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A STUDY OF AEROBIC GASTRO-INTESTINAL BACTERIAL FLORA OF *TILAPIA MOSSAMBICA* AND *TILAPIA NILOTICA*

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Two species of freshwater fish (*Tilapia mossambica* and *Tilapia nilotica*) cultured in domesticated mud ponds under known culture conditions were bacteriologically examined to determine their gastro-intestinal bacterial flora. The total viable counts obtained for the two species by aerobic incubation, respectively, ranged from 6.1×10^4 to 5.76×10^7 (Average 1.058×10^7) and 1.24×10^6 to 3.08×10^8 (Average 7.89×10^7) ind./g of gastro-intestinal tract plus contents. The average viable count of the latter was 7.46 times higher than that of the former.

A total of 134 isolates recovered from 10 *T. mossambica* and 5 *T. nilotica* specimens were characterized. 80% of the isolates were found to be gram positive, the remainder being gram negative. *Bacillus* spp (37.7%), 'Coryneforms' (14.02%), *Staphylococcus* (8.9%), *Micrococcus* (2.96%) and *Planococcus* (2.96%) species were the predominant gram positive strains isolated. Among the gram negative isolates *Pseudomonas* (6.66%), *Enterobacter* (5.92%) and *Aeromonas* (2.2%) constituted the major groups. About 11.94% of the isolates could not be identified at all.

It was seen that both species of fish contained more or less the same intestinal bacterial flora. Most of these bacteria appear to be very similar to those found in water and soil. They probably reflect the feeding habits of fish.

Although bacteria belonging to the 'coliform' group were isolated they are not indicators of faecal pollution of waters inhabited by the fish. Similary pathogenic enteric bacteria and those implicated with toxin production were not encountered among the gut flora of these fish.