

NORMAL BACTERIAL FLORA OF THE WATER BUFFALO (*BUBALUS BUBALIS*) EYES IN IRAN

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The knowledge of the normal eye flora is important to interpreting the results of microbial cultures and understanding surface ocular disease dynamics. The purpose of this study was to determine the normal eye bacterial flora of Iranian buffalo (*Bubalus bubalis*). The study was carried out in summer 2009 at the Buffalo Breeding and Extension Training Center of Urmia. Swabs were taken from the inferior conjunctival sac of both eyes from 50 healthy water buffaloes (33 female, 17 male) with an age range of 1 to 15 years old in four age groups - yearlings 19 cases (38%), 2-5 years 8 cases (16%), 6-10years 2 cases (4%) and 11-15 years 21 cases (42%). All animals were of four Azerbaijani (25 cases; 50%), Mazandarani (13 cases; 26%), Khuzestani (8 cases; 16%), and Guilani (4 cases; 8%) ecotypes. The samples were inoculated in meat peptone broth and also on blood and MacConkey agar. One hundred ninety five isolates of aerobic bacteria were identified in 91 out of 100 (91%) eyes. No bacteria were isolated in 3 cases (6 eyes; i.e. 6%). Single bacteria were isolated in 12 eyes. Two bacteria were isolated in 54 eyes; 3 bacteria were isolated in 25 eyes. The isolates included 8 different genera and 10 different species. One hundred fifteen (58.97%) isolates were gram-positive - *Bacillus cereus* (22%), *Staphylococcus epidermidis* (18.5%), *Staphylococcus intermedius* (8.7%), *Dermatophilus congolensis* (7.2%), *Staphylococcus aureus* (2%), and *Streptococcus zooepidemicus* (0.5%) - and 80 (41.03%) were gram-negative - *Escherichia coli* (26.67%), *Edwardsiella tarda* (7.18%), *Klebsiella* spp. (4.6%), and *Proteus* spp. (2.6%). *Escherichia coli* was the most frequent isolate in the 2-5 years group and Mazandarani ecotype, but in both sexes, other age groups and ecotypes, *Staphylococcus* spp. were the predominant isolates. There was a positive correlation between the number of isolates from each eye and age ($p < 0.01$). There was no significant difference in the number of bacterial isolates between sexes, age groups and ecotypes ($p > 0.05$).

Gram-positive aerobes were most commonly cultured from the conjunctival sac of normal WATER BUFFALOS, with *Staphylococcus* spp. predominating (29.2%).

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