Health implications of interactions between bushpigs, Potamochoerus larvatus and domestic pigs in pathogens transmission in Madagascar

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In many parts of the world, domestic and wild animals may interact due to livestock and agricultural systems existing in proximity to forests . Therefore, the interaction between bushpigs (Potamochoerus larvatus), the largest mammal in Madagascar, and domestic pigs can lead to transmission of pathogens, including African Swine Fever virus (ASFV). In this study we provide information about the nature and frequency of interactions between bushpigs and domestic pigs. We conducted our study in two areas where bushpigs are abundant and roaming pigs are present, in the western part of Madagascar, Mahajanga area, and in the south-western part, Morondava area. We used questionnaire surveys to characterize the interactions and the presence of hybrids among pig farmers, hunters, and crop farmers. We explored the presence of African Swine Fever, Classical Swine Fever, cysticercosis, trichinosis, and tuberculosis from blood samples and organs from bushpigs and domestic pigs. We built a map, by using participatory mapping method with hunters, pig farmers, and crop farmers to characterize and identify areas of interaction between bushpigs and domestic pigs. Data validation will be based on deployment of camera traps (n=25) during a period of 3 months in areas with potential for interactions between these species (i.e., near water sources, crops, and forests). Preliminary results obtained from the questionnaire surveys showed that direct interactions were rare (4% of respondents), as opposed to indirect interactions (10% of respondents). The direct interactions were more frequent at night (80% at night, 20% during the day), mainly agonistic (80% agonistic, 10% sexual, 10% trophic), and occurred most frequently around crop fields (50% crop field, 30% water sources, 20% forest). A few of the respondents (2%) reported the presence of hybrids. Result also suggested that the bushpigs were free of ASFV and CSFV. Recommendations based on our results will support slowing the spread of pig diseases in rural areas of Madagascar.