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Recommended Citation

Samuel G. Ortiz, Christopher A. Gabler, and Timothy Brush "CONTINUED EASTWARD RANGE EXPANSION OF BLACK PHOEBES (SAYORNIS NIGRICANS) IN SOUTHERNMOST TEXAS," *The Southwestern Naturalist* 64(3-4), 231-232, (7 January 2021). <https://doi.org/10.1894/0038-4909-64.3-4.231>

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THE SOUTHWESTERN NATURALIST 64(3/4): 231–232

CONTINUED EASTWARD RANGE EXPANSION OF BLACK PHOEBES (*SAYORNIS NIGRICANS*) IN SOUTHERNMOST TEXAS

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ABSTRACT—We observed black phoebe (*Sayornis nigricans*) nests, breeding pairs, and juveniles in Cameron County, Texas, in 2017. Our first confirmed nesting records in Cameron County document a continued eastward range expansion by black phoebes.

RESUMEN—En el 2017, observamos nidos, parejas reproductoras y juveniles del pájaro mosquero negro (*Sayornis nigricans*) en el condado de Cameron, Texas. Los primeros registros confirmados de reproducción en el condado de Cameron son evidencia de una continua expansión hacia el este de la distribución geográfica del mosquero negro.

The black phoebe (*Sayornis nigricans*) is a tyrannid flycatcher predominantly found in the southwestern United States and highlands of Mexico and Central and South America (Wolf, 2020). Habitat requirements include fresh water, because the species forages and nests predominantly over or near water. Black phoebes make nests of mud and plant fibers attached to a hard, vertical substrate with a protective ceiling, typically near permanent water and sometimes near regularly irrigated soils. Black phoebes often build nests on bridges or other human-made structures near water and mud (Ohlendorf, 1976). Adults rarely forage far away from their nests, and nest locations over water increase safety from nest predators (Wolf, 2020).

Until recently, researchers considered black phoebes to be a casual visitor in the Lower Rio Grande Valley (Starr, Hidalgo, Willacy, and Cameron counties) of Texas (Oberholser and Kincaid, 1974). Recent work by Brush (2001) revealed a small summering population in Starr and Hidalgo counties, with two nesting records in Hidalgo County. This region does not naturally contain the structural features along freshwater bodies required for nesting, such as cliff faces or rocky outcroppings. Instead, black phoebes are using increasingly common human-made structures near water to nest and expand their range (Brush, 2001). As of 2004, Lockwood and Freeman (2004) considered black phoebes rare breeding residents in Starr and Hidalgo counties.

Suspecting that time and additional human development enabled additional eastward range expansion by the

black phoebe, we investigated 11 bridges deemed suitable for nesting along the Arroyo Colorado Stream in Harlingen, Texas (Cameron County). We deemed bridges suitable if they spanned a permanent freshwater body, provided a hard, vertical substrate with a protective ceiling, and were within 30 m of exposed muddy soils (Ohlendorf, 1976; Brush, 2001; Wolf, 2020). This waterway is one of several freshwater bodies in Cameron County potentially suitable for black phoebe nesting, but we focused on this area because of its accessibility and abundance of bridges.

From 0930 to 1530 h on 1 May 2017, we surveyed a 13-km stretch of stream containing the 11 bridges by kayak, partly because the easternmost site was only accessible by water. The river transect began at Dilworth Road bridge (26°8'38.70"N, 97°45'3.36"W) and ended ca. 13 km downstream at Ed Carey Drive bridge (26°11'2.29"N, 97°39'58.84"W). To make observations underneath bridges, we paddled close to or underneath a bridge and anchored using a stake-out pole. We used Nikon Monarch 7 8 × 42 ATB binoculars (Nikon Vision Company, Tokyo, Japan) to visually survey for black phoebes and their nests and listened for their calls. We photographed all observed black phoebe nests and as many individuals as possible using an Olympus TG-4 16-megapixel waterproof digital camera (Olympus Corporation, Tokyo, Japan). Observations at each bridge lasted ca. 15 min on average.

We observed black phoebes at 4 of the 11 bridges surveyed (36%), a total of nine black phoebe individuals, and one nest (along with a pair of black phoebes) located

at Dixieland Road (26°09.494'N, 97°42.933'W). On 17 August 2017, we inspected the same bridges again but emphasized nest searches. We observed two more nests of the proper structure and location for black phoebes at Highway 83 Frontage Road (26°10.408'N, 97°42.051'W) and Ed Cary Drive.

Our observation of four individuals foraging together without aggression at the Ed Carey Drive bridge was peculiar because black phoebes are territorial and typically defend their territories from other individuals. We postulate this observation represented a family group but did not observe begging or food transfer (Baker and Ferree, 2016).

Additional observations suggest an expanding population in both Cameron and Hidalgo counties. On 30 June 2017, S.G.O. observed a pair of black phoebes actively foraging over a pond near the Veterans International Bridge in Brownsville, Texas. On 26 July 2017, S.G.O. observed one individual actively foraging over a resaca (oxbow lake) on the University of Texas Rio Grande Valley Brownsville campus. On 3 May 2018, T.B. observed an adult black phoebe carrying food into a hidden location under a pedestrian bridge at the same body of water. On 31 May 2019, T.B. observed pairs, both including a singing male: one at the above location, and the other near a similar pedestrian bridge 0.5 km away on the same resaca. In May–June 2019, T.B. (pers. observ.) found a pair of black phoebes near Lake Edinburg, Hidalgo County, indicating further expansion away from the Rio Grande.

Overall, these observations suggest that black phoebes have extended their breeding range at least 30 km eastward from the range limits observed by Brush (2001)

by using human-made structures to nest. They are now breeding in Cameron County, which borders the Gulf of Mexico. This may also mean black phoebes have entered yet another ecological region, the Gulf Coast Prairies and Marshes. We recommend additional surveys to investigate range expansions into the Lower Rio Grande Valley and along other rivers flowing into the Gulf of Mexico, such as the Arroyo Colorado Stream or the Nueces River.

Funding and most of the equipment for this study were provided through the Gabler Lab by the University of Texas Rio Grande Valley College of Sciences. We thank H. Ramsden for preparing the resumé.

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Submitted 10 September 2019. Accepted 12 May 2020.
Associate Editor was Blake Grisham.

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