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Logo featuring *Lasius cinereus* Palisot de Beauvois (Hoary Bat). © Ashley K. Wilson.

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Brazilian Free-tailed Bat (*Tadarida brasiliensis*) in Wisconsin— A New Northern Record for the Eastern United States

J. Paul White^{1,*}, Heather M. Kaarakka¹, Jennifer A. Redell¹, and Alyssa Baumann²

Abstract – We document the first record of a *Tadarida brasiliensis* (Brazilian Free-tailed Bat) in Wisconsin, ~135 km north of the closest records of this species in Illinois. The bat was a juvenile female captured in a building, in the city of Milwaukee, on 22 October 2025. This observation adds to the extralimital records of this species and is the most northern record currently reported for the Brazilian Free-tailed Bat in eastern North America.

Resumen – Documentamos el primer registro de *Tadarida brasiliensis* (Murciélago Viejo) en Wisconsin, ~135 km al norte de los registros más cercanos para esta especie en Illinois. El individuo era una hembra juvenil capturada en un edificio, en la ciudad de Milwaukee, el 22 de octubre de 2025. Esta observación se suma a los registros extra-limítrofes de esta especie y es el registro más al norte actualmente reportado para el Murciélago Viejo en el este de Norte América.

Range expansion appears to be occurring in multiple bat species, with several moving northward in the northern hemisphere in recent decades. For example, *Pipistrellus kuhlii* (Kuhl) (Kuhl's Pipistrelle), has expanded its range across northeastern Europe by almost 400% in the last 40 years, largely due to climate change (Ancillotto et al. 2016). Similarly, in North America, the summer range of the Seminole Bat has moved to the north by over 500 km, in an apparent response to increasing minimum temperatures (Perry 2008, True et al. 2021). *Tadarida brasiliensis* (Geoffroy) (Brazilian Free-tailed Bat), a fast flyer capable of long-distance flights, is widely distributed across the Americas (Barquez et al. 2013, Wilkins 1989), and it too appears to be expanding its range northward in the United States; such movement also is likely driven by climate change, as well as by this bat's utilization of human structures for roosting (Leon-Alvarado et al. 2026, McCracken et al. 2018). In this note, we document a new northern record for the Brazilian Free-tailed Bat in eastern North America.

On 22 October 2025, a tenant's cat encountered a grounded bat inside an apartment in the city of Milwaukee, Wisconsin (43°2'33"N, 87°54'3"W). After consulting with the Milwaukee County Health Department, the person residing in the apartment captured the live bat and surrendered it to the Wildlife Rehabilitation Center of the Wisconsin Humane Society (WHSWRC; <https://www.wihumane.org/services/wildlife>) for humane euthanasia. Once the bat was euthanized, the body was transferred to the Rabies Laboratory at the Wisconsin State Laboratory of Hygiene in Madison, Wisconsin, for immunofluorescent testing of the brain. The animal tested negative for the rabies virus, and the carcass was transferred to the Wisconsin Department of Natural Resources Wildlife Health Laboratory for further examination. Ultimately the bat was preserved as a skin and skull at the University of Wisconsin Zoological Museum (UWZM #8951).

¹Wisconsin Department of Natural Resources, Madison, WI 53707. ²Wisconsin Humane Society, Milwaukee, WI 53208. *Corresponding author – John.White@Wisconsin.gov.

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Suspecting a non-native species, the director of WHSWRC contacted the Wisconsin Department of Natural Resources (WDNR) and shared photographs with ventral and dorsal views of the bat for species identification. All photos depicted the tail extending significantly past the rear edge of the uropatagium (Fig. 1), a characteristic that is nonexistent in native species of Wisconsin. WDNR made a preliminary identification through the photos, and later confirmed the bat as a female Brazilian Free-tailed Bat, after post-mortem examination and measurement of the body at the WDNR necropsy laboratory. Linear measurements were taken with dial calipers. Head-body length was 55.7 mm; tail length, 31.1 mm; hindfoot length, 8.2 mm; ear height, 14.6 mm; and left forearm length, 42.7 mm. The right forearm had been broken, presumably at the time of capture or during the interaction with the cat, and as a result, only the left forearm was measured. Body mass (frozen) was measured with a kitchen scale and was 8.6 g, without the brain. Additional physical characteristics that helped confirm the identification of this small-sized bat were dark gray hair (Fig. 1b) that was uniform in color from root to tip, broad ears that met across the forehead but did not join, and the appearance of a wrinkled/creased upper lip (Fig. 1a; Morgan et al. 2019). Transillumination of the epiphyseal-diaphyseal joint indicated that the bat was a juvenile (Brunet-Rossinni and Wilkinson 2009).

This record marks the first confirmation of a Brazilian Free-tailed Bat in Wisconsin and the most northern so far in eastern North America. Until recently, the nearest published occurrences (Fig. 2) of this species to Milwaukee were a female found in a house, in Vandalia, Montgomery County, Ohio (465 km southeast), on 6 November 1970 (Mills 1971), and a male that flew into a greenhouse at Northern Illinois University, in Dekalb, Dekalb County, Illinois (140 km southwest), on 17 October 1969 (Walley 1970). At that time, Walley (1970) noted that most extralimital records were from late fall, surmising that this species wanders extensively during autumn migration. Although these historical records are >50-years old, a more recent observation was reported from downtown Chicago, Cook County, Illinois (135 km south), where a Brazilian Free-tailed Bat was photographed “at the base of a building window”, on 20 September 2020 (GBIF.org 2026a). In the East, the normal geographic range of the Brazilian Free-tailed Bat, as described in McCracken et al. (2018), has a northern limit running along the southern edge of Tennessee and extending to South and North Carolina, ~850 km south of Milwaukee (Fig. 2). In the West, the Brazilian Free-tailed Bat occurs west from Nebraska to northern Utah and Nevada and into southern Idaho and Oregon (Wilkins 1989). However, recent acoustic records of this species suggest a range extension in the Pacific Northwest, north to Salt Spring Island, British Columbia (Ommundsen et al. 2017), and in the East, into New Jersey (Leon-Alvarado et al. 2026).

Brazilian Free-tailed Bats often roost in buildings, which can make them highly visible in urban areas (McCracken et al. 2018, GBIF.org 2026a), and the presence of buildings can aid in expansion of a species’ range by providing roosts for newly arrived individuals (Ancillotto et al. 2020, Leon-Alvarado et al. 2026). It is unknown, though, whether this new record in Wisconsin represents expansion of the population into “pioneering zones” (Genoways et al. 2000:93), or whether the bat was simply a young vagrant, wandering in the fall (Lees and Gilroy 2021). Another possible explanation is that the bat was unintentionally translocated to Milwaukee via airplane (e.g., GBIF.org 2026b), ship traffic on the Great Lakes (Lohi 2015), or cross-country railway or trucking container (Kurta et al. 2016). However, the number of extralimital records for Brazilian Free-tailed bats is quite large, and they rarely are associated with accidental transport (Genoways 2000, McCracken et al. 2018).



Figure 1. Photographs of the Brazilian Free-tailed Bat from Wisconsin, taken by A. Holmes, on 22 October 2025.

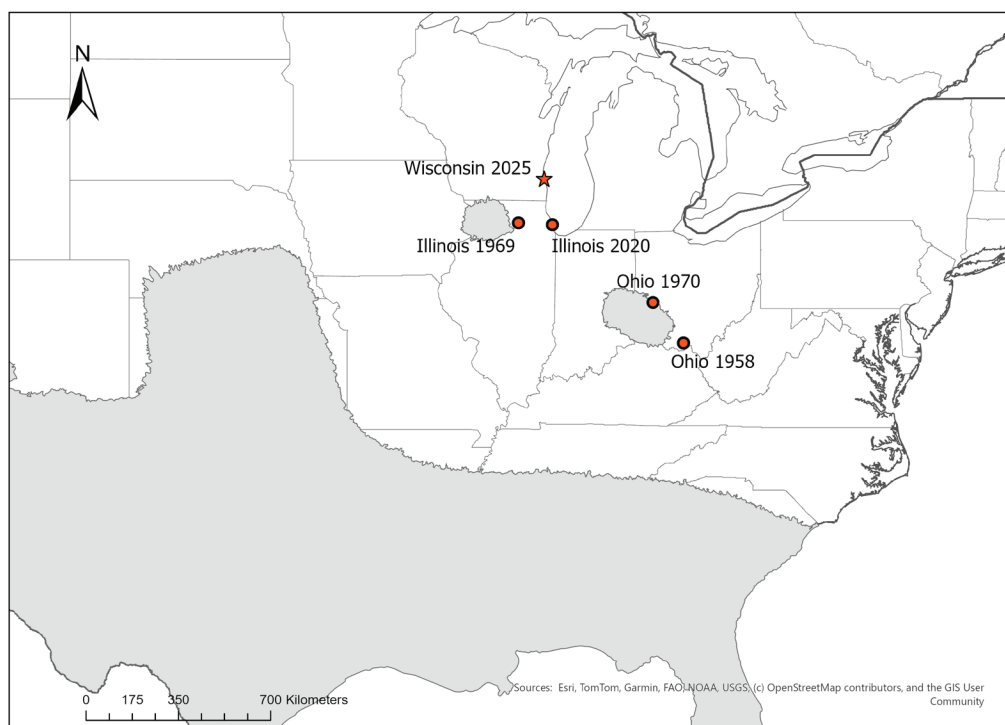


Figure 2. Range of the Brazilian Free-tailed Bat in the United States (light-gray shading) (USGS 2018). Red star depicts the new record from Milwaukee, Wisconsin, in 2025. Red circles are closest observations to Wisconsin by state and year—Illinois 1969 (Walley 1970), Illinois 2020, (GBIF 2026a), Ohio 1958 (Smith and Goodpaster 1960), and Ohio 1970 (Mills 1971).

Regardless of whether the bat arrived in Wisconsin under its own power or by anthropogenic translocation, our observation serves as an important reminder that biologists should be vigilant and alert for unexpected species. Additional records of Brazilian Free-tailed Bats, as well as other species that are not native to the region, may be discovered through acoustic surveillance, reports of new roosts, submissions to rabies laboratories, admissions to rehabilitation facilities, reports of sick and dead bats, and other observations by the public. Such new records will allow resource managers to document and monitor disruptions to the bat community in North America related to major events, such as climate modification (Leon-Alvarado et al. 2026) and white-nose syndrome (Jachowski et al. 2014).

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