

**P.K.M COLLEGE OF TEACHER EDUCATION
MADAMPAM**

**BIODIVERSITY IDENTIFICATION
AROUND A STREAM IN PIRAVOM
OF ERNAKULAM DISTRICT**

Submitted By,

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ROLL NO : 2031

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CERTIFICATE

DEPARTMENT OF NATURAL SCIENCE
P.K. M COLLEGE OF EDUCATION, MADAMPAM



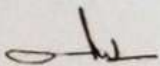
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This is to certify that this project is an authentic record of the work carried out by MARIA BABY of first year natural science(2020-2022) of this department with Roll no 2031


24-3-21

Mrs. Jomol Jose(Supervising teacher)

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BY

MARIA BABY

ROLL NO : 2031

FIRST YEAR NATURAL SCIENCE

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Ecology is the study of the relation and interactions between organism and their environment. It comprises the floral and faunal communities of an area. With changes in environment conditions, structure, density and composition of plants, animals also undergo changes. For proposed study, an area around a stream in Piravom of Ernakulam district in Kerala, India is taken.

Biodiversity include all terrestrial and freshwater organisms-including plants, animals, and microbes. Understanding the unequal distribution of species diversity is one of the greatest challenges in ecology. Standardized sampling for diversity assessment are there for essential to reflect diversity patterns across spatial scales and to compare the diversities of different ecosystems. Measurements of biodiversity at the level of species or inhabitants are directed towards the fulfillment of an index of the the number of species and their relative abundance in a given landscape. Massive loss of valuable plant species in the past centuries and its adverse impact on environmental and socioeconomic values has caused the conservation of plant resources. Appropriate identification and characterization of plant materials is important for successful conservation of plant resources. It is important to assess the biodiversity before get disappeared. The flora and fauna study forms a part of the environmental data generation for the preparation of Biodiversity assessment report for the proposed project. This necessitates determining the baseline status of floral diversity in the proposed region.

This biodiversity assessment provide information about individual flora and fauna species and their habitats, ecosystems, communities and threatening process. It reviews existing information and the results of priority taxa and communities. Analysis of data involves the information identifying the flora and selected fauna groups in relation to different environmental strata across the site and analysis of species. This has focused primarily on the ecosystems and species levels of biodiversity because information about genetic variation within species is limited.

The study has covered the following aspects to assess the floral diversity-

- Flora identification-Trees
- Flora identification-Shrubs
- Flora identification-Herbs
- Flora identification-Climbers
- Plantations
- Total listing of major faunal elements

MATERIALS AND METHODS

METHODOLOGY

Identification of floral and faunal diversity was conducted through reconnaissance field surveys and insight observations. The plant species identification was done based on the reference materials and also by examining the morphological characteristics

SAMPLING

_A stratified simple random procedure was employed to obtain a sample from study area.

TIMING OF STUDY

The study was carried out during morning and evening hours.

OBSERVATIONS FROM SAMPLING

The various observations relating to flora and fauna species are discussed in detail below, in separate sessions.

EQUIPMENT USED

- Realme C3 mobile-snap shots taken

Images showing the proposed area and a paddy field associated to the stream

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STREAM IN PIRAVOM OF ERNAKULAM DISTRICT





RESULTS AND DISCUSSIONS

FINDINGS/RESULTS

BASELINE DATA

The survey was conducted on 30 January 2021. It was a sunny day with normal weather. The area was much far away from the state highway. The approach road to the site was rugged one with proper size. A paddy field is seen associated to the proposed stream.

The details of the flora and fauna observed are given below.

LIST OF FLAURA OBSERVED IN THE STUDY AREA

1. *Cymbopogon citrates*

Kingdom – Plantae

Family – *Poaceae*

Genus – *Cymbopogon*

Species – *Cymbopogon citrates*

Common name – *Lemon grass, Oil grass*

Uses – *Food additive, Medicine, Weed*



2. *Leucas zeylanica*

Kingdom – Plantae

Family – *Lamiaceae*

Genus – *Leucas*

Species – *Leucas zeylanica*

Common name - *Thumba*

Uses – *in flavouring, as medicine, a serious weed*



3. *Cyathilium cinereum*

Kingdom – Plantae

Family – Asteraceae

Genus – *Cyathilium*

Species – *Cyathilium cinereum*

Common Name – Little ironweed, Poovamkurunila

Uses - as medicine



4. *Cardiospermum halicacabum*

Kingdom – PLANTAE

Family – Sapindaceae

Genus – *Cardiospermium*

Species – *Cardiospermum halicacabum*

1

Common name – Balloonvine, valliuzhinja

Uses : Environmental uses ornamental use, as medicine, weed –



5. Glycosmis pentaphylla

Kingdom – Plantae

Family – Rutaceae

Genus – Glycosmis

Species – Glycosmis pentaphylla

Common name - paanal, orangeberry

Uses – for medicinal purpose



6. Ficus exasperata

Kingdom – Plantae

Family – Moraceae

Genus - Ficus

Species – Ficus exasperate

Common name – *Therakam*

Uses – as a valuable medicine, as a source of sandpaper



7. *Syzygium cumini*

Kingdom – Plantae

Family – Myrtaceae

Genus – Syzgium

Species – *Syzygium cumini*

Common name – Malabar plum, *Thondi*

Uses – has ornamental value, leaves are used as food for livestock,



8. *Pandanus odoratissimus*

Kingdom - Plantae

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Family – Pandanaceae

Genus - Pandanus

Species – *Pandanus odoratissimus*

Common name – Screw pine, *Thazha*

Uses – Medicinal use, Fruit is edible, leaves are used for flavouring



8. *Cynodon dactylon*

Kingdom – Plantae

Family – Poaceae

Genus – Cynodon

Species – *Cynodon dactylon*

Common name – Bermuda grass, *Karuka pullu*

Uses – used in ayurveda medicine, erosion control, as fodder, as weed



9. Boerhavia diffusa

Kingdom – Plantae

Family – Nyctaginaceae

Genus – Boerhavia

Species – *Boerhavia diffusa*

Common name – Hogweed, Pigweed

Uses – as fodder, as medicine, as weed (seed contaminant)



10. Sida cordifolia

Kingdom : Plantae

Family : Malvaceae

Genus : Sida

Species : *Sida cordifolia*

Common name : flannel weed, *kurunthotti*

Uses : Medicine for asthma, fever, bronchitis, allergies etc.



11. Biophytum sensitivum

Kingdom : Plantae

Family : Oxalidaceae

Genus : Biophytum

Species : *Biophytum sensitivum*

Common name : Life plant, *mukkutti*

Uses : as a traditional folk medicine for medicine in arthritis, diabetes, snake bite, cough etc



12. *Eclipta alba*

Kingdom : Plantae

Family : Asteraceae

Genus : *Eclipta*

Species : *Eclipta alba*

Common name : False daisy, Kayoonni, bhringa

Uses : as medicine for preventing hair growth, allergies, toothache, etc.



13. *Curculigo orchioides*

Kingdom : Plantae

Family : Amaryllidaceae

Genus : *Curculigo*

Species : *Curculigo orchioides*

Common name : *Nilapana, Black musale*

Uses : Used as medicine for cough, skin diseases, urinary disorders



14. Emilia sonchifolia

Kingdom : Plantae

Family : Compositae

Genus : Emilia

Species : *Emilia sonchifolia*

Common name : *Muyalcheviyan*

Uses : as medicine for fever, allergy, ulcers, cough and bronchitis



15. Aerva lanata

Kingdom : Plantae

Family : Amaranthaceae

Genus : Aerva

Species : *Aerva lanata*

Common name : *Balipoovu, Polpala*

Uses : as food, as medicine for snakebites, jaundice etc



LIST OF FAUNA SEEN IN PROPOSED AREA

1. *Dawkinsia filamentosa*

Kingdom : Animalia

Phylum : Chordata

Family : Cyprinidae

Genus : Dawkinisa

Species : *Dawkinisa filamentosa*

Common name : Filament barb, Blacksopt barb, *Paral*



Species : *Aerva lanata*

Common name : *Balipoovu, Polpala*

Uses : as food, as medicine for snakebites, jaundice etc



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2. *Channa striata*

Kingdom : Animalia

Phylum : Chordata

Family : Channidae

Genus : *Channa*

Species : *Channa striata*

Common name : Common snakehead, mudfish, *Varaal*



3. *Mastacembelus armatus*

Kingdom : Animalia

Phylum : Chordata

Family : Mastacembelidae

Genus : *Mastacembelus*

Species : *Mastacembelus armatus*

Common name : zig-zag eel, leopard spiny eel, *Aaron*



4. *Anguilla bengalensis*

Kingdom : Animalia

Phylum : Chordata

Family : Anguillidae

Genus : *Anguilla*

Species : *A. bengalensis*

Common name : *Mananjil, Indian longfin eel, river eel*



CONCLUSION

The proposed area is a stream, covered by a lot of flora and fauna. Most of the flora are having medicinal value. The area possesses high diversity of plant components and the area is a healthy habitat for plants and animals. This is a typical village with more about of biodiversity. In my observations and site visit, almost 15 types of flora and 4 types of fauna are identified from the selected stream. The flora includes herbs, shrubs, climbers, etc.. Most of them are of high medicinal value. Fauna includes 4 fishes in the stream. Most of these medicinal plants are under endangered condition. They are very useful to us in lots of ways. Human being is responsible for destruction of flora and fauna. So we should do efforts to respect the law of protection of fauna and flora. Streams are in threat nowadays. They are natural ecosystems. It is a home to many plants and animals. They have to be protected.

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