# **Titre d’article**: Prevalence and Molecular Characterization of Methicillin-Resistant Staphylococci (MRS) and Mammaliicocci (MRM) in Dromedary Camels from Algeria: First Detection of SCCmec-mecC Hybrid in Methicillin-Resistant Mammaliicoccus lentus

**Abstract :**

t: Dromedary camels are an important source of food and income in many countries. However, it has been largely overlooked that they can also transmit antibiotic-resistant bacteria. The aim of this study was to identify the Staphylococcaceae bacteria composition of the nasal flora in dromedary camels and evaluate the presence of methicillin-resistant Mammaliicoccus (MRM) and methicillinresistant Staphylococcus (MRS) in dromedary camels in Algeria. Nasal swabs were collected from 46 camels from seven farms located in two different regions of Algeria (M’sila and Ouargla). We used non-selective media to determine the nasal flora, and antibiotic-supplemented media to isolate MRS and MRM. The staphylococcal isolates were identified using an Autoflex Biotyper Mass Spectrometer (MALDI-TOF MS). The mecA and mecC genes were detected by PCR. Methicillin-resistant strains were further analysed by long-read whole genome sequencing (WGS). Thirteen known Staphylococcus and Mammaliicoccus species were identified in the nasal flora, of which half (49.2%) were coagulasepositive staphylococci. The results showed that four out of seven farms were positive for MRS and/or MRM, with a total of 16 isolates from 13 dromedary camels. The predominant species were M. lentus, S. epidermidis, and S. aureus. Three methicillin-resistant S. aureus (MRSA) were found to be ST6 and spa type t304. Among methicillin-resistant S. epidermidis (MRSE), ST61 was the predominant ST identified. Phylogenetic analysis showed clonal relatedness among M. lentus strains, while S. epidermidis strains were not closely related. Resistance genes were detected, including mecA, mecC, ermB, tet(K), and blaZ. An SCCmec type VIII element was found in a methicillin-resistant S. hominis (MRSH) belonging to the ST1 strain. An SCCmec-mecC hybrid element was detected in M. lentus, similar to what was previously detected in M. sciuri. This study highlights that dromedary camels may be a reservoir for MRS and MRM, and that they contain a specific set of SCCmec elements. This emphasizes the need for further research in this ecological niche from a One Health perspective.