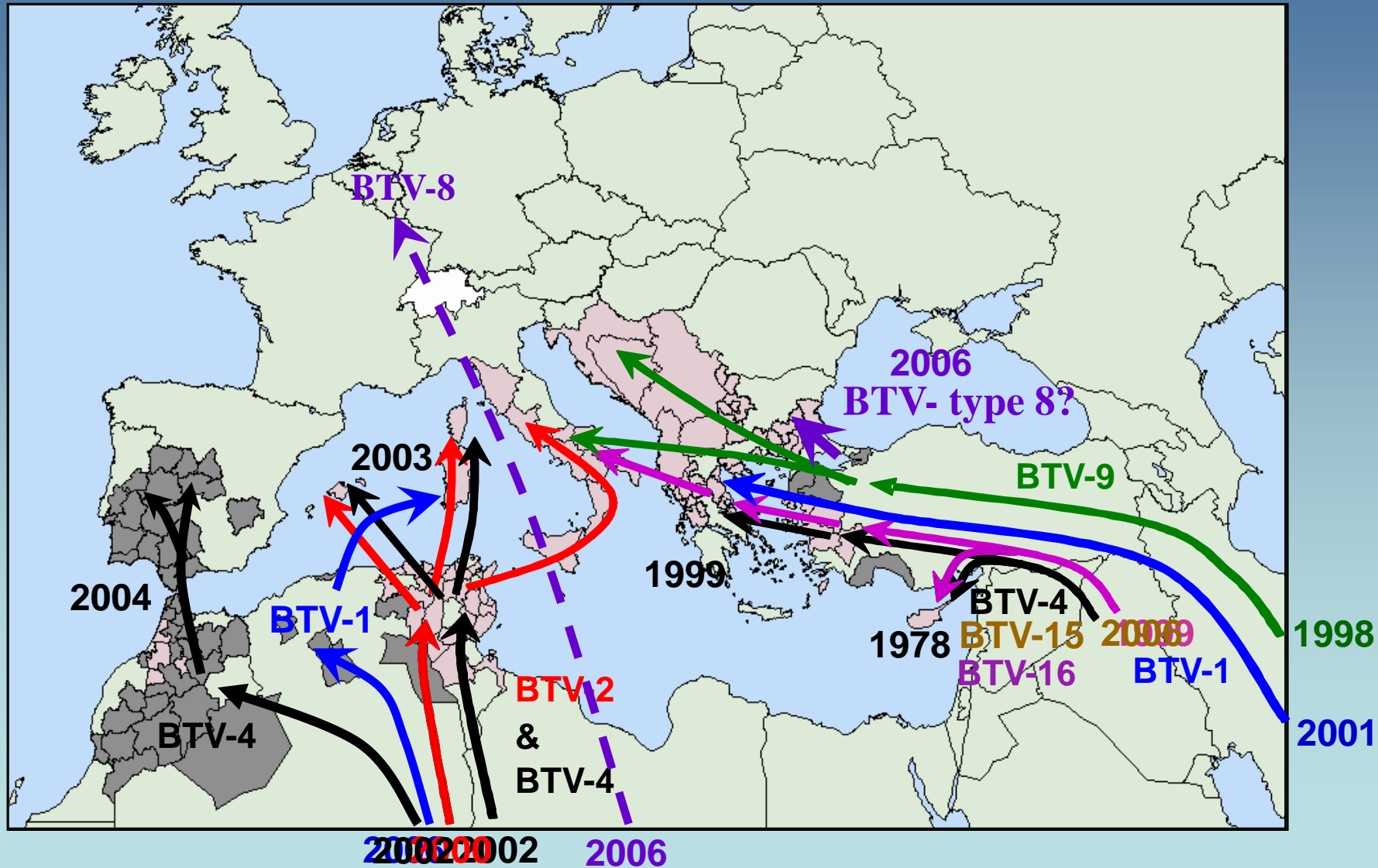


MedReoNet:
Molecular Epidemiology Work Package

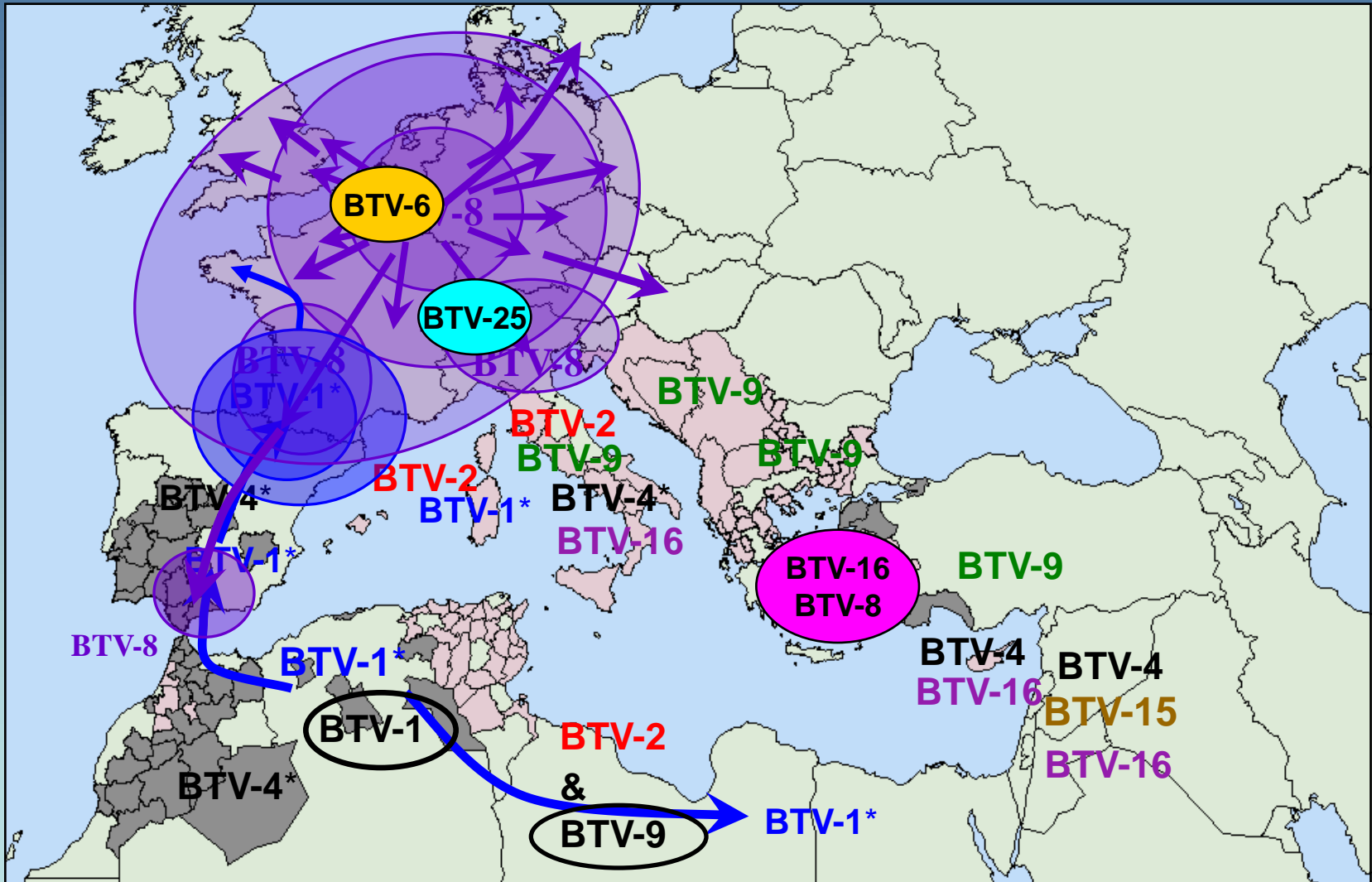
Update for 2008

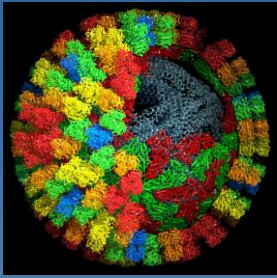
The 10 introductions of different BTV strains into Europe and north Africa 1998 to end of 2006



12 different Introductions of BTV into Europe since 1998

~~May~~ 2008





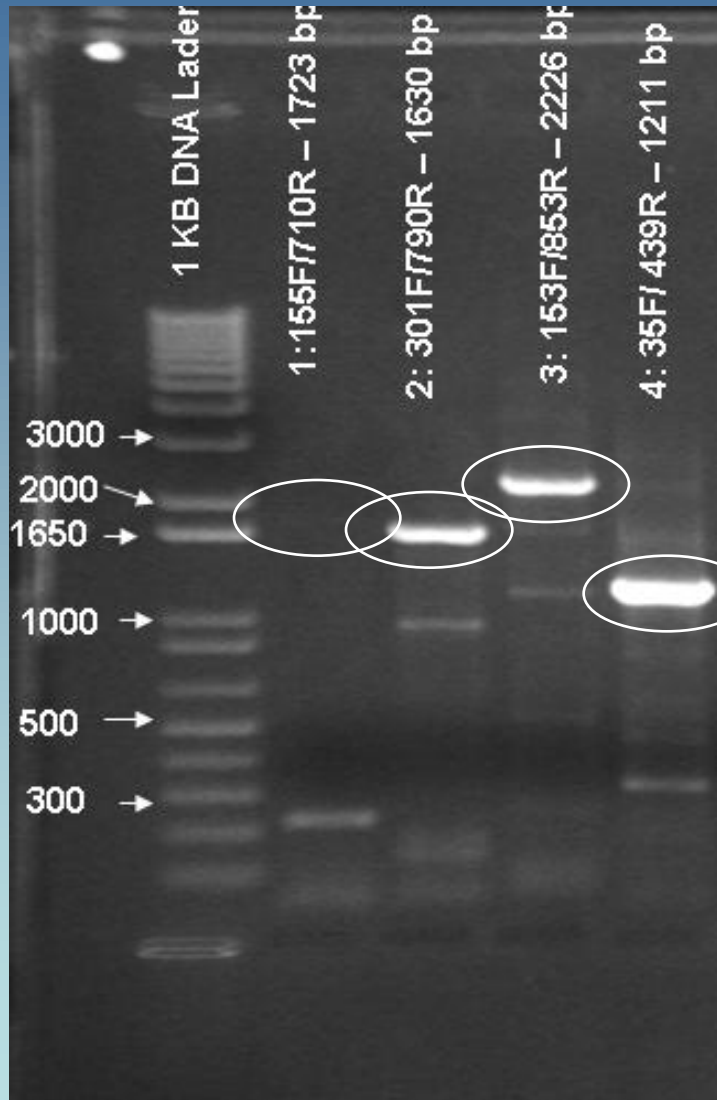
New BTV strains for 2008?

The Netherlands (October)



RT-PCR and agarose gel analysis of a KC1 isolate using segment 2 specific primers against BTV- 6

([Sample 2-X08021376 – Heeten- NET2008/04](#),

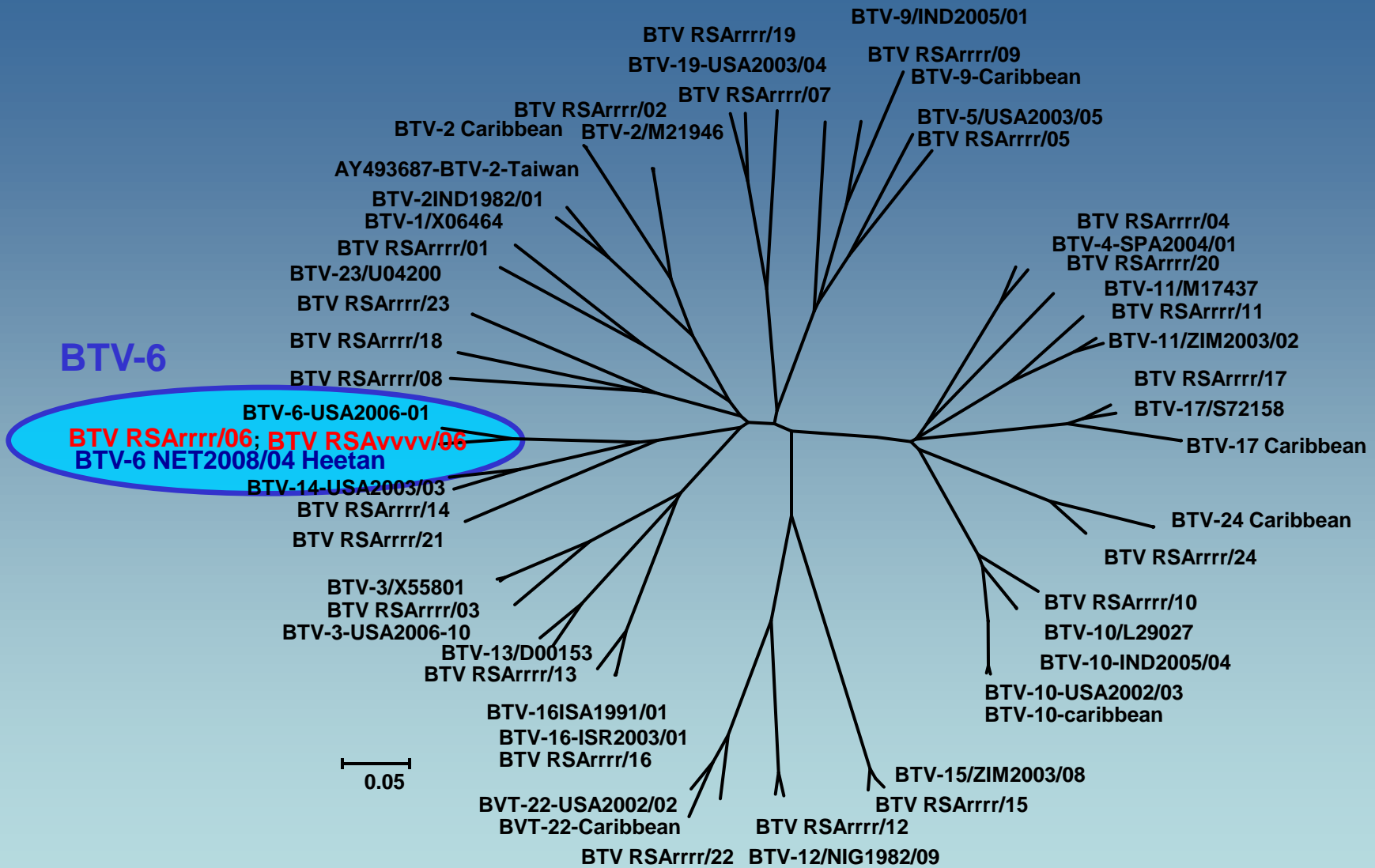


Lane 1: 1723 bp product with type 6 primer pair: BTV-6/2/p155F and BTV-6/2/p710R

Lane 2: 1630 bp product with type 6 primer pair BTV-6/2/p301F and BTV-6/2/p790R

Lane 3: 2226 bp product with type 6 primer pair BTV-6/2/p153F and BTV-6/2/p853R

Lane 4: 1211 bp product with type 6 primer pair BTV-6/2/p35F and BTV-6/2/p439R



Phylogenetic analysis of full length Seg-2 of BTV-6 Netherlands 2008

Similarity between BTV-6 (NET2008/04) and other selected BTV strains, in each genome segment

BTV-6 (Netherlands) Genome segment Number	% similarity with <u>BTV-6 reference</u> strain (RSArrrr/06)	% similarity with <u>BTV-8 Netherlands</u> strain (NET2008)	% similarity with <u>BTV-2 vaccine</u> RSAvvv2/01
1			
2	→ 99.7%		
3			
4			
5	→ 99.9%		
6			
7		→ 99.9%	
8	→ 99.6 %		
9	→ 99.6 %		
10	→ 99.3%		→ 98.4%

* Data for the other segments of the BTV-6 vaccine are being generated in South Africa :
BTV-2 was used as a component of the Israeli multivalent vaccine

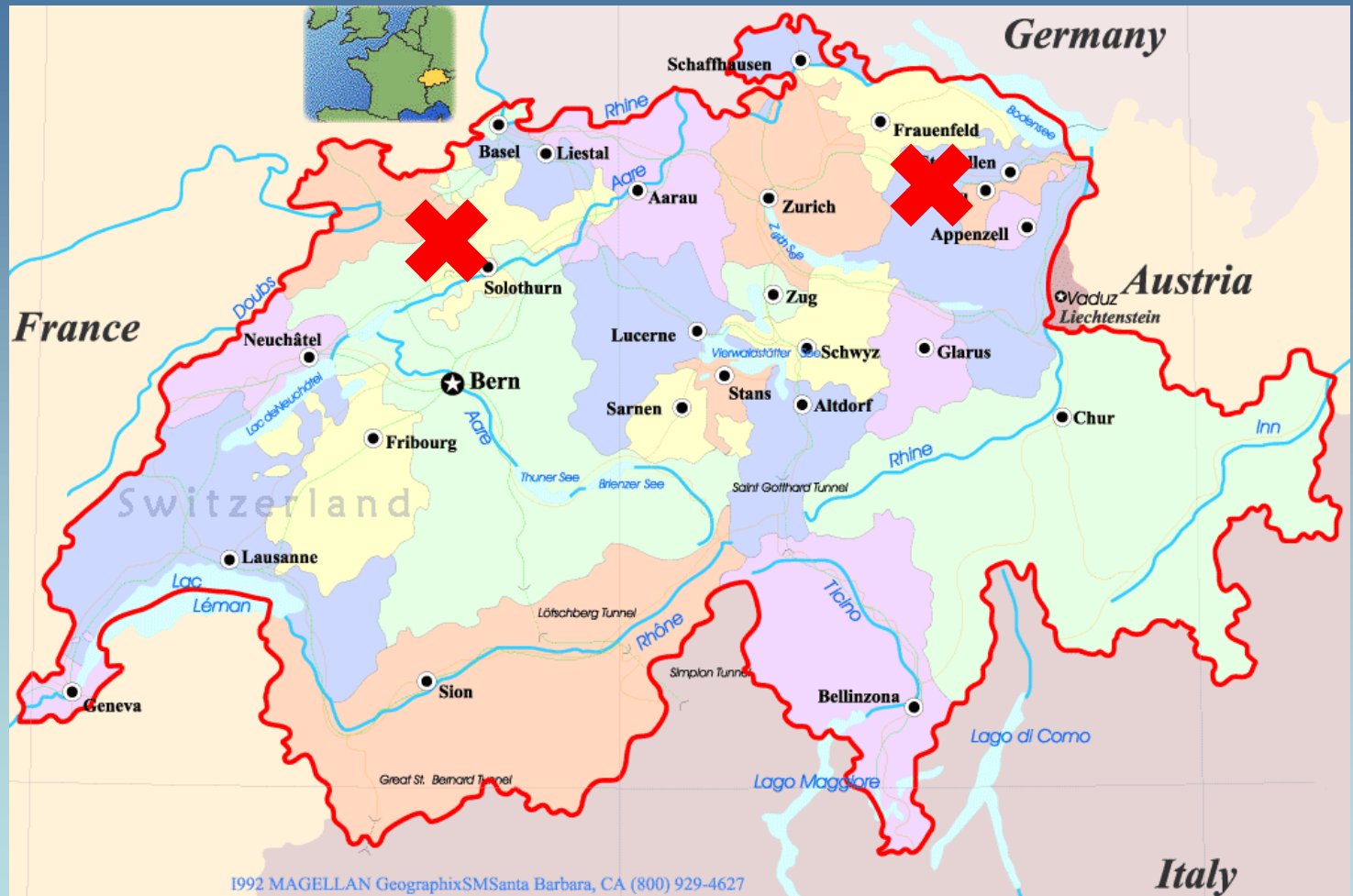
New BTV strains for 2008?

Switzerland

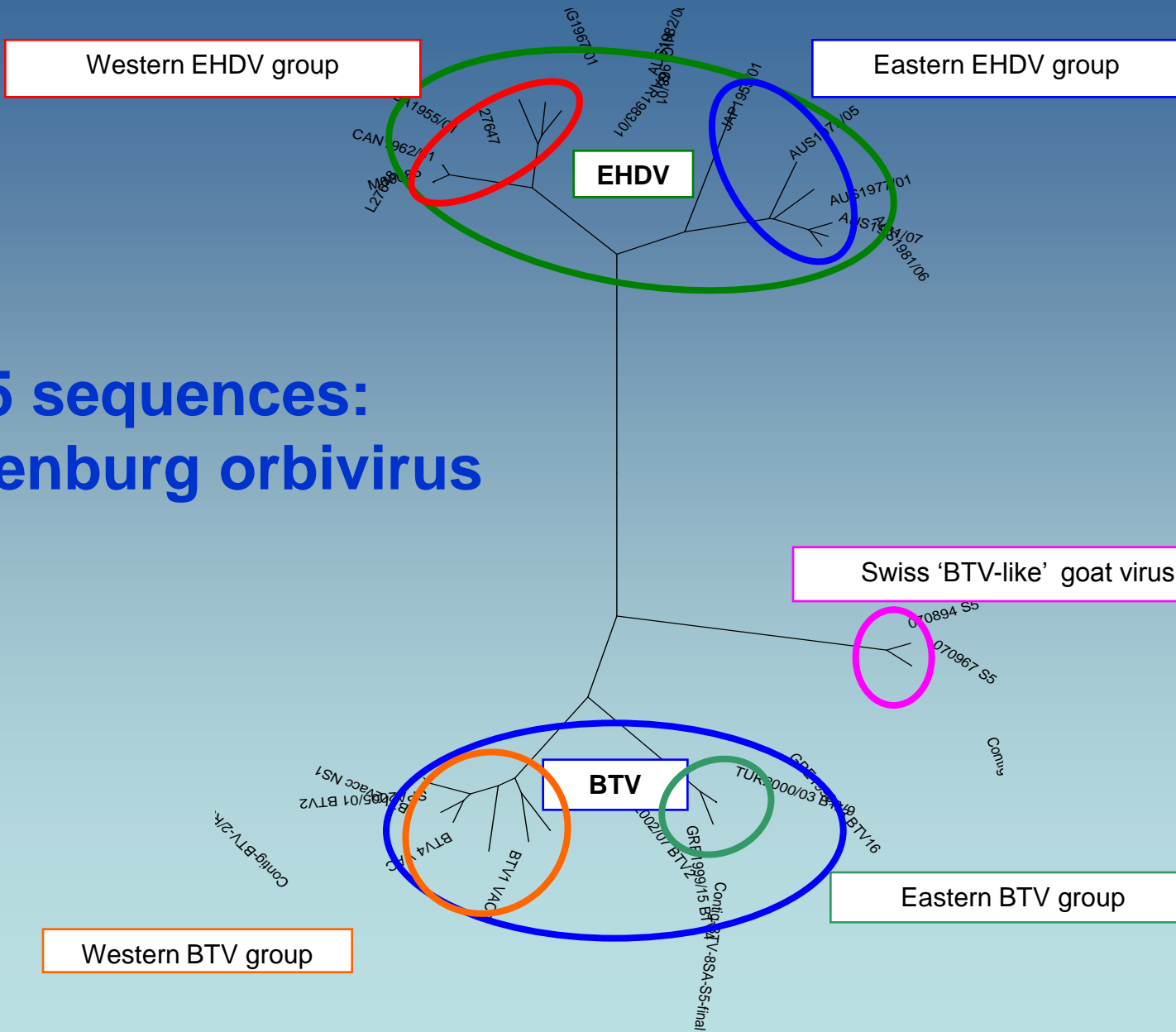
New BTV strains for 2008?

Toggenburg orbivirus, Cases in goats in Switzerland

No clinical signs of infection



Seg-5 sequences: Toggenburg orbivirus



Western EHDV group

Eastern EHDV group

EHDV

Swiss 'BTV-like' goat virus

BTV

Eastern BTV group

Western BTV group

0.05

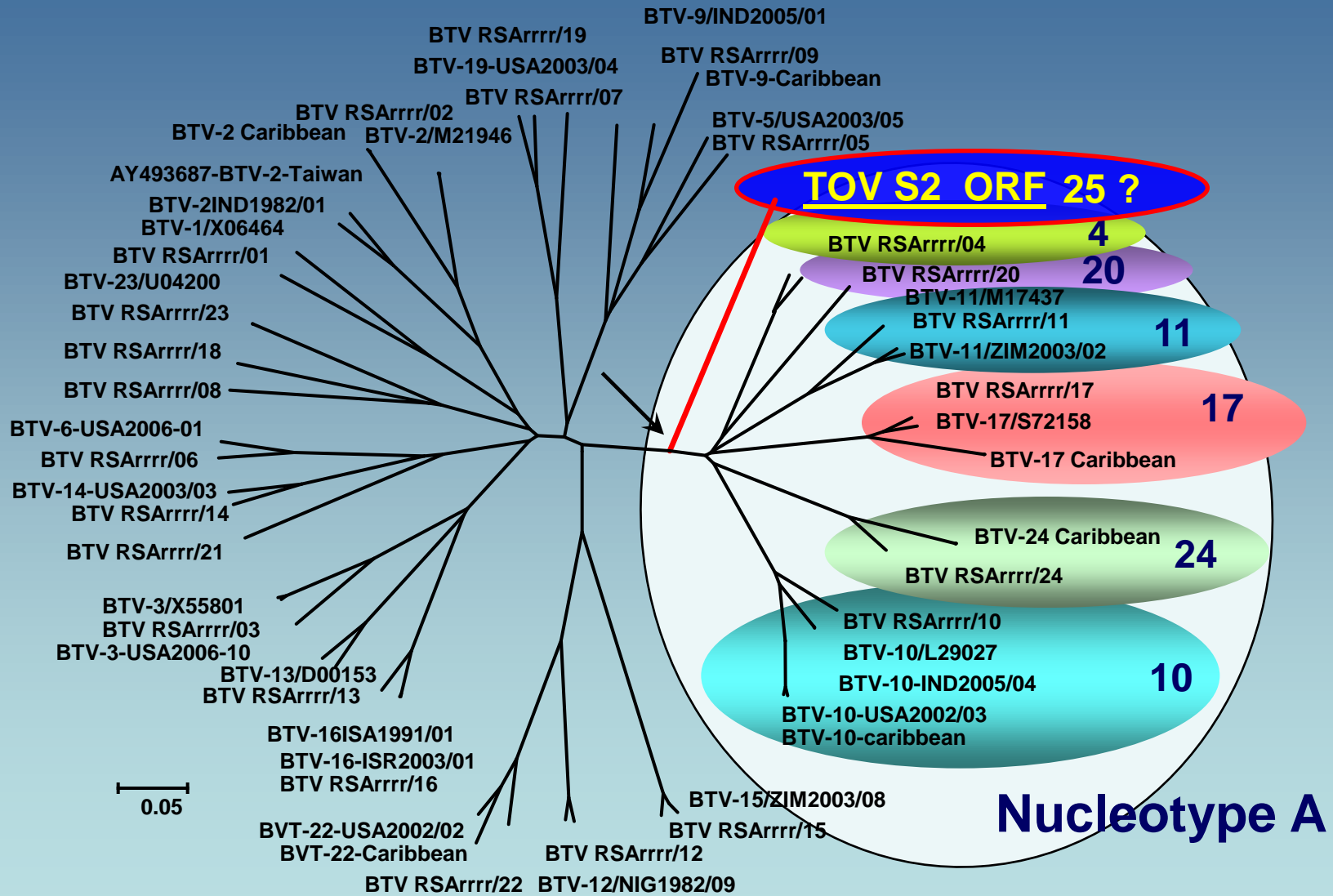
BTV	A119/08 1 CAE0016	A119/08 2 CAE0020	A119/08 3 CAE0034	A119/08 4 CAE0040	A119/08 5 CAE0068	A119/08 6 CAE0089	A119/08 7 CAE0097
1	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-
3	1/10	-	-	1/10	-	-	1/20
4	1/10	-	-	-	-	-	-
5	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-
11	-	-	-	-	-	-	1/10
12	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-
20	1/30	1/10	-	1/20	-	-	1/15
21	-	-	-	-	-	-	-
22	-	-	-	-	1/10	-	1/10
23	1/10	-	-	1/15	-	-	-
24	1/20	1/10	-	1/10	1/10	-	1/15

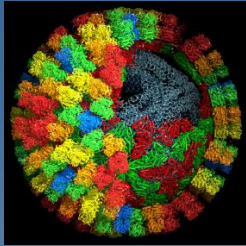
Serum Neutralisation tests for seven animals infected with the Toggenburg orbivirus, using reference strains of BTV1-24.

Post infected animals would normally be expected to show neutralisation titres of at least 1/256

Phylogenetic analysis of full length

Seg-2 of BTV serotypes *But will TOV reassort with other BTVs ?*





**Hofmann et al (2008) Genetic Characterization of
Toggenburg Orbivirus, A New Bluetongue Virus, from
Goats, Switzerland.**

Emerg Infect Dis, doi 10.3201/eid1412.080818; in press.



Latest News

- BTV-1 identified in Algeria
- BTV – 9 identified in Libya (and typed)
- BTV in Israel (untyped – samples requested)
- BTV-16 identified in Greece
- BTV-8 identified in Greece

Activities in 2008

- Publish full genome sequence analysis of BTV-8 from Netherlands (Virology **377**, 308-318)
- Identification of reassortant BTV-16 /BTV-2 in Italy (Virus Res. **137**:56-63.)
- Identify BTV-6 (vaccine strain) in The Netherlands (first time in Europe)
- Identify reassortment between strains of BTV-6 and 8 in the Netherlands
- BTV in Libya (typed but awaiting official-OIE announcement)
- BTV-1 in Algeria
- BTV-16 in Greece
- BTV-8 in Greece (for first time)
- BTV-25 identified in Switzerland
- Set up Relais system for BTV
- Sequence full genome of 100 BTV strains from around the world, as reference, to help identify reassortment events.
- Identified several reassortment events in eastern Mediterranean field strains