AMBIKA PRASAD
RESEARCH FOUNDATION

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ANNUAL REPORT

(2019-2020)

PRESIDENT'S MESSAGE

Dear Friends,

It is nature that provide our every need and wishes to live in this world. It provides from basic necessities of life including oxygen, fresh water, clean air, food for consumption to complex secondary needs of human including livelihood, health, recreation, cultural and scientific base for advancement in lifestyle. Biodiversity on earth is the base of survival of life on earth.

We try to live a comfortable life by advancing in every aspect of science and technology most of the by mimicking the already existing concept of nature. New generations are already adapted to the advanced technologies and biological sciences. New research in biological sciences are also diversified to a broad aspect studies like botany, zoology, biotechnology, biochemistry, microbiology, microbiology, bioinformatics, ethnobotany, anthropology, etc.

In a long run, it creates a gap of understanding the whole process as only a certain field is expertise by a single group. It also makes an incomplete planning strategy for certain research programs due to limited knowledge for the larger aspect of possibilities. This truly affects the overall system in biological research especially in biodiversity research as all of the above aspects are part of the biodiversity. This can be a main reason for the incompetent system of biodiversity conservation.

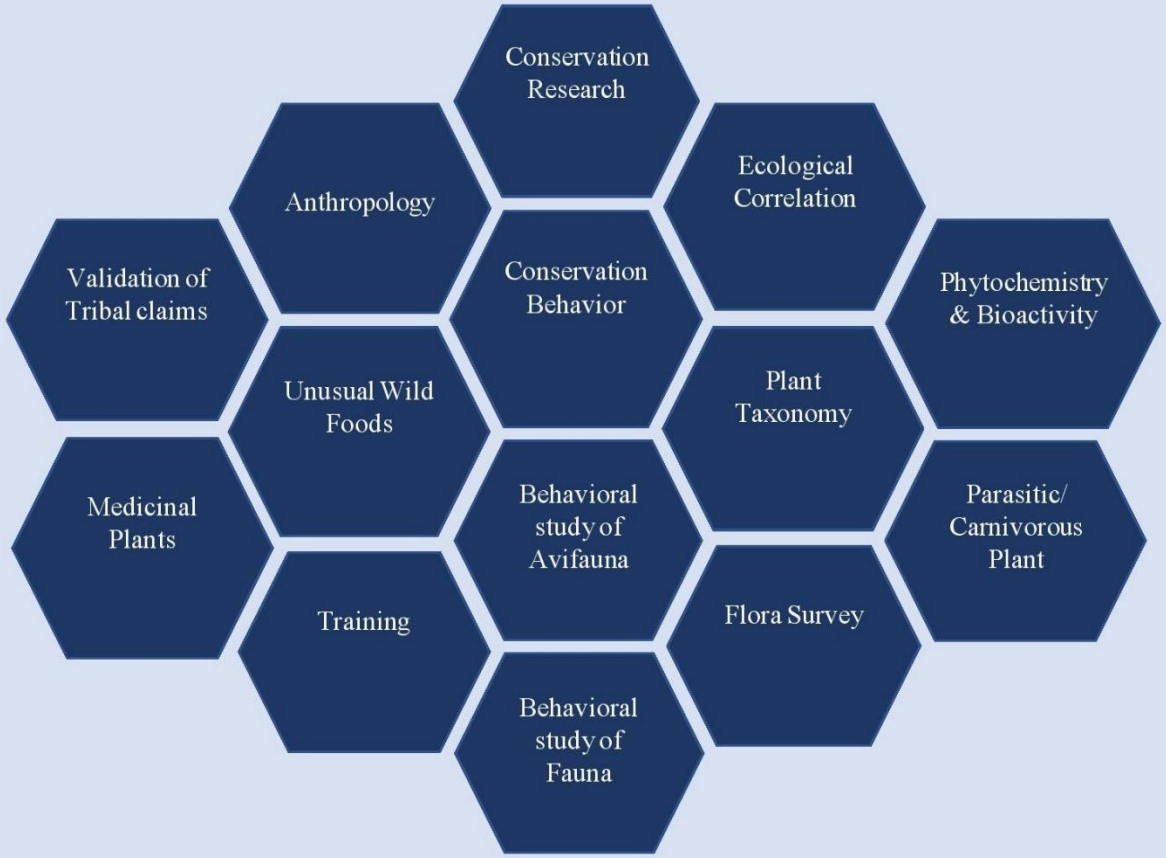
The joint venture for all the aspects are needed to understand the whole process of biodiversity and to make a strategy for conservation. Ambika Prasad Research Foundation (APRF) aims to bring together the different aspects in a single platform and create a broader aspect of biodiversity research. It also aims to focus on the grassroot level of research that is basically lacking in the current scenario of advanced research. I invite you to join our mission to create a joint venture of research from different fields of sciences

Sanjeet Kumar

Dr. Sanjeet Kumar

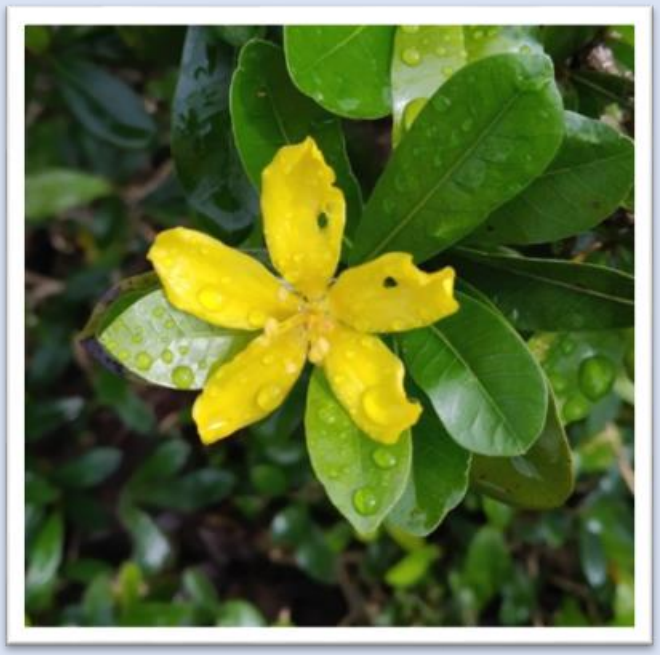
CONTENT

Background



Plant Taxonomy

Observing the plant characteristic in field is the key for understanding taxonomy. APRF is helping for identifying the key characters of the family and characterizing the plant parts and understanding the unique character of the floral species. Field data book required to note down the information on the habit, habitat, ecology, GPS location and all other characteristic of a taxa. Referring the standard flora books, Herbarium samples, published literatures on the species and other authorised web sources of the world are necessary. Collection of sample plants should be done by following the standard process. Herbarium should also be prepared in a standard process and be submitted to the authorised Herbarium units.



Ethnobotany

Ethnobotany is the base for most of the herbal medicines and advances in the drug discovery for enhancing health and treatment of diseases. Various plants have been used as medicinal sources since time immemorial and these knowledges are concentrated to the indigenous people or tribal people residing near the forest areas. Many times, research strategy made based on the ethnobotanical survey are proved more efficient than without it. Communication of local inhabitants following the standard methods of enquiring with a strategic form of questionnaires gives a researcher the basic knowledge as well as new information that can be adapted to more efficient hypothesis of the research work. APRF is documenting the ethnobotanical information from the state Odisha.

Wild Traditional Foods

Red Ants are eaten as food in the form of pickles, ground to chutneys, have with rice Pokhalo or with Handia (country liquor) in some region of the State. Survey was made by visiting the local markets of the Mayurbhanj and learnt and documented the way people collected the red ants, processed, sold or eat it. People were aware of the behaviour of the red ants with respect to the temperature of the environment. This response on environment, help them to collect the red ants while in inactive condition. Further research work is still in process at APRF, Odisha.

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Validation of Tribal claims

Survey work is followed by the analysis and validation of claims made by the informer during the survey. In case of medicinal values or food values, the said subject of interest is brought to laboratory for medicinal properties, or compounds, phytochemical analysis in case of plants, extraction of active compounds and select the experiment design to prove or disprove the expected claims. APRF plays a vital role in this aspect.

Flora Survey

Flora Survey is carried out by the APRF in different regions of the state Odisha. The surveys are made depending upon landscape, region or characters of plant. Landscape flora survey include Wetland flora, Coastal Flora, Riverine Flora. Region flora survey include Sukhasan Reserve Forest, MPCA Kapilash, etc Surveys with regard to plant characters include Climbers, Parasitic Plants, etc. Other medicinal plants surveys are mainly carried out in various regions of the State.

Survey on Parasitic Plants

Faunal Survey

Study on the behavior of faunal species is conducted on different species by APRF. Indian Giant Squirrel, Asian Elephant, Asian Water Monitor are some of the species that can be mentioned in these works. Feeding behavior, conservation related works have also been carried out for Indian Giant Squirrel and Asian Elephant. Certain species of plants have been crucial part of their feeding habit only during pain or during particular time of their life cycle.

Avifaunal Behavior

Survey on the behavior of the avifauna are carried out by APRF. A recent survey near the Mahanadi river and Daya river areas were done. Documentation was done on the feeding behavior of Rynchops albicollis also known as Indian Skimmer. The said avian species is fast declining due to the anthropogenic activities. Conservation strategies should be made sooner before such species are gone extinct. Understanding the behavior and ecology can be helpful in making a strategy of conservation. Documentation on the behavior of other species such as Lapwings and feeding habits of Pale capped pigeon were also made.

Ecological Correlation

Understanding the areas of evolution or wetlands, specific flora such as carnivorous plants gives an information of the disturbed ecology. The region where carnivorous plants are found are mainly associated with the deficiency of macro nutrients in the soil, acidic pH, and many times a polluted area. Different carnivorous plants of the genus *Utricularia* and *Drosera* have been found from unusual habitats including the coastal regions. Research work on these species are still in process.

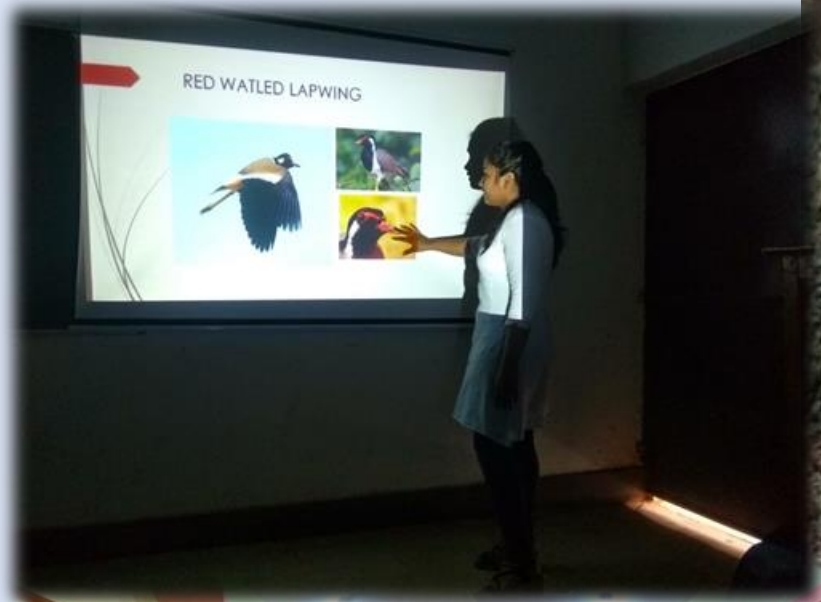
Medicinal Plants

R&D, Conservation & Awareness

Special importance is given by the APRF to the research in the Medicinal Plants, making Conservation strategy and Awareness program. Research on Medicinal Plants are not based on random selection of plants but on the ethnobotanical background or based the unique character of the plant species. With the increasing demand of herbal products of food and medicine, Conservation works in parallel to the research work is utmost necessary.

Conservation Research

A combined research on the floral faunal and ecological gives a combine data for making conservation strategies for faunal species. A preliminary work has been carried out on the feeding habit of Asian Elephant. This work is initiated to address the Human Wildlife Conflict that is currently the need of the situation. Every research on ecology, flora and fauna should have a conclusive part with regard to conservation because exploring on the benefits to mankind without sustainability or conservation will only be the cause of degradation for the entire biodiversity.



Training Programme

Free Awareness and Training programme are carried out on various areas such as Biodiversity & Medicinal plants; Medicinal Plants & Taxonomy in Field; Key characters in different Families; Carnivorous Plants; Biowealth of Odisha; Medicinal plants & Avifaunal diversity; Orchid & their secondary metabolites. Group discussions within the students or with invited Guest of specific expertise are also common. Recently online Training programmes on Identification of Medicinal Plants is introduced which is still the very active activity within different aspects of people.

Exposure to Field Survey

After a theoretical training programs, students are given opportunity to visit field survey and shown the practically with regard to the topic concerned. Many times, a broad discussion is done depending upon the flora or fauna or ecological evidences that are encountered. Field characterization of flora is a mandatory discussion in every field survey. Such demonstrative field survey understands the topic that was earlier discussed which would otherwise be of no use for the training.

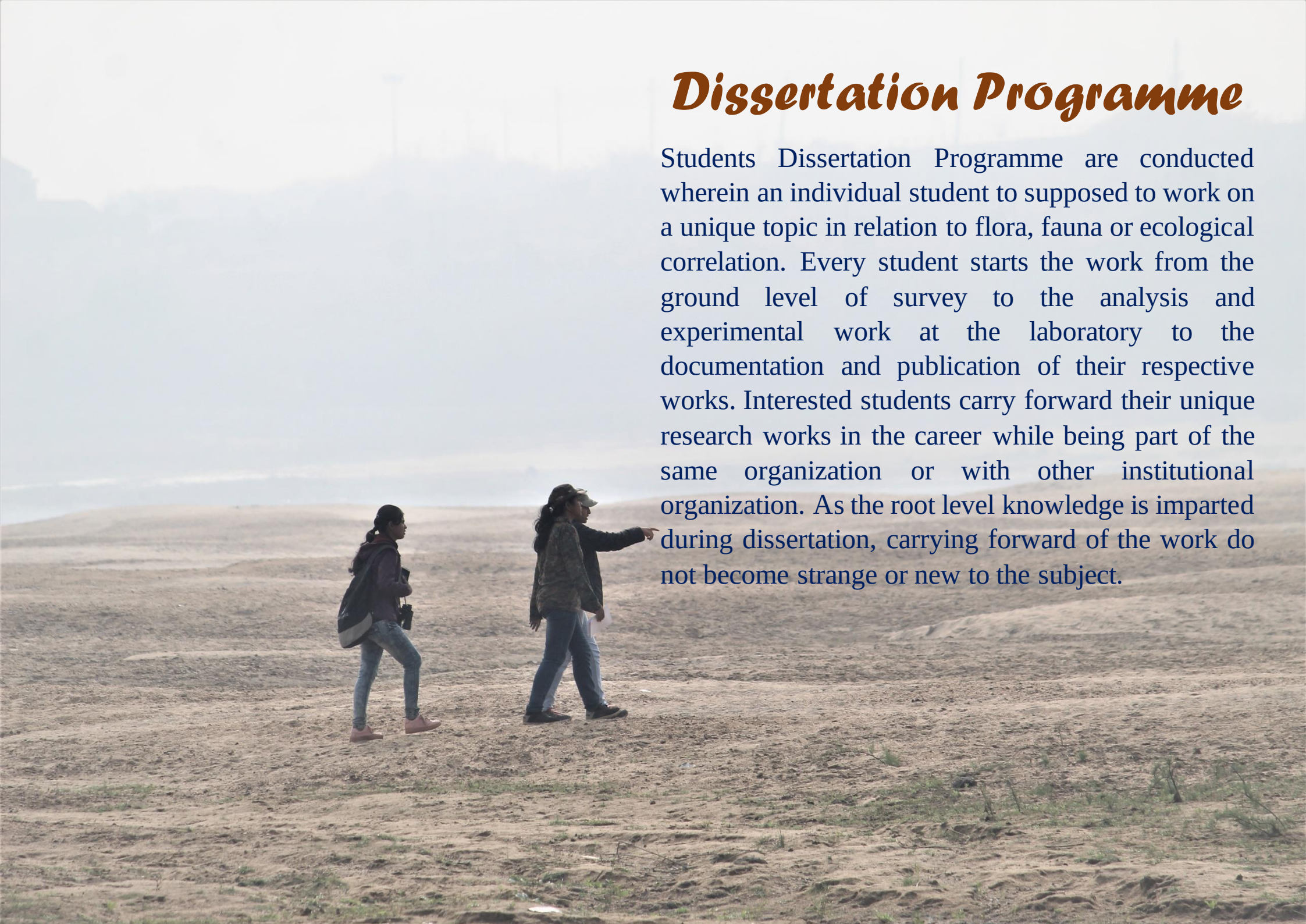
Seminar & Workshop

National Seminar on Identification and characterization of floral & faunal species and methods for the evaluation of their pharmacological values was held on 22nd-23rd April 2019 at Bhubaneswar, Odisha funded by National Medicinal Plants Board, New Delhi.

Workshop on Identification & Characterization of Medicinal flora & fauna and their interaction on 29th30th December 2019 at Bhubaneswar, Odisha funded by Ambika Prasad Research Foundation, Odisha

Dissertation Programme

Students Dissertation Programme are conducted wherein an individual student to supposed to work on a unique topic in relation to flora, fauna or ecological correlation. Every student starts the work from the ground level of survey to the analysis and experimental work at the laboratory to the documentation and publication of their respective works. Interested students carry forward their unique research works in the career while being part of the same organization or with other institutional organization. As the root level knowledge is imparted during dissertation, carrying forward of the work do not become strange or new to the subject.



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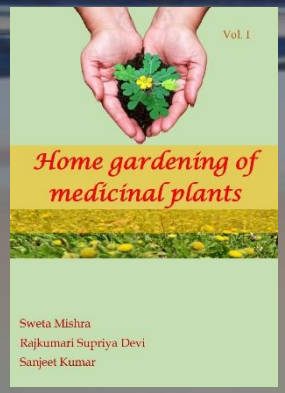

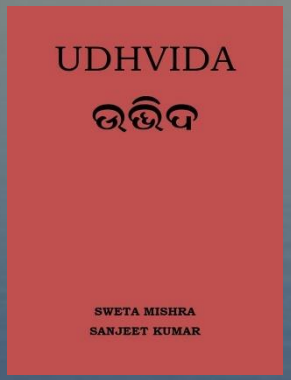

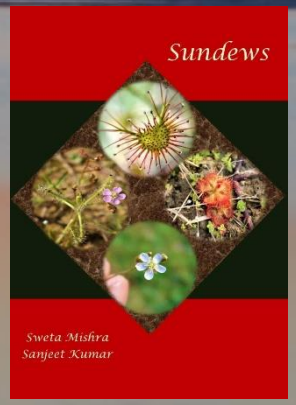

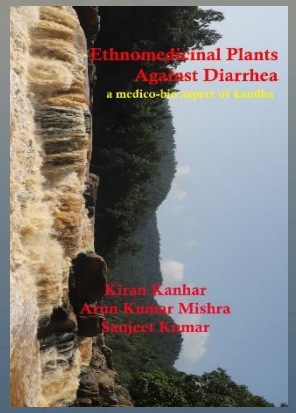

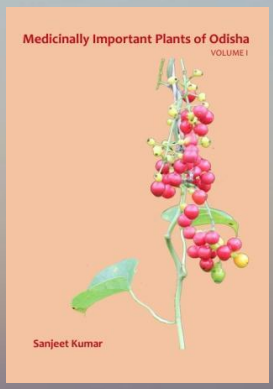

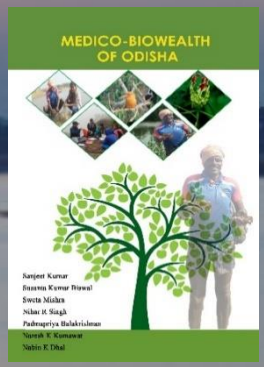

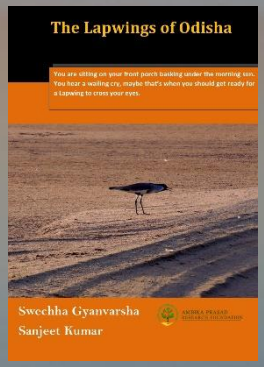

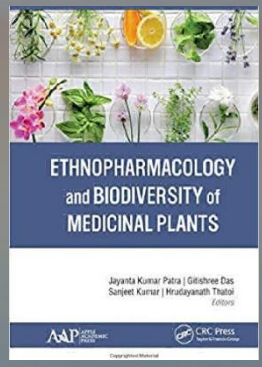

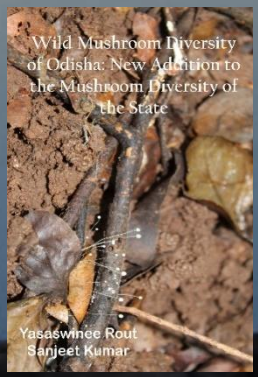

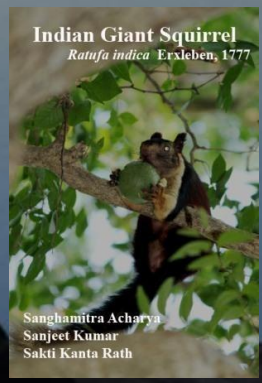

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