears to be unrelated to the disease in terrestrial mammals.

Investigations

Rabies is a reportable disease under the Animal Disease and Protection Act of Agriculture Canada. All incidents of domestic livestock or pets and humans contacting animals suspected of having rabies are investigated by the Food Production and Inspection Branch office of Agriculture Canada. Where the investigation shows human contact with the suspected rabid animal the Medical Officer of Health is advised. Brain specimens for diagnosis are submitted to one of the three federal laboratories located in Canada. Diagnosis is made from brain tissue using the immunofluorescent antibody test. In the case of a negative result and human involvement, the mouse inoculation test is then used.

(a) Submission of Specimens

Submission to the three federal laboratories for diagnosis during fiscal 1982-1983 totalled 12,345, an increase of 6.47% over the previous period.

(b) Positive Diagnosis

Approximately 20% of all submissions proved to be positive for rabies. Positive rabies diagnoses increased to 2,401 cases, an increase of 7.28% (Table I). Of this number, 1,919 cases were diagnosed in wildlife. Foxes and skunks, in that order, are the two main wildlife reservoirs in the province of Ontario, while the skunk is the main reservoir in the prairie provinces. The bat is the only animal, wild or domestic, in which a positive diagnosis of rabies was made in the province of British Columbia. The Maritimes remain rabies-free.

In Ontario province, rabies was diagnosed in the following wildlife species:

---

1) Tabel, H., Corner, A.H., Webster, W.S. and C.A. Casey. History and Epizootiology of Rabies in Canada. Can. Vet. J. 15 (10): 271-281 (1974).

Red fox (Vulpes vulpes), Arctic fox (Alopex lagopus), Striped skunk (mephitis mephitis), Coyote (Canus latrans), Timber wolf (Canus lupus), Raccoon (Procyon lotor), Big brown bat (Eptesicus fuscus), Eastern long-nose bat (Myotis keenii), Little brown bat (Myotis lucifugas), Hoary bat (Lasiurus conereus), Red bat (Lasiurus borealis), Silver-haired bat (Lasionycteris noctivagans), Eastern pipistrelle (Pipistrellis subflavus), Ground hog (Marmota monax), Muskrat (Ondatra zibethica), Black bear (Ursus americanus), Whitetailed deer (Odocoileus virginianus), Bison (Bison bison), Fisher (Martes pennanti), Black squirrel (Sciuris carolinensis), Weasel (Mustela sp.), Meadow vole (Microtus pennsylvanicus).

The province of Alberta practices population reduction of skunks in areas where positive cases are diagnosed. Specimens from those skunk kills are submitted to the federal laboratory, Lethbridge, Alberta for diagnosis, but are not included in the wildlife rabies statistics for Alberta.

Because of positive rabies diagnoses in skunks in the Foremost and Brooks areas (of Alberta), 1,162 skunks were killed and submitted for diagnosis. Of these submissions, 38 were positive for rabies.

(c) Compensation

Under federal/provincial agreements with the provinces of Ontario, Manitoba, Quebec and New Brunswick, compensation is paid for domestic livestock which die of rabies. The federal government's share of 40% paid for 384 animals (308 cattle, 25 horses, 3 swine, 32 sheep and 16 goats) amounted to Dollar 95,622.80 during 1982-83. The discrepency between the number of animals for which compensation was paid and the number of laboratory confirmed rabies cases in livestock is due to the addition of clinically diagnosed cases and to the time interval between diagnosis and the request for compensation.

(d) Quarantine

Under the Animal Disease and Protection Act, domestic animals contacting animals suspected of having rabies or animals diagnosed as having rabies are isolated from other animals and humans for periods of 40-60 day, for domestic livestock and 3-6 months for domestic pets. During 1982-83, 1,743 premises were quarantined nationally involving some 26,215 animals.

Rabies Immunization

(a) Domestic Animals

Control of rabies in Canada is dependent on cooperation between the federal and provincial departments of agriculture and municipal authorities in advising owners to control their animals and vaccinate their pets regularly, making people aware of the threat of rabies via the news media and by eliminating stray animals. Vaccination clinics are provided by Agriculture Canada in the event of an outbreak threat, but is secondary to dog control and the elimination of strays. Free vaccination clinics were held in 10 counties across Ontario province in 1982-83 at a total cost of Dollar 118,628. Some 59,314 dogs and cats were vaccinated at these clinics. Since Agriculture Canada is unable to maintain offices in the North West Territories and Yukon, the vaccination of dogs in these areas is carried out by members of the Royal Canadian Mounted Police. Some 5,000 doses of vaccine were distributed to these territories for use in local clinics.

Agriculture Canada does not support the vaccination of domestic livestock for rabies. However, this work may be carried out by local practitioners.

Table I: Report of positive rabies diagnosed

- 1 APRIL 1981 to 31 MARCH 1983 -

Areas	Total Cases	Dogs	Cats	Cattle	Horses	Sheep	Swine	Goats	Foxes	Skunks	Bats	Coyotes	Racoons	Wolves	Fisher	Ground Hog	Donkey	Badger	Caribou
	Summary for 1 April 1981 to 31 March 1982																		
Labrador	2	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-
Québec	12	-	1	3	-	-	-	-	2	6	-	-	-	-	-	-	-	-	-
Ontario	1788	67	77	204	26	32	18	14	787	530	19	4	4	4	-	2	-	-	-
Manitoba	157	4	2	7	-	-	-	-	2	142	-	-	-	-	-	-	-	-	-
Saskatchewan	218	5	4	11	-	-	3	-	-	190	4	-	-	-	-	-	-	1	-
Alberta	35	1	-	-	-	-	-	-	-	25	9	-	-	-	-	-	-	-	-
B.C.	8	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-
N.W.T.	18	5	-	-	-	-	-	-	10	-	-	-	-	1	-	-	-	-	2
T o t a l s	2238	82	84	225	26	32	21	14	802	893	40	4	4	6	-	2	-	1	2
Ont. Clinicals	189	-	-	175	-	9	1	4	-	-	-	-	-	-	-	-	-	-	-
Man. Clinicals	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Totals	2428	82	84	401	26	41	22	18	802	893	40	4	4	6	-	2	-	1	2
	Summary for 1 April 1982 to 31 March 1983																	Deer	Bison
Labrador	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Québec	11	2	-	-	1	-	-	-	3	2	2	-	-	1	-	-	-	-	-
Ontario	2043	81	94	205	22	30	3	18	921	606	20	15	18	4	1	2	1	1	1
Manitoba	125	1	4	6	1	-	-	-	-	113	-	-	-	-	-	-	-	-	-
Saskatchewan	147	1	3	4	2	-	-	-	-	135	2	-	-	-	-	-	-	-	-
Alberta	55	-	1	-	1	-	-	-	-	46	7	-	-	-	-	-	-	-	-
B.C.	7	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-
N.W.T.	12	2	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-
T o t a l s	2401	87	102	215	27	30	3	18	935	902	38	15	18	5	1	2	1	1	1
Ont. Clinicals	126	-	-	114	2	9	-	1	-	-	-	-	-	-	-	-	-	-	-
Man. Clinicals	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Totals	2528	87	102	330	29	39	3	19	935	902	38	15	18	5	1	2	1	1	1

(b) Humans

The last suspected case of human rabies in Canada was in 1977. However, the number of humans requiring vaccination treatment because of contact with rabid animals continues to increase. In the event of a human contacting a suspected rabid animal, Agriculture Canada advises the Medical Officer of Health for the area. The human diploid cell vaccine is distributed by the Medical Officer to the local practitioner for administration to the patient if necessary. The number of people provided with post-exposure anti-rabies prophylaxis in 1982 was 2,402, an increase of 31% over the previous year. During this period, 1,212 of the 2,402 post-exposure treatments were attributed to dogs and cats.

(c) Oral Rabies Vaccine for Wildlife

Agriculture Canada cooperates fully with the Ontario Rabies Advisory Committee investigating the development of rabies vaccine for use in wildlife. A field trial using killed vaccine is planned to test the wildlife vaccination concept in 1984.

SUMMARY

Rabies continued to be a major wildlife and domestic animal disease problem in Canada during fiscal year 1982-83. Positive rabies cases increased to a high of 2,401 cases, an increase of 7.28%. Submissions increased to a total of 12,345, an increase of 6.47%. The fox regained its number one position over the skunk as the major wildlife species affected, while cattle continued to be the major domestic animal species affected. A total of 1,743 premises were quarantined for rabies, involving 26,215 domestic animals, and Dollar 95,622.80 was paid in compensation for 384 animals by Agriculture Canada.

3.4 Imported Human Rabies - U.S.A.

The first case of human rabies in the United States since August 1981 has been reported to Centers for Disease Control, Atlanta, Georgia, U.S.A. The patient a 30-year-old American, was exposed to rabies from a dog bite in Nigeria. He died on 28 Januar, 1983, 28 days after onset of symptoms.

On 8 October, the patient, who worked in Nigeria, was bitten on the right wrist by his pet Doberman pinscher while attempting to free it from a trap. The dog died later that day and was buried without laboratory examination for rabies. The patient sought medical attention at a nearby clinic and received tetanus immunization, but because the dog had recently been immunized against rabies, it was decided that postexposure prophylaxis was unnecessary.

Eleven weeks later, the patient returned to the United States and remained well until 1 January, 1983, 85 days after the bite, when he developed numbness and tingling at the healed bite-site. On 5 January, he complained of difficult breathing, mild chest discomfort, excessive salivation, and occasional gagging when attempting to drink. On 6 January, the patient exhibited marked hyperactivity and refused to swallow barium for a radiologic examination. On the evening of 6 January, he had respiratory arrest and a generalized seizure, and an endotracheal tube was inserted. A diagnosis of rabies was considered, and a skin biopsy, taken from the back of his neck above the hairline, was sent to CDC for direct immunofluorescent antibody (FA) testing for rabies.

On 7 January, the biopsy was reported positive. On 8 January, he was started on systemic interferon treatment. He was given human leukocyte interferon, 10 million units twice daily intramuscularly, and 5 million units once daily intraventricularly into a Rickham reservoir connected by a cannula to a lateral ventricle of his brain.

Serum collected daily from the patient and tested at CDC for rabies antibody by the rapid fluorescent focus inhibition test turned positive at 1:12 on the 16th day of illness and remained minimally positive at 1:25 or less until his death. Rabies virus was isolated by mouse inoculation from cerebrospinal fluid, sputum, nasal secretions, and saliva, both before and after the start of interferon therapy. Testing with monoclonal antibodies at CDC suggested that the isolate was typical street rabies virus.

Editoral Note: Of the 18 cases of human rabies treated in the United States since 1975, seven resulted from a bite acquired in another country from a rabid dog. In addition, another American died in 1981 in Belgium from rabies acquired from a dog bite received in Africa (see RABIES BULLETIN EUROPE 4/81, p.14). Persons living in or planning an extended stay in countries where rabies is a constant threat should consider receiving pre-exposure prophylaxis. All of Latin America and Africa, and most of Asia (except Japan and Taiwan) should be considered risk areas for rabies exposure. Australia, New Zealand, and most of Pacific Oceania are rabies-free. The vaccination status of the biting animal should n o t be used to determine whether human postexposure prophylaxis should be administered; the last two rabies patients seen in the United States were bitten outside the United States by dogs reported to have been adequately immunized against rabies.

This is the second case of human rabies treated with human leukocyte interferon in the United States. Both cases had remarkably similar presentations, clinical courses, and durations of illness before death. It is interesting to note that serum antibody titers for rabies remained either absent (previous patient), or minimal (this patient), for the duration of illness. In other human rabies patients treated in recent years without interferon, rabies antibody titers typically rose to levels of 1:10,000-1:60,000, suggesting that interferon may have depressed the development of neutralizing antibody. Whether this is beneficial or harmful is unclear. While high levels of neutralizing antibody present before the onset of clinical disease are associated with protection, there are experimental data to suggest that antibody-mediated immune cytolysis may be associated with rabies pathology and death. Conversely, a depressed immune response can lead to increased virus replication and resultant nerve destruction.

It is probable that human leukocyte interferon given in the dose schedule used in these two patients did not affect the outcome of the disease -the duration of illness in both patients approximated the 26 day average observed in human rabies patients receiving intensive supportive care. Other therapeutic interventions after the onset of clinical illness, such as the administration of passive rabies antibody or immunization with rabies vaccine, have also been ineffective in increasing survival. Only three known survivors of human rabies have been reported despite the best efforts of treatment and support. Rabies remains a disease best controlled through prevention rather than treatment.

(Taken from Morbidity and Mortality, Weekly Report, 1983, 32/No.6; U.S. Centers for Disease Control).

TABLE 1

EUR EUROPE **2/83** RABIES CASES 1. 4.83 - 30. 6.83

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	2	3	2	-	1	-	8	312	28	11	16	-	367		375
BEL	BELGIUM	4	8	23	1	15	-	51	63	2	2	1	-	68		119
BUL	BULGARIA *							0						0		0
CZE	CZECHOSLOVAKIA	9	12	-	-	4	-	25	422	4	9	4	2	441		466
DDR	GERMAN DEM. REPUBLIC	18	37	19	-	13	-	87	404	5	14	21	2	446		533
DEN	DENMARK *							0						0		0
DEU	FED.REP. OF GERMANY	18	41	39	3	51	-	152	996	38	75	68	4	1181		1333
FIN	FINLAND *							0						0		0
FRA	FRANCE	12	25	28	6	24	1	96	346	10	-	6	6	368		464
GBR	UNITED KINGDOM *							0						0		0
GRE	GREECE *							0						0		0
HUN	HUNGARY	8	9	2	-	-	1	20	107	-	1	1	-	109		129
IRE	IRELAND *							0						0		0
ITA	ITALY	2	-	-	-	1	-	3	96	8	7	1	-	112		115
LUX	LUXEMBOURG	1	1	1	1	4	-	8	7	-	-	-	-	7		15
NET	NETHERLANDS *							0						0		0
NOR	NORWAY *							0						0		0
POL	POLAND	10	13	2	2	-	-	27	58	1	2	3	5	69		96
POR	PORTUGAL *							0						0		0
RUM	RUMANIA	1	7	1	1	1	-	11	1	1	-	-	1	3		14
SPA	SPAIN *							0						0		0
SWE	SWEDEN *							0						0		0
SWI	SWITZERLAND + LIECHT	1	11	12	-	13	1	38	149	9	5	3	-	166		204
TUR	TURKEY	331	50	90	4	16	15	506	1	-	-	-	4	5		511
YUG	YUGOSLAVIA	10	4	3	-	-	1	18	226	-	-	-	7	233		251
TOTAL		427	221	222	18	143	19	1050	3188	106	126	124	31	3575	0	4625
PER CENT		9.2	4.8	4.8	0.4	3.1	0.4	22.7	68.9	2.3	2.7	2.7	0.7	77.3	0.0	100.0

* NO CASES.

TABLE 2: ACCUMULATED TOTALS OF RABIES CASES FOR THE PERIOD 1. JANUARY - 30. JUNE 1983.

EUR EUROPE **1-2/83** RABIES CASES 1. 1.83 - 30. 6.83

LOCATION CODE	NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
		DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS	TOTAL		
AUT	AUSTRIA	3	6	2	-	2	-	13	678	41	15	32	-	766		779
BEL	BELGIUM	5	21	50	10	35	-	121	197	2	4	3	-	206		327
BUL	BULGARIA *							0						0		0
CZE	CZECHOSLOVAKIA	21	33	-	-	4	-	58	1022	10	15	17	3	1067		1125
DDR	GERMAN DEM. REPUBLIC	37	70	30	1	25	1	164	964	7	28	43	7	1049		1213
DEN	DENMARK *							0						0		0
DEU	FED.REP. OF GERMANY	46	107	103	20	132	2	410	2604	71	134	182	6	2997		3407
FIN	FINLAND *							0						0		0
FRA	FRANCE	38	51	68	10	61	2	230	979	22	-	17	18	1036		1266
GBR	UNITED KINGDOM *							0						0		0
GRE	GREECE	1	-	-	-	-	-	1						0		1
HUN	HUNGARY	19	27	7	-	-	1	54	480	-	2	5	1	488		542
IRE	IRELAND *							0						0		0
ITA	ITALY	2	-	-	-	1	-	3	186	11	7	1	-	205		208
LUX	LUXEMBOURG	1	3	7	2	11	-	24	26	-	-	-	-	26		50
NET	NETHERLANDS							0	1	-	-	-	-	1		1
NOR	NORWAY *							0						0		0
POL	POLAND	21	26	7	2	-	-	56	149	2	2	13	12	178		234
POR	PORTUGAL *							0						0		0
RUM	RUMANIA	3	10	5	1	1	1	21	11	1	-	-	2	14		35
SPA	SPAIN *							0						0		0
SWE	SWEDEN *							0						0		0
SWI	SWITZERLAND + LIECHT	3	24	17	2	19	1	66	309	15	13	14	-	351		417
TUR	TURKEY	686	64	150	6	49	25	980	3	1	-	-	10	14		994
YUG	YUGOSLAVIA	23	13	6	-	-	1	43	572	-	-	-	17	589		632
TOTAL		909	455	452	54	340	34	2244	8181	183	220	327	76	8987	0	11231
PER CENT		8.1	4.1	4.0	0.5	3.0	0.3	20.0	72.8	1.6	2.0	2.9	0.7	80.0	0.0	100.0

* NO CASES.

TABLE 3

EUR EUROPE **2/83**

RABIES CASES
'OTHER ANIMAL SPECIES'

1. 4.83 - 30. 6.83

LOCATION CODE	NAME	OTHER DOMESTIC ANIMALS			OTHER WILD ANIMALS										TOTAL
		DONKEY	PIG	OTHERS	WOLF	RACOON DOG	WILD CAT	RACOON	WILD BOAR	MOUFLON	SQUIRREL	HOUSE MOUSE	HARE	OTHERS	
CZE	CZECHOSLOVAKIA	-	-	-	-	-	1	-	-	1	-	-	-	-	2
DDR	GERMAN DEM. REPUBLIC	-	-	-	-	-	-	-	1	-	1	-	-	-	2
DEU	FED.REP. OF GERMANY	-	-	-	-	-	-	1	2	1	-	-	-	-	4
FRA	FRANCE	-	1	-	-	-	-	-	-	-	-	-	-	6	7
HUN	HUNGARY	-	1	-	-	-	-	-	-	-	-	-	-	-	1
POL	POLAND	-	-	-	1	2	-	-	-	-	1	-	1	-	5
RUM	RUMANIA	-	-	-	-	-	-	-	-	-	-	-	-	1	1
SWI	SWITZERLAND + LIECHT	-	1	-	-	-	-	-	-	-	-	-	-	-	1
TUR	TURKEY	15	-	-	-	-	-	-	-	-	-	4	-	-	19
YUG	YUGOSLAVIA	-	-	1	-	-	-	-	-	-	-	-	-	7	8
TOTAL		15	3	1	1	2	1	1	3	2	2	4	1	14	50
PER CENT		30.0	6.0	2.0	2.0	4.0	2.0	2.0	6.0	4.0	4.0	8.0	2.0	28.0	100.0

AUT AUSTRIA — RABIES CASES — 1. 4.83 - 30. 6.83

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		
104	GUESSING							0	1	-	-	-	-	1		1
108	OBERPULLENDORF							0	1	1	-	-	-	2		2
109	OBERWART							0	1	-	-	-	-	1		1
203	HERMAGOR							0	7	-	-	1	-	8		8
205	SANKT VEIT AN DER GL	1	-	-	-	-	-	1	33	-	-	-	-	33		34
206	SPITTAL AN DER DRAU							0	30	2	5	2	-	39		39
207	VILLACH-LAND							0	14	1	-	-	-	15		15
209	WOLFSBERG							0	-	1	-	1	-	2		2
210	FELDKIRCHEN	1	-	-	-	-	-	1	29	3	-	1	-	33		34
309	GMUEND							0	-	1	-	-	-	1		1
311	HORN							0	1	-	-	-	-	1		1
314	LILIENFELD	-	1	-	-	-	-	1	3	1	-	-	-	4		5
318	NEUNKIRCHEN							0	28	1	-	-	-	29		29
320	SCHEIBBS							0	2	2	-	-	-	4		4
322	WAIDHOFEN AN DER THA							0	2	-	-	-	-	2		2
413	ROHRBACH	-	1	-	-	-	-	1						0		1
505	TAMSWEG							0	9	-	-	-	-	9		9
506	ZELL AM SEE	-	1	-	-	-	-	1						0		1
602	BRUCK AN DER MUR							0	1	-	-	-	-	1		1
606	GRAZ-LAND	-	-	1	-	-	-	1	4	1	-	1	-	6		7
607	HARTBERG							0	12	4	-	-	-	16		16
608	JUDENBURG							0	6	-	-	-	-	6		6
609	KNITTELFELD							0	2	1	-	2	-	5		5
611	LEOBEN							0	9	1	1	1	-	12		12
612	LIEZEN							0	1	-	-	-	-	1		1
613	MUERZZUSCHLAG							0	2	-	-	-	-	2		2
614	MURAU							0	69	6	2	5	-	82		82
616	VOITSBERG							0	8	1	-	1	-	10		10
617	WEIZ	-	-	-	-	1	-	1	10	-	-	-	-	10		11
702	IMST							0	-	-	1	-	-	1		1
704	KITZBUEHEL	-	-	1	-	-	-	1	1	-	-	-	-	1		2
705	KUFSTEIN							0	8	-	-	-	-	8		8
707	LIENZ							0	1	-	-	-	-	1		1
708	REUTTE							0	15	1	2	1	-	19		19
709	SCHWAZ							0	1	-	-	-	-	1		1
802	BREGENZ							0	1	-	-	-	-	1		1
TOTAL		2	3	2	0	1	0	8	312	28	11	16	0	367	0	375
PER CENT		0.5	0.8	0.5	0.0	0.3	0.0	2.1	83.2	7.5	2.9	4.3	0.0	97.9	0.0	100.0

RABIES CASES 1. 4.83 - 30. 6.83

LOCATION CODE NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
	DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS	TOTAL		
BEL BELGIUM															
LG LIEGE	-	1	4	-	2	-	7	22	2	2	-	-	26		33
LX LUXEMBOURG	4	6	19	1	13	-	43	26	-	-	1	-	27		70
NA NAMUR	-	1	-	-	-	-	1	15	-	-	-	-	15		16
TOTAL	4	8	23	1	15	0	51	63	2	2	1	0	68	0	119
PER CENT	3.4	6.7	19.3	0.8	12.6	0.0	42.9	52.9	1.7	1.7	0.8	0.0	57.1	0.0	100.0
ITA ITALY															
22 COMO							0	10	-	-	-	-	10		10
23 SONDRIO	2	-	-	-	-	-	2	55	4	5	-	-	64		66
24 BERGAMO							0	8	-	-	-	-	8		8
25 BRESCIA							0	1	-	-	-	-	1		1
32 BELLUNO							0	-	1	-	-	-	1		1
33 UDINE							0	10	1	2	-	-	13		13
34 TRIESTE E GORIZIA							0	1	-	-	-	-	1		1
38 TRENTO	-	-	-	-	1	-	1	9	2	-	-	-	11		12
39 BOLZANO							0	2	-	-	1	-	3		3
TOTAL	2	0	0	0	1	0	3	96	8	7	1	0	112	0	115
PER CENT	1.7	0.0	0.0	0.0	0.9	0.0	2.6	83.5	7.0	6.1	0.9	0.0	97.4	0.0	100.0
LUX LUXEMBOURG															
02 CAPELLEN	1	-	-	-	-	-	1						0		1
03 ESCH	-	1	-	-	-	-	1						0		1
04 LUXEMBOURG-CAMPAGNE							0	2	-	-	-	-	2		2
06 CLERVAUX							0	1	-	-	-	-	1		1
07 DIEKIRCH	-	-	1	-	-	-	1						0		1
08 REDANGE	-	-	-	-	4	-	4	1	-	-	-	-	1		5
13 REMICH	-	-	-	1	-	-	1	3	-	-	-	-	3		4
TOTAL	1	1	1	1	4	0	8	7	0	0	0	0	7	0	15
PER CENT	6.7	6.7	6.7	6.7	26.7	0.0	53.3	46.7	0.0	0.0	0.0	0.0	46.7	0.0	100.0

CZE C Z E C H O S L O V A K I A R A B I E S C A S E S 1. 4.83 - 30. 6.83

LOCATION CODE	NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
		DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS	TOTAL		
00	DISTRICT OF PRAGUE							0						0		0
01	CENTRAL BOHEMIA	1	1	-	-	1	-	3	68	-	2	-	-	70		73
02	SOUTH BOHEMIA							0	38	-	2	1	-	41		41
03	WEST BOHEMIA	2	5	-	-	1	-	8	145	1	2	-	-	148		156
04	NORTH BOHEMIA	1	1	-	-	-	-	2	37	-	-	1	1	39		41
05	EAST BOHEMIA	-	-	-	-	2	-	2	66	2	2	-	-	70		72
06	SOUTH MORAVIA							0	36	1	-	2	-	39		39
07	NORTH MORAVIA	1	-	-	-	-	-	1	14	-	-	-	-	14		15
0	CSR	5	7	-	-	4	-	16	404	4	8	4	1	421		437
10	DISTRICT OF BRATISLAV							0						0		0
11	WEST SLOVAKIA	1	1	-	-	-	-	2	2	-	-	-	1	3		5
12	CENTRAL SLOVAKIA	1	3	-	-	-	-	4	13	-	1	-	-	14		18
13	EAST SLOVAKIA	2	1	-	-	-	-	3	3	-	-	-	-	3		6
1	SSR	4	5	-	-	-	-	9	18	-	1	-	1	20		29
TOTAL		9	12	0	0	4	0	25	422	4	9	4	2	441	0	466
PER CENT		1.9	2.6	0.0	0.0	0.9	0.0	5.4	90.6	0.9	1.9	0.9	0.4	94.6	0.0	100.0

DDR GERMAN DEMOCRATIC REPUBLIC — R A B I E S C A S E S — 1. 4.83 - 30. 6.83

LOCATION CODE	NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
		DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS	TOTAL		
01	HAUPTSTADT BERLIN							0	-	-	-	-	1	1		1
02	COTTBUS	-	1	-	-	-	-	1	7	1	-	1	-	9		10
03	DRESDEN	1	-	-	-	4	-	5	15	-	-	-	-	15		20
04	ERFURT	1	5	-	-	2	-	8	36	-	3	1	-	40		48
05	FRANKFURT/ODER	1	3	-	-	-	-	4	25	-	2	1	1	29		33
06	GERA	3	6	5	-	4	-	18	66	1	1	3	-	71		89
07	HALLE	3	1	-	-	-	-	4	30	1	1	1	-	33		37
08	KARL-MARX-STADT	3	9	-	-	3	-	15	48	-	1	1	-	50		65
09	LEIPZIG							0	11	-	1	1	-	13		13
10	MAGDEBURG	1	2	5	-	-	-	8	33	1	1	1	-	36		44
11	NEUBRANDENBURG	-	1	1	-	-	-	2	23	-	1	1	-	25		27
12	POTSDAM	-	5	6	-	-	-	11	24	-	-	3	-	27		38
13	ROSTOCK	2	2	2	-	-	-	6	40	-	2	3	-	45		51
14	SCHWERIN	2	2	-	-	-	-	4	31	1	1	3	-	36		40
15	SUHL	1	-	-	-	-	-	1	15	-	-	1	-	16		17
TOTAL		18	37	19	0	13	0	87	404	5	14	21	2	446	0	533
PER CENT		3.4	6.9	3.6	0.0	2.4	0.0	16.3	75.8	0.9	2.6	3.9	0.4	83.7	0.0	100.0

DEU FEDERAL REPUBLIC OF GERMANY — RABIES CASES — 1. 4.83 - 30. 6.83

LOCATION CODE	NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
		DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS	TOTAL		
010	SCHLESWIG-HOLSTEIN							0	5	-	-	1	-	6		6
020	HAMBURG							0						0		0
031	BRAUNSCHWEIG	-	-	7	-	-	-	7	19	-	5	2	-	26		33
032	HANNOVER	1	1	2	1	5	-	10	11	1	-	1	-	13		23
033	LUENEBURG	-	3	-	-	-	-	3	41	-	2	3	-	46		49
034	WESER-EMS							0	7	1	-	-	-	8		8
040	BREMEN							0						0		0
051	DUESSELDORF							0						0		0
053	KOELN	1	-	1	-	2	-	4	29	1	2	5	-	37		41
055	MUENSTER							0						0		0
057	DETMOLD	-	-	4	-	-	-	4	7	-	1	2	-	10		14
059	ARNSBERG	-	1	-	-	-	-	1	8	-	-	1	-	9		10
061	DARMSTADT	3	7	3	-	7	-	20	131	6	11	12	-	160		180
062	KASSEL	4	9	7	1	5	-	26	118	4	14	14	2	152		178
071	KOBLENZ	1	-	2	-	5	-	8	47	2	2	8	2	61		69
072	TRIER	2	1	-	-	4	-	7	8	-	1	-	-	9		16
073	RHEINHESSEN-PFALZ	1	5	1	-	5	-	12	13	-	1	-	-	14		26
081	STUTTGART	-	-	3	-	4	-	7	65	1	1	2	-	69		76
082	KARLSRUHE	-	-	1	-	4	-	5	32	1	1	2	-	36		41
083	FREIBURG	-	-	2	-	3	-	5	94	7	10	2	-	113		118
084	TUEBINGEN	-	5	3	-	-	-	8	87	7	9	3	-	106		114
091	OBERBAYERN	-	-	1	1	3	-	5	85	3	2	3	-	93		98
092	NIEDERBAYERN							0	13	-	-	1	-	14		14
093	OBERPFALZ	1	2	-	-	-	-	3	49	1	5	-	-	55		58
094	OBERFRANKEN							0	20	-	1	2	-	23		23
095	MITTELFRANKEN	-	1	-	-	-	-	1	9	-	-	1	-	10		11
096	UNTERFRANKEN	1	1	-	-	-	-	2	18	-	1	-	-	19		21
097	SCHWABEN	3	4	-	-	-	-	7	67	2	6	2	-	77		84
100	SAARLAND	-	1	2	-	4	-	7	13	1	-	1	-	15		22
110	BERLIN (WEST)							0						0		0
TOTAL		18	41	39	3	51	0	152	996	38	75	68	4	1181	0	1333
PER CENT		1.4	3.1	2.9	0.2	3.8	0.0	11.4	74.7	2.9	5.6	5.1	0.3	88.6	0.0	100.0

FRA F R A N C E — R A B I E S C A S E S — 1. 4.83 - 30. 6.83

LOCATION CODE	NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
		DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS	TOTAL		
01	AIN	-	1	-	-	-	-	1	19	1	-	-	-	20		21
02	AISNE	-	2	2	1	1	-	6	30	1	-	-	-	31		37
08	ARDENNES	2	2	14	1	10	-	29	11	-	-	-	-	11		40
10	AUBE	-	1	-	1	-	-	2	17	-	-	-	-	17		19
21	COTE D'OR	1	2	4	-	4	1	12	19	-	-	-	-	19		31
25	DOUBS	-	3	-	-	-	-	3	33	-	-	1	-	34		37
38	ISERE							0	2	-	-	1	-	3		3
39	JURA	1	4	1	1	1	-	8	78	4	-	-	3	85		93
51	MARNE	-	1	-	-	-	-	1	-	-	-	1	-	1		2
52	MARNE (HAUTE)	1	-	-	-	3	-	4	6	-	-	-	-	6		10
54	MEURTHE-ET-MOSELLE	-	1	2	-	-	-	3	5	-	-	1	-	6		9
55	MEUSE	-	-	2	-	-	-	2	2	-	-	-	-	2		4
57	MOSELLE	-	1	1	-	-	-	2	4	-	-	-	-	4		6
67	RHIN (BAS)	1	-	1	-	-	-	2	6	-	-	-	-	6		8
68	RHIN (HAUT)							0	1	-	-	-	-	1		1
70	SAONE (HAUTE)	-	2	-	-	2	-	4	22	-	-	-	1	23		27
71	SAONE-ET-LOIRE	-	-	1	-	-	-	1	9	-	-	-	-	9		10
73	SAVOIE	1	2	-	-	-	-	3	19	-	-	1	-	20		23
74	SAVOIE (HAUTE)	1	1	-	-	1	-	3	41	3	-	1	1	46		49
85	VENDEE	1	-	-	-	-	-	1						0		1
88	VOSGES	3	2	-	1	2	-	8	11	-	-	-	-	11		19
89	YONNE	-	-	-	1	-	-	1	9	1	-	-	1	11		12
90	TERR.DE BELFORT							0	2	-	-	-	-	2		2
TOTAL		12	25	28	6	24	1	96	346	10	0	6	6	368	0	464
PER CENT		2.6	5.4	6.0	1.3	5.2	0.2	20.7	74.6	2.2	0.0	1.3	1.3	79.3	0.0	100.0

RABIES CASES 1. 4.83 - 30. 6.83

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	2	-	-	-	-	2		2
02 BARANYA							0	4	-	-	-	-	4		4
03 BACS-KISKUN	-	1	-	-	-	-	1	4	-	-	-	-	4		5
04 BEKES	1	-	-	-	-	-	1	3	-	-	-	-	3		4
05 BORSOD-ABAU-ZEMPLEN	-	2	-	-	-	-	2	17	-	-	-	-	17		19
06 CSONGRAD							0	4	-	-	-	-	4		4
07 FEJER	1	-	-	-	-	-	1	9	-	-	-	-	9		10
08 GYOER-SOPRON	1	1	-	-	-	-	2	2	-	-	-	-	2		4
09 HAJDU-BIHAR	1	-	-	-	-	-	1	2	-	-	-	-	2		3
10 HEVES							0	9	-	-	-	-	9		9
11 KOMAROM	1	1	-	-	-	-	2	13	-	-	-	-	13		15
12 NOGRAD							0	1	-	-	-	-	1		1
13 PEST	-	1	1	-	-	-	2	12	-	-	-	-	12		14
14 SOMOGY							0	3	-	1	-	-	4		4
15 SZABOLCS-SZATMAR	-	2	-	-	-	-	2	2	-	-	-	-	2		4
16 SZOLNOK	3	1	-	-	-	-	4	1	-	-	-	-	1		5
17 TOLNA							0	1	-	-	1	-	2		2
18 VAS	-	-	1	-	-	-	1	6	-	-	-	-	6		7
19 VESZPREM	-	-	-	-	-	1	1	7	-	-	-	-	7		8
20 ZALA							0	5	-	-	-	-	5		5
TOTAL	8	9	2	0	0	1	20	107	0	1	1	0	109	0	129
PER CENT	6.2	7.0	1.6	0.0	0.0	0.8	15.5	82.9	0.0	0.8	0.8	0.0	84.5	0.0	100.0
RUM RUMANIA															
02 ARAD	-	1	-	-	-	-	1						0		1
04 BACAU	-	-	1	-	-	-	1						0		1
11 CARAS-SEVERIN							0	-	1	-	-	-	1		1
13 CLUJ	-	2	-	-	-	-	2						0		2
19 GIURGIU	-	-	-	1	1	-	2						0		2
22 HUNEDOARA	-	1	-	-	-	-	1						0		1
32 SALAJ	1	3	-	-	-	-	4	1	-	-	-	1	2		6
TOTAL	1	7	1	1	1	0	11	1	1	0	0	1	3	0	14
PER CENT	7.1	50.0	7.1	7.1	7.1	0.0	78.6	7.1	7.1	0.0	0.0	7.1	21.4	0.0	100.0

POL POLAND — RABIES CASES — 1. 4.83 - 30. 6.83

LOCATION CODE	NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
		DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS	TOTAL		
03	BIALA PODLASKA	-	2	-	-	-	-	2	-	1	-	-	-	1		3
09	BYDGOSZCZ	-	1	-	-	-	-	1	3	-	-	-	-	3		4
11	CHELM	-	2	-	-	-	-	2	2	-	-	-	1	3		5
15	CZESTOCHOWA							0	1	-	-	-	-	1		1
17	ELBLAG							0	1	-	-	-	-	1		1
19	GDANSK	-	1	-	-	-	-	1	3	-	-	-	-	3		4
21	GORZOW	-	1	-	-	-	-	1	2	-	-	-	-	2		3
23	JELENIA GORA	1	-	-	2	-	-	3	12	-	-	-	-	12		15
29	KIELCE							0	1	-	-	-	-	1		1
33	KOSZALIN	2	-	-	-	-	-	2	-	-	-	1	1	2		4
35	KRAKOW	1	-	-	-	-	-	1						0		1
41	LESZNO							0	1	-	-	-	-	1		1
51	OLSZTYN	1	-	1	-	-	-	2	-	-	-	1	2	3		5
53	OPOLE							0	3	-	-	-	-	3		3
57	PILA	-	1	-	-	-	-	1	4	-	-	-	-	4		5
63	POZNAN							0	1	-	-	-	-	1		1
71	SIEDLCE							0	4	-	-	-	-	4		4
77	SLUPSK	3	3	-	-	-	-	6	4	-	-	-	-	4		10
79	SUWALKI							0	-	-	-	-	1	1		1
81	SZCZECIN							0	3	-	2	-	-	5		5
85	TARNOW	-	1	-	-	-	-	1						0		1
87	TORUN	1	-	-	-	-	-	1						0		1
89	WALBRZYCH	1	1	-	-	-	-	2	11	-	-	-	-	11		13
93	WROCLAW	-	-	1	-	-	-	1	2	-	-	-	-	2		3
97	ZIELONA GORA							0	-	-	-	1	-	1		1
TOTAL		10	13	2	2	0	0	27	58	1	2	3	5	69	0	96
PER CENT		10.4	13.5	2.1	2.1	0.0	0.0	28.1	60.4	1.0	2.1	3.1	5.2	71.9	0.0	100.0

RABIES CASES 1. 4.83 - 30. 6.83

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		
SWI	SWITZERLAND AND LIECHTENSTEIN															
01	AARGAU							0	2	-	-	-	-	2		2
02	APPENZELL A.RH.							0	11	-	-	-	-	11		11
03	APPENZELL I.RH.							0	1	-	1	-	-	2		2
05	BASEL-LAND	-	-	-	-	1	-	1	2	-	1	-	-	3		4
06	BERN							0	6	-	1	-	-	7		7
07	FRIBOURG	-	-	1	-	-	1	2	9	-	-	-	-	9		11
08	GENEVE	-	1	-	-	-	-	1						0		1
09	GLARUS							0	6	4	-	-	-	10		10
10	GRAUBUENDEN							0	12	2	-	-	-	14		14
15	SCHAFFHAUSEN	-	1	-	-	-	-	1	6	-	-	1	-	7		8
17	SOLOTHURN	-	1	1	-	-	-	2	7	-	-	-	-	7		9
18	ST.GALLEN	1	3	9	-	2	-	15	27	2	-	1	-	30		45
20	THURGAU	-	2	-	-	3	-	5	3	-	-	1	-	4		9
21	URI	-	2	-	-	-	-	2	1	-	-	-	-	1		3
22	VAUD	-	-	1	-	2	-	3	15	-	1	-	-	16		19
25	ZUERICH	-	1	-	-	5	-	6	37	1	1	-	-	39		45
26	JURA							0	1	-	-	-	-	1		1
LI	LIECHTENSTEIN							0	3	-	-	-	-	3		3
TOTAL		1	11	12	0	13	1	38	149	9	5	3	0	166	0	204
PER CENT		0.5	5.4	5.9	0.0	6.4	0.5	18.6	73.0	4.4	2.5	1.5	0.0	81.4	0.0	100.0
YUG	YUGOSLAVIA															
I	SR BOSNA I HERCEGOVI	6	-	2	-	-	-	8	22	-	-	-	-	22		30
III	SR HRVATSKA	2	-	-	-	-	1	3	98	-	-	-	3	101		104
V	SR SLOVENIJA	1	3	-	-	-	-	4	88	-	-	-	4	92		96
VI1	SAP VOJVODINA	1	1	1	-	-	-	3	18	-	-	-	-	18		21
TOTAL		10	4	3	0	0	1	18	226	0	0	0	7	233	0	251
PER CENT		4.0	1.6	1.2	0.0	0.0	0.4	7.2	90.0	0.0	0.0	0.0	2.8	92.8	0.0	100.0

TUR TURKEY — RABIES CASES — 1. 4.83 - 30. 6.83

LOCATION CODE	NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
		DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS	TOTAL		
001	ADANA	10	7	1	-	-	-	18	-	-	-	-	1	1		19
003	AFYON	1	-	4	1	-	1	7						0		7
005	AMASYA	4	-	1	-	-	-	5						0		5
006	ANKARA	17	-	2	-	-	-	19						0		19
007	ANTALYA	3	-	5	-	-	-	8						0		8
009	AYDIN	14	-	10	1	-	1	26						0		26
010	BALIKESIR	7	1	3	-	-	-	11						0		11
011	BILECIK	8	1	3	-	-	1	13						0		13
014	BOLU	7	-	5	-	-	-	12						0		12
015	BURDUR	4	-	-	-	-	-	4						0		4
016	BURSA	22	3	4	-	1	1	31						0		31
017	CANAKKALE	7	-	2	-	1	-	10						0		10
018	CANKIRI	6	1	1	-	1	-	9						0		9
019	CORUM	3	-	-	-	-	-	3						0		3
020	DENIZLI	13	3	-	1	2	-	19						0		19
021	DIYARBAKIR	1	-	-	-	-	1	2						0		2
022	EDIRNE	1	-	1	-	-	-	2						0		2
023	ELAZIG	1	-	-	-	-	-	1						0		1
025	ERZURUM	1	-	1	-	-	-	2	1	-	-	-	-	1		3
026	ESKISEHIR	3	-	2	-	-	-	5						0		5
027	GAZIANTEP	4	-	2	-	1	-	7						0		7
028	GIRESUN	4	1	-	-	-	-	5	-	-	-	-	1	1		6
029	GUEMUESHANE	-	1	-	-	-	-	1						0		1
031	HATAY	4	-	1	-	-	-	5						0		5
032	ISPARTA	4	-	-	-	-	-	4						0		4
033	ICEL	10	2	2	-	1	1	16						0		16
034	ISTANBUL	22	4	-	-	1	-	27						0		27
035	IZMIR	43	15	7	-	2	2	69	-	-	-	-	2	2		71
036	KARS	2	1	-	-	-	-	3						0		3

TUR CONTINUED

LOCATION CODE	NAME	DOMESTIC ANIMALS							WILD ANIMALS						HUMAN CASES	TOTAL
		DOG	CAT	CATTLE	HORSE	SHEEP GOAT	OTHERS	TOTAL	FOX	BADGER	OTHER MUSTEL	DEER	OTHERS	TOTAL		
037	KASTAMONU	11	-	1	-	1	-	13						0		13
038	KAYSERI	8	-	-	-	-	1	9						0		9
039	KIRKLARELI	3	-	1	-	-	-	4						0		4
040	KIRSEHIR	1	-	-	-	-	-	1						0		1
041	KOCAELI	-	-	-	-	1	-	1						0		1
042	KONYA	11	1	7	-	-	1	20						0		20
043	KUETAHYA	3	1	3	-	-	-	7						0		7
044	MALATYA	-	1	-	-	-	-	1						0		1
045	MANISA	6	-	-	-	-	-	6						0		6
047	MARDIN	2	-	-	-	-	-	2						0		2
048	MUGLA	3	-	1	-	-	-	4						0		4
050	NEVSEHIR	-	1	-	-	-	1	2						0		2
052	ORDU	10	1	3	-	-	-	14						0		14
054	SAKARYA	9	-	5	-	2	-	16						0		16
055	SAMSUN	16	4	2	-	1	-	23						0		23
057	SINOP	3	-	3	-	1	-	7						0		7
058	SIVAS	1	-	1	1	-	1	4						0		4
059	TEKIRDAG	3	-	-	-	-	-	3						0		3
060	TOKAT	4	-	2	-	-	-	6						0		6
061	TRABZON	1	1	-	-	-	-	2						0		2
062	TUNCELI	1	-	-	-	-	-	1						0		1
063	URFA	-	-	-	-	-	1	1						0		1
066	YOZGAT	3	-	3	-	-	2	8						0		8
067	ZONGULDAK	6	-	1	-	-	-	7						0		7
TOTAL		331	50	90	4	16	15	506	1	0	0	0	4	5	0	511
PER CENT		64.8	9.8	17.6	0.8	3.1	2.9	99.0	0.2	0.0	0.0	0.0	0.8	1.0	0.0	100.0

USR UNION OF SOVIET SOCIALIST REPUBLICS (EUROPEAN PART) — R A B I E S C A S E S IN ANIMALS — 1.10.82 - 31.12.82

LOCATION CODE	NAME	DATES 1.10. - 31.10.	DATES 1.11. - 30.11.	DATES 1.12. - 31.12.	TOTAL
01	RSFSR				
011	REGIONS OF THE NORTH AND THE NORTH-WEST	-	-	-	-
012	REGIONS OF THE CENTRE	3	10	5	18
013	REGIONS OF THE NORTH CAUCASUS	6	5	13	24
014	REGIONS OF THE POVOLJE AND THE URALS	6	13	11	30
02	THE MOLDAVIAN SSR	1	-	1	2
03	THE UKRAINIAN SSR	28	27	43	98
04	THE BYELORUSSIAN SSR	14	7	5	26
05	THE LITHUANIAN SSR	3	4	2	9
06	THE LATVIAN SSR	4	2	3	9
07	THE ESTONIAN SSR	1	1	2	4
TOTAL		66	69	85	220

USR UNION OF SOVIET SOCIALIST REPUBLICS (EUROPEAN PART) — R A B I E S C A S E S IN ANIMALS — 1. 1.83 - 31. 3.83

LOCATION CODE	NAME	DATES 1. 1. - 31. 1.	DATES 1. 2. - 28. 2.	DATES 1. 3. - 31. 3.	TOTAL
01	RSFSR				
011	REGIONS OF THE NORTH AND THE NORTH-WEST	-	-	-	-
012	REGIONS OF THE CENTRE	3	2	3	8
013	REGIONS OF THE NORTH CAUCASUS	11	4	2	17
014	REGIONS OF THE POVOLJE AND THE URALS	14	12	10	36
02	THE MOLDAVIAN SSR	1	1	1	3
03	THE UKRAINIAN SSR	21	19	21	61
04	THE BYELORUSSIAN SSR	3	5	9	17
05	THE LITHUANIAN SSR	1	2	2	5
06	THE LATVIAN SSR	2	1	2	5
07	THE ESTONIAN SSR	-	1	-	1
TOTAL		56	47	50	153

LIST OF CONTRIBUTORS

AUT AUSTRIA
Dr. W. K r o c z a
Director
Dr. E. S c h a r f e n
Bundesanstalt für Tierseuchen-bekämpfung
Robert-Koch-Gasse 17
A-2340 Mödling /Austria

BEL BELGIUM
Dr. R. D e p i e r r e u x
Ministère de l'Agriculture
-Inspection Vétérinaire-
18, Bd. de Berlaimont
B-1000 Bruxelles /Belgium

BUL BULGARIA
Dr. N. T. B e l e v
Directeur Général des Services Vétérinaires
Ministry of Agriculture
Sofia /Bulgaria

CZE CZECHOSLOVAKIA
Dr. M. Č a p k a
Chief Veterinary Officer
Dr. J. N e u m a n n
Federal Ministry of Agriculture and Food
11006 Praha-Tesnov /CSR

DDR GERMAN DEMOCRATIC REPUBLIC
Dr. K.-H. L e b e n t r a u
Ministerrat der Deutschen Demokratischen Republik
Ministerium für Gesundheitswesen
Hauptabteilung Internationale Beziehungen / Abt. Nichtsozialistische Staaten / WHO
Rathausstr. 3
DDR 102 Berlin

DEN DENMARK
Dr. E. S t o u g a a r d
Chief Vet. Officer
Veterinaerdirektoratet
Frederiksgade 21
DK-1265 Copenhagen /Denmark

Dr. S. M ø l l g a a r d
Senior Veterinary Officer
Solsortevej 3B
DK-8210 Aarhus /Denmark

Dr. J. M u e l l e r
State Veterinary Serum Lab.
Bülowsvej 27
DK-1870 Copenhagen /Denmark

FIN FINLAND
Dr. R. B e r g e r
Chief of Animal Health Division
Ministry of Agriculture and Forestry, Veterinary Department
Helsinki /Finland

FRA FRANCE
Dr. J. B l a n c o u
Directeur
Centre d'Etudes sur la Rage de Nancy
B.P. No. 9
Malzeville /France

GBR UNITED KINGDOM
Dr. W.H.G. R e e s
Chief Veterinary Officer
Ministry of Agriculture, Fisheries & Food
-Animal Health Division-
Tolworth Surbiton /Surrey

GRE GREECE
Dr. V. H a n t z i s
Director of Zooanthroponoses Div.

Dr. E. T s a g l a s
Veterinary Officer
Department of Echinococcosis-Rab.
Veterinary Services
Ministry of Agriculture
Hellenic Republic
2, Acharnon Street
Athens (102) - Greece

HUN HUNGARY
Dr. A. G l ó z i k
Director of Veterinary Services
Dr. Laszlo K o l t a i
Ministry of Agriculture
Kossuth L. tér 9-11
Budapest V./Hungary

IRE IRELAND
Dr. P. J. O'C o n n o r
Deputy Director Veterinary Serv.

Dr. P. J. R o g a n
Veterinary Liaison Officer
Department of Agriculture
Agriculture House
Dublin 2/Ireland

ITA ITALY
Dr. A. M a n t o v a n i
Laboratorio di Parassitologia
Istituto Superiore di Sanità
Viale Regina Elena, 299
I-00161 Roma

ITA cont'd

Dr. S. P r o s p e r i
Istituto di Malatti Infettive
Universita degli Studi di Bologna
Via S. Giacomo 9/2
I-40126 Bologna /Italy

LUX LUXEMBOURG

Dr. R. F r i s c h
Directeur de l'Inspect.Général Vet.
Ministère de l'Agriculture
89, Rue d'Anvers
B.P. 1403
Luxembourg

NET NETHERLANDS

Dr. C.J. V e r m e u l e n
Staatsoezicht op de
Volksgezondheid
Koningin-Julianaplein 3
2595AA s'Gravenhage/Netherlands

NOR NORWAY

Dr. Reidar V o l l a n
Director of Vet. Services

Dr. H.O. B a c h - G a n s m o
Deputy Director of Vet. Services
Det Kongelige Landbruksdepartment
Akersgt. 42 / Postboks 8007 Dep.
Oslo 1 /Norway

POL POLAND

Dr. Andrzej Badyoczek
Head of Animal Health Division
-Veterinary Department-
Ministry of Agriculture
ul. Wspolna
00-930 Warszawa /Poland

Dr. Danuta S e r o k o w a
Head of Anthropozoonoses Lab.
National Institute of Hygiene
ul. Chocimska 24
00-791 Warszawa /Poland

POR PORTUGAL

Dr. Mário T e i x e i r a
Ministério da Agriculture e Pescas
Direccao-Geral dos Servicos Pec.
Servicos de Sanidade Veterinaria
Lissabon /Portugal

RUM RUMANIA

Dr. Valer T e u s d e a
Directeur de la Direction
Sanitaire Vétérinaire
Ministère de l'Agriculture
B-dul Republicii 24
Bucuresti 3/Rumania

SPA SPAIN

Dr. M.A. D i a z Y u b e r o
Subdirector General de Sanidad
Animal
Ministerio de Agricultura
Madrid /Espagne

SWE SWEDEN

Dr. B. H e n r i c s o n
Head of Department
Lantbruksstyrelsen
National Board of Agriculture
Veterinary and Animal
Production Department
Vallgatan 6
S-551 83 Jönköping /Sweden

SWI SWITZERLAND

Dr. A. I. W a n d e l e r
Vet. Bacteriological Institute
University of Berne
Länggass Str. 122
CH-3001 Berne /Switzerland

TUR TURKEY

Dr. Hasan E r t a n
General Director of Vet. Serv.

Dr. F. Y ü c e l
Director, Zoonoses Department
Tarim ve Orman Bakanligi,
Ministry of Agricult.
Ankara /Turkey

USR UNION OF SOVIET SOCIALIST REPUBLICS

Prof. B. C h e r k a s s k i y
Chief of Zoonoses Laboratory

Acad. V. P o k r o v s k i y
Head of Central Institute
Central Institute of Epidemiology
Ministry of Public Health
Moscow /USSR

YUG YUGOSLAVIA

Dr. M. B u g a r s k i
Head, Veterinary Department
Federal Committee for Agriculture
Belgrad /Yugoslavia

Dr. Milos P e t r o v i ć
Institut Pasteur
Hajduk Veljkova 1
21000 Novi Sad /Yugoslavia

CDN CANADA

Dr. D.J. G r e g o r y
Chief, Poultry and Zoonotic Dis.
Animal Health Division
-Agriculture Canada-
Ottawa, Ontario, K1A 0Y9

WHO Coll. Centre
Tuebingen / DEU

WHO Coll. Centre
Tuebingen / DEU

Rabies Cases Europe
. 2nd Quarter 1983

4625 cases reported

NOR
(rabies free)

FIN
(rabies free)

SWE
(rabies free)

DEN
(0)

IRE
(rabies free)

GBR
(rabies free)

NET
(0)

BEL
(119)

(1333)
DEU

DDR
(533)

POL
(96)

CZE
(466)

FRA
(464)

AUT
(375)

HUN
(129)

SWI
(204)

RUM
(14)

ITA
(115)

YUG
(251)

BUL
(rabies free)

POR
(rabies free)

SPA
(mainland rabies free)

ALB
(no data)

TUR
(511)

GRE
(0)

0 50 100 km