African swine fever in China: a new twist to an emerging crisis

Author: Zhang, Zhi-Qiang

Source: Systematic and Applied Acarology, 24(1) : 185-186

Published By: Systematic and Applied Acarology Society

URL: https://doi.org/10.11158/saa.24.1.14

Systematic & Applied Acarology 24(1): 185–186 (2019) ISSN 1362-1971 (print)
http://doi.org/10.11158/saa.24.1.14 ISSN 2056-6069 (online)

Editorial

African swine fever in China: a new twist to an emerging crisis

ZHI-QIANG ZHANG[1,2]

[1] *Manaaki Whenua – Landcare Research, 231 Morrin Road, Auckland, New Zealand.*
Email: zhangz@landcareresearch.co.nz
[2]*Centre for Biodiversity & Biosecurity, School of Biological Sciences, University of Auckland, Auckland, New Zealand*

African swine fever (ASF) is a highly contagious disease, caused by the African swine fever virus (ASFV), with nearly 100% mortality in infected pigs in Africa and Eurasia (Galindo & Alonso 2017). Following the recent outbreaks of ASF in Far East Russia and areas close to the borders of China in 2017 (Kolbasov *et al*. 2018), the first case of ASF outbreak in China was confirmed in the northeastern province of Liaoning in early August 2018 (Zhou *et al.* 2018). In mid-August 2018 outbreaks were also confirmed in Jiangsu and Zhejiang in East China and also in Henan in south-central China (Table 1). The number of confirmed cases increased from 4 in August to 19 in September, 24 in October and 26 in November, but then decreased to 21 in December 2018 and 5 in January 2019. By 25 January 2019 (when this editorial was finished), ASF were confirmed in 21 provinces (autonomous regions) and all four municipalities in China—infected over 14,000 pigs and killed over 10,000; as a result, over 169,000 pigs in infected farms were culled (Table 1). The control measures for infected farms and imposed quarantine were highly effective (Table 1), but reoccurring cases up to January 2019 in some provinces that were already on high alert (e.g. Heilongjiang and Jiangsu) suggest other problems. Although the policies of the central government are good, less strictly enforced quarantine at the local levels may be one problem. Other problems may be unknown means of transmission and reservoirs of ASFV. A report in this issue by Chen *et al.* (2019) adds a new twist to this emerging crisis. They showed for the first time that ASFV can infect sheep and bovines in addition to Suidae, and *Dermacentor* hard ticks (not just *Ornithodoros* soft ticks) can be vectors. They also showed the transovarian transmission of ASFV in *D. niveus*. The new results highlight the urgent need to study new means of ASFV transmission (esp. wildlife/domestic interface—Quembo *et al.* 2018) and the development of new prevention and control measures for ASF in China—the world's largest producers and market of pork.

References

Chen, Z., Xu, X., Bei, J., Wang, Y., Jin, X., Dou, W., Ji, H., Duan, Y., Yang, X. & Gao, S. (2019) DNA segments of African Swine Fever Virus detected for the first time in hard ticks from sheep and bovines. *Systematic and Applied Acarology*, 24(1), 180–184.
https://doi.org/10.11158/saa.24.1.13

Galindo, I. & Alonso, C. (2017) African swine fever virus: A review. *Viruses*, 9, 1482.
https://doi.org/10.3390/

Kolbasov, D., Titov, I., Tsybanov, S., Gogin, A. & Malogolovkin, A. (2018) African swine fever virus, Siberia, Russia, 2017. *Emerging infectious diseases*, 24, 796–798.
https://doi.org/10.3201/.171238

Quembo, C.J., Jori, F., Vosloo, W. & Heath, L. (2018) Genetic characterization of African swine fever virus isolates from soft ticks at the wildlife/domestic interface in Mozambique and identification of a novel genotype. *Transbounary and Emerging Diseases*, 65, 420–431.
https://doi.org/10.1111/tbed.12700

Zhou, X., Li, N., Luo, Y., Liu, Y., Miao, F., Chen, T., Zhang, S., Cao, P., Li, X., Tian, K., Qiu, H.J. & Hu, R. (2018) Emergence of African Swine Fever in China, 2018. *Transboundary and Emerging Diseases*, 65(6), 1482–1484.
https://doi.org/10.1111/tbed.12989

TABLE 1. Outbreaks of African swine fever in China since August 2018*.

Region / Province	Date of cases		No. of cases	No. of pigs			Control success**
	1st	latest		Total (largest producer)	Infected	Dead	
Northeast							
Liaoning	02/08/18	17/10/18	13	42428 (19938)	2069	1858	92.3%
Jilin	25/09/18	17/11/18	4	1458 (930)	208	204	100%
Heilongjiang	05/09/18	01/01/19	6	74649 (73000)	5051	4088	66.7%***
East							
Jiangsu	15/08/18	12/01/19	3	69066 (68969)	3169	1466	66.7%***
Shanghai	17/11/18		1	314 (314)	50	11	100%
Zhejiang	17/08/18	22/10/18	2	2280 (2289)	486	396	100%
Anhui	02/09/18	09/11/18	9	11518 (8839)	586	404	100%
Fujian	08/11/18	24/12/18	3	22247 (11950)	147	123	33.3%***
Jiangxi	08/11/18	30/11/18	3	463 (159)	75	63	100%
North							
Inner Mongolia	12/09/18	23/11/18	5	773 (388)	126	101	60.0%
Beijing	23/11/18	05/12/18	4	14050 (9835)	138	129	100%
Tianjin	12/10/18	29/11/18	2	1000 (639)	292	256	100%
Shanxi	17/10/18	30/12/18	5	8379 (8016)	176	100	80.0%***
Southcentral							
Henan	14/08/18	12/09/18	2	260 (260)	178	94	100%
Hubei	07/11/18	25/11/18	4	1667 (821)	62	28	100%
Hunan	22/10/18	20/11/18	7	8843 (7684)	459	229	100%
Guangdong	19/12/18	25/12/18	3	6167 (6027)	52	31	33.3%***
Northwest							
Shaanxi	03/12/18	09/12/18	3	523 (245)	309	162	100%
Ningxia	19/01/19		1	57 (57)	26	13	0***
Gansu	13/01/19	18/01/19	2	299 (190)	187	46	0***
Qinghai	12/12/18		1	69 (69)	14	14	100%
Southwest							
Chongqing	04/11/18	18/12/18	2	332 (309)	11	6	50.0%***
Sichuan	15/11/18	16/12/18	5	642 (210)	197	136	60.0%***
Guizhou	25/10/18	21/12/18	4	241 (156)	80	80	75.0%***
Yunnan	21/10/18	17/11/18	5	1542 (804)	551	547	80.0%

*Data from http://www.moa.gov.cn/ztzl/fzzwfk/yqxx/index.htm (last accessed: 25 Jan. 2019).
** Measured by the proportion of infested areas with quarantine lifted when no new cases were discovered within six weeks. All pigs within the quarantine area were culled and the infected areas were quarantined to prevent movement of pigs or pig products out of or into the quarantine area.
*** Low rates because some infected cases were recent and not more than the six week period mentioned above.

Published: 29 Jan. 2019