A review of African swine fever in wild pigs in the Asia and the Pacific region

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Full report and publication

World Organisation for Animal Health
Founded as OIE

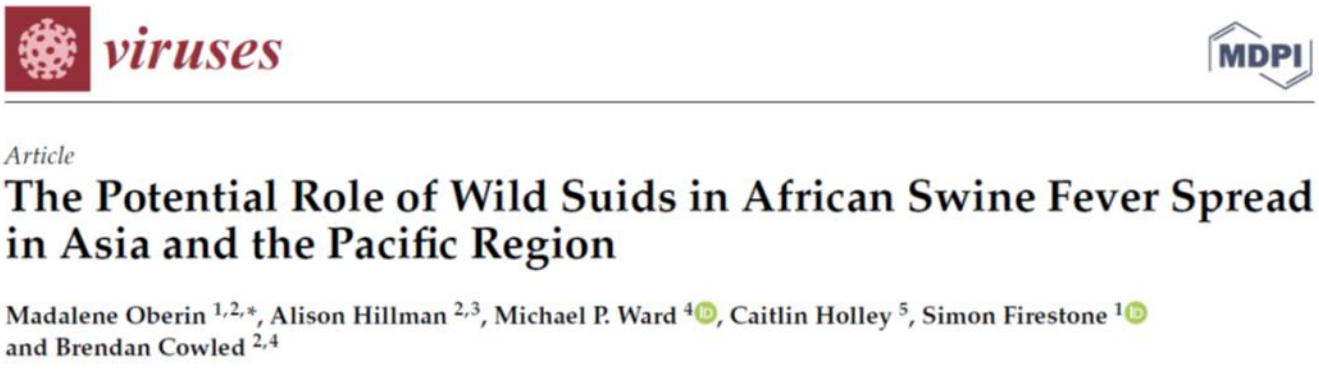
African swine fever in wild pigs in the Asia and the Pacific Region

WOAH report

Search documentary resources (https://doc.woah.org/) – *'Cowled ASF'*

Publication

Oberin, M., Hillman, A., Ward, M. P., Holley, C., Firestone, S., & Cowled, B. (2022). The Potential Role of Wild Suids in African Swine Fever Spread in Asia and the Pacific Region. *Viruses*, *15*(1), 61. https://doi.org/10.3390/v15010061



viruses

MDPI

Article

The Potential Role of Wild Suids in African Swine Fever Spread in Asia and the Pacific Region

Madalene Oberin [1,2,*], Alison Hillman [2,3], Michael P. Ward [4], Caitlin Holley [5], Simon Firestone [1] and Brendan Cowled [2,4]

Objectives

- **Main objective:** to review the role of wild suids across the region, and recommend management strategies and actions to best control ASF
- **Methodology:**
  - By undertaking a scientific literature review
  - Expert knowledge
  - Collecting data / information from a questionnaire of WOAH delegates (CVO)

No field work – COVID-19.

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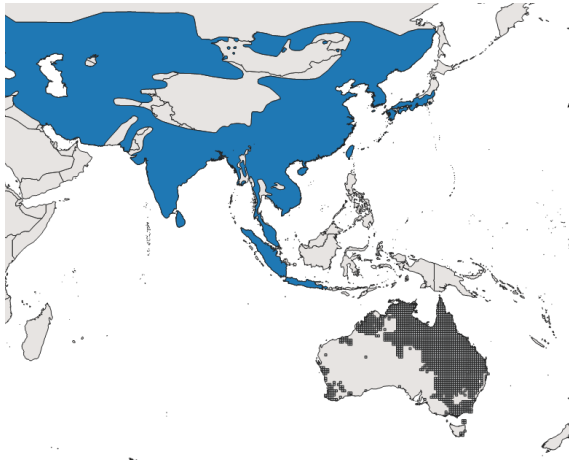
Wild pigs in the region



- 12 species of wild pigs
  - ***Sus scrofa***
    - very common and abundant
    - Feral or endemic depending on location
    - Often invasive
    - Most relevant for ASF control
  - **Locally endemic wild pigs**
    - 11 species (e.g. *Sus barbatus* or bearded pig)
    - Decreasing in range and abundance
    - IUCN status = near threatened to critically endangered
    - Little role in ASF epidemiology
    - Instead require protection from ASF

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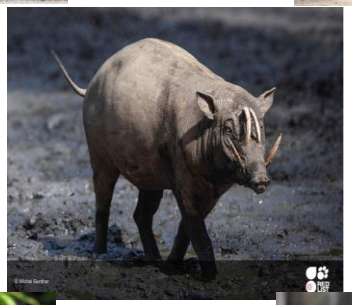







Photos – cowled and IUCN

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Ecology relevant to ASF

- Wild *Sus scrofa* can be involved in epidemiology of ASF
  - Widespread and abundant (high densities)
  - Highly social and non-territorial
  - Contact with domestic pigs (food, breeding)
  - Variety of habitats
  - Interest in carcasses
  - Cryptic and hard to control or survey

All contributes to transmission of ASF – important in epidemiology.

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ASF in wild pigs in region (2022)

- 4 WOAH members have reported in wild pigs – China, Republic of Korea, Laos and Malaysia. Literature reveal 9 members have had outbreaks in wild suids - Under-reporting
- ASF found in three species in region
  - *S. scrofa*
  - Bearded pigs
  - Philippines Warty Pig
- Wild pigs can be spillover or reservoir host depending
- Carcasses in Europe important for transmission – in warmer regions?
- Transmission from wild pigs and to domestic pigs and vice ve
- More research and surveillance is required.

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Control and eradication

- Eradication of ASF in wild pigs does not require eradication of wild pigs
- Socio-economic and cultural contexts
  - Capacity and context varies
    - E.g. Australia = feral and invasive, lots of control pre- ASF
    - Pacific = culturally important and few resources for control
- Eradication
  - Islands and developed countries
  - Limited
- Control
  - Developing countries with small scale produc
  - Biosecurity - ↓transmission between wild and

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Strategies for managing ASF in wild pigs

- **Prevention**
  - border quarantine - islands – between and within countries
- **Detection**
  - Understand where and how many wild pigs
  - Passive surveillance to look for dead pigs
- **Response**
  - In *Sus scrofa*
  - Protecting endemic wild pigs

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Response – *Sus scrofa*

- Species not at risk and generally invasive
- Options:
  - Reduction to reduce wild pig density
    - Poison, aerial shooting, trap, snaring, hunt** (less effective)
  - Carcass removal
  - Prepare for vaccination
  - Biosecurity strategies (e.g. fencing) – separate wild and domestic

Response – protecting endemic pigs

- Protected populations – biosecurity
- In situ and ex situ insurance populations (e.g. pygmy hog)
- Bait delivery strategies in case oral vaccine ever available
- Reduce incidence in domestic pigs to prevent spillover
- Quarantine and risk analyses of populations to protect extant populations

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Recommendations

- Context - Develop a strategic objective for wild pig ASF management
  - Eradication verse control, conservation or domestic protection
- Prevention- quarantine and biosecurity
  - Inter Member quarantine (border biosecurity)
  - Intra-Member quarantine (e.g. islands – trade and social)
  - Enhance biosecurity (domestic pigs)
- Detection - Collection and sharing of surveillance and disease control data
  - General surveillance is most effective (dead pigs)
  - Active surveillance in affected areas
- Interagency coordination (environment and agric
- Education
- Collection and sharing of surveillance and diseas data at finer level than WAHIS

Recommendations (cont)

- Response—population control
  - In appropriate contexts, rapid population control using an effective mix of tools (e.g. aerial shooting, poison baiting, trapping)
  - research to explore the relationship between depopulation and ASF transmission is required
  - Research should be conducted to determine the effectiveness, target specificity and application of these additional tools
- Response—protection of endemic species
  - Ancillary preparatory research for oral vaccine deployment to wild pigs
  - Identify critical conservation populations of wild pigs and isolate these from other pigs to protect
- Other recommendations
  - Interagency coordination (environment and agriculture)
  - Education
  - Collection and sharing of surveillance and disease control d
    level than WAHIS

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Knowledge gaps

- How ASF affects all species in Asia Pacific
- Ecology and how impacts transmission
- Mechanisms of spread and persistence
- Importance of carcasses in warmer environments
- Vectors in transmission?
- Trade and cultural links and how impacts transmission
- Implementing biosecurity at small holder level
- Efficacy and acceptability of alternative means of pig control in new areas (e.g. poison baiting)

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Conclusions

- Challenging project as complex situation depending on location (species, role, resources, social and cultural) – **Diversity**
- ASF **heterogenous** across region
- **Two groups** of wild pigs
  - Sus scrofa
  - Important biodiversity species
- **Prevention, detection and response**
- **Control of ASF in wild pigs may be possible** in some circumstances
  - Resources, environment and additional tools

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