

Study on the role of the sylvatic cycle of African swine fever in Senegal

Jori F (1), Vial L (2), Etter E (1), Akakpo J (3), Perez R (4), Blanco E (5) and Roger F (1).

(1) Integrated animal Risk Management Unit, Department ES, CIRAD, France (2) UMR 15, Department BIOS, CIRAD, France (3) Interstate Scholl of Sciences and Veterinary Medicine (EISMV), Dakar, Senegal. (4) IRNASA-CSIC, Salamanca, Spain (5) CISA-INIA, Madrid, Spain

It is generally believed that African swine fever (ASF) virus in Sub-Saharan Africa is maintained in nature by warthogs (*Phacochoerus africanus*) and soft ticks from the genus *Ornithodoros* (Penrith et al., 2004). In Senegal, warthogs are present in some nature reserves and the presence of an argasid tick (*O. sonrai*) has been described (Vial et al., 2007). In order to verify the presence of such a sylvatic cycle in Senegal, 74 warthog sera from different locations were analysed for ASF antibodies by Blocking Elisa and Algenex anti rp-30 ELISA. Moreover, 48 warthog burrows were inspected in the Sine Saloum National Park. Equally, 132 sera from free-ranging pigs reared in central and South Senegal and 74 warthogs sera were analyzed for the presence of antibodies against *Ornithodoros erraticus* (Canals et al, 1990).

All the warthog sera were negative against ASF antibodies and anti-tick antibodies. Equally, no presence of soft ticks were detected in the 48 warthog burrows inspected despite *O. sonrai* was found in neighbouring rodent burrows. Among the 132 pig sera tested against tick antibodies, 8.5% (n=12) showed positive titres. There was a strong correlation between the later sera and those sampled in the area of distribution of *O. sonrai* (OR=7.1; p="0.028)." In addition, among those sera, 36% (n=4) showed also positive titres to ASF virus.

The absence of antibodies against ASF in warthog sera confirms the lack of circulation of ASFV among warthog populations in Senegal, even in areas where the tick is present.

The absence of antibodies against soft ticks in warthogs from different regions confirms that contacts between warthogs and *O. sonrai* are inexistent.

The detection of antibodies against *O. sonrai* in pig sera confirms that contacts between both species occur. Moreover, it seems to confirm that *O. sonrai* and *O. erraticus* are antigenically related and that this diagnostic method could be useful to determine the distribution of *O. sonrai* in Senegal and other countries.

Finally, these results prove the absence of warthog involvement in the cycle of ASF virus and confirm a potential role of *O. sonrai* as a reservoir host for the virus in Senegal.