

## Quail VIII

Expanded Abstract Guidelines—below is an example of an expanded abstract that can serve as a template. Please follow the basic guidelines for Quail VIII manuscripts. Limit the expanded abstract to 4 double-spaced pages (Times New Roman 12 pt. font). You can optionally have one ½ page or less table **or** one figure. A table or figure must be essential to the abstract and be typed on a separate sheet with the entire content keeping with the 4 page limit. The example below is 3 ½ pages and accommodates including a short table in the published abstract.

Other considerations are:

Avoid use of dependent clauses to start sentences.

Be direct. We studied northern bobwhite (*Colinus virginianus*) to investigate.....

Follow the AOU for all common and scientific names of birds.

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RRH: Bobwhite diseases

LRH: Applegate et al.

KEY WORDS: *Colinus virginianus*, diseases, northern bobwhite, parasites, trauma.

**Retrospective summary of free-ranging, northern bobwhite submissions to the  
Southeastern Cooperative Wildlife Disease study (1982-2015)**

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The northern bobwhite (*Colinus virginianus*) has declined over at least the past four 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 2nd 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, 60 domestic, and 21 bobwhites of unknown origin from 13 states. In this update, we will focus the review on the diagnostic testing results from wild birds and exclude the 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. In addition to the bobwhites included in the case reports, 25 wild bobwhites from Kansas were examined as part of a targeted study (Williams et al. 2000).

Submitted wild bobwhites had an approximately even distribution between male and female birds (26 females: 19 male; 2 were of unknown sex). Adults (20 females, 10 males) predominated over juvenile birds (6 females, 7 males, 2 unknown sex).

Trauma was the diagnosis in 17 females and 38 male bobwhites submitted during this period. A diagnosis could not be made for 7 females, 10 males, and 6 sex-unreported bobwhites. 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. (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. (n = 3, 6.4%), and fungal pneumonia (n = 2, 4.25%) (Table 1). Some parasitic infections (e.g. coccidiosis) were thought to be associated with mortality while a number of the parasites were determined to be incidental findings (e.g. *Sarcocystis* and *Physaloptera*). Corneal opacity was found in 4 birds, but the cause was not determined. The most striking findings were that trauma (suspect predation) and avian pox were amongst the most common causes of mortality in free-ranging quail. Iatrogenic 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.

#### Literature Cited

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