RESEARCH REVIEW JOURNALS
Volume-04
Issue-05
May-2019

ISSN: 2455-3085 (Online)
RESEARCH REVIEW International Journal of Multidisciplinary
www.rrjournals.com[UGC Listed Journal]

Ecological Distribution of Rattans and Palms in Dampa Tiger Reserve, Mizoram, India

*[1]Vanlalpeka Renthlei & [2]Lalnuntluanga

[1]*Research Scholar, Department of Environmental science, School of Earth Sciences and Natural Resource Management, Mizoram University Tanhril-796004, Mizoram (India)*
[2]*Professor, Department of Environmental science, School of Earth Sciences and Natural Resource Management, Mizoram University Tanhril-796004, Mizoram (India)*

ARTICLE DETAILS

Article History
Published Online: 15 May 2019

Keywords
Rattan, Palms, Arecaceae, Dampa Tiger Reserve, Calamus.

***Corresponding Author**
Email: pkwrenthly2[at]gmail.com

ABSTRACT

Dampa Tiger Reserve, the largest wildlife sanctuary in Mizoram which is situated in the western part of Mizoram state in Mamit District, at the international border with Bangladesh about 127 km from Aizawl. It covers an area of approximately 550 km2. A three year study was done during the seasons where 9 species of Palm under 7 Genera and 12 species of Rattan (canes) under 4 Genera were identified in these areas. These species found and identified were collected and marked with their GPS location for further studies. These species are needed to be conserve as they are rapidly declining due to anthropogenic activities. In hoping, these studies will lead to better knowledge of the distribution, condition and importance of the species..

1. Introduction

Rattan and palms are the sub division of *Arecaceae* family which represents perennial lianas, shrubs and trees which are commonly known as palm trees. The *Arecaceae* family is also known as *palmea* or *palmaceae*. They are the only family in the monocot which is under *Arecales*. There are roughly about 187 genera with around 2600 species are currently known in the world in which most of them are restricted to the tropical, sub tropical and warm temperate climates (Dransfield (1992). Most palms are distinguished by their large, compound, evergreen leaves arranged at the top of an un-branched stems, and also rattan by their climbing habit associated with their characteristics of their flexible woody stem which are derived typically from secondary growth which makes it a liana rather than a true wood (The Plant List (2010).

Mizoram is one of the tropical areas where rattan and palms are found and distributed. Mizoram also has a few collection of these species around different forest areas, sanctuaries, reserves, national parks and conserved areas (Anonymous (2011)). Among which Dampa tiger reserves is one of the largest conservation sites in the state. Dampa tiger reserve is located on the western part of Mizoram in Mamit district, where the reserve is located on the boarder of Bangladesh which is about 127 km from Aizawl. It covers an area of approximately 550 km^2 (North east India (2007)). A three year study was done during the seasons where 9 species of Palm under 7 Genera and 12 species of Rattan (canes) under 4 Genera were identified in these areas. These species found and identified were collected and marked with their Gps location for further studies (Champion and Seth (1968) Lalnun tluanga (2010).

2. Materials and method

The studies were conducted in Dampa tiger reserves, Mamit District, Mizoram, India. Here, the collection of data was done by visiting the tiger reserve area for three years (Forest Survey of India 2017). During these visits, the study site was entered from four points that is from the north, south and east, the species found were recorded and marked with their gps location. Specimens were also being collected for identification. Vast areas were covered during this field work and different species of rattan and palms were found in the study site. The species found were recorded and samples were also taken with their photographs. These Samples collected were treated with chloroform and then dried for stored in the herbarium of Environmental science Department, MZU for identification and also for further studies.

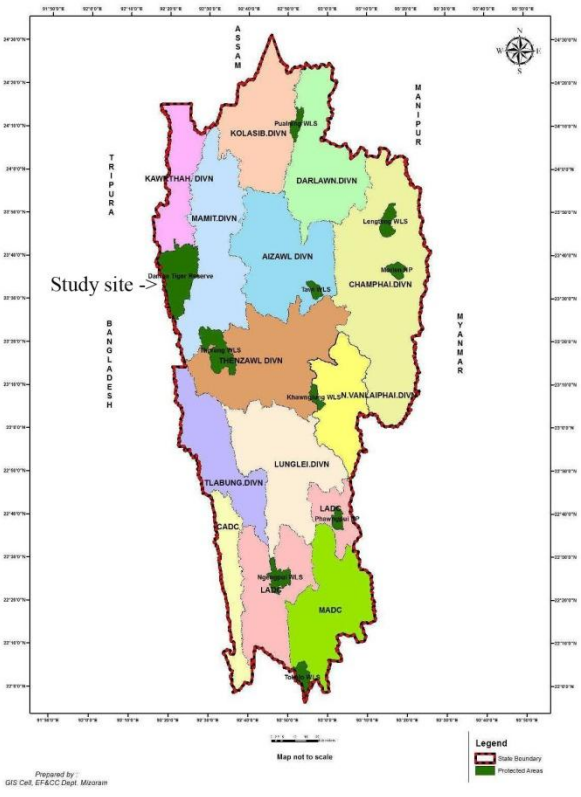

Figure 1: Map of Mizoram

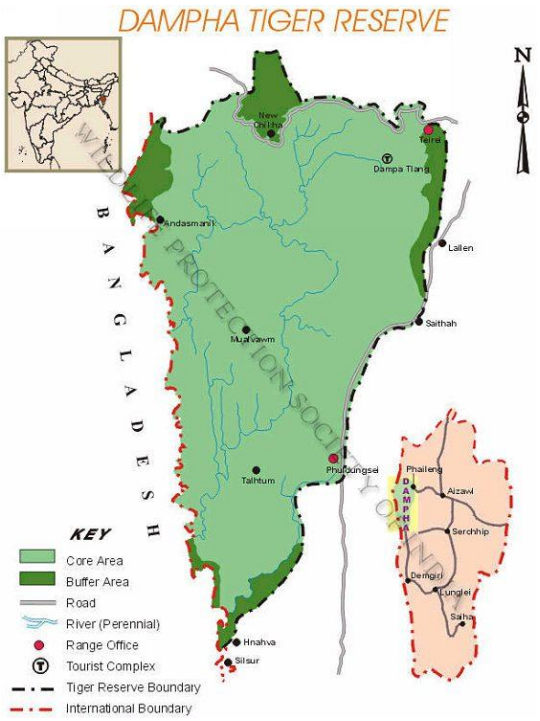

Figure 2: Map of Dampa Tiger Reserve

3. Result and Discussion

During the study, it has been observed that from the field work and collection of data, 9 species of Palm *Lecuala Peltata, Caryota mittis, Borasus flabellifer, Areca triandra, Pinanga gracillis, Caryota urines, Cocos nucifera, Areca catechu, Elaeis guineensis* under 7 Genera *Lecuala, Caryota, Borassus, Areca, Pinanga, Cocos and Elaeis are found,* and 12 species of Rattan (canes) ie; *Calamus erectus*, *Calamus flagellum, Calamus guruba* , *Calamus inermis*, *Calamus acanthospethus*, *Calamus gracilis* , *Calamus tenuis*, *Calamus khasianus*, *Calamus nambariensis*, *Daemonorops jenkinstanus*, *Plectocomia assamica*, *Zalacca secunda* under 4 Genera *Calamus, Daemonorops, Plectocomia, and Zalacca* were identified in these area.

Table 1: Species and genera found in Dampa tiger Reserve

PALMS		**RATTAN**	
8 GENERA	*Licuala* *Caryota* *Borassus* *Areca* *Pinanga* *Cocos* *Elaeis*	**4 GENERA**	*Calamus* *Daemonorops* *Zalacca* *Plectocomia*
Number of Species 9		**Number of Species 12**	
Licuala peltata (Siallu) *Caryota mitis* (Meihle) *Borassus flabellifer* (Laisua) *Areca triandra* *Pinanga gracilis* *Caryota urens* (Tum) *Cocos nucifera* (Coconut) *Areca catechu* (Kuhva) *Elaeis guineesis* (Oil Palm)		*Calamus acantospathus* (Mitperh) *Calamus erectus* (Thilthek) *Calamus flagellum* (Hruipui) *Calamus gracilis* (Kawrtai) *Calamus guruba* (Taite) *Calamus inermis* (Thilte) *Calamus khasiana* (Mawt) *Calamus nambariensis* (Matpui) *Calamus tenuis* (Changdam) *Daemonorops jenkinsianus* (Raichhawk) *Zalacca* secunda (Hruitung) *Plectocomia assamica* (Mawttak)	

Table 2: Palm species with their altitude and Gps location.

Sl no	Species	Altitude in m	Location by Gps
1	*Lecuala Peltata*	279m 240m	N23˚411'23.9" E092˚27'02.5" N23˚38'01.10" E092˚19'42.32"
2	*Caryota mittis* (Meihle)	633m 171m	N23˚42'05.9" E092˚24'28.8" N23˚35'59.55" E092˚22'07.06"
3	*Borasus Flabellifer*	706m 149m	N 23˚42'03.3" E092˚24'20.9" N23˚34'39.61" E092˚22'28.77"
4	*Areca Triandra*	722m 247m	N23˚41'58.8" E092˚24'18.3" N23˚26'36.69" E092˚23'20.07"
5	*Pinanga Gracillis*	505m 597m	N23˚40'57.3" E092˚26'40.5" N23˚41'08.34" E092˚21'24.11"
6	*Caryota urines* (Tum)	433m 149m	N23˚40'49.1" E092˚26'369.8" N23˚34'39.61" E092˚22'28.77"
7	*Cocos nucifera* (Coconut)	599m 247m	N23˚40'06.65" E092˚21'37.44" N23˚26'36.69" E092˚23'20.07"

8	*Areca catechu* (Kuhva)	597m 240m	N23˚41'08.34" E092˚21'24.11" N23˚38'01.10" E092˚19'42.32"
9	*Elaeis guineensis* (Oil Palm)	326m 149m	N23˚41'48.24" E092˚19'43.53" N23˚34'39.61" E092˚22'28.77"

"m" signifies meter above sea level

Table 3: Rattan species with their altitude and Gps location.

Sl no	Species	Altitude in m	Location by Gps
1	*Calamus erectus*(Thilthek)	597m 240m	N23˚41'08.34" E092˚21'24.11" N23˚38'01.10" E092˚19'42.32"
2	*Calamus flagellum*(Hruipui)	433m 149m	N23˚40'49.1" E092˚26'369.8" N23˚34'39.61" E092˚22'28.77"
3	*Calamus Guruba* (Taite)	326m 149m	N23˚41'48.24" E092˚19'43.53" N23˚34'39.61" E092˚22'28.77"
4	*Calamus inermis*(Thilte)	633m 171m	N23˚42'05.9" E092˚24'28.8" N23˚35'59.55" E092˚22'07.06"
5	*Calamus acanthospethus*(Mitperh)	279m 240m	N23˚411'23.9" E092˚27'02.5" N23˚38'01.10" E092˚19'42.32"
6	*Calamus gracilis*(Kawrtai)	433m 149m	N23˚40'49.1" E092˚26'369.8" N23˚34'39.61" E092˚22'28.77"
7	*Calamus Tenuis*(Changdam)	706m 240m	N 23˚42'03.3" E092˚24'20.9" N23˚38'01.10" E092˚19'42.32"
8	*Calamus Khasianus*(Mawt)	633m 171m	N23˚42'05.9" E092˚24'28.8" N23˚35'59.55" E092˚22'07.06"
9	*Calamus nambariensis*(Mawtpui)	326m 149m	N23˚41'48.24" E092˚19'43.53" N23˚34'39.61" E092˚22'28.77"
10	*Daemonorops jenkinstanus*(Raichhawk)	599m 247m	N23˚40'06.65" E092˚21'37.44" N23˚26'36.69" E092˚23'20.07"
11	*Plectocomia assamica*(Hruitung)	279m 240m	N23˚411'23.9" E092˚27'02.5" N23˚38'01.10" E092˚19'42.32"
12	*Zalacca secunda*(Mawttak)	326m 171m	N23˚41'48.24" E092˚19'43.53" N23˚35'59.55" E092˚22'07.06"

"m" signifies meter above sea level

4. Conclusion

From the table above we can see that the palms and rattans are found at the altitude range of 130m to 750m above sea level. Their distribution is very vast inside the tiger reserve but their diversity is not that high. The species found within Dampa tiger reserve is not that diverse as compare to other tropical areas around the world. They are located in the deep forest where no proper roads are found so their exact amount is not known but these are the main species that are found in and around Dampa tiger reserve.

References

1. Dransfield.J (1992).Taxonomy, biology and ecology of Rattan. Available at http://www.fao.org/docrep/003/x9923e/x9923e06.htm. [accessed on feb 6th 2019]
2. The Plant List (2010). Available at http://www.theplantlist.org/browse/A/Arecaceae. [accerssed on 17th november 2018]
3. Anonymous (2011) Statistical handbook, Environment and Forests Department, Govt of Mizoram
4. North east India (2007). Dampa Wildlife Sanctuary. Available at: http://www.north-east-india.com/mizoram/dampa-wildlife-sanctuary.html. [accessed on March 18th , 2019]
5. Champion and Seth (1968*) A revised survey of Forest types of India*. New Delhi, India.
6. Lalnun tluanga (2010).Status of research on rattans. Available at https://www.researchgate.net/publication. [accessed on March 18th , 2019]
7. Department of Environment, Forest and Climate change Government of Mizoram (2018). Available at .http://www.forest.mizoram.gov.in/ [accessed on April 16th, 2019]
8. Forest Survey of India (2017). India State of Forest Report 2017

