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BIOFILM FORMATOIN POTENTIAL (BFP) OF *Salmonella Spp.* ISOLATED FROM STREET VENDED READY-TO-EAT FRIED GRASSHOPPER: A THREAT TO FOOD SAFETY

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ABSTRACT

Bacterial biofilms are serious global public health problem due to their antibiotics tolerance capabilities, resistance to host defence mechanisms and other external stresses which consequently contributes to their chronic infections. RTE (ready-to eat) grasshopper is much consumed by women and children and its marketability is overtaking that of meat in many parts of Northeastern Nigeria and can serve as reservoir for biofilm forming pathogenic bacteria. This study aimed to detect the presence of *Salmonella sp.* from exposed fried grasshopper vended in Gombe metropolis and to assess their biofilm formation potential (BFP). A total of 250 samples of exposed RTE fried grasshopper were purchased from different locations of Gombe metropolis in sterile containers. They were homogenized in Rappaport Vassiliadis *Salmonella* enrichment broth and spread plated on selective *Salmonella-Shigella* agar. Positive samples were Gram stained and further subjected to biochemical identifications. The confirmed isolates were further assessed for BFP using Congo red agar assay technique. Of the 250 samples obtained, 36% (n=90) were positive for *Salmonella sp.* out of which 77.8% (n=70) had biofilm formation potential. Presence of *Salmonella sp.* with BFP in foods is a serious concern that can lead to outbreaks as the biofilm may be protection for their persistence. Relevant authorities should take serious measures on the strict adherence to proper food hygiene practices to save the consumers from outbreaks due to the organisms.

Keywords: *Salmonella sp.*, grasshopper, ready-to-eat, biofilm formation potential, Gombe metropolis.

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