

MICROBIOLOGICAL PROFILE OF ORAL CAVITY OF AND OCCURRENCE OF *SALMONELLA* SPP. IN SUGAR GLIDERS

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Abstract

Sugar gliders (*Petaurus breviceps*) are popular pocket pets in Japan, Canada and United States and now gaining popularity in Malaysia. The close relationship between humans and pets may lead to possible health hazards if the animals are infected with zoonotic pathogens. To date, not much is known about the potential health hazard of keeping sugar gliders as pet. The objectives of this study were to evaluate the microbiological profile of oral mucosa in sugar gliders, to determine the occurrence of *Salmonella* spp. in sugar gliders and to determine the antibiotic resistance of the isolates against six types of antibiotics namely enrofloxacin, trimethoprim-sulfamethazole, tetracycline, ceftiofur, penicillin G and neomycin. Thirty-seven oral swabs and 37 faecal samples were collected from 18 individual owners and a breeder. Nine species of bacteria isolated were *Acinetobacter calcoaceticus*, *Enterococcus faecalis*, *Enterococcus faecium*, *Escherichia coli*, *Pasteurella* spp., *Staphylococcus* spp., *Klebsiella pneumonia*, *Staphylococcus delphini* and *Streptococcus viridans*. Most of the isolates were normal microflora in other pet animals, such as cats, dogs, and parrots. Eight (22.9%) faecal samples were positive for *Salmonella* spp of which only 1 (12.5%) was from individual owner, while the other seven (87.5%) were from the breeder. Two serovars of *Salmonella* spp. isolated were *Salmonella Albany* (62.5%) and *Salmonella London* (37.5%). The high occurrence of *Salmonella* in the animals suggested that they are of potential risk in disease transmission to humans. All the *Salmonella* spp. isolates were susceptible to three types of antibiotic, Enrofloxacin, Trimethoprim-Sulfamethazole, and Tetracycline. Of these isolates, 33.3% were sensitive to Ceftiofur and the rest were intermediately sensitive. However, all were resistant to Penicillin G and Neomycin. The presence of *Salmonella* spp. in these pet animals poses a health risk to the owners. Owners are advised to wash their hands thoroughly after handling these animals, clean the cages frequently, bring these animals for regular veterinarian check-ups, and for immunocompromised people, to avoid handling these animals.

Keywords: Sugar gliders (*Petaurus breviceps*), oral microflora, faecal microflora, *Salmonella*