

Roosting and Foraging Ecology of a Southeastern Big-eared Bat
(*Corynorhinus rafinesquii macrotis*) Maternity Colony in Central Florida.

Interim Report
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TEMPERATURE/HUMIDITY:

Weekly observations began in December 1994 prior to acknowledgment of funds from TNC. Temperature and humidity are being monitored using hygrothermographs. HOBO temperature dataloggers, on loan from Mary Kay Clark (see below) were in the roost from 23 - 28 June 1995. Although these data have not yet been statistically analyzed, upon initial inspection it appears that the temperature in each of the rooms is within only a few degrees of ambient and often shows no difference.

LOCATION/ACTIVITY:

Location and activity of the bats in the roost are also being monitored. The adult population fluctuates from a high of 50++ in January to a low of <20 in February. The average is usually 30-35. At no time during the weekly visits was the trailer devoid of bats. Pups were born during the week of 7 May 1995. At the present time there are roughly 45 bats (adults and juveniles) using the trailer. Juvenile mortality was fairly high. One pup was found dead 22 May. During the week of 28 May 3 juveniles were found dead. Two of which were pretty heavily entangled in cobwebs. All specimens collected are in the process of being cleaned and the skulls and/or skins will be placed in the UCF mammal collection. Since it was difficult to count the number of pups when they were very young (the adults conceal them very well) exact mortality is not known. The bats are generally active during warm temperatures and are often vocal and/or flying in the roost. They appear to be getting used to our presence. The locations in the trailer where the bats roost change almost weekly and appear to be random. These data have not yet been statistically analyzed.

NIGHT-TIME ACTIVITIES: MIST NETTING/BANDING

Upon receipt of the night scope I have begun to watch the trailer roost at night on numerous occasions. With this tool it is possible to observe flight behavior in and around the roost and make observations as to bat activity in other areas. We also use the night scope while mist netting to determine the level of bat activity around the nets and whether or not bats are eluding them.

As part of the TNC funding Mary Kay Clark (Curator of mammals at N.C. State Museum of Natural Sciences and expert on *Corynorhinus* in the Southeast) was provided with an airline ticket to come to Florida and give me some field training in how to capture this very elusive bat. (*Corynorhinus* has a reputation for being difficult to capture in mist nets.) Ms. Clark and her assistant, Darrell DeTour, arrived 21 June and we set nets on DWP property the nights of 21, 22, and 23 June 1995. The first two nights no bats were captured, these were a road set in a scrub area and a set near the shores of Lake Russell. On the third night the nets were set over water on a tributary of Reedy creek roughly 1/4 mile from the trailer roost. Here we captured 2 *Corynorhinus* (a male- band number 1/blue, and a lactating female- band number 1/yellow). On the same night we also captured a juvenile *Pipistrellus subflavus* and a lactating *Lasiurus seminolis*. On this night Mike Deuver and Jean McCollum joined us and brought us very good luck.

It appears the best way to capture this bat is over water. Plans are in the works to net over the cattle water holes, in the super marsh, possibly also in or around bayheads (these areas are very thick and may be difficult to get into to set nets or may not have standing water) and in cypress swamps. Nets set up at the pond near hydrant two (off the main dirt road on DWP property) the night of 30 June proved successful as we captured 1 post lactating *Lasiurus seminolis*. A second bat hit the net and as my assistant approached it got out, eluding capture. I am under the assumption this was also *L. seminolis*, but without the bat in hand am not 100% certain.

We saw other bats flying around this pond, some much smaller than *Lasiurus*, but did not capture any of these. There seems to be lots of bat activity here and we may net in this area again.

On 28 June the female bat banded 23 June was seen in the trailer and has been seen there on each subsequent visit to date. The male has not been seen since it was banded.

NEW ROOSTS:

I have been spending a large amount of time searching for new roosts. Although no new roosts have been verified on or near DWP property, one piece of property at the entrance of DWP does contain an old barn that looks as if it has potential as a *Corynorhinus* roost site. However, the property owner is apparently not very friendly and is possibly potentially dangerous. I have been discouraged from making any contact with him. During Ms. Clarks' visit in June we visited a roost discovered 3 August 1994 on TNCs Dunns Creek Preserve in Putnam County. On 24 June I was told by Jim Murrian (at TNC Winter Park) that >20 bats were in the house approximately one month earlier and that the house had recently been vandalized and the bats were gone as of 2 weeks prior (mid June). We did not see any evidence of vandalism (spray paint, broken windows, etc.) although the house is old and somewhat dilapidated. There were 3 bats roosting in the house on the date of our visit (25 June 1995). Two were adults and one was a juvenile. A new roost was located in Union county by Catherine Caesar (working on a bat/bridge project for FGFWFC) on 30 May 1995. This roost, under a bridge that goes over Swift creek, held roughly 64 bats, adults with juveniles. An abandoned trailer in Volusia County was found to house a single *Corynorhinus* (presumably a male); this is a new record for this county.

PROBLEMS OR POTENTIAL PROBLEMS:

Rain and alligators.

I have set aside 2 nights a week for potential netting on DWP property, with an additional visit on Sundays to change hygrothermograph charts, etc. On almost every date severe rain in the evening has hindered any mist netting attempts. Mist netting over water presents one very large problem: alligators. On one date my husband and I were charged by a large alligator (guarding a nest??) while walking up Reedy Creek in search of good sites to put nets. Luckily the animal didn't come very far because it was very fast and certainly would have out run us. The evening we captured the bats on Reedy Creek we found a large (8 ft?) alligator backed into a hollowed out cypress log that was in the water between the two nets we had set. We walked past the log (within only a few feet of it) for over an hour before someone looked in and realized the animal was there. Luckily this one was not particular aggressive (or hungry). The night we netted at hydrant 2, two gators (4-5 ft) were in the pond. For this reason I did not set the nets as far out in the water as I felt we probably should have to increase our success capturing bats. It seems that almost every body of water in this area contains one or more alligators. With that knowledge all we can do is try to locate them prior to setting up nets, then keep an eye on them the entire time so as not to become a target when removing bats from the nets or taking the nets down at the end of the night.

FUTURE PLANS:

The 25th North American Symposium on Bat Research is being held in Boston, 6 August - 12 August. I will be attending and plan to present information on this project. After my return mist netting will continue (barring weather difficulties) until October when the contract expires.