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A Preliminary Report on the Study of Wildlife Aggregation on Figs, Emphasising *Ficus semicordata* Buch.ex J.E.Smith in Dampa Tiger Reserve, Mizoram, India

***Abstract*: Dampa Tiger Reserve which is situated at the western Mizoram of India is located at Indo-Myanmar hotspot in the Lushai hills is one of the remotes Tiger Reserve of the country and immensely rich in floral and faunal biodiversity. *Ficus* trees are ecologically important and serve as keystone species in the tropical forests as many seed dispersal animal species live and feed on nutritionally rewarding *Ficus* fruits and *Ficus* are important in forest restoration. *Ficus* semicordata Buch.ex J.E.Smith is found in Eastern Himalaya at altitude of 600-2000 mt. Drooping figs and wildlife assemblages of Dampa Tiger Reserve was noted during the study over a period of 9 months by recording direct sighting or evidence of vertebrate fauna which has immense ecological importance.**

Keywords: Keystone species, Indo-Myanmar Hotspot, biodiversity, Dampa Tiger Reserve, Mizoram

The state of Mizoram is a part of the Indo-Burma Global Biodiversity Hotspot and consists of a very high diversity of forest. The tropical rain forests prevail most but montane forest above 900 meters and temperate forests over 1600 meters are also found. Bamboo forests found everywhere but up to 1500 meters. Based on rainfall, altitude and dominant species, the forest is classified into Tropical Wet Evergreen Forest, Montane sub-tropical Forest, Temperate Forests, Bamboo Forests, Quercus Forests and Jhumland [1,2].

Dampa lies in western Mizoram's Mamit district, at the tri junction of Bangladesh and two Indian states i.e., Mizoram and Tripura. It is the largest protected area of Mizoram occupying 4.68% of the state's geographical area. Among India's remotest tiger reserves, it falls between 23º 32' 42" to 23º 41' 36" N latitude and 92º 13' 12" to 92º 27' 24" E longitude and under Zone 9B of the bio geographic classification of India. It is spread over an area of 988 sq. kms with a core of 500 square kilometers and 488 square kilometers of buffer area. This mystic landscape of Dampa Tiger Reserve has it's headquarter at West Phaileng which is surrounded by precipitous Lushai hills, streams and dominated by moist deciduous forests in the lower reaches and a mixture of tropical wet evergreen and tropical semi evergreen forests surrounds the rest of the reserve[3]. The altitudinal variation ranges from 40 mt to 1021 mt, and the tiger reserve experiences high precipitation with an annual rainfall of approximately 200 cm to 250 cm. With such diversity of habitat, Dampa is an example of extraordinary diversity of flora & fauna. It was declared a tiger reserve in 1994 and is part of Project Tiger.[4]

Dampa Tiger Reserve is not easily accessible unlike other park because of the steep hills, salt licks, streams, bad road condition. People must walk sometimes through the forest with the permission of the forest department if wishes to sight animals for research purpose.[5]

There are two ranges of Dampa Tiger Reserve, i.e., the Teirei range which covers the northern part of the reserve and the Phuldungsei range which covers southern portion of the reserve.

During the period of study data were collected mainly from the Dampa Tiger Reserve, the Teirei forest and the Aizawl Zoological Garden.

As Ficus species are extremely important food resources for tropical, subtropical forests for wildlife, the study has been made on the different *Ficus* species, especially on *Ficus semicordata* Buch.ex J.E.Smith in this ecological hot spot area and many vertebrates were recorded and listed from this least known Tiger Reserve of India.

Drooping figs are eaten as vegetable or raw to increase appetite. This plant has immense medicinal value. It has been reported that leaves are used for the treatment of dysentery and sore throat. Stem, fruit peel, root and sometimes latex are used for the treatment of bladder inflammation, backache etc[6].

Material and Method:

During the study ten *Ficus* species were selected and data were taken monthly twice from September, 2023 to May, 2024 both by directly spotting the wildlife and tracing the evidence and photographs were taken. The study covered the area from West Phaileng to Teirei forest

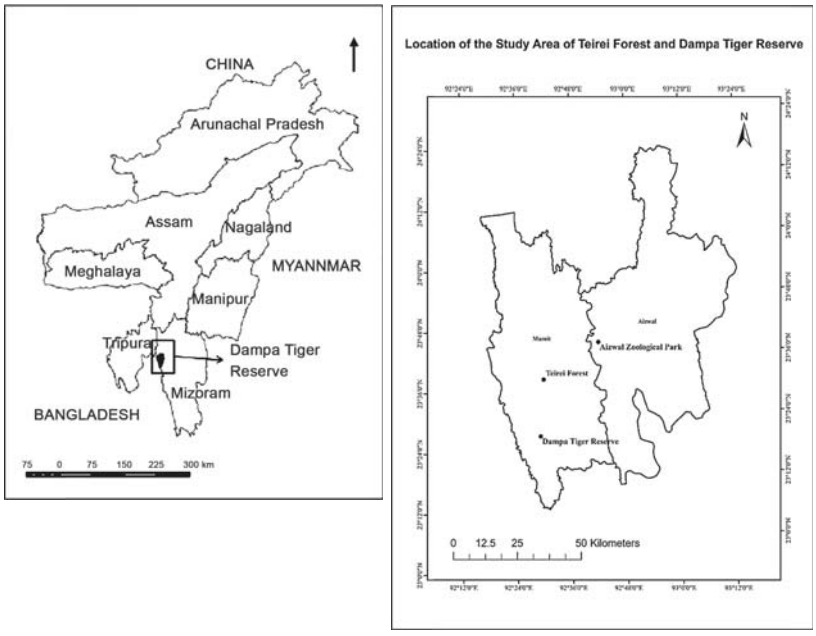

Fig.1. Map showing northeastern states of India and the location of Dampa Tiger Reserve.

Fig.5. *Ficus semicordata* growing on soil

Fig.2. View of Dampa Tiger Reserve

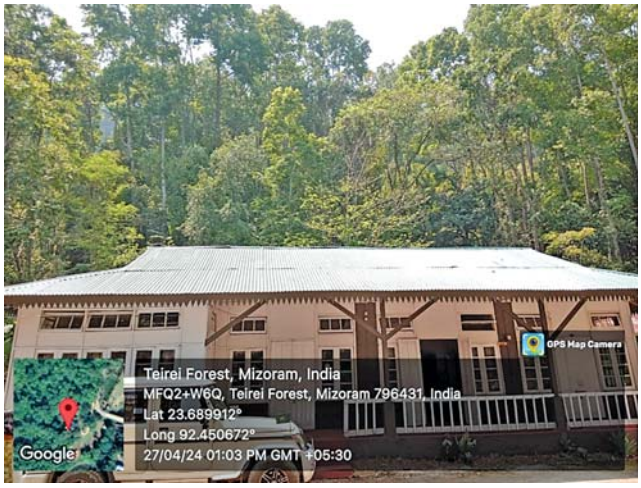

Fig.3. Teirei Forest museum showing the forest canopy

Fig.4. Bamboo forest of Dampa Tiger Reserve, Mizoram

Fig.6. Photo taken during a Hoary bellied squirrel feeding on *Ficus semicordata*

primarily and few *Ficus* trees in Aizawl Zoological Garden.

Pug marks, claw markings made by vertebrate fauna and territorial scent marking were also detected during the study.

Observation was carried out with binoculars and recording calls of birds to study the avifauna.

GIS maps of the study area were prepared during the study.

Water and soil parameters were analyzed during the study. Soil samples were extracted by using Tullgren Funnel method for forest microfauna richness and diversity which is under study[7]. The soil is sandy loam.

Table 1: During the study, different Ficus species and their local names as follows:

Sl. No.	Scientific name	Mizo name
1.	*Ficus benghalensis* L.	Bung
2.	*Ficus hispida* L.f.	Theithawt
3.	*Ficus racemosa* L.	Theichek
4.	*Ficus roxburghii* Wall.	Theibal
5.	*Ficus variegate* Bl.	Theipui
6.	*Ficus semicordata* Buch.ex J.E.Smith	Theipui
7.	*Ficus hederacea* Roxb.	Vai-sawi
8.	*Ficus rigida* Bl.	Thuahriat
9.	*Ficus benjamina* L.	Zamanhmawng
10.	*Ficus auriculata* Lour.	Theibal

Result and Discussion

Mainly ten *Ficus* species were examined over the study period. The chart.1 showing both the Scientific names[8] as well as the local Mizo names of the species. They are:

Ficus benghalensis L., *Ficus hispida* L.f., *Ficus racemose* L., *Ficus roxburghii* Wall., *Ficus variegate* Bl., *Ficus semicordata* Buch.ex J.E.Smith., *Ficus hederacea* Roxb., *Ficus rigida* Bl., *Ficus benjamina* L., *Ficus auriculata* Lour.

Dampa Tiger Reserve has the highest clouded leopard density in South and South East Asia[9].

No tiger was recorded in 2018 Tiger census but photographic evidence of a tiger was revealed in 2021[10].

This forest is exceptionally rich in biodiversity having Asiatic black bear (*Ursus thibetanus*), Wild dog (*Cuon alpinus*), Clouded leopard (*Neofelis nebulosa*), Marbled cat (*Pardofelis marmolata*), Leopard cat (*Prionairulus bengalensis*), Western Hoolock Gibbon (Hoolock hoolock) which the only ape species of India and one of the most endangered primate species. Phayre's Leaf Monkey (*Trachypithecus phayrei*), Pig-tailed Macaque (*Macaca leolina*), Capped langur (*Trachypithecus pileatus*), Gaur (*Bos gaurus*), Red Serow (*Capricornis rubidus*), Samber (Cervus unicolor), rare bear-cat or Binturong (*Arctictis binturong*), Chinese Ferret Badger (*Melogale moschata*), Large Indian civet (*Viverra zibetha*), Himalayan Crestless Porcupine (*Hystrix brachyura*) and many more.

During the study, recorded avifauna around the *Ficus semicordata* were Emerald Dove (*Chalcophaps indica*), Kalij pheasant (*Lophura leucomelanos*), Green-Billed Malkoha (*Phaenicophaeus tristis*), Blue Winged Leafbird (*Chloropsis moluccensis*), Oriental magpie Robin (*Copsychus saularis*), Spotted Dove (*Streptopelia chinensis*), Blue Whistling-thrush (*Myophonus caeruleus*), Hill Myna (*Gracula religiosa*), Red vented Bulbul (*Pycnonotus cafer humayuni*)[11].

The drooping figs attract a large number of mammals and results the seed dispersal of the *Ficus* species. These are Barking deer (*Muntiacas muntjak*), Common Palm Civet (*Paradoxurus hermophroditus*), Small Indian Civet (*Viverricula indica*), Malabar Giant Squirrel (*Ratufa indica*).

There is further scope of researches in this Indo-Malayan bio geographic region of Mizoram which is rich in floral and faunal biodiversity.

Conclusion

Dampa Tiger Reserve, the largest protected area in Mizoram covering an approximately 500 square kilometres area of the Lushai Hills, is the home to a many species of flora and fauna. This North Eastern state of India is a part of Indo-Myanmar Hotspot and extremely rich in biodiversity. But due to the stiff hills and bad road condition, a large part of the forest is yet to be discovered. In the present study, various wild animals and birds were recorded which feed on the *Ficus semicordata* Buch.ex J.E.Smith and responsible for expansion of natural population and biodiversity.

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