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FREE-RANGING, NORTHERN BOBWHITE SUBMISSIONS TO THE SOUTHEASTERN COOPERATIVE WILDLIFE DISEASE STUDY (1982–2015)

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ABSTRACT

There are concerns regarding population declines of northern bobwhite (*Colinus virginianus*) over the past 4 decades (Palmer et al. 2011). Infectious and noninfectious diseases are among the limiting factors that potentially influence bobwhite demographics (Applegate 2014). The last update of diseases of bobwhite was presented at the Second National Quail Symposium in 1982 (Davidson et al. 1982). Since that report, scientists at the Southeastern Cooperative Wildlife Disease Study (SCWDS) have examined 133 wild bobwhites from 13 states. The SCWDS is a cooperative between states and the University of Georgia and obtains cases from the cooperating states. In this update, we focus on the diagnostic testing results from wild birds and exclude other cases that were examined during this period. We searched the SCWDS database for all bobwhite cases 1985–2016 and examined the individual case reports for 133 wild bobwhite quail. During this period, the majority of cases originated from Florida, Georgia, and Kansas, where research was being conducted on bobwhite populations. A diagnosis could not be clearly identified in all cases and some otherwise healthy bobwhites were submitted for screening; therefore, we have narrowed the focus of this report to a subset of 78 bobwhites. Wild bobwhites that were submitted by SCWDS state cooperators had an approximately even distribution between male and female birds (26 F: 19 M; 2 unknown sex). Adults (20 F, 10 M) predominated over juvenile birds (6 F, 7 M, 2 unknown sex). Trauma (physical injury) was the diagnosis in 17 female and 38 male bobwhites submitted during this period. Three each of male and female birds were considered to have no health problems. Some of the most frequent findings in diagnosed bobwhites were possible *Physaloptera* sp. infection ($n = 9$, 17.0%), avian pox ($n = 7$, 14.9%), intoxication (lead and carbamate; $n = 5$, 10.6%), corneal opacity ($n = 4$, 8.5%), *Sarcocystis* sp. infection ($n = 3$, 6.4%), and fungal pneumonia ($n = 2$, 4.25%). Some parasitic infections (e.g., coccidiosis) were thought to be associated with mortality based on necropsy and laboratory findings while a number of the parasites were determined to be incidental findings (e.g., *Sarcocystis* and *Physaloptera*) based on necropsy and laboratory findings. Corneal opacity was found in 4 birds, but the cause was not determined. The most striking findings were that trauma (e.g., physical injury) or avian pox were among the most common causes of mortality in free-ranging quail. Iatrogenic (researcher) causes of mortality ($n = 5$, 10.6%) associated with complications from radiotransmitters and small mammal trapping also occurred. This latter urges careful consideration among bobwhite researchers. The cause of population declines in bobwhites are likely multifactorial. We hope that morbidity and mortality investigations can provide some insight into potential limiting factors for bobwhites and assist wildlife managers with population management decisions.

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LITERATURE CITED

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