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Molecular Detection of Infectious Bronchitis Virus in Captive-Bred Houbara Bustards (*Chlamydotis undulata*)

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Abstract: This article describes the first reported case of infectious bronchitis virus (IBV) in houbara bustards (*Chlamydotis undulata*) from Saudi Arabia. Infectious bronchitis virus is a highly infectious virus that leads to major economic losses in the poultry industry. It is prevalent globally and causes severe respiratory and reproductive diseases in chickens. Although a wealth of information exists about IBV prevalence and transmission in domestic birds, similar information is lacking for houbara bustards. The major objectives of this research were to investigate whether IBV infections exist among houbara bustards at the National Wildlife Research Center in Taif, Saudi Arabia, and to determine the prevalence of this virus in this bird population. Fifty-eight oropharyngeal and cloacal swabs were gathered from 29 unvaccinated birds without clinical signs between 2017 and 2023. Extraction of complete RNA from the swab samples and reverse transcription–polymerase chain reaction testing were used to identify IBV. The prevalence of IBV in this population was 37.9% (11 of 29; 95% confidence interval, 20.2–55.5%), indicating transmission asymptomatically among captive houbara bustards. This research identified for the first time that houbara bustards were exposed to IBV, and that this exposure is not uncommon. To counter IBV in Saudi Arabia, recommendations include continuous monitoring of the virus, isolation of infected birds, phylogenetic analysis, genotypic identification of the virus in houbara bustard, and development of an effective vaccination.