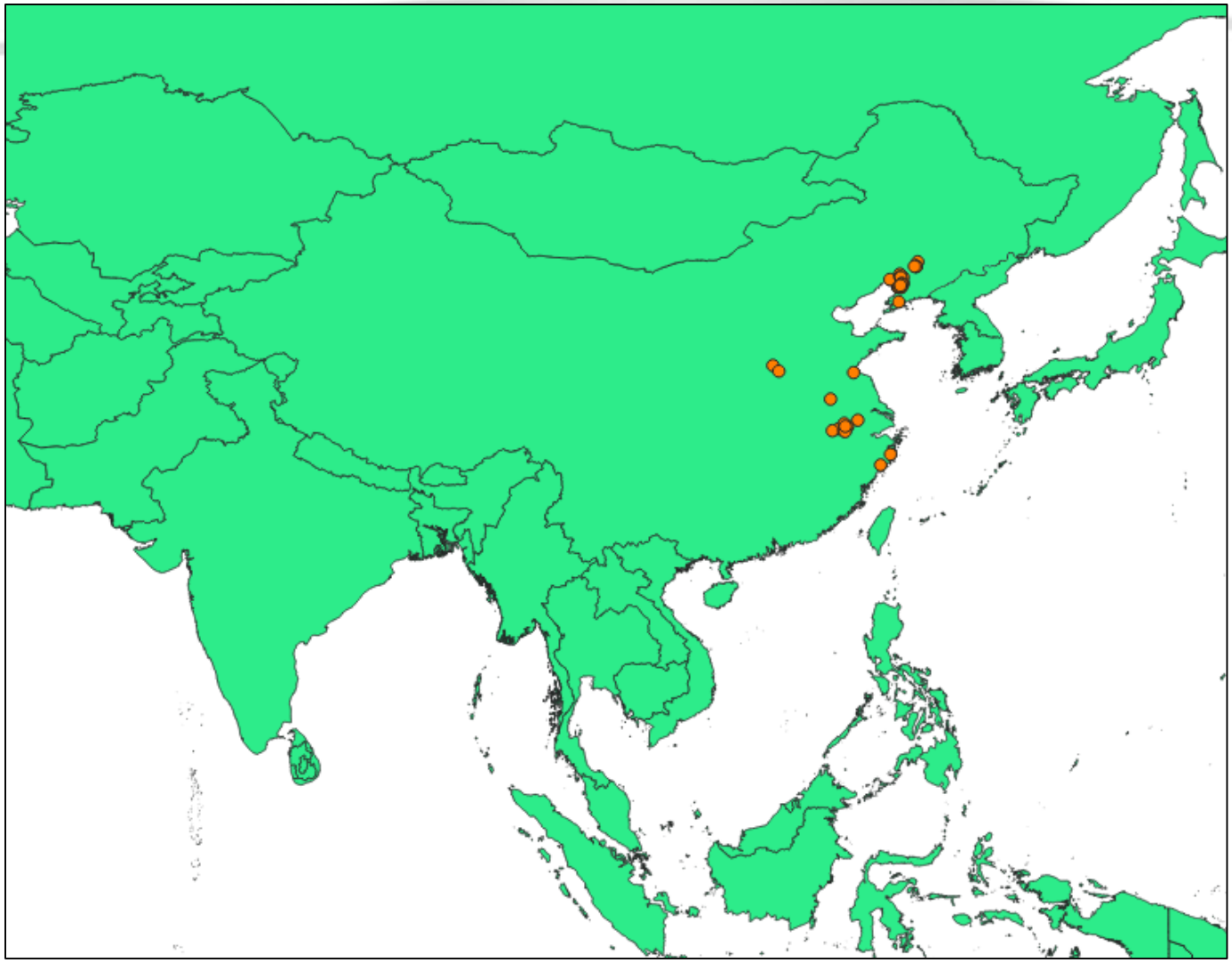
Updates on Trans-boundary Animal Diseases in Asia

Ronello Abila
Sub-Regional Representative for South-East Asia

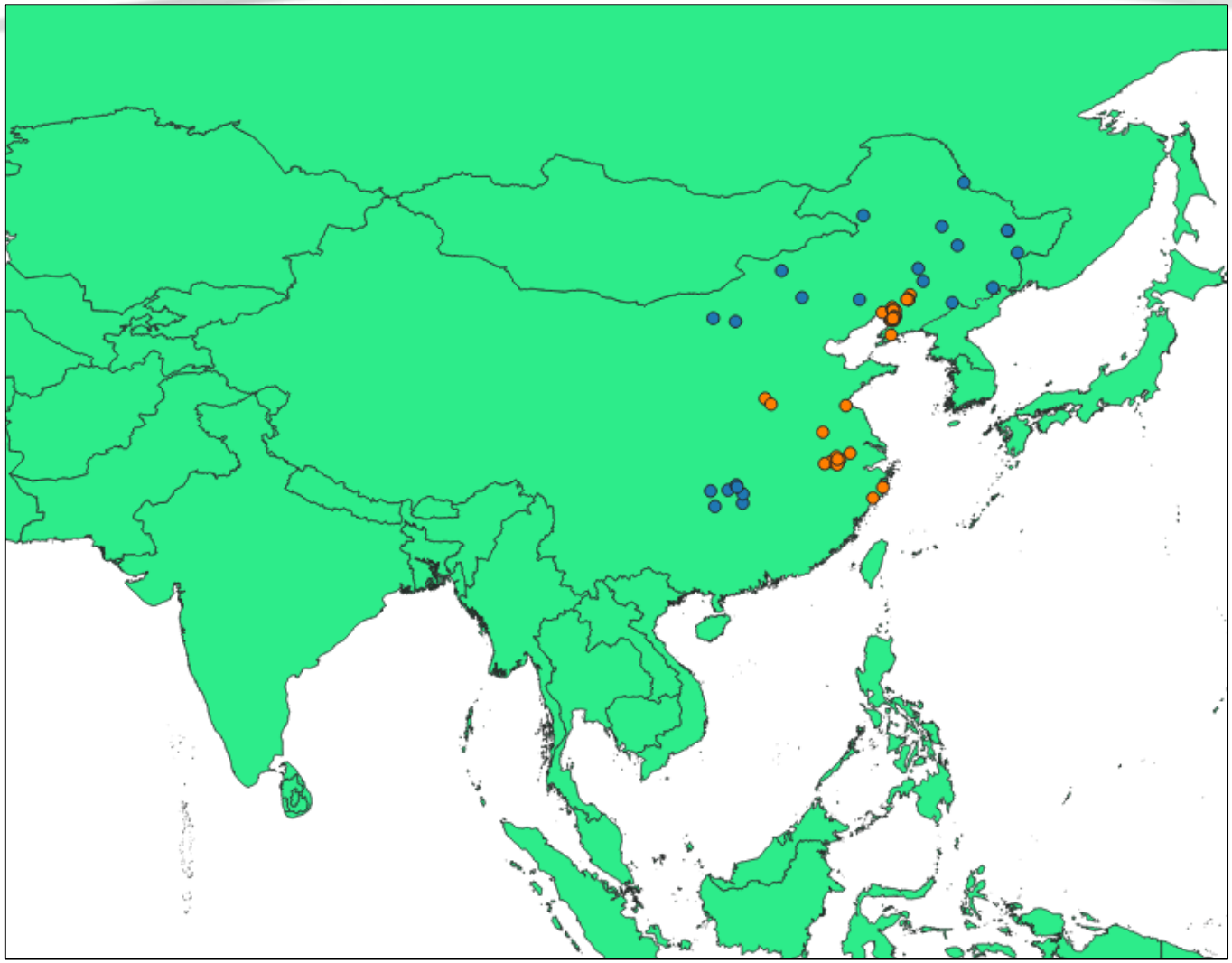
WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

African swine fever (ASF)

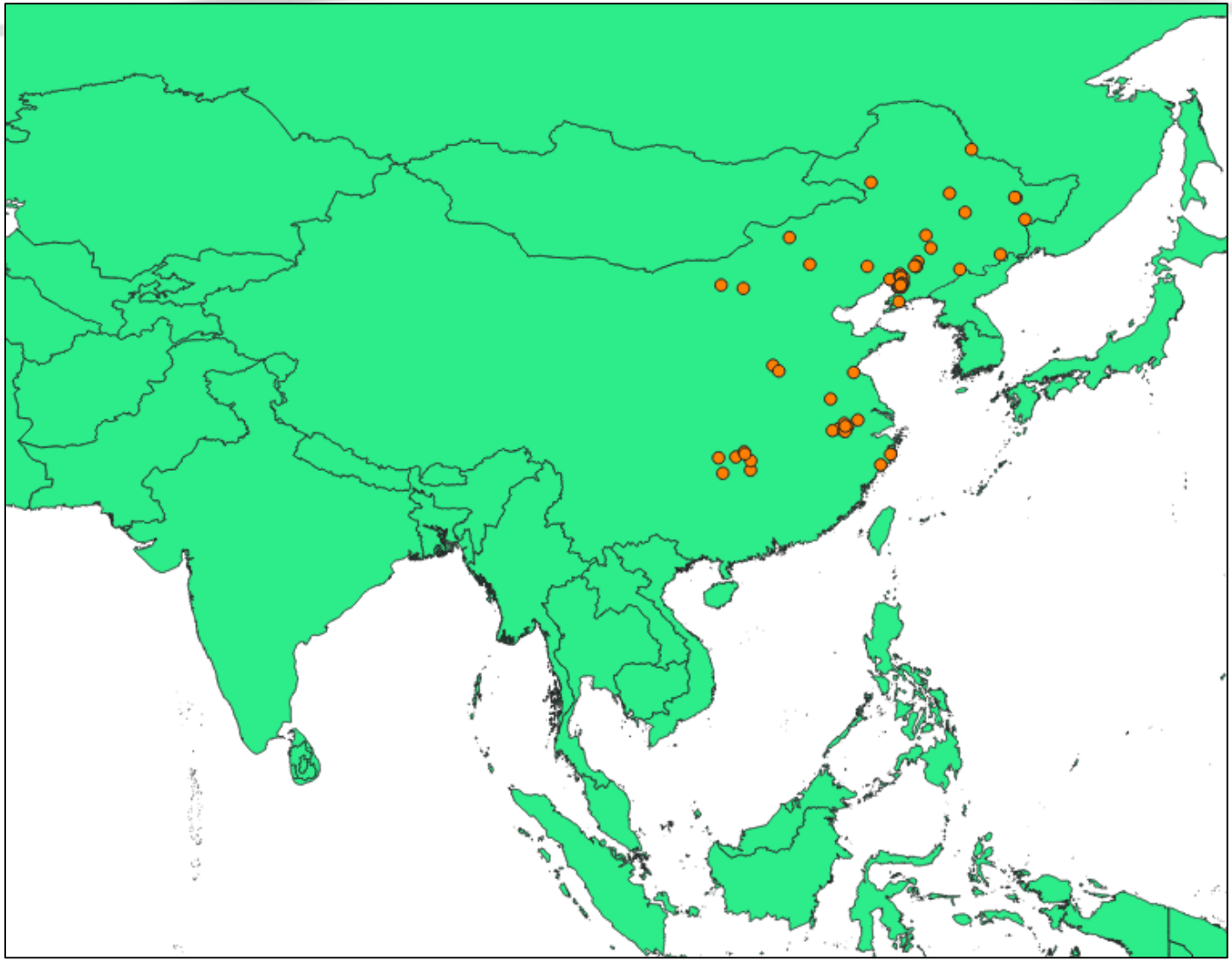
August 2018



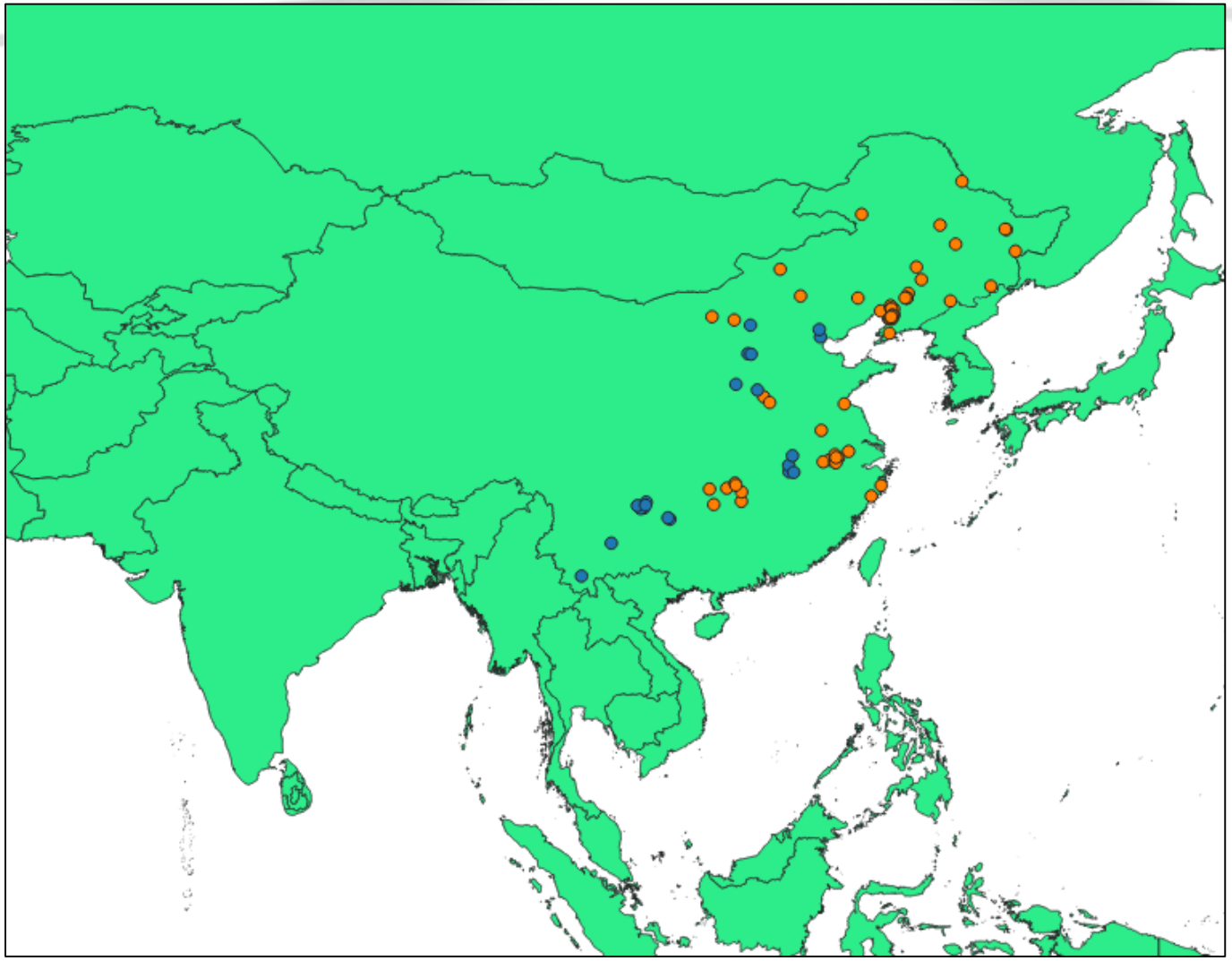
Aug-Sept 2018



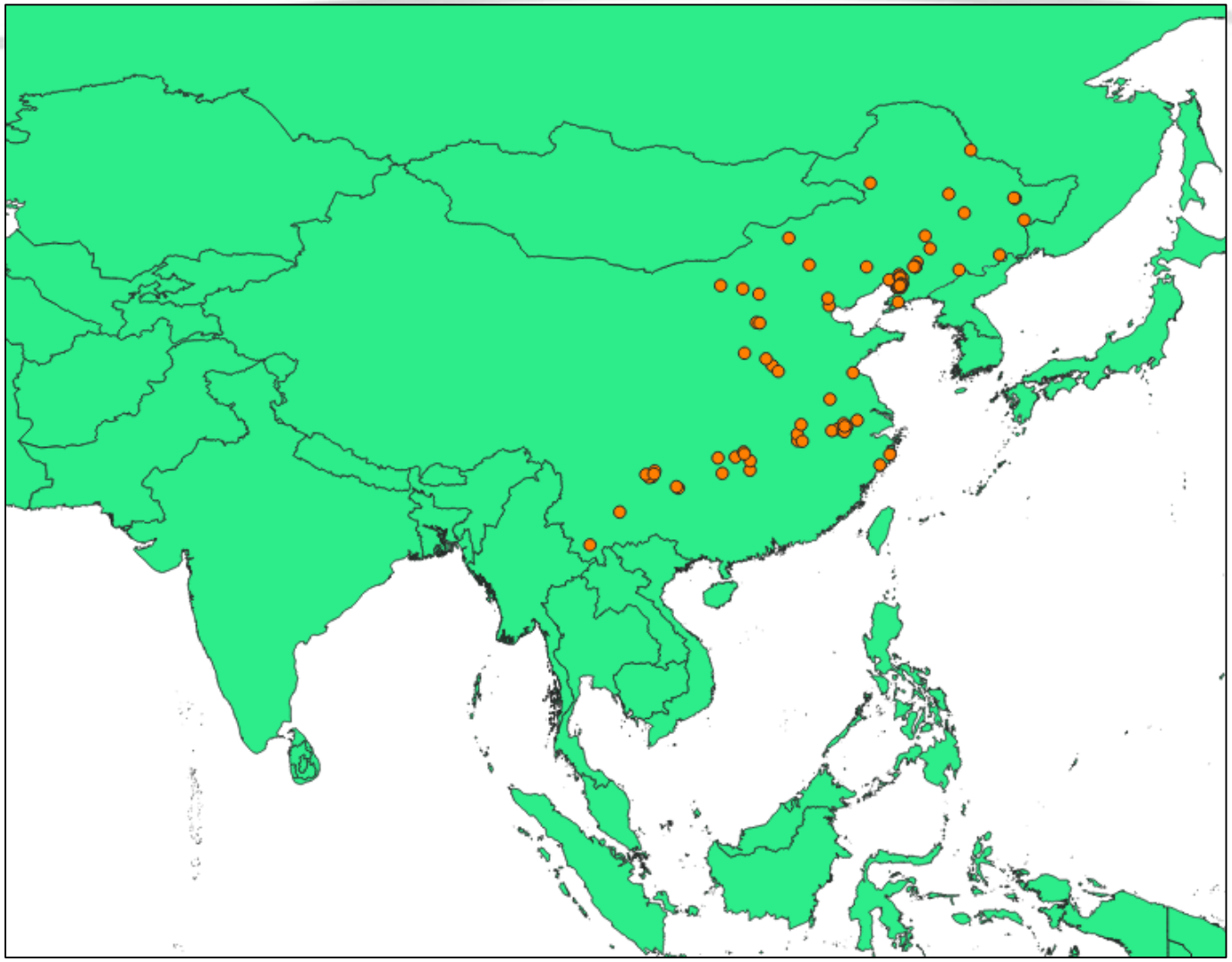
Aug-Sept 2018



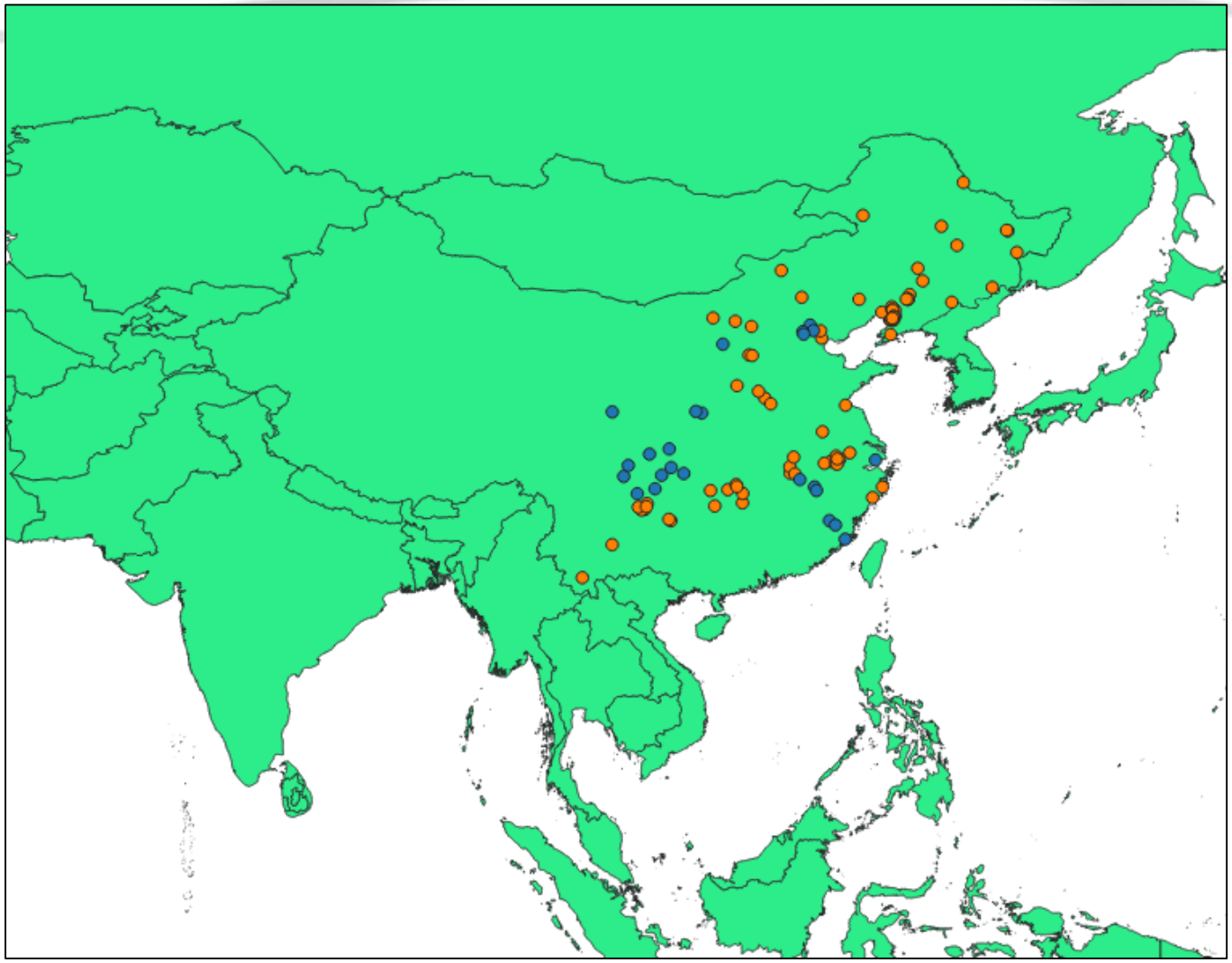
Aug-Oct 2018



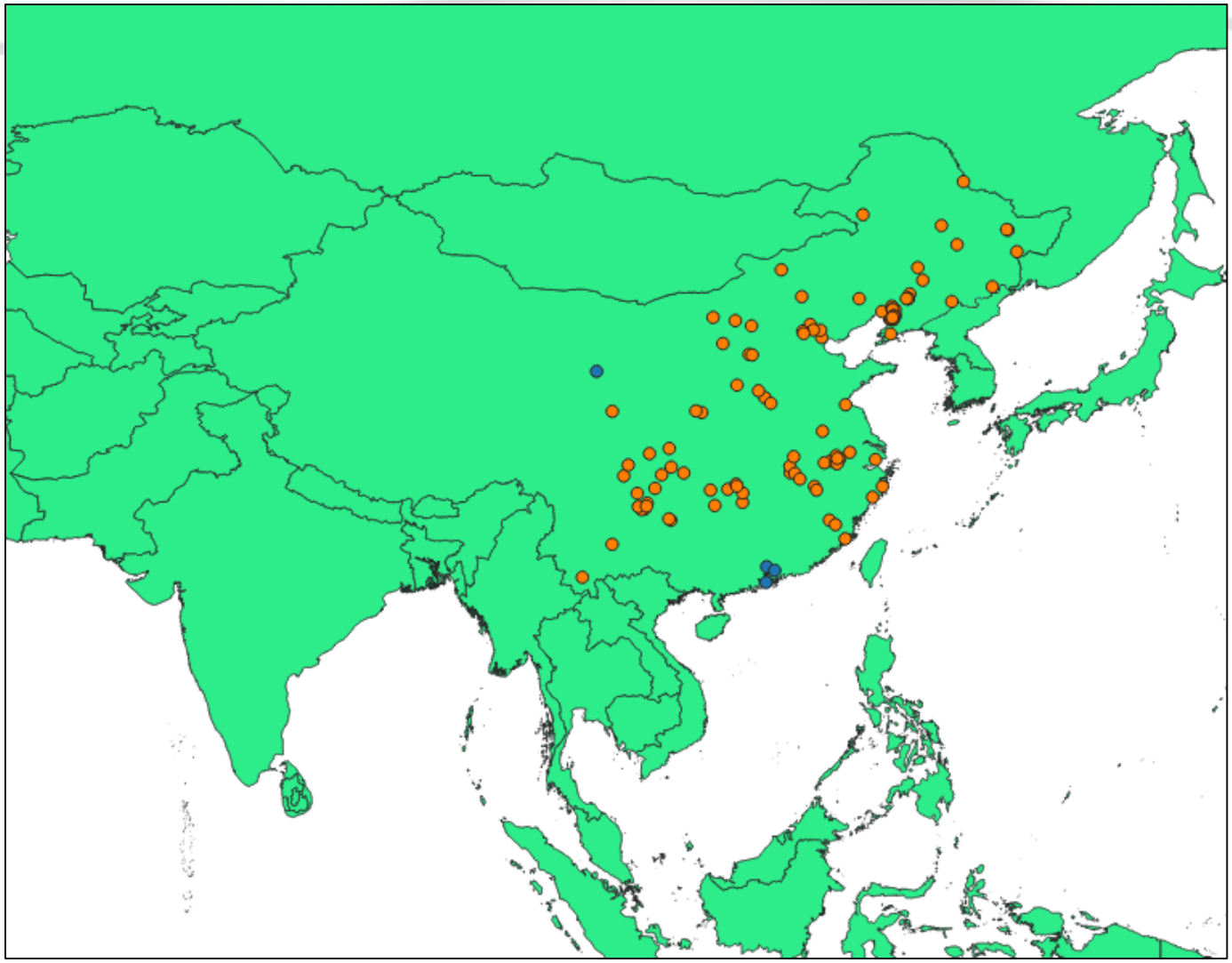
Aug-Oct 2018



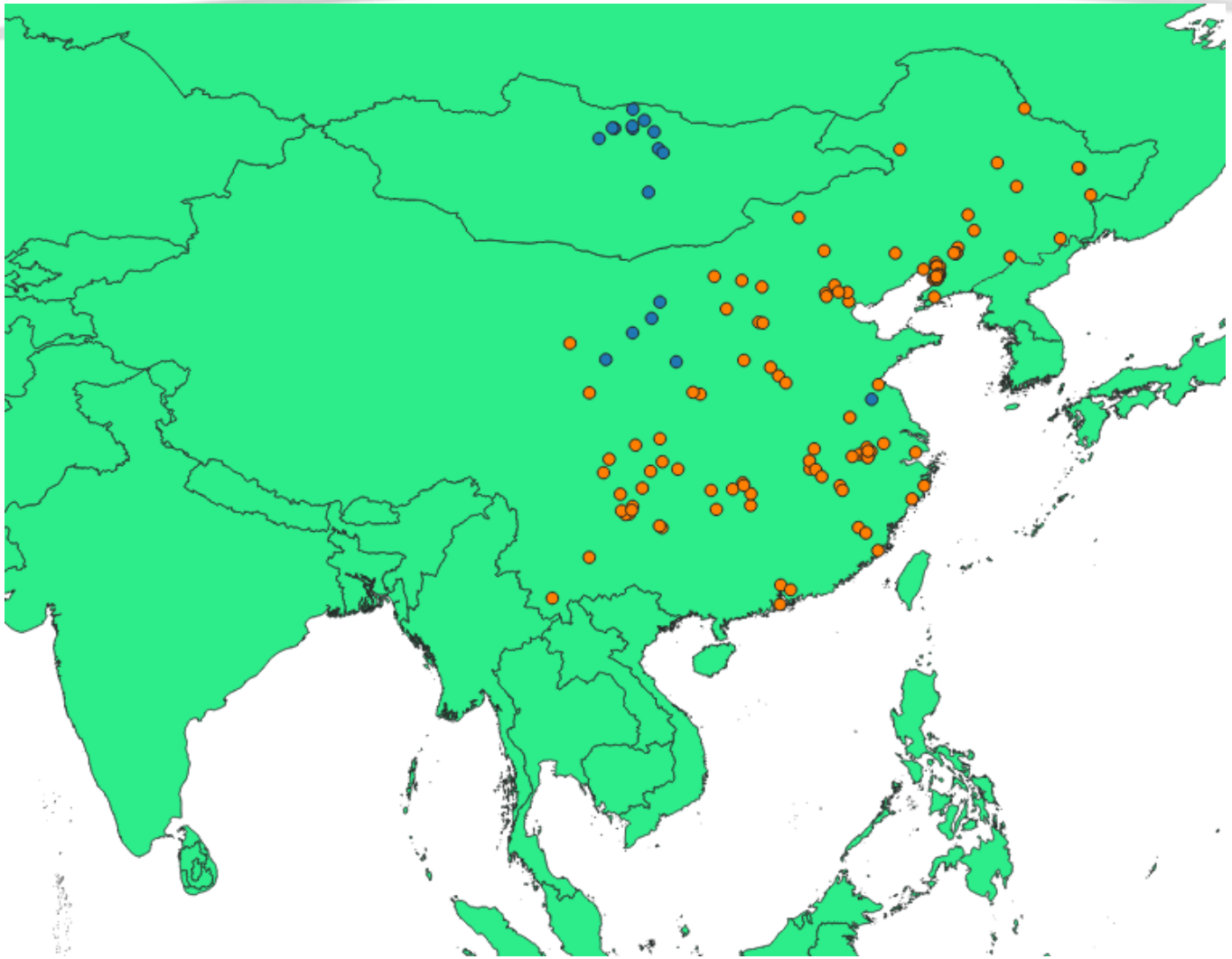
Aug-Nov 2018



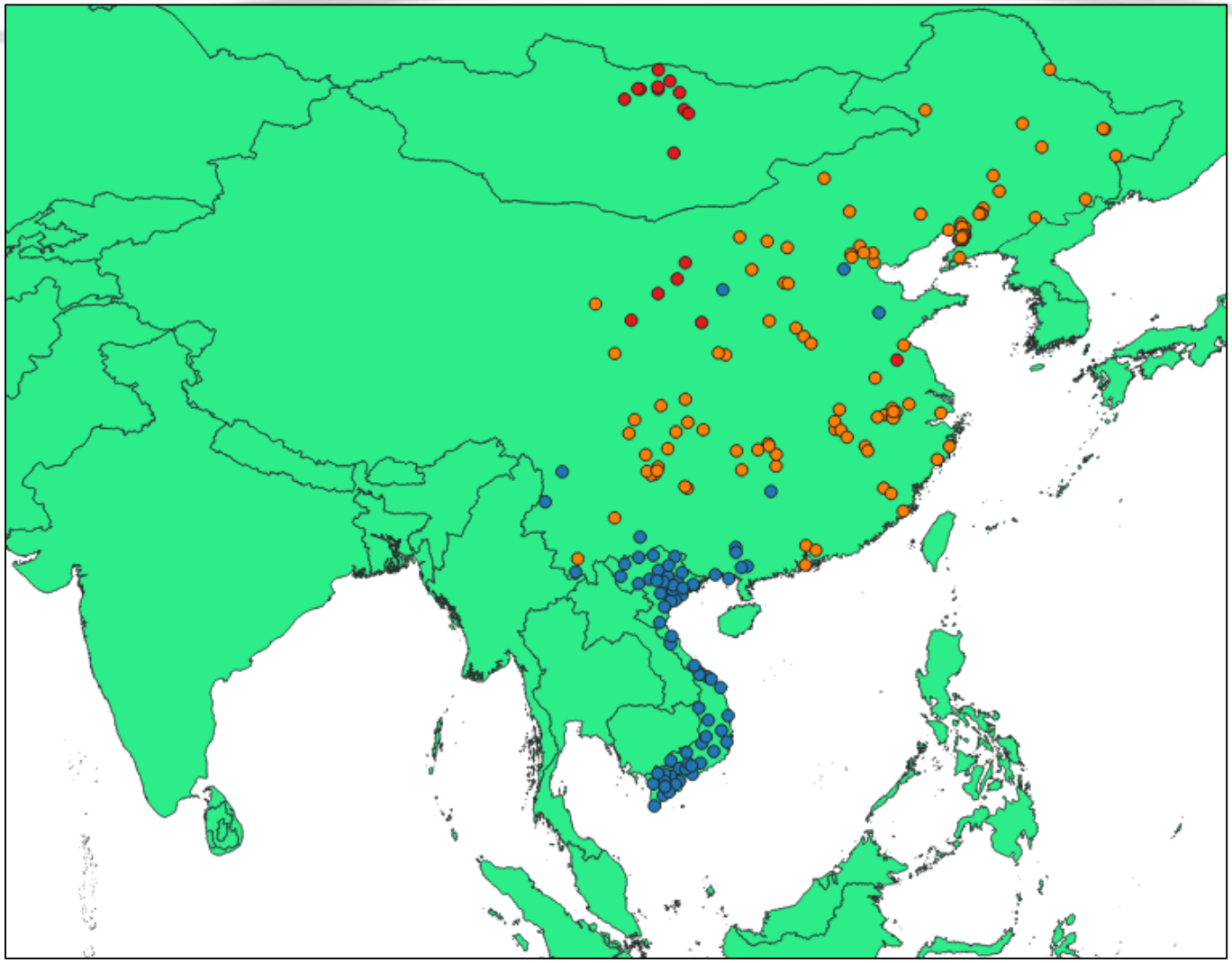
Aug- Dec 2018



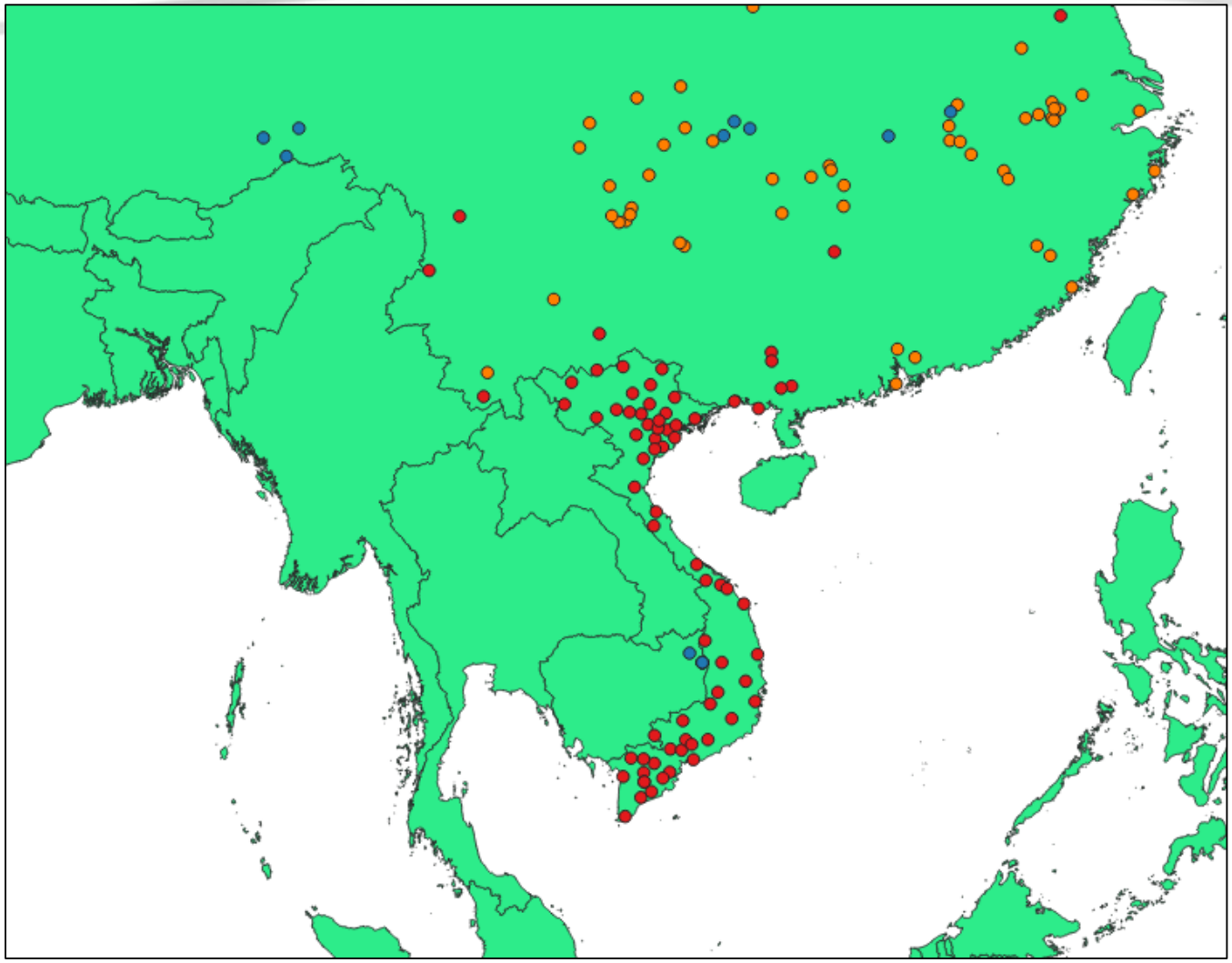
Aug 2018 - January 2019



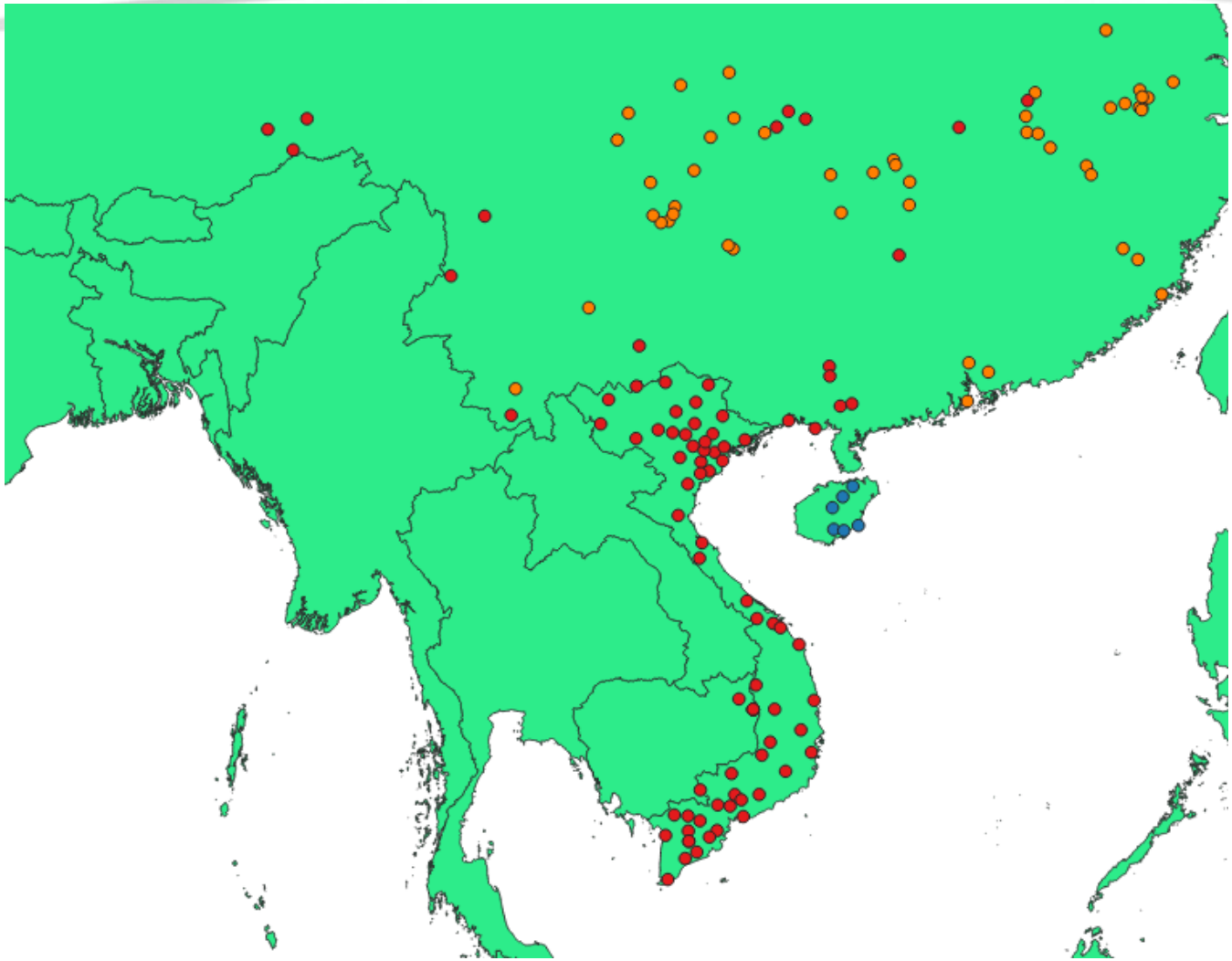
Aug 2018 - Feb 2019



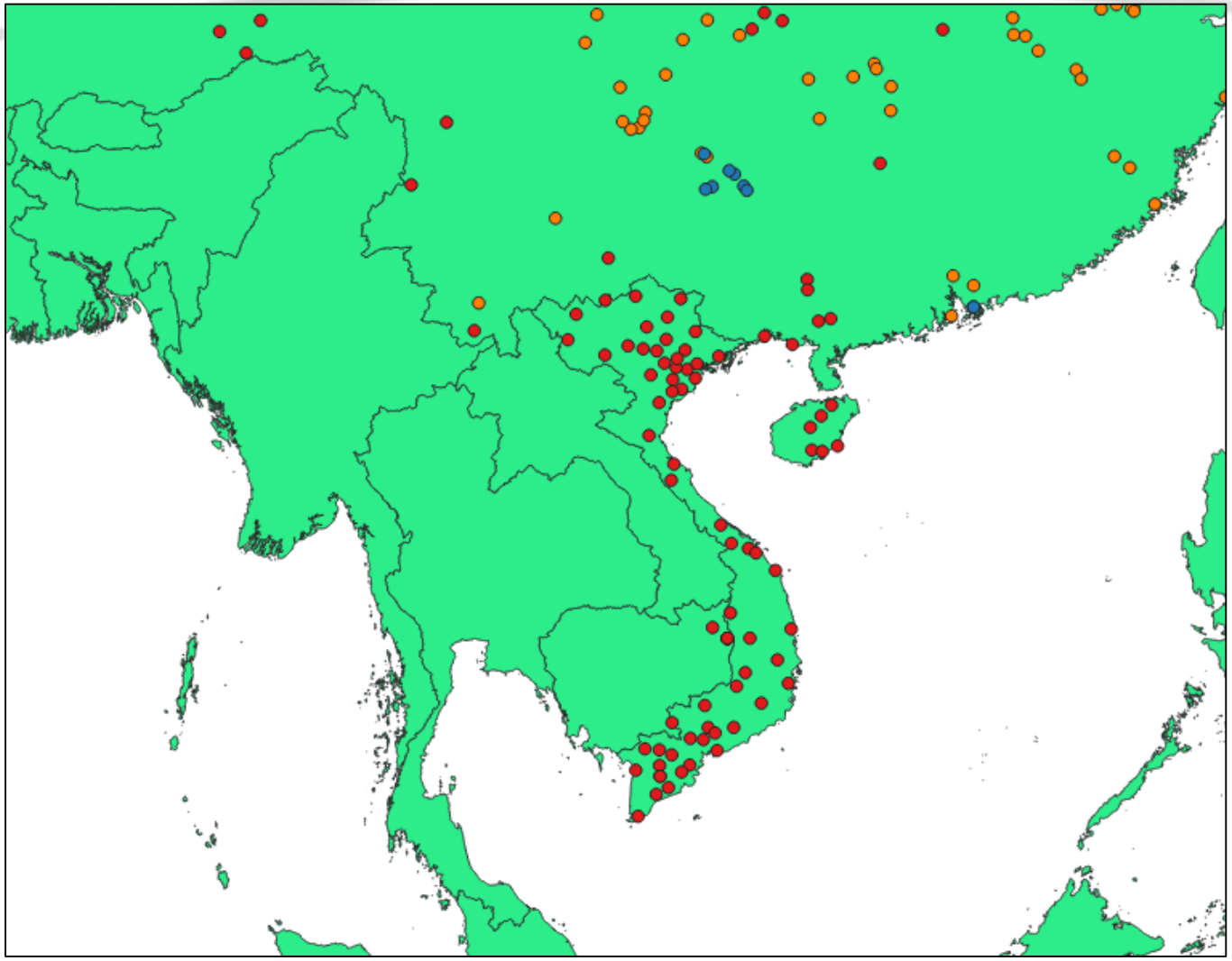
Aug 2018 - March 2019



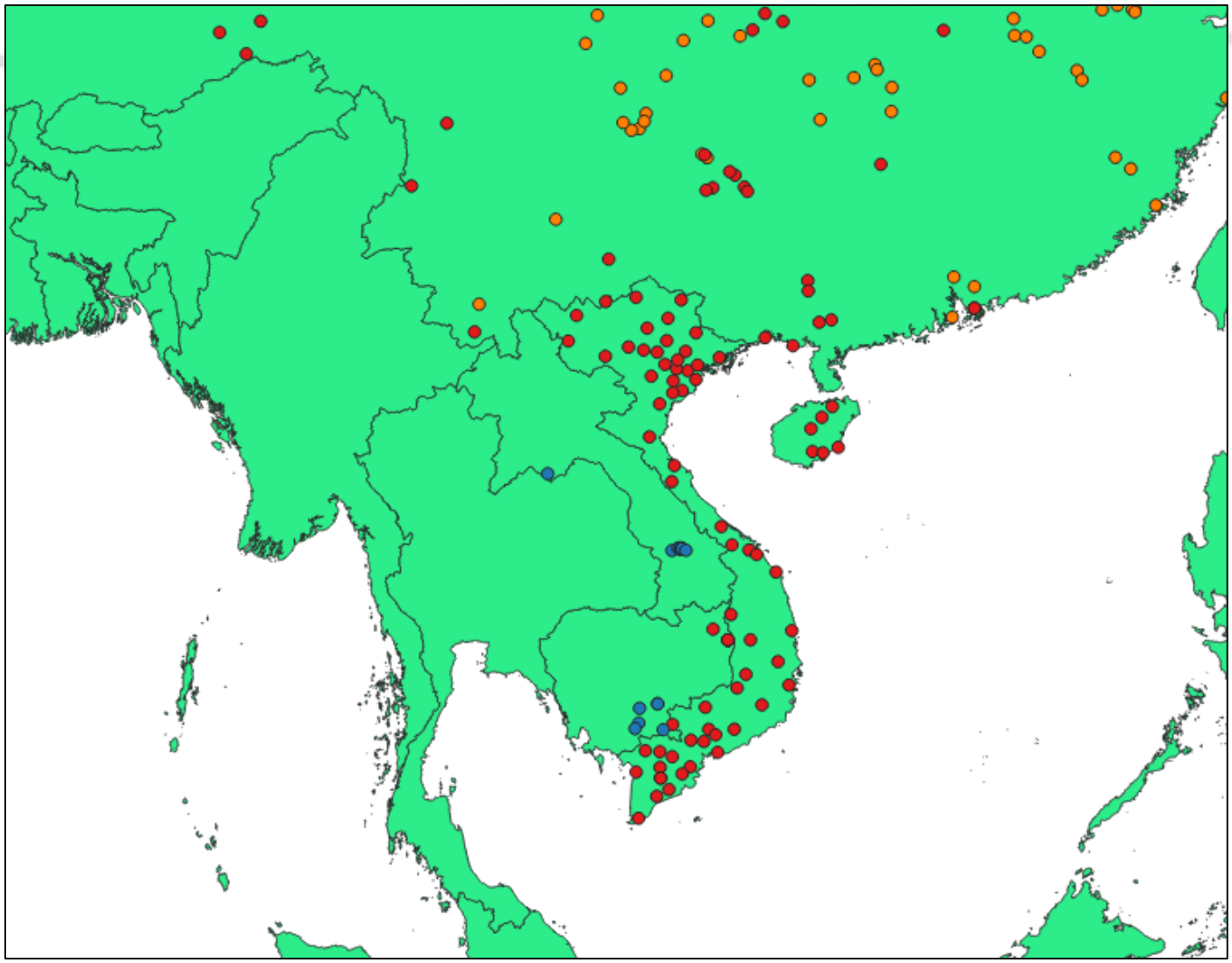
Aug 2018 - April 2019



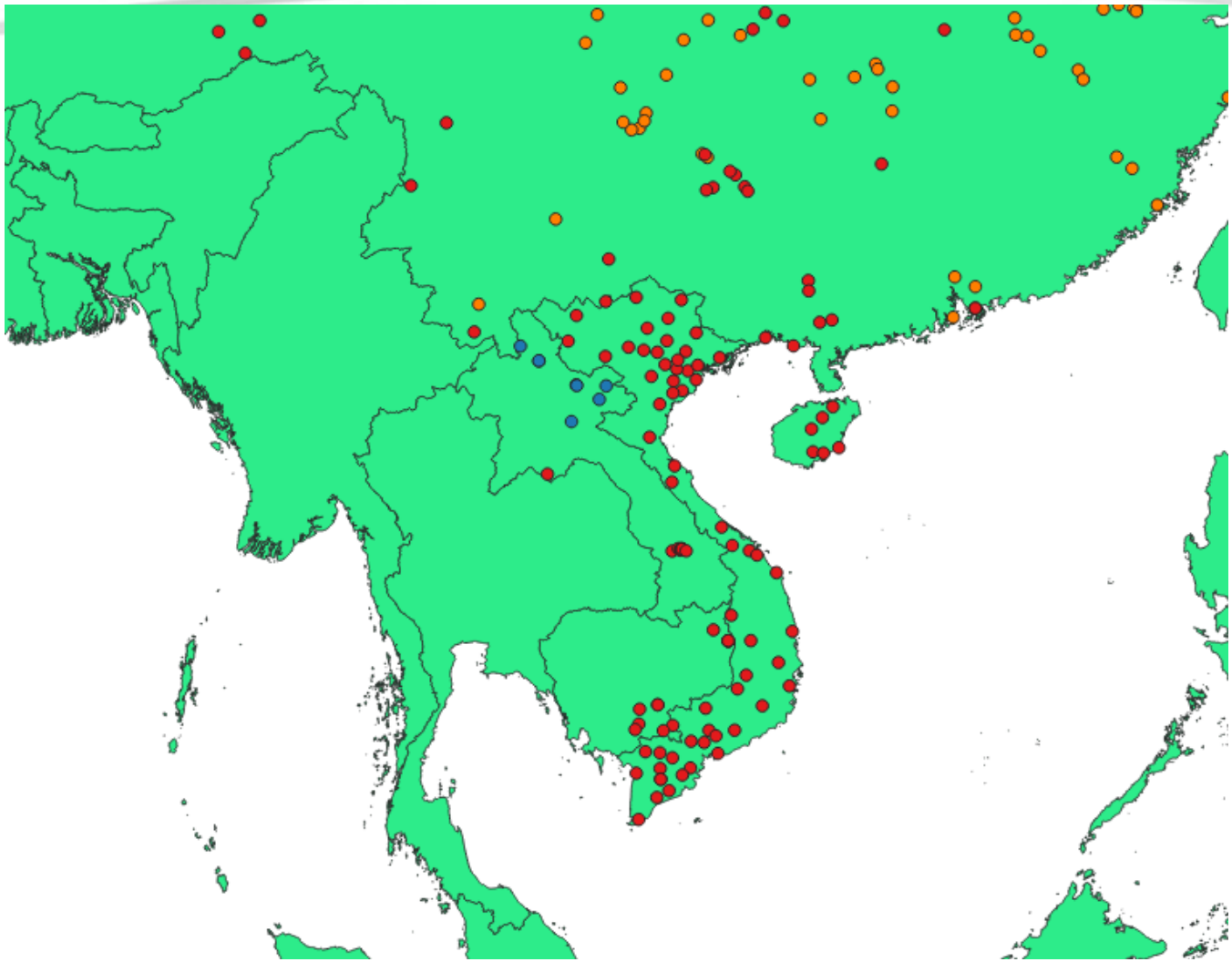
Aug 2018 - May 2019



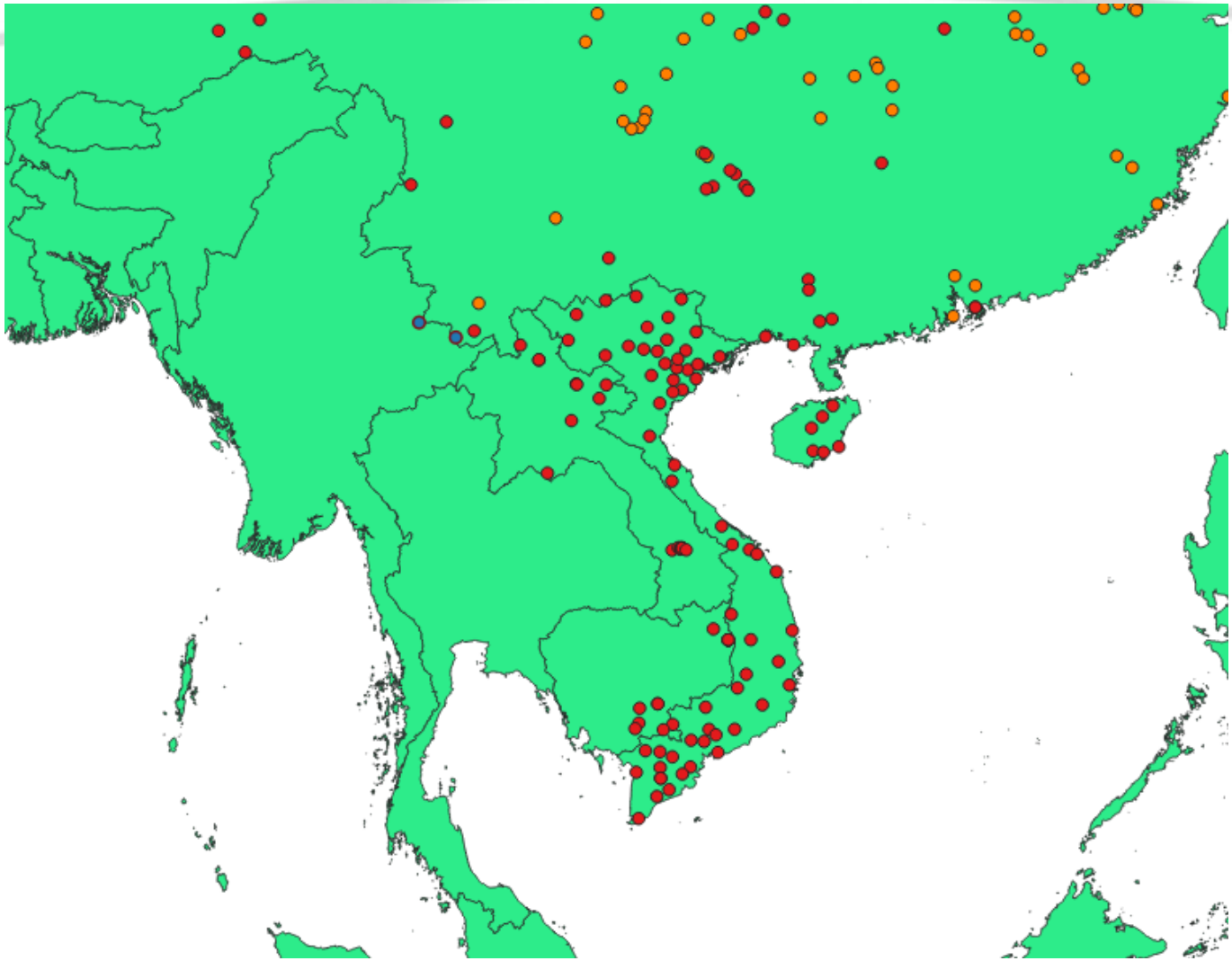
June 2019



Aug 2018 – July 2019



Aug 2018 – Aug 2019

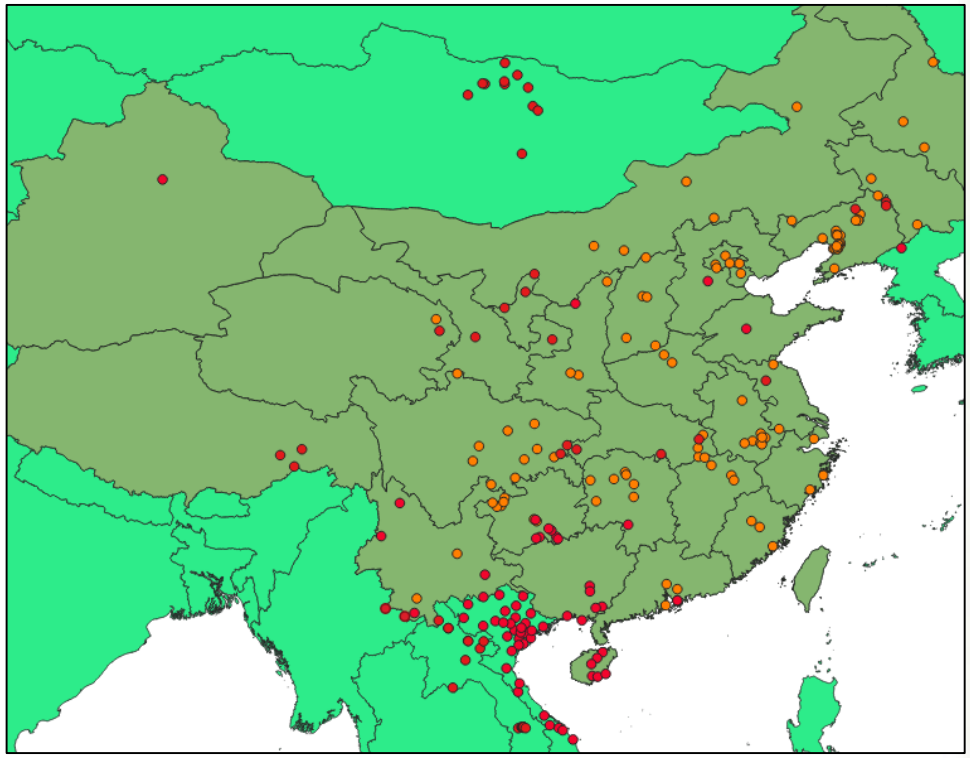


Chronology of outbreaks

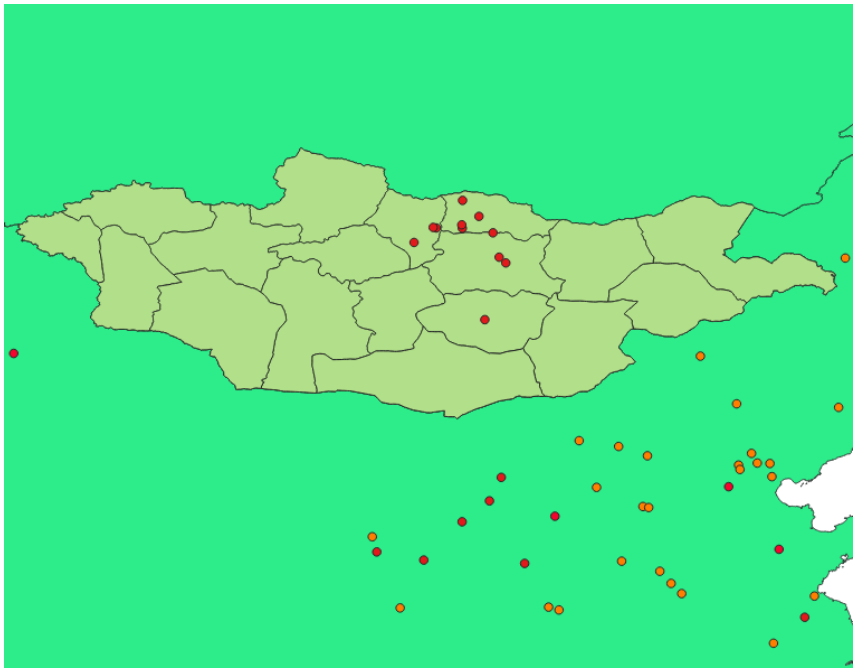
CIUNTRY	Date of first outbreak
China	August, 2018
Mongolia	(January, 2019)
Vietnam	February, 2019
Cambodia	March, 2019
DPR Korea	May, 2019
Lao PDR	June 2019
Myanmar	August 2019

China

- 156 outbreaks in 31 different administrative divisions
- 103 outbreaks have been resolved.
- 53 outbreaks in 17 different administrative divisions are still ongoing



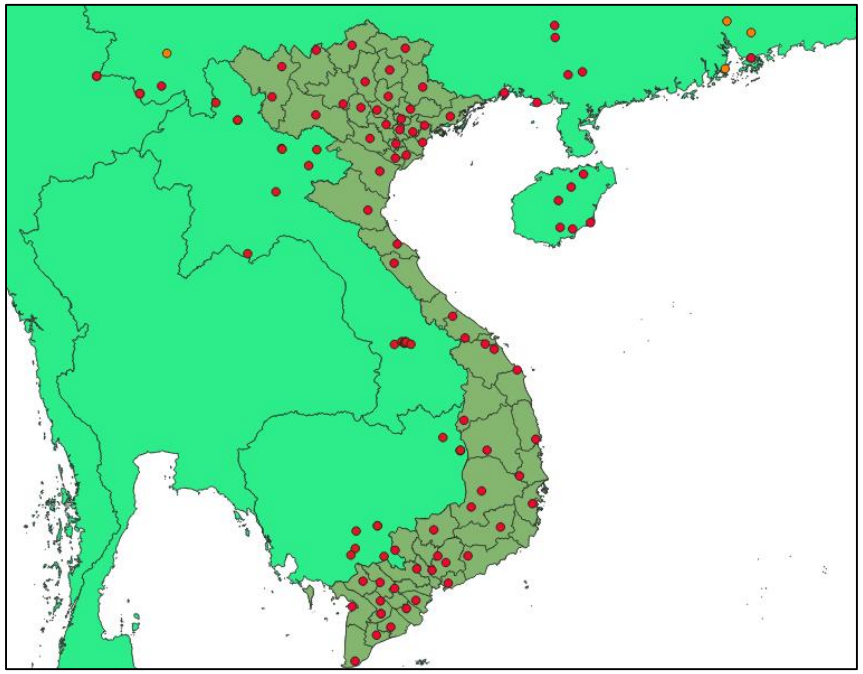
Mongolia



- 11 outbreaks occurred in the country since first occurrence in January 2019
- All ASF events have been resolved.

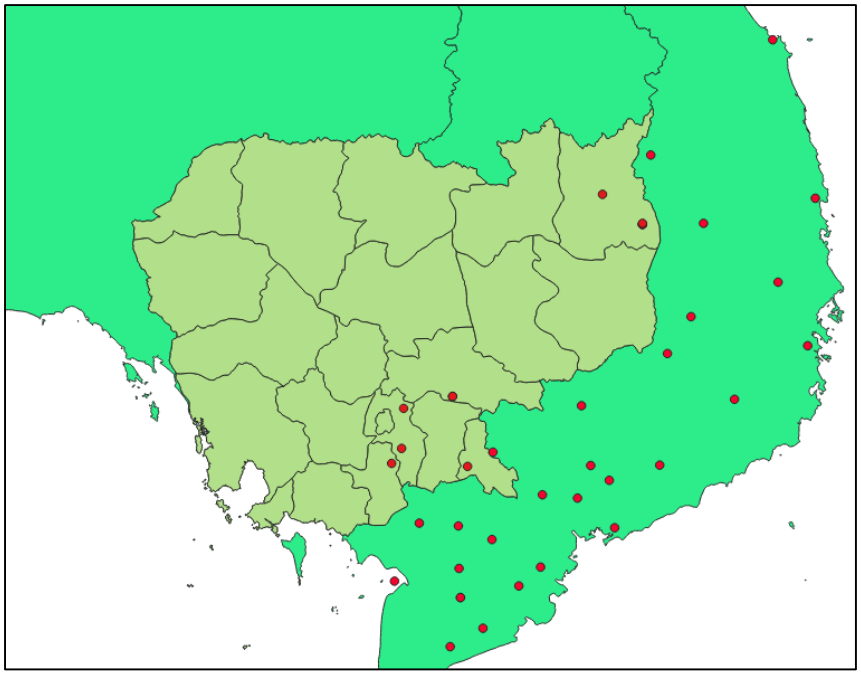
Vietnam

- 6,082 outbreaks have been notified in 62 provinces
- None of these outbreaks have been reported as resolved.
- Clusters of up to 447 outbreaks have been reported in the country



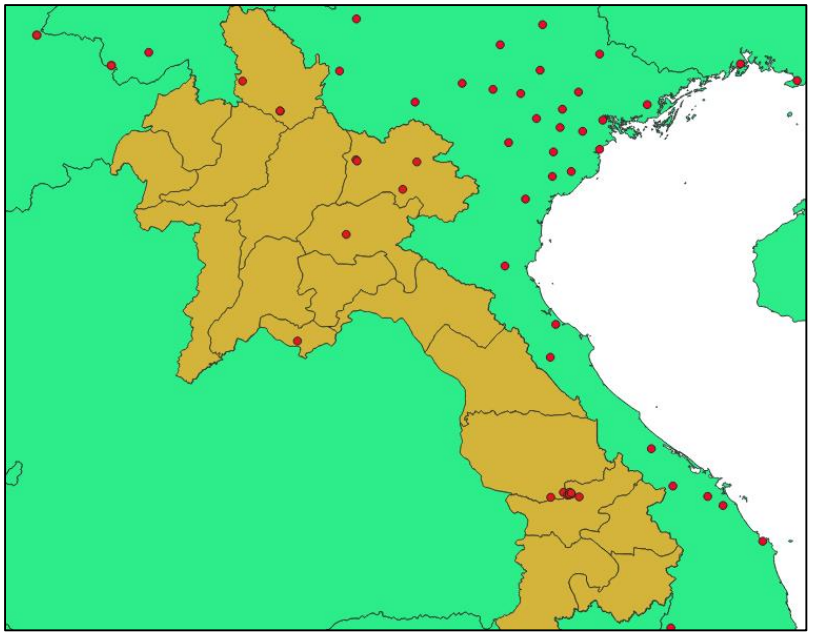
Cambodia

- 13 outbreaks have been reported in 5 provinces.
- All outbreaks have been reported as resolved.



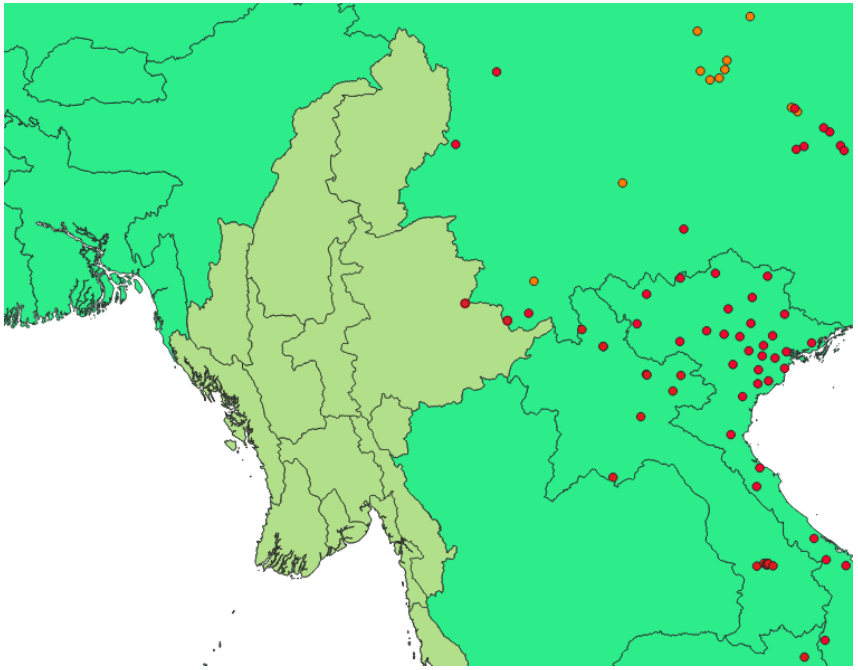
Lao PDR

- 18 outbreaks have been reported in 6 provinces
- All outbreaks are still ongoing.



Myanmar

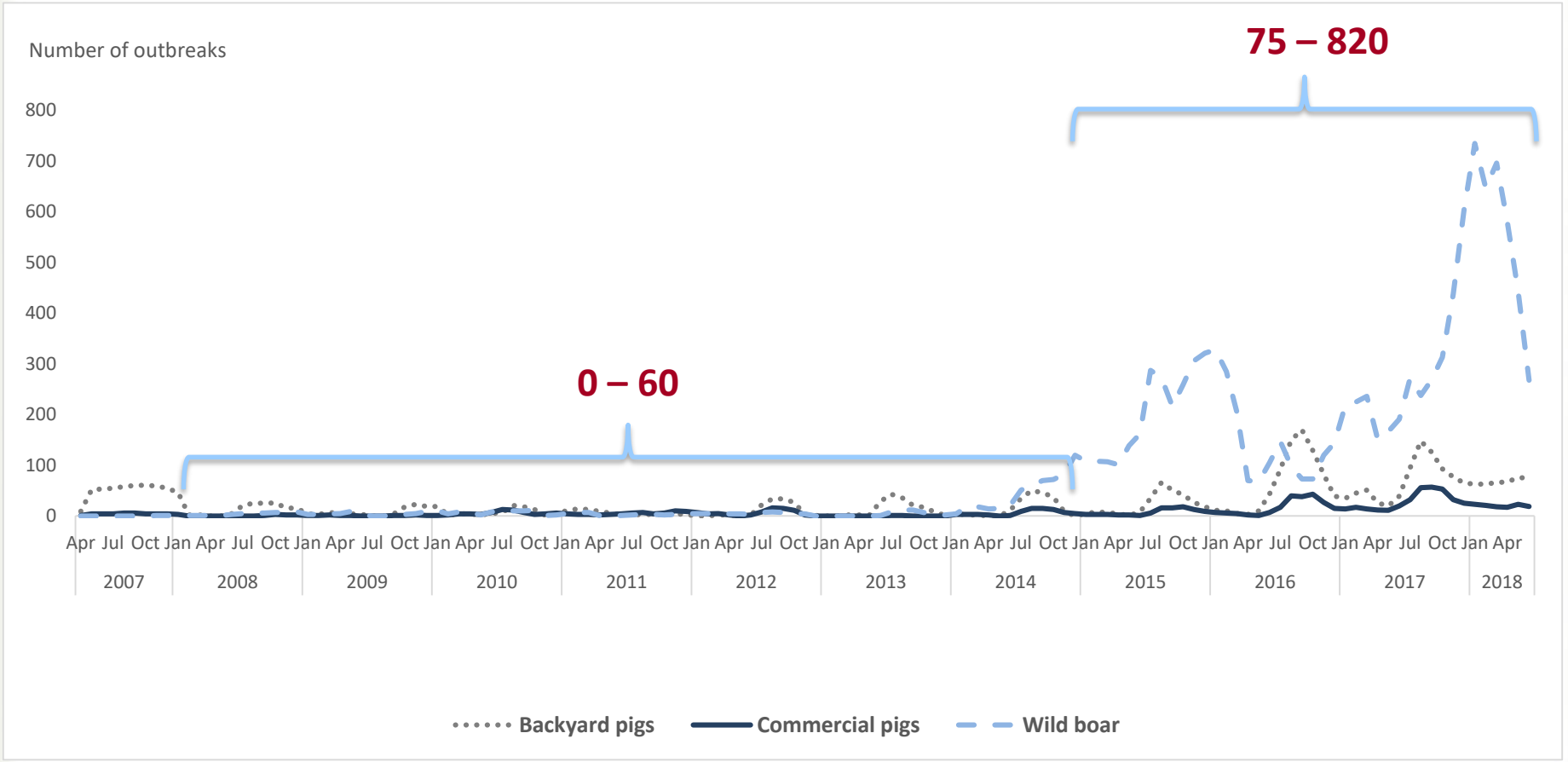
- First reported in the country on August 14 (the event started August 1, 2019).
- 3 outbreaks have been reported in Shan State.
- All are still ongoing.



Possible risk factors

- Increase of ASF outbreaks in neighboring countries/region

Number of on-going outbreaks in the Region, by month



Possible risk factors

- Increase of ASF outbreaks in neighboring countries/region
- Movement live pig and pig products
- Swill-feeding
  - Airport and seaport waste

Long-distance spread

Table 3.– Primary source of African swine fever outbreaks in various countries

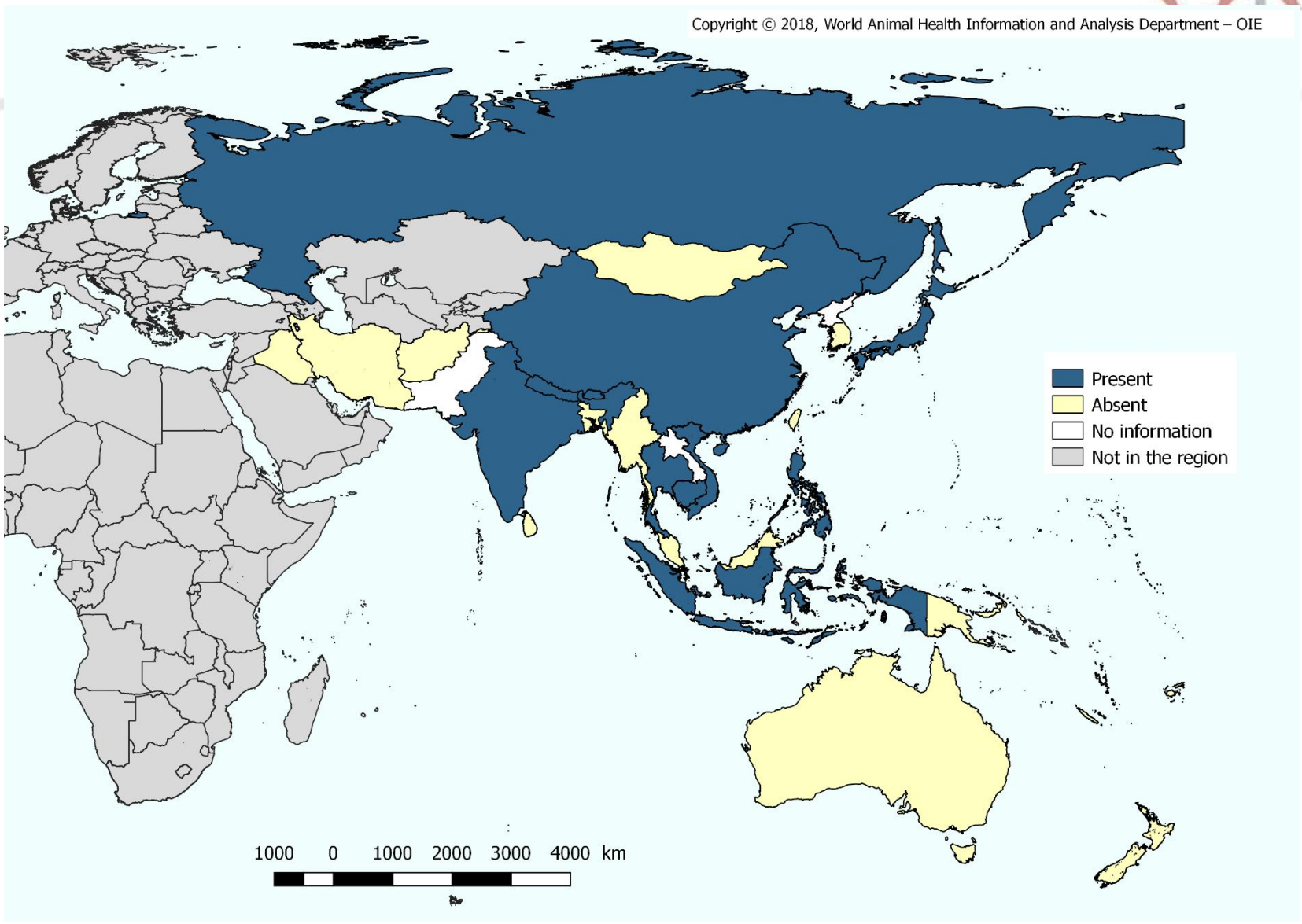
Year	Country	Source	Reference
1960	Portugal	Imported meat products	Neitz, 1963
1978	Brazil	Raw waste from an international airport	McDaniel, 1986
1978	Malta	Raw waste from a sea port	McDaniel, 1986
1978	Sardinia	Raw waste from a sea port	McDaniel, 1986
1980	Cuba	Importation of live pigs/pig products	McDaniel, 1986
1983	Italy	Importation of pig products	McDaniel, 1986

Possible risk factors

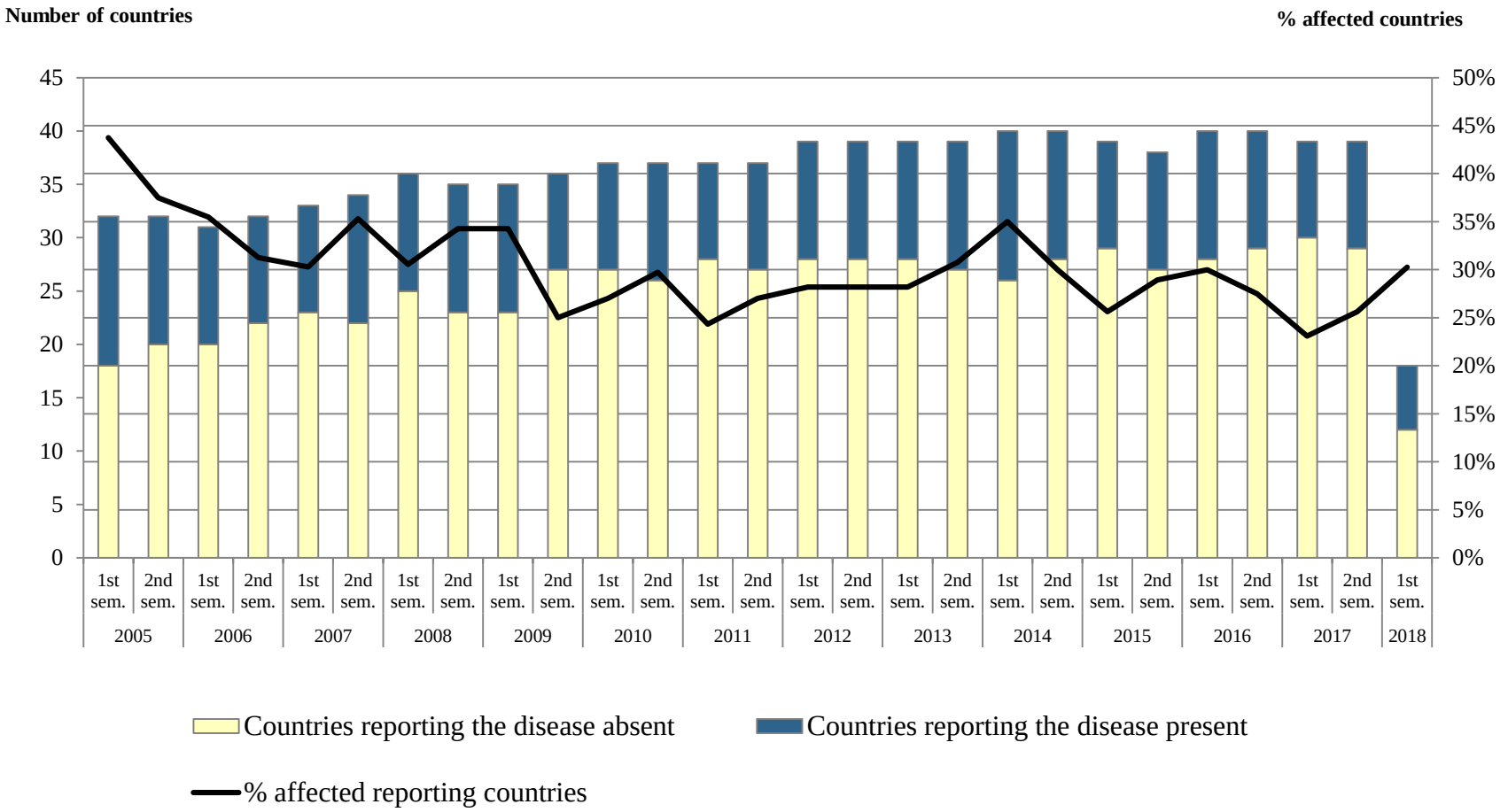
- Increase of ASF outbreaks in neighboring countries/region
- Movement live pig and pig products
- Swill-feeding
  - Airport and seaport waste
- Socio-cultural factors
  - Cambodia and Myanmar involved ethnic groups across borders

Classical swine fever (CSF)

Distribution of CSF in Asia, the Far East and Oceania in 2017-2019

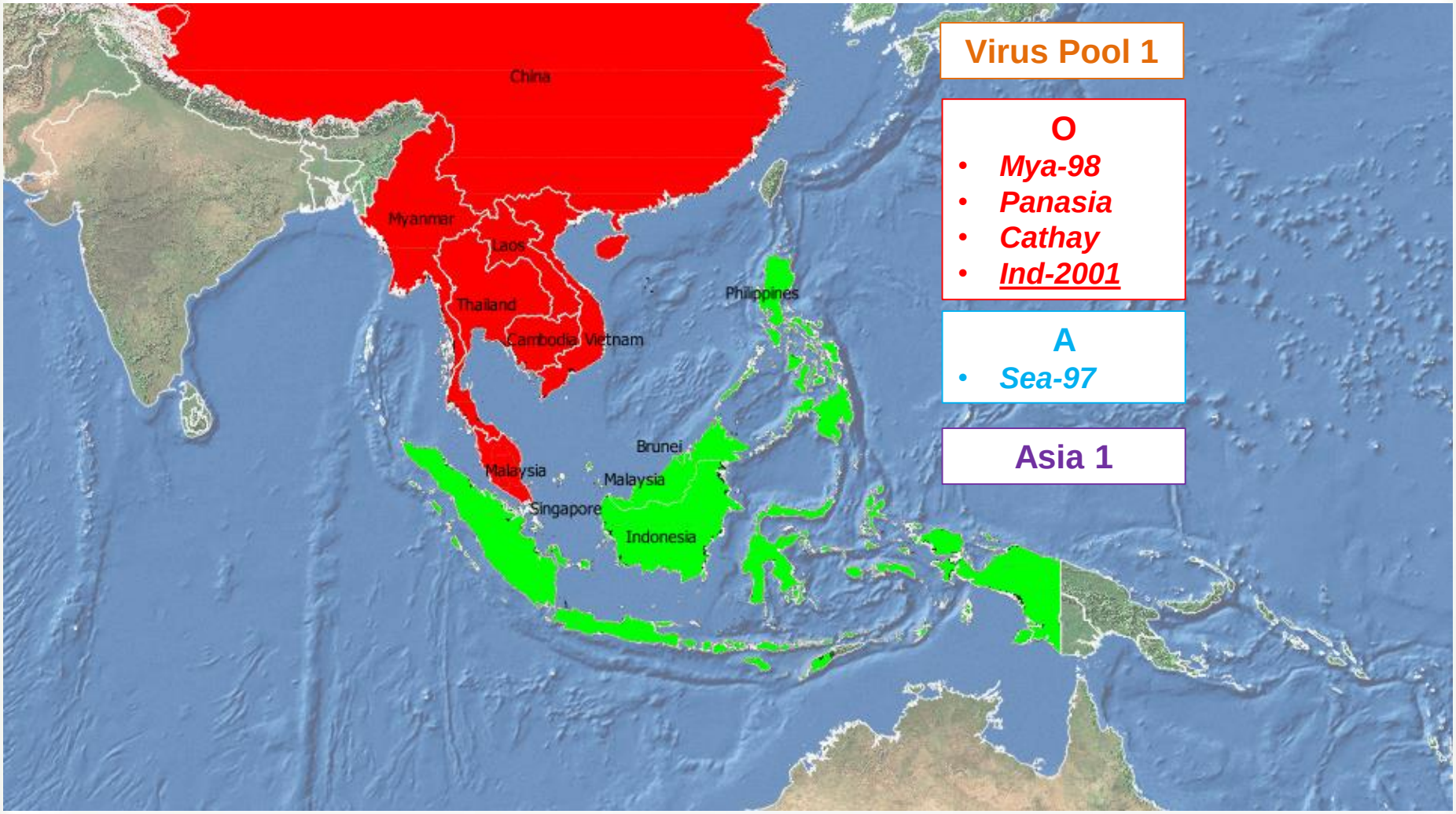


Percentage of the reporting countries and territories that notified CSF present in Asia, the Far East and Oceania, by semester, between 2005 and the first semester of 2018



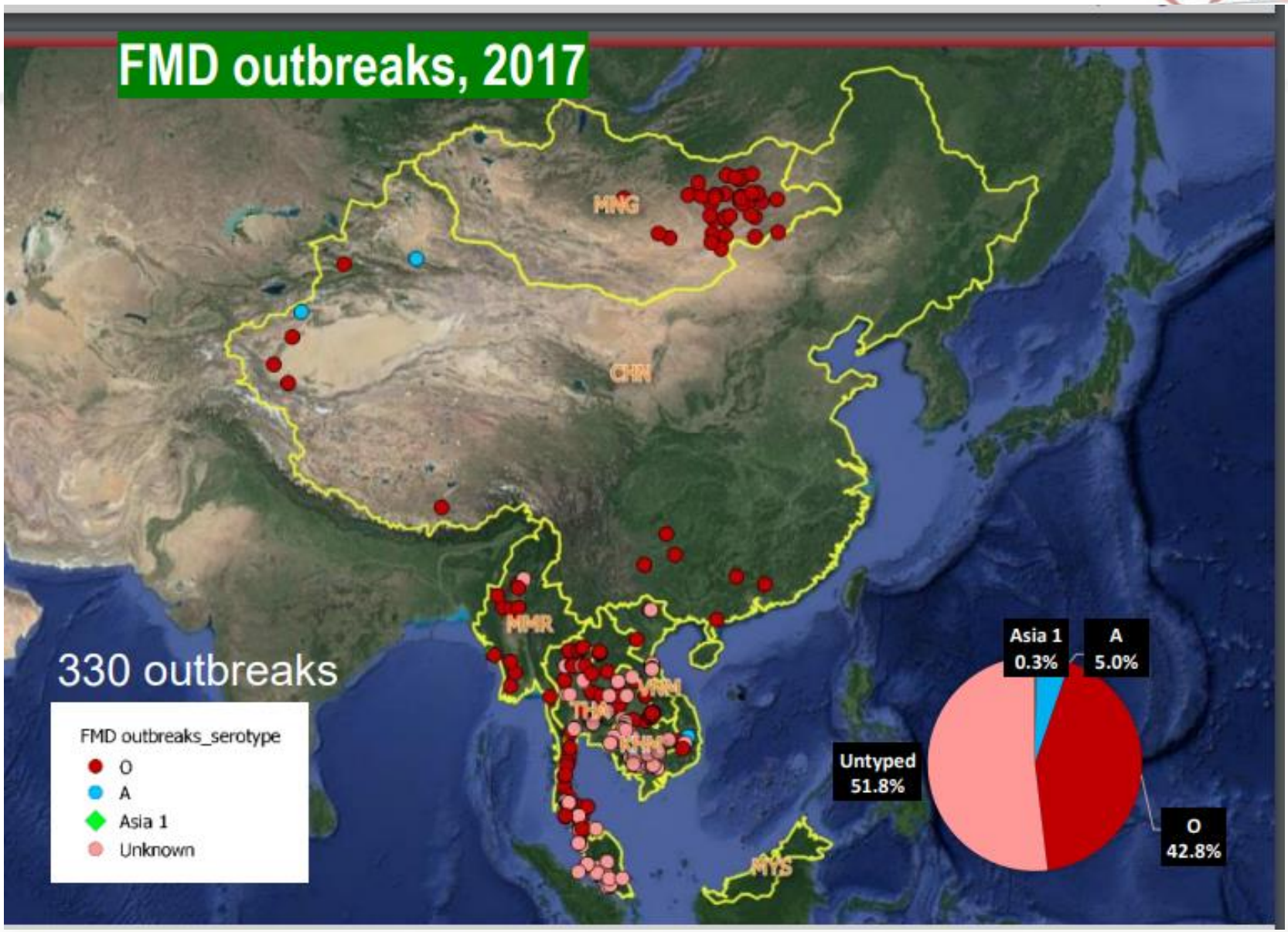
Foot and mouth Disease

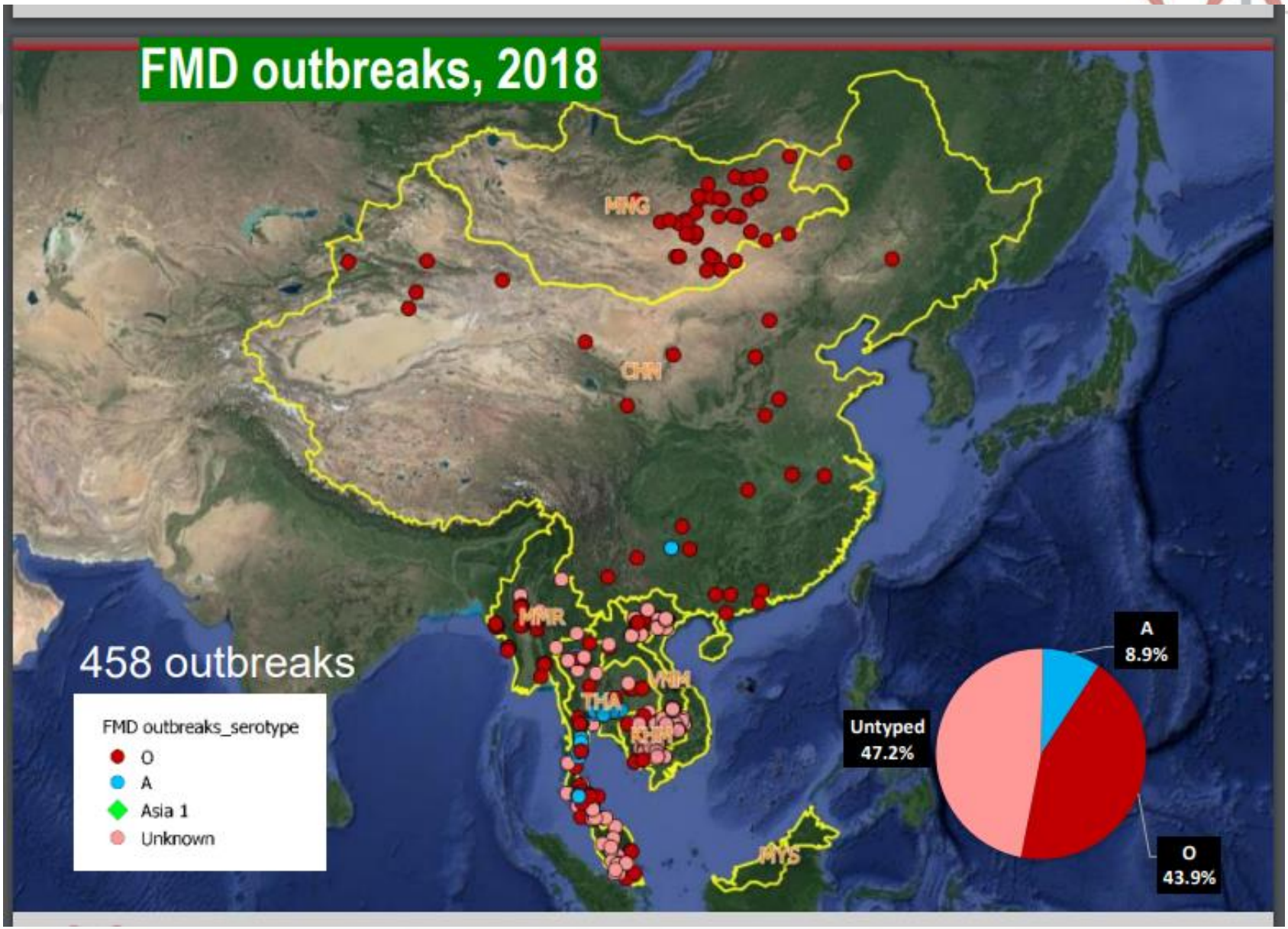
FMD Viruses in Pool 1 (SE and East Asia)

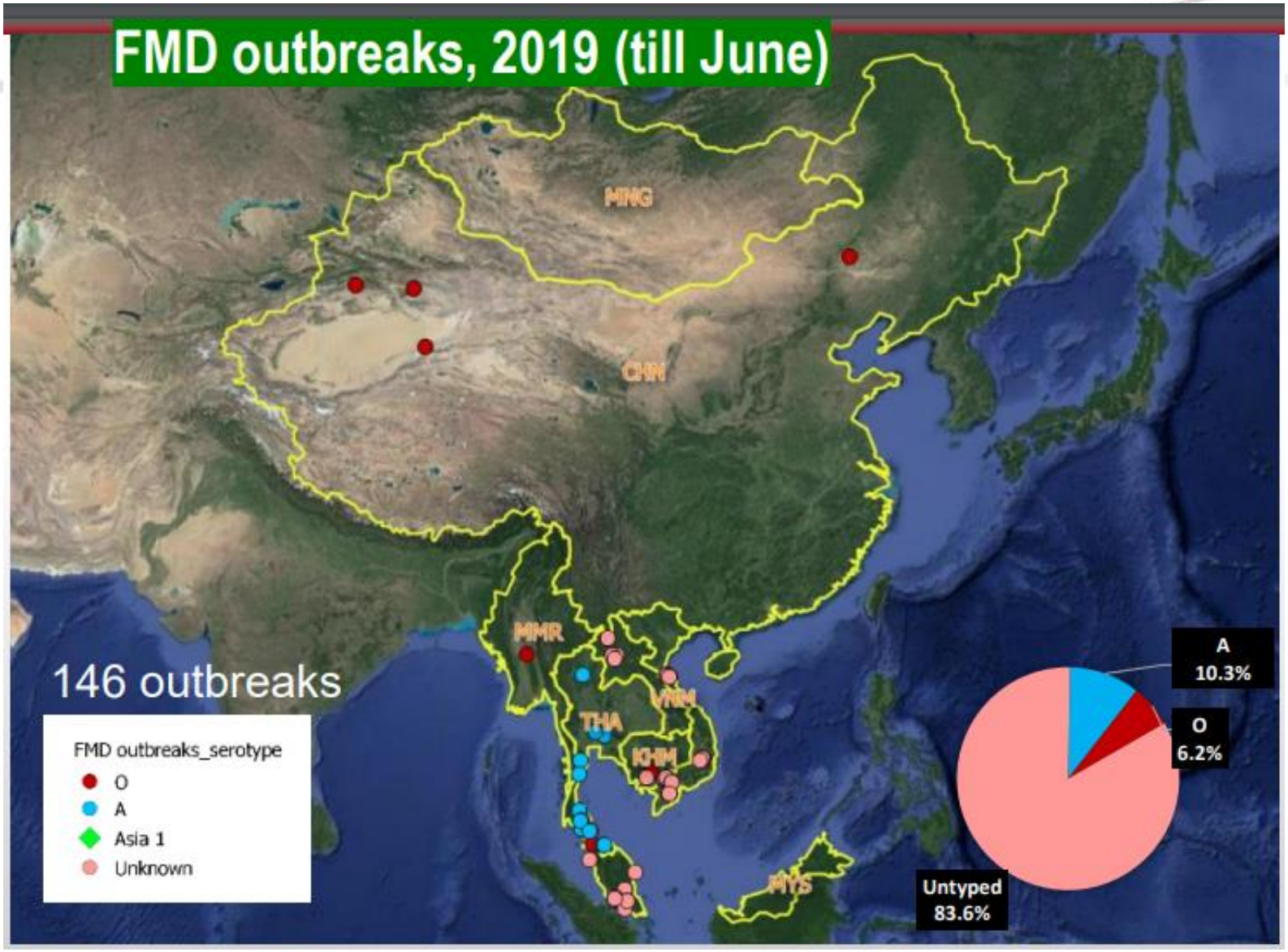


FMD viruses in Pool 1

Serotype	Topotype	Remarks
O	South East Asia	Myanmar 98 endemic in SE Asia; Cambodia 94 never detected for a long time
	Pan Asia	Panasia1 detected SE Asia in late 1990s; **India/2001/d detected in 2015**
	Cathay	1st detected in Hong Kong in early 1990s; detected in Thailand and Vietnam
A	South East Asia	Indigenous in SE Asia; reported in China , Mongolia and Korea
Asia 1	Asian	Last reported in Vietnam in 2007 and in China in 2009; Isolated case in Myanmar in 2017


FMD outbreaks, 2017
MNG
CHN
MMR
VNM
THA
KHM
MYS
330 outbreaks
FMD outbreaks_serotype
O
A
Asia 1
Unknown
Asia 1
0.3%
A
5.0%
Untyped
51.8%
O
42.8%


FMD outbreaks, 2018
458 outbreaks
FMD outbreaks_serotype
O
A
Asia 1
Unknown
MNG
CHN
MMR
VNM
THA
MYS
A
8.9%
Untyped
47.2%
O
43.9%

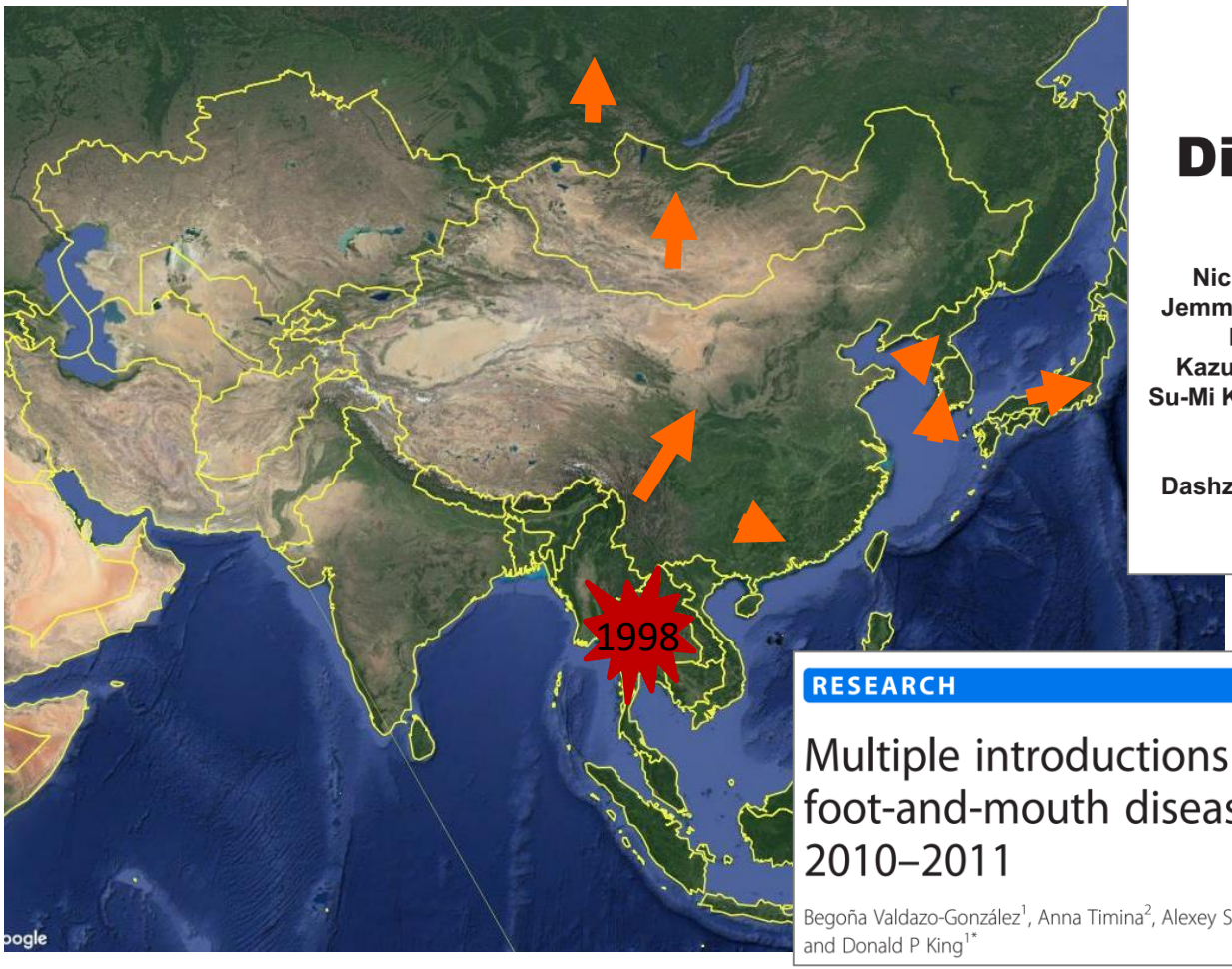

FMD outbreaks, 2019 (till June)
MNG
CHN
MMR
VNM
THA
KHM
MYS
146 outbreaks
FMD outbreaks_serotype
O
A
Asia 1
Unknown
A
10.3%
O
6.2%
Untyped
83.6%

Distribution of FMDv strains

Country			O		A	Asia-1
	ME-SA/Ind-2001	SEA / Mya-98	CATHAY	ME-SA / PanAsia	ASIA / Sea-97	G-VIII
Cambodia		2016		2016	2016	
Laos	2015	2017		2018	2018	
Malaysia	2018	2016			2014	
Myanmar	2017	2017			2015	2017
Thailand	2018	2018	2012	2018	2018	
Vietnam	2017	2019	2018	2018	2017	
PR China	2018	2018	2018	2018	2018	

Trans-boundary Spread of FMD

O/SEA/Mya-98



Southeast Asian Foot-and-Mouth Disease Viruses in Eastern Asia

Nick J. Knowles, JiJun He, Youjun Shang, Jemma Wadsworth, Begoña Valdazo-González, Hiroyuki Onosato, Katsuhiko Fukai, Kazuki Morioka, Kazuo Yoshida, In-Soo Cho, Su-Mi Kim, Jong-Hyeon Park, Kwang-Nyeong Lee, Geraldine Luk, Vladimir Borisov, Alexey Scherbakov, Anna Timina, Dashzeveg Bold, Tung Nguyen, David J. Paton, Jef M. Hammond, Xiangtao Liu, and Donald P. King

RESEARCH Open Access

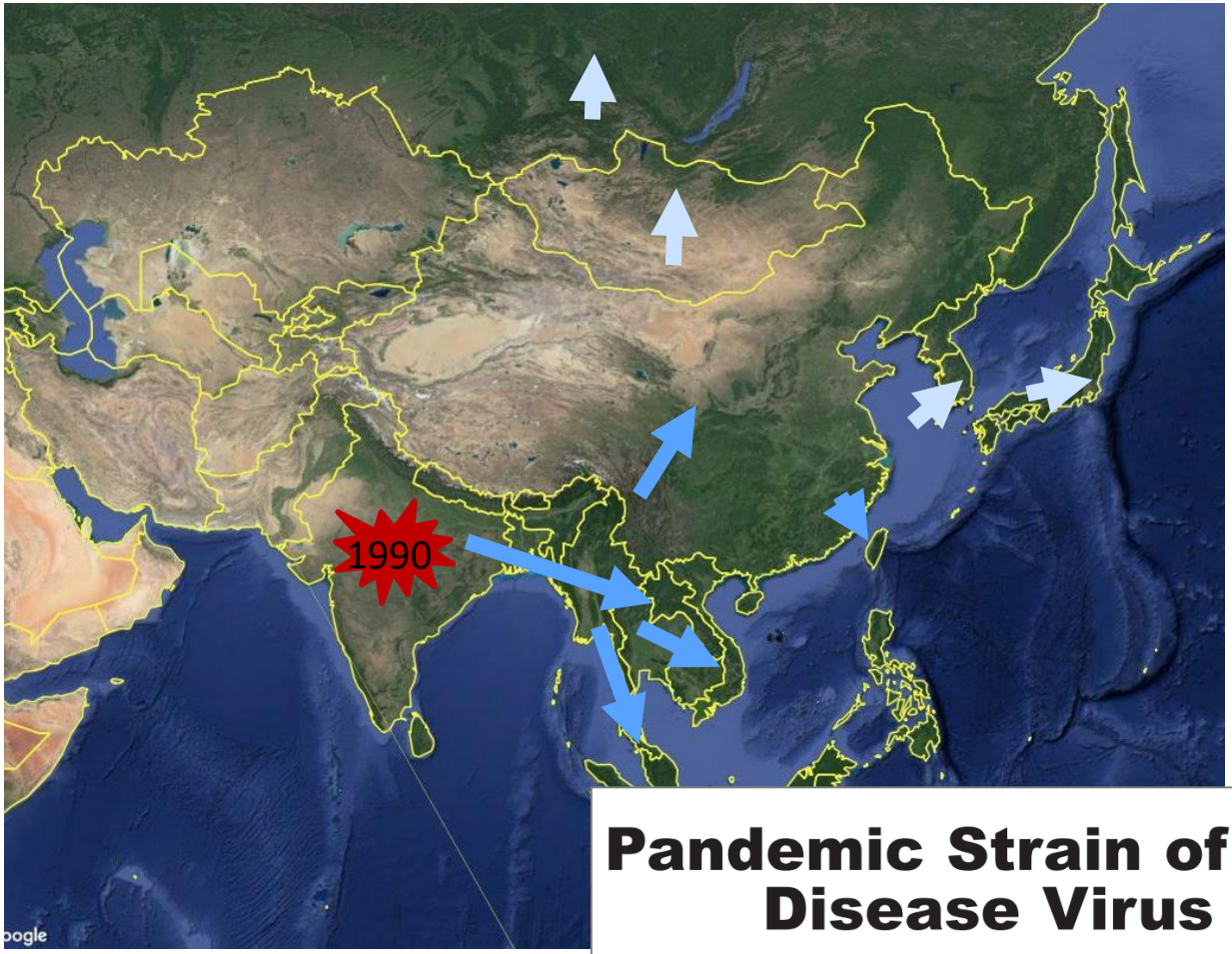
Multiple introductions of serotype O foot-and-mouth disease viruses into East Asia in 2010–2011

Begoña Valdazo-González[1], Anna Timina[2], Alexey Scherbakov[2], Nor Faizah Abdul-Hamid[1,3], Nick J Knowles[1] and Donald P King[1*]

O/ME-SA/PanAsia

O/ME-SA/PanAsia

O/ME-SA/PanAsia



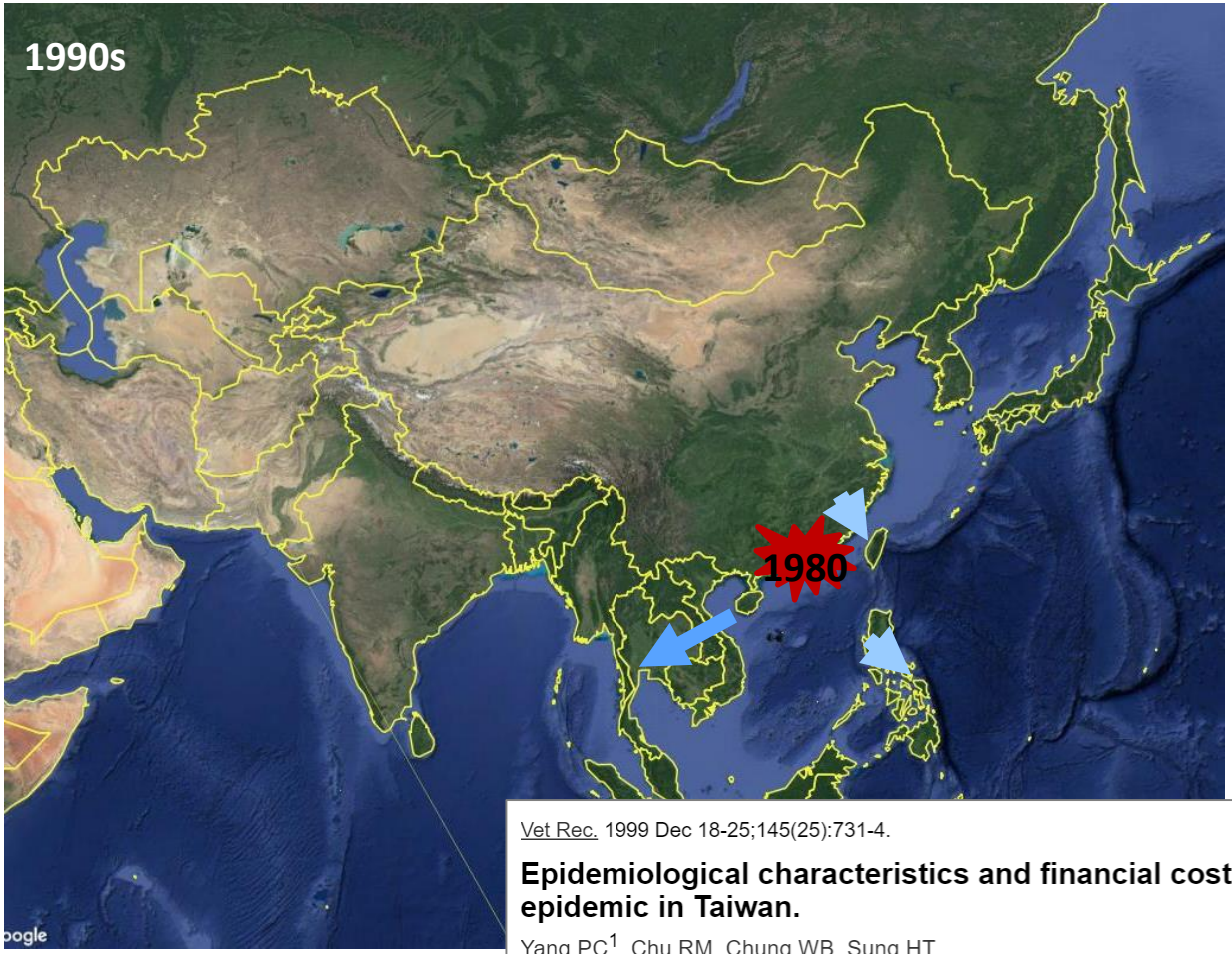
Pandemic Strain of Foot-and-Mouth Disease Virus Serotype O

Nick J. Knowles,* Alan R. Samuel,* Paul R. Davies,* Rebecca J. Midgley,*
and Jean-François Valarcher*

O/Cathay

O/Cathay

O/Cathay



Vet Rec. 1999 Dec 18-25;145(25):731-4.

Epidemiological characteristics and financial costs of the 1997 foot-and-mouth disease epidemic in Taiwan.

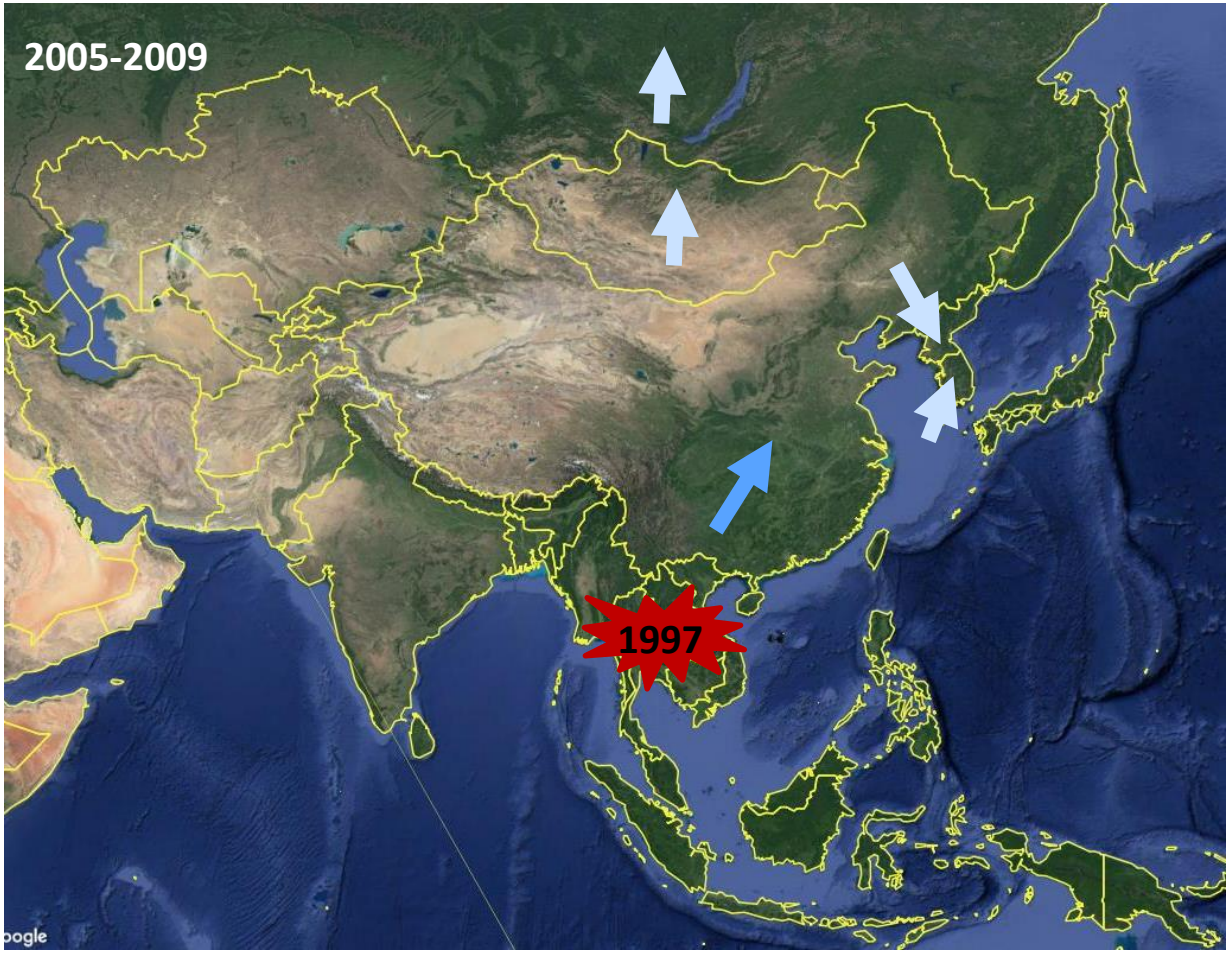
Yang PC[1], Chu RM, Chung WB, Sung HT.

Author information

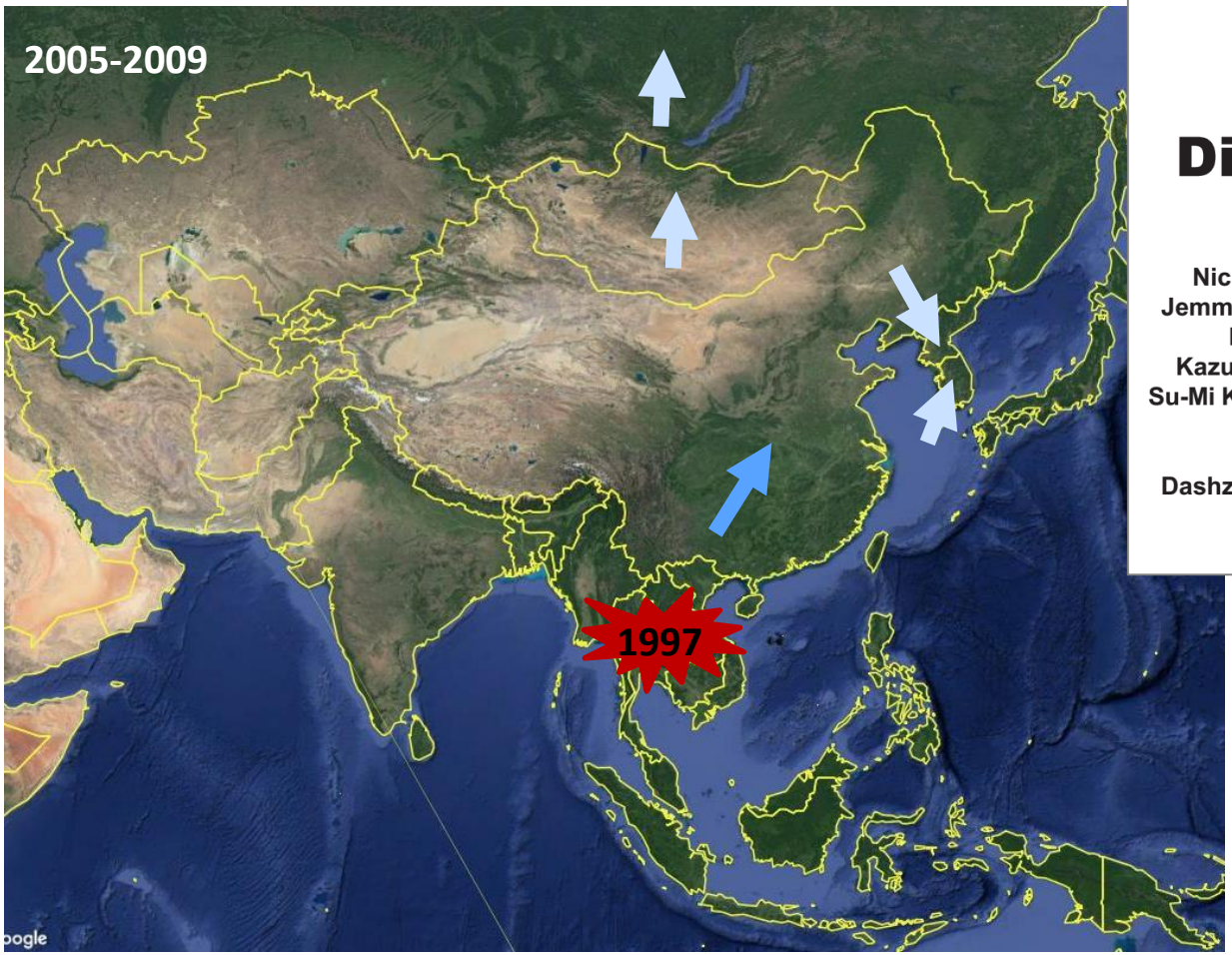
[1]Department of Comparative Medicine, Pig Research Institute, Taiwan, Chunan Miaoli.

A/Asia/SEA-97

A/Asia/SEA-97



A/Asia/SEA-97



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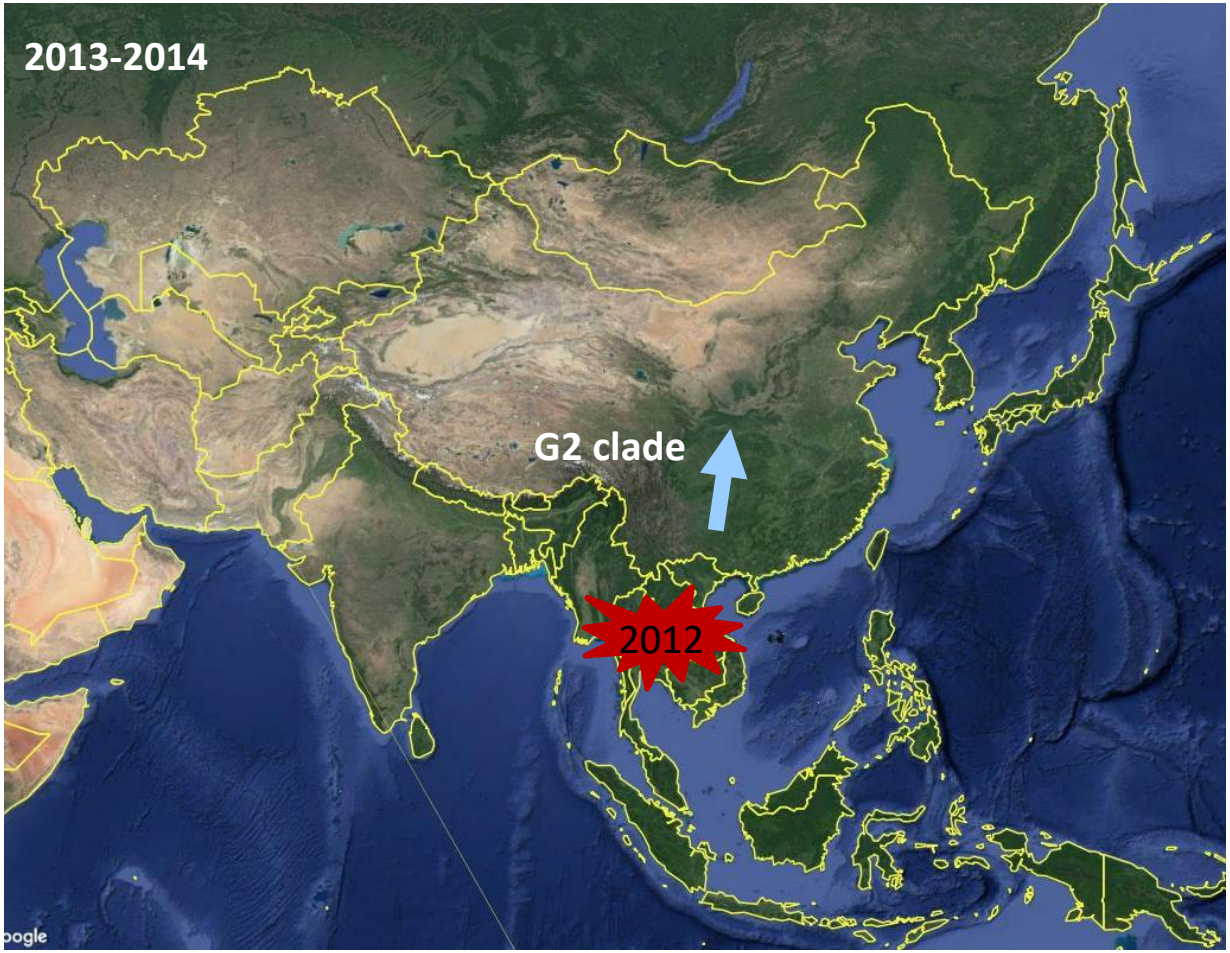
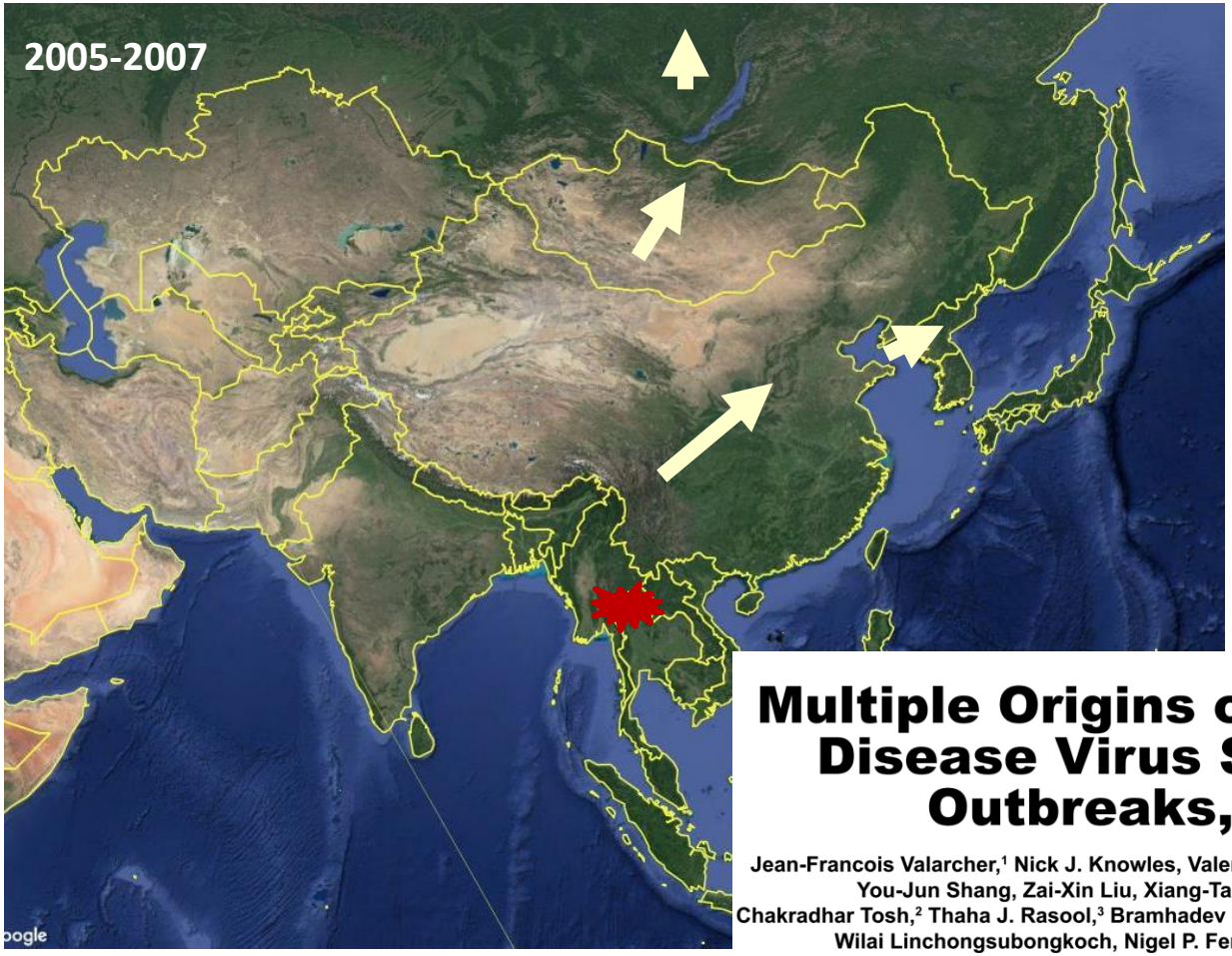
A/Asia/SEA-97



Serotype Asia 1



No outbreaks during 2011-2016

Multiple Origins of Foot-and-Mouth Disease Virus Serotype Asia 1 Outbreaks, 2003–2007

Jean-Francois Valarcher,[1] Nick J. Knowles, Valery Zakharov, Alexey Scherbakov, Zhidong Zhang, You-Jun Shang, Zai-Xin Liu, Xiang-Tao Liu, Aniket Sanyal, Divakar Hemadri, Chakradhar Tosh,[2] Thaha J. Rasool,[3] Bramhadev Pattnaik, Kate R. Schumann, Tammy R. Beckham,[4] Wilai Linchongsubongkoch, Nigel P. Ferris, Peter L. Roeder,[5] and David J. Paton

O/ME-SA/Ind2001

O/ME-SA/Ind2001

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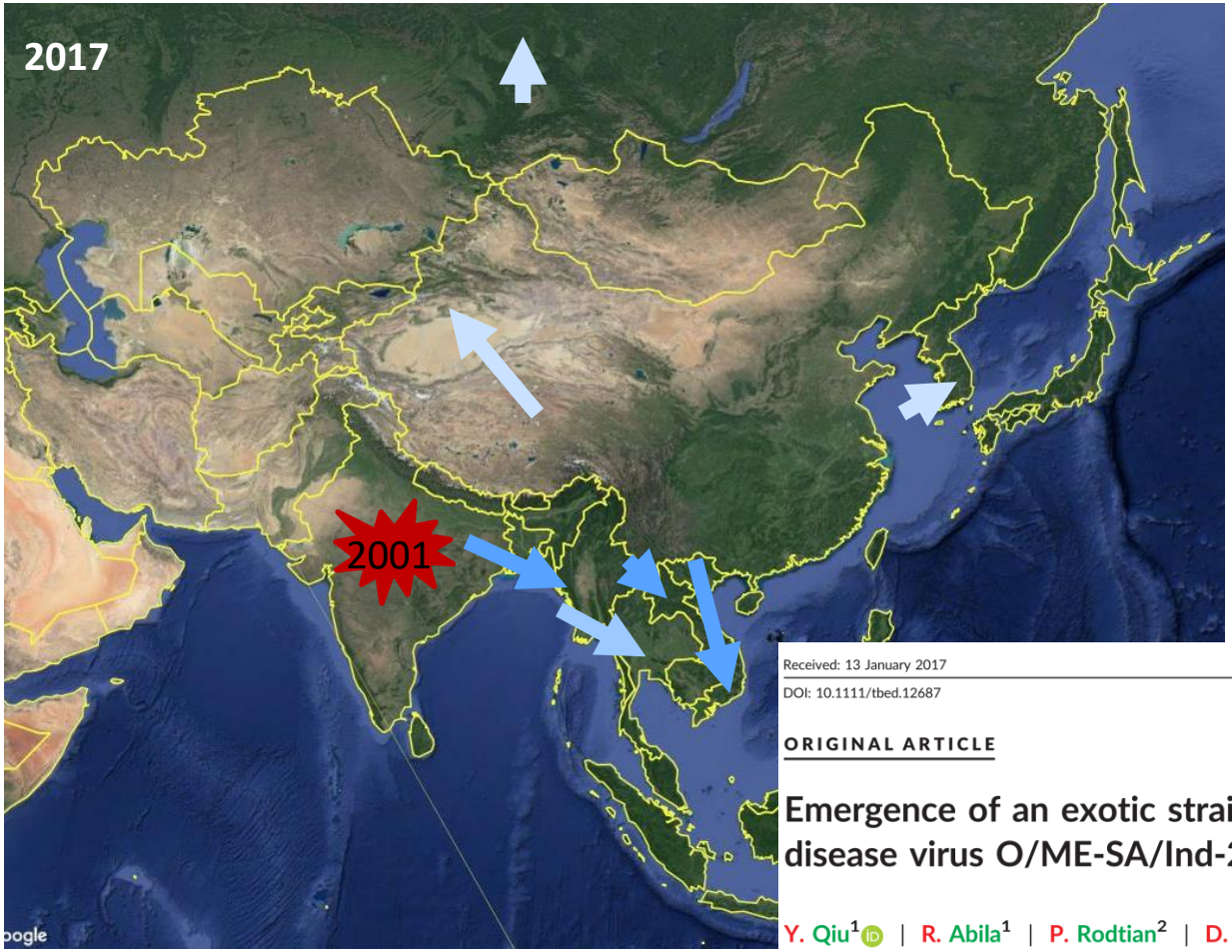
O/ME-SA/Ind2001



Received: 13 January 2017
DOI: 10.1111/tbed.12687

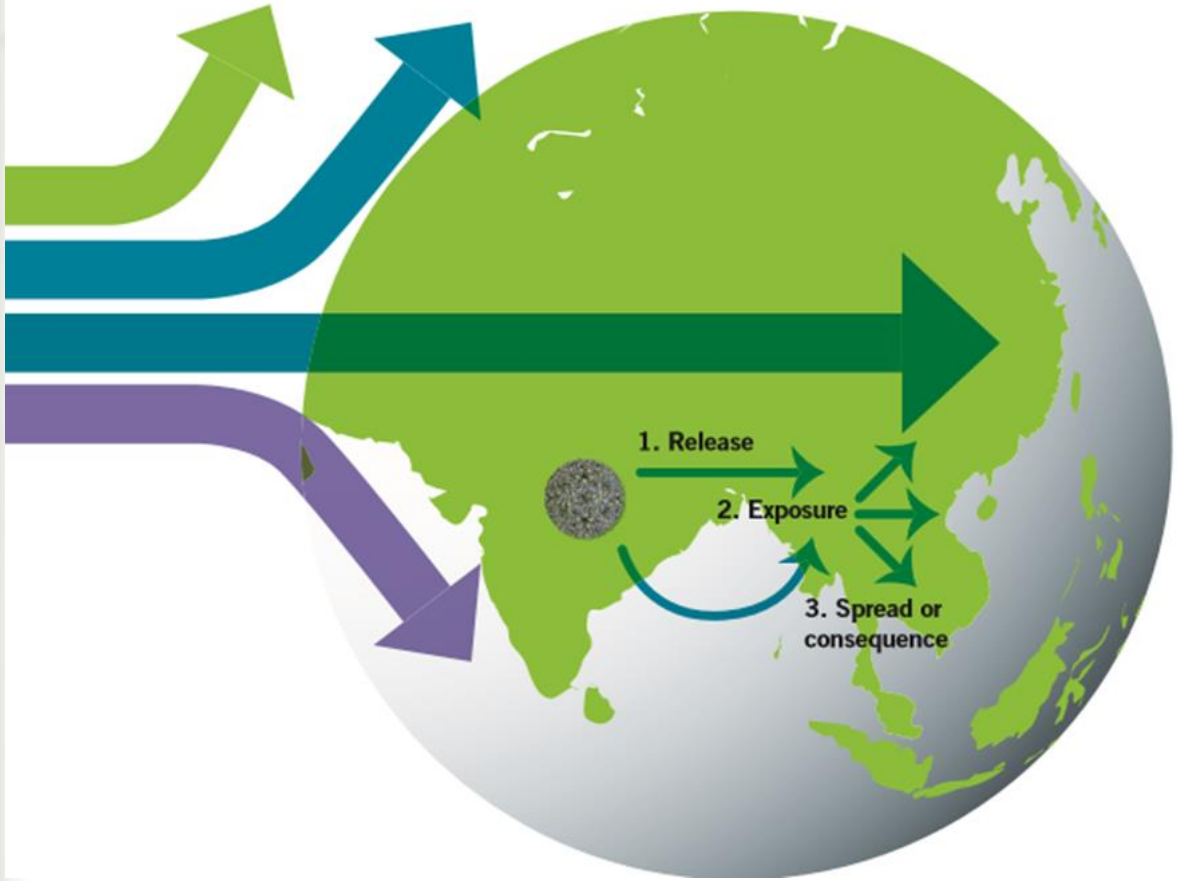
ORIGINAL ARTICLE

WILEY Transboundary and Emerging Diseases

Emergence of an exotic strain of serotype O foot-and-mouth disease virus O/ME-SA/Ind-2001d in South-East Asia in 2015

Y. Qiu[1] | R. Abila[1] | P. Rodtian[2] | D. P. King[3] | N. J. Knowles[3] | T. L. Ngo[4] | T. V. Le[4] | S. Khounsy[5] | P. Bounma[5] | S. Lwin[6] | B. C. Verin[1] | P. Widders[1]

Risk analysis on incursion of exotic FMD viruses into Southeast Asia

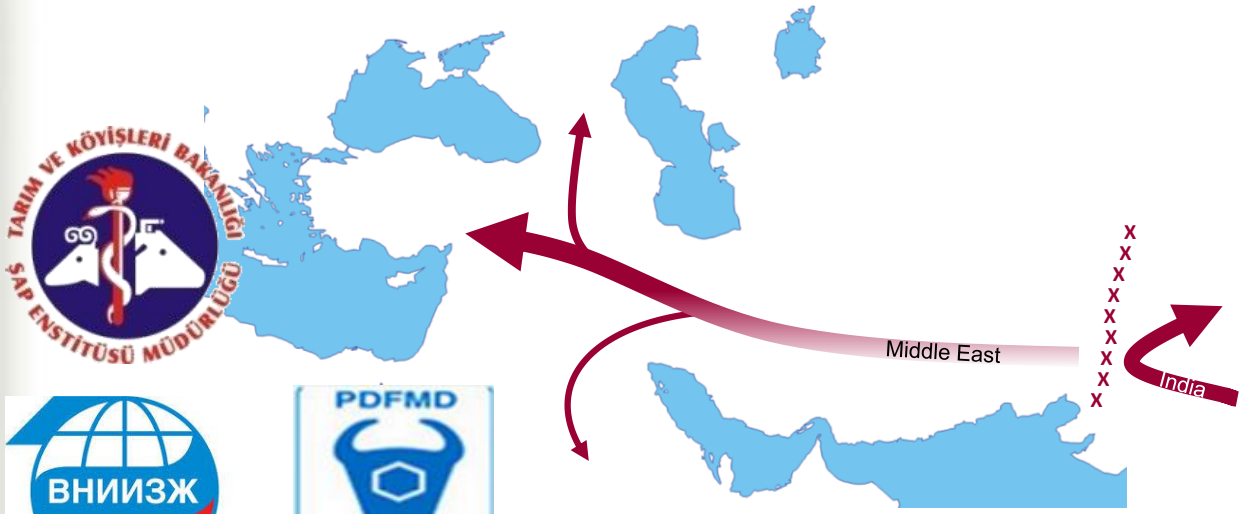


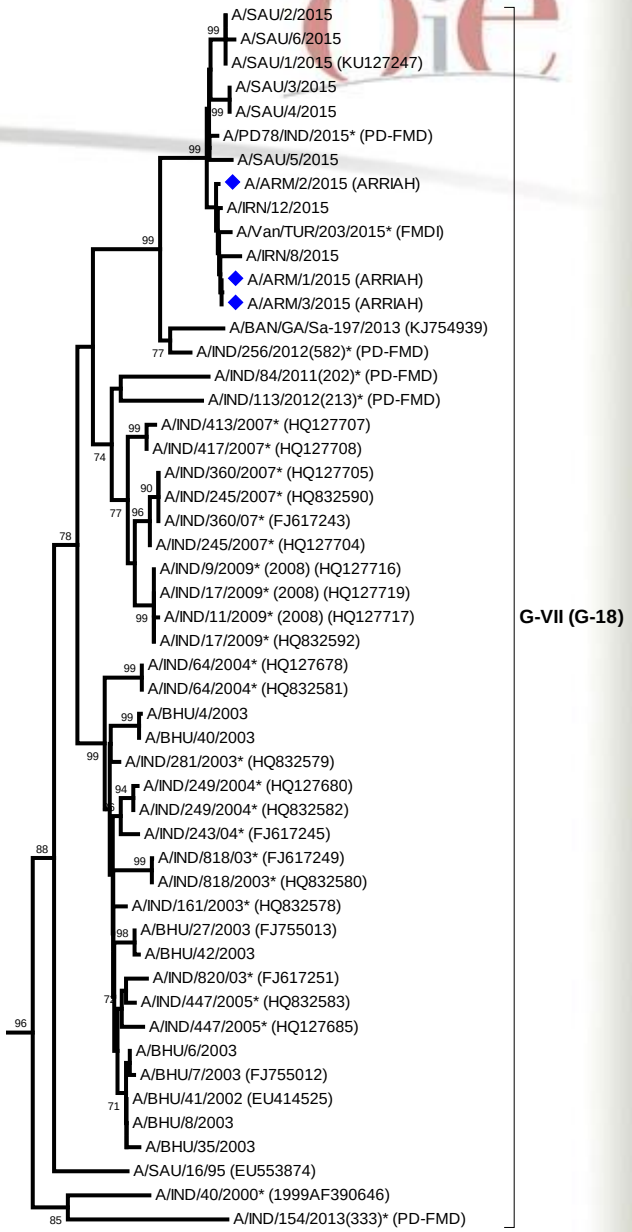
The risk of further incursions of exotic FMDVs into SEA is not a matter of "if" but rather of "when" !

Report available online: http://www.rr-asia.oie.int/fileadmin/FMDbook-v5.pdf

New serotype A outbreaks in West EurAsia (A/ASIA/G-VII)

- Initial reports September 2015
- Originating from the Indian sub-continent
- Pose the greatest risk to South East and East Asia





Thank you for your attention!

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