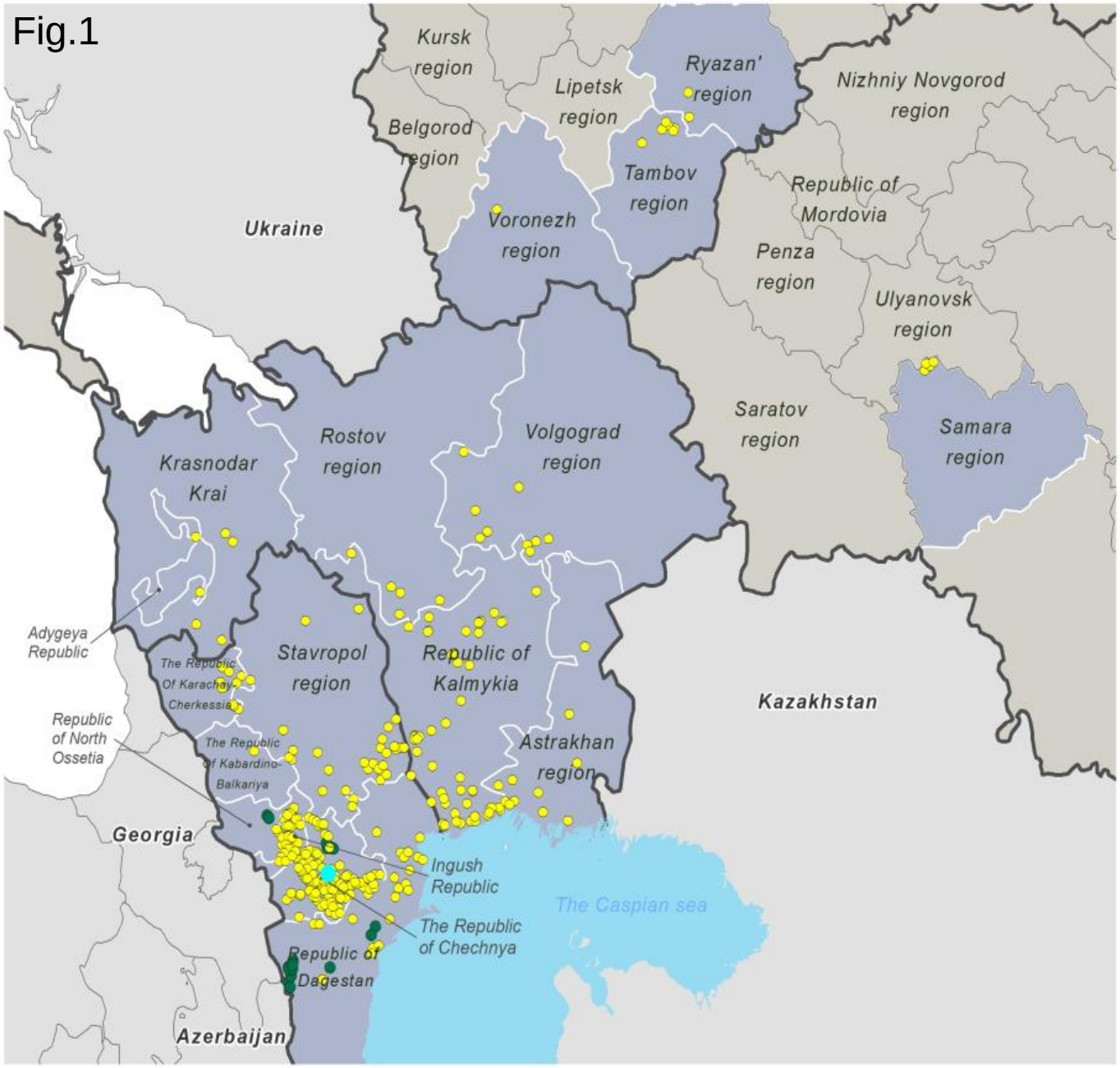
Update on the LSD epidemiology in Russia 2015-2018

SGE LSD9 Meeting of the Standing Group of Experts on Lumpy Skin Disease in South Europe region under the GF-TADs
Athens, Greece, on 16-17 October 2019.

Россельхознадзор, ФГБУ «ВНИИЗЖ»

LSD infected region of the Russian Federation 2015 - 2016

Fig.1



according to the OIE
on 31.12.2016

LSD infected settlements
(according to the OIE on 31.12.2016)

Krasnodar Krai: 5
Republic of Dagestan: 28
Republic of Kalmykia: 57
Astrakhan region: 10
The Republic Of Chechnya: 108
Stavropol Krai: 30
Volgograd oblast: 9
Ingush Republic: 35
Rostov region: 5
The Republic Of Karachay-Cherkessia: 10
Adygeya Republic: 1
Voronezh region: 1
The Republic Of Kabardino-Balkariya: 1
Tambov region: 6
Ryazan' region: 2
Samara' region: 5

LSD infected settlements
(according to the OIE on 31.12.2015)

Republic of Dagestan: 11
The Republic Of Chechnya: 4
The Republic of North Ossetia: 2

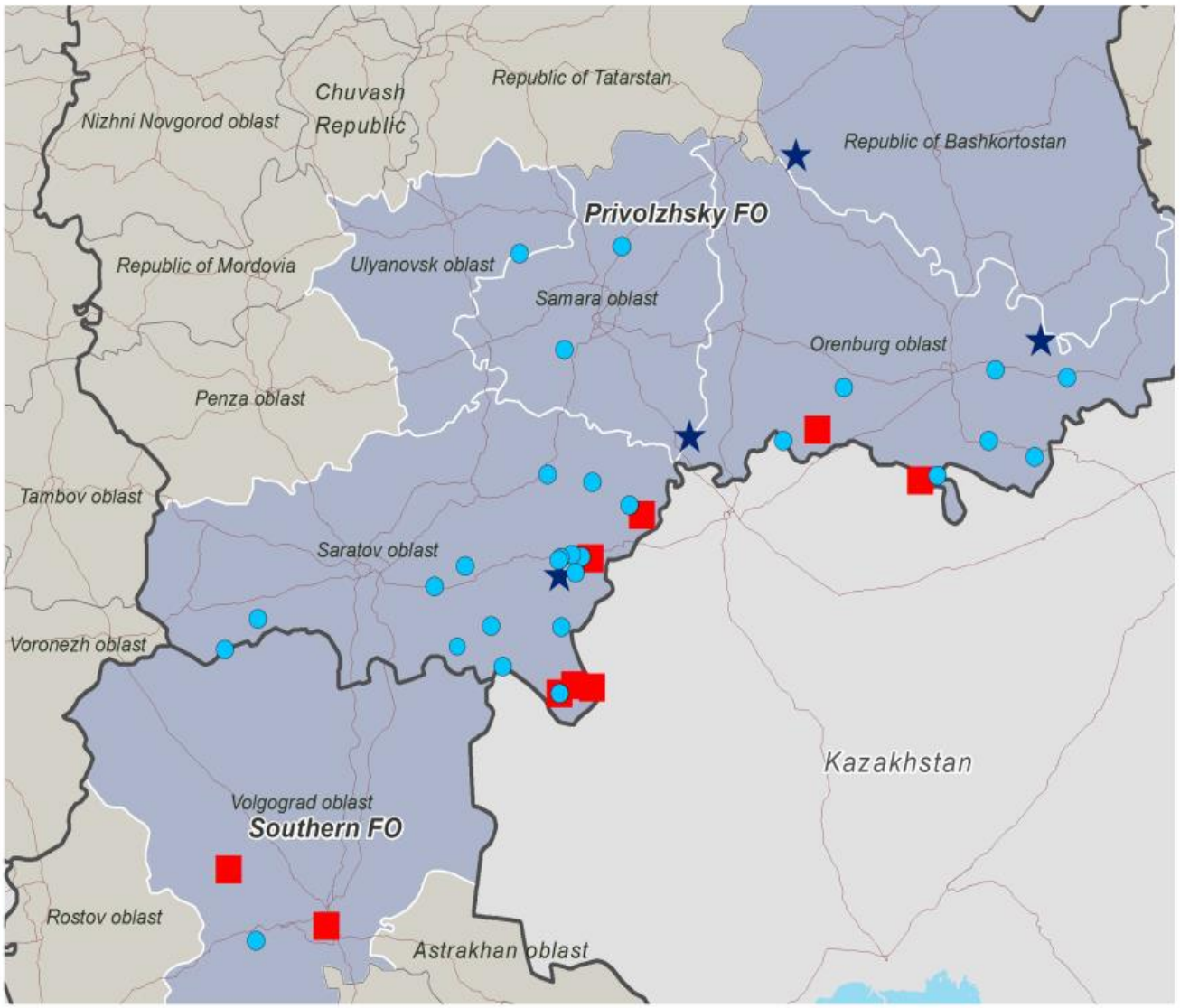
0 165 330 Km

N

Lumpy skin disease-infected regions of the RF in 2017 .

Fig.2

As of December 29,2017



Legend :

LSD outbreaks
(as of December 29, 2017, according to the OIE data)

Volgograd Oblast: 3
Orenburg Oblast: 10
The Republic of Bashkortostan: 1
Samara Oblast: 3
Saratov Oblast: 24
Ulyanovsk Oblast: 1

Untyped strain

Field strain

Vaccine strain

Road

N

0 125 250 Km

Fig.3 Analysis of LSDV in 2015-2016 by the GPCR gene

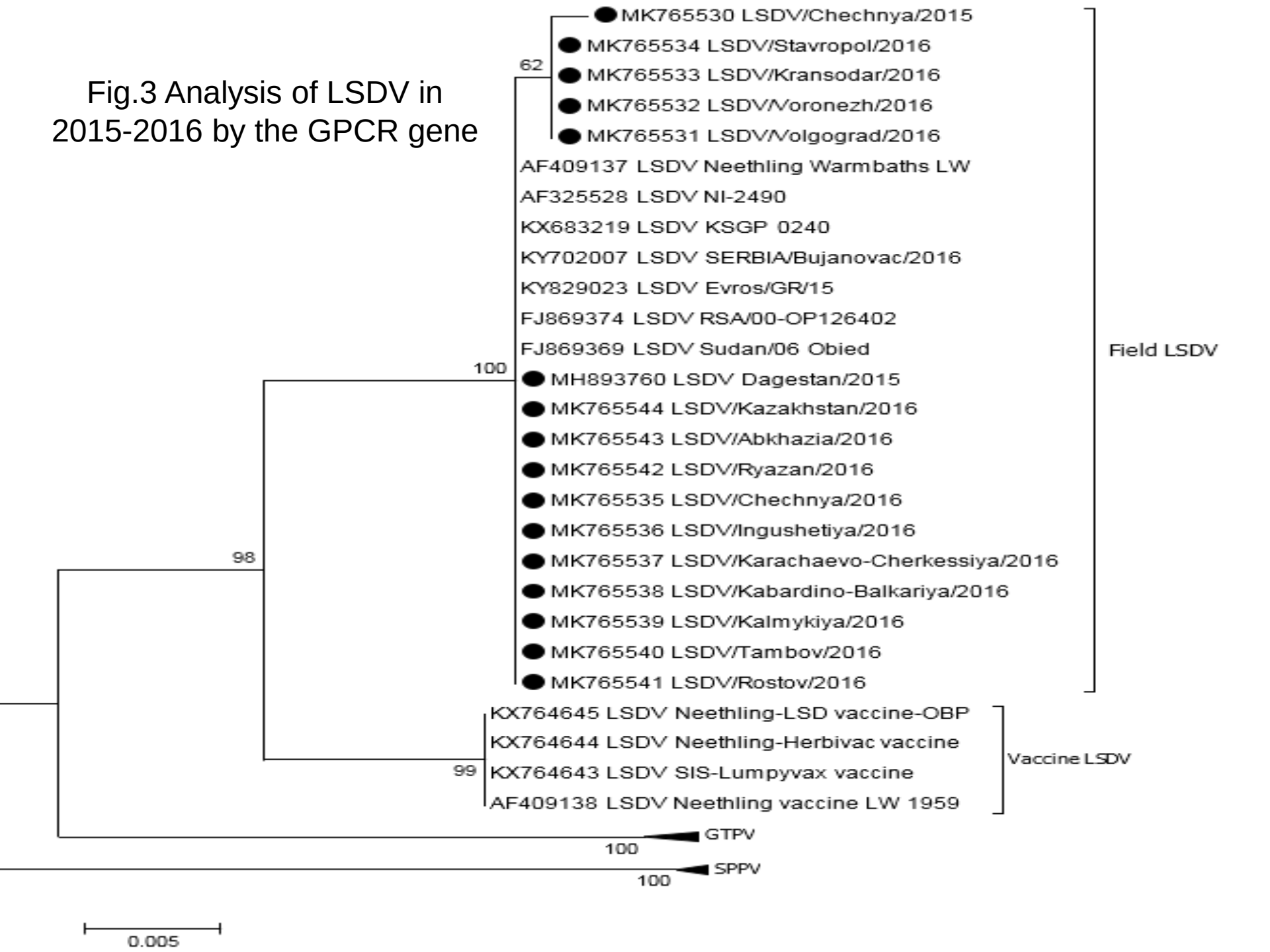
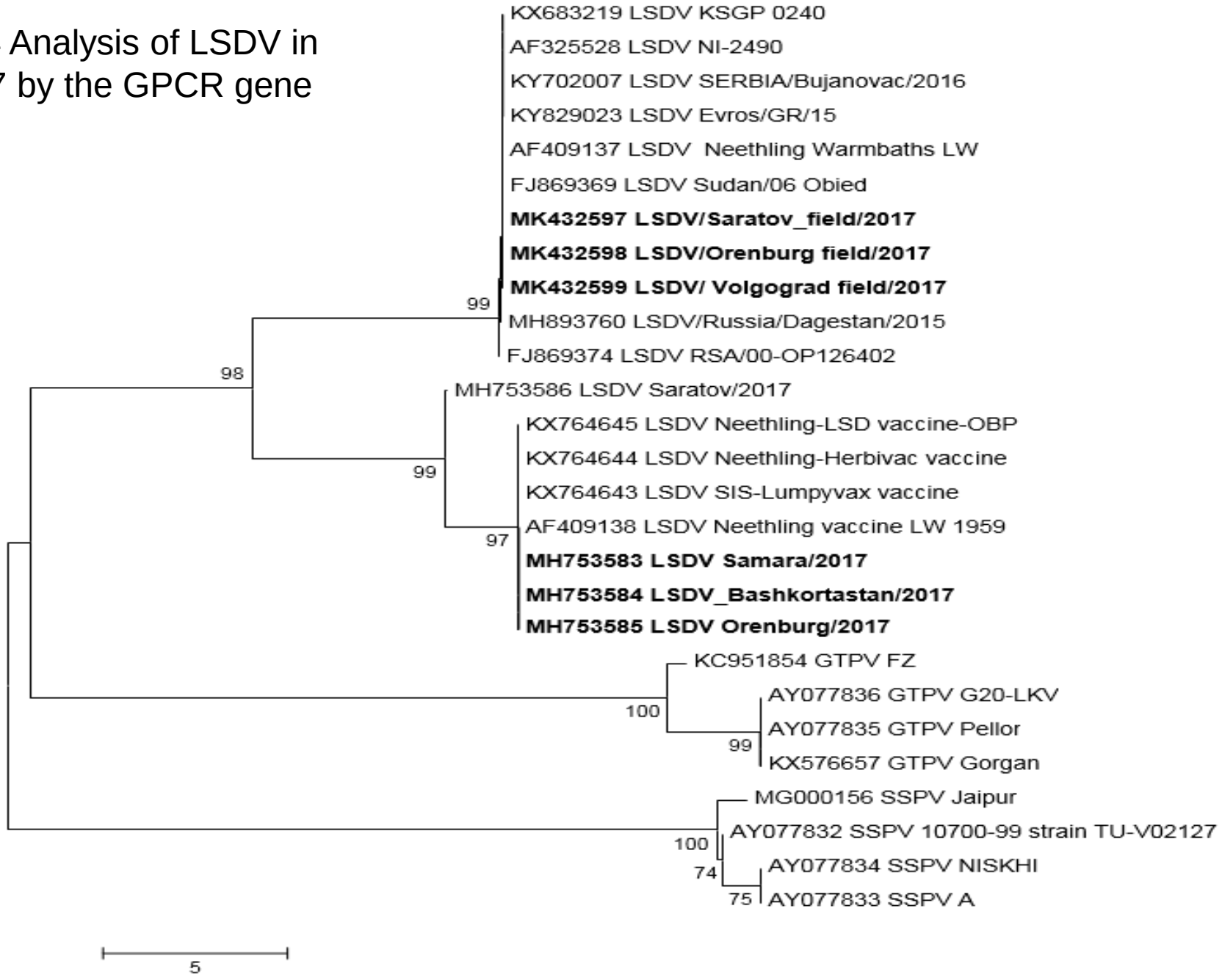


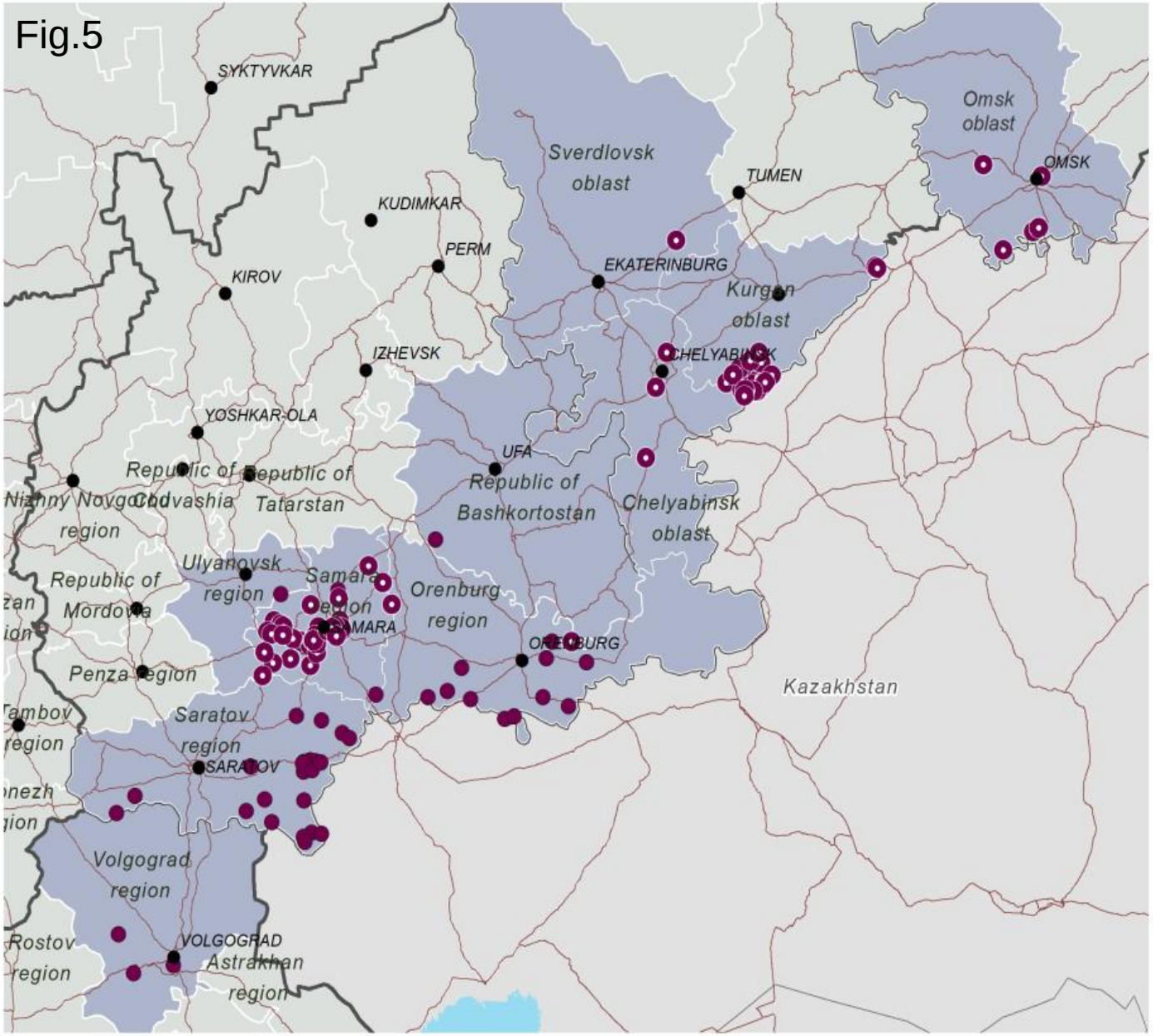
Fig.4 Analysis of LSDV in 2017 by the GPCR gene



LSD infected region of the Russian Federation, 2017 - 2018

according to the OIE,
as of 28.12.2018

Fig.5



Legend:

- LSD infected settlements/area
  (according to the OIE, as of 29.12.2017)

  Volgograd region: 3 i.s.
  Orenburg region: 11 i.s.
  Saratov region: 24 i.s.
  Republic of Bashkortostan: 1 i.s.
  Samara region: 3 i.s.
  Ulyanovsk region: 1 i.s.

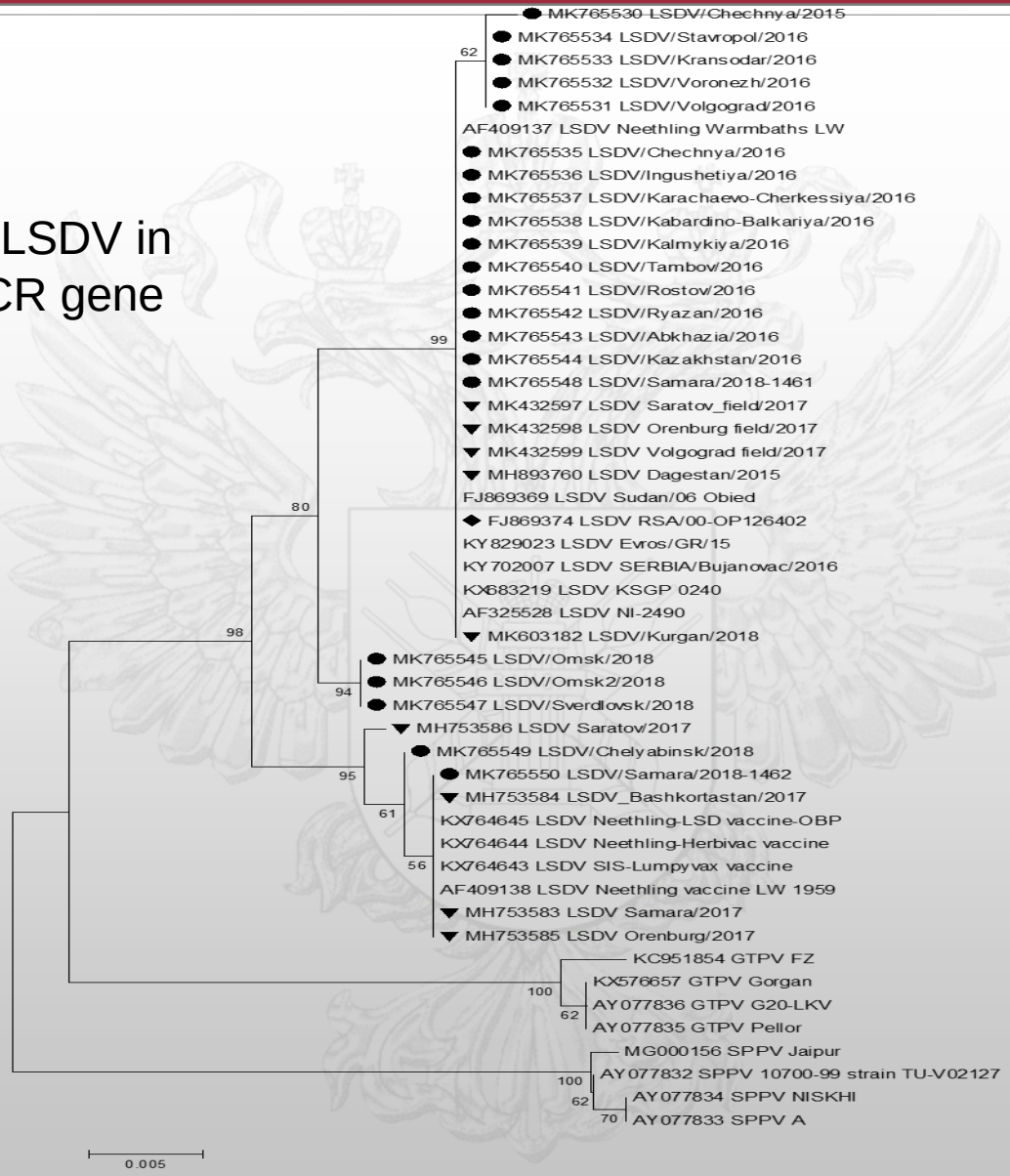
- LSD infected settlements/area
  (according to the OIE, as of 28.12.2018)

  Kurgan Oblast: 21 i.s
  Omsk Oblast: 5 i.s
  Orenburg Oblast: 1 i.s
  Samara Oblast: 32 i.s
  Saratov Oblast: 1 i.s
  Sverdlovsk Oblast: 1 i.s
  Chelyabinsk Oblast: 4 i.s

N

0 205 410 Km

Fig.6 Analysis of LSDV in 2018 by the GPCR gene



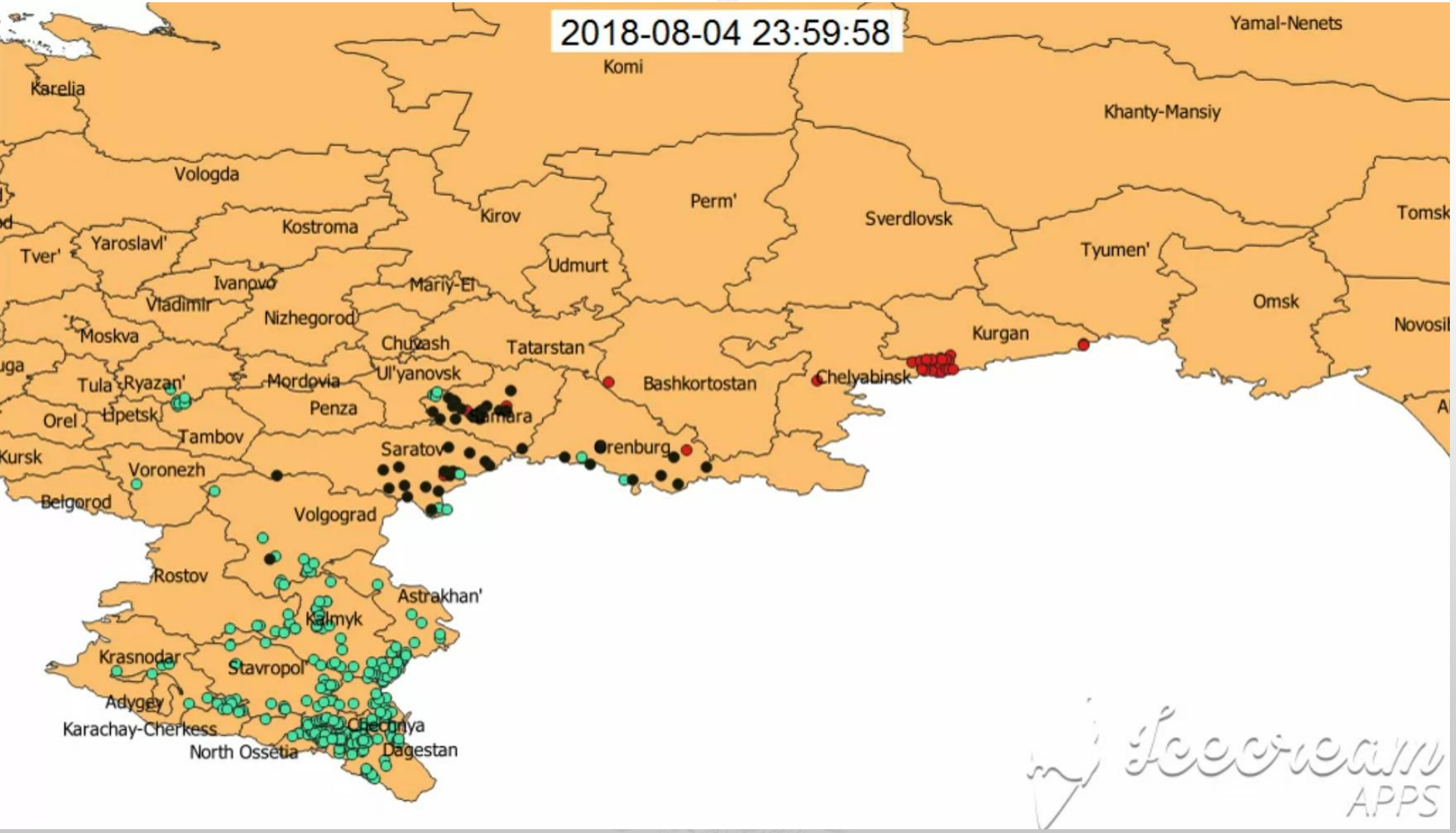
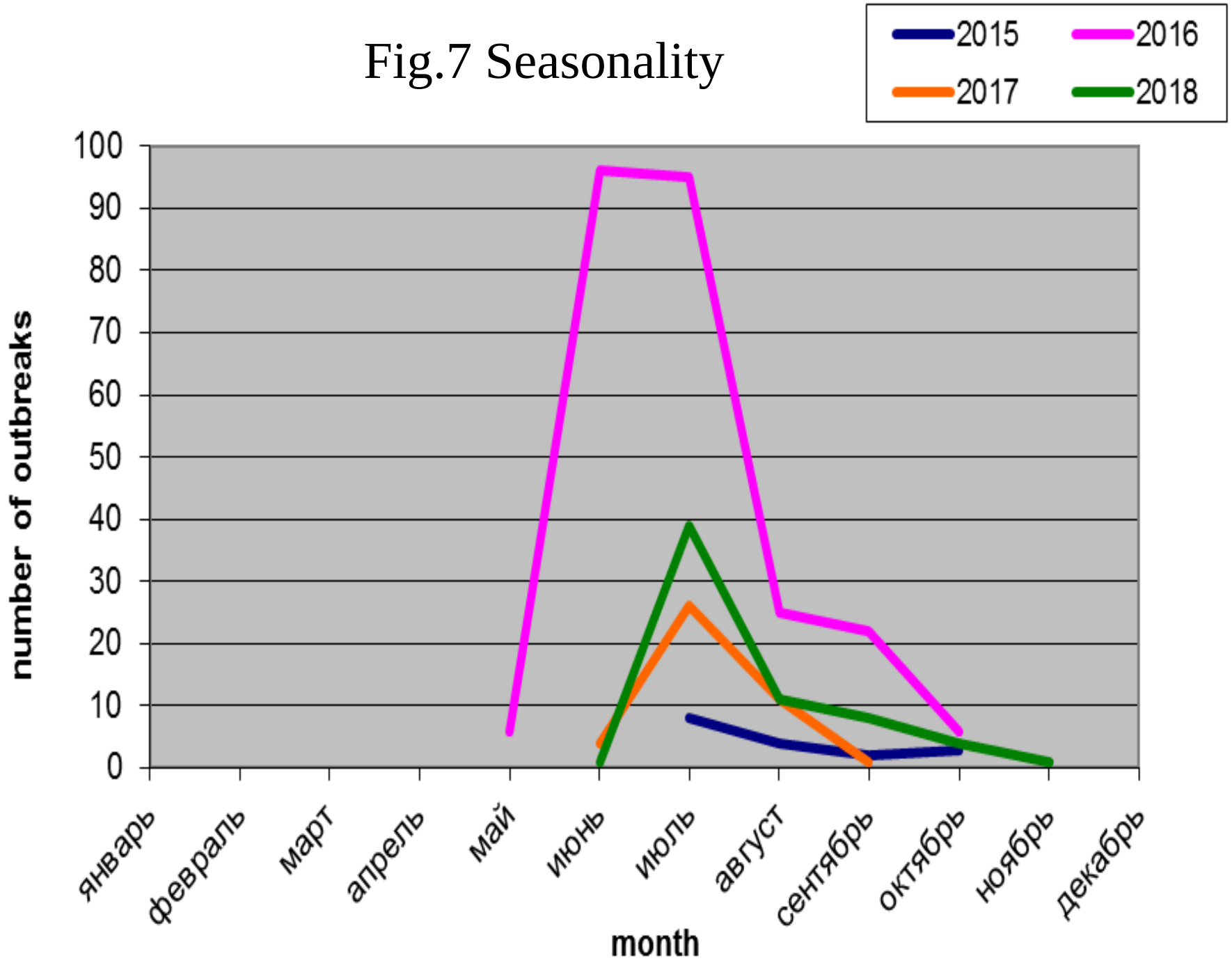

2018-08-04 23:59:58
Yamal-Nenets
Komi
Karelia
Khanty-Mansiy
Vologda
Perm'
Kirov
Sverdlovsk
Tomsk
Kostroma
Yaroslavl'
Tver'
Tyumen'
Udmurt
Ivanovo
Mariy-El
Vladimir
Omsk
Nizhegorod
Moskva
Kurgan
Chuvash
Tatarstan
Tula
Ryazan'
Mordovia
Ul'yanovsk
Bashkortostan
Chelyabinsk
Penza
Orel
Lipetsk
Tambov
Saratov
Kursk
Voronezh
Belgorod
Volgograd
Rostov
Astrakhan'
Kalmyk
Krasnodar
Stavropol'
Adygey
Karachay-Cherkess
Chechnya
North Ossetia
Dagestan

Fig.7 Seasonality



Experimental evaluation of Saratov/2017

Table 1. Schematic of animal allocation
(“-“ – the first group of in-contact animals (C1), “+” – virus inoculated animals (IN)

№ animals									
C1-1	IN-2	C1-3	IN-4	C1-5	IN-6	C1-7	IN-8	C1-9	IN-10
-	+	-	+	-	+	-	+	-	+

Table 2. Positioning of the second group of in-contact animals (C2)

№ animals														
C1-1	IN-2	C1-3	C2-3	IN-4	C1-5	C2-4	IN-6	C2-1	C1-7	IN-8	C2-5	C1-9	C2-2	IN-10
-/+	-/-	+/+	-/-	+/+	+/+	-/-	+\+	-/-	+/+	-/+	-/-	+/+	-/-	+/+

"-/-" - no clinical signs, "-/+" - mild clinical signs, "+/+" - pronounced clinical signs

At post-inoculation (p.i.) day 33, another group of five bulls (C2 group) was introduced

Table 3. Dynamics of virus shedding

Group	№	day 3	day 7	day 9	day 11	day 13	day 18	day 21	day 24	day 29	day 31	day 36	day 38	day 42	day 44	day 48	day 50	day 52
IN viremia	2																	
	4																	
	6																	
	8																	
	10																	
C1 viremia	1																	
	3																	
	5																	
	7																	
	9																	
C2 viremia	1																	
	2																	
	3																	
	4																	
	5																	
IN nasal shedding	2																	
	4																	
	6																	
	8																	
	10																	
C1 viremia nasal shedding	1																	
	3																	
	5																	
	7																	
	9																	
C2 viremia nasal shedding	1																	
	2																	
	3																	
	4																	
	5																	
IN ocular shedding	2																	
	4																	
	6																	
	8																	
	10																	
C1 ocular shedding	1																	
	3																	
	5																	
	7																	
	9																	
C2 ocular shedding	1																	
	2																	
	3																	
	4																	
	5																	

Thank you