

**FIRST RECORD OF ANHINGA (*Anhinga anhinga*)
AND NEOTROPIC CORMORANT (*Phalacrocorax brasilianus*)**

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Abstract—We report the first nest records for Anhinga (*Anhinga anhinga*) and Neotropic Cormorant (*Phalacrocorax brasilianus*) at the Tishomingo National Wildlife Refuge in Johnston County in south-central Oklahoma. During the 2015 nesting season, we observed a large rookery form at the Tishomingo National Wildlife Refuge. At least one Anhinga nest and >20 Neotropic Cormorant nests were observed, in addition to other wading bird species in the rookery. We were unable to determine specific nest success parameters due to flooding and logistical constraints, but juveniles were observed at the end of the nesting cycle, indicating local fledging success was likely. Our observations of Anhinga and Neotropic Cormorant nests are the first for south-central Oklahoma.

OBSERVATION

During the spring-summer 2015 nesting season, a large rookery of wading birds formed at the north end of the river cut section of the peninsula in the Cumberland Pool of Lake Texoma (34° 11'N, 96° 37'W) at the Tishomingo National Wildlife Refuge (hereafter, TNWR) in Johnston County, south-central Oklahoma. The peninsula was formed between 1995 and the present as the result of the Washita River flowing into the Cumberland Pool when it was at flood stage. At least five species of wading birds built a loose colony of stick platform nests in black willow (*Salix nigra*) and eastern cottonwood (*Populus deltoides*) trees. The majority of the approximately 1000 nests were built by Cattle Egrets (*Bubulcus ibis*) based on photographic evidence. Other species nesting in the rookery included Snowy Egrets (*Egretta thula*) and Double-crested Cormorants (*Phalacrocorax auritus*). Little Blue Herons

(*Egretta cerulea*) and one Black-crowned Night-Heron (*Nycticorax nycticorax*) in alternative plumage were observed in the rookery, but were not observed on nests.

On 15 July 2015, a female Anhinga (*Anhinga anhinga*) was photographed on a nest with a male Anhinga sitting adjacent to the nest. The nest was well maintained and attended by both parents. Four separate Anhingas were observed in the rookery, but we could not confirm whether they nested or were non-breeders. Due to the extreme flooding that occurred in south-central Oklahoma during spring and summer 2015, we were not able to access the rookery again until August. We cannot confirm nest success of the first nest, but on 28 August, at least seven Anhingas were observed in the rookery area, albeit from a significant distance. This group likely represented adult and juvenile Anhingas from the rookery.

On 15 July 2015, at least 20 active Neotropic Cormorant (*Phalacrocorax brasilianus*) nests were observed and photographed. Roach estimated that approximately 50 Neotropic Cormorant nests were likely in the rookery. This estimate is based on the 20 observed nests, plus more observations of Neotropic Cormorants entering an area of the rookery that could not be viewed due to visual obstruction. Neotropic Cormorants were photographed sitting on active nests. Due to flooding conditions, we were unable to determine specific nest success, but juvenile Neotropic Cormorant were seen in the rookery later in the summer.

DISCUSSION

Anhinga

Historically, Sutton (1967) listed Anhinga as an irregular visitor to Oklahoma. Baumgartner and Baumgartner (1992) listed Anhinga as a very rare and locally-distributed summer visitant to Oklahoma. Gall (2004) stated that Anhinga is a rare and irregular breeder in eastern and central Oklahoma, with only a few nesting records from McCurtain County from 1997-2001 during the Oklahoma Breeding Bird Atlas survey period. Nice (1938) documented Anhinga nesting near Eagletown in McCurtain County in 1937. Nice (1938) also documented a report of 10 Anhinga pairs nesting in a cypress forest elsewhere in McCurtain County. Norton (1973) documented a pair of Anhingas with a fledgling

in 1971 at Sequoyah National Wildlife Refuge in Sequoyah County in east-central Oklahoma. In 1972, Norton (1973) documented several successful nests in the same area. Heck (1991) documented two active Anhinga nests at the Little River National Wildlife Refuge in McCurtain County. Subsequently, Heck (1994) amended the 1991 nest records with 10 more nests and 25 Anhinga fledglings from those nests. In 1992 and 1993, Heck (1994) documented multiple successful nests attempts by Anhingas in the same area. Gall (2004) suggested that Anhingas might establish more breeding sites if proper habitat was available. To the best of our knowledge, the Anhinga nests at TNWR in Johnston County are the only other successful nest attempts by Anhingas outside of McCurtain and Sequoyah Counties.

Neotropic Cormorant

Baumgartner and Baumgartner (1992) listed Neotropic Cormorant as a very rare visitant to Oklahoma water bodies starting in 1950. Sutton (1967) referred to Neotropic Cormorants in Oklahoma at the northern limits of the species' range at that time. Newell and Sutton (1982) predicted that Neotropic Cormorants would begin nesting in Oklahoma given the number of sight records at that time. Neotropic Cormorants were not recorded in Breeding Bird Atlas blocks, but atlas volunteers did find an adult carrying a stick at Ward Lake in McCurtain County in 2000 (Reinking 2004). In 2001, two Neotropic Cormorant nests were found at the same location (Reinking 2004). In July 2007, Thompson et al. (2011) confirmed a successful Neotropic Cormorant nest, with four nestlings, at Cheyenne Bottoms in central Kansas, which represents the furthest nesting range extension in the Midwest for this species. Our observation of >20 active nests and apparent nest success represents the highest number of nests and nest success in Oklahoma for this species

ACKNOWLEDGMENTS

We thank M. Husak, G. Young, and an anonymous reviewer for constructive comments on the manuscript. The findings and conclusions in this article are those of the authors and do not necessarily represent the views of the U. S. Fish and Wildlife Service.

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Received 31 March 2016; accepted 13 July 2016.

The *Bulletin of the Oklahoma Ornithological Society* (ISSN 0474-0750) is published quarterly in March, June, September, and December at Tonkawa, OK. Editor, EUGENE A. YOUNG, Agriculture, Science, and Engineering Division, Northern Oklahoma College, 1220 E Grand, PO Box 310, Tonkawa, OK 74653-0310, (eugene.young@noc.edu). Subscription is by membership in the OOS: \$15 student, \$25 regular, \$35 family, \$40 or more sustaining, per year; life membership \$500. Questions regarding subscription, replacement copies, back issues, or payment of dues should be directed to LINDA ADAMS, OOS Membership/Circulation Chair, P.O. Box 24, Duncan, OK 73533.

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