

Do wild suids from the Ndumo Game Reserve, South Africa, play a role in the maintenance and transmission of African Swine Fever to domestic pigs?

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Warthogs (*Phacochoerus africanus*) and bushpigs (*Potamochoerus larvatus*) are considered wild reservoirs of African Swine Fever (ASF). They are both present in Ndumo Game Reserve (NGR), located in the Northern South African Province of KwaZulu on the border with Mozambique. In this area, the occurrence of tick-warthog sylvatic cycle of ASF has been suspected for years. To assess if wild suids represent a risk of ASF virus spillover to domestic pigs, wild suid abundance and incursions outside NGR boundaries were estimated using transect counts, fence patrols, and camera traps. Also, the presence of *Ornithodoros* ticks was explored in 35 warthog burrows within NGR. In addition, blood samples were taken from 67 domestic pig farms located outside NGR to be tested for ASF antibodies. Information on interactions between domestic and wild suids and ASF occurrence was gathered using interviews with pig farmers (n=254) in the study area. In conclusion, the bushpigs and warthogs population estimates in NGR are 5 and 3-5 individuals/km<sup>2</sup> respectively. Both species move out of the reserve regularly (15.4 warthogs/day and 6.35 bushpigs/day), with movements significantly increasing in the dry season. Some farmers observed warthogs and bushpigs as far as 8 and 19 km from NGR respectively, but there were no reports of direct wild-domestic suids interactions or ASF outbreaks. Also, no soft ticks were detected in all warthog burrows and all the pig blood samples were negative for ASF antibodies. The absence of ticks in warthog burrows, the absence of antibodies in pigs sampled, absence of reported outbreaks, and no familiarity with ASF in the study area, suggest that a sylvatic cycle of ASF is, at present, unlikely in NGR. Wild suids sightings outside protected areas confirm fence permeability, a potential ASF transmission risk. Therefore, farmers should practice good husbandry practices such as full time penning to limit wild-domestic suid interactions.