

CHIROPTERAN CARE

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Unusual Fractures

by Patricia Winters, CBCF

In late summer we were presented with two very difficult types of fractures; the radius in an *Eptesicus fuscus* and both the radius and humerus of a *Myotis evotis*. Each of these fractures presented difficult problems that were addressed in completely different ways, with different outcomes.

The *Eptesicus* was found on the ground by an entomology student and brought in because he noticed that one wing was badly askew. On examination, she was found to have a very old, healed break midshaft of the radius ulna, with the distal portion of the radius displaced at almost a 90° angle outward, forcing the fingers of the wing to fold back across her abdomen. The muscles of her arm and shoulder were somewhat atrophied. Other than this injury the bat was in excellent condition, at normal weight, and it was obvious that she had learned to forage on the ground. On questioning the vineyard owners, it was discovered that they had seen this bat on several occasions; as the *Eptesicus* colony would fly out from the attic in the evening, one bat would emerge from the base of the house and walk toward the vineyard where the other bats were foraging. The owners accepted her as a slightly eccentric member of the colony and made no attempt to catch her. Our veterinarian, Dr. Scott Sims of Novato, California, anesthetized the bat with Isoflourane to X-ray the wing and decided to rebreak the wing at the site of the old fracture

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Share your stories and solutions

We would love to hear from you. Many bat rehabilitators have found excellent solutions to the problems all of us face. Please help us by writing about your experiences and discoveries.

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Release of Handraised Bat Pups.

By Laura Finn

Every summer bat rehabbers across the country find themselves with infant or juvenile bat pups that must be handraised on formula. Since bats are specialized in their feeding and navigation habits (flight and echolocation) it is hypothesized these animals will have great difficulty learning to capture flying insects and avoid predators without being taught by their mothers. The eventual release of handraised bats is frowned upon and these animals are usually kept in captivity for the duration of their lives. Experiments involving the release of handraised Evening bats in central Florida has led this investigator to believe release of these animals can be successful.

In early June 1996, I acquired two *Nycticeius* pups, one from a roost near a local community college and the other from a roost at Sea World. The pups' ages ranged from one to three weeks old. They were fed on a mixture of 50% Just Born puppy formula mixed with blended mealworms. The bats were eventually weaned off of the formula mixture and taught to eat live mealworms. They were kept together in a small enclosure (2 ft square) and were banded with plastic split ring bands for identification. Mealworms and water (supplemented with vitamins and minerals) were supplied nightly in a dish. Once I knew the bats were comfortable eating from the dish I discontinued frequent handling.

On 25 June these bats were placed into a bat house (BCI large maternity design) which is mounted on the side of my home. This bat house is used by a small colony (<15) of *Nycticeius*. The pups were placed in the bat house early in the morning to allow them to interact with the wild bats before their nightly exit to forage. On the first night the pups were not observed leaving the bat house. Every night after that the pups left with the colony and returned in the morning. Over the next few days the bat house was watched closely for fear the pups would not learn to feed on their own and might begin to starve. The colony soon moved to a new bat house 50ft from the original. I was not able to identify any banded bats in this bat house due to its height above ground and the position of the roosting animals. Later the colony split up and a small group of the bats moved back into the house on the side of my home. At this time one of the banded bats was visible (10 July, 16 days after release). It became clear to me that handraised bats could learn to fly, navigate, and feed on flying insects without the help of their mothers.

This experiment involved introducing handraised bats into a wild colony of the same species. Another experiment similar to this is planned. I have built what I term a halfway house below a bat house recently erected on my property. On 10 August 1996, I placed three handraised *Nycticeius* in this enclosure. As in the above experiment mealworms and vitamin/mineral water are provided in a dish. This cage allows the animals to gain some familiarity with the surroundings

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and potentially see this area as home. Over time (possibly by the end of August) the door to this halfway house will be left open. At this time the bats will be free to leave, learn to fly and feed on flying insects. Mealworms and water will continue to be provided in the halfway house. My hopes are that these bats will take up quarters in one of the bat houses on my property. Maybe joining the bats already resident.

I also plan to utilize the halfway house with 6 Free-tailed bat pups (*Tadarida brasiliensis cynocephala*) I am presently caring for. As soon as these animals are successfully eating mealworms from a dish, they will be placed in the halfway house.

I do have some concern about the lack of conspecifics roosting on this site. However, *Tadarida* and *Nycticeius* commonly roost together in central Florida and it is hoped these *Tadarida* will eventually begin to roost in the bat houses with *Nycticeius*.

From this experiment my present recommendations are to attempt the release of handraised colonial bats into a colony of conspecifics after the pups are eating freely on their own without the assistance of the rehabber. Release should take place either in the early morning (placing the animal into the colony with other bats), or from a halfway house type situation where the bats are able to become familiar with the area without the pressure of having to find food on their own. The halfway house should be in an area where conspecific wild bats either forage or roost. Releasing handraised bats in an area that is devoid of conspecifics may be unsuccessful. Although the bats in the above experiment learned 'to be a bat' without the help of their mothers, the presence of wild *Nycticeius* was probably vital. They were able to assimilate into the colony and observe the actions and behaviors of the wild bats.

At the present time (early August 1996) all but three bats in the wild colony are presently roosting elsewhere, location unknown. I feel confident, having seen a banded animal almost three weeks after release that these bats are with the colony and are doing fine. There are no guarantees that any wild or reintroduced bats will not fall prey to a predator, get sick, or have an accident. The very definition of wildlife rehabilitation includes the eventual release of the animal in need of care. If the animal can successfully be released and learn to feed and navigate on its own the rest is out of our hands and nature must take its course.

Release of handraised non colonial bats (i.e. *Lasiurines*) may carry some risk. A halfway house would be vital, and close attention should be paid to the animals during the release procedure. A large flight cage might also be advisable.

Much of this work is still preliminary. I hope to see the banded animals again soon to confirm their continued survival. Experiments are continuing and results will be reported in future volumes of *Chiropteran Care*.

(Editors Note: Laura Finn is now finishing her Masters degree in Biology at the University of Central Florida. The focus of her research involves bat houses. She also owns a small business 'Fly By Night', through which she conducts bat related research, provides education programs for schools, etc., and performs bat exclusions.)



Our Flight Cage is Up!

By Patricia Winters, CBCF

Private donations from CBCF members and volunteer labor from local bat researchers have turned the California Bat Conservation Fund's dream of a large, outdoor flight cage into a reality. Delayed for almost a year because of the Vision fire in Point Reyes, our 8X8X48 foot cage, modeled on Michael Fry's cage in Minneapolis, went up two months ago in a riparian area in the large backyard of a wildlife rehabilitator. Several bat roosts were placed in the flight cage to allow the bats a choice of habitat. The cage is close to a large colony of *Antrozous pallidus pacificus* and *Myotis yumanensis* bats; several pallid bats, both hand raised from infancy and injured as adults, placed in the flight cage for several weeks were fitted with radio transmitters and released into this colony a few days before this article was written. Although this study will not be completed for several weeks, all indications are that these will be successful releases. Christine Scott of CBCF will keep *Chiropteran Care* abreast of all studies done with bats released from this flight cage and radio tracked back into their colonies. One serious problem we are having is finding a way to permanently mark the smaller *Myotis* species of bats without doing harm or changing behavior. These bats are far too small to carry even the lightest radio transmitter and available wing bands seem injurious. Tattooing the pinnae of the ear with fluorescent dye will be attempted with our captive *M. californicus* this year to determine if this is a feasible solution. Amanda Lollar of Texas is also exploring this type of permanent marking with *Tadarida brasiliensis*. 

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