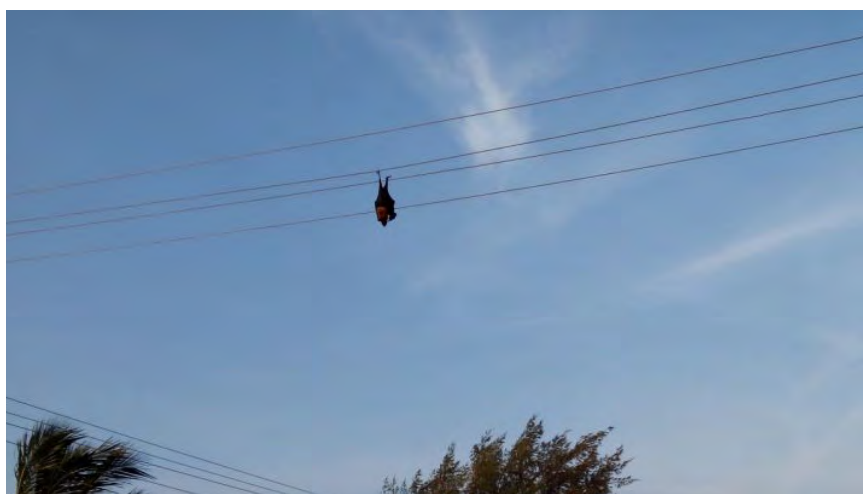




## Electrocution, a threat to the Indian Flying Fox in Thoothukudi District, Tamil Nadu

The status of the Indian Flying Fox *Pteropus medius* as listed under the IUCN's Red List is 'Least Concern' and the population trend is indicated as "Decreasing" (Tsang 2020). It is declining worldwide, due to anthropogenic disturbance. It includes roost loss (cutting of roost trees) for road expansion, building construction and deforestation, hunting for food and medicine, crackers, fire/ smoke to disturb the bat colony, etc. (Mickleburgh et al. 2002; Srinivasulu & Srinivasulu 2004; Senthilkumar 2014).

In addition to the listed threats, electrocution (from power line accidents) is a growing threat to *Pteropus medius*. Similar threats were already reported in Karnataka (Molur et al. 2007), Assam (Ali 2010), and Andaman Islands (Rajeshkumar et al. 2013). All the previous studies were based on a few observations and incidences. However, I systematically observed *P. medius* individual power accidents in various places of Tiruchendur town and nearby villages



**Electrocuted Indian Flying Fox *Pteropus medius* at foraging sites.**  
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**Electrocuted Indian Flying Fox *Pteropus medius* at Tiruchendur roost site.**  
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(Thoothukudi District, Tamil Nadu, India) between August 2015 and November 2017. I recorded this electrocution of *P. medius* individuals within the day roost site and foraging sites up to 7 km distance from their roost trees. A total of 18 electrocuted *P. medius* individuals were observed, among these 16 individuals were observed in foraging sites, i.e., closer to fruit trees and the remaining two individuals were observed below the roost tree, where the power line passes. Mostly, young ones were made accidents on power lines during flight trials in their foraging area. Among these female bats ( $n = 11$ ) were affected more compared to

male ( $n = 7$ ) individuals. Based on my observation, in two years *P. medius* electrocution occurred maximum during the rainy season (September–November).

Most of the electrocuted bats were dark black and few of them remained their original colour and became rigid, due to partial burn. The electrocution accident depends on an individual's body size, wingspan length, maturity, roosting, flight and foraging behaviours. When the wings touch two phases of the line, the bat was burned. The Indian Flying Foxes have large wingspan (about 1–1.5 m in length) compared to other bat genus (Bates & Harrison 1997).

Mostly, the human settlement and agricultural areas power lines in-between gap is 0.5–1 m. So, easily the bat individuals were affected by power lines. In the case of microbats can easily fly between the power lines and their wingspan length is about less than 0.5 m (Bates & Harrison 1997).

One electrocuted male *P. medius* individual was collected from our college campus on 23 August 2016. During dark hours hundreds of *P. medius* individuals foraged in *Ficus religiosa*, *Syzygium cumini*, *Azadirachta indica*, *Terminalia* sp. trees of our college campus. It is the main foraging site of fruit bats in Tiruchendur town. Three electrocuted individuals were observed at very close to our college campus. One pup was noted in below the roost tree (*Terminalia arjuna*), which is located in Avuyadayar Pond, Tiruchendur.

Totally, five day roost sites were recorded in this area, related to this electrocution observation. Among these two of them (Paramankurichi & Udankudi) were already reported (Senthilkumar 2014) and details of the remaining



**Table 1. The Indian Flying Fox *Pteropus medius* electrocution details in Tiruchendur area, Thoothukudi District.**

|    | Place/ location           | Observed date | Latitude & Longitude  | Sex    | Distance from roost tree (~) |
|----|---------------------------|---------------|-----------------------|--------|------------------------------|
| 1  | Paramankurichi 1          | 04.viii.2015  | 8.4862 N & 29.1759 E  | Male   | 400 m                        |
| 2* | Tiruchendur 1             | 02.x.2015     | 8.4943 N & 29.6620 E  | Female | < 1 m                        |
| 3* | Meignanapuram 1           | 18.iii.2016   | 8.4730 "N & 28.3829 E | Female | <1 m                         |
| 4  | Tiruchendur 2             | 23.viii.2016  | 8.5088 N & 30.5307 E  | Male   | 650 m                        |
| 5  | Tiruchendur 3             | 06.ix.2016    | 8.4970 N & 29.8219 E  | Female | 300 m                        |
| 6  | Meignanapuram 2           | 05.x.2016     | 8.4759 N & 28.5572 E  | Male   | 200 m                        |
| 7  | Nadunalumoolaikinaru      | 08.x.2016     | 8.4892 N & 29.3549 E  | Female | 1 km                         |
| 8  | MelaTiruchendur           | 21.xi.2016    | 8.4928 N & 29.5715 E  | Female | 600 m                        |
| 9  | Paramankurichi 2          | 11.xii.2016   | 8.4843 N & 29.0630 E  | Female | 800 m                        |
| 10 | KeelaNadunalumoolaikinaru | 24.xii.2016   | 8.4866 N & 29.1990 E  | Female | 600 m                        |
| 11 | Tiruchendur 4             | 30.vi.2017    | 8.5019 N & 30.1160 E  | Male   | 400 m                        |
| 12 | Sathankulam 1             | 18.vii.2017   | 8.4493 N & 26.9582 E  | Male   | 5 km                         |
| 13 | Kulasekaranpattinam       | 12.ix.2017    | 8.4105 N & 24.6337 E  | Male   | 5km                          |
| 14 | Tiruchendur 5             | 09.x.2017     | 8.5062 N & 30.3734 E  | Female | 500 m                        |
| 15 | Tiruchendur 6             | 16.x.2017     | 8.5108 N & 30.6485 E  | Male   | 750 m                        |
| 16 | Chettikulam               | 26.x.2017     | 8.4711 N & 28.2660 E  | Female | 7 km                         |
| 17 | Nangaimozhi               | 15.xi.2017    | 8.4693 N & 28.1604 E  | Female | 800 m                        |
| 18 | Sathankulam 2             | 15.xi.2017    | 8.4485 N & 26.9127 E  | Female | 5 km                         |

\*Roosting site observation and all other observations were made in foraging sites.

sites (Tiruchendur, Meignanapuram and Thanjainagaram) are reported for the first time.

To conserve the Indian Flying Foxes, I recommend the Tamil Nadu Electric Board to avoid power lines near to large trees where bats

are roosting and also to set up power lines with adequate gaps of more than 1.5 m. The use of insulated power cables may be another solution to avoid electrocution. Without taking any action, this species population will drastically decrease and threaten their survival.



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