# RABIES BULLETIN EUROPE - Vol. 2/Nr. 2/1978

# CONTENTS

1.	INTRODUCTION	Page
	1.1. Contents of the Bulletin 1.2. Reporting of data	1 1
2.	RABIES SITUATION IN EUROPE, 1st QUARTER 1978	1
	2.1 2.24. Situation in Individual Countries	2 - 6
3.	MISCELLANEOUS	
	<ul><li>3.1. Annual Summary of Rabies in Europe, 1977</li><li>3.2. Rabies in Egypt</li><li>3.3. Surveillance of Rabies in Man</li><li>3.4. Research on Oral Immunization of Wildlife Animals</li><li>3.5. Erratum</li></ul>	6 8 9 9
4.	RABIES CASE DATA	
	<ul><li>4.1. Table Europe, 1st quarter 1978</li><li>4.2. Tables Europe, Annual Summary 1977</li><li>4.3. Tables, European countries, 1st quarter 1978</li><li>4.4. Tables, European countries, 3rd/4th quarter 1977</li></ul>	11 12, 13 14 - 25 26, 27
5.	LIST OF CONTRIBUTORS	28, 29
6.	ANNEX 1: Map of Rabies Cases in Europe, 1st quarter 1978 ANNEX 2: Map of Rabies Cases in Turkey, 1st quarter 1978	

The RABIES BULLETIN EUROPE  $% \left( 1\right) =\left( 1\right) +\left( 1\right)$ 

WHO Collaborating Centre for Rabies Surveillance and Research

Dr. L.G. S c h n e i d e r, Chief

Dr. W. Uhlmann

at the Federal Research Institute for Animal Virus Diseases

Dr. M. Mussgay, Director

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

### $\times$ 1.1. Contents of the BULLETIN

This issue deals with the rabies situation in Europe during the 1st quarter of 1978. The situation is described in general and for individual countries under 2 and 2.1-2.24. The respective case data are tabulated under 4.2.

No data were obtained from RUM, SSR and YUG.

Supplementing case data from 1977 are listed under 4.3. for Greece, Bulgaria, and German Democratic Republic. We regret that the data of the 3rd quarter from DDR had accidentally been omitted from the previous BULLETIN.

The following countries did not register rabies cases during the 1st quarter of 1978: Bulgaria, Finland, Netherlands, Norway, Portugal, Sweden and United Kingdom.

Under "Miscellaneous" there is included the Annual Summary of Rabies in Europe in 1977 (3.1), supplemented by two Tables (4.1).

A description of the Rabies Situation in Egypt (3.2) is the result of a report by W.G. Winkler, CDC, Atlanta, USA who visited Egypt in 1977.

The results of a WHO Consultation on the Surveillance of Rabies in Man are summarized under 3.3.

A research abstract on oral immunization of wildlife animals (3.4) closes the text part of this issue.

# X 1.2. Reporting of data

The reporting of rabies case data has improved considerably during the past few months. Hungary and Turkey are submitting their data in 2-weeks and 1 month intervals, respectively, with the community as the basis of the case location. The Czech Soc. Rep. reports according to counties, the next higher administrative unit to the community.

This type of reporting is not reflected in the case data tables of the BULLETIN but serves as the basis for computer storage and detailed evaluation at a later stage.

# 2. RABIES SITUATION IN EUROPE, 1st QUARTER 1978

The situation in individual European countries is summarized in Table 1 on page 11.

During the reporting period a significant <u>decrease</u> in rabies incidences is noted in a number of Central European countries. Compared to the 1st quarter of 1977 the reduction of the total number of cases is highest in DDR (minus 43%), followed by DEU (minus 40%), FRA (minus 33%), BEL (minus 30%) and SWI (minus 20%). This seems to indicate an interesting and maybe promising development since 4 of those countries were among the leading six nations on the European rabies scene during 1977 (see also 3.1, Annual summary 1977).

During the 1st quarter of 1978 a considerable increase was registered in HUN which has registered 628 cases as compared to 221 cases during the 1st quarter of 1977 (increase: plus 184%). In LUX the number of rabies cases have doubled. Further increases were noted in CSR (plus 60%), AUT (plus 33%) and POL (plus 13%).

New  $\underline{\text{territory}}$  was gained by the rabies epidemic in DEN, SWI, CSR, AUT and ITA (see map in Annex).

In CSR, the rabies front continued to expand into Central Bohemia with a first case of a rabid fox being reported from the District of Prague. The front in the CSR is also extending towards the south. Much likely as a result of this progression the first case of a rabid badger was reported from Gmuend/Niederösterreich near the Czech border. This part of the Austrian territory has been free from rabies during the last 10 years, that is since 1968.

In AUT rabies is slowly but continuously extending eastward with several now independent massive front waves in the Alpine valleys.

In SWI and FRA, rabies is apparently leaving the Jura area (except Geneva) and is progressing into the inland.

Individual country reports for the reporting period are as follows:

#### 2.1. Rabies in Austria (AUT)

(case data on page 14)

Generally seen, the rabies situation in Austria shows a slightly increasing tendency in the first quarter of 1978 as compared to the 4th quarter of 1977. This is mainly due to the steep rise in the number of cases in the regions of Innsbruck (Tyrol) and Murau (Styria) as well as in Kaernten. In these areas an increase of incidences between 39% to more than 200% was recorded. However, in some previously infected regions (Vorarlberg, Salzburg) a slightly retrograd tendency could be observed.

# 2.2. Rabies in Belgium (BEL)

by R. Depierreux

(case data on page 15)

The rabies situation remained more or less unchanged.

Of the 2 dogs found rabid, one has, despite of the legal obligation, not been vaccinated. The other was a stray dog of unknown origin.

# 2.3. Rabies in Bulgaria (BUL)

by Ts. Zachariev

(case data on page 27)

After Bulgaria has been free of rabies for the last two years the disease was confirmed in 1 pig in the Jambol Region in December 1977. The source of that infection is unclear up to now.

No cases were registered during the reporting period.

# 2.4. Rabies in Czechoslovakia (CZE)

# 2.4.1. Czech Socialist Republic (CSR)

by L. Polák

(case data on page 16)

In the 1st quarter of 1978 there was a significant increase of

wildlife rabies esp. during the month of March. This phenomenon is regularly observed each year in the springtime.

Sylvatic rabies has continued to spread in the direction from the West to the East into the interior of the State. One fox was found rabid in the District of Prague.

The situation in domestic animals remains on a favorable level.

# 2.4.2. Slovakian Socialist Republic (SSR) No data obtained.

# 2.5. Rabies in Denmark (DEN)

(case data on page 15)

During the 1st quarter of 1978 rabies gained territory and the frequency of cases increased moderately. Rabies was clearly restricted to wild carnivores.

# 2.6 Rabies in Germany, Democratic Republic (DDR) (case data on pages 16 and Compared to the 1st quarter of 1977 (573 cases) the incidence of rabies decreased considerably during the reporting period (329 cases), the South of the Republic (Suhl, Gera, Karl-Marx-Stadt) still maintaining the main foci of the disease.

# 2.7. Rabies in Germany, Federal Republic (DEU) (case data on page 17)

The decreasing trend observed during the 2nd half of 1977 seems to continue in 1978. During the reporting period (1091 cases) a reducting of the total cases by 40% was observed as compared to the 1st quarter of 1977 (1815 cases). The reduction was highest in Hessen (minus 66%) followed by Nordrhein-Westfalen (minus 61%), Bayern (minus 52%), Niedersachsen (minus 37%), Schleswig-Holstein (minus 33%) and Baden-Wuerttemberg (minus 9%). In Baden-Wuerttemberg the district of Freiburg showed an encrease by 60% whereas the remaining 3 districts followed the generally seen trend (reduction by 35%).

Following the peak years of rabies from 1974-1976 during which time no fox reduction campaigns were conducted, a more favorable picture seems to develop. All measures now in effect to control the fox population should therefore continue.

# ¥ 2.8. Finland

The country continued to remain rabies-free.

# 2.9. Rabies in France (FRA) by L. Andral

(case data on page 18)

It was repeatedly pointed out that in regard to animal vaccination less costly but from the prophylactic point of view absolutely ineffective measures are presently prefered in France.

A typical example is the fact that the combined Foot- and Mouth Disease/Rabies vaccination is more and more replaced by a mutual insurance policy of cattle breeders against "Death of cattle from rabies".

The consequences of such a regrettable behaviour is expressed in the figures of the following table:

3 1	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Rabies cases in cattle	30	104	145	245	134	122	94	91	273	175
-				vaccin	ation rabies			incre	asing er of	
								insur	ances	

These figures do not lay claim to completeness for it was neither possible to get full informations on the real number of cattle vaccinations nor on the number of insurance contracts.

# 2.10. Rabies in Greece (GRE) (case d

(case data on pages 25 and 27)

During the 1st quarter of 1978 rabies was confirmed only once (1 dog) in the Province of Laconias.

In contrast to the reported rabies situation in Greece published in the "Rabies Bulletin Europe I/78" two rabies cases have been registered during the 4th quarter of 1977: i.e. 1 dog in the north-eastern Province of Evrou and 1 horse in the southern Province of Laconias. Efforts to demonstrate rabies in wildlife were unsuccessful so far.

# 2.11. United Kingdom (GBR)

The country remained to be rabies-free.

# 2.12. Rabies in Hungary (HUN)

(case data on page 19)

During the 1st quarter of 1978 the rabies situation in Hungary has considerably worsened. During this period an increase of rabies cases by approximately 150% was registered as compared to the 4th quarter of 1977. As compared to the 1st quarter of 1977 the increase was 184%. There is no special area of focal point of the disease but the number of cases - especially among wild life - (93.9%) - has doubled and even tripled in most of the comitates. The animal species characterizing the general rabies situation in Hungary again is the fox (577 out of 590 wild animals, i.e. 97.8%), whereas the cat represents the species most frequently infected among domestic animals followed by the dog.

Notice: For the first time the distribution of rabies cases in Hungary (see map in the Annex) is shown on a community basis, reflecting a more true picture than the maps in 1977 which were drawn on Komitat basis.

# 2.13. Rabies in Italy (ITA) by A. Mantovani

(case data on page 15)

The rabies incidences in the north-eastern part of the Alto Adige Region (Prov. Bolzano) have increased from 29 in the 4th quarter 1977 to 78 cases in the 1st quarter 1978. Moreover, the disease spread southward to the Veneto Region (Prov. Belluno). Rabies was confirmed in the munici-

palities of Auronzo (3 foxes) and Cortina (2 foxes), respectively, giving a total of 83 cases in Italy during the 1st quarter 1978.

Since the beginning of the rabies wildlife epidemic in Italy in February 1977 the disease has gained considerable territory and is expected to continue to spread further.

# 2.14. Rabies in Luxembourg (LUX) by Al. Schiltges

(case data on page 20)

In comparison with the 4th quarter, 1977, the number of rabies cases has increased from 9 to 22 cases. This means about the total of the whole year 1977 (34 cases). Accordingly, a diminution of the rabies incidences in Luxembourg is hardly expected in the next future.

In order to protect men and animals all dogs older than 3 months will be vaccinated or revaccinated. The last compulsory antirabic vaccination of dog has been executed in May 1976.

# Y 2.15. Netherlands (NET)

No rabies cases were recorded during the reporting period. The last case registered occured in a fox in July, 1977.

#### 

The country remained rabies-free.

### x 2.17. Rabies in Poland (POL)

(case data on pages 22/23)

Compared to the 1st quarter of 1977 (297 cases) an increase of 12.8% was registered during the reporting period (335 cases). No special foci of the epidemic were noted. In the contrary, a reduction of cases can be seen in the border areas to the SSR.

#### 2.18. Portugal (POR)

The country remained rabies-free.

# X 2.19. Rabies in Rumania (RUM)

No data obtained for the reporting period.

# 2.20. Rabies in Spain (SPA)

(case data on page 20)

During the reporting period only 1 case (cat) has been observed in the Malaga area.

# 2.21. Sweden (SWE)

The country continued to remain rabies-free.

# Pabies in Switzerland (SWI) Dy A. Wandeler

(case data on page 21)

The 1st quarter of 1978 is characterized by a high incidence of fox rabies in the canton Fribourg and in the prealpine areas of the cantons Zürich and St.Gallen. The central part of Switzerland in between shows a relatively low frequency of rabies cases. The amount of rabid cats in western Switzerland is still high. A total of 30 rabid cats had bitten 24 humans in the past 3 months, while 201 rabid wild carnivores exposed only two persons seriously (1 fox, 1 marten).

# 2.23 Rabies in Turkey (TUR) by M. Suphi CETIN and F. YÜCEL (case data on pages 24/25)

During the 1st quarter of 1978 the rabies situation in Turkey has not changed in general. However, in the south-western area of the country (Provinces of Izmir, Manisa, Aydin, Denizil and Mugla) a marked increase of incidences by 83.3% - mainly in dogs - has been observed as compared to the 4th quarter of 1977. This increase, which occurred despite enforced vaccination of animals and destruction of stray dogs, represents a serious threat of the population in this area.

The distribution of rabies cases in Turkey during the 1st quarter of 1978 is shown in a map of the Annex.

# x 2.24. Rabies in Yugoslavia (YUG)

No data obtained.

# 3. MISCELLANEOUS

# 3.1. Annual Summary of Rabies in Europe, 1977

In 1977, a total of 15726 rabies cases were reported to the Centre from 20 European countries. The cases are listed in Table 2, page 12, by reporting country and species. Of the total cases, 13119 (83.4%) occured in wildlife, 2600 (16.5%) in domestic animals, and 7 cases (0.05%) in man.

The animal species most frequently reported (Table 2) were foxes (72%), deer (5.5%), cattle (5.1%), cats (5%), mustelides (4.4%), dogs (3.9%), and small domestic ruminants (1.98%).

According to Table 2, dogs participated with 3.98%. However, if those countries having predominantly canine rabies (GRE, SPA, TUR, and YUG comprising 31.8% of all rabid dogs) are subtracted, the involvement of dogs is only 2.7%, giving a more realistic account of the role of the dog in wildlife rabies.

The rate of canine rabies in individual countries was high in SSR (14.6%), RUM (11.5%) and DDR (7.0%). The lowest rate was registered in AUT (0.5%) and SWI (0.8%). This is surprizing since AUT probably having the highest rabies density in Europe has no compulsory vaccination programme.

The c a t was involved in rabies with 5 % on average. Cat rabies, higher than average was registered in SSR (15.4%), RUM (12.4%), BEL (13.2%), POL (12.0%) and SWI (9.9%).

C a t t l e , small ruminants and horses participated in rabies with together 7.4% on average. The variation among countries is high, depending on farming conditions, etc. It is well documented that rabies in those animal species can be handled effectively by prophylactic vaccination.

The involvement of foxes in 1977 was high as ever (72.0% on average). Countries without fox rabies were GRE and TUR only. Countries well above average were CSR (89.5%), HUN (88.6%), LUX and ITA (each above 80%).

M u s t e l i d e s were involved with 4.4% on average. Badgers ranked high in newly infected areas, (AUT, ITA, partially SWI), whereas other mustelides, especially martens were found to higher rates in chronically infected areas of DEU, SWI, BEL, RUM, and DDR.

Involvement of d e e r (5.5% on average) was high in Poland (10.0%), AUT (9.7%) and DEU (5.96%).

Table 3 is listing the 10 countries with the highest incidence rates in Europe accounting for 98.4% of the total cases registered. Among them, the first 5 countries alone account for 80.9% of all European rabies cases.

Compared to the respective totals, the highest proportion in  $\underline{d} \circ \underline{m} \in \underline{s} t i c$  animal rabies occured in DEU (21.3%) followed by FRA (14.1%), DDR (13.4%), POL (12.2%) and TUR (11.8%). In Turkey, where the "urban" type of rabies prevails, dogs and cattle account for 89.0% of all cases.

Notice: the Turkish data represent the 4th quarter only.

In w i l d l i f e rabies DEU (33.5%) ranks before AUT (21.5%) followed by DDR (10.7%), FRA (9.9%) and POL (7.4%).

In dog rabies, TUR (27.8%) is followed by DDR (19.7%), DEU (16.9%), POL (12.3%) and FRA (6.4%). Total account: 520 dogs = 83.1%.

In f e l i n e rabies, DEU (20.6%) is followed by POL (19.6%), SWI (13.1%), DDR (12.2%) and FRA (11.3%). Total account: 604 cats = 76.8%.

In c a t t l e rabies, DEU (25.9%) is followed by FRA (22%), TUR (12.8%), AUT (9.9%) and POL (9.3%). Total account: 636 cattle = 80.0%.

In horse rabies, DEU (42.5%) is followed by FRA (19.2%) and TUR (12.3%). Total account: 54 horses = 74.0%.

Sheep and goats: DDR (22.2%), AUT (17.5%), FRA (15.8%), DEU (14.8%), SWI (13.5%). Total account: 249 sheep and goats = 83.8%.

In f o x rabies, DEU (33.2%) is followed by AUT (20.2%), DDR (11.4%), FRA (11.0%), and SWI (6.4%). Total account: 9311 foxes = 82.2%.

In m u s t e l i d rabies, DEU (38.2%) is followed by AUT (33.7%), SWI (11.1%), DDR (5.8%) and POL (4.2%). Total account: 638 mustelides = 93.0%.

In deer rabies, AUT (34.6%) is followed by DEU (34.3%), POL (15.0%), DDR (7.9%) and SWI (3.8%). Total account: 822 deer = 95.6%.

If one uses, instead of absolute figures, the rabies density per country, i.e. the number of cases per 100 km of area involved, another sequence becomes obvious. Based on the total area of each country, AUT had the highest rabies density in Europe with 3.64 cases/100 km , followed by SWI (2.52), DEU (2.01), DDR (1.62), LUX (1.31), HUN (0.79), CZE (0.44), POL (0.41), FRA (0.3) and BEL (0.22). For the remaining countries the densities ranged from 0.05-0.01. Although this picture is somewhat out of focus since rabies in some countries does not occupy the total territory, it allows a closer comparison than absolute figures. For example, based on absolute figures, SWI ranges on place 6 and LUX on place 13, whereas based on rabies densities, SWI takes position 2 and LUX position 5 among European countries.

A comparison of the European rabies data of 1977 to previous years is not possible. However, the impression prevails, that rabies in 1977 was gaining new territories, especially among wildlife in Central Europe. In 1977, Italy has been freshly invaded, and Denmark was reinfected for the 3rd time. The epidemic has gained access to new territories in Austria, Switzerland, France, and partially in the Czech Socialist Republic, and rabies has maintained its strongholds in the German Democratic Republic, German Federal Republic, Poland and Hungary.

# 3.2. Rabies in Egypt

The status of rabies in Egypt is similar to that in other rabies-endemic developing countries. Faced with problems of increasing over-population in a country with an already high population density (in some areas more than 2,000 persons/square mile) and with limited financial resources, health care is generally below current U.S. standards. Less important diseases problems, such as rabies, are of necessity almost completely ignored.

Approximately 60 cases of human rabies are identified in Egypt each year; clinical cases are referred to 1 of several fever hospitals that have been identified as rabies treatment centers. Treatment consists primarily of antibiotics, heavy sedation, and strict isolation of patients. Although cases occur all over Egypt, 25% to 50% of the patients are from the Cairo area (with a population of 10 million this area includes a quarter of the total population of Egypt). The 2 fever hospitals in Cairo together admit about 20-30 patients with rabies each year. In the 6-year period 1972-1977, the Abassia Fever Hospital recorded 75 cases. Some data were available on these 75 cases: age distribution < 14 years old 41%; 15-34 years old 18%, > 35 years old 41%; sex--male 67%, female 33%; history of antirabies treatment--none 83%, incomplete treatment 4%, completed recommended treatment 13%; and exposure history--dog bite 91%, cat bite 1%, no exposure identified 8%.

The vaccine used is the Fermi-type, a phenol-treated, partially inactivated goat brain tissue suspension (1 dose 5.0 ml of a 5% tissue suspension). For children less than 1 year old the dosage is reduced to 3.0 ml/dose. Passive antibody, serum or globulin, is not used. Five thousand liters of vaccine are produced annually by the Ministry of Health laboratories; 40,000 persons receive antirabies treatment each year (treatment rate 1:1,000). Records on the reaction rate to antirabies treatment were not available. For dog, cat, or wolf bites, antirabies treatment consists of 20 doses of vaccine (1 per day) given subcutaneously in the abdomen. For bites of other animals or non-bite exposures, 15 daily doses are given.

The status of rabies in animals is not clear, but dogs are the major source of human cases. About 20% of the approximately 300 animals tested each year are positive for rabies by either direct microscopic (Negri) or fluorescent antibody tests. Half of all confirmed cases are in dogs, 20% are in cattle, and 30% are in cats, donkeys, and other animals. Asymptomatic animal "carriers" reported in Ethiopia have not been found in Egypt.

There is no control program to pick up stray dogs, which are numerous in urban and rural Egypt. The Veterinary Research Institute manufactures about 20,000 doses a year of low egg passage, modified live virus rabies vaccine for dogs, but this amount is inadequate to develop any effective level of immunization in the canine population.

Diagnostic facilities and services are limited. In only 2 laboratories, both in Cairo, is rabies diagnostic work done.

In summary, while rabies is a minor problem compared with other disease problems in Egypt, it is as great a problem there as perhaps anywhere in the world. However, health officials express eagerness to learn about and implement improved procedures, and if they have financial support it may be possible for them to reduce the prevalence of this disease significantly in a few years.

(Cited from CDC Vet.Publ.Hlth.Notes, February 1978).

## 3.3. Surveillance of Rabies in Man

Following the recommendations of the 2nd Conference on the Surveillance and Control of Rabies, Frankfurt, November 15-19, 1977, a WHO Consultation on the Surveillance of Rabies in Man was held in Tuebingen, April 26-27, 1978.

The purpose of the meeting was to draft guidelines and recommendations for the collection and dissemination of information and data concerning human rabies exposure and antirabies treatment, postvaccinal complications and human rabies cases in the WHO European Region.

The Consultation recommended

- that human rabies case data be reported to the Centre in Tuebingen by all countries participating in the European Rabies Surveillance System;
- that a pilot study be conducted by several European countries on data collection of pre- and post-exposure treatments and of postvaccinal complications.

Based on the results of the pilot study the reporting of pre- and post-exposure treatments will be extended to all countries of the WHO European Region.

The final report of the WHO Consultation will be sent by WHO to the National Health and Veterinary authorities.

The Centre will then approach the National Health Administrations and make them acquainted with the details necessary for reporting.

#### 3.4. Research on Oral Immunization of Wildlife Animals

During November 12-13, 1977 an informal meeting of investigators on oral vaccination of foxes was held at the Centre d'Etudes sur la Rage, in Nancy, France.

Discussions centered on potency testing of vaccines, safety testing, bait preparation, application and uptake in the field, as well as on future work.

Safety in foxes and other non-target species (residual pathogenicity) is one of the central problems in oral immunization. The following research study (Wachendörfer, G., Farrenkopf, R., Lohrbach, W., Förster, U., Frost, J.W. and Valder, W.A.: Passage experiments with a variant of the vaccinal rabies strain ERA in wild-living species (Ondrata zibethica and Rattus norvegicus) - A contribution to oral immunization of the fox against rabies. Dtsch. Tierärztl. Wschr., in press) focused on a possible increase of virulence of the vaccine strain after serial passage. SAD-BHK vaccine virus was found pathogenic by the oral route in muskrats, a new species to be added to the list of susceptible non-target animals.

The authors summarize their results as follows:

- SAD-virus, propagated on BHK 21 cells, was carried in muskrats (Ondrata zibethica) over 10 passages by the intracerebral, intramuscular and oral route. Clear-cut residual pathogenicity of the vaccine strain could be demonstrated in 61 (64 per cent) of the animals. Only occasionally could virus be reisolated from peripheral tissues (brown fat, salivary glands). After infection by all three routes, the virus titer in the brain increased during the course of the passages. This suggests an increase of pathogenicity for the susceptible host, the muskrat.
- After intramuscular injection of the passaged virus 1 out of 14 foxes developed a panmyelitis and leptomeningitis. Because of the pathological changes in this animal it seems reasonable to assume that during the muskrat passages the virus became pathogenic for the fox by selection.
- Out of 60 brown rats (Rattus norvegicus), that were infected in the course of 10 passages by the intracerebral and oral route with the SAD strain 23 (= 38%) came down with rabies. Also in this species centrifugal spread was noticed only occasionally. But the increase of the virus titers in the brain after intracerebral application is suggestive for a tendency of the virus to adapt itself to this species. The virus passaged in brown rats proved apathogenic for raccoons and foxes, when given by intramuscular injection.
- The pathogenicity of the SAD vaccine strain for wildlife animals proven for the first time also in serial passages, and its recognizable adaptation make this vaccine unfit for oral vaccination within the framework of wildlife rabies control. But since oral immunization appears quite promising, research into the development of apathogenic live vaccines should be intensified.

# 3.5. ERRATUM

- Rabies Bulletin Europe 2/77, page 18, DEU, correct Total "Foxes" 834 instead of 814.
- Rabies Bulletin Europe 2/77, page 25, DDR, correct Total "Foxes" 261 instead of 276.
- Rabies Bulletin Europe 1/78, page 18, DEU, correct Total "Foxes" 766 instead of 733.

Table 1: Rabies cases by country and species during the 1st quarter of 1978

	CODE		D	OMES	ТІ	C ANI	MALS			WI		ANIM	ALS		SS	1
	N A M E EUR 1/78	DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL	HUMAN CASES	TOTAL
1-	1 AUT	4	28	-	-	3	1	36	913	29	7	151	-	1100	_	1136
	2 BEL	2	1	1	-	-	-	4	21	-	-	-	-	21		25
	3 BUL no cases	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
9.	4 CSR	5	6	-	-	-	1	12	162	2	-	4	-	168		180
	5 SSR no data	1	1	!			-	1		1						=
6	6 DEN	-	V2:100	-	-	-	-	-	13	! -	1	-	-	14	-	14
6	7 DDR	24	25	1	-	3	1	54	236	4	8	26	1	275	-	329
	8 DEU	29	20	15	6	19	-	89	871	12	44	69	6	1002	-	1091
4.	9 FRA	9	12	30	2	9	-	62	308	2		7	4	321		383
2.	10 GRE 11 HUN	1	-	-	-	-	-	1	-	-	-	-	-	-		1
2.	The Committee of the Co	11	20	4	-	3	-	38	577	2	2	8	1	590	1	628
	12 ITA	-	1	-	-	_	-	1	74	2	1	5	-	82		83
- 1	13 LUX	-	3	1	i -	-	-	4	16	-	2	i -	-	18		22
-	14 NET no cases 15 POL	12	-	_	-	-	-	-	_	i -	-	i -	i -	-	1	0
5.	16 RUM no data	12	34	4	-	-	-	50	242	4	16	21	2	285	1 1	335
-	17 SPA		1 1	İ	į		į			į	i	į	į	i i		-
	18 SWI + LIE	3	1 30	11	i -	-	-	1	-	-	i -	i -	i -	-		1
7.	19 TUR	207	16	11 68	-	10	-	54	186	8	7	9	1 1	211	-	265
10	20 YUG no data	207	1 10	00	3	8	6	308	_	-	i – I I	-	4	4	1	313
	Totals:	307	197	135	11	55	9	714	3619	65	88	300	19	4091	1	4806
	per cent:	6.4	4.1	2.8	0.2	1.1	0.2	14.9	75.3	1.4	1.8	6.2	0.4	85.1	0.02	100

Table 2: Total number of rabies cases in Europe in 1977 by country and species.

		D O	MEST	IC	ANIMA	LS			WIL		ANIMAL	s		10		
NAME	DOGS	CATS	CATTLE	HORSES	SHEEP	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL	HUMAN CASES	TOTAL	
1 AUT	14	84	79	4	52	1	234	2288	176	55	297	5	2821	0	3055	
2 BEL	-	9	23	4	2	-	38	27	-	2	1	-	30		68	
3 BUL	-	-	_	-	l -	1	1				1	1	0		1	
4 CSR 2 CZE	8	15	-	-	! -	-	23	383	8	4	9	1	405		428	
5 SSR (quarter 1,2,3)	19	20	-	-	-	-	39	81	-	1	1	8	91		130	
6 DEN	_	-	-	_	l -	-	-	6	-	-	-	-	6		6	
7 DDR	123	96	60	2	66	-	347	1293	11	29	68	6	1407	0	1754_ D	DR
8 DEU	106	162	206	31	44	3	552	3766	75	187	295	74	4397	0	4949	DEU
9 FRA	40	89	175	14	47	-	365	1245	21	١.	9	27	1302		1667	
10 GRE	8	-	-	1	-	-	9	-	-	-	-	-	-		9	
11 HUN	17	33	12	-	8	2	72	652	1	2	2	7	664	0	736	
12 ITA	-	-	-	-	-	-	-	80	5	-	12	-	97		97	
13 LUX	2	- (	3	-	-	-	5	29	-	-	-	-	29		34	
14 NET	-	-	-	-	-	-	-	2	-	-	-	-	2		2	
15 POL	77	154	74	4	6	1	316	702	20	9		110	970	1	1287	
16 RUM	13	14	12	-	22	6	67	35	1	3	2	2	43	3	113	
17 SPA	4	-	-	-	-	-	4	2	-	-	-	-	2		6	
18 SWI + LIE	8	103	46	4	40	5	206	719	40	36	33	4	832	3	1041	1
19 TUR (quarter 4)	174	7	102	9	10	4	306	-	i -	-	-	4	4		310	
20 YUG (quarter 1,2)	13	-	3	-	-	-	16	15	-	-	1	1	17		33	
Total number of cases:	626	786	795	73	297	23	2600	11325	358	328	859	249	13119	7	15726	
Per cent:	3.98	5.0	5.06	0.46	1.89	0.15	1	72.03	2.28	2.09	5.46	1.58	2.0	0.05	100	
					!		16.53		1	!	1	l	83.42	0.05		

Table 3: Rabies incidence rates (% total) for individual animal species and for total cases of 10 European countries ranking highest in 1977.

		D O	MES	TIC	ANIMA	LS			WIL	D	ANIMAL	S			
NAME EUR 1977	Dogs	CATS	CATTLE	HORSES	SHEEP	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL	HUMAN CASES	TOTAL
Total rabies cases Europe	626	786	795	73	297	123	2600	11325	358	328	859	249	13119	7	15726
		İ			Per c	ent i	nvolveme	nt/count	try						
1. DEU	16.9	20.6	25.9	42.5	14.8	!	21.3	33.2	21.0	57.0	34.3	1	33.5		31.5
2. AUT	2.2	10.7	9.9	5.5	17.5		9.0	20.2	49.2	16.8	34.6		21.5		19.4
3. DDR	19.7	12.2	7.6	2.7	22.2	į	13.4	11.4	3.1	8.8	7.9		10.7		11.2
4. FRA	6.4	11.3	22.0	19.2	15.8	i !	14.1	11.0	5.9		1.1	i	9.9		10.6
5. POL	12.3	19.6	9.3	5.5	2.0	1	12.2	6.2	5.6	2.7	15.0		7.4		8.2
6. SWI	1.3	13.1	5.8	5.5	13.5	! !	7.9	6.4	11.2	11.0	3.8	i	6.3		6.6
7. HUN	2.7	4.2	1.5	-	2.7		2.8	5.8	0.2	0.6	0.2	į	5.1		4.7
8. CZE (CSR + SSR)	4.3	4.5	-	-	-		2.4	4.1	2.2	1.5	1.2		3.8		3.5
9. TUR (quarter 4)	27.8	0.9	12.8	12.3	3.4		11.8	-	-	-	-		_		1.9
10. RUM	2.1	1.8	1.5	-	7.4		2.6	0.3	0.2	0.9	0.2		0.3		0.7
Totals from 10 countries:	599	777	766	68	295		2527	11164	353	326	845		12936		15470
equal % TOTAL	95.7	98.9	96.4	93.2	99.3		97.2	98.6	98.6	99.4	98.4		98.6		98.4

			DOM			ANIMALS		51.5.15		WIL	D	ANIM	ALS		to	
CO	DE		į.	ī		· · · · · · · · · · · · · · · · · · ·	i	ı			I EI	1	1	ī	CASES	
	N A M E	DOGS	CATS	CATTLE	HORSES	SHEEP	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL	HUMAN CA	TOTAL
V1	Bludenz		i	1				0	1	_	_	i -	-	1		1
V2	Bregenz	1	-	-	-	-	-	1	4	_	1	-	-	5		6
V3	Feldkirch		1	1			1	1 0	5	-	-	! -	-	5		5
V4	Dornbirn		-	-	-	1	-	1	4	1	-	1	-	6		7
T1	Imst		1	1			1	1 0	9	_	-	-	-	1 9		9
T2	Innsbruck	-	3	-	-	1	-	4	130	7	1	1 9	1 -	147		151
Т3	Kitzbühel		1	1				0	10	-	_	-	-	10		10
Т4	Kufstein		1				1	0	2	1	1	-	-	4		4
T6	Lienz	1	2	-	-	-	-	3	53	-	_	4	! -	57		60
т7	Reutte	-	1	-	-	-	-	1	3	-	-	-	! -	3		4
T8	Schwaz	-	3	-	-	-	-	3	38	2	_	1 11	-	51		54
S1	Hallein							0	2	-	-	3	_	5		5
S2	Salzburg/U.		!					0	7	_		5	-	12		12
S3	St. Johann	-	2	-	-	-	-	2	9	1	-	6	-	16		18
S4	Tamsweg	-	2	-	-	-	-	2	38	-	1	8	-	47		49
S5	Zell/See	-	-	-	-	1	-	1	1	_	-	1	-	2		3
01	Braunau			1				0	28	1	-	3	-	32		32
04	Gmunden		!			1	!	0	21	2	1	4	-	28		28
014	Vöcklabruck	1						0	2	-	-	1 1	l –	3		3
N5	Gmünd		1				1	0	- 1	1	-	-	l –	1		1
N19	Wr.Neustadt		1				¦	0	1	-	-	-	-	1		î
ST7	Judenburg	-	1	-	-	-	-	1	20	_	-	1 3	! -	23		24
ST11	Liezen	-	2	-	-	-	-	2	114	5	1	24	-	144		146
ST13	Murau	-	4	-	-	-	-	4	121	2	_	16	_	139		143
B2	Güssing		1					0	5	_		1	l _	6		6
B5	Neusiedl.See		1					0	8	-	-	_	-	8		8
В7	Oberwarth					-		0	6	-	-	-	_	6		6
K1	Hermagor	1	2	- 1	-	-	1	4	53	2	-	17	-	72		76
K2	Klagenfurt/L.			1				0	29	-	-	11	_	40		40
K3	St.Veit	-	1	-	-	-	-	1	75	-	-	6	-	81		82
K4	Spital/Drau	1	4	-	-	-	-	5	70	4	1	16	-	91		96
K5	Villach	-	1	-	-	-	-	1	44	-	-	1		45		46
	Total:	4	28	-	-	3	1	36	913	29	7	151	-	1100	-	1136

14

			DO	MEST	ric	ANIMAL	S			WIL	6-3	ANIMA	LS		CASES		
COD	NAME	DOGS	CATS	CATTLE	HORSES	SHEEP	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDE	DEER	OTHERS	TOTAL	HUMAN CAS	TOTAL	
BEL Lg Lux Na	BELGIUM Liège Luxembourg Namur Total:	2 -	_ 1 1	- 1	-	-	-	2 2 0	7 12 2	-	-		-	7 12 2		9 14 2	_
DEN	=======================================	4	=====	  ====== 	 	    	=====		======	i	======	=====	=====	I		25	=
050545 050503 050517 050519 050539 050541	DENMARK Abenrå Bov Højer Lundtofte Tinglev Tønder							0 0 0 0 0	2 2 1 4 3		1			2 2 1 5 3		2 2 1 5 3	
=======	Total:				! !	! !		0	13	-	1	-	-	14	-	14	-
390100 39032 39030 39035 39034 39030 39030	ITALY S.Maddalena di Cacampo Tures Valle Aurina Val Casies Dobbiaco Braies S.Lorenzo di		1	_		-	-	1 0 0 0	2 10 3 8 14 5		- 1 -	- - 1 1 -	- - - - - -	2 10 5 9 14		2 11 5 9 14	=
39038 39035 39030 39031 39030 39030 32041 32043	Sebato S. Candido Monguelfo Anterselva Brunico Gais Selva Molini Auronzo(Belluno) Cortina(Belluno)		*	10 de 10 de				00000000	3 5 10 3 2 2 1 4	1 1	-	2 1	-	3 8 11 3 2 2 2 4 2		3 8 11 3 2 2 2 2 4 2	
======	Total:		1	-	l -	¦ -	-	1	74	2	1	5	-	82	-	83	

	7	Ra	bie	s C	ase	s: 1.	1 3	1.3.1978									
1978	CODE		D	OME	STI	C ANIM	ALS		W	IL	D	ANIMAL	S		to		1978 Lillhie
tourstile.	NAME	Hundle	Fur run CATS	Bringh	Pre HORSES	SHEEP TIME GOATS TIME	and>e	TOTAL	FOXES	BADGERS	Orther Ibes	Hins his	grude OTHERS	TOTAL	HUMAN CASES	TOTAL	In lithice
13- 14- 14- 15- 32- 32- 32-	DDRGERMAN DEMOCRATIC REPUBLIC  I Rostock II Schwerin III Neubrandenburg IV Potsdam V Frankfurt VI Cottbus VII Magdeburg VIII Halle IX Erfurt X Gera XI Suhl XII Dresden XIII Leipzig XIV Karl-Marx-Stadt XV Hauptstadt Berlin	5 1 -4 -4 -1 2 4 2 -	2 - 2 1 3 - 2 1 3 5 2 4 4	1		3	- - - 1 - - - -	7 1 1 6 1 7 1 3 3 7 7 2 0 8 0	20 20 11 12 4 6 24 1 22 34 27 15 3 37	- - 1 - 3 - - - -	1 1 4 - 2	4 - 1 - 2 1 1 2 2 5 6	1	24 20 13 13 13 4 12 24 3 23 35 30 21 8 45 0		31 21 14 19 5 19 25 6 26 42 37 23 8 53 0	10044 10044
<del>278</del> 273	CSR CZECH SOC.REP.  OO OO Distr. of Prague O1 OO North Bohemia O2 OO West Bohemia O3 OO Central Bohemia O4 OO South Bohemia O5 OO East Bohemia O6 OO South Moravia O7 OO North Moravia T o t a 1 :	4 - 1 5	2 2 1 1 1 6	-			- 1		1 47 39 21 39 12 3	1 - 1				1 51 39 21 39 14 0		1 57 41 21 41 15 0 4	985

			D O M	EST	IC Z	ANIMALS	5			WI	S	ANI	MALS		ES	
СС	D E N A M E	DOGS	CATS	CATTLE	HORSES	SHEEP	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDE	DEER	OTHERS	TOTAL	HUMAN CASES	TOTAL
010	Schleswig-Holstein	1	1	1	-	1	-	4	56	-	-	-	-	56		60
020	Hamburg							0						0		0
031	Braunschweig	2	-	2	1	-	-	5	55	-	4	11	1	71		. 76
032	Hannover	6	-	<u> </u>	-	-	- 1	6	6	2 <del>-</del> 2	2		-	8		14
033	Lüneburg	2	-	2	2	-	-	6	24	-	1 1		2	27		33
034	Weser-Ems		1	1	1	1	1	0	4	-	-	-	-	4		4
040	Bremen							0						0		0
051	Düsseldorf			1				0						0		0
053	Köln	-	-	1	-	-	-	1	10	-	i - i	1	1	12		13
055	Münster	-	-	-	1	-	-	1			i i		i i	0	1	1
057	Detmold				ĺ			0					i	0		0
059	Arnsberg	1	-	-	-	-	-	1	17	-	- 1	3	-	21		22
061	Darmstadt	1	-	-	1	1	-	3	41	1-1	4	5	- i	50		53
062	Kassel	2	4	1	-		-	7	42	1	4	4	<u> </u>	51		58
071	Koblenz	-	4	3	-	2	-	9	66	1	i - i	6	i - i	73		82
072	Trier	-	1	1	-	i -	i -	2	19	-	i - i	1	i - i	20		22
073	Rheinhessen-Pfalz		-	-		1	-	1	8		1	1	-	10		11
081	Stuttgart	-	1	-	-	7	-	8	70	-	3	4	i - i	77		85
082	Karlsruhe	-	1	-	i -	3	i -	4	59	-	4	12	i - i	75		79
083	Freiburg	3	2	1	1	3	i -	10	163	7	6	4	-	180		190
084	Tübingen	1	1	-	<u> </u>	<u>i -</u>	<u> </u>	2	25	1	2	7		35		37
091	Oberbayern	1	1	1	-	į -	i -	3	46	1	2	2	-	51		54
092	Niederbayern	1 5	i -	-	i -	i -	i -	1	27	-	2	1	-	30		31
093	Oberpfalz	5	1	i -	-	1	i -	7	56	-	2	3	-	61		68
094	Oberfranken	-	1	i -	i -	į -	į -	1	14	-		-	-	14		15
095	Mittelfranken	2	1	i -	i	į -	i -	3	16	i -	1	-	-	17		20
096	Unterfranken	1	1	i -	j	į	i -	2	30	i -	2	1	i -	33		35
097	Schwaben		i -	2	<del>-</del>	i -	<del>i -</del>	2	17	1	3	2	2	25		27
100	Saarland		-		-	-	<del> </del>	0	-	-	-	1	<u> </u>	1	-	1
110	Berlin	0.5	1	1	-	1	ļ	0	051				-	0		0
	Total:	29	20	15	6	19	-	89	871	12	44	69	1 6	1002	_	1091

1

CODE		D O M	EST	I C	ANIMAL	S			WII		ANIN	MALS		SS	
NAME	DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDE\$	DEER	OTHERS	TOTAL	HUMAN CASES	тотаь
O1 Ain O2 Aisne O8 Ardennes 10 Aube 21 Côte d'Or 25 Doubs 39 Jura 51 Marne 52 Marne Haute 54 Meurthe et Moselle 55 Meuse 57 Moselle 58 Nièvre 60 Oise 67 Rhin Bas 68 Rhin Haut 70 Saône Haute 74 Savoie Haute 74 Savoie Haute 77 Seine et Marne 80 Somme 80 Vosges 89 Yonne 90 Territoire de Belfo 95 Val d'Oise	3 - - 1 3 - 1 -	- 3 1 2 1 2 - 1	8 - - 2 12 7	- - 1 - 1	- 2 2 - 3 -		0 0 11 0 0 5 3 2 4 21 7 0 1 3 0 0	22 12 7 2 1 3 15 29 16 30 13 10 2 21 16 20 4 1 3 16 4 4 1 3 16 4 8 7 2	1		1 1 3 1	1 1 1 1 1 1	24 13 7 2 1 3 15 29 17 31 13 10 2 22 17 23 4 1 3 16 51 8 7 2		24 13 18 2 1 3 20 32 19 35 34 17 2 22 18 26 4 1 3 16 55 9 7 2
Total:	9	12	30	2	9	-	62	308	2		7	4	321		383

\_

HUN

Rabies Cases 1.1. - 31.3.1978

			D O	MEST	CIC	ANIMAI	LS			WI	L D	ANI	MALS		SS	
C C	NAME	DOGS	CATS	CATTLE	HORSES	SHEEP	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL	HUMAN CASES	TOTAL
01	Budapest							0	4	-	-	-	_	4		4
)2	Baranya	2	7	-	-	-	-	9	30	-	-	5	1	36	! !	45
)3	Bács-Kiskun					1	1	0	29	! -	-	-	-	29		29
)4	Békés	2	1	-	-	-	-	3	38	-	-	-	-	38		41
)5	Borsod	1	8	-	¦ -	1	-	10	35	-	-	_	<u> </u>	35		45
6	Csongrad	-	2	-	-	-	-	2	40	! -	-	1	-	41		43
7	Fejér	1	-	-	-	-	-	1	52	-	-	-	-	52		53 21
8	Györ		! !		1	1		0	21	-	-	-	-	21		21
9	Hajdu	-	-	1	-	-	-	1	21	-	-	-	-	21		22
.0	Heves					1	1	0	7	ļ -	ļ - ļ	1	_	8		8
1	Komárom					1	1	0	32	-	-	1	-	33		33 20
12	Nógrád	-	1	-	-	1	-	2	17	1	i - i	-	-	18		20
.3	Pest	-	-	2	-	- 1	-	2	52	-	1 1	-	-	53	1 1	55
4	Somogy	1	-	-	-	1	-	2	47	-	1	-	-	48		50
.5	Szabolcs					1		0	19	i –	-	_	-	19		19
16	Szolnok							0	15	-	i - i	-	-	15	1	15
7	Tolna	4	1	1	-	-	-	6	29	-	i - i	=	=	29		35
.8	Vas					İ	į	0	36	-	i - i	_	-	36		35 36
19	Vesprém				i	į	į	0	28	-	i - i	-	-	28		28
20	Zala .					İ		0	25	1	-	-	-	26		26
	Total:	11	20	4	_	3	_	38	577	2	2	8	1	590	_	628

Rabies Cases: 1.1. - 31.3.1978

			a b i e	5 Ca	s e s	. 1.	1 3	1.3.197	1						-	
COI	) F		D C	MES	TIC	ANIMA	LS			WI	LD	Al	NIMALS		100	
	NAME	DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL	HUMAN CASES	TOTAL
LUX	LUXEMBOURG					1										
00 01 02 01 02 04 02 08 02 09 02 11 03 03 03 06 04 01 04 07 04 08 05 11 06 05 06 06 06 07 08 03 09 11 09 13 12 01 13 05 13 08	Luxembourg-Vill Bascharage Kahler Kopstal Mamer Steinfort Dudelange Tétange Bertrange Steinsel LuxCampagne Tuntange Hoffelt Grindhausen Rodershausen Pratz Weidingen Noertrange Betzdorf Wintrange Waldbredimus T o t a l :	e -	1 1 1	1 1	-	-	-	0 0 0 0 0 0 0 1 1 0 0 0 4	1 1 1 1 1 1 2 1 1 1 1 1		- - - 1 - - - - 1 2			1 1 1 1 1 1 1 1 1 1 1 2 1 1 1 1 0 1 1 1 1		1 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1
<del></del>	10 C a 1 :			1		1		4	16		1	i	i	18	-	22
	SPAIN (Malaga)	-	1	  -  -  -  -	<u> </u>   -	 	-	1		×.		 	 	0	-	1

			D O	MES	TIC	ANIM	ALS			WI		ANIM	ALS	And a second	ES	
СО	D E N A M E	DOGS	CATS	CATTLE	HORSES	SHEEP	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL	HUMAN CASES	TOTAL
SWI	SWITZERLAND						! !	1				i i	 	1		
1 2 3 5 6 7 8 10 11 12 15 17 18	Aargau Appenzell AR Appenzell AI Basel-Land Bern Freiburg Genf Graubünden Luzern Neuenburg Schaffhausen Solothurn St. Gallen	1 1	1 1 11 - 1	- 6 1 1 -		- 2 - 1		0 0 0 1 2 20 1 1 2 0 0 0 2	1 1 1 23 57 22 16 2 2 4 1	1 - 2 - 1 1 1 1	1 1	1	1	2 1 1 2 24 67 22 17 3 2 4 2 34		2 1 1 3 26 87 23 18 5 2 4 2
20	Thurgau	-	1	1	-	-	-	2	3	-	-	ļ -	-	3		5
22 25	Waadt Zürich	1 -	15 -	1 -	-	5	-	22	3 15	2	4	1 -	-	10 16		32 17
	Total:	3	30	11	-	10	-	54	185	8	7	9	1	210	-	264
LIE	LIECHTENSTEIN					       	F=====       	F====== ! ! O	1		=====         	=====       	=====         	1	-	1

Rabies Cases: 1.1. - 31.3.1978

		TOLA		abı					31.3.197							
	O D E		DOI	MEST	I C	ANIMA	LS			WIL		ANIM	ALS		ES	
	NAME	DOGS	CATS	CATTLE	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTEL IDES	DEER	OTHERS	TOTAL	HUMAN CASES	TOTAL
01	Warszawa	-	1	_	_	_	-	1	4	_	_	_	_	4		5
03	Biala Podlaska	_	1	_	-	-	_	1	7	_	_	_	_	7		8
05	Bialystok	-	1	-	_	-	-	1	7	_	2	_	_	9		10
07	Bielsko-Biala	-	1	_	_	_	_	1	4	_	_	_	_	4		5
09	Bydgoszcz	-	1	-	_	_	_	1	5	_	_	_	_	5		6
11	Chelm	1	-	_	-	-	-	1	1	_	_	_	_	1 1		2
13	Ciechanów	-	_	1	_	-	_	1	2	_	_	_	1	3		4
15	Czestochowa							0			l		-	. 0		0
17	Elblag	-	2	-	-	-	-	2	5	_	1	1	_	7		9
19	Gdańsk	-	2	_	-	-	-	2	6	1	_	_	_	7		9
21	Gorzów Wlkp	-	1	-	-	-	-	1	7	_	_	1	_	8		9
23	Jelenia Góra	1	-	-	-	-	-	1	5	_	_	3	_	8		9
25	Kalisz	1	-	-	-	_	-	1	11	_	_	_	_	111		12
27	Katowice							0	1	_	_	_	_	1		1
29	Kielce							0	1	_	_	_	_	1		1
31	Konin							0	3	_	_	_	1	4		4
33	Koszalin	2	3	-	_	_	_	5	11		_	4	_	15		20
35	Kraków							0	2	_	_	-	_	2	ł	20
37	Krosno							0	1	_	_	_	_	1 1		1
39	Legnica							0	4	_	_	_	_	4		4
41	Leszno	1	1	_	-	_	-	2	6	_	_	1	_	7		9
43	Lublin	-	1	_	-	-	-	1	3	-	_	_	_	3		4
45	<b>Ł</b> omża	1	_	_	-	-	-	1	4	_	1	_	_	5		6
47	老ódź							0			-					0
49	Nowy Sacz							0	4	_	_	_	_	4		4
51	Olsztyn	-	2	1	-	-	-	3	10	1	6	4	_	21		24
53	Opole	1	2	-	-	-	-	3	4	_	_	_	_	4		7
55	Ostrołęka							0	6	-	-	-	_	6		6
57	Piła	-	1	-	-	-	-	1	7	-	-	2	_	9		10
59	Piotrków Tryb							0				_		. 0		0
61	P <b>X</b> ock							0	3	_	_	_	_	3		3
63	Poznań	-	1	-	-	-	-	1	11	-	-	-	_	11		12
65	Przemyśl	-	1	_	i -	-	-	1	1.000					0		1

22

Rabies Cases: 1.1. - 31.3.1978

CO	D E		DOI	MEST	ΙC	ANIMA	LS			WI	L D	ANIMA	ALS			
	NAME	DOGS	CATS	CATTLE	HORSES	SHEEP	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL	HUMAN CASES	TOTAL
POL	POLAND cont'd															
67	Radom				į	į		0	2	_	_	_	-	2		2
69	Rzeszów				į	1		0						0		0
71	Siedlce	1	2	1	-	! -	- 1	4	32	1	2	-	-	35		39
73	Sieradz				į	į		0						0		0
75	Skierniewice				i	į		0						0		0
77	Słupsk	-	2	-	i -	i -	- 1	2	7	- 1	1	2	-	10		12
79	Suwałki	-	1	-	i -	i -	- 1	1	3	1	2	-	-	6		7
81	Szczecin	3	1	-	i -	j -	- 1	4	16	-	-	2	-	18		22
83	Tarnobrzeg				į	Ì		0				i		0		0
85	Tarnów				į	į	i i	0	li .			i	1	0		0
87	Toruń	-	2	1	-	-	-	3	6	-	1	i -	-	7		10
89	Wałbrzych	-	1	-	-	-	-	1	7	_	-	-	-	7		8
91	Włocławek	-	1	-	į -	-	i - i	1	5	-	-	-	-	5		6
93	Wrocław				1	I I		0	7	-	-	-	-	7		7
95	Zamość	-	1	-	-	-	-	1	4	-	-	i -	-	4		5
97	Zielona Góra	-	1	-	-	-	-	1	8	-	-	1	-	9		10
	Total:	12	34	4	1 _	i _	- 1	50	242	4	16	21	2	285		335

	ODE		D O M	EST	I C	ANIMALS				WIL	D to	ANIMA	LS		S	
	NAME	DOGS	CATS	CATTLE	HORSES	SHEEP	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL	HUMAN CASES	TOTAL
01 02 03 05 06 07 09 10 11 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 31 32 33 34 35	Adana Adiyaman Afyon Amasya Ankara Antalya Aydin Balikesir Bilecik Bolu Burdur Bursa Çanakkale Cankiri Çorum Denizli Diyarbakir Edirne Elâziğ Erzincan Erzurum Eskisehir Gaziantep Giresun Hatay Isparta Içel Istanbul Izmir	- 2 1 6 11 2 13 2 - 2 1 2 - 7 5 - 1 3 2 3 1 2 4 1 4 - 3 36	1 1	2 - 2 1 6 2 - 2 1 1 - 2 4 4		1	1	2 2 1 7 15 2 14 2 1 8 4 4 3 13 10 11 2 1 7 3 3 2 2 5 1 4 1 5 4 4 4 1 5 4 4 4 1 5 4 4 1 5 4 4 4 1 5 4 4 4 1 5 4 4 4 1 5 4 4 4 1 5 4 4 4 1 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		-	-		1			2 2 1 7 15 2 14 2 1 8 4 4 3 13 10 12 2 1 7 3 4 2 1 7
36 37 38	Kars Kastamonu Kayseri	2 1 1	- - - -		-		1	2 2 1	-	-	-	-	2	2 0 0	1	47 2 2 1

17

1000000	Total:	207	16	68	3	8	6	308	-	-	- 	-	4	4	1	313
TU 39 41 42 44 45 46 48 49 52 54 55 57 58 59 60 61 66 67	R TURKEY cont'd  Kirklareli Kocaeli Konya Malatya Manisa Kahraman Maraş Mugla Mus Ordu Sakarya Samsun Sinop Sivas Tekirdağ Tokat Trabzon Yozgat Zonguldak	S900 3 2 6 2 14 1 5 2 5 9 20 - 5 1 2 1 8 1		CATTLE 1 2 1 3 2 3 1 - 5 1	HORSES	SHEEP	OTHERS	3 2 10 3 18 2 8 3 11 12 24 3 5 1 3 1 13 2	FOXES	BADGERS	OTHE	DEER	OTHERS	OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO	HUMAN	3 2 10 3 18 2 8 3 11 12 24 3 5 1 1 3 1 1 3
co	) D E		DOM	1	I C F	ANIMALS		 	FOXES BADGERS A OTHER OTHER OTHERS SS TOTAL						CASES	TOTAL

2	
~	)
-	
O.	1
_	

1	DDR	Rah	oies	C a	s e s	in t	he GE	RMAN DEN	MOCRATIC	REPUB	LIC					
			DOM	ESTI	C A	NIMALS				WI	LDω	AN	IMALS		ES	
C C	NAME	DOGS	CATS	САТТЬЕ	HORSES	SHEEP GOATS	OTHERS	TOTAL	FOXES	BADGERS	OTHER MUSTELIDES	DEER	OTHERS	TOTAL	HUMAN CASES	FOTAL
	1.730.9.1977													i I		
I III IV V VI III XIII XIII XIII XIII X	Schwerin Neubrandenburg Potsdam Frankfurt/Oder Cottbus Magdeburg Halle Erfurt Gera Suhl Dresden Leipzig Karl-Marx-Stadt Hauptstadt Berlin	1 3 1 1 1 1 1 1 - - 2 8 - 5	2 2 - 1 1 3 2 1 3	3 - - 2 - 1 1 1 - - 2 1 1	-	5 - 9	-	6 5 1 3 1 3 2 2 3 2 5 17 1 15 0	20 23 27 11 11 17 15 4 26 17 38 32 6 45	1	1 - - - 1 1 1 1 - 2	1 - 1 - 2 - 1 1 - 2 2	1 - 1	22 23 29 11 11 17 16 5 29 20 39 33 8 49		28 28 30 14 12 20 18 7 32 22 44 50 9 64
=====	Total:	24	16	12	 	14		66	292	2	7	9	2	312		378
I II III IV V VI VIII IX X XI XIII XIII	Rostock Schwerin Neubrandenburg Potsdam Frankfurt/Oder Cottbus Magdeburg Halle Erfurt Gera Suhl Dresden Leipzig Karl-Marx-Stadt Hauptstadt Berlin	1 4 3 1 2 2	1 3 1 1 4 3 1 1 1 3 6 -	1 - - 1 - 4 - 3 6 - 15	1	1 - - - 5 3 - 20 1 10	-	2 9 6 2 3 5 0 3 10 4 8 33 1 25	25 21 17 8 5 9 21 5 29 19 26 10 9	1 - - 1 - 1 1 1 1	1	4 - 5 1 1 1 1 1 2 2 2 2	1	29 22 23 9 5 11 23 6 29 23 27 12 11 102		31 31 29 11 8 16 23 9 39 27 35 45 12 127
	Total:	13	27	30	1	40	-	111	303	6	1	20	2	332	-	443

		TOTAL	1	1	1	2
	S	HUMAN CASE	ı			1
		JATOT	0	0	0	0
		ОТНЕКЅ				
	ANIMALS	реек				
		OTHER				
771	WILD	BYDGEKS		 		
- 31.12.1977		LOXES				2
		JATOT	н	1	1	
1.10.		отнека	↔	 1	1	
 Ø	ANIMALS	SHEEP	ı	ı	1	-
a s e	СП	новее		1	1	1
S	EST	CATTLE		1	'	
Rabie	DOME	CATS	ſ	1	'	
M.		DOGS	1		1	1
		CODE	BUL BULGARIA 27 Jambol	10 Evrou	28 Laconias	Total 1 - 1 -

# LIST OF CONTRIBUTORS

AUT AUSTRIA

Dr. W. Krocza Director

Dr. E. S c h a r f e n Bundesanstalt für Tierseuchenbekämpfung Robert-Koch-Gasse 17 A-2340 Mödling/Austria

BEL BELGIUM

Dr. R. Depierreux Ministère de l'Agriculture -Inspection Vétérinaire-18, Bd. de Berlaimont B-1000 Bruxelles/Belgium

BUL BULGARIA

Prof. Dr. Z a h a r i e v
Director of Veterinary Services
Ministry of Agriculture
Sofia /Bulgaria

CZE CZECHOSLOVAKIA

CSR-Dr. L. P o l a k , CSc Director

> Dr. H r a b e t a State Vet. Administration Min.Agriculture and Food 110 O6 Praha-Tesnov/CSR

SSR-Dr. Št. H a l a d e j, CSc Ustredný Riaditeľ Štátna Veterinárna Správa Pekarska 5 811 47 Bratislava/CSSR

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

DEN DENMARK

Dr. E. S tougaard
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 DEN DENMARK

Dr. J. M u e 1 1 e r State Veterinary Serum Lab. Bülowsvej 27 DK-1870 Copenhagen/Denmark

DEU FEDERAL REPUBLIC OF GERMANY

Dr. E. P i t t l e r
Bundesministerium für Ernährung, Landwirtschaft und
Forsten
D-5300 Bonn-Duisdorf

Prof.Dr.G.W a c h e n d ö r f e r Direktor, Staatl.Veterinär-Untersuchungsamt Deutschordenstr. 48 D-6000 Frankfurt (Main)

Dr. H.-J. W e i s e Bundesgesundheitsamt Berlin Unter den Eichen D-1000 Berlin 33

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. L. Andral
Directeur
Centre d'Etudes sur la
Rage de Nancy
B.P. No 9
Malzeville/France

GBR GREAT BRITAIN

Dr. A.C.L. B r o w n

Chief Veterinary Officer

Ministry of Agriculture,

Fisheries & Food

-Animal Health DivisionTolworth Surbiton/Surrey

GRE GREECE

Dr. P. N. Dragonas General Director Hellenic Republic Ministry of Agriculture Veterinary Service 2, Aharnon Street Athens (102)/Greece

# HUN HUNGARY

Dr. Lajos D é n e s Director of Veterinary Services

Dr. Laszlo K o l t a i Ministry of Agriculture Kossuth L. tér 9-11 Budapest V./Hungary

#### ITA ITALY

Dr. A. M a n t o v a n i Istituto di Malatti Infettive Universita degli Studi di Bologna Via S. Giacomo 9/2 I-40126 Bologna /Italy

#### LUX LUXEMBOURG

Dr. A. S c h i l t g e s Directeur de l'Inspect. Général Vét. Ministère de l'Agriculture B.P. 1403 Luxembourg

#### NET NETHERLANDS

Dr. C. J. V e r m e u l e n Staatsoezicht op de Volksgezondheid Bezuidenhoutsweg 73 s'Gravenhage/Netherlands

### NOR NORWAY

Dr. Reidar V o l l a n Director of Vet.Services Det Kongelige Landbruksdepartement Akersgt. 42 Postboks 8007 Dep. Oslo 1/Norway

#### POL POLAND

Dr. Jan K o l a c z
Head of Infectious Disease
Division
Ministry of Agriculture
ul. Wspolna
OO-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 Agricultura e Pescas Direccao-Geral dos Servicos Pecuarios Servicos de Sanidade Veterinaria Lissabon/Portugal

# RUM RUMANIA

Dr. Mircea M o v a n u
Directeur de la Direction
Sanitaire Vétérinaire
Ministère de l'Agriculture
B-dul Republicii 24
Bucuresti /Rumania

#### SPA SPAIN

Dr. J. R. Prieto H e r r 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. Wandeler

Dr. F. S t e c k Vet. Bacteriological Institute University of Berne Länggass Str. 122 CH-3001 Bern/Switzerland

### YUG YUGOSLAVIA

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

#### TUR TURKEY

Dr. M. Suphi C e t i n General Director of Vet. Serv. Gida-Tarim ve Hayvancilik Bakanligi Ankara /Turkey

Dr. F. Yücel
Director, Zoonoses Department
Gida-Tarim ve Hayvancilik
Bakanligi
Ministry of Agriculture
Ankara /Turkey

WHO Coll. Centre Tuebingen / DEU

Rabies Cases Turkey 1st Quarter 1978



