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## NOTES ON THE EASTERN PIPISTRELLE IN SOUTHEAST FLORIDA

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Bat surveys along the Treasure Coast (Brevard, St. Lucie, Martin, and Palm Beach counties; Jennings 1958, Robson 1989) have not reported the presence of the eastern pipistrelle (*Pipistrellus subflavus*). This species has been assumed to be absent from the Treasure Coast and other parts of south Florida, but is common in north Florida and the eastern United States (Barbour and Davis 1969).

The nearest known locality record of this species in southern peninsular Florida is just north of Lake Okeechobee in Basinger (Okeechobee Co.), Florida (Davis 1959). Layne (1992b) observed a population of eastern pipistrelles in a basement at Archbold Biological Station in Highlands County during every month of the year except May, but reported no pregnant or lactating females during the summer. An eastern pipistrelle was also reported from the Sugarloaf Key in the lower Florida Keys (Hardin 1975), but it appears this species was a vagrant (Lazell and Koopman, 1985). Circumstantial evidence suggests that a storm may have blown the pipistrelle into the lower Florida Keys (Hardin 1975).

On 8 June 2000 while mist-netting in Jonathan Dickinson State Park, Martin County, Florida (N26°57'0.54"; W80°10'8.56"), we captured two eastern pipistrelles over the Loxahatchee River. The Loxahatchee River is a tidal, slow-moving, blackwater stream surrounded by cypress swamp. Dominant canopy vegetation is characterized by mature bald-cypress (*Taxodium distichum*), water hickory (*Carya aquatica*), and red maple (*Acer rubrum*). Mist-nets were set across the canopy-covered river just south of the Masten Dam. Both bats were captured simultaneously shortly after sunset at approximately 20:40.

One of the pipistrelles was a lactating female (5.5 g) and the other a juvenile female (4.5 g). Two enlarged mammary glands were observed on the adult, indicating she was nursing young. Both bats exhibited fur that extended ca.  $\frac{1}{3}$  of the way down the anterior portion of their interfemoral membrane. Based on field examination, both pipistrelles exhibited characteristics of the subspecies described by Davis (1957). No reddish coloration was observed on the fur. Examination of the fur revealed the base to be brown, the terminal band to be dark brown, and the tips of the guard hairs to be grayish-silver. Overall, both bats exhibited a grizzled silvery-gray appearance. The characteristic tri-colored fur was not evident on either bat. Neither bat was collected as a voucher specimen because of state park restrictions.

On the evening of 15 June 2000 while mist-netting in Seabranck Preserve State Park, Martin County (N27°7'52.27"; W80°9'56.03") in mature sand pine scrub, one of us (JTH) observed what was believed to be another eastern pipistrelle fluttering near a mist-net. At first glance, it appeared that the creature was a large *Polyphemus* moth fluttering near the net, but JTH soon realized it was a small bat and most likely an eastern pipistrelle. Barbour and Davis (1969) describe the flight pattern of the eastern pipistrelle as weak and similar to the flight of a large moth. In addition, eastern pipistrelles are easily distinguished from other bats in the area by their small size.

Because female pipistrelles switch roost sites seasonally depending on their reproductive status, it is speculative if both sexes remain in south Florida throughout the year. At Archbold Biological Station, all eastern pipistrelles were observed in structures and no pregnant or lactating females were reported (Layne 1992b). Because the eastern pipistrelle is an obligate hibernator, MacNab (1974) suggested that this species exhibits

reverse migration in winter to cave regions of north Florida and Georgia to hibernate. Our capture of a lactating female adds credence to Layne's (1992b) suggestion that this species, though rare, occurs in south Florida throughout the year and that females select alternative maternity roosts. Recent evidence suggests that female pipistrelles use Spanish moss (*Tillandsia usneoides*) or snags for maternity roosts (Menzel et al. 1996; Menzel et al. 1999). If female pipistrelles in south Florida select natural maternity sites (e.g., Spanish moss, snags, etc.), this would explain why no pregnant or lactating females were observed using structures at Archbold Biological Station.

We suggest that eastern pipistrelles are present throughout the year in south Florida and may reach their southern distribution along an east to west boundary from the north-central section of Lake Okeechobee. With the exception of an eastern pipistrelle reported from the Florida Keys, the capture of two eastern pipistrelles in Martin County represents a distance of ca. 96 linear km southeast and 128 km east from the nearest known locales in south Florida. Other reports (Layne 1992a, Brown and Brown 1993) suggest that additional species of bats that are assumed to be obligate or facultative hibernators may seasonally or permanently occur in south Florida. However, due to the paucity of information on bats in south Florida and an ambiguous knowledge of their migratory patterns, it is difficult to state if obligate and facultative hibernators are common in south Florida during summer. Future surveys should provide more insight into the seasonal movement patterns of bats into south Florida.

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