

# **RABIES BULLETIN EUROPE**

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## **CONTENTS**

<b>1</b>	<b>Editorial</b>	<b>3</b>
<b>2</b>	<b>Summary of rabies cases in Europe</b>	<b>4</b>
<b>3</b>	<b>Miscellaneous Articles</b>	<b>5</b>
<b>3.1</b>	<b>Designation of the Community Reference Laboratory for Rabies</b>	<b>5</b>
<b>3.2</b>	<b>Isolation of European bat lyssavirus type 2 (EBLV-2) in a Daubenton's bat in the UK with a minimum incubation period of 9 months</b>	<b>6</b>
<b>4</b>	<b>Distribution of rabies in Europe</b>	<b>9</b>
<b>4.1</b>	<b>Country summaries of rabies cases, 2nd quarter 2008</b>	<b>10</b>
<b>4.2</b>	<b>Rabies cases per country and administrative units, 2nd quarter 2008</b>	<b>11</b>
<b>4.3</b>	<b>Trend tables</b>	
<b>4.3.1</b>	<b>Comparison of the reporting quarter (II/2008) with the previous quarter (I/2008)</b>	<b>17</b>
<b>4.3.2</b>	<b>Comparison of the reporting quarter (II/2008) with the same quarter of the previous year (II/2007)</b>	<b>18</b>
<b>5</b>	<b>List of contributors</b>	<b>19</b>
	<b>Map of rabies cases in Europe, 2nd quarter 2008</b>	

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# 1. Editorial

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The first miscellaneous article is provided by the colleagues from the AFFSA, Nancy which was designated as European Reference Laboratory for Rabies on July 28th 2008. This article states the terms of references of this new reference lab for the European Union.

The second article is a unique report about an unusual incubation period in a Daubenton's bat tested EBLV-2 positive in the United Kingdom. EBLV-2 has been isolated only sporadically from pond bats and Daubenton's bats in the UK, The Netherlands, Switzerland and Germany.

The rabies data for the 2<sup>nd</sup> quarter of 2008 is presented in tables and a map. The total number of rabies cases reported in Europe is 1895, considerably less cases compared to the previous quarter (3732 cases).

In the meantime during the production of this issue, rabies cases in foxes were found in previously rabies free areas in the north-east of Italy and also in areas beyond the vaccination belt in Slovenia bordering Italy. Both countries intend to start oral vaccination in the affected areas. We will give an update on this development in upcoming issues. As such reintroduction could arise in all areas bordering rabies endemic regions a general basis for EU-funding such as an emergency fund for vaccines should be envisaged.

Conrad Freuling

## 2. SUMMARY OF RABIES CASES IN EUROPE

RABIES CASES

2nd QUARTER 2008

01.04.08-30.06.08

Name	Code	Total	Wildlife	Domestic animals	Bats	Human
ALBANIA	ALB	0	0	0	0	0
AUSTRIA	AUT	0	0	0	0	0
BELARUS	BLR	194	148	46	0	0
BELGIUM	BEL	0	0	0	0	0
BOSNIA - HERCEGOVINA	BIH	22	21	1	0	0
BULGARIA	BGR	10	7	3	0	0
CROATIA	HRV	221	212	9	0	0
CYPRUS	CYP	0	0	0	0	0
CZECH REPUBLIC	CZH	0	0	0	0	0
DENMARK	DNK	0	0	0	0	0
ESTONIA	EST	0	0	0	0	0
FINLAND	FIN	0	0	0	0	0
FRANCE	FRA	0	0	0	0	0
GERMANY	DEU	0	0	0	0	0
GREECE	GRC	0	0	0	0	0
HUNGARY	HUN	2	2	0	0	0
ICELAND	ISL	0	0	0	0	0
IRELAND	IRE	0	0	0	0	0
ITALY	ITA	0	0	0	0	0
LATVIA	LVA	24	16	8	0	0
LITHUANIA	LTU	9	4	5	0	0
LUXEMBOURG	LUX	0	0	0	0	0
MACEDONIA	MKD	0	0	0	0	0
MALTA	MLT	0	0	0	0	0
MOLDOVA	MDA	5	2	3	0	0
MONTENEGRO	MNE	15	12	3	0	0
NETHERLANDS	NED	0	0	0	0	0
NORWAY	NOR	0	0	0	0	0
POLAND	POL	6	6	0	0	0
PORTUGAL	PRT	0	0	0	0	0
ROMANIA	ROU	196	161	35	0	0
RUSSIAN FEDERATION	RUS	688	298	388	0	2
SERBIA	SRB	24	19	5	0	0
SLOVAK REPUBLIC	SVK	0	0	0	0	0
SLOVENIA	SVN	9	9	0	0	0
SPAIN	ESP	0	0	0	0	0
SWEDEN	SWE	0	0	0	0	0
SWITZERLAND + LIEC.	CHE	0	0	0	0	0
TURKEY	TUR	57	8	49	0	0
UKRAINE	UKR	413	121	291	1	0
UNITED KINGDOM	UNK	0	0	0	0	0
<b>TOTAL</b>		<b>1895</b>	<b>1046</b>	<b>846</b>	<b>1</b>	<b>2</b>

**Wildlife: excluding bats**

**\* no data**

# 3. Miscellaneous Articles

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## 3.1 Designation of the Community Reference Laboratory for Rabies

A. Servat<sup>1</sup>, J. Barrat<sup>1</sup>, F. Boué<sup>1</sup>, E. Picard<sup>1</sup>, M. Wasniewski<sup>1</sup>, F. Cliquet<sup>1</sup>

<sup>1</sup>Afssa site de Nancy, National Laboratory on Rabies and Wildlife Diseases, Technopôle Agricole et Vétérinaire, BP 40 009, 54220 Malzéville Cedex, France

The National Laboratory on Rabies and Wildlife Diseases of the French Food Safety Agency (LERRPAS, Afssa Nancy, France) was designated by the European Commission as the Community Reference Laboratory (CRL) for rabies on July 28th 2008 . The French laboratory has now two mandates, since it had been already nominated as Community Specific Institute for rabies serology in 2000 .

According to the COMMISSION REGULATION (EC) No 737/2008 the CRL for Rabies shall have the following responsibilities and tasks:

1. To coordinate, in consultation with the Commission, the methods employed in the Member States for diagnosing rabies, in particular by:

- (a) typing, storing and supplying strains of rabies virus;
- (b) preparing, controlling and supplying international standard sera and other reference reagents to the national reference laboratories in order to standardise the tests and reagents used in the Member States;
- (c) validating reference reagents including antigens and national standard sera submitted by the national reference laboratories;
- (d) building up and maintaining a sera bank and a collection of rabies virus, and maintaining a database of strains isolated across the Community, including typing;

- (e) organising periodical comparative tests of diagnostic procedures at Community level and operating laboratory proficiency tests of national reference laboratories;
- (f) collecting and collating data and information on the methods of diagnosis used and the results of tests carried out in the Community;
- (g) characterising rabies virus by the most up-to-date methods available to allow a greater understanding of the epidemiology of that disease;
- (h) keeping abreast of developments in rabies surveillance, epidemiology and prevention throughout the world;
- (i) acquiring a thorough knowledge of the preparation and use of the products of veterinary immunology used to eradicate and control rabies including the evaluation of vaccines.

2. To facilitate the harmonisation of techniques throughout the Community, in particular specifying standard test methodologies.

3. To organise workshops for the benefit of national reference laboratories as agreed in the work-programme and annual budget referred to in Articles 2 to 4 of Commission Regulation (EC) No 156/2004, including training of experts from the Member States and, as appropriate, from third countries, in new analytical methodologies.

4. To provide technical assistance to the Commission and, upon its request,

to participate in international fora relating to rabies, concerning in particular the standardisation of analytical diagnostic methods and their implementation.

5. To perform research activities and, whenever possible, coordinate research activities directed towards the improved control and eradication of rabies, in particular by:

(a) carrying out or collaborating with national reference laboratories in carrying out test validation trials;

(b) providing scientific advice to the Commission and collecting information and reports associated with the activities of the Community reference laboratory.

The organisation of a first meeting, aiming to present the CRL and its duties, with all representatives of EU Member State Laboratories will be one of the first tasks of the CRL during the next months.

The establishment of a Rabies CRL will give the opportunity to create a network gathering National Reference Laboratories on Rabies from Member States for collaborating on all aspects dealing with rabies diagnosis and control.

Acknowledgments dedicated to the excellent technicians of the laboratory Rabies group : M. Biarnais, J.M. Demerson, P. Grosgeorge, A. Hamen, S. Kempff, A. Labadie, E. Litaize, J.L. Schereffer and L. Tributou.

### **3.2 Isolation of European bat lyssavirus type 2 (EBLV-2) in a Daubenton's bat in the UK with a minimum incubation period of 9 months**

Katja Pajamo, Graeme Harkess, Trudy Goddard, Denise Marston, Lorraine McElhinney, Nicholas Johnson and Anthony Fooks

Rabies and Wildlife Zoonoses Group, Veterinary Laboratories Agency – Weybridge, Woodham Lane, Surrey, KT15 3NB

On 7<sup>th</sup> May 2008 lyssavirus antigen was detected by the rabies fluorescent antibody test in the brain of a Daubenton's bat (*Myotis daubentonii*) submitted under the passive surveillance scheme to detect lyssaviruses in British bats. Subsequent testing isolated virus and a multiplex real-time PCR amplification assay (Wakeley et al., 2005) confirmed that the virus was European bat lyssavirus type 2. A mouse inoculation test (MIT) was conducted with mice developing encephalitis between day 13 and 16. A fragment of the virus nucleoprotein

was amplified and sequenced. This revealed that this virus was 100% identical to an earlier United Kingdom (UK) isolation of EBLV-2 from a bat in Surrey in 2004 (Fooks et. al., 2004) and with an EBLV-2 isolated from a bat in Shropshire in 2007 (Harris et al., 2007). Some divergence of this sequence was observed with other EBLV-2 viruses isolated in the UK. The bat was originally found injured, following a cat attack, by a member of the public in August 2007, in Bushy Park, Surrey. It was passed to a number of experienced bat handlers for rehabilitation, but required the

amputation of one wing by a veterinarian shortly after entering captivity. Over the winter months it appeared healthy but towards the end of April, 2008, it began snapping at the glove of its handlers and twitching. Its handler noted a severe infestation with mites and was treated with an acaricide. On the 28<sup>th</sup> of April the bat ate and drank normally and the twitching appeared to lessen. By the 30<sup>th</sup>, the bat became uncoordinated and was unable to settle within its container. It became progressively weaker and underwent euthanasia on



**Figure 1: map of the United Kingdom and Ireland showing the location where EBLV-2 infected bats (circles) and the human case (black circle) were found. The grey circle indicates the location where the 2008 bat was found**

the 2<sup>nd</sup> of May. The carcass was refrigerated until it was sent to VLA-Weybridge on the 6<sup>th</sup> of May. Follow up investigations suggested that the bat had been kept in isolation during its captivity and that the container in which it was kept was considered biosecure. This suggests that the bat was infected with virus prior to its captivity and is indicative of a minimum incubation time of greater than nine months. This would be the longest documented incubation period for EBLV-2. A captive Daubenton's bat infected by sub-dermal inoculation developed disease after 32 days (Johnson et al., 2008).

The bat passive surveillance scheme has been operating in the United Kingdom (UK) since 1987 and prior to this case had detected EBLV-2 in six bats, all *M. daubentonii*, from various locations in England (Figure). EBLV-2 has also been isolated from *Myotis* bats in The Netherlands, Switzerland and most recently, Germany (Freuling et al., 2008). This virus was also responsible for two cases of rabies in a bat researcher in Finland and a bat enthusiast in the United Kingdom (Lumio et al., 1986; Fooks et al., 2003). This and the repeated isolation of this virus highlight the need for those working with bats to obtain vaccination against rabies prior to handling bats. The World Health Organisation (WHO) advises those that have been bitten by a bat to wash the wound with soap and water and to seek medical advice immediately.

### Acknowledgements

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#### 4 DISTRIBUTION OF RABIES IN EUROPE

##### 4.1 Country summaries of rabies cases, 2nd quarter 2008

01.04.08-30.06.08

Country		Domestic animals									Wildlife											bat	Human cases	total				
		dog	cat	cattle	equine	goat sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer				fallow deer	other	subtotal	
Name	Code																											
Albania	ALB	*								0													0			0		
Austria	AUT	*								0														0			0	
Belarus	BLR	*	22	13	9	2				46	125	14		1	2		4						2	148		194		
Belgium	BEL	*								0														0		0		
Bosnia - Hercegovina	BIH	*			1					1	20											1	21		22			
Bulgaria	BGR	*	2	1						3	5											2	7		10			
Croatia	HRV	*	2	1	2	1	2	1		9	209			1		2							212		221			
Cyprus	CYP	*								0													0		0			
Czech Republic	CZH	*								0													0		0			
Denmark	DNK	*								0													0		0			
Estonia	EST	*								0													0		0			
Finland	FIN	*								0													0		0			
France	FRA	*								0													0		0			
Greece	GRC	*								0													0		0			
Hungary	HUN	*								0	2												2		2			
Iceland	ISL	*								0													0		0			
Ireland	IRE	*								0													0		0			
Italy	ITA	*								0													0		0			
Latvia	LVA	*	2	4	2					8	11	4										1	16		24			
Lithuania	LTU	*	2	1	2					5	1	2			1								4		9			
Luxembourg	LUX	*								0													0		0			
Macedonia	MKD	*								0													0		0			
Malta	MLT	*								0													0		0			
Moldova	MDA	*	1	1	1					3	2												2		5			
Montenegro	MNE	*	1	1			1			3	10			2									12		15			
Norway	NOR	*								0													0		0			
Poland	POL	*								0	6												6		6			
Portugal	PRT	*								0													0		0			
Romania	ROU	*	13	10	4	8				35	153			1			5		1			1	161		196			
Russian Federation	RUS	*	178	96	89	2	10	13		388	251	37		3	3		3					1	298	2	688			
Serbia	SRB	*	2	3						5	17						2						19		24			
Slovak Republic	SVK	*								0													0		0			
Slovenia	SVN	*								0	9												9		9			
Spain	ESP	*								0													0		0			
Sweden	SWE	*								0													0		0			
Switzerland + Lichtenstein	CHE	*								0													0		0			
The Netherlands	NED	*								0													0		0			
Turkey	TUR	*	32	1	15		1			49	7											1	8		57			
Ukraine	UKR	*	133	131	20	3	4			291	97	4	2	6	2	5	1		1			3	121	1	413			
United Kingdom	UNK	*								0													0		0			
<b>TOTAL</b>			<b>390</b>	<b>263</b>	<b>145</b>	<b>16</b>	<b>18</b>	<b>1</b>	<b>13</b>	<b>0</b>	<b>846</b>	<b>925</b>	<b>61</b>	<b>2</b>	<b>7</b>	<b>11</b>	<b>9</b>	<b>7</b>	<b>10</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>1046</b>	<b>1</b>	<b>2</b>	<b>1895</b>
<b>PER CENT</b>			<b>20,6%</b>	<b>13,9%</b>	<b>7,7%</b>	<b>0,8%</b>	<b>0,9%</b>	<b>0,1%</b>	<b>0,7%</b>	<b>0,0%</b>	<b>44,6%</b>	<b>48,8%</b>	<b>3,2%</b>	<b>0,1%</b>	<b>0,4%</b>	<b>0,6%</b>	<b>0,5%</b>	<b>0,4%</b>	<b>0,5%</b>	<b>0,0%</b>	<b>0,1%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,6%</b>	<b>55,2%</b>	<b>0,1%</b>	<b>0,1%</b>	<b>100%</b>

\* NO CASES

\*\* NO DATA

## 4.3 Rabies cases per country and administrative units, 2nd quarter 2008

01.04.08-30.06.08

Location	Domestic animals										Wildlife											bat	Human cases	total		
	dog	cat	cattle	equine	goat sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer	fallow deer				other	subtotal
<b>BELARUS</b>																										
Brest		3	1						4	3													3			7
Gomel	5	5	7						17	21	2					2							25			42
Grodno	1	1							2	17	1											1			19	21
Minsk	2								2	14	2												16			18
Mogelev	6	1		1					8	35	3		2									1			41	49
Vitebsk	8	3	1	1					13	35	6		1		2										44	57
<b>TOTAL</b>	<b>22</b>	<b>13</b>	<b>9</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>46</b>	<b>125</b>	<b>14</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>148</b>	<b>0</b>	<b>0</b>	<b>194</b>
<b>PER CENT</b>	<b>11,3%</b>	<b>6,7%</b>	<b>4,6%</b>	<b>1,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>23,7%</b>	<b>64,4%</b>	<b>7,2%</b>	<b>0,0%</b>	<b>0,5%</b>	<b>1,0%</b>	<b>0,0%</b>	<b>2,1%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>1,0%</b>	<b>76,3%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100%</b>
<b>BULGARIA</b>																										
Pleven									0	1													1			1
Razgrad	2								2	2													2			4
Ruse									0													1	1			1
Varna									0	1												1	2			2
Veliko Tarnovo		1							1														0			1
Vidin									0	1													1			1
<b>TOTAL</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>10</b>	
<b>PER CENT</b>	<b>20,0%</b>	<b>10,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>30,0%</b>	<b>50,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>20,0%</b>	<b>70,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100%</b>	
<b>BOSNIA - HERCEGOVINA</b>																										
Banja Luka									0	8													8			8
Doboj			1						1													1	1			2
Sokolac									0	3													3			3
Tuzlanski									0	3													3			3
Unsko-sanski									0	1													1			1
Vlasenica									0	1													1			1
Zapadnobosanski									0	4													4			4
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>22</b>	
<b>PER CENT</b>	<b>0,0%</b>	<b>0,0%</b>	<b>4,5%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>4,5%</b>	<b>90,9%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>4,5%</b>	<b>95,5%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100%</b>	
<b>HUNGARY</b>																										
Békés									0	1													1			1
Hajdú-Bihar									0	1													1			1
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	
<b>PER CENT</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100%</b>	

## 4.3 Rabies cases per country and administrative units, 2nd quarter 2008

01.04.08-30.06.08

Location	Domestic animals										Wildlife											bat	Human cases	total		
	dog	cat	cattle	equine	goat sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer	fallow deer				other	subtotal
<b>CROATIA</b>																										
Bjelovarsko - Bilogorska	1		1		2				4	12													12			16
Karlovacka								0	24							2							26			26
Koprivnisko - Krizevaska								0	8														8			8
Krapinsko - Zagorska								0	24														24			24
Licko - Senjska								0	4														4			4
Osjesko - Baranjska	1	1		1				3	11														11			14
Pozesko - Slovanska								0	4														4			4
Primorsko - Goranska								0	14														14			14
Sibensko - Kninska			1					1	10														10			11
Sisacko - Moslovska						1		1	16														16			17
Splitko - Dalmatinska								0	4														4			4
Varazdinska								0	22														22			22
Viroticko - Podravska								0	1														1			1
Vukovarsko - Srijemska								0	2														2			2
Zagreb								0	25														25			25
Zagrebacka								0	28					1	0								29			29
<b>TOTAL</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>209</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>212</b>	<b>0</b>	<b>0</b>	<b>221</b>
PER CENT	0,9%	0,5%	0,9%	0,5%	0,9%	0,5%	0,0%	0,0%	4,1%	94,6%	0,0%	0,0%	0,0%	0,5%	0,0%	0,9%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	95,9%	0,0%	0,0%	100%
<b>L A T V I A</b>																										
Aizkraukles r.		2						2	1													1	2			4
Daugavpils r.								0	2														2			2
Kuldigas r.		1						1	2	1													3			4
Liepajas r.								0	1	1													2			2
Preiļu r.		1	2					3	2	1													3			6
Rezeknes r.	1							1	1														1			2
Talsu r.	1							1	1	1													2			3
Tukuma r.								0	1														1			1
<b>TOTAL</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>11</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>24</b>
PER CENT	8,3%	16,7%	8,3%	0,0%	0,0%	0,0%	0,0%	0,0%	33,3%	45,8%	16,7%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	4,2%	66,7%	0,0%	0,0%	100%
<b>L I T H U A N I A</b>																										
Alytaus								0						1									1			1
Kauno								0	1														1			1
Siauliu	1							1															0			1
Telsiu								0		1													1			1
Utenos	1	1	2					4	1	1													1			5
<b>TOTAL</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>9</b>
PER CENT	22,2%	11,1%	22,2%	0,0%	0,0%	0,0%	0,0%	0,0%	55,6%	11,1%	22,2%	0,0%	0,0%	0,0%	11,1%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	44,4%	0,0%	0,0%	100%

4.3 Rabies cases per country and administrative units, 2nd quarter 2008

01.04.08-30.06.08

Location	Domestic animals										Wildlife											bat	Human cases	total		
	dog	cat	cattle	equine	goat sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer	fallow deer				other	subtotal
<b>MOLDOVA</b>																										
Moldova	1	1	1						3	2													2			5
TOTAL	1	1	1	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	5
PER CENT	20.0%	20.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	60.0%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	0.0%	0.0%	100%	
<b>MONTENEGRO</b>																										
Montenegro	1	1			1				3	10				2									12			15
TOTAL	1	1	0	0	1	0	0	0	3	10	0	0	0	2	0	0	0	0	0	0	0	0	12	0	0	15
PER CENT	6.7%	6.7%	0.0%	0.0%	6.7%	0.0%	0.0%	0.0%	20.0%	66.7%	0.0%	0.0%	0.0%	13.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	80.0%	0.0%	0.0%	100%	
<b>TURKEY</b>																										
Adana	5				1				6													0			6	
Agri	2								2													0			2	
Antalya	1								1													0			1	
Artvin	1								1													0			1	
Aydin	2								2													0			2	
Balikesir									0	1												1			1	
Batman	1								1													0			1	
Bingöl	1								1													0			1	
Denizli			1						1													0			1	
Diyarbakir	1		3						4	1												1			5	
Elazig	1								1													0			1	
Erzurum	6		4						10													0			10	
Hatay	1		1						2													0			2	
Istanbul			2						2													0			2	
Izmir	1		3						4	1												1			5	
K.Maras	3								3													0			3	
Kastamonu	1								1													0			1	
Malatya									0	1												1			1	
Manisa	1	1							2	2												2			4	
Mugla									0	1												1			1	
Sanliurfa	1		1						2													0			2	
Tunceli	1								1													0			1	
Van	2								2													0			2	
Zonguldak									0													1			1	
TOTAL	32	1	15	0	1	0	0	0	49	7	0	0	0	0	0	0	0	0	0	0	0	1	8	0	0	57
PER CENT	56.1%	1.8%	26.3%	0.0%	1.8%	0.0%	0.0%	0.0%	86.0%	12.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	14.0%	0.0%	0.0%	100%

## 4.3 Rabies cases per country and administrative units, 2nd quarter 2008

01.04.08-30.06.08

Location	Domestic animals									Wildlife											bat	Human cases	total			
	dog	cat	cattle	equine	goat sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer				fallow deer	other	subtotal
<b>ROMANIA</b>																										
Alba	1	1							2	6								1					7			9
Arad									0	3								1					3			3
Arges									0	7													7			7
Bacau	2	1							3	6			1										8			11
Bistrita-Nasaud	1								1	12							1						13			14
Braila									0	1													1			1
Brasov		4							4	6													6			10
Buzau									0	3													3			3
Calarasi									0	1													1			1
Cluj	4								4	13													13			17
Constanta									0	1													1			1
Covasna	2	1							3	12													12			15
Dolj									0	2													2			2
Galati	1	2							3	3													3			6
Gorj									0	7													7			7
Harghita									0	8													8			8
Hunedoara									0	2													2			2
Ialomita		1							1	7							2						9			10
Iasi			1						1	2												1	3			4
Ifov	1								1	1													1			2
Mures									0	16							1						17			17
Neamt			1						1	3													3			4
Olt				1					1	6													6			7
Prahova									0	1													1			1
Salaj				1	5				6	6													6			12
Satu Mare			1						1	1													1			2
Sibiu									0	6													6			6
Suceava									0	6													6			6
Teleorman				2					2														0			2
Timis									0	1													1			1
Valcea									0	2													2			2
Vaslui	1								1	2													2			3
<b>TOTAL</b>	<b>13</b>	<b>10</b>	<b>4</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>35</b>	<b>153</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>161</b>	<b>0</b>	<b>0</b>	<b>196</b>
<b>PER CENT</b>	<b>6,6%</b>	<b>5,1%</b>	<b>2,0%</b>	<b>4,1%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>17,9%</b>	<b>78,1%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,5%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>2,6%</b>	<b>0,0%</b>	<b>0,5%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,5%</b>	<b>82,1%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100%</b>
<b>SLOVENIA</b>																										
Podravska									0	7													7			7
Savinjska									0	1													1			1
Spodnjeoposavska									0	1													1			1
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>9</b>
<b>PER CENT</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100%</b>

## 4.3 Rabies cases per country and administrative units, 2nd quarter 2008

01.04.08-30.06.08

Location	Domestic animals									Wildlife														bat	Human cases	total
	dog	cat	cattle	equine	goat sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer	fallow deer	other	subtotal			
<b>RUSSIAN FEDERATION</b>																										
Astrahanskaja obl.	6	2	4		2		1		15														0			15
Belgorodskaja obl.	15	11	5		2				33	8													8			41
Brjanskaja obl.	5	3		1					9	21													21			30
Cuvasskaja resp.	2	1	2						5	3													3			8
Dagestan resp.		1	3		1				5														0			5
Ivanovskaja obl.		1							1	1													1			2
Jaroslavskaja obl.	2						1		3	10	3												13			16
Kabardino-Balkanskaja resp.	1		1						2														0			2
Kaliningradskaja obl.	4	2	1						7	3													3			10
Kalmykija resp.	1								1	2													2			3
Kaluzskaja obl.	7	2	7						16	15													15			31
Krasnodarskij kr.	16	3					5		24	2						3							5			29
Kurskaja obl.	10	12	2				3		27	6				2									8			35
Lipeckaja obl.	5	2	1				2		10	12				1									13			23
Mordovija resp.	1	1							2	4													4			6
Moskovskaja obl.	8		1						9	20	8												28		1	38
Nizegorodskaja obl.			1						1	4													4			5
Novgorodskaja obl.									0	2	5		1										8			8
Orlovskaja obl.	1	3	4		1				9	7													7			16
Penzenskaja obl.	7	2	5						14	19													19			33
Pskovskaja obl.									0	5	2		1										8			8
Rjazanskaja obl.	9	3			1		1		14	7													7			21
Rostovskaja obl.	6	3	5						14														0			14
Saratovskaja obl.	7	8	7						22	12													12			34
Severnaja Osetija-Alanija resp.	2	1							3														0			3
Smolenskaja obl.	3	1							4	13	6												19			23
Stavropol'skij kr.	6	3	25						34														0			34
Tambovskaja obl.	4	1	3						8	6													6			14
Tul'skaja obl.	13	10			2				25	16													16			41
Tverskaja obl.	2	1	1						4	27	13												40		1	45
Uljanovskaja obl.									0	1													1			1
Vladimirska obl.	1	2							3	9													9			12
Volgogradskaja obl.	7	3	4						14	2				1									3			17
Voronezskaja obl.	27	14	7	1	1				50	14												1	15			65
<b>TOTAL</b>	<b>178</b>	<b>96</b>	<b>89</b>	<b>2</b>	<b>10</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>388</b>	<b>251</b>	<b>37</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>298</b>	<b>0</b>	<b>2</b>	<b>688</b>
<b>PER CENT</b>	<b>25,9%</b>	<b>14,0%</b>	<b>12,9%</b>	<b>0,3%</b>	<b>1,5%</b>	<b>0,0%</b>	<b>1,9%</b>	<b>0,0%</b>	<b>56,4%</b>	<b>36,5%</b>	<b>5,4%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,4%</b>	<b>0,4%</b>	<b>0,0%</b>	<b>0,4%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,1%</b>	<b>43,3%</b>	<b>0,0%</b>	<b>0,3%</b>	<b>100%</b>

## 4.3 Rabies cases per country and administrative units, 2nd quarter 2008

01.04.08-30.06.08

Location	Domestic animals									Wildlife												bat	Human cases	total		
	dog	cat	cattle	equine	goat sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer	fallow deer				other	subtotal
<b>UKRAINE</b>																										
Avtonomnaya Respublika Krym	2	1							3	1													1			4
Bolynskaja o.	1	3							4	1													1			5
Cherkasskaja o.	5	7							12	7													7			19
Chernigovskaja o.	10	9	1						20	12		2										1	15			35
Chernovitskaja o.		1							1														0			1
Dnepropetrovskaja o.	6	7	2						15	1													1			16
Donetskaja o.	8	6	2						16	3		1											4			20
Ivano-Frankovskaja o.	1	1							2	1													1			3
Khar'kovskaja o.	7	10	1		1				19	5	1		1		1								8			27
Khersonskaja o.	9	6	1						16	7													7			23
Khmel'nitskaja o.	6	6	1						13	3													3			16
Kirovogradskaja o.	6	4			1				11	3													3			14
Kiyevskaja o.	7	5							12	8					1								9			21
Luganskaja o.	8	15	3						26	4	1		1	1	2								9			35
L'vovskaja o.	1								1	1													1			2
Nikolayevskaja o.	4	4							8	4													4			12
Odesskaja o.	4	3							7	3													3			10
Poltavskaja o.	5	4	2						11	3	1												4			15
Rovenskaja o.		2							2	3													3			5
Sumskaja o.	18	17	1	2					38	8	1		1		1			1					13			51
Ternopol'skaja o.	1								1	1													1			2
Vinnitskaja o.	4	6		1	1				12	7												1	8			20
Zakarpatskaja o.	1	1							2														0			2
Zaporozhskaja o.	16	11	6		1				34	8		2											10	1		45
Zhitomirskaja o.	3	2							5	3			1									1	5			10
<b>TOTAL</b>	<b>133</b>	<b>131</b>	<b>20</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>291</b>	<b>97</b>	<b>4</b>	<b>2</b>	<b>6</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>121</b>	<b>1</b>	<b>0</b>	<b>413</b>
<b>PER CENT</b>	<b>32,2%</b>	<b>31,7%</b>	<b>4,8%</b>	<b>0,7%</b>	<b>1,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>70,5%</b>	<b>23,5%</b>	<b>1,0%</b>	<b>0,5%</b>	<b>1,5%</b>	<b>0,5%</b>	<b>1,2%</b>	<b>0,2%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,2%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,7%</b>	<b>29,3%</b>	<b>0,2%</b>	<b>0,0%</b>	<b>100%</b>
<b>SERBIA</b>																										
Central Serbia	1	2							3	14													15			18
Vojvodina	1	1							2	3													4			6
<b>TOTAL</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>24</b>
<b>PER CENT</b>	<b>8,3%</b>	<b>12,5%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>20,8%</b>	<b>70,8%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>8,3%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>79,2%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100%</b>
<b>POLAND</b>																										
Podkarpackie									0	4													4			4
Podlaskie									0	1													1			1
Warmińsko-Mazurskie									0	1													1			1
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>6</b>
<b>PER CENT</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100%</b>

### 4.3 Trend tables

#### 4.3.1 Comparison of the reporting quarter (II/2008) with the previous quarter (I/2008)

NAME	Total			Wildlife			Domestic animals			Bats			Human		
	II 2008 (no.)	I 2008 (no.)	Difference	II 2008 (no.)	I 2008 (no.)	Difference	II 2008 (no.)	I 2008 (no.)	Difference	II 2008 (no.)	I 2008 (no.)	Difference	II 2008 (no.)	I 2008 (no.)	Difference
Albania															
Austria															
Belarus	194	288	-94	148	225	-77	46	63	-17						
Belgium															
Bosnia - Hercegovina	22	37	-15	21	34	-13	1	3	-2						
Bulgaria	10	12	-2	7	9	-2	3	3							
Croatia	221	384	-163	212	349	-137	9	35	-26						
Cyprus															
Czech Republic															
Denmark															
Estonia		3	-3		1	-1		2	-2						
Finland															
France		2	-2					1	-1	1	-1				
Germany															
Greece															
Hungary	2		2	2		2									
Iceland															
Ireland															
Italy															
Latvia	24	43	-19	16	33	-17	8	10	-2						
Lithuania	9	21	-12	4	16	-12	5	5	0						
Luxembourg															
Macedonia															
Malta															
Moldova	5	17	-12	2	5	-3	3	12	-9						
Montenegro	15	9	6	12	9	3	3		3						
Norway															
Poland	6	11	-5	6	8	-2		3	-3						
Portugal															
Romania	196	510	-314	161	477	-316	35	33	2						
Russian Federation	688	1310	-622	298	628	-330	388	681	-293				2	1	
Serbia	24	98	-74	19	92	-73	5	6	-1						
Slovak Republic															
Slovenia	9	26	-17	9	25	-16		1	-1						
Spain		2	-2					1	-1	1					
Sweden															
Switzerland + Lichtenstein															
The Netherlands															
Turkey	57	96	-39	8	25	-17	49	71	-22						
Ukraine	413	863	-450	121	359	-238	291	502	-211	1		1		2	
United Kingdom															
<b>TOTAL</b>	<b>1895</b>	<b>3732</b>	<b>-1837</b>	<b>1046</b>	<b>2295</b>	<b>-1249</b>	<b>846</b>	<b>1432</b>	<b>-586</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>0</b>

Wildlife: excluding bats

II/2008 (no.), I/2008 (no.): number of cases

Difference: no. of cases in II/2008 minus cases in I/2008

\* no data



**4.3.2 Comparison of the reporting quarter (II/2008) with the same quarter of the previous year (II/2007)**

NAME	Total			Wildlife			Domestic animals			Bats			Human		
	II 2008 (no.)	II 2007 (no.)	Difference	II 2008 (no.)	II 2007 (no.)	Difference	II 2008 (no.)	II 2007 (no.)	Difference	II 2008 (no.)	II 2007 (no.)	Difference	II 2008 (no.)	II 2007 (no.)	Difference
Albania															
Austria															
Belarus	194	170	24	148	124	24	46	46							
Belgium															
Bosnia - Hercegovina	22	8	14	21	6	15	1	2	-1						
Bulgaria	10	15	-5	7	11	-4	3	4	-1						
Croatia	221	74	147	212	69	143	9	5	4						
Cyprus															
Czech Republic															
Denmark		1	-1								1	-1			
Estonia		1	-1					1	-1						
Finland															
France		1	-1								1	-1			
Germany		1	-1								1	-1			
Greece											1	-1			
Hungary	2		2	2		2									
Iceland															
Ireland															
Italy															
Latvia	24	48	-24	16	30	-14	8	18	-10						
Lithuania	9	120	-111	4	94	-90	5	26	-21						
Luxembourg															
Macedonia															
Malta															
Moldova	5	*		2		2	3		3						
Montenegro	15	2	13	12	1	11	3	1	2						
Norway															
Poland	6	18	-12	6	15	-9		2	-2		1	-1			
Portugal															
Romania	196	18	178	161	8	153	35	10	25				2		2
Russian Federation	688	365	323	298	145	153	388	219	169					1	-1
Serbia	24	29	-5	19	25	-6	5	4	1						
Slovak Republic															
Slovenia	9		9	9		9									
Spain															
Sweden															
Switzerland + Lichtenstein															
The Netherlands		1	-1								1	-1			
Turkey	57	88	-31	8	4	4	49	84	-35						
Ukraine	413	325	88	121	124	-3	291	200	91	1	1	0			
United Kingdom															
<b>TOTAL</b>	<b>1895</b>	<b>1285</b>	<b>610</b>	<b>1046</b>	<b>656</b>	<b>390</b>	<b>846</b>	<b>622</b>	<b>224</b>	<b>1</b>	<b>7</b>	<b>-6</b>	<b>2</b>	<b>1</b>	<b>1</b>

Wildlife: excluding bats

II/2008 (no.), II/2007 (no.): number of cases

Difference: no. of cases in II/2008 minus cases in II/2007

\* no data

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Please inform the editor about  
changes of contact details

**RABIES CASES EUROPE**  
**2nd QUARTER 2008**  
**1895 CASES REPORTED**

**1 BAT RABIES CASE INCLUDED**  
**2 HUMAN RABIES CASES INCLUDED**

rabies free (terrestrial rabies)  
no data

200 km

Black Sea

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