



**Online International Conference on
Frontiers in Biological Sciences
(INCFBS - 2023)**

11th March 2023

Organized by

DEPARTMENT OF ZOOLOGY

Dapoli Education Society's

**DAPOLI URBAN BANK
SENIOR SCIENCE COLLEGE, DAPOLI**

DIST.- RATNAGIRI, MAHARASHTRA, INDIA.

(PERMANENTLY AFFILIATED TO UNIVERSITY OF MUMBAI)

NAAC RE-ACCREDITED "B++" CGPA 3.003

Abstract Book

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| न हि ज्ञानेन सदृशं पवित्रमिह विद्यते ।



Dapoli Education Society's
DAPOLI URBAN BANK SENIOR SCIENCE COLLEGE DAPOLI
UNIVERSITY OF MUMBAI

(Permanently Affiliated by Mumbai University NAAC Re-Accredited "B++" CGPA 3.004)

Message



I am happy that the Department of Zoology of our institute organizing International Conference on frontiers in Biological Sciences (INCFBS-2023) to be held on 11th March 2023 through online mode, aims to provide a platform for dissemination of scientific research among eminent scientists, academicians and young researcher in the field of biological Sciences. The conference shall bring together aspirants from around the world to broaden the scientific field of vision and cultivate comprehensive thinking ability so that students and researcher can become outstanding scientists and contribute to the rapidly changing society and to the world as well. I am sure that during this international conference number of new ideas will emerge out and will be discussed. I appreciate the efforts taken by all members of organizing committee. I wish the conference a grand success.

Sandesh P. Jagdale

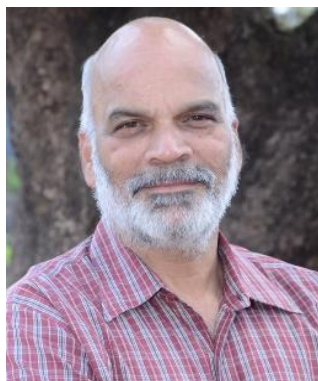
Dr. Sandesh P. Jagdale

Principal,

Dapoli Urban Bank Senior Science

Dapoli -Ratnagiri

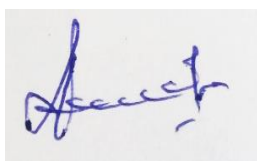
Message



It is indeed a matter of pleasure to note that Dapoli education society's, Dapoli Urban Bank Senior Science College, Dapoli has organized Online One day International Conference on Frontiers in Biological Sciences (INCFBS 2023) on 11th March 2023.

I hope the conference enhances professionalism and capabilities of all the participants which promotes towards the future advancement of academic profession. I wish the conference a great success.

I wish the organizers, resource persons, delegates very fruitful one day participation.

A handwritten signature in blue ink, appearing to read 'Prasad Karmarkar', on a light grey background.

Dr. Prasad Karmarkar
Chairman
Dapoli Education Society, Dapoli

Message



In this modern world lots of research work is carried out by the students teachers and research scholars. But due to certain reason their research is not disseminated to the community. It is great privilege to Department of Zoology, Dapoli Education Society's, Dapoli Urban Bank Senior Science College, Dapoli which has organized One day Online International Conference on Frontiers in Biological Sciences-INCFBS-2023. Conference is specially designed to provide platform for students, researchers and scientist to share their recent knowledge and ideas in the field of Biological Sciences. I am confident about this conference-INCFBS-2023 that it will provide excellent international forum for sharing knowledge and results in Biological Science.

Thanking you.

A handwritten signature in blue ink, appearing to read 'Rajendra S. More'.

Dr. Rajendra S. More
Organizing Secretary,
INCFBS-2023

Programme Schedule

Programme Schedule: Saturday, 11th March 2023.

09.30 a.m. to 10.00 a.m.	Inaugural function	<ul style="list-style-type: none"> • Hon. Mukund M. Chitale: Chief Guest President, Dapoli Education Society, Dapoli. District Ratnagiri, Maharashtra, India. • Hon. Dr. Prasad Karmarkar Chairman, Dapoli Education Society, Dapoli, District-Ratnagiri, Maharashtra, India. • Dr. Sandesh Jagdale Principal, Dapoli Urban Bank Senior Science College, Dapoli, District-Ratnagiri, Maharashtra, India
10.00 a.m.to 10.45a.m.	Keynote Address	<ul style="list-style-type: none"> • Dr. Sanjay Jagtap Ex-Joint Director, Higher Education (Panvel Region).
11.00 a.m. to 12.00 p.m.	Session: 1	<ul style="list-style-type: none"> • Dr. Prasad Karnik Consultant, Technical Director and Somnologist, International Institute of Sleep Sciences (IISS), Thane, Maharashtra (India) Topic: Recent Advances in Chronobiology/ Somnology Chairperson: Dr. M.N. Jambhale
12.00 p.m. to 01.00 p.m.	Session: 2	<ul style="list-style-type: none"> • Prof. Suvamoy Datta Dean, School of Sciences & Chairperson, Department of Microbiology Primeasia University, Dhaka, Bangladesh Topic: Molecular Pathogenesis of <i>Campylobacter jejuni</i>, a zoonotic foodborne pathogen. Chairperson: Dr. Dilip Kakvipure
01.00 p.m. to 01.30 p.m.	Lunch Break	
02.00 p.m. to 3.00 p.m. -	Session: 3	<ul style="list-style-type: none"> • Dr. Mandar Datar Scientist, Agharkar Research Institute, Pune, India Topic: Exploring the plateau flora of the Western Ghats: Endemism, Conservation Priorities and the impacts of climate Change. Chairperson: Dr. Shrinath Kawade
03.00 p.m. to 04.00 p.m.	Paper Presentations	
04.00 p.m. to 04.30 p.m.	Valedictory Function	<ul style="list-style-type: none"> • Dr. Rahul Jadhav Chief Guest: Principal, LGM College, Mandangad Maharashtra India. • Dr. S.P. Jagdale Principal, Dapoli Urban Bank Senior Science College, Dapoli, District-Ratnagiri, Maharashtra, India.

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SUBMISSION-1**A STUDY OF BUTTERFLY SPECIES DIVERSITY IN ST. XAVIER'S COLLEGE, RANCHI CAMPUS.**

John Osga*, Debasish Mahato, Pratibha Anjana Minz, Suman Herenj, Raj Laxmi Kunkal,
Sushmita Mahto, Mansha Khan, Riya Pratap, Manoj Kumar, Rakesh Ranjan,
Bharti Singh Raipat

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ABSTRACT:

The present study was carried out to understand and document the diversity and abundance of butterflies (Order Lepidoptera, Suborder Rhopalocera) in St. Xavier's College Campus, Ranchi, Jharkhand, India. The study was conducted for 3 months from August 2022 to November 2022. The objective of the present study was focussed on the preparation of a checklist of butterfly in the SXCRAN campus and find out the butterfly distribution pattern in the campus. During the present study we found a total of 13 species belonging to six different families. 4 species from family Nymphalidae, 3 species from family Pieridae, 3 species from family Lycaenidae, 1 species from family Hesperidae, 1 species from family Riodinidae and 1 species from family Papilionidae were recorded.

This study revealed that Nymphalidae is most dominating family with the highest number of species and individuals. The highest number of butterfly species 7 was recorded at site 2 (Micro Diversity Zone-II) followed by 4 species at site 1 (Micro Diversity Zone-I) and 2 species at site 3 (Micro Crops Zone). This is the first record of butterfly diversity in SXCRAN campus.

Key words: Butterflies, Nymphalidae, species diversity, Pieridae, Lycaenidae, Hesperidae, Riodinidae, Papilionidae.

SUBMISSION- 2**IS OUR DRINKING WATER SAFE? THE RISING CONTAMINANTS OF CONCERN.**

Mr Mohit Verma^{1,2}, Ms Twinkle Kumari Krishnan², Mr Ravi Verma² and Ms. Dolly Krishnan³

1. Deputy Project Manager, JUIDCO Ltd., Ranchi, Jharkhand
2. Members, Brainology Scientific Academy of Jharkhand, Ranchi- 834002
3. Founder Director (Research Wing), PI, Neuroscience and Microplastic Lab, Brainology Scientific Academy of Jharkhand, Ranchi- 834002, Email: dollykrishnanjnu@gmail.com
(Corresponding Author)

ABSTRACT:

There are already many challenges existing in providing pollutants free drinking water but we are witnessing new emerging threats like microplastics (MPs) which are not only affecting aquatic ecosystems but also posing threat to different forms of life including human beings. MPs have been speculated to cause troubles in respiratory tract, alimentary canal, reproductive systems of both men and women. It has been reported to have adverse effects on infants and growing kids. Few studies from the Indian states like Kerala, West Bengal etc have reported the high microplastic pollutants in their water bodies. Thus, these emerging problems of MPs need to be addressed and better arrangements need to be developed for its mitigation. This article addresses how WTPs (water treatment plants) can be enhanced with new perspectives by inclusion of modern engineering designs to cut out such contaminants at the supply source itself before reaching our houses.

Keywords: Microplastics, Aquatic plastic pollution, Civil engineering, Human Health

SUBMISSION-3**ARE MICROPLASTICS AFFECTING PORIFERANS?**

Madhvi Kirti¹, Neha Kumari¹, Medha Kumari², Dr. Priya Srivastava³ and
Ms. Dolly Krishnan⁴

1. MSc (Zoology) St Xavier's College Ranchi, Jharkhand
2. Brainology Research Fellow, Neuroscience and Microplastic Lab, Brainology Scientific Academy of Jharkhand, Ranchi- 834002
3. Assistant Professor, Zoology Department, St Xavier's College Ranchi, Jharkhand
4. Corresponding Author; Founder Director (Research Wing), Neuroscience and Microplastic Lab, Brainology Scientific Academy of Jharkhand, Ranchi- 834002, Email: dollykrishnanjnu@gmail.com

ABSTRACT:

Microplastics (MPs) are ubiquitous pollutants in marine environments, posing a significant threat to aquatic organisms and poriferans (Sponges) are also vulnerable to MPs contamination. Sponges are essential filter-feeding organisms in marine ecosystems and play important roles in nutrient cycling and energy transfer as well as providing link between various organisms from benthos and surface water column. Studies have shown that MPs can accumulate in sponges that may lead to various detrimental effects such as an induced oxidative stress, DNA damage, potentially leading to reproductive failure, population decline, reduced filtration rates and altered nutrient cycling, which can ultimately affect health of the ecosystem.

Although studies are going on all over the world, there is a crucial gap in knowledge regarding the fate of MPs after ingestion by sponges. Understanding the impact of MPs on sponges is critical for assessing the potential long-term ecological consequences of such pollution in marine environments. This study overviews the impact of MPs on sponges and the future perspective.

Key Words: Microplastics, Ubiquitous, Sponges, DNA damage, Pollution, Oxidative stress.

SUBMISSION-4**DO MICROPLASTICS AFFECT EARTHWORMS?**

Medha Kumari¹, Rahul Kumar², and Dolly Krishnan (PI)⁴

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ABSTRACT:

Microplastics are small plastic particles, typically less than 5mm in size, that are found in various environmental matrices, including soils. Earthworms or farmer's friends are important soil organisms that play a vital role in the functioning of soil ecosystems. However, the effects of microplastics on earthworms have not been fully understood yet.

Recent studies have investigated the effects of microplastics on earthworms and have found that they can negatively impact their physiology, behavior, and overall health such as obstruct their digestive system. Additionally, microplastics act carrier as it can release harmful chemicals that can accumulate in the earthworm's body, leading to long-term health problems and even death. Affected earthworm can affect the soil structure, nutrient availability, and water-holding capacity, which can ultimately affect the plants that depend on the soil for growth.

In conclusion, microplastics pose a significant threat to earthworms and soil ecosystems. Further research is needed to fully understand the long-term impacts of microplastics on earthworms and the soil ecosystem. Here we trying to summarise the potential effect of microplastic on earthworm.

Keyword: Microplastic, Earthworm, Ecosystem, Carrier, Ecosystem.

SUBMISSION-5**EFFECT OF ETHANOLIC PLANT EXTRACTIVES ON ECONOMIC CHARACTERS OF PATHOGEN INNOCULATED 5TH INSTAR SILKWORM, *BOMBYX MORI*****S.S. Bhaisare**

Loknete Gopinathji Munde, ACES college Mandangad, Ratnagiri.

Email: drssbhaisare81@gmail.com**ABSTRACT:**

Mulberry silkworm *Bombyx mori* being an economically important insect. Proper management and protection of silkworm from diseases and pests is the greater success of sericulture productions. Due to the several years domestication of mulberry silkworm, it loses its fighting capacity against pest and diseases, and hence silkworm *Bombyx mori* is very much susceptible to pest and diseases. The numbers of plants products contain bioactive compounds which acts as insect growth regulations, phagostimulant, JH analogues pesticides antimicrobial agents etc. In this research 3000, 5000 and 8000 ppm concentration of ethanolic extractives of *Eupatorium odoratum*, *Hyptis suaveolens* and *Aegle marmelos* area used, and tested on mulberry silkworm of fifth instar larvae of PM and PMxCSR2. The 8000 PPM extractives of *Aegle marmelos* showed promising result and reduced BmNPV 30 to 40%. The result were analyzed in light of references.

Keywords: *Silkworm larvae, PM and PMxCSR2, Eupatorium odoratum, Hyptis suaveolens and Aegle marmelos.*

SUBMISSION-6**IMPACT OF HEAVY METALS ON FISHES**

Diksha Rani¹, Dr. Priya Srivastava² and Ms. Dolly Krishnan³

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ABSTRACT:

India is the second largest fish producing country in the world accounting for 7.56 percent of global production. According to the Food and Agriculture Organization (FAO) report “The State of World Fisheries and Aquaculture 2018” apparent per capita fish consumption in India lies between a range of 5 to 10 Kg. Heavy metals present in the water bodies have a negative impact on fishes. Elements with density $>5g/cubic\ cm$ such as mercury, cadmium, copper, lead etc are called heavy metals. Heavy metal accumulation poses a threat to cause infertility in fish populations. Their high concentration affects the physiology and biochemical parameters of fish tissues, and it disturbs biochemistry in normal metabolic processes. Lipid concentration is minimum in those organs of the fishes where the concentration of heavy metals is maximum. Heavy metal accumulation reduces the lipid content. Due to the bioaccumulation of heavy metals, humans are also exposed to its high levels from aquatic food like fishes. Correlation analysis (CA) and principal component analysis (PCA) are common tools for studying heavy metals in a water environment. Hazard quotient (HQ), hazard index (HI) and carcinogenic risk (CR) are commonly used to assess human health risks of heavy metals. Thus, in this article, we have summarized the effects of heavy metals on fish reproductive biology and its stress response in correlation to impacts on humans.

Keywords: Fish Farming, Heavy Metals, Detrimental Impact, Contamination, Infertility, Bioaccumulation

SUBMISSION-7**AN ACCOUNT ON DUST ABSORBING INDOOR PLANTS**

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Abstract:

Owing to large scale industrialization and rapid urbanization, the world has become more prone to diseases caused by air borne particles. Mankind has become more susceptible to smoke, dust and soot.

Usage of three-layered masks have reduced these threats considerably but special care and management should be taken for the air borne particles which penetrate our house. Major advancement has also been due to increased consumption of shampoo, soaps and detergents which may pose as an environmental hazard in the long run.

Particulate matter, PM, or particle pollution refers to a combination of solid particles and liquid droplets found in the air. Some examples are dirt, dust, smoke, and soot that can be seen with naked eyes. Long exposure to these particles can cause breathing and lung issues in the long run. Houseplants with large, shiny, and waxy foliage, provide extensive surface area to attract and capture dust. Just like outdoors, indoor plants trap these dust particles through an unambiguous process and release fresh air. Some of the best ones for this purpose are Hoyas, philodendrons, anthuriums, water lilies, etc.

According to this study, foliage with a greater amount of pubescence and rough surface accumulate a higher amount of particulate matter. You can grow plants like fiddle leaf fig, snake plant, mums, purple smoke tree, purple fountain grass, and croton.

Keywords: Particulate Matter, breathing issues, allergies, dust absorbant, air borne, foliage.

SUBMISSION-8**OVERCOMING THE DOPAMINE TOXICITY BY SOCIAL MEDIA**

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ABSTRACT:

Social media platforms have become an integral part of our daily lives, changing the way we interact with others and consume information. Recent research suggests that social media can affect the release of dopamine, a neurotransmitter associated with pleasure and reward. Social media companies use various features such as likes, comments, and notifications to trigger the release of dopamine in the brain, leading to feelings of pleasure and satisfaction. However, this constant stimulation can also lead to addiction-like behaviors and have negative impacts on mental health. Moreover, social media algorithms are designed to maximize user engagement, which can create a cycle of constant dopamine-seeking behavior. In this article, we have tried to summarize how we can break this dopamine circuit and overcome dopamine toxicity mainly via lucid dreaming.

Keyword: Dopamine toxicity, Lucid Dreaming, Neurotransmitter, Social media addiction

SUBMISSION-9**PLANTS FINDING CRIMINALS**

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ABSTRACT:

Plants have been used in forensics for various purposes, such as determining the time of death, identifying the origin of a person or item, and detecting poisons. The use of plants in forensics is based on the fact that plants have specific growth patterns and distributions that can reveal information about the environment and circumstances surrounding a crime. The analysis of pollen and spores found on a corpse or at a crime scene can provide valuable evidence in forensic investigations. Moreover, plant DNA analysis has become an increasingly important tool in forensic botany, allowing for the identification of plant species from small or degraded samples. In addition to these applications, plant compounds have also been used as indicators of drug use, as well as in the development of new forensic techniques, such as the use of plant pigments to enhance fingerprints. The integration of plant-based evidence with other forms of forensic evidence can provide a powerful tool for investigators in solving crimes. Necrobiome can be used to detect where the body has been buried. One can detect the year of the buried body through the roots of the growing plants by herbo chronology. Thus, in this article we have summarized how plants are instrumental in solving cases.

Keywords: Plant in criminology, Necrobiome, DNA fingerprinting, Herbo chronology

SUBMISSION-10**EFFECTS OF DIFFERENT HOST SPECIES ON BIOLOGICAL PARAMETERS OF
*BRACON HEBETOR SAY***

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Department of Zoology,
Bhagwan Mahavidyalaya Ashti, Dist- Beed (MS)**ABSTRACT:**

Bracon hebetor (Hymenoptera: Braconidae) is a larval ectoparasitoid that parasitizes wide range of lepidopteron host, due to its high host finding ability. It is used as biocontrolling agents of many field crops and stored products pest. Mass production of parasitoid under laboratory condition depends on suitable host. Hence in the present study biological parameters of *Bracon hebetor* studied on different host under laboratory conditions, so as to determine suitable host for mass multiplication of parasitoid *Bracon hebetor*. We compared biological parameters of *Bracon hebetor* on three different lepidopteron host species, viz, *Corcyra cephalonica* (pyralidae) *Helicoverpa armigera* (Noctuidae) and *Maruca vitrata* (Crambidae). We studied developmental period, hatching percentage, parasitic potential, fecundity and longevity. Present study carried out in the month of February 2021 under laboratory conditions at room temperature. We obtained best result on *Corcyra cephalonica*. Highest biological activities were proved by *Bracon hebetor* reared on the host *Corcyra cephalonica* with respect to parasitism, hatching, fecundity and longevity as compared to rest of the host species tested. Lowest biological activities by *Bracon hebetor* were found on the host *Helicoverpa armigera* and Intermediate on the host *Maruca vitrata* short duration was required to complete life cycle of *Bracon hebetor* on the host *Corcyra cephalonica* followed by *Maruca vitrata*. *Corcyra cephalonica* found suitable host for mass production of *Bracon hebetor* in the laboratory. Parasitoid *Bracon hebetor* can be used for field applications to control economically important pests of field crop *Helicoverpa armigera*, *Maruca vitrata* and stored product pest *Corcyra cephalonica*.

Keywords: *Bracon hebetor*, *Helicoverpa armigera*, *Maruca vitrata*, life stages, lepidopteron host, ectoparasitoid, polyphagous, biological parameter, biocontrolling agent.

SUBMISSION- 11**MORPHOLOGICS OF THE TUNNELS BUILT BY MUGGER CROCODILES *CROCODYLUS PALUSTRIS* (LESSON 1831) OF SAVITRI RIVER AT MAHAD, MAHARASHTRA, INDIA.**

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ABSTRACT:

14 out of 18 species crocodiles and 2 species of alligators are known to build tunnels. Mugger, Indian Marsh Crocodile, *Crocodylus palustris* (Lesson 1831), is one of the three crocodylian species found in India, which is known to build tunnels. Muggers of Savitri River are being monitored since 2014 to understand their population dynamics and ethology. The peculiar behaviour of mugger to build tunnels was monitored since 2016 at riparian habitat of river Savitri, Mahad, Maharashtra. Muggers build tunnels for two major purposes, resting and nesting. These tunnels are specifically built with respect to purpose of resting or nesting or for both resting and nesting together. The shape and size of these tunnels change with the purpose for they are being used. The resting tunnels which are built nearly 25 to 30 feet above water level, are long and have tunnels within tunnels, with mouth of the tunnel usually small which widens inside. The nesting tunnels have peculiar semi-circular shape with a mound at the mouth, mostly built at water level so that the hatchlings can easily get into water after birth. The tunnels not only help the Muggers to rest and nest but also provide means of temperature regulation. In this paper the morphologies of the tunnels of resting have been discussed.

Keywords: Mugger, *Crocodylus palustris*, Savitri River, Tunnel, Behaviour

SUBMISSION- 12**EFFECT OF WATER QUALITY ON REPRODUCTIVE HEALTH OF MOSQUITO FISH.**

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ABSTRACT:

Mosquito Fish also referred as *Gambusia affinis* are widely used for controlling mosquito populations, making their reproductive health a crucial factor for their effectiveness. These fishes are native to fresh waters of the south-eastern United States but widely introduced in other parts of the world for mosquito control like in India it is introduced from Italy (*G. Holbrooki* and *G. Affinis*). They eat mosquito larvae as they hatch from the eggs laid by mosquitoes, thus reducing the mosquito population. Mosquito fishes are very adaptable, tolerant of wide range water quality but its expansion is limited by severe climate and condition of fresh water. Water quality can have a significant impact on the reproductive health of Mosquito Fish, also known as *Gambusia affinis*. Anthropogenically increased nitrate concentration in freshwater affects reproductive health of both male and female *Gambusia* fishes. Understanding the relationship between water quality and reproductive health in Mosquito Fish is important for effective population management and mosquito control. This study examines the effect of water quality on the reproductive health of Mosquito Fish.

Key Words: *Gambusia affinis*, Reproductive Health, Hormone Levels, Fertility, Anthropogenically

SUBMISSION-- 13**CANCER TESTIS ANTIGEN: A POTENTIAL THERAPEUTIC TARGET FOR
DETECTION AND DIAGNOSIS OF BREAST CANCER**

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ABSTRACT:

Cancer-testis antigens (CTAs) are a group of proteins that are normally expressed in germ cells, but are also found in various types of cancer. In breast cancer, CTAs have emerged as potential targets for immunotherapy, due to their high expression levels and immunogenicity. Recent studies have shown that several CTAs, including SAPG9, AKAP4, MAGE-A, NY-ESO-1, and CTAG1B, are highly expressed in breast cancer and are associated with poor prognosis. These CTAs have been shown to promote tumor growth, metastasis, epithelial to mesenchymal transition and resistance to chemotherapy, making them attractive targets for therapy. Several xenograft studies demonstrated that ablation of these CTAs using shRNA approach results in upregulation of proapoptotic molecules such as p21, Cyto-C and Caspases, and results in decrease in tumor growth. In conclusion, CTAs represent a promising class of biomarkers and therapeutic targets in breast cancer. Our studies will focus to elucidate their exact roles in breast cancer development and progression, as well as to optimize their clinical utility in the diagnosis and treatment of this disease.

Keywords: Cancer-testis antigens, Breast cancer, Xenograft, Biomarker

SUBMISSION- 14**DISEASES STAGGERING THE STAPLE FISH PRODUCTION IN JHARKHAND**

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ABSTRACT:

Fisheries are the most prominent sector in India which contributes around 1% to India's GDP and will produce 141.64 lakh tonnes of fishes in the period 2019-20. Jharkhand is producing 1.9 lakh metric tonnes of fish annually against the estimated annual demand of 2.25 lakh tonnes of fish. This shortage of demand is due to several reasons in which one of the major reasons is diseases caused by microorganisms such as parasites, bacteria, viruses, etc. Although microorganisms are beneficial for the environment, they also cause several diseases in fishes which affect the fish production. Among all the diseases, parasitic diseases (74.88%) and bacterial diseases (12.79%) are the major causing microorganisms. Temperature and sanitary state of the aquatic environment are one of the major factors for the occurrence of symptoms of diseases. Humans are also infected from the pathogens of bacterial fish diseases such as *Mycobacterium marinum* bacteria that cause skin lesions (usually in hands) and Salmonellosis bacteria that causes abdominal pain, diarrhoea, etc. In this study, we have explored and summarised the impact of diseases on fishes which are staple to Jharkhand.

Keywords: - Fishes, Microorganisms, Pathogens, Diseases, Impact on humans.

SUBMISSION- 15**STUDY OF ANTIMICROBIAL ACTIVITY OF TISSUE EXTRACTS OF BIVALVE *GELOINA PROXIMA* (PRIME, 1864) FROM DAPOLI COAST OF RATNAGIRI DISTRICT M.S. (INDIA).**

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ABSTRACT:

Mangrove bivalve *Geloina proxima* of family Corbiculidae is one of the most dominant indigenous giant mangrove bivalve of Dapoli coast. It has great commercial value and biodiversity importance. Despite their economic importance and food potential, this bivalve has received very little attention. Hence, its potential antibacterial activity against human pathogenic bacteria is assayed. The foot and gills tissue extracts were prepared in 06 different solvents and assayed for antibacterial activity by using disc diffusion method against 08 different human pathogenic bacteria. Among the extracts, the Butanol, Ethanol, Methanol, Acetone and Hexane crude extracts showed potential antibacterial activity for most of the pathogenic bacteria. The foot extracts in Butanol and gill extracts in Ethanol have showed higher activity with maximum inhibition zone.

Keywords: Bivalve, *Geloina proxima*, Antimicrobial, activity.

SUBMISSION- 16**FORMULATION OF HERBAL TABLETS: AS AN EFFECTIVE SOLUTION FOR GRAIN PEST CONTROL.**

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ABSTRACT:

One of the basic human needs is food. It is observed that food grain storage is very difficult due to the great chances of their damage by grain pest. As a result, the quality and market price of food grains are reduced. In an urban area, the grain is stored in large quantities in places like supermarkets, grocery shops where we buy it, they apply a lot of chemical pesticides on grain to control pest and this type of grain is harmful for human consumption as this food sources will ultimately increase bio-magnification in humans. The literature describes the use of one or two plants or herbs by the people from India and Asia to control the store grain pests. Natural resources such as Neem, clove buds, Indian prickly ash can be used to control pest in store grain. These resources have been used traditionally from many years. Accidental intake of Commercial products made from Neem, Indian prickly ash, clove buds for grain storage have no side effects as they are having medicinal properties. Literature review has shown that no references are available of herbal tablet preparation for grain pest control. Through this study we wanted to prepare an easy to use and effective and formulated herbal product to control grain pest which can be prepared by natural ingredients. Such product can be made available everywhere for human utilization.

Keywords: Grain pest, food quality and shelflife, herbal tablets, biological pest control.

SUBMISSION-17**MEDICINAL USES OF WILD HERBS FROM FOREST AREAS OF SINDHUDURG DISTRICT**

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ABSTRACT:

Medicinal plants (medicinal herbs), have been discovered and used in traditional medicine practices since prehistoric times. We have used medicinal plants for millions of years in form of extracts, chemicals, various tablets, ointments as well as oils for various ailments, painkillers and cosmetics and this plants are very well demand in Ayurveda, Unani, Homeopathy, Allopathy and other methods. There are varieties of medicinal plants in India & Forests are the natural reserves as India is the only country that supplies medicinal plants to the whole world. Due to the unceasing & rapid pace of deforestation, many plants have been abolished and some are on the verge of extinction. Plants synthesize hundreds of chemical & phytochemicals compounds. Considering the fact, knowledge gained from the 'Vaidu' will acquaint everyone about its therapeutic uses & will help to reduce misunderstandings. People will start commercial plantation of herbs/plants resulting in an economical boosting of that area. Up till now, flawed information on uses of medicinal plants has created a negative impact in the minds of social media. So, this paper will co-operate/support to improve the trust and belief about the undoubted facts created on social media to be totally wrong.

Keywords: Medicinal Plants, Use, Wild, Herbs, Sindhudurg

SUBMISSION-18**STUDIES ON CALCIUM AND PHOSPHORUS CONTENT OF MANGROVE CLAM *G. PROXIMA* (PRIME, 1864) FROM DAPOLI COAST OF RATNAGIRI DISTRICT.**

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ABSTRACT:

G. proxima is most important indigenous mangrove clam of the Dapoli Coast and is found dispersed in almost all localities of the Dapoli coast. In this study attempt have been made to find out the most important minerals- Calcium and Phosphorus content from the different tissues viz. foot, gill, hepatopancreas and in male and female gonads of clam *G. proxima* during the period June 2012 to May 2013. The analysis of the minerals content in *G. proxima* showed that this clams has a good source of minerals both quantitatively and qualitatively. It contains good amounts of calcium, phosphorus. Both the Calcium and phosphorus content found high in foot and gill tissues than the male and female gonads. However, there are considerable seasonal variations recorded in the Calcium and phosphorus contents of the *G. proxima* during this study period.

Keywords: Mangrove, Clam, Calcium, Phosphorus, Content.

SUBMISSION- 19**QUALITY PRESERVATION AND SHELF-LIFE EXTENSION OF *MALUS DOMESTICA* USING EDIBLE COATING**

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ABSTRACT:

The main objective of this study was to increase the shelf life of *Malus pumila* by using edible coating. Fruits and vegetables are rich sources of micronutrients and macronutrients. They are reservoir of antioxidants, bio-flavonoids, dietary fibres, and flavouring compounds. Consumption of fruits and vegetable decreases the danger of the development of chronic diseases such as hypertension, coronary heart disease, asthma etc. Apple is commercially the most important fruit and is widely produced fruit and used in the world. The fruits have short shelf life due to its perishable nature. Post-harvest Storage of fruit is one of the serious problems because of rapid deterioration during handling, transport and storage. Wax coating is used mainly to preserve the fruits and to refract its colour which can be carcinogenic to the health. Edible coating is one of the technology which is considered as one of the potential approaches for meeting this demand. The present study is carried out to increase the shelf life of apple using edible coating of Gum Arabic with various concentration like with aqueous solution of apple peel. It is observed that using 3%,5%, and 10% coating reduce/control the loss of post-harvest fruit quality as compare to uncoated(control). The fruits were stored at room temperature for 25 days. Physiological loss in weight, PH, sensory characteristics (colour, taste and firmness) were analysed at regular intervals during the storage period. The coated fruits survived the storage period of 15 days, whereas all the uncoated fruit (control) decayed within 7 days.

Keywords: Antioxidant, Gum Arabic, Shelf life, Dietary fibre

SUBMISSION-20**SCREENING OF CERTAIN MORPHOGENETIC TRAITS IN RANDOM HUMAN POPULATION OF KALYAN DOMBIVLI MUNICIPAL CORPORATION.**

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ABSTRACT:

Kalyan Dombivli Municipal Corporation (KDMC) is one of the renowned city of Maharashtra where peoples migrate from different regions to get employed in the industrial area. The objective of this survey is to evaluate the phenotypic frequencies of dominant and recessive allele in random human population. A total of 500 individuals were screened for this study. In population, the phenotypic ratio of free earlobes (69.4%), rolling of tongue (56.8%), presence of widow's peak (45.20%) and individuals with dimple chin (30.80%) are surprisingly found to be highly changed. The calculated chi-square values of pair of contrasting characters like earlobes free or attached, rolling tongue and non- rollers, widow's peak and dimple chin present or absent are 8.36, 88.32, 236.80 and 520.96 respectively. Therefore, earlobes nearly follow Mendelian ratio as 3:1 while rolling tongue, widow's peak and dimple chin elicit high degree of genetic variability in random population.

Key words: random population, Phenotype, Gene frequencies.

SUBMISSION-21**TRIBALS EXPLORING IDENTITY IN SUSTAINABLE AGRICULTURE:
A SOCIOLOGICAL ANALYSIS.**

Sandhya Bhengra

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ABSTRACT:

Tribals are the people of forest. They have their own way of life. The Tribal community in India have developed their identity in close proximity to the natural resources around which they had developed their cultural traditions, economy, social control mechanism, religious myths and techniques of production in which agriculture acts as important means of their survival. The tribals are intelligent and have made agriculture sustainable through their agricultural practices. Knowingly or unknowingly, they have created a balance between the environment and requirement. They hardly over harvest anything from the nature or forest. Even though they sometimes starve, they never over utilise the forest resources which is abundant because they think for the future. This article examines the identity of tribals in relation to nature and ecosystem leading to sustainable agriculture. This article highlights the area of tribal identity with traditional beliefs, cultural practices and technology of production in agriculture promoting sustainable agriculture. This article concludes with the findings that tribals with their traditional knowledge and cultural practices promotes the path of sustainable development in agriculture conserving ecosystem along with the suggestions to appreciate the traditional knowledge and cultural practices of tribals leading to sustainable development in agriculture in negotiation with governmental policies.

SUBMISSION-22**AVIAN DIVERSITY AND ABUNDANCE AT KASHELI VILLAGE OF RATNAGIRI DISTRICT, MAHARASHTRA.**

Mohini Balasaheb Bamane¹, Ambadas Ramchandra Rodge², Prasad Sutar³ Dr. Madhura Deepak Mukadam⁴, Sonali Mestri⁵

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ABSTRACT:

The present study was conducted in Ratnagiri district of state Maharashtra. The total area of the district is 8208 sq. km. The Ratnagiri district area is blessed with various types of topographic area where there is coastline as well as wetlands and grasslands. Area of Ratnagiri comprises hills, shallow areas and plain lands. The climatic conditions are semi-arid and tropical monsoon. Post monsoon there are some lands which are sustained as a wetland for brief period (October to February). These wetlands provide foraging site for migratory birds.

Birds are the most amazing and unique creatures of the nature. They play a critical role in reducing and maintaining population of insects in natural ecosystem. This study was conducted during January 2021 to January 2022 in the Kasheli area of Ratnagiri district and observed total 90 species of birds, belonging to 45 different families were found during survey. Some species of birds are 'Nearly threaten' and some are 'Vulnerable' species other birds are fall in 'Least concern'.

Keywords: Birds, Kasheli, Wetlands, Least concerned, Ratnagiri.

SUBMISSION-23**DIVERSITY AND ABUNDANCE OF INSECT POLLINATORS ON CHILI
(CAPSICUM ANNUUM L.)**Archana H. Patil ^{a, b}, Sandesh P. Jagdale ^a

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- b. Department of Zoology, S. M. Joshi College Hadapsar, Pune. 411028 (Maharashtra), India.

* Corresponding author. Email: archanahpatil1@gmail.com**ABSTRACT:**

The insect pollinators make significant ecological and agricultural contributions. Pollinator diversity is influenced by habitat quality and food accessibility. The variety and abundance of insect pollinators on chili from the Satara district between 2018 and 2021 are highlighted in this study. The scan sampling method was used to observe insects between 2018 and 2021. In the open pollinated plots, the insect pollinators were counted during the height of blooming. From Chili flowers, the number of insect visitation was counted for 10 minutes per hour. A total of 4828 insect pollinators were recorded of which all the insect pollinators observed were belonged to twenty-four species, twenty genera of eleven families under four orders. Maximum number of pollinator species belonged to the order Hymenoptera (Fifteen species) followed by the order Diptera (four species) and Lepidoptera (four species) followed by the order Hemiptera (One species). Of all the species pollinators from the order Hymenoptera were the most abundant (62%), followed by the orders Lepidoptera (17%) and Diptera (17%), and finally the order Hemiptera (4%). Among all the species *Apis dorsata* were dominant species.

Keywords: Abundance, Chili, Cross-pollination, Insect pollinator.

SUBMISSION- 24**IDENTIFICATION OF MANGROVE PLANT SPECIES IN MANDAVI BELT
OF VENGURLA, SINDHUDURG.**

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ABSTRACT:

Mangroves are unique coast vegetation almost ecological importance in the sense that in addition to supporting in the growth of coastal area. Small and large trees, shrubs and their species growing in brackish water along the sea coast are sedges, along with other species such as animals, birds, insects etc. together they form the mangrove ecosystem or kandalvan. Sindhudurg the southernmost district in Maharashtra, covers only 3.8 percent the total mangrove vegetation in the state. 8 to 10 mangrove plant species are found on Mandavi belt, Vengurla, Sindhudurg. In addition, color photographs for several species were provided. The objectives were to study species richness and to identify plant species given area. The study was taken to investigate the status of mangrove plant diversity in Mandavi belt Sindhudurg Maharashtra. during study 8-10 mangrove plant species found in Mandavi belt. The study demonstrated that the Mandavi belt is greater diversity of floral species of mangrove.

Key Words: Mangrove, Mandavi belt, Sindhudurg, Maharashtra.

SUBMISSION-25**RIPARIAN INFLOW OF TILAPIAN SPECIES IN CHIPLUN AND KHERDI FISH MARKETS**

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ABSTRACT:

The survey was conducted in local fish markets in Chiplun and Kherdi (The adjacent town near Chiplun city), tal.- Chiplun, dist.- Ratnagiri during 5th of January to 15th of March, 2020. In the survey the inflow of two tilapia species was checked by weighing fishes captured by local fishermen from Vashisthi River and its tributaries nearby Chiplun city. In the survey we observed that, *Oreochromis mossambicus* was dominating Chiplun local fish market, the area closer to creek, while in Kherdi local fish market dominance of *Garra Mulya*, eels and barbs was seen.

Key words: Riparian fish flow, Tilapia, Chiplun, Kherdi, Local Fish Market.

SUBMISSION- 26**STUDY OF PHYSICOCHEMICAL PARAMETERS OF RAITOLLEM LAKE OF CURTORIM, GOA**

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ABSTRACT:

Lakes play a vital role in an ecosystem. The present study emphasizes on the water quality of freshwater lake of Goa. Curtorim village in Goa is drained by six lakes of which Raitollem has been considered in this research study. This paper narrates how the various physical and chemical aspects affect quality of water body and other associates. Analysis of various chemical parameters like acidity, calcium, iron, nitrate, total dissolved solids, chloride, hardness, magnesium, alkalinity, phosphate and nitrate was done. Physical parameters such as surface temperature, pH, colour were also noted at the study site. It was concluded that the water of this lake is pollution free and has a good quality, and with proper pretreatment it can be used for consumption purpose.

Keywords: *Raitollem Lake, Physicochemical parameters, Water quality, Pollution*

SUBMISSION-27**ICHTHYOFAUNAL DIVERSITY FROM GANESHGULE, RATNAGIRI, WEST COAST OF MAHARASHTRA.**

Ms. Tanvi Subodh Rangankar, Ms. Rakhi Sandip Rangankar, Ms. Bhakti Yashwant Salakar and Dr. Madhura Deepak Mukadam.

ABSTRACT:

The Ratnagiri district is known for its long coast line and convenient harbours, together with its comparative nearness to the Arabian Coast. It is one of the most important maritime districts of the State with the coastal belt extending to about 167 kms. Fishing industry in the district is mainly dependent upon the exploitation of marine resources. The ichthyologic fauna of Ratnagiri district is very rich comprising a good number of varieties viz. prawns, sharks, skates, rays, mackerals, sardines, tuna, surmai, pomfret, dagol and catfish. Fishing season commences from September and lasts till the end of May. The current study deals with fish diversity undertaken during period August 2022 to November 2022 to demographic and marketable inessential fishes. The present study deals with the variety and abundance of marine water fishes in Ganeshgule, Ratnagiri Dist. (M.S) India. The outcome of present examination reveals the event of 16 fish species belonging to 7 orders and 11 families. The prominent species were sea bass, mangrove red snapper, groupers, mullets etc.

Key Words: Arabian coast, fish species, mullet, groupers

SUBMISSION-28

A NEW LOCALITY RECORD FOR PLANT SPECIES *TRICHOLEPIS AMPLEXICAULIS* C.B. CLARKE (ASTERACEAE) IN RATNAGIRI DISTRICT, MAHARASHTRA.

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ABSTRACT:

Tricholepis amplexicaulis C.B. Clarke (Asteraceae) a plant species was collected and reported first time from Chandranagar village of Dapoli Tahasil which is situated near the Dr. Balasaheb Sawant Konkan Krishi Vidyapith (BSKKV) Dapoli in Ratnagiri district, Maharashtra This makes another locality record for a plant species *Tricholepis amplexicaulis* in Ratnagiri district. The present investigation reports a detail taxonomic description along with colour photographs and medicinal information of the species to validate the new locality report and easy identification of the species.

Keywords: *Tricholepis amplexicaulis* C.B. Clarke, BSKKV, locality record, Chandranagar.

SUBMISSION-29**ISOLATION OF BIOPOLYMER PRODUCING BACTERIA AND QUANTIFY THE BIOPOLYMER**

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ABSTRACT:

PHA and PHB was prepared from the bacterial species isolated from oil contaminated soil. One efficient producers were proceeded for Biopolymer production. Four crude sources used like Grease, Sunflower oil, olive oil and coconut oil for production. The isolates were biochemically characterized by Bergey's Manual of Systematic bacteriology. Also staining method was used that indicate the presence of PHA and PHB granules. The produced PHA and PHB was confirmed by colorimetric assay method. Better production was observed with grease and olive oil.

Keywords: Biopolymer, PHA and PHB, Staining, *Pseudomonas* spp.

SUBMISSION- 30**STUDY OF LIPID CONTENT FROM *ETROPLUS SURANTENSIS* FISH OF JAGBUDI RIVER OF KHED TEHSIL OF DIST. RATNAGIRI. (MS)**

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ABSTRACT:

The lipid and their constituent fatty acids are the principle organic constituent of fish along with protein. They serve as important role in metabolic energy source for growth, reproduction, movement including migration. The richness and distinctiveness of fish lipid arouse people interest for long time. The fish is most important source of lipid and protein. The *Etroplus suratensis* (Green chromide) is most common and cost-effective fish is abundantly occur in Jagbudi river khed. The purpose of the research is to find out the seasonal variation of lipid content in fish *Etroplus suratensis*. The lipid content was extracted by Bloch method which is commonly used method to extract the lipid from fish. The study was carried out during June 2021 - May 2022. In this study, the maximum value of lipid extracted from fish tissue is 0.4%. and hence, this fish forms vital source of lipid content.

Key words: Lipid, *Etroplus suratensis* Fish, Jagbudi river, Khed.

SUBMISSION-31**ESTIMATION OF PROTEIN CONTENT FROM INDIAN MACKEREL *RASTRELLIGER KANAGURTA* OF DAPOLI COAST, DISTRICT RATNAGIRI.**

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ABSTRACT:

Fish and fish products are the commonly available protein sources for human beings. Indian mackerel is one of the favoured table fish sold in market of different countries. Indian mackerel is characterized by dark muscle because of its high content of myoglobin protein. This study aims to find out the protein content in mackerel fish by Lowery et.al. method. Fresh mackerel fish (*R. Kanagurta*) were purchased from local fish market of Dapoli. The muscle extract samples were analysed to estimate the protein content of the mackerel fish by using Lowery et.al. method. The protein quantification is measured by using standard graph and concentration of protein from muscle sample is noted. It is observed that the Indian mackerel has a very good amount of protein content.

Keywords: Protein, estimation, Mackerel, Dapoli coast.

SUBMISSION-32**PHYSICOCHEMICAL ANALYSIS OF KARIWADE DAM WATER OF TALUKA SAWANTWADI DISTRICT SINDHUDURG (MS) INDIA.**

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ABSTRACT:

In the present investigation to understand the water quality of Kariwade dam, Physicochemical parameters were studied and analyzed for the period of one year i.e. June, 2021 to May 2022. Number of physicochemical parameters, such as Water temperature, pH, Dissolved oxygen, Total hardness, Turbidity was studied. The results revealed that there was seasonal variation in some physicochemical parameters and most of the parameters were in normal range and indicated better quality of dam water. It has been found that the water is best for drinking purpose, agricultural and industrial purpose after proper treatment.

Key words: Physicochemical parameters, Kariwade dam, water quality.

SUBMISSION-33**COMPARATIVE STUDY OF FISH YIELDS OF RATNAGIRI DISTRICT, MAHARASHTRA (INDIA).**

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ABSTRACT:

Fish is a naturally occurring food source for humans, but it is also incredibly perishable resource. Therefore, it is essential to process and preserve this natural food source quickly in order to maintain its flavour, nutritional value and market value. Ratnagiri is an important centre for fish production. The main landing centers of Ratnagiri district are Dabhol, Burondi and Mirkarwada. An effort has been made in this study is to comprehend the current situation about the quantity of fish captured by fisherman during the period of 2018 to 2019. Fishermen of Ratnagiri district capture a variety of fish including Pomfret, Ribbon fish, Mackerel, Loligo and Prawns. This information was gathered by conducting survey at different landing centers during the study period 2018-2019. It noted that there were 73738 tonnes of fish yield in the entire Ratnagiri district during the study period.

Keywords: Fish, Catch, Ratnagiri, Tonnes, Yield

SUBMISSION-34**DISTRIBUTION AND CONSERVATION OF PTERIDOPHYTIC FLORA OF PATAN TAHSIL FROM DISTRICT OF SATARA (M.S.)**

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ABSTRACT:

An intensive field survey was carried out from the hilly regions plains of different climate and forest and agriculture land of Patan Tehsil of Maharashtra state. About 32 species were collected from *Adantumraddianum C. Presl.* And *Platynerium wallichii Hook.* added as the new distribution record for the Patan. Destruction of forest ecosystem and development of infrastructure facilities including road development and rainwater harvesting program developing of the artificial ponds are additional reasons for declining terrestrial and aquatic Pteridophytes diversity respectively. Our survey concludes that *Osmundahuegelinia L.* will be lost from its natural habitats in short time if not conserve properly. Therefore, there is an urgent need of in situ conservation by developing new action plans in the collaboration with the state forest department.

Keywords: Diversity of Pteridophytes, Distribution and conservation, Patan.

SUBMISSION-35**A REVIEW ON TOXICITY CAUSED BY DIAPERS IN KHED TEHSIL, RATNAGIRI**

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ABSTRACT:

The present study has been conducted in Khed urban area. The survey was carried out by direct and indirect method. As we know that sanitary pads and diapers are much more convenient for human being but no one is aware about the harmful effects of diapers and sanitary pads. The diapers and pads remain in contact with the reproductive organs for few hours or days depending upon the situation. In this module I have tried to study the harmful effects caused due to the improper disposal of diapers and sanitary pads. This study prove that these products have disease promoter component like super absorbents, leak proof absorbent phthalates etc. This review gives the information about health issues caused by careless use of diapers and sanitary pads like RTI, UTI, infertility, testicular cancer, chronic rash, environmental issue.

Keywords: Diapers, Degradation, Waste Polymer, Phthalates, Pathogen.

SUBMISSION-36**METAL CONTENT IN SELECTED TISSUES AND SHELL OF *PERNA VIRIDIS* (L) COAST OF DAPOLI TEHSIL**

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ABSTRACT:

Mussels are good bio accumulators of metals and have been used as indicators for environmental monitoring. In this study on *Perna viridis* (L) from coast of Dapoli tehsil. Metal content (Aluminium, Lead, Cadmium, Copper and Zinc) were analysed in selected tissues and shell nacre. The metal content shows that digestive gland accumulates higher concentration of metal ions followed by gill, mantle and shell of different component (digestive gland, gill, mantle and shell nacre) of the organism. Only shell nacre exhibited significant relationship with ambient level and therefore can be applied to temporal monitoring of metal contamination.

Key Words: Mussels, Trace metals, Soft hard tissues, Monitoring

SUBMISSION- 37**PHYSICOCHEMICAL ANALYSIS OF WATER FROM VARIOUS SOURCES**

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ABSTRACT:

Water is perhaps the most precious natural resource after air. Though the surface of the earth is mostly consist of water, only a small part of it is usable, which makes this resource very limited. This precious and limited resource, therefore, must be used with prudence. As water is required for different purposes, the suitability of it must be checked before use. Also, sources of water must be monitored regularly to determine whether they are in sound health or not.

Poor condition of water bodies is not only the indictor of environmental degradation, it is also a threat to the ecosystem. In industries, improper quality of water may cause hazards and severe economic loss. Thus, the quality of water is very important in both environmental and economic aspects. Thus, water quality analysis is essential for using it in any purpose. After years of research, water quality analysis is now consisting of some standard protocols. There are guidelines for sampling, preservation and analysis of the samples. Here the standard chain of action is discussed briefly so that it may be useful to the analysts and researchers.

Keyword: Economic, Hazard, Indicator, Degradation

SUBMISSION- 38**STUDIES OF LEMONGRASS EXTRACTION METHODS WITH RESPECT TO YIELD & TIMING OF EXTRACTION**

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ABSTRACT:

Distillation based recovery processes such as steam and vacuum distillation are preferred for the extraction of essential oils from plant materials Lemon grass (CYMBOPOGON FLEXUOSUS). In the present work, three methods are used for oil extraction namely solvent extraction, hydro distillation and effleurage. By using solvent extraction, 2.9 grams of essential oil per 140 grams of dry lemongrass sample. This gives about 2.07% yield of essential oil. By effleurage method, 2.74 grams of essential oil per 140 grams of dry lemongrass sample was obtained. This amounts to 1.957% oil yield. 1.325 grams oil per 140 grams of lemongrass sample was obtained by hydro distillation process, i.e. 0.946% yield of oil.

Keywords: Lemon Grass, Essential Oil, Solvent Extraction

SUBMISSION-39**IDENTIFICATION OF ROTIFERS FROM SOIL AT CERTAIN REGIONS IN BADN LAPUR.**

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ABSTRACT:

Studies involving taxonomic species richness provide information about the species distribution patterns worldwide. These studies are important to understand the ecological and evolutionary process along with predicting climate changes. An example of organisms used for species richness are Rotifers known to thrive in terrestrial and aquatic habitat. This study aimed to identify and determine the species richness and distribution of Rotifers in Badlapur terrestrial region. Our results found a dense population of two major Class Bdelloidea and Monogononta; along with other invertebrates. The presence of Bdelloidea (*Philodina roseola*) and Monogononta (*Lecan luna*) species in the terrestrial region of Badlapur points towards the richness of organic content of soil in Poddar and Kasgaon areas. Also, the species distribution and richness was dispersed in a similar pattern in all sampled sites. Lastly, *Philodina roseola* found in sampled sites demonstrated behavioral and morphological similarity.

Keywords: Soil Rotifers, Bdelloidea, *Philodina roseola*, Monogononta, *Lecan luna*, species distribution

SUBMISSION- 40**ANALYSIS OF STACK AIR MONITORING AND ADVANCE POLLUTION CONTROL TECHNOLOGIES TO CONTROL STACK EMISSIONS**

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ABSTRACT:

Stacks are essentially large industrial chimneys designed to emit and disperse hot air, particulate matter, and pollutants into the atmosphere at such a height that they do not constitute a danger to surrounding life on the ground. Stack Monitoring is an instrumental method or procedure for evaluating the characteristics of the emissions from industrial waste gas streams discharged into the atmosphere and it is important to determine a facility's compliance with emission limits.

These tests are basically carried out to determine a pollutant concentration, emission rate or parameter. Some of these pollutants include nitrogen oxides (NO_x), sulfur oxides (SO_x), carbon dioxide, carbon monoxide and particulate matter. Many methods are employed to rid of as much of these as possible before the gas is sent into the atmosphere. Air pollution control devices are a series of devices that work to prevent a variety of different pollutants, both gaseous and solid, from entering the atmosphere primarily out of industrial smokestacks. Such advanced pollution control techniques used at industries, to keep check on stack emissions. Scrubbers and baghouse filters are installed at smoke stacks in industries. After continuous stack monitoring it is found that scrubbers are very efficient air pollution control devices that can remove greater than 95% of the SO₂ from power plant stack emissions. Fabric-filter dust collector can remove nearly 100 % of particles as small as 1 μm. and a significant fraction of particles as small as 0.01 μm..

Keywords: Stack Air Monitoring, Particulate Matter, Stack emission

SUBMISSION-41**WASTE WATER TREATMENT BY USING REVERSE OSMOSIS (RO)**

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ABSTRACT:

Industrial waste water treatment is complex problem for a variety of highly polluting chemical industries such as fertilizer, distillery, dyes and pigments, textile and specialty chemical manufacturing. High TDS readings are often caused by sodium, chlorides, and potassium, which have little to no short-term effects on human health but High TDS may be a problem if you are having repeated issues with maintaining chlorine levels and clear water – even though the water is balanced and over-filtered. And from the issues pertaining to the removal of refractory pollutants that's are difficult to remove or degrade using conventional method of treatment now a days we see one of the most used methods that is reverse osmosis (RO) not only in commercial use but also in houses also. Reverse osmosis is a water purification process that uses a semipermeable membrane (synthetic lining) to filter out unwanted molecules and large particles such as contaminants and sediments like chlorine, salt, and dirt from drinking water. The feed and condensate parameters were monitored. Competence of the treatment process is presented in term of reduction in TDS and COD. The study evaluate efficiency of RO in terms of removal of total dissolved solids and chemical oxygen demand. Removal efficiencies are more than 90% for TDS and 50% for COD.

Keywords: Reverse Osmosis, TDS, Wastewater Treatment, Semipermeable membrane

SUBMISSION-42**PHYTOALLELOPATHIC EFFECT OF DIFFERENT CONCENTRATION OF *HOLHORSHINA PUBESCENCE* (BUCH.HAM.) LEAF LEACHATES ON GERMINATION AND GROWTH *ELEUSINE CORACANA* (L). C.V. DAPOLI.**

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ABSTRACT:

It is now very well realized that the presence of neighbouring plants species can have a significant influence on seed germination growth and yield of crop plant (Rice, 1974). The influence may be either positive or negative depending upon the nature of allelochemical released by the allelopathic plants such allelopathic effect will become more prominent to future agricultural systems because of decrease in farm size, intercropping and crop rotation and introduction of agro forestry. Hence it was though worthwhile to investigate influence of some common prominent plant species which have entered in the agriculture of konkan region, on the seed of germination and growth of seedling. In the present investigation deals with the study of significant Phytoallelopathic effect of different concentration of *Holhorshina pubescence* (Buch. Ham.) leaf leachates on germination and growth of *Eleusine coracana* (L). c.v. Dapoli – 1. During the experimental period Environmental temperature of Konkan region ranging from 12.020 c to 34.870 c and humidity 62% to 93.9%.

Keywords: Allelopathy, *Holhorshina pubescence*, *Eleusine coracana* (L). c.v. Dapoli - 1., Konkan.

SUBMISSION- 43**STUDIES ON PRODUCTION OF BIO-PLASTIC FROM STARCHY PLANT PARTS AND BIODEGRADABILITY.**

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ABSTRACT:

In recent years, there has been more interest to utilize renewable biomass in the manufacture of high-quality and biodegradable consumer goods, as a means to minimize the dependence and use of petrochemical. Plastics are used in almost every place such as, in packaging material, bottles, cell phones, printers, chairs, tables etc. It is also utilized by developing industries ranging from pharmaceuticals to automobiles. The petroleum-based plastics are very common in our lives however everyone knows that these types of plastics show their ugly sight to the environment. In this project, the starch of *Dioscorea bulbifera* L. (Karand), *Dioscorea esculenta* (Lour). Burkill (Katekan), *Amorphophallus paeoniifolius* (Dennst.) Nicolson (Suran) and *Solanum tuberosum* L. (Potato) were used as bio-polymers and Glycerol as a plasticizer. The valorization of waste and injure starchy plant parts can create opportunities to produce new valuable bioplastics. The biodegradation of bioplastic was evaluated under different soil types (Sandy and garden soil) to study the material stability and life expectancy and to establish which is better to use in the production of biodegradable bioplastic. It could help in reducing environmental pollution.

Keywords: *Dioscorea bulbifera* L., *Dioscorea esculenta* (Lour). Burkill, *Amorphophallus paeoniifolius* (Dennst.) Nicolson, *Solanum tuberosum* L., starch, bioplastic, biodegradation.

SUBMISSION-44**SIGHTINGS OF AVIFAUNAL DIVERSITY ALONG THE GHANSOLI CREEK, NAVI MUMBAI, MAHARASHTRA.**

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ABSTRACT:

The present article reports occurrence of avifaunal diversity along the Ghansoli Creek, Navi Mumbai, Maharashtra. Ghansoli creek is a part of Thane creek, which is notified as Marine Wildlife Sanctuary under section 18 of the Wildlife Protection Act 1972 by The Maharashtra Revenue and Forest Department. The creek has also been selected for Conservation and Sustainable Management (CSM) of Potential and Existing Coastal and Marine Protected Areas (CPMA). The study at Ghansoli creek was conducted from February 2022 onwards on a monthly basis till date. A total of 69 species of birds belonging to 54 genera of 14 orders have been observed till now. Out of these 5 species are near threatened. Despite the area being declared as protected, the threat of pollution along this creek may result in decline of these birds in this area. Measures have to be taken to reduce water pollution here, especially plastic pollution.

Keywords: Ghansoli Creek, Avifauna, Pollution, Biodiversity, plastic.

SUBMISSION-45**ATTEMPT TO SAVE ENVIRONMENT BY LPG GAS DETECTOR**

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ABSTRACT:

One of the most common types of energy source used in domestic is propane is propane in which liquefied gas contains. Though the safety issues are considered by the company, leakage of gas has become very common accident which can cause damage to human lives and property. This project presents a low cost, power efficient centralized LP gas leakage alarm system.

The system has two main devices: the gas detector and the centralized alarm unit. The gas detector that is located close to the gas usage point (gas cylinder) is a battery-operated device. There can be more than one detector in the system, which can be separately identified in the system. The centralized alarm unit detects the alerts send by the detectors and releases the alarm. It has an indication of which detector has released the alert. The alarm unit is ac mains powered and has a battery backup to cater power failures. The components of the device have been chosen considering the power consumption and the time intervals have been calculated concerning the current consumption of each Component.

SUBMISSION-46**A STUDY ON BUTTERFLY DIVERSITY IN DAPOLI DISTRICT OF RATNAGIRI (M.S) INDIA**

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ABSTRACT:

Butterflies are beautiful creatures of nature. They play a crucial role in the ecosystem as they are an important part of the food chain. This study was conducted to study the diversity of butterflies in the Dapoli city of Ratnagiri of Maharashtra, India. Different butterflies found were recorded using a digital camera and cell phones through casual observation. A study about diversities of butterfly was carried out in Dapoli city of Ratnagiri district. Total of 41 individuals and 35 species of butterflies belong to 5 families and were recorded during the study period. Nymphalidae was the richest amongst families that comprised (16 and 41%) of the total species of butterfly recorded in the study area which was followed by Lycaenidae (11 and 29%), Pieridae (6 and 14%) Papilioninae (6 and 14%) and Riodinidae family were the lowest (2 and 2%) respectively. Amongst the species of butterflies Which were observed in the study area, 4 of them were abundantly and 2 species were common while 8 numbers of the species of butterflies were rare .In addition to that 7 numbers of the species of butterfly were occasionally found. The study area was held within some areas of Dapoli city which are enriched with butterfly and its diversity. However further research could be conducted to obtain more details and documentation on butterfly diversity for the conservation and butterfly park.

SUBMISSION-47**STUDY OF LOW AND HIGH SALINITY TOLERANCE OF THE MANGROVE CLAM *GELOINA PROXIMA* (PRIME-1864) OF DAPOLI COAST, DISTRICT- RATNAGIRI, MAHARASHTRA, INDIA.**

*R.S. More

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ABSTRACT:

The clam *G. proxima* is an indigenous clam found in the mangrove vegetation of various coasts of the Ratnagiri district including Dapoli coast. It forms daily food of fishermen & poor class of people residing along the coast. The present work was carried to find out its salinity tolerance since it found distributed in appreciable quantities in the intertidal zone. Attempt has been made to study the limits of the salinity tolerance. The effect of low salinity and high salinity is studied by performing the experiment on commercial size clams i.e., 40 mm. to 70 mm. The mortality of clam recorded during the experiments in low and high saline waters. It is inferred that the *G. proxima* is able to tolerate a wide range of salinities. It is also concluded that, in fresh water & in high saline water it is not able to survive for longer period.

Keywords: Salinity, Tolerance, Euryhaline, Ratnagiri.

SUBMISSION-48`**STUDIES ON ALLELOPATHIC EFFECTS OF BRYOPHYTIC EXTRACTS ON SEED GERMINATION AND SEEDLING GROWTH OF FENUGREEK**

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ABSTRACT:

The present work embodies the germination behavior of fenugreek seeds in response to different bryophytes extract. The bryophytic species used were *Riccia* and *Anthoceros*. The aqueous extracts and methanolic extracts of selected bryophytes were tested for studies of effects on seed germination and seedling growth of Fenugreek. Initiation of germination adversely affected by the increase in concentration of extract in organic solvent but in aqueous extract seed germination was not delayed significantly. Total time taken for the completion of germination varied between the bryophyte species, concentration and the solvent used.

Keywords: germination, *Riccia*, *Anthoceros*, bryophytes, extracts

SUBMISSION-49**COPPER(II) AND ZINC(II) COMPLEXES OF 4-BROMO-2-{(E)-[(3-NITROPHENYL) IMINO] METHYL}PHENOL**

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ABSTRACT:

A new schiff base ligand 4-bromo-2-{(E)-[(3-nitrophenyl) imino] methyl} phenol (BNIMP) has been prepared from the reaction of m-Nitro aniline and 5-Bromosalicylaldehyde. The new schiff base complexes of the type ML_2 [where M= Cu(II), Ni(II), Mn(II), Co(II), Zn(II) and Cd(II); L=4-bromo-2-{(E)-[(3-nitrophenyl)imino] methyl}phenol (BNIMP)] have been prepared and characterized by Elemental analysis, MS, IR, 1H NMR, ^{13}C NMR, Electronic Spectra, Magnetic properties, Molar conductivity and ESR. IR spectra reveals that the ligand is co-ordinated to the metal ion through azomethine nitrogen and phenolic oxygen thus acting as a bidentate ligand. All the complexes and ligand were screened for in-vitro biological activity against *E. Coli*, *P. Aeruginosa*, *Proteus Vulgaris*, *S. Typhi* and *A. Aurerus*. All the compounds are showing significant activity against all the organisms.

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