

**Title: PATHOGENIC *Escherichia coli* IN PET COCKATIELS (*Nymphicus hollandicus*): ZOO NOTIC PROFILE AND ANTIMICROBIAL RESISTANCE.**

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**Abstract:**

Understanding the composition of the intestinal microbiota of clinically healthy pet birds offers an important insight into the epidemiology of bacterial diseases affecting captive birds. This research study evaluated the presence and antimicrobial resistance of *Escherichia coli* with zoonotic potential isolated from cloacal swabs of healthy pet cockatiels (*Nymphicus hollandicus*). Samples from 94 apparently healthy birds from commercial breeders and private homes were seeded in peptone water and agar MacConkey, smeared and Gram stained. After phenotypical identification, three *E. coli* strains from each individual underwent extraintestinal pathogenic *E. coli* (ExPEC) (*papC*, *papEF*, *sfa*, *cnf1*, *malX*, *fyuA*, *cvaC*, *sfa*, *hly*) genes research, including genes of avian virulence predictor (AVP) (*ironN*, *ompT*, *hlyF*, *iss* e *iutA*); research of enterohemorrhagic *E. coli* (EHEC) (*eae*, *stx1* e *stx2*) markers; and phylogenetic classification into groups A, B1, B2 and D. Antimicrobial resistance research was conducted according to international standards. Twenty-seven *E. coli* strains were isolated from nine out of the 94 evaluated animals (9,6%). Combinations of 4 AVP genes (*ironN*, *ompT*, *iss* e *hlyF*) were detected in two strains (2/27-7,4%); and *iss* (1/27-3,7%) was detected once. From the 27 isolations, six (22,2%) were classified as phylogenetic group A; 18 (66,7%) as B1, three (11,1%) as B2 and none as D. Antimicrobial susceptibility tests indicated resistance to amoxicillin (22/27-81,5%), ampicillin (21/27-77,8%), cephalotin (8/27-29,6%), ceftiofur (2/27-7,4%), cefoxitin (1/27-3,7%), streptomycin (18/27-66,7%), gentamicin (2/27-7,4%), tetracyclin (11/27-40,7%), chloramphenicol (7/27-25,9%), clotrimazol (9/27-33,3%), enrofloxacin (8/27-29,6%) and ciprofloxacin (8/27-29,6%). Sixteen isolates (59,3%) from seven different animals presented multi drug resistance. Despite the low percentage of isolated strains with zoonotic potential from healthy captive cockatiels, antimicrobial resistance and multi drug resistance were significant features. The role of pets in the perpetuation and dissemination of antimicrobial resistant bacteria is an increasingly relevant Public Health topic. Our findings emphasize the importance of proper sanitary habits between owners and their pet birds, as well as a restrict and close regulation over the use of antimicrobials in animals.