Ecosystem Restoration Alliance Indian Ocean, No.7 Site & Services, Circonstance, St. Pierre,Mauritius

**Handling of Wild Animals**

**10th April 2017**

**CEPF Application Code 66369**

**Title: Mauritian Fruit Bat (*Pteropus niger*) - An Umbrella Species for Forest Restoration**

This study involves live capturing of Mauritian fruit bat (*Pteropus niger*). The animals will be captured-tagged-released. It does not involve the collection of the specimens, except if they found dead or died during process of trapping and handling which is unlikely. Therefore, this activity will not cause any detrimental impact on the environment, but ethical issues should be taken into account while conducting this study. Considering conservation status of the species, Vulnerable, the following protocol, based on widely accepted 'Guidelines of the American Society of Mammalogists for the Use of Wild Mammals in Research', is prepared to minimise the damage/stress during handling the animals (Sikes et al. 2011).

1. Mist netting

Live capturing will be carried out using canopy mist nets (Ecotone, Poland, 14m x 4m, 60mm mesh) stretched between two feeding trees of bats. The net will be set up just before dusk and continuously monitored by at least two people. The net will be never left unattended. Mist netting is the most efficient and safe way of capturing large flying foxes with very low risk of animal injury.

2. Animal capture

Once a bat flies into the net, the net will be lowered to access the bat. The bat will be immediately removed from the net. People handling the bat will wear safety gloves and long sleeves to avoid bites and scratches. Bats in Mauritius are rabies free however every precaution will be taken to avoid contact between human skin and animal. First aid kit will always be available on bat catching site. In case of any injury caused to human, disinfection using Betadine solution will be done. In case of animal injury, the animal will be taken into observation and released once healed. In case of severe injury (which is unlikely) the animal will be humanly put down.

3. Measurements and tag attachment on adult bats

The bat will be placed in cotton bag, weighted and its sex, reproductive status, forearm and body length recorded. A GPS tag (≤ 5% of the body mass of a bat) will be attached to bat's neck using collar with the tag positioned between the shoulders. The collar will be made of leather which will eventually rot and the transmitter will fall down (after around a year). After the tag attachment the bat will be given water with sugar using syringe and released. The moment from capture to release should not take more than 15 min, thus causing minimal stress to the animal.

4. Measurements and tag attachment on mothers with pups

The mother –pup relation in Mauritian fruit bats has not been studied extensively. The bats give birth to a single pup (occasionally twins) at the beginning of October each year. The pups relay on their mother for around 4 months. The first 1-1.5 months they spend attached to the mother while after that they are usually left by the mother on a tree near feeding site. The mist netting of the lactating females with pups will start around middle of October following the same methods as with adult bats. Mother with pup taken from the net will be measured and weighted separately. A transmitter with collar will be attached to the mother and the pup (less than 5% of the pup's body mass). The total sum of weight (pup plus two transmitters) will not exceed 5% of the body mass of the mother. To stabilize the transmitters non-irritant surgical cement (Perma-Type Company INC, USA, AC103000) will be used to additionally glue the transmitters between bats' shoulder. After tag attachment female will be given water with sugar using syringe and its pup re-attached to the mother's nipple. The bat will be held for additional few minutes to ensure that the pup is well attached and then released. The mother usually do not reject the pups so there is low risk of pup rejection. The whole procedure should not take longer than 30min thus having minimum impact on the animals.

Dr Ryszard Oleksy has followed a month of training under Dr Yossi Yovel's supervision at Tel Aviv University (Isreael) working with Egyptian fruit bats and their pups. Dr Yovel has been conducting successful studies on mothers and their pups for several years, attaching transmitters to both lactating mothers and their offspring.