

TRANSMISSION OF BLACKHEAD FROM JUNGLEFOWL TO TURKEY

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Abstract: Results from experimental studies conducted on 2 southeastern game farms showed that the Indian Red Junglefowl (*Gallus g. murghi*) was a capable reservoir host for blackhead disease (histomoniasis, enterohepatitis), and indicated that some junglefowl released in range of the eastern wild turkey (*Meleagris gallopavo silvestris*) were carriers of blackhead. Since blackhead has been a major disease problem in southeastern wild turkey populations, the disease potential should be carefully considered prior to any future releases of junglefowl.

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In the past 2 decades, natural resource agencies of 7 southern states propagated and released Indian Red Junglefowl in cooperation with the Foreign Game Investigation Program (Bohl and Bump 1970). Releases of junglefowl frequently were made in areas occupied by wild turkey (Chambers 1966:36), because the 2 birds appeared to have similar habitat requirements. Such liberation of junglefowl in wild turkey range prompted the authors to investigate the possibility of disease transmission between junglefowl and turkeys.

Available information (Bump and Bohl 1961:17, Kellogg et al. 1971) suggested that diseases and parasites of junglefowl were similar to those of domestic chickens (*Gallus g. domesticus*). Since chickens are known reservoirs and disseminators of blackhead disease (Lund and Farr 1965:1102), and since blackhead is a common disease of wild turkeys in the Southeast (Kellogg and Reid 1970:155), it was considered the major potential disease problem related to the introduction of junglefowl.

METHODS

Experimental studies of the junglefowl/blackhead/turkey relationship were initiated on 2 game farms where junglefowl were being produced in cooperation with the Foreign Game Investigation Program. One was located in Hampton County, South Carolina, and the other in Ben Hill County, Georgia. Parasite-free domestic turkeys were placed in pens for a 60 day test period with purebred Indian Red Junglefowl being grown for release. On both game farms the pens had dirt floors and had been used for junglefowl exclusively for at least 4 years.

On the South Carolina game farm, six 9-week-old turkeys were placed in Pen A (15.2 x 24.4 m) with approximately 950 junglefowl. In Pen B (same size), on the same game farm, the junglefowl were removed and six 9-week-old turkeys were introduced. On the Georgia game farm, nine 8-week-old turkeys were placed in a single pen (C), which measured 6.1 x 6.1 m, with 3 junglefowl.

Necropsies were performed on all turkeys which died during the test period, except 2 birds from Pen C. Surviving turkeys in Pens A and B were necropsied at the end of the test period. The turkeys surviving the test period in Pen C were not necropsied.

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RESULTS AND CONCLUSIONS

In South Carolina, 5 of the 6 turkeys in Pen A died during the test period. All dead birds had lesions characteristic of blackhead. In Pen B, 1 of the 6 turkeys died and had lesions characteristic of blackhead. Two of the surviving turkeys in Pen B also showed typical blackhead lesions on necropsy. During the previous 6 month period a total of approximately 2000 junglefowl had occupied the above pens and approximately 1% of these were lost to blackhead. Much greater numbers were lost to coccidiosis.

In Georgia, 3 of the 9 turkeys in Pen C died during the test period. One turkey had lesions typical of blackhead, but unfortunately the other 2 carcasses were inadvertently destroyed prior to necropsy. Blackhead had not been diagnosed in junglefowl on this game farm, but coccidiosis had caused extensive mortality.

Results of this investigation suggest that Indian Red Junglefowl are capable of serving as reservoir hosts for blackhead, and that at least some of the junglefowl released in southeastern woodlands were carriers of blackhead disease. In view of the above findings it appears that if junglefowl are to be liberated, it should not be in range capable of supporting wild turkeys or other birds susceptible to blackhead disease.

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