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A RETROSPECTIVE SEROLOGICAL SURVEY FOR INFECTIOUS BURSAL DISEASE VIRUS IN FREE-RANGING SANDHILL CRANES IN SOUTH-CENTRAL WISCONSIN

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Abstract: A retrospective serosurvey of resident sandhill cranes (*Grus canadensis pratensis*) in Florida suggested Infectious Bursal Disease Virus (IBDV, family Birnaviridae) may have been enzootic there as early as 1992, with 13-63% seroprevalence among age classes and wide geographic distribution of seropositive cranes. The purpose of our study was to describe the prevalence of antibodies to IBDV serotype 2 in a local population of greater sandhill cranes (*G. c. tabida*) near Briggsville, Wisconsin, that overlapped with resident Florida birds in winter during the same time period. Blood samples were collected June through October between 1996 and 1999 as part of a long-term ecological research project. Samples were from hatch-year (minimally 6 weeks of age, $n = 47$) and adult cranes ($n = 42$). All birds were captured on breeding territories, were banded with colored leg markers, and were observed periodically post-release. Archived serum samples were tested at the Poultry Diagnostic and Research Center, University of Georgia, Athens, Georgia, in July 2007. Serum neutralization titers ≥ 32 were considered positive for IBDV exposure. Zero of 47 hatch-year cranes were seropositive for IBDV (geometric mean = 2, titer range 2-2), while 1 of 42 adult cranes was seropositive (geometric mean = 4.9, titer range 2-64). This adult female, sampled in September 1999, had 4 2-3 mm oropharyngeal granulomatous lesions and a normal body weight on examination. Though the oral pathology observed in this crane is similar to previously described lesions associated with an IBDV-associated wasting syndrome in whooping cranes (*Grus americana*), similar presentations are associated with other diseases. Her mate and chick were also captured; both were seronegative. The female was recaptured in September 2000 with a new mate, and both cranes were seronegative. She was last observed alive in late October that year. These results show that greater sandhill cranes in south-central Wisconsin were exposed to IBDV serotype 2 as early as 1999, but exhibited much lower seroprevalence compared to resident Florida sandhill cranes during approximately the same time period. The source of this viral exposure remains unknown.

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