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Department of Zoology

Organize

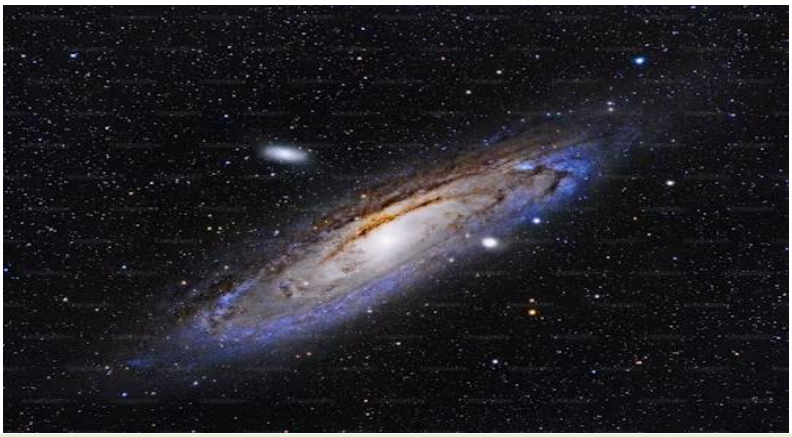
National Conference

On

"Planetary Biodiversity Mission India (PBMI-2025)"

Conference Date: 10th March 2025

Editors: Dr Kalyankar V. B. Mr Chekke K. S.



Abstract Book

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President's Message

Dear esteemed guests, colleagues, and fellow researchers. It is my great pleasure to welcome you all to the One Day National Conference on Planetary Biodiversity Mission India (PBMI-2025). The field of zoology has always been a crucial area of research, playing a significant role in shaping our understanding of the Life science and its processes. With the ever-increasing complexities in the world around us. It has become more important than ever to explore new approaches and develop deeper into this fascinating field. This conference aims to bring together experts, scholars, and researchers from various disciplines to share their experiences, insights, and research findings. Our goal is to foster a collaborative and multidisciplinary environment that will enable us to explore new ideas and approaches in the field of zoology. I am confident that this conference will provide an excellent platform for meaningful discussions and insightful presentations. As you are aware, the conference was a great success, with many insightful presentations and discussions. I believe that publishing the abstracts in a volume would be a valuable contribution to the field of zoology and would allow our research to reach a wider audience. Additionally, it would serve as a valuable resource for future researchers who are interested in exploring the topics addressed at the conference. Once again, on behalf of the organizing committee, I extend a warm welcome to all our guests and delegates. Let us make the most of this opportunity to learn, grow, and collaborate. Thank you.

Date: 10/03/2025

Shri. Brijgopal Ramnarayan Toshniwal President,

SGSPM, Yeldari Camp

Principal's Message

Dear participants of the One Day National Conference on Planetary Biodiversity Mission India (PBMI-2025). It is our pleasure to welcome you all to this important event, where we have the opportunity to learn from each other and explore new ideas and approaches in the field of zoology. As you are aware, the study of zoology plays a vital role in shaping our understanding of the Life Science and its processes. With the ever-changing world around us, it is more important than ever to explore new approaches and develop deeper into this fascinating field. We are confident that this conference will provide a collaborative and multidisciplinary environment that will enable us to share our experiences, insights, and research findings. Our goal is to foster meaningful discussions and insightful presentations that will contribute to the advancement of zoology. We hope that this conference will be a valuable experience for all of you, and we look forward to seeing the presentations and discussions that will take place. On behalf of the organizing committee, we extend our deepest thanks to all our guests and delegates for being a part of PBMI-2025.

Thank you and have a great conference!

Best regards,

Date: 10/03/2025

Prof. (Dr.) S. G. Talnikar Principal,

Toshniwal College, Sengaon

Convener and Co-convener's Message

We welcome to all the guests and fellow participants for the One Day National Conference on Planetary Biodiversity Mission India (PBMI-2025). We extend a warm welcome to each of you on behalf of the organizing committee. This conference provides an exceptional opportunity to share knowledge and explore novel ideas and approaches in the field of zoology. As you are well aware with the study of zoology is vital in shaping our comprehension of the Life Science and its processes. With the world constantly evolving, it is becoming increasingly an essential to explore new approaches and develop deeper into this fascinating field. We are confident that this conference will offer a collaborative and multidisciplinary environment that enables us to exchange experiences, insights, and research findings. Our ultimate goal is to foster meaningful discussions and insightful presentations that will contribute to the advancement of geosciences. We anticipate that the conference will be an enriching experience for all participants, and we eagerly await the knowledge-sharing and discussions that will take place. We express our heartfelt gratitude to all the delegates, research students, faculty members and students for attending PBMI-2025. Your participation in this conference is highly appreciated.

Thank you for your attention, support, and love. We wish you an engaging and informative conference

Dr V B Kalyankar	Mr K S Chekke
Convener	Co-Convener

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A review on: Predaceous Ladybird Beetles as biological pest control

Ganesh K. Lahane[1] And Sandip R. Rathod[2]

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Abstract : Ladybird beetles, particularly predaceous species, have been widely recognized as valuable biological control agents against various insect pests. The family Coccinellidae comprises 6,000 - 7,000 described species worldwide, of which 90% are considered beneficial predators and is divided into six subfamilies: Sticholotidinae, Chilocorinae, Scymninae, Coccidulinae, Coccinellinae and Epilachninae although a recent phylogeny suggests a seventh subfamily, Ortaliinae. They have great economic importance as natural enemies, exhibit a predatory nature against many soft bodied insect pests such as aphids (Aphididae: Homoptera), scale insects and mealy bugs (coccoidea: Homoptera), whiteflies (Aleyrodidae: Homoptera), Thrips (Thripidae: Thysanoptera), jassids (Cicadellidae: Homoptera), psyllids (Psyllidae; Homoptera), small larvae, insect eggs, and phytophagous mites. This review aims to provide an overview of the role of predaceous ladybird beetles in biological pest control, their benefits, and future prospects.

Biosystematic and biochemical evaluation of helminth fauna in sheep and goat from tribal

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ABSTRACT

Helminths exhibit a wide range of morphological adaptations that enable them to thrive as parasites within their hosts. These adaptations are crucial for understanding the pathogenesis of helminth infections. The morphology of these parasites is essential for understanding their structure of adaptation in anatomical niche. Common cestode in sheep and goats, has a characteristic scolex with four suckers and a stobila composed of numerous segments, each containing reproductive organs. Nematodes, such as Haemonchus sp, Trichostrongylus sp, and Oesophagostomum sp. are common in sheep and goats, They have a complex life cycle involving multiple larval stages, which are essential for their survival and transmission. Fasciola hepatica and Fasciola gigantica are causative agents of a trematode infection (fascioliasis) and are prevalent in temperate and tropical regions Helminths are multicellular parasites that have evolved complex life cycles and biochemical strategies to infect and survive within their hosts. Effective control of these helminth infections requires accurate identification of the causative parasites. Traditionally, identification relies on morphological characterization, examining features such as body shape, size, and the presence of specific structures. Coupled with modern biochemical investigations, a more complete understanding of parasite biology, host-parasite interactions and potential intervention strategies can be achieved. The present study will helpful to get information about which specific kind of protein perform specific role in it's operational area, protein specificity, role of specific carbohydrates, lipid content over biomolecules. However further aims to integrate both morphological and biochemical insights into the common helminth parasites affecting sheep and goats from trible district Nandurbar of Maharashra State, India

KeyWords: Biosystematic, Biochemical, Helminths, Sheep, Goat, Nandurbar

The Impact of pH and Temperature on Ascorbic Acid Content in the Tissues

of the Freshwater Bivalve Lamellidens marginalis (Lamarck).

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ABSTRACT

The effect of temperature and pH affected the content of ascorbic acid in the tissues of the freshwater bivalve Lamellidens marginalis, including the mantle, hepatopancreas, gonad and foot. The present study showed that the ascorbic acid content is significantly affected by ecological parameters. The current study is combined effects of pH and temperature demonstrated that ascorbic acid content increases from the gonad. The hepatopancreas ascorbic acid content was significantly influenced by pH. Ascorbic acid synthesizing tissue influences a number of this animals physiological activities.

KEYWORDS: Bivalve, Lamellidens marginalis, metabolism, ascorbic acid

DIMINISHED ECOSYSTEM A PROBLEM FOR FUTURE OF HUMANS.

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2. Post Graduate Department of Zoology, K.A.A.N.M.S ACS College, Satana

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Abstract:

An ideal ecosystem has highest number of producers and lowest number of tertiary consumers, making it a pyramidal structure. However the secondary consumers and tertiary consumers that exhibited before are now being replaced by humans and animals are left to die. The newly emerging habitats do not have water lodged in every season of the year. The depleting water table is the result of increasing human population. Because there is an increasing demand of water that should be made available to humans only. The jungles have no longer remained sustainable for the wild life. If human population is reduced humans will stop encroaching their habitat encroachment. Building of barrages in the course of river flow will help. The precautionary measures for usage of water by house holds and reduction of digging of bore wells depth is a need of time which will help wild life survive in their habitat and will lead to a healthy structure of ecosystem.

Keywords: Producers, Tertiary consumers, ecosystem.

Apiculture with Apis mellifera problems and solutions.

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2. Department of Zoology, K.K.M. College, Manwat Dist. Parbhani

Abstract:

Arthropoda is the largest phylum on earth. All the insects in the world have a role in ecosystem assigned to themselves. Honey bees are excellent example of it. Of the 20000 bees found world over bee Apis mellifera is successfully domesticated and cultivated in cages. Apis mellifera has been pollinating many plants in western parts of the world. It has been pollinating onion, pomegranate and fig which in turn help the bee grow sustainably throughout the year in India and Maharashtra. Of the different kinds of bee hives Langstroth is the kind which is being extensively for the rearing of Apis mellifera bee in captive habitat. There are some precautionary measures to be taken while bee keeping which have been pointed out in the present study include: the direction of the hive, height of the hive, absence of natural enemies like ants.

Keywords: Apis mellifera, Langstroth hive, natural enemies.

Study of Indian population impahasis on present and future scenario

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2. Department of Zoology,Late Ku. Durga K. banmeru Science College Lonar,Dist. Buldhana

Abstract:

Present study deals with as India has become world's most populated country and has been affecting many nature made ecosystems. Both biotic and abiotic factors are being affected in India. The government has been making many commissions to feed the ever increasing population. Because of this dramatic increase the habitat encroachment of humans to the jungles is happening and demand of water is also increasing. With this increase water is being available only to humans and wild animals are dying because of lack of water. Although there is such huge impact there are no measures to keep water level maintained. However there are no measures being taken to control it. If it is not controlled in time, it is going to explode one day. In the present study we have found how adversely the abiotic factors of the ecosystem are being exploited and a dire need of sustainable habitat for wild life with reduction of human population.

Keywords: ecosystem, biotic and abiotic factors, sustainable habitat, human population.

BARRAGES: THE WATER RESERVOIRS THAT LEAD TO SUSTAINABLE FUTURE.

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2. Department of Zoology, Toshniwal A. C. S. College, Sengaon. Hingoli (M.S).

Abstract:

Many water bodies on earth harbour water. Dams and barrages are two of those. Dams are the wall built across a river to hold back the water and from a lake behind it. However, barrages are the wall built across a river that holds back water in the basin of river itself. In the present study we have pointed that construction of dams requires huge area and needs people to be displaced from the place. The area occupied by the dams is mostly the fertile land and people displaced may or may not get good returns of the occupied land. This exposed their families to various other societal hazards. The canals built taking water out of dams take water to the lands which are not as productive as the areas occupied by dams. Dams do not let the migratory anadromous fishes go back to fresh waters for laying eggs. In opposite of it for the construction barrages there is no need to displace people as the water is lodged in the river basin itself and there is significant rise in the water table of the areas in vicinity of the river. These barrages let the anadromous fishes migrate as the height of the barrages is not as high as that of dams.

Keywords: Anadromous fishes, societal hazards.

Humic acid production pros and cons.

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Abstract:

Vermicomposting has a past from the civilization of humans. Humans used to colonise in the places where they found the vermicompost in the soil as it was an indicator for the fertility of soil. The presence of vermicompost in soil implied the productivity of the same. Increasing demand of organic food and vermicomposting by products in increasing world over. With the same the need of vermicomposting by products like vermicast, vermiwash and humic acid are increasing. In the present study we have pointed out the problems and solutions that can be done while vermicomposting of earthworms in the farm. The present study has been done in village Kanjara and can be adopted anywhere in Hingoli district with the red earthworm species Eisenia fetida.

Keywords: Vermicomposting, vermicast, vermiwash, humac acid, Eisenia fetida.

MACRONUTRIENT STATUS OF VERMICOMPOST PREPARED FROM GARDEN WASTE

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Abstract:

The vermicomposting process carried out by earthworms transforms biodegradable waste into nutrient-rich excrement, enhancing its nutritional content. In Vermicomposting, nutrients are release and transformed into soluble, readily accessible forms, supplying essential elements like available nitrogen, soluble potassium, exchangeable calcium, and magnesium, phosphorus, trace minerals such as iron, molybdenum, zinc, and copper which plants can easily absorb. (Orozco F.H. Cegarra J, Trujillo LM, Roig A. 1996). Vermicomposting contains plant growth regulators and improves soil structure. It has been show to promote better plant growth compared to inorganic and extra bio-fertilizers. Incorporating inexpensive vermicompost into the soil enhances its structure, improving water retention and porosity. (Edwards CA, Burrows I.1988). In Study at D.S.M. College, Jintur dist. Parbhani, By using garden waste analysis was done on micronutrient N, P, K, $CaCO_3$ organic carbon. Waste converted into black gold.

Jacobs XYY syndrome is a natural selection.

Chekke K.S.

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Abstract:

Jacobs syndrome is a condition in which a X chromosome is supported by two Y sex chromosomes with 44 autosomes. Persons with this genetic makeup showed antisocial tendencies than the normal ones. Some people with this genetic make up were infertile and those who showed this genetic make-up and were fertile led to normal offsprings. The authors in the present study conclude that the persons who were with XYY syndrome though showed antisocial tendencies, were the Darwinian selected population. They were the arrival of the fittest and can lead human population in evolved state. As in the present scenario there is no struggle for existence happening between humans and other species of within human species itself. There is the evolution of machines rather than humans which has paused Darwin's theory acting on us.

Keywords: Jacob's syndrome, Darwinian selected population.

Advances in Groundnut Research: Breeding, Agronomy, and Disease Management

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Abstract

Groundnut (Arachis hypogaea L.) is a vital crop with significant contributions to global agriculture, nutrition, and economies. This review highlights advancements in groundnut breeding, disease management, and diagnostic technologies while addressing challenges and future prospects. Innovative breeding techniques such as marker-assisted selection, genomic selection, and CRISPR/Cas9 have enabled the development of drought-tolerant, disease- resistant, and high-quality groundnut varieties. Integrated disease management strategies combining cultural practices, resistant cultivars, biocontrol agents, and reduced chemical inputs have enhanced sustainable disease control. Advances in biocontrol agents and molecular diagnostics, including AI-driven tools, provide precise and eco-friendly solutions for disease management. However, a gap persists between research innovations and their field application. Strengthened extension services, supportive policies, and collaborative efforts are necessary to bridge this divide. Future opportunities include leveraging low-cost diagnostics, AI technologies, and sustainable practices to address emerging challenges. This review underscores the importance of continued research, innovation, and dissemination strategies to enhance groundnut productivity, sustainability, and farmer livelihoods globally.

Keywords: Groundnut, breeding, disease management, molecular diagnostics, sustainability

IMPACT OF CLIMATE CHANGE ON FAUNAL DIVERSITY: A REVIEW ARTICLE

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Abstract:

Climate change poses a significant threat to faunal diversity, affecting species distribution, abundance, and ecosystem dynamics. Rising global temperatures, altered precipitation patterns, and increased frequency of extreme weather events lead to habitat loss, species extinction, and changes in species distribution. These changes disrupt ecological interactions and ecosystem services, resulting in altered ecosystem dynamics. Vulnerable regions, such as tropical rainforests and coastal areas, are particularly at risk. Coral bleaching, driven by higher CO2 concentrations and warmer temperatures, threatens coral reefs, one of the most biodiverse ecosystems on Earth. Effective conservation strategies, including habitat protection, climate change mitigation, and adaptive management, are essential to preserve faunal diversity in the face of climate change.

Keywords: Climate change, Environment, Habitat, Biodiversity

Need to classify the organisms on basis of biological concept of species.

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Abstract:

The animal species are being discovered day by day in the scientific community. Much of tropical forests are still to be studied. Various species defining criteria are being studied extensively which include morphology, chemotaxonomy, mitochondrial DNA. However other sub units like sub-species, demes, races and populations are being ignored today as there is fragmentation of habitats and introductions of many species in newer environments. Classification of species on basis of their morphology and molecular basis using mitochondrial DNA is the current trend that is going on. However correct placement of hybrids on the basis of biological concept that is whether two morphologically individuals of two different populations breed true or not can give a correct answer for their classification in new species. The process may appear tedious it is the only assured solution with study of fertilizin and antifertilizin theory.

Keywords: mitochondrial DNA, morphology, sub-species, demes, races.

Current Status of Cancer occurrence in India: Present Scenario

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Abstract: The term cancer denotes group of diseases that occur when cells grow and divide uncontrollably. Cancer is a highly documented disease on the national and international levels suggesting to its elevated incidence and death rates. Due to this, significant data is available on the reported number of cases in different parts of the country. As per recent statical data from the National Cancer Registry Programme (NCRP), India currently faces a significant cancer thrust with an estimated 14.6 lakh new cancer cases in 2022, expressing to a crude incidence rate of 100.4 per 100,000 individuals. The most significant cancers for men are lung cancer and for women, breast cancer, and the projected number of cases is expected to rise to 15.7 lakh by 2025, focusing a growing concern about cancer occurrence in the country. A new study has unveiled an terrifying picture of declining overall health in India. Cancer and other non-communicable diseases across the country have now made it "The cancer capital of the world." This review is an attempt to focus the emerging, silent epidemic; that requires most preferential action by every Indian.

Key words: Cancer, occurrence, death rate, silent epidemic.

POTENTIAL OF ORGANIC COTTON PRODUCTION TECHNOLOGY IN MAHARASHTRA

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Abstract

Result of production of cotton in organic farming is low than the conventional cotton but compared to production cost are high in conventional cotton farming so farmer better option is organic farming with lots of benefits also save biodiversity. The first strategy ("intensive organic") aims to achieve high yields through optimum nutrient supply and crop care. Farmers following this strategy typically buy organic manures from outside (cow dung, oil cakes), irrigate their fields intensively and take a number of measures to protect their crops.

Keywords: Cotton, organic, farming, production and cost etc

Organic farming an effective answer for sustainable Life Science

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Abstract:

Sun's radiant energy has been energising ecosystems on earth. This ecosystem has no side effects and will lead us to sustainable future. However ignoring way of sun's working and focusing at manmade artificial ecosystem is bringing about havoc effect on agro- ecosystem. In the present work we have pointed out how the Sun's radiant energy energises the agro-ecosystem. The study also points out how the agro-ecosystems is being invaded by artificial ecosystems like use of urea in place of dung, use of mechanical tools in place of life stock and burning of crop residue at the end. Role of Einstein's mass energy relation has also been related in the present study in making the source of energy pollution free. Role of animals in seed dispersal has also been pointed out.

Keywords: Life stock, agro-ecosystem, Einstein's mass energy relation.

Impact of Global Warming on Sericulture and Silk Production

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Abstract

Global warming, driven by the increasing concentration of greenhouse gases in the atmosphere, presents a significant threat to numerous ecosystems and species worldwide. Among the less frequently discussed but however crucial impacts is the potential harm to silkworms (Bombyx mori), an insect species central to the global silk industry. Sericulture, the cultivation of silkworms to produce silk, is an ancient practice that has been an essential part of many cultures and economies, particularly in Asia. However, the effects of global warming and climate change have begun to threaten the sustainability of this industry. This paper will explore the mechanisms through which rising temperatures, altered weather patterns, and associated environmental changes directly and indirectly affect silkworm physiology, development, and silk production. Furthermore, it will discuss the potential socio-economic consequences of these impacts for communities dependent on sericulture, and suggest potential mitigation and adaptation strategies.

Key Words: Climate, Sericulture, impact

Isolation & Molecular Identification of Bacillus sonorensis S12 16S rRNA gene from Poultry Feces samples of Latur Region Poultry Farm (Ms) India

Pedge Sudarshan Sambhajirao

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Abstract: The accumulation of poultry waste, comprising various materials such as broiler and layer carcasses, feathers, bones, blood, hatchery debris, and deceased birds, poses significant environmental and health concerns. These waste materials can lead to microbial contamination, foul odours, and the proliferation of pests like flies and rodents, thereby contributing to environmental pollution. The Samples were collected according to standard microbiological procedures during study period September 2022 to June 2023. 2-5 gm of samples were collected in sterile screw cap tube using sterile spatula and immediately transported with specially prepared ice box to the laboratory for further analysis. Biochemical assays confirmed the bacterial specimens, and molecular characterization was conducted through polymerase chain reaction (PCR) and sequencing of the 16S rRNA gene of B. sonorensis. The newly sequenced 16S rRNA gene sequences demonstrated 100% homology to B. sonorensis, as analyzed using the NCBI-BLAST tool. Phylogenetic analysis and nucleotide base composition studies were performed using 60 sequences of the 16S rRNA gene from various Bacillus isolates, including Bacillus sonorensis. For this purpose, 16S rRNA gene sequences were retrieved from NCBI in FASTA format. The phylogenetic analysis, conducted using the Maximum Likelihood method, revealed the relationships and percent similarity of the Bacillus sonorensis 16S rRNA gene.

Key Words: Poultry Feces, 16S rRNA gene, BLAST Tool,

Building of fish ladders an inevitable option for Godavari River basin

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Abstract:

Dams and barrages have been harbouring water in major river basins of India. There has been a huge change in original river flow after dam's construction with advent of technologies like hydropower generation dams. These changes have caused a blockage in way of migratory fishes. Both catadromous and anadromous fish's way have been blocked by the dams and high-level barrages. In the present study we have pointed out the importance of fish ladder which can let the flow of fishes to and fro in the river basin and can lead to a sustainable future of fishes. The method has been successfully adopted in Australian rivers and is feasible in Indian river Godavari too. The authors conclude the dire need of the same in Godavari River basin and suggest that construction of low altitude barrages is significant over the dams in future.

Keywords: Catadromous fish, anadromous fish, Godavari River basin.

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Abstract:

To Assessing Fish Diversity in Hingoli Water Bodies: Implications for Sustainable Aquaculture Practices was conducted from the year January 2024 to December 2024. To Assessing fish diversity in Hingoli water bodies is crucial for understanding the ecological health of these ecosystems and for developing sustainable aquaculture practices. The Hingoli district in Maharashtra, India, is home to various water bodies that support diverse fish fauna. However, the fish diversity in these water bodies is under threat due to various anthropogenic activities. Anthropogenic activities refer to human actions or interventions that alter the natural environment, ecosystems, and biodiversity. These activities can have significant impacts on the environment, including; deforestation and land-use changes, pollution, overfishing and overhunting, climate change, invasive species introduction, agriculture practices, urbanization and infrastructure development and mining and drilling. These all human activities Impacts on loss of biodiversity, ecosystem disruption, climate change, water pollution and soil degradation. This study aimed to assess the fish diversity in Hingoli water bodies and explore the implications for sustainable aquaculture.

practices.

Keywords: Fish diversity, Hingoli water bodies, sustainable aquaculture practices,

conservation, ecosystem health.

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Abstract:

The explosion of human population has taken place. Human population has reached to the level of the population bottle neck. However there is no theory of evolution seems to be happening on humans as there is no work of HMP (Human Muscle Power) has been taking place. The machines are becoming powerful day by day and humans are becoming weaker. Although Corona pandemic has reduced humans at significant level. There had been natures law's acting humans in prehistoric times only. During those there were small populations (Clans) which used to fight amongst themselves. The weak individuals used to die and stronger ones used to survive, leading to survival of fittest. This led to origin of new species and used to evolve humans. In the present study we have pointed out the possibility how Darwin's theory of evolution can act on human population and can evolve them in directional manner.

Keywords: Human muscle power, Darwin's theory.

Sustainable Aquaculture Practices in India – A literature review

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Abstract:
Sustainable Aquaculture is dynamic concept, it includes environment, ecological, social and economical sustainability anything that does not fulfill these requirements as a system cannot be called as sustainable aquaculture .Aquaculture is the fastest growing food industry. It is developing, expanding & intensifying in almost all parts of the world. Production from capture fisheries has leveled off & most of the main fishing areas have reached maximum potential, Sustaining fish supplies from capture fisheries will, therefore, not be able to meet the growing global demand for aquatic food & aquaculture is considered to be an opportunity to bridge the supply & demand gap of aquatic food in most of the parts of the world. The sustainability of an aquaculture system will vary with species, location & social norms. To meet the demand of growing & economically underprivileged population, Sustainable aquaculture has been combined with aquaculture activities focused on large-scale, affordable fish production. The Key development trends indicate that the sector continues to intensify & diversify is continuing to use new species & modify its system & practices. Market, trade, & consumption preferences strongly influence the growth of the sector, with clear demands for the production of safe & quality of products. Major issues in attaining sustainability in aquaculture could be method of culture operation, soil, & groundwater salinization, destruction of mangroves, environmental persistence in aquatic habitats, dry & hormone residues etc., some of the major strategies which can help in attaining sustainability, could be integrated fish farming which helps in improving food security & fulfilling the needs of food on global scale.

Keywords: Aquaculture, Sustainable Practices, Integrated fish farming, global food, Food Security, capture fisheries.

Burning of crop-residue a step against Einstein's equation of mass energy relation

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Abstract:

In the ecosystem there is conversion of mass in energy in presence of sun light. This conversion is of mass of soil, water and air in to burnable crop and crop-residue. This is what Einstein stated in his equation of mass energy relation that unburn able mass of soil, water and air can be converted in to burnable on in presence of light and seed. However, farmer's have been burning it with advent of so-called technology like tractors and other automated vehicles and letting other farm animals die. This has also been converting energy full crop residue in energy less charcoal. A step taken by Delhi government against burning of crop residue has not just reduced level of pollution in the metropolitan city Delhi but has given farmers a new source of income through the same. In the present study we strongly support the action taken by Delhi government and suggest its application to be done all over India.

Keywords: Mass energy relation, metropolitan cities.

Evaluation of Seasonal Variation of Physicochemical Parameters of Rankala Lake Kolhapur, Maharashtra, India

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ABSTARCT

Lakes worldwide are undergoing rapid degradation, often outpacing their natural recovery. This study examines the seasonal variation in the physicochemical parameters of Rankala Lake from February 2023 to January 2024. Parameters such as pH, temperature, electrical conductivity, total dissolved solids, total alkalinity, total hardness, chloride, nitrate, and phosphate were analysed using standard methods. The findings indicate that Rankala Lake's water is suitable for irrigation, domestic use, and aquaculture.

Keywords- Rankala Lake, Physico-chemical parameter, Seasonal fluctuation, etc.

Widening of streams creating a habitat loss of Terminalia arjuna.

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Abstract:
The streams banks are acting as an ideal drainage system from different hills in the riverine systems. There is widening of banks by excavation machines to achieve increased water table. However there are certain draw backs one of those have been notified here. The stream banks are ideal habitat nurturing various native plant populations, Terminalia arjuna is one of them. The bark of the tree is used against hypertension disease. The widening of stream banks has been killing most of the plants and leading to a deforestation. The already increased population has caused huge habitat encroachment and conversion of jungles to agriculture or barren lands. Thus streams widening is one of the additional hazards caused around us which must be stopped along with decrease of human population.
Keywords: habitat encroachment, habitat loss, streams widening.

Predatory insect(predatory stink bug Andrallus spp) to control the insect pest

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Abstract :-

The predatory stink bug Andrallus spp. is a significant natural enemy of various agricultural pests, particularly lepidopteran caterpillars. As a generalist predator, it plays a crucial role in integrated pest management (IPM) by regulating pest populations in crops such as rice, soybean, turmeric and maize. This study explores the biology, predatory behavior, and ecological significance of Andrallus spp., focusing on its feeding efficiency, prey preferences, and potential for biological control. The life cycle, reproductive patterns, and adaptability to different environmental conditions are also examined. Additionally, we discuss the effectiveness of Andrallus spp. In comparison to other biological control agents, highlighting its potential as a sustainable alternative to chemical pesticides. Further research on mass rearing techniques and field application strategies could enhance its use in pest management programs.

Role of society in environment conservation

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Abstract:

Dumping yards are becoming a new problem for every growing city. Raw material needed for composting and plastics as a fuel for generators are the two potent by-products of everyday house hold. Composting is the process in which residual plant materials can be converted in to rich farm manure in a short time period. Some developed countries have been making electricity out of the plastic wastes that come out of house holds. But because of ignorance of the households the municipal counsels are leading to waste dumping of biomass and plastic and is leading to unhygienic conditions and odour. there is a total of 2.5TPD waste that gets dumped in dumping yards from Sengaon city alone. The present work states that if municipal counsel's and households work with hand in hand together will lead to a new sustained future of cities. Producing compost for farms and generating electricity for house holds will make India a developed nation in aspects of cleanliness, hygiene, energy dependence etc.

Keywords: Dumping yards, TPD, sustainable future.

STASTICAL ANALYSIS OF SOME PHYSICO CHEMICAL PARAMETERS OF KHANAPUR WATER RESERVOIR, DIST. DHARASHIV MAHARASHTRA, INDIA.

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ABSTRACT:

Present work deals with the assessment of some physico chemical parameters of water samples of Khanapur Water reservoir at different selected sites in the year July 2020 - June 2021. The water sample were collected were analyzed, as per standard methods parameters such as Temperature, pH, EC, Turbidity were measured in situ. Correlation coefficients were calculated between different pairs of parameters to identify the positive and negatively correlated parameters was applied for checking significance. Correlation coefficient showed high significant positive and negative relationship (p< 0.01 level) and also show significant positive and negative relationship (p<0.05 level)

Keywords: Stastical analysis, physico chemical parameters, Khanapur Water reservoir.

Mineral water plant's rejected water providing a sustainable habitat for plant growth.

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Abstract:

The mineral water plants have been purifying water and getting it cleaned for almost every household in India. There is significant enough water getting rejected after purification which either gets wasted or utilized in some non-productive works. In the present paper we have pointed out that if the rejected water is utilised in drainages without concrete construction can act as a sustainable habitat in plant growth. The plant growth which is stopped because of depleted water table in the present scenario. The mineral water plant of capacity to filter 1000 Liters per hour that filters 35 % filtrate water and rejects around 65% of water can help growth of at least 100 plants annually. The perennial plants can be grown in vicinity of the same and can lead to a green nature around us.

Keywords: mineral water, plant growth, non-productive works

Effects Of Fluoride On Biochemical Parameters In Fish, Cyprinus carpio

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Abstract:

Fluoride ions are directly toxic to aquatic life and accumulate in the tissues where absorption rates exceed excretion rates. In the present investigation, the toxicity of fluoride to fresh water fish (Cyprinus carpio) was evaluated after exposure to Lethal & Sub-lethal concentrations of naturally occurring fluoride water (3.25 F mg/ L) for 96h. Changes in biochemical parameters of Muscle, Liver, & Kidney were recorded. There is significant depletion of Lipid, Carbohydrate & Total protein in all the tissues, at both the concentrations.

Larvicidal efficacy of Argemone mexicana and Euphorbia heterophylla against Helicoverpa armigera

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ABSTRACT

Many plants have long been considered as a prominent alternative to chemical pesticides as they are biodegradable, target specific and cause minimal hazard to the environment. On other hand weeds are also responsible for depleting growth of crops as competitors which get nutrition from same niche, hence, to escape both these problems. Use of plant weed as biopesticide helps to reduce weeds as well as insect pest from crop field. In present investigation an attempt has been made to assess larvicidal efficacy of two plant weeds Argemone mexicana and Euphorbia heterophylla against Helicoverpa armigera a polyphagous crop insect pest. Study showed promising result with the leaf powder extract of Argemone mexicana against Helicoverpa armigera with LC50 value 0.14 gm/L and LC 90 as 0.20 gm/L followed by leaf powder extract of Euphorbia heterophylla with LC50 value as 0.37 gm/L and LC 90 as 0.62 gm/L . Present work helps small land holder farmers which are unable to use expensive pesticides due to paucity of money as well as availability in local market. Plant weed derived pesticides will be chip, easily available and biodegradable hence it would be a better tool for poor tribal and rural society to overcome insect pests' problem in their field and helpful to maintain eco-friendly environment.

Keywords: Argemone mexicana, Euphorbia heterophylla, Helicoverpa armigera, Larvicide.

Study of avian diversity and seasonal abundance of Aundha lake wetland near Aundha Nagnath town, District Hingoli (M.S.) India.

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Abstract-

Aundha Lake having good bird diversity. The present study was undertaken to explore species avifaunal diversity and seasonal abundance of Aundha Lake Wetland located near Aundha Nagnath town, Hingoli district, Maharashtra. The study was conducted at different four selected sites of lake. Each of the sites was observed weekly after sunrise and before sunset from March 2023 to February 2024 in which 28 species of birds belonging to 9 Orders of 16 different families were recorded. Maximum species were sighted during the winter season some birds were found to be migratory and most of being resident. The species recorded include 11 Residential Common, 8 Residential, 6 Residential Migrant, 1 Residential Uncommon, 1 Winter Migrant rare, 1 Local Migrant we also observed that the variation in food availability in different season affects on avifaunal diversity in studied area.

Keywords:- Avian Diversity, Seasonal Abundance, Hingoli.

Biopesticidal effect of leaves and seeds of Cassia tora on stored grain pests

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ABSTRACT

In India, major damage (about 7 to 10%) of stored grains is mainly caused by insect pests. Present study has been undertaken to investigate the insecticidal effects of Cassia tora leaves and seeds on stored grain pests. Three insect pests viz. Sitophilus oryzae, Sitophilus zeamais and Tribolium castaneum were divided into four groups consisting of 50 insects in each group. Group I, Group II, and Group III were treated with 0.5gm, 1gm, and 1.5gm leaves and seeds powder. Group IV served as vehicle control with only preferred food. The exposure was given to each group for 24, 48, 72, and 96 hrs. The highest percent mortality of Sitophilus oryzae, Sitophilus zeamais and Tribolium castaneum was 12.33%, 11.33% and 14.33% with leaves powder respectively and 16.33%, 15.66% and 19.67% with seed powder respectively at 1.5 gm dose after 96 hours. Thus, biopesticidal effect of cassia tora seeds on all the three stored grain pests was more as compared to leaves powder. The results also indicates that the effect was dose and duration dependent.

Keywords: Biopesticide, Cassia tora, Sitophilus oryzae, Sitophilus zeamais and Tribolium wcastaneum