Investigation on the Prevalence of *Aeromonas* spp. from the Aquarium Water in Uva Province and the Most Suitable Antibiotics for Treatment of *Aeromonas* spp.

T. Anushka N. De Silva*, P.C.B. Dias and M.S. Kurukulasuriya

Department of Animal Science, Uva Wellassa University, Badulla, Sri Lanka

The ornamental fish industry is a globally fast blooming industry. *Aeromonas* spp. is known to cause infections in ornamental fish leading to huge economic losses. The pathogen can contaminate the water and helps for disease transmission. The present study aims to determine the prevalence of *Aeromonas* spp. in aquarium water collected from Uva province and to determine the resistance level of *Aeromonas* spp. to various antibiotics. A total of 54 water samples were collected from 14 aquariums in the Uva province. Bacteria were isolated using Tryptic Soy Agar and isolates were identified as *Aeromonas* spp. by Gram negative, oxidase positive, fermentative, and 0/129 resistant. Antimicrobial susceptibility tests were conducted using Amoxicillin, Tetracycline, and Chloramphenicol. The prevalence of *Aeromonas* was reported as 43%. Among *Aeromonas* spp. positive samples, 52% were reported from water samples with sick fish while 48% were reported in water samples without sick fish. The presence of *Aeromonas* spp. in water with the absence of sick fish confirms that they were opportunistic and that they can survive within the water leading to infections under unfavourable conditions for hosts. According to fisher's exact test, there is no significant relationship between water changing frequency and existence of *Aeromonas* sp. in water ($p>0.05$). Antimicrobial susceptibility test results showed that there is a significant difference between the sensitivity of the isolates to the different antibiotics ($p<0.05$). The highest resistance to Amoxicillin and highest susceptibility to Chloramphenicol (74%) and Tetracycline (65%) were reported. Since, Amoxicillin is one of the most common antibiotics used in aquariums, heavy use or abuse of amoxicillin might predispose current findings. In conclusion, 43% is the prevalence of *Aeromonas* spp. from aquarium water in the Uva province and Chloramphenicol & Tetracycline can be recommended as the best antibiotic to treat the infections of *Aeromonas* spp.

Keywords: Aeromonas spp., Aquarium water, Antibiotics, Ornamental fish