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Bushpigs in Madagascar: at the crossroad of wildlife, livestock, human and ecosystem health

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PURPOSE:

Bushpigs (*Potamochoerus larvatus*) are a significant source of cheap proteins in several rural areas of Madagascar. We aim to identify diseases of bushpigs in those areas, explore their role as sources of pathogens for livestock and humans, and understand how hunting and trade may affect epidemiological risks.

METHODS:

Our integrated approach includes 1) epidemiological studies (investigate the presence of African swine fever, cysticercosis, hepatitis E, and internal parasites in blood samples, organs and faeces from bushpigs); 2) ecological studies (use transect surveys to quantify the presence of bushpigs around forests and GPS collars to map movements and contacts with domestic pigs); 3) socioeconomic studies (conduct questionnaire surveys among pig farmers, hunters, and butchers). Generalized linear mixed models test the association between potential risk factors and prevalence of pathogens, abundance of bushpigs or frequency of hunting/trade.

RESULTS:

Preliminary results obtained in sakalavae territory showed that 1) prevalence was high for internal parasites (especially *Ascaris suum* and gastrointestinal strongyles), sporadic for cysticercosis and null for African swine fever and hepatitis E; 2) abundance of bushpigs increased in savannahs as compared to dry forests during the fruiting period of monkey orange (*Strychnos spinosa*); 3) 85% of hunted bushpigs were captured alive with traps and brought back to villages where they stayed until they were sold or slaughtered for food. Other results are in progress.

CONCLUSION:

Based on our preliminary results, we recommend limiting free-ranging of domestic pigs in areas close to dry forests with bushpigs, especially during the fruiting period of monkey orange. Awareness campaigns should also inform hunters and consumers of bushpig meat about the need to properly cook meat potentially infested with cysticerci and about the risk of disease transmission through contacts between pigs and bushpigs.

RELEVANCE:

Interdisciplinary approaches enlarge the understanding of health risk determinants. Recommendations based on our results will help increase food security and safety in rural areas of Madagascar.