

Leucism in Two Tri-colored Bats (*Perimyotis subflavus*) in Texas

Author(s): Melissa B. Meierhofer and Krysta D. Demere

Source: Southeastern Naturalist, 16(4):N43-N45.

Published By: Eagle Hill Institute

<https://doi.org/10.1656/058.016.0401>

URL: <http://www.bioone.org/doi/full/10.1656/058.016.0401>

BioOne (www.bioone.org) is a nonprofit, online aggregation of core research in the biological, ecological, and environmental sciences. BioOne provides a sustainable online platform for over 170 journals and books published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Web site, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/page/terms_of_use.

Usage of BioOne content is strictly limited to personal, educational, and non-commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

Leucism in Two Tri-colored Bats (*Perimyotis subflavus*) in Texas

Melissa B. Meierhofer^{1,*} and Krysta D. Demere²

Abstract - Although aberrant coloration is known to occur in mammals, few records of the phenomenon exist in the literature for North American bats. Here we report on 2 leucistic *Perimyotis subflavus* (Tri-colored Bats) in Leon County, TX, that had a distinct white patch on their bodies. Our observation is the third documentation of leucism in Tri-colored Bats.

Introduction. Aberrant coloration, although low in frequency, has been documented across many mammal species, including an array of bats. However, few published records exist documenting pigmentation deviations in *Perimyotis subflavus* (F. Cuvier) (Tri-colored Bat), a species found throughout most of eastern North and Central America (Blair 1947, Bleakney 1965, Fujita and Kunz 1984, Goslin 1942, Osgood 1936, Trapido and Crowe 1942). The common pelage color of the Tri-colored Bat consists of hairs that are dark at the base, yellowish-brown in the middle, and dark at the tip (Barbour and Davis 1969, Fujita and Kunz 1984, Nason 1948). In general, Tri-colored Bats have dark wing-membranes with the localized exception of a paler, pink color on the leading edge of the wing. Their ears

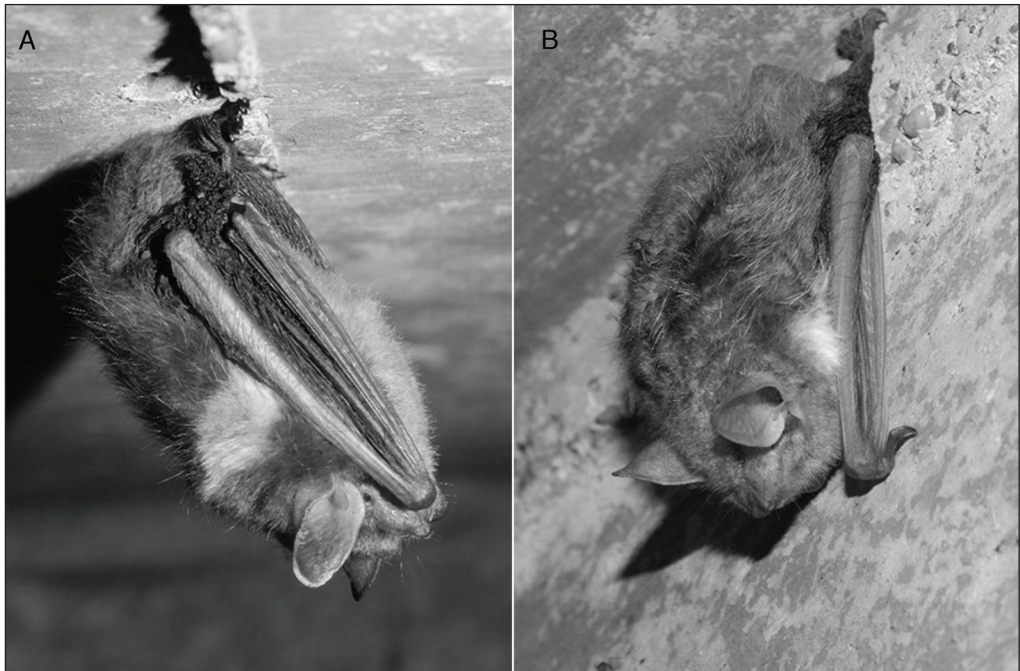


Figure 1. Observed leucism in 2 Tri-colored Bats in Leon County, TX. (A) The first bat observed with white patch across the individual's ribcage and (B) second bat observed with white patches visual ventrally on the left and right sides. Photograph © Krysta Demere.

¹Department of Wildlife and Fisheries Sciences, Texas A&M University, College Station, TX 77843.

²Texas A&M Natural Resources Institute, College Station, TX 77843. *Corresponding author - melissa.meierhofer@ag.tamu.edu.

and facial skin are pinkish brown (Ammerman et al. 2012). Records describing aberrant coloration for this species include leucism (i.e., reduced or absent integumentary pigmentation, but eyes remain pigmented, which separates leucism from albinism; Blair 1947, Goslin 1942), and melanism (i.e., excessive pigmentation; Bleakney 1965, Osgood 1936, Trapido and Crowe 1942). These pigmentation deviations have been reported throughout the range of the species including New Jersey (Trapido and Crowe 1942), Ohio (Goslin 1942), Texas (Blair 1947), Vermont (Osgood 1936), and Nova Scotia, Canada (Bleakney 1965). Here we report observations of leucism in 2 Tri-colored Bats from eastern Texas.

Observations. On 14 December 2016, while conducting surveys at known winter roosts of Tri-colored Bats in Leon County, TX, we discovered 2 bats with leucism. We observed the first bat roosting on the ceiling of a culvert (31.33472°N, 96.009972°W) located north of Centerville, TX. This individual exhibited white coloration of the pelage across the left ribcage that extended from the dorsal to the ventral side (Fig. 1A). We counted an additional 14 Tri-colored Bats at this site, but did not notice pigmentation variation on any other roosting bat during our survey. We observed the second bat roosting on the wall of a culvert (31.337529°N, 96.010923°W) approximately 0.32 km north of the first site. This individual had white coloration of the pelage on both the left and right ventral sides (Fig. 1B). To limit disturbance, we did not handle the bat to determine if the white patches were distinctively separate, or if they converged medially across the ventral side of the individual. We observed an additional 224 Tri-colored Bats at this site with no other noticeable signs of aberrant pigmentation. Except for the localized loss of pigment, both bats displayed coloration considered normal for the species. We did not collect either bat as voucher specimens because of limitations on our scientific permit.

Discussion. It is probable that some Tri-colored Bat populations have a greater tendency toward the production of abnormal coloration. Observations of melanism have been documented in 9 Tri-colored Bats, of which 5 were from Nova Scotia, Canada (Bleakney 1965), and another 3 were observed from 1 locality in Vermont (Osgood 1936). Due to the geographic proximity (0.32 km) of the 2 leucistic bats we observed in eastern Texas, it is probable that the aberrant coloration could be the result of a heritable gene mutation within the local population.

Although aberrant coloration is not rare in Tri-colored Bats (Roger Perry, US Forest Service, Hot Springs, AR, pers. comm.), there are few published accounts of these observations (Blair 1947, Bleakney 1965, Goslin 1942, Osgood 1936, Trapido and Crowe 1942). To our knowledge, only 2 literature records of leucistic Tri-colored Bats exist (Blair 1947, Goslin 1942). Therefore, our observations represent the third documented case of leucism in Tri-colored Bats, and a new locality record for aberrant coloration in this species.

Acknowledgments. We thank R.L. Honeycutt for providing information on winter roosts. We are grateful to the Texas Department of Transportation, who allowed us to access culvert sites. Funding for this project was provided through the U.S. Fish and Wildlife Service's State Wildlife Grant Program (CFDA# 15.611) as administered by Texas Parks and Wildlife Department.

Literature Cited

- Ammerman, L.K., C.L. Hice, and D.J. Schmidly. 2012. Bats of Texas. Texas A&M University Press, College Station, TX. 162 pp.
- Barbour, R.W., and W.H. Davis. 1969. Bats of America. University Press of Kentucky, Lexington, KY. 286 pp.
- Blair, W.F. 1947. A color pattern aberration in *Pipistrellus subflavus subflavus*. Journal of Mammalogy 29:178–179.

- Bleakney, J.S. 1965. First specimens of Eastern Pipistrelle from Nova Scotia. *Journal of Mammalogy* 46:528–529.
- Fujita, M.S., and T.H. Kunz. 1984. *Pipistrellus subflavus*. *Mammalian Species* 228:1–6.
- Goslin, R. 1942. A bat with white wing-tips. *Journal of Mammalogy* 28:62.
- Nason, E.S. 1948. Morphology of hair of eastern North American bats. *American Midland Naturalist* 39:345–361.
- Osgood, F.L. 1936. Melanistic pipistrelles. *Journal of Mammalogy* 17:64.
- Trapido, H., and P.E. Crowe. 1942. Color abnormalities in three genera of northeastern cave bats. *Journal of Mammalogy* 23:303–305.