

## BIODIVERSITY: A PRELIMINARY STUDY OF WEST KHASI HILLS (MEGHALAYA)

Dainingstar Marngar

*North Eastern Biodiversity Research Cell (NEHU), Shillong-793003*

### Introduction

West Khasi Hills (W.K.H.) is one of the seven districts of Meghalaya State. It is bounded on the North by Assam; on the East by East Khasi Hills district; on the South by Bangladesh and on the West by East Garo Hills district. Its total area is 5247sq.km. As per Census of India, 1991, the population of the district is 2,20,157. The rural and urban population is 2,05,818 and 14,339 respectively. The rural and urban households are 35468 and 2633 respectively. Administratively, there are 5 Community Development Blocks. The literacy percentage of the district is 50.52. As per the traditional system of governance and administration, there are 8 *Syiemships* namely: Nongkhlaw, Myriaw, Mawiang, Nobosohphoh, Rymbrai, Nongstoin, Langrin and Maharam. The district HQ is Nongstoin.

### Climate

The climate is classified into three types as follows:

1. Tropical- as experienced in the southern parts bordering Bangladesh and some areas bordering East Garo Hills.
2. Subtropical- as experienced in some places bordering Assam, East Garo Hills and some areas of the southern parts of the district.
3. Temperate- as experienced in the higher altitudes of the district.

### Soil types

The soils are classified under the following types:

1. Loamy and alluvial- in those areas bordering Assam and Bangladesh
2. Sandy- in the higher altitudes
3. Clayey- in areas bordering Assam and East Garo Hills.

### Temperature and rainfall

During winter months the higher altitudes experience very low temperatures as low as minus10°C and summer temperature goes upto 45°C in areas bordering Assam and Bangladesh. The rainfall ranges from 2220 to 4050 mm. The winters are dry and cold while the summers are wet and hot.

### Rivers and drainage

West Khasi Hills district is one of the beautiful districts of Meghalaya rich in natural beauty and pristine forests. Many flushing and fast meandering rivers are located in this district of which the main rivers are:

1. RILANG RIVER: It is one of the famous rivers of Meghalaya. It has many pristine spots all along its route. Deep pools are formed on its route. The river is the habitat of many species of endemic fishes, amphibians and other aquatic animals. This river drains to Bangladesh after confluencing with river Kynshi.
2. KYNSHI RIVER: This is one of the longest rivers of Meghalaya. It has many pristine spots all along its meandering and torturous route. Deep pools are formed on its route. The river is the habitat of many species of endemic fishes, amphibians, planktons and other aquatic animals. This river drains to Bangladesh after confluencing with river Rilang. Apart from Nongkhnum, a large river island, there are seven more small river islands, geomorphologically known as Aits, occurring on the west of Umkrem to Nongkhnum Island. During summer this river inundates large areas around Kynshi village.
3. Umngi river,
4. Um-Blei river.
5. Umnew river {Mawkyrwat} etc.

### **Mountains and hills**

To mention a few there are, Mawthadraishan, Kyllailynsyun, Iawpaw, Symper and the Kyllang Rock, Mawjud, Mawsyrpat, Lum Nunia, Lum Nongsynrieh. All of these are habitats of endemic flora and fauna.

### **Land Utilization**

The total reporting area under utilisation is 5,30,100 hectares, while the forest area is 2,08,500 hectares, non-cultivable area is 77,214 hectares, and other uncultivated land excluding fallow land is 1,55,694 hectares.

### **Classification of Workers**

Workers have been classified as follows:

1. Cultivators-	69,566
2. Agriculture Labourers -	4, 774
3. Livestock, Forestry, fishing, Hunting, Plantation, etc.-	549
4. Mining and Quarrying-	117
5. Manufacturing Household etc Industry-	125
6. Manufacturing other than Household, Industry-	732
7. Construction-	505
8. Trade and Commerce-	1707
9. Transportation -	547
10. Other Services-	6733
11. Marginal Workers-	1121
12. Non Workers-	1,23,681

(Census of India 1991)

## Tourist Spots

Based on its natural beauty, the West Khasi Hills district of Meghalaya is regarded as one of the most fascinating and attractive places in the state. Perennial water falls, enchanting rivers, mountains, rocks, hot spring, river islands, tourist spots and many other attractions makes this place a mini paradise on earth. This is perhaps why the West Khasi Hills was known as the "EDEN or PARADISE" and the "LAND OF IMAGINARY". There are at present six tourist spots in the district, namely Kyllang Rock (Mairang), Symper Rock (Kmawan), Nongknum (River Island) in the Kynshi River, Hot Spring (Jakrem), Rilang (Mawranglang) and Kynshi (Ranikor).

## Animal Diversity

The faunas commonly found in the District are Arthropods, Fishes, Amphibians, Reptiles, Aves, and Mammals etc. Arthropods are the most abundant living in every type of climatic conditions. Each Genus of insects consists of many species in which most of the local names are unknown to the local people. These Insects species are found living in different habitats such as sub-terrestrial, stem borers, etc. Some of these insects are poisonous (such as Scorpions, Millipedes etc) some are pests of agriculture crops (Grasshoppers, Weevils etc). Although many Arthropods are harmful to human still some are useful e.g honeybees.

Vertebrates are found in all type of habitats varying in climatic conditions of the District. Each group having different species and are morphologically different from one another. The following common vertebrates, like the amphibians are listed in the Table- 1.

Table – 1: Amphibians

Sl no	Local names	Scientific names	Common Names	Status
1	Japich	<i>Rana esculenta</i>	Frog	Abundant
2	Hynroh	<i>Bufo sp</i>	Toad	-do-
3	Rara	<i>Rana tigrina</i>	Frog	-do-
4	Mama	<i>Rana sp</i>	Frog	-do-
5	Bungbeng	<i>Rana adspersa</i>	Frog	-do-
6	Piehsiang	<i>Rachophorus sp</i>	Frog	-do-
7	Jakoid	<i>Rana sp</i>	Frog	-do-
8	Jadang	<i>Hyla sp</i>	Tree frog	-do-

Reptiles are found in all parts of the District many of which are poisonous. The following reptiles with their local names have been listed in Table- 2. Snakes are the most abundant among the Reptiles. These include the most poisonous snakes to the non-poisonous water snakes. All these are found mostly in the thick forests, caves and rocks etc.

**Table – 2: Reptiles**

Sl no	Local names	Scientific names	Status
1.	Seiniong	<i>Naja sp</i>	Endangered
2.	Thlen lum	<i>Python molurus</i>	-do-
3.	Hlang	<i>Boiga sp</i>	Abundant
4.	Seinthli	<i>Dasypeltis sp</i>	Abundant
5.	Sein um	<i>Natrix sp</i>	-do-
6.	Sein roi	<i>Natrix sp</i>	-do-
7.	Sein niangbyrsaw	<i>Boaedon sp</i>	-do-
8.	Seinsyang	<i>Dendroaspis sp</i>	-do-
9.	Pnar	<i>Dryophis sp</i>	-do-

Many others are not mentioned because they are still to be identified.

### Pisces

West Khasi Hills is rich in ichthyofauna, all the small and large rivers are their habitats. Most of the Fishes living in the fast moving small rivers and streams are Hill stream Fishes, Air breathing Fishes. The common ichthyofauna of the District is listed in Table- 3 below.

**Table – 3: Pisces**

Sl no	Local names	Scientific names	Status
1.	Dohthli	<i>Channa sp</i>	Abundant
2.	Dohmain	<i>Glyptosternum sp</i>	-do-
3.	Khalad	<i>Tor spp</i>	-do-
4.	Kha khla/Kyrshiah	<i>Bogarius yerrelli</i>	-do-
5.	Kha buwar	<i>Wallago attu</i>	-do-
6.	Kha rew	<i>Labeo rohita</i>	-do-
7.	Kha shitor	<i>Notopterus chitala</i>	-do-
8.	Kha saw	<i>Neolissocheilus hexagonolepis</i>	-do-
9.	Kha blang	<i>Neolissocheilus kaporat</i>	-do-
10.	Kha syngkai Sherktieh	<i>Nemacheilus sp.</i> <i>Acanthopthalmus sp.</i>	-do-
11.	Kha iong	<i>Labeo sp.</i>	-do-
12.	Lyngkdon	<i>Gara lissorhynchus</i>	-do-
13.	Kha tin(kha kulai)	<i>Discognathus sp</i>	-do-
14.	Kha khusia	<i>Symbranchus sp</i>	-do-
15.	Kha jei	<i>Discognathus modestus</i>	-do-
16.	Kha laso	<i>Cirrhina reba</i>	-do-
17.	Kha thohdong	<i>Barbus chrysopterus</i>	-do-

18.	Kha marang	<i>Ambassis ranga</i>	-do-
19.	Kha tyngra	<i>Macrones tengara</i>	-do-
20.	Kha dak	<i>Barilius sp</i>	-do-
21.	Kha sher	<i>Nemacheilus sp</i>	-do-
22.	Kha namsop	<i>Belone strongylurus</i>	-do-
23.	Kha koi	<i>Puntius sp</i>	-do-
24.	Khusia saw	<i>Symbranchus sp</i>	-do-
25.	Mukur	<i>Clarias batrachus</i>	-do-

Many other type of Fishes are not mentioned here because they have not been identified as yet.

### Aves

West Khasi Hills is a good habitat for many species of birds. Some of the Birds found in the District are given in table 4.

**Table – 4: Aves**

Sl no	Local names	Scientific names	Common Names	Status
1.	Paitpuraw	<i>Pycnonotus cafer</i>	Red-vented Bulbul	Abundant
2.	Iar khlaw	<i>Gallus gallus</i>	Jungle Fowl	-do-
3.	Lyngdkhur	<i>Chalcophaps indica</i>	Pigeon	-do-
4.	Sohlyngngem	<i>Carpophaga anea</i>	Fruit pigeon	-do-
5.	Khlieng	<i>Aquila sp</i>	Eagle	-do-
6.	Kbeit	<i>Accipiter sp</i>	Hawk	-do-
7.	Meinlyer	<i>Caprimulgus asiaticus</i>	Indian Night-Jar	-do-
8.	Klew	<i>Pavo cristatus</i>	Peacock	-do-
9.	Lyntait	<i>Chaetura sp.</i>	Swift	-do-
10.	Simiong	<i>Agelais tricolor</i>		-do-
11.	Simsohlamut	<i>Catherpes sp.</i>	Wren	-do-
12.	Pukni	<i>Aquila sp.</i>	Vulture	-do-
13.	Jyllop	<i>Cymbirhynchus sp.</i>		-do-
14.	Moina	<i>Gracula religiosa</i>	Maina	-do-
15.	Tuta	<i>Psittacula eupatria</i>	Indian Parakeet	-do-
16.	Sim khar	<i>Apus affinis</i>	House Swift	-do-
17.	Likain	<i>Anthracoceros malabaricus</i>	Large Pied Hornbill	-do-
18.	Tyngab	<i>Corvus sp.</i>	Crow	-do-
19.	Phrohjyndem	<i>Upupa epops</i>	Hoopoe	-do-
20.	Jala-eit	<i>Coracias bengalensis</i>	Blue jay	-do-
21.	Sim syiem/rynniaw	<i>Chalybaeus sp.</i>	Bird of Paradise	-do-
22.	Tyrkhaw	<i>Empidonax sp.</i>		-do-

23.	Simpuhdieng	<i>Centurus sp.</i>	Wood-pecker	-do-
24.	Khruit	<i>Certhiparus sp.</i>	Partridge	-do-
25.	Kapkut	<i>Cuculus sp.</i>	Cuckoo	-do-
26.	Khrengmyllah	<i>Arenaria sp.</i>	.	-do--
27.	Tyut	<i>Crex pratensis</i>	Land rail	-do-
28.	Dkhoh	<i>Bubo sp.</i>	Owl	-do-

Many other species of birds have not been listed out here because their names have not been identified.

## Mammals

The forests of West Khasi Hills have been recognised as the DWELLING PARADISE of wild beasts and other fauna. A variety of mammals are found here. These mammals are usually encountered in the thick forests covering the lower regions of the district (Bordering Bangladesh ) and the areas bordering Assam and Garo Hills. Deforestation during the last few decades has resulted in the loss of some of these mammals and many have become endangered and even extinct from this district. The mammals found in this district are listed in Table- 5.

**Table – 5: Mammals**

Sl.	Local name	Scientific names	Common name	Status
1.	Shrieh	<i>Macaca mulatta</i>	Rhesus monkey	Abundant
2.	Khla	<i>Panthera sp.</i>	Tiger	Abundant
3.	Hati	<i>Elephas sp.</i>	Elephant	Common
4.	Dngiem	<i>Selenarctos thibetanus</i>	Himalayan Black Bear	Common
5.	Myrsiang	<i>Vulpes sp</i>	Fox	Abundant
6.	Suri	<i>Canis lupus</i>	Wolf	Common
7.	Moi	<i>Bubalus bubalis</i>	Wild buffalo	Common
8.	Sier	<i>Cervus unicolor</i>	Sambhar deer	Common
9.	Khiat	<i>Nemorhaedus goral</i>		Common
10.	Skei	<i>Muntiacus muntjak</i>	Barking Deer	Common
11.	Khnai	<i>Mus sp</i>	Rat	Abundant
12.	Lymbit	<i>Cynopterus sphinx</i>	Bat	Abundant
13.	Miawkhlaw	<i>Felis sp</i>	Jungle cat	Abundant
14.	Niang khlaw	<i>Sus scrofa</i>	Wild boar	Common
15.	Risang	<i>Callos ciurus</i>	Squirrel	Abundant
16.	Khla khnai			Abundant
17.	Brai	<i>Hystrix sp.</i>		Abundant
18.	Khla thap sim	<i>Felis bengalensis</i>	Leopard cat	Common
19.	Dieng khied	<i>Hystrix indica</i>	Porcupine	Common

20.	Huleng	<i>Hylobates hoolock</i>	Hoolock gibbon	Abundant
21.	Bsong	<i>Herpestes sp</i>	Mongoose	Abundant
22.	Khmot	<i>Dremomys lokriah</i>		Abundant
23.	Tngaw	<i>Macca radiata</i>	Bonnet Macaque	Abundant
24.	Rabbit	<i>Oryctolagus cuniculus</i>	Rabbit	Abundant
25.	Dongsohkhai	<i>Funambulus palmarum</i>	Three striped palm squirrel	Abundant
26.	Juta ksuit	<i>Nycticebus cougang</i>	Slow loris	Common
27.	Dkhan	<i>Alitcola roylei</i>	Royle's mole	Abundant
28.	Pelang	<i>Cannomys badius</i>	Bay bamboo rat	Abundant
29.	Hlieh	<i>Petaurista sp</i>	Common giant flying squirrel	Common
30.	Labadur	<i>Pteropus giganteus</i>	Indian flying fox	Abundant
31.	Ksuh	<i>Lutra lutra</i>	Common otter	Abundant
32.	Psuin	<i>Talpa micrura</i>	Eastern Mole	Abundant
33.	Shrieh marwei	<i>Macacca sp.</i>	Rhesus macaque	Common
34.	Khnaing	<i>Rattus blanfordi</i>	Whitetailed wood rat	Abundant
35.	Kyrbei	<i>Manis crassicaudata</i>	Indian pangolin	Common

Many other species of mammals are found here which are yet to be identified.

### Plant Diversity

A variety of flora ranging from agricultural crops, to edible and poisonous wild plants are found in the district. The dense forests bordering Bangladesh, Assam and Garo Hills are the main habitats of most variety of plants. In general the plants have been classified into three categories, such as (a) Commercial plants, (b) Indigenous plants and (c) Medicinal plants. The first two categories of plants have been taken in general which include all the agricultural crops. In short for an example these includes- (1) Fruit bearing plants . eg, Orange Lemon, Plum etc. (2) Spice bearing plants eg, pepper etc. (3) Wild trees for timber and firewood. (4) Cultivated crops e.g potato, rice, sugarcane. (5) Edible Plants e.g. mustard, ginger. Many other plants that are not much important but are exported to other states and even abroad, for other purpose.

### Medicinal Plants

The Medicinal plants found in this District are herbs, shrubs, creepers, and trees. Large amounts of medicinal plants are used by the local people for curing different diseases. It is found that medicines made from these plants are stronger and have higher curative effects than the synthetic ones. Many of these medicinal plants are known only by their local names, which are listed in the Table 6.

**Table – 6: Medicinal Plants**

Sl.	Local names	Scientific names	Part used	Application
1.	Langsniang	<i>Potentilla feulgens</i>	-do-	T.B, Heart diseases.
2.	Jajew jarit	<i>Begonia peltata</i>	-do-	Eye injuries
3.	Diengniangmat	<i>Berberis sp</i>	-do-	-do-
4.	Jyrmi kynthei sla heh	<i>Tinospora cordifolia</i>	Creeper juice	Pregnancy disorders
5.	Jyrmi shynrang sla rit	<i>Tinospora spp</i>	Creeper juice	Pregnancy disorders
6.	Jatira phlang	<i>Thalictrum foliolosum</i>	Do	Antidote for poison
7.	Snieh soh tdom		Fruit	Dysentery, Diarrhea,
8.	Bat iong	<i>Eupatorium adenophorum</i>	-do-	Dysentery, Diarrhoea, gastric
9.	Shiah keng	<i>Berberis spp</i>	-do	-do-
10.	Soh krot	<i>Berberis aristata</i>	-do-	-do-
11.	Sohlangkshang	<i>Trichosanthes palmata.</i>	-do-	-do-
12.	Bat trit	<i>Centella asiatica</i>	Whole plant	Ear problems
13.	Sying khlaw rit	<i>Hedychium spp</i>	Underground stem	-do-
14.	Sying maw	<i>Begonia spp</i>	-do-	Parturition problems
15.	Jyrmi di	<i>Peaderia foetida</i>	Whole plant	Gripe
16.	Tohtih iong	<i>Dichloa spp</i>	Leaves	-do-
17.	Bat jaiur	<i>Zanthoxylum alatum</i>	-do-	-do-
18.	Batjaiaw	<i>Artemisia vulgaris</i>	-do-	-do-
19.	Chiahheh, chiahrit	<i>Rubus spp</i>	Whole plant	Dysentery, Gastroenteritis
20.	Jamensleh	<i>Osbeckia spp</i>	Whole plant	Boils, Snake bits
21.	Jajew-mawramsong.	<i>Saxifraga ligulata.</i>	---do-	Antidote, Gastric, Diarrhoea
22.	Rynsuntyangap	<i>Allium spp</i>	Underground stem	Joining bone break
23.	Lakud	<i>Phrynium</i>	Leaves	Burns
24.	Jathang	<i>Sonchus asper</i>	-do	Dysentery, Gastric
25.	Sying heh	<i>Zingiber officinale</i>	Underground stem	AIDS, joining bone breaks
26.	Syngmakhir	<i>Zingiber sp</i>	-do-	-do-
27.	Rumai	<i>Plantago major</i>	Leaves	Cuts, injuries
28.	Neiringai	<i>Sesamum sp</i>	-do	Antidote
29.	Diengsohphie	<i>Myrica esculenta</i>	Fruits	Gastric, Diarrhea
30.	Jatira	<i>Thalictrum foliolosum</i>	Whole	Diarrhoea
31.	Jatung	<i>Valeriana wallichii.</i>	-do-	-do-
32.	Sohphen	<i>Eriosema chinense</i>	Underground stem	T.B.
33.	Kait	<i>Musa sp.</i>	-do-	Diarrhea, Gastric
34.	Batdkhiew	<i>Oxalis spp</i>	Whole	Eye problems

35.	Langew/sohphlang	<i>Flemingia vestita</i> ,	-do-	Tape worms
36.	Sherita	<i>Swertia chirata</i> .	Leaves, fruits	Fever
37.	Sohrangthrait	<i>Gaultheria fragrantissima</i>	Roots	Menstruation disorder
38.	Diengsong	<i>Erythrina indica</i> .	Leaves	Burns
39.	Sohmrithklaw	<i>Piper longum</i>	Fruits	Coughing
40.	Sohkwit	<i>Citrus sp</i>	-do-	Fever
41.	Kynchiang shynrai	<i>Curcuma spp</i>	Rhizome	Antidotes
42.	Diengakor	<i>Aquillaria agallocha</i>	Bark	Related to many diseases
43.	Diengkseh	<i>Pinus khasia</i>	Juice	Boils, Cracks
44.	Pudina	<i>Mentha arvensis</i>	Whole plant	Cough, cold.

There are various other medicinal plants which needs to be identified scientifically.

### Conclusion

The district of West Khasi Hills of Meghalaya is very rich in Biodiversity, but this preliminary study could not cover the entire flora and fauna completely. The flora and fauna of this area still needs a more detailed study. Meanwhile, documentation and inventorisation work for this District is still in progress.