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SPRING AND WINTER RECORDS OF THE EASTERN PIPISTRELLE (*PERIMYOTIS SUBFLAVUS*) IN SOUTHEASTERN NEW MEXICO

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ABSTRACT.—Eastern pipistrelles (*Perimyotis subflavus*) were first documented from South Dakota, western Texas, and New Mexico during recent years, suggesting that the distribution of this species is expanding westward across central parts of North America. In New Mexico, only 2 records of *P. subflavus* previously were known—one from summer and one from autumn. Here we report on 3 new records of *P. subflavus* from southeastern New Mexico, including the first 2 records from winter and the first record from spring. One individual in winter was observed hibernating in a cave in Chaves County. Our records and previous ones from autumn and summer suggest that this species is resident throughout the year in New Mexico.

Key words: cave, New Mexico, Perimyotis subflavus, *record.*

The distribution of the eastern pipistrelle (*Perimyotis subflavus*) has expanded westward across central North America in recent decades, but few records are available from newly inhabited areas (Geluso et al. 2005). In New Mexico, only 2 records of *P. subflavus* from the state are known—one individual was documented in early autumn and the other in late summer (Geluso et al. 2005, White et al. 2006). In September 2003, the first *P. subflavus* was captured in the northeastern part of the state (Geluso et al. 2005). Geluso et al. (2005) noted that this individual contained large amounts of subcutaneous fat and suggested that it likely was about to enter a hibernaculum in the area. Because this individual was captured near the state line of New Mexico and Oklahoma, it is unclear in which state it was about to hibernate. In August 2004, the second *P. subflavus* was captured over Rattlesnake Springs, a desert oasis at Carlsbad Caverns National Park, in southeastern New Mexico (White et al. 2006).

Both previous records from New Mexico were males, as were other western records from Texas (Geluso et al. 2005) and Wyoming (Bogan and Cryan 2000); however, the 2 records from Colorado were both female (Fitzgerald et al. 1989, Armstrong et al. 2006). Additional records of *P. subflavus* will help to elucidate the current status of this species at the western periphery of its range. Here we report on 3 new records of *P. subflavus* in southeastern New Mexico, including the first 2 records from winter and the first record from spring in the state.

Two of our new records of *P. subflavus* were from Rattlesnake Springs, Carlsbad Caverns National Park, Eddy County, New Mexico. On 2 February 2006, DMR observed a recently deceased individual of unknown sex that was impaled on a cholla cactus (*Opuntia* spp.) near the side door of the ranger station; the individual was not observed previously at the locality. Later, in May 2006, KG removed the impaled individual and secured it as a voucher specimen (skull and mummified body) for deposition in the U.S. Geological Survey's collection at the Museum of Southwestern Biology (MSB), University of New Mexico, Albuquerque (MSB # 125005). The discovery of the individual in February indicates it was active in winter, but why it was near the ground is unknown.

On 29 May 2006, KG captured an adult male *P. subflavus* over a rock-lined storage pond at Rattlesnake Springs (32°06.605′N, 104°28.265′W [North American Datum 1983]; see Geluso and Geluso 2004 for a detailed description of the area), the same locality as the first record of *P. subflavus* in southern New Mexico reported by White et al. (2006). This bat was captured early in the evening at

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20:22 (Mountain Daylight Savings Time) in an 18-m mist net (Avinet, Inc., Dryden, NY) placed over the southeastern corner of the pond. It was captured 7 minutes after the first bats were observed flying overhead that evening. The individual was kept as a voucher (skin and skeleton: body mass 4.0 g, forearm length 33.5 mm, and length and width of testes 3 × 2 mm; MSB #125004, MSB Genomic Division Tissues Collection NK#103902). Four other nets also were deployed that evening: an 18-m net over the northwestern corner of the pond, 18-m and 12-m nets under trees in the front yard of the ranger station, and a 12-m net in a small orchard near the ranger station. Other species of bats captured that night included 1 *Myotis californicus*, 6 *Myotis velifer*, 3 *Parastrellus hesperus*, 1 *Eptesicus fuscus*, 1 *Corynorhinus townsendii*, 2 *Antrozous pallidus*, and 4 *Tadarida brasiliensis*. Nets over the spring were taken down at 21:30, and the others were down by 23:00. The capture of *P. subflavus* on 29 May 2006 represents the first known record of sympatry with *Parastrellus hesperus* in New Mexico.

On 25 January 2008, JF and GA conducted a survey for hibernating bats in caves in the vicinity of Roswell, Chaves County, New Mexico. Our third new record of an eastern pipistrelle was observed in a gypsum cave about 50 km north of Roswell. Vegetation around the cave entrance consisted of an open grassland containing a few shrubs. Ambient air temperature outside of the entrance was 16.7 °C, and relative humidity was 24%. The entrance passages to the cave were approximately 1.5 m tall × 0.8 m wide, and the bat was found approximately 30 m from the entrance. Adjacent to the roosting bat, air temperature was 3.3 °C, with 38% relative humidity. JF and GA discovered a solitary, torpid *P. subflavus* on the wall near the top of a 4-m-deep pit in the cave. To reduce further disturbance, only a photograph was taken of that bat (MSB #125421); the sex of the individual is unknown because it was not handled. No other bats were observed in the cave during the survey, and no bats were observed on a previous survey conducted on 3 February 2006, likely because the entrance was blocked by a large tumbleweed.

CONCLUSIONS

The presence of *P. subflavus* in a hibernaculum in winter and its presence in the state in spring, summer, and autumn indicate that eastern pipistrelles occur throughout the year in New Mexico and should be regarded as a resident species. The 3 *P. subflavus* reported herein represent the third, fourth, and fifth records for New Mexico, the first record for Chaves County, and the second and third records for Eddy County. Caves are commonly used as hibernacula by *P. subflavus* throughout other areas of its distribution (e.g., McKnab 1974, Fujita and Kunz 1984, Trombulak et al. 2001, Briggler and Prather 2003). The individual observed in a hibernaculum north of Roswell represents the first record of this species in a cave in New Mexico. Southeastern New Mexico likely supports a year-round population of eastern pipistrelles. We suspect that the distribution of *P. subflavus* will continue to expand across New Mexico, and this species likely will be discovered in the Rio Grande Valley in the future.

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