

Project Update: September 2012

During my stay in Berenty, so far I have managed to tag 10 bats with the e-obs GPS devices and collect the recorded data. Some of the tags were retrieved and reused. In total I obtained around 100 nights of data. The bats' movements are monitored every 2min 30sec when they are in flight, and their foraging areas can be identified easily. The resolution of the data is exceptional, and even small groups of trees can be identified. The bats spend a lot of time foraging in the nearby sisal plantations; though sometimes take flights up to 15-20 km from the roost.

I have been collecting bat droppings from under the roost and extracting the seeds. All of the seeds present were identified as *Ficus pachyclada* (figs). I have set up the germination experiment with the following treatments: filter paper, untreated soil, soil with no invertebrates and also I have sown the seeds directly on the ground. For each treatment 20 seeds were used and replicated 15 times. I am testing the hypothesis that seeds that pass through the bats' guts show higher germination success than seeds that do not under these environmental conditions. The experiment is on-going, and the seeds are germinating.

I was granted permission to perform gut retention time measurements on *P. rufus* which has never been done before on this specie. I therefore monitor captured bats (10 in total) for their gut passage time and try to estimate how long the seeds are retained for. This, along with GPS data of bats' movements will help to estimate where bats disperse seeds and how often they do so.

I was also in contact with Berenty authorities and managed to secure Berenty's roost from tourist visits which were very disturbing for the bats. From now on, the tourists will be able to watch bats from a distance, were in June 2013 a construction of a bat observatory will begin. This should minimise the disturbance caused to the bats in recent years and hopefully, the number of bats in Berenty will not decrease further.

My next step is to estimate the number of bats present in Berenty roost as well as to do habitat mapping using Google Earth and ground proofing using the knowledge of local people. This will allow me to define what habitats bats are choosing while foraging by using compositional analysis.



GPS points of foraging *P.rufus*



Left: *P. rufus* with GPS tag attached. Right: Roosting *P. rufus*.