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LETTER TO THE EDITOR . . .

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The following was told to me by Edward J. O'Neill, refuge manager at Muleshoe National Wildlife Refuge (NWR), Muleshoe, Texas (USA). Ed witnessed perhaps the first avian cholera epornitic in wild waterfowl (Quortrup et al., 1946) and the following is a summary about that epornitic at Muleshoe NWR.

Ed first observed ducks dying or dead on the refuge and in the surrounding area in 1944. The source and identity of the epornitic were unknown. Being well acquainted with botulism in Utah and North Dakota, he contacted the Bear River Wildlife Disease Research Station in Brigham, Utah (USA). Transportation was by Rail Road Express in those days, and it took several days for specimens to be shipped to Utah from Texas. Fast communication was by Western Union telegraph, 22 miles away. After Dr. E. R. Quortrup arrived, Ed took him on a tour of the sites with mortality. Most locations off the Refuge were playa lakes and roadside washes. Ed remembered that there was a fowl cholera epornitic in chickens on small farms during the previous fall and winter in the area. In those days dead chickens often were indiscriminately discarded in road-side washes or waste areas. To dispose of occasional barnyard dead chickens, dead birds sometimes were placed on the running board of a car or truck and allowed to fall along the gravel roads or into the ditches. The following winter, rains filled the playa lakes and washes. The migratory waterfowl that arrived, commonly ranged and gleaned fields and water areas off of the refuge onto these contaminated areas, returning at night to roost on the refuge. Ed believed the dead chickens in the ponds and ravines were the contact source of *Pasteurella multocida* to wild waterfowl. About 300 wild ducks were collected and buried in the winter of 1944.

Rosen and Bischoff (1949, 1950) also proposed a connection of their first observed avian cholera epornitic in California to domestic birds. They suggested that the source of bacteria for wild birds was the carcasses or offal of chickens that were discarded at a dump site near San Francisco Bay. Gulls were observed scavenging on the chicken remains and returned to ponds in the surrounding area. Rosen and Bischoff (1950) suggested the gulls transported bacteria to the surrounding area ponds, thereby serving as a source of infection to wild waterfowl. Thus, the first two reported wild wildfowl avian cholera epornitics in North America may have been due to the lack of proper disposal of infected domestic chickens.

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