



Comparison of nucleotide sequences of recent and previous lineages of peste-des-petits-ruminants viruses of sheep and goats in Nigeria

Samuel Mantip^{1,2}, Melvyn Quan¹, David Shamaki², Moritz van Vuuren¹

¹Department of Veterinary Tropical Diseases, University of Pretoria, South Africa

²Viral Research Division, National Veterinary Research Institute, Nigeria

Abstract:

Peste-des-petits-ruminants virus (PPRV) is a highly contagious, fatal and economically important viral disease of small ruminants that is still endemic and militates against the production of sheep and goats in endemic areas of the world. The aim of this study was to describe the viral strains within the country. This was carried out by collecting tissue and swab samples from sheep and goats in various agro-ecological zones of Nigeria. The phylogeny of archived PPRV strains or isolates and those circulating and causing recent outbreaks was determined by sequencing of the nucleoprotein (N)-gene. Twenty tissue and swab samples from apparently healthy and sick sheep and goats were collected randomly from 18 states, namely 3 states in each of the 6 agro-ecological zones visited. A total of 360 samples were collected. A total of 35 samples of 360 (9.7%) tested positive by reverse transcriptase-polymerase chain reaction, of which 25 were from oculo-nasal swabs and 10 were from tissue samples. Neighbour-joining phylogenetic analysis using Phylogenetic Analysis Using Parsimony (PAUP) identified four different lineages, that is, lineages I, II, III and IV. Interestingly, the Nigerian strains described in this study grouped in two separate major lineages, that is, lineages II and IV. Strains from Sokoto, Oyo, Plateau and Ondo states grouped according to the historical distribution of PPRV together with the Nigerian 75/1 strain of lineage II, while other strains from Sokoto, Oyo, Plateau, Akwa-Ibom, Adamawa, Kaduna, Lagos, Bauchi, Niger and Kano states grouped together with the East African and Asian strains of lineage IV. This finding confirms that both lineage II and IV strains of PPRV are circulating in Nigeria. Previously, only strains of lineage II were found to be present in the country.



Biography:

Samuel Mantip is a Experienced Senior Research Officer with a demonstrated history of working in the veterinary industry. Skilled in Polymerase Chain Reaction (PCR), Virology, Epidemiology, Vaccines, and Animal Welfare. Strong community and social services professional with a MSc (Veterinary Science) focused in Virology from University of Pretoria/Universiteit van Pretoria.

Recent Publications:

1. Samuel Mantip, et al; Onderstepoort Journal of Veterinary Research; 2019
2. Samuel Mantip, et al; The Possible Effects of Momodica balsamina in the Management of Newcastle Disease; 2018
3. Samuel Mantip, et al; Molecular analysis of peste des petits ruminants viruses from current outbreaks in Nigeria; 2015
4. Samuel Mantip, et al; Surveillance for African Swine Fever in Nigeria, 2006-2009; 2010
5. Samuel Mantip, et al; Field surveillance and Laboratory diagnoses of African swine fever in Nigeria; 2009

New Frontier's in Applied and Environmental Microbiology; April 24, 2020; London, UK

Citation: Samuel Mantip; Comparison of nucleotide sequences of recent and previous lineages of peste-des-petits-ruminants viruses of sheep and goats in Nigeria ; Applied Microbiology 2020; April 24, 2020; London, UK