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INTERNATIONAL MULTI-DISCIPLINARY CONFERENCE

On

**RESEARCH, INNOVATION, CHALLENGES &
OPPORTUNITIES IN HIGHER EDUCATION**

13th January, 2023

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DEPARTMENT OF PHYSICAL EDUCATION & SPORTS & I.Q.A.C.

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88.	PROF. SANDIP D. MAIND Bhagwantrao Arts and Science College Etpalli Dist Gadchiroli	ENHANCEMENT AND CHALLENGES IN PHYSICAL EDUCATION	331
89.	DR. SHAIKH MUSABHAI IMAMBHAI Director of Physical Education Lokseva Arts & Science College, Garkheda, Aurangabad.	ENVIRONMENTAL ATONEMENT IN THE HEALTH & PHYSICAL EDUCATION	333
90.	SUDHAKAR SAKHARAMJI DESHMUKH Ph. D Student, Swami Ramanandh Teerth marathwada University, Nanded	COMPARATIVE STUDY OF MORPHOLOGICAL ATTRIBUTES AMONG 14-16 YEAR BOYS	336
91.	DR. SUNIL BHOTMANGE Taywade College Mahadullah, Koradi	SIGNIFICANT ROLE OF PHYSICAL EDUCATION AND SPORTS IN SCHOOL CURRICULA	339
92.	PROF. UTTAM R. DEULKAR Director of Physical Education and Sports, Lokmanya Mahavidyalay Warora, Dist. Chandrapur	PHYSICAL EDUCATION AND SPORTS: CURRENT SCENARIO AND FUTURE PROSPECTS	341
93.	DR. ANIL M. TIRKAR Associate Professor Smt. L.R.T. College of Commerce, Akola.	NOVEL TECHNIQUES IN TEACHING AND BENEFITS OF HIGHER EDUCATION	344
94.	PROF. DR. ANIL VAIDYA N.A.D. Mahavidyalay Chandurbazar Dist. Amravati	IMPROVEMENT IN PHYSICAL ACTIVITIES AND SPORTS AMONG YOUNGSTERS	347
95.	ARSHEED HUSSAIN BHAT P H D Research Scholar, SGBAU, Amravati. DR. VIVEK P. GULHANE Principal Shri P.D. Jain Arts College Ansing Washim	A COMPARATIVE STUDY OF PHYSICAL FITNESS AMONG RURAL AND URBAN COLLEGE BOYS OF JAMMU AND KASHMIR.	350
96.	DR. ASEEM. P. KHAPRE Associate Professor Smt. Vatsalabai Naik Mahila Mahavidyalay, Pusad Dist. Yavatmal	IMPACT OF THE INFLUENCE OF POLITICS IN FUNDING HIGHER EDUCATION	352
97.	ATUL R. PATIL Director of physical education and sports Bar. R.D.I.K. and KD. College Badnera Amravati	STRENGTH TRAINING IN MOTOR FITNESS	354
98.	DR. D. R. KHANDERAO Assistant Professor of English Sitabai Arts, Commerce and Science College, Akola	RELEVANCE OF E-GOVERNANCE IN HIGHER EDUCATION	357
99.	DR. DATTATRAY RAMRAO DHUMALE Librarian, Janta Arts And Commerce College Malkapur, Dist - Buldhana.	HISTORY, TERMINOLOGY, FEATURES AND TYPES OF DIGITAL LIBRARY	360
100.	DIPALEE SHAH Research Scholar-in the faculty of Commerce & Management, Subject- Commerce, Research Centre- Sitabai Arts, Commerce & Science College, Akola DR. R.D. SIKCHI Research Guide, Principal, Sitabai Arts, Commerce & Science College, Akola	CAREER OPPORTUNITIES IN HIGHER EDUCATION: A COMMERCE EDUCATION PERSPECTIVE	364



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OBESITY AND WEIGHT MANAGEMENT

ABSTRACT

Obesity is a multi-factorial illness and its avoidance and the executives require information on the intricate associations basic it and taking on an entire framework approach that addresses obesogenic conditions inside country explicit settings. The pathophysiology behind stoutness includes a bunch of hereditary, epigenetic, physiological, and macroenvironmental factors that drive food admission and craving and increment the corpulence hazard for powerless people. Metabolically, food admission and craving are managed through mind boggling cycles and input frameworks between the cerebrum, gastrointestinal framework, fat and endocrine tissues that expect to keep up with body weight and energy homeostasis but on the other hand are receptive to ecological prompts that might trigger overconsumption of food past homeostatic requirements. Under confined caloric admission conditions like eating less junk food, these cycles inspire compensatory metabolic systems that advance energy admission and weight recapture, presenting extraordinary difficulties to slim down adherence and weight reduction endeavors. To moderate these reactions and upgrade diet adherence and weight reduction, diverse dietary systems have been recommended in the writing dependent on their differential consequences for satiety and digestion. In this survey article, we offer an outline of the writing on heftiness and its hidden obsessive instruments, and we present a proof based similar examination of the impacts of various famous dietary procedures on weight reduction, metabolic reactions and diet adherence in corpulence.

Introduction

Weight control is a term used to talk about overseeing and keeping a solid body weight. Having a sound body weight can mean various things for various individuals. The conventional way this weight is determined is with the weight file (BMI). Your BMI utilizes your tallness and weight to sort out your ideal weight territory. This number can change, however regularly, you are considered large if your BMI is more than 30. Your midsection line can likewise be an indication of corpulence. For a lady, a solid midriff estimation should fall under 35 inches. For a man, it ought to be under 40 inches. This estimation is called your midriff outline.

When discussing midriff periphery, it's likewise nice to talk about body shapes. Individuals have all unique body shapes. Some are an hourglass, with shoulders and hips around a similar size yet a more modest midriff. Some are pear-molded, with more modest estimations on the top and bigger on the base. In the event that you have an apple-shape — likewise nicknamed 'potbelly,' 'spare tire' or 'overhang' — you

convey more fat in and around your stomach organs. Having this additional fat in your mid-region can expand your danger of numerous genuine ailments that are connected to stoutness.

Corpulence happens when your calorie admission is higher than the measure of energy you consume off every day. Think about the food you eat as fuel. This fuel is intended to control you and as you move consistently, you consume off this fuel. Nonetheless, on the off chance that you take in an excess of fuel, it isn't scorched off. This simply sits in your body, not filling its need.

There can be many justifications for why weight acquire occurs, and regularly it's more than each reason in turn. A portion of the variables that can add to weight control issues include:

- Environmental factors: Lifestyle practices, similar to what you eat and how dynamic you are on a normal day, can affect your weight.
- Psychological factors: Eating can be connected to your feelings. We eat to commend something great and we eat to lament something miserable. The

HEALTH INJURIES WHILE SPORTS PERFORMANCES: HEALTH CARE AND WELLNESS

Prof. Sandip D. Malud, Bhagwantrao Arts and Science College, Itapalli Dist Gadchiroli.

ABSTRACT

The fitness zone itself is changing. For example, a few fitness structures are greater orientated to the wishes of negative humans, deliver extra interest to selling fitness all through the lifespan, redress inequities in fitness status, display heightened challenge for quality, degree overall performance and try to shut the space in studies ability among advanced and growing nations.

Physical hobby or exercising can enhance your fitness and decrease the danger of growing numerous sicknesses like kind 2 diabetes, most cancers and cardiovascular disease. Physical hobby and exercising will have instantaneously and long-time period fitness benefits. Most importantly, normal hobby can enhance your pleasant of lifestyles. Being wholesome have to be a part of your universal life-style. Living a wholesome life-style can assist save you persistent sicknesses and long-time period ailments. Feeling suitable approximately your self and looking after your fitness are critical on your shallowness and self-image. Maintain a wholesome life-style with the aid of using doing what's proper on your body. People who're bodily energetic and at a wholesome weight stay approximately seven years longer than folks who aren't energetic and are obese. And the critical element is that the ones more years are normally more healthy years! Staying energetic allows put off or save you persistent ailments and sicknesses related to aging.

KEYWORDS: Physical, exercise, fitness, sickness, lifestyle

INTRODUCTION

Principle 1 of the Rio Declaration on Environment and Development states that "people are at the center of sustainable development issues. They have the right to a healthy and productive life in harmony with nature." Dreams of sustainable healing cannot be realized if there are too many debilitating diseases and the health of the population cannot be maintained without ecologically sustainable development. This document provides an overview of progress in agreed areas related to Chapter Six of Agenda 21, highlights areas where progress has been limited, and highlights issues and trends that deserve attention. Health issues related to different aspects of sustainable improvement are addressed in the following thematic assessment reviews of the action plan.

The Steady Growth of Global Health Care

General lifestyle expectations have risen for more than a decade, infant and young child mortality has declined, and the proportion of underweight and stunted children has declined. In developing countries, the proportion of people whose life expectancy is less than 60 years due to lifestyle has decreased from 38% to 19% between 1990 and 1999. The proportion of people whose water supply has not improved has decreased. From 21 centimeters to 18 centimeters in the last decade. Many infectious diseases have decreased thanks to advances in hygiene, nutrition, capsules and vaccines. Significant progress has been made in eradicating or eradicating many major infectious diseases. For example, the annual incidence of polio decreased from about 350,000 cases in 1988 (the start of the Global Polio Eradication Initiative) to 20,000 in 1999. The number of countries infected with polio decreased from 100 to 25, to -30 during this period; the most recently infected countries are concentrated in parts of sub-Saharan Africa and the Indian subcontinent — especially places where immunization is low, sanitation is terrible or war is common. Sport has been significantly accelerated to achieve the goal of global polio eradication by 2005.

Steady Gains in Global Health

Over ten years, general lifestyle expectations have increased, infant and young child mortality and the proportion of underweight and stunted children have decreased. In developing countries, the proportion of people whose life expectancy is less than 60 years due to lifestyle has decreased from

71	Dr. Ravi Shankar Kumar (Director of Physical Education)	R.D.S College B.R.A., Bihar University, Muzaffarpur Bihar India	Scope of Yoga in Different Fields	Paid
72	Dr. Indrajit Basu (Assistant Professor)	Seth Kesarimal Porwal College Kamptee, Nagpur Maharashtra India	Doping in Sports: Laws And Challenges	Not Paid
73	Tagula Venkanna (Research Scholar) Prof. L. B. Laxmikanth Rathod (Research Guide)	Dept. of Physical Education, Osmania University, Hyderabad, Telangana, India Vice-Chancellor, Palamuru University, Mahabubnagar, Telangana, India	Effect of Plyometric Training on Peak Expiratory Flow Among Middle Distance And Long Distance Runners of Osmania University	Paid
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76	Prof. Sandip D. Maind	Bhagwantrao Arts And Science College Etpali Dist- Gadchiroli Maharashtra India	Health injuries while Sports Performances: Health Care And Wellness	Paid
77	Dr. Mushtaq Md. Shaikh	S.S.A., Social College of Arts and Commerce, Solapur Maharashtra India	Effect Of Circuit Training On Selected Strength and Power Parameters Among School Volleyball Players	Paid
78	Dr. Jayawant Mane (Director Physical Education & Sports)	College: K.M.C. College, Khopoli (University of Mumbai Maharashtra India	: Doping a Global problem	Paid
79	Miss. Ankita Zunjar (Scholar) Prof. Ataque Ansari (Guide)	Department Of Quality Assurance, D.S.T.S Mandal's College Of Pharmacy, Solapur 413004 Maharashtra, India	Method Development And Validation Of Uv Spectrophotometric Method For Estimation Of Budesonide In Bulk And Pharmaceutical Dosage Form	Paid
80	Mr. Ganesh S. Mali (Scholar) Dr. Y.S. Thorat (Guide) Associate Professor,	Department of Pharmaceuticals, D.S.T.S. Mandal's College of Pharmacy, Solapur 413004 Maharashtra, India	Sodium Content In The Selected Fast Food: A Study On Potential Risk Due To Excessive Sodium Intake	Paid
81	Dr. Rajeev H. Narvekar (Asst. Professor)	Saraswat Education Societies, S. C. College of Commerce and Management Studies, Telang Nagar, Khorlim, Mapusa, Goa	Perception of Yoga and the barriers to its practice: An exploratory study among the college students in North Goa.	Paid
82	Dr. Kumari Vidya Manohar Mullur (Physical Education Director)	Govt First Grade College, Mudhol Bagalkot Dist, Karnataka State India	Yoga For Sports Performance	Paid
83	Mr. Pintu Debnath (Research Scholar) Dr. Surjya Kanta Paul (Research Guide)	Faculty of Physical Education & Yoga ICFAI University Tripura, India	Influence of exercises on reaction time	Paid
84	Dr. Kiran Tukaram Chokakkar. (Director of Physical Education)	D.B.F. Dayanand College of Arts & Science, Solapur Maharashtra India	Effect Of Bhasarika, Bhramari, Anulom Vilom, Kapalabhati On Vital Capacity Of Lungs And Its Correlation With Performance In Sprint Event Of Female Athlete	Paid
85	Mr. M. R. Patil (Research Scholar)	Dept of Pharmaceuticals, DSTS Mandal's College Of Pharmacy, Solapur.	Formulation And Evaluation Of Fluconazole Gel Using Natural Polymers	Paid



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उच्च शिक्षण संस्था मधील शैक्षणिक ग्रंथालयामधील ई संसाधनाचे व्यवस्थापन ✓

1. विनोद पतीवार , संशोधक विद्यार्थी , ग्रंथालय आणि माहितीशास्त्र विभाग, गोंडवाना विद्यापीठ, गडचिरोली
2. अनिल भोयर, ग्रंथपाल, श्री. गोविंदराव मुनघाटे महाविद्यालय, कुरुखेडा
3. चंद्रशेखर हनवंते, ग्रंथपाल, गो.वा. महाविद्यालय , नागभीड

Title of the paper :- Management of e-learning resources in libraries of Higher education


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विभिन्न प्रकार के लोगों,
 समाज
 भावों तथा कला व विज्ञान महोदयों,
 समाज, जिन्होंने
 प्रेरित और
 समाज
 गीतों तथा कला के विभिन्न महोदयों,
 समाज, जिन्होंने

सारांश -

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Title of the paper :- Study of the process of collecting information by Teachers working in the colleges under Gondwana University

(Signature)
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गोंडवाना विद्यापीठांतर्गत विज्ञान महाविद्यालयातील प्राध्यापकांचा माहिती प्राप्त करणे व वापर या संबंधित विविध घटकांचा चिकित्मक अभ्यास ✓

श्री. विनोद प्र. घर्षाकार	डॉ. अनिल ए. भोयर
संगोपक विद्यार्थी	प्रध्यापक
ग्रंथालय आणि माहितीशास्त्र विभाग गोंडवाना विद्यापीठ, गडचिरोली	गोविंदराव मुनगाटे कला विज्ञान महाविद्यालय, कुजखेडा

सार :

प्रस्तुत संगोपनकार्यात गोंडवाना विद्यापीठांतर्गत विज्ञान महाविद्यालयात कार्यरत प्राध्यापकांचा माहिती प्राप्त करणे व वापर या संबंधित विविध घटकांचा चिकित्मक अभ्यास करण्यात आला. संगोपनकार्यात गोंडवाना विद्यापीठाशी सलग्न विज्ञान महाविद्यालयात कार्यरत प्राध्यापकांची सर्वेक्षण पद्धतीद्वारे निवड करण्यात आली व प्रश्नावलीच्या माध्यमांनी त्यांच्याकडून माहिती प्राप्त करण्यात आली.

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Title of the paper :- Studies of information collection way of Professor from Science College of Gondwana University

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सारांश :

समाजसंवर्धन कायदा भारतीय हिंदू समाज सुधारण, कायदा, अधिनियम, 1956 च्या या कायद्याने विधानात येता होता. या कायद्याने अनुसूचित जाती-जमातींना समाजात समाजसंवर्धन करून देण्यात येईल, भारतीय कायद्यानुसार या अनुसूचित जाती-जमातींना 'एक जाती' किंवा 'अनुसूचित' तसेच कायद्यात आली होती. या अनुसूचित जाती-जमातींना समाजात समाजसंवर्धन देण्यात येईल, त्यांची एक जाती पातळी साकारणे तसेच समाज तसेच जातींना भारतीय राज्यघटनेनुसार अनुसूचित जाती ही संज्ञा दिली.

कोणत्या जातींना अनुसूचित जाती संज्ञेपासून व मंदपीठ अधिपत्यापासून 1956 च्या कायद्यात तसेच कायद्यात आली आहे.

प्रधानमंत्र्यांच्या मर्यादा अधिकाऱ्यांच्या देण्यांनुसार या अनुसूचित जाती-जमातींना समाजात समाजसंवर्धन देण्यात येईल, भारतीय कायद्यानुसार या अनुसूचित जाती-जमातींना 'एक जाती' किंवा 'अनुसूचित' तसेच कायद्यात आली होती. या अनुसूचित जाती-जमातींना समाजात समाजसंवर्धन देण्यात येईल, त्यांची एक जाती पातळी साकारणे तसेच समाज तसेच जातींना भारतीय राज्यघटनेनुसार अनुसूचित जाती ही संज्ञा दिली.

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Title of the paper :-Fundamental amendments for the Indian scheduled castes and scheduled tribes




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डा. विनेश अरुण दूर्गे
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एटापल्ली, दि.गडचिरोली
मो.नं. 9421115541 prokuchergo@gmail.com

सारांश
डॉ.बाबासाहेब आंबेडकर यांची ओळख देवदास राजवडेवरील निर्मिती व इतिहासाच्या उद्घाटनाने अर्थव्यवस्था
मजबूत करून देण्यात एक महत्त्वपूर्ण भूमिका बजावली आहे. डॉ.आंबेडकरांनी देशातील अर्थव्यवस्थेच्या विकासामाठी
त्यांचे कार्य अत्यंत महत्त्वपूर्ण आहे. आंबेडकरांचे विचार अर्थशास्त्रातील प्रगतता महत्त्वपूर्ण बनवण्याच्या विचारांची मुद्रावत आहे.
ज्यात अर्थव्यवस्थांना महत्त्व देण्यात आल्याने उद्दिष्ट आहे. आंबेडकरांचे विचार कृषि, उद्योग या इतरही बाबींवर
देशातील आर्थिक नियोजन, बजेटकारी अर्थशास्त्र, बाजारात नियंत्रण कायदे, चलन निर्माण, विदेशी निविदा, शिक्षण
अर्थव्यवस्था, बजेट आणि राजस्व इत्यादी विषयांवर त्यांचे प्रभाव आहे. भारतीय अर्थव्यवस्थेच्या विकासासाठी विचारित
कारणांना अर्थव्यवस्थांना बांधून देणे व त्या क्षेत्रात कार्य करताना त्यांना उद्देश्ये सर्व भारतीय नागरिकांचे बजेट व दिन
मागचे हेच होते. आर्थिक विषयांसाठी देशातील राष्ट्रीय जागरण भर पावले. राष्ट्रीय आर्थिक जागरण भर पावले.

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पायाभूत सुविधांची आवश्यकता

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विश्वकर्मा महाविद्यालय, भाद्रवती, जि. गडचिरोली

सारांश :
भारताला स्वतंत्र झाल्या ७४ वर्षां पुढे आजही अनेक भागात दारिद्र्य विद्यमान आहे. त्यांना अल्पतः अन्न, वस्त्र, शिक्षण या सुलभता प्राप्त झाली आहे. त्यांना अन्न, वस्त्र, शिक्षण या सुलभता प्राप्त झाली आहे. त्यांना अन्न, वस्त्र, शिक्षण या सुलभता प्राप्त झाली आहे.

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Title of the paper :- Need of basic infrastructure to remove poverty in the Gadchiroli District



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A Pair of Gymnospermous Ovule from the Deccan Intertrappean Series of Chhindwara District, M.P., India

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Abstract: This paper deals with the study of pair of gymnospermous ovule with ovuliferous scale from the Deccan Intertrappean beds of Mohgaonkalan, M.P., India which is of Uppermost Cretaceous to Lower Eocene age. The complete specimen measures 1.440 to 1.620 mm in length and 0.920 to 1.080 mm in breadth. It shows single, parenchymatous ovuliferous scale. On the upper surface of ovuliferous scale two orthotropous ovules are present. The integument is parenchymatous and undifferentiated. The micropylar canal 74-80 μ m long and 60-65 μ m broad. Nucellus is free from integuments. Sclerotic cells are absent. Vascular supplies are seen only in the chalazal region. The present ovule is compared with reported gymnospermous ovule and modern gymnospermous taxa. As the specimen is not comparable with any of the living genus and reported ovule, it is kept under a separate genus *Deccanoovuliteskappatensis* gen. et. sp. nov.

Keywords: Deccan, Intertrappean, fossil, cherts, gymnosperm, ovule

I. INTRODUCTION

This paper deals with the study of pair of gymnospermous ovule with ovuliferous scale from the Deccan Intertrappean beds of Mohgaonkalan, M.P., India which is of Uppermost Cretaceous to Lower Eocene age. From the Deccan Intertrappean series there are very few records of gymnospermous ovules and cones, listed as, *Takliostrobusalatus* (Sahni, 1931); *Indostrobusbifidolepis* (Sahni, 1931); *Harrisostrobusintertrappea* (Chitale & Sheikh, 1973); *Mohgaonstrobusahni* (Prakash, 1956, 1962); *Gymnoovulites* (Shukla, 1948); *Gymnoovulitesshuklaii* (Kate, 1974); *Podocarpooovulitesstriwingatus* (Singh, 1977); *Podocarpooovulitesmohgaonensis* (Upadhye, 1979); *Podocarpooovuliteschitaleyi* (Sheikh & Kolhe, 1982); *Cupressaceoovulitesintertrappea* (Mistri et al., 1985); *Coniferoovulitesintertrappea* (Yawle, 1975) are the ovule specimens described so far. One more new gymnospermous ovule is being described here from the Deccan Intertrappean series of Mohgaonkalan, M.P., India.

II. MATERIAL AND METHOD

The fossiliferous chertshave been collected from the Deccan Intertrappean beds of Mohgaonkalan, M.P., India. While breaking the cherts the ovule was exposed inobliquely transverse plane. After etching the specimens with hydrofluoric acid (HF), serial peel sections are taken with Cellulose Acetate peel Technique. The peels were mounted in DPX mountant and photographed. The camera lucida sketches of the slides are drawn for detailed study of ovule cut in oblique transverse plane.

2.1 Description

The complete specimen measures 1.440 to 1.620 mm in length and 0.920 to 1.080 mm in breadth. It shows single, parenchymatous ovuliferous scale. On the upper surface of ovuliferous scale two orthotropous ovules are present. The integument is parenchymatous and undifferentiated. Nucellus is free from integuments. Sclerotic cells are absent vascular supplies are seen only in the chalazal region. It shows following anatomical details-

2.2 Ovuliferous Scale

The ovuliferous scale is single and made up of thin walled parenchymatous cell. At the basal region it shows some thick

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386


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Investigation of a Monocot Caryopsis from the Deccan Intertrappean Beds of Mohgaonkalan, M.P., India

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Abstract: The present paper deals with the study of a fossil unilocular, monocot caryopsis collected from the well-known locality of Mohgaonkalan, Chhindwara district, M.P., India, which is of uppermost Cretaceous to lower Eocene age. The fruit measures 2.78 – 2.89 mm in length and 2.34 – 2.45 mm in breadth. The fruit is unilocular containing single large seed with the aleuron layer inside the fruit. The pericarp measure 260 to 305 μ m thick and multilayered, differentiated into three zones i.e. outer, middle and inner zone. Seed is large and measures 2.00 to 2.12 X 1.89 to 2.00 mm in size. Seed coat is bitegmic in nature. Embryo is monocot type and ill preserved. Placentation is basal. Dehiscence is not seen. Vasculature is not clear. The specimen is compared with living genus of modern families and reported fossil monocot fruits as it resembles more with modern family Graminae it is kept under this family but as a separate genus *Caryopseocarpondeccanensis* gen. et sp. nov..

Keywords: Deccan, Intertrappean, fossil, cherts, monocot, fruit, caryopsis

I. INTRODUCTION

The present paper deals with the study of a fossil unilocular, monocot caryopsis collected from the well-known locality of Mohgaonkalan, Chhindwara district, M.P., India, which is of uppermost Cretaceous to lower Eocene age. From the Deccan Intertrappean beds many fruits have been reported, but these reported fruits large number of reports are of dicot fruits, while the reported monocot fruits are very few. Some reported monocot fruits are – *Nypahindi* (Sahni & Rode, 1937). Species of *Palmocarpon* like *Palmocarpon takliensis* (Sahni et al., 1934; Sahni, 1964); *Palmocarpon bracteatum* (Shrivastava & Rao, 1934; Sahni, 1934); *Palmocarpon sahani* (Sahni & Rode, 1937); *Palmocarpon compressum* (Rode & Sahni, 1937); *Palmocarpon insigne* (Mahabale, 1950); *Palmocarpon mohgaonense* (Prakash, 1955); *Palmocarpon indicum* (Prakash, 1960); *Palmocarpon sulcatum* (Prakash, 1960b); *Palmocarpon splendinum* (Trivedi & Chandra, 1971a); *Palmocarpon intertrappea* (Yawle, 1975) & *Palmocarpon deccanii* (Chudiwale, 1990), *Cocussahni* (Kaul, 1951), *Cocus intertrappeensis* (Upadhyay, 1979), *Viracarpon hexasperum* (Sahni, 1944), *Musa cardiosperma* (Jain, 1964); *Amomocarpon sulcatum* (Rode, 1933; Sahni, 1964); *Graminocarpon mohgaonense* (Chitale & Sheikh, 1971); *Kremocarpon aquatica* (Chitale & Kate, 1975); *Tricocististrigonum* (Rode, 1933a); *Baratsoeocarpon mohgaonense* (Wazalwar, 1990) & *Araceocarpon deccanii* (Waghaye, 1995). One more fossil monocot, caryopsis is being described here from the Deccan Intertrappean beds of Mohgaonkalan, M.P., India.

II. MATERIAL AND METHOD

The fossiliferous cherts had been collected from the Deccan Intertrappean beds of Mohgaonkalan, M.P., India. While breaking the cherts the fruit was exposed in longitudinal plane. After etching the specimens with hydrofluoric acid (HF), serial peel sections are taken with Cellulose Acetate Peel Technique. The peels were mounted in DPX mountant and photographed. The camera lucida sketches of the slides are drawn for detailed study of fruit cut in longitudinal plane.

2.1 Description

The longitudinally exposed fruit measures 2.78 – 2.89 mm in length and 2.34 – 2.45 mm in breadth. The fruit is unilocular containing single large seed with the aleuron layer inside the fruit. The pericarp measure 260 to 305 μ m



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STUDY OF WATER PARAMETERS LIKE DISSOLVED OXYGEN, TOTAL HARDNESS, ALKALINITY AND CHLORIDES FROM ETAPALLI CITY OF GADCHIROLI DISTRICT

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Abstract - Water is essential for all human living. Water has great use for drinking if it contains all the required minerals in desired limit. The water parameters like Dissolved Oxygen, Total Hardness, Alkalinity and Chlorides are analyzed. The sample of water taken from different places of Etapalli city of Gadchiroli District. These parameters are again comparing with standard parameters of WHO and ISIRI.

Index Terms - Dissolved Oxygen, Total Hardness, Alkalinity, Chlorides, Titration.

1. INTRODUCTION

The oxygen is dissolved in water and its concentration in water depends upon temperature, salinity of water and atmospheric pressure. The oxygen in water is directly vary with temperature i.e. at 20° C its concentration is 9 mg/L, and at 0° C is 14.6 mg/L. (Tchobanoglous, et. al. 2003) The taste of water is depending upon the dissolved oxygen. There are mainly three methods by which the dissolved oxygen is calculated like volumetric method, Winkler titration method and electrochemical method. (APHA, 2005). Aqueous solution require dissolved oxygen to live. (Sholten et al. 2010). The concentration of dissolved oxygen in water decreases from required level if directly affects on aquatic organisms (Majumdar, 2007). Water which contains more amount of mineral is considered as hard. (APHA, 2005). There are two types of hardness i) Temporary hardness which occurs due to presence of bicarbonate and carbonate. ii) Permanent hardness which occurs due to the presence of sulphate and chloride ions. (APHA, 2005) and (Tchobanoglous, et. al. 2003). When the water enter from rain it is very pure and it does not contain any type of hardness, but the hardness is coming in water comes in contact of rock, limestone and soil (McGinn, et. al. 1999) and (Tchobanoglous, et. al. 1995). The scientific evidence shows that if we drink water having hardness upto 175 mg/L, reduces the heart problem (Tchobanoglous, et. al. 1995). Magnesium is the most abundant element in body and it is essential that it is a cofactor for many cellular enzymes (Majumdar, et al. 2003). Now a days a reverse osmosis and distilling devices are used to remove minerals from water but they are removed some essential minerals from water due to this drinking water has less amount of minerals. Therefore it is necessary to use proper instruments to remove excess amount of minerals from water (Caldwell, et al. 1995).

The water is said to be alkaline if it contains lime and soda. The water is alkaline due to the presence of free hydroxide and bicarbonate like substances. (Tchobanoglous, et. al. 2003) Alkalinity gives the major information of bases present in water by titration method. The major chemical compound i.e. calcium carbonate is responsible for alkalinity. The pure rain water does not contain any alkalinity but when it comes in contact of soil the presence of alkalinity is found. (Wilson, 2016). The lime stone rocks, are responsible to introduce calcium carbonate in natural water. Some other compounds responsible for alkalinity are silicates, nitrites, phosphates, dissolved ammonia, etc. (Water Research Centre, 2014). Some other compounds responsible for alkalinity are silicates, nitrites, phosphates,

dissolved ammonia, etc. (Prukey, et al. 2004) Alkalinity is used to measure buffer capacity of water system here it means the pH on addition of acid and bases. Bicarbonates are responsible for alkalinity in natural water the formation of bicarbonate is due to minerals from soil and rock and CO₂ from atmosphere. To measure alkalinity, samples of known volume of drinking water is put in water sample after the pH range 8 to 9. This Titration is divided into three types of alkalinity i.e. bicarbonate, carbonate, and total alkalinity. Now the carbonate is calculated by titration of water by using phenolphthalein indicator upto pH range 8.3. Similarly the Total alkalinity is calculated by titration of water using methyl orange indicator upto pH range 4.5. Bicarbonate alkalinity is calculated from difference between total alkalinity and carbonate alkalinity. The higher percentage of total alkalinity, the better is water. (Chatterjee, et al. 1996).

Generally chlorides present in all naturally occurring sources of water. The desired limit of chloride ion in water is 250 mg/L given by (ISIRI 1970). The chloride is found in nature in salt form like Sodium chloride (NaCl), Potassium Chloride (KCl) and Calcium Chloride (CaCl₂). The use of NaCl is used to produce sodium soda in industry, CaCl₂ is used as ice control and ECl₃ is used as hardener. The chloride ion has very vital role in osmotic activity in human. Chloride ion in human body is taken in the form of salt (NaCl) it makes electrolytic balance and helps in working of kidney and digestive system. If 100% chloride is taken by body then nearly 95% is excreted in urine, 2% excreted in sweat form and nearly 4% can be absorbed by human body (Department of National Health and Welfare, 1970). However, if water contains chloride level higher than 2.5 g/l then causes hypertension (Fahnestock, 1971). Due to electrical conductivity carrying capacity of chloride ions a product common in metal piping i.e. copolymer, (1971).

II. MATERIAL AND METHODS

2.1 Dissolved Oxygen (DO): The dissolved oxygen meter is measured by Dissolved Oxygen Model AM-DK-40 which works on electrochemical method. Drop the Dissolved Oxygen meter in water sample after each and taking the reading.

2.2 Total Hardness: The total hardness is addition of temporary hardness and permanent hardness. The total hardness is determined by titration method. In this method when Eriochrome black-B added in water sample, a wine red complex which on titration with EDTA gives blue color. Note down this reading and after calculation total hardness of water. The classification of water according to presence of hardness as for Soft Water hardness is less than 50 mg/L as CaCO₃, For Moderately Hard Water hardness is between 50-100 mg/L as CaCO₃, for Hard Water hardness is between 100-200 mg/L as CaCO₃, for Very Hard Water hardness is greater than 200 mg/L as CaCO₃ (APHA, 2005).

2.3 Alkalinity: The alkalinity is calculated by titration of water sample having pH less than 8.3 with sulphuric acid having normality 0.02N. After titration with sulphuric acid note down the reading and calculate alkalinity.

2.4 Chlorides: When this water is reconstituted with acid, such which contains chloride ion. If percentage of chloride ion is higher than 100 mg/l in water then its taste will be salty, such water is drink exposure will be suffer from disease related to heart and kidney. To calculate percentage of chloride ion in water titration method using silver nitrate is used. (APHA, 2005).

III. RESULTS AND DISCUSSION

The water parameters given by different Standards are as

No.	Parameters	Standards by ISI	Standards by WHO
1	Dissolved Oxygen	3-10 mg/L	2-10 mg/L
2	Total Hardness	200-600 mg/L	200-600 mg/L
3	Alkalinity	200-600 mg/L	200 mg/L
4	Chlorides	250 mg/L	250 mg/L

3.1 Dissolved Oxygen (DO): The is measured by using Model AM-DK-40 which shows the reading between standard given by ISI and WHO. The Dissolved Oxygen range is from 4.5mg/l to 5.0mg/l.

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PHYSICOCHEMICAL PARAMETERS OF WATER SAMPLES IN ETAPALLI CITY OF GADCHIROLI DISTRICT OF MAHARASHTRA.

Rajiv Hingajrao Dange

Assistant Professor

Department of Chemistry

Dr. Bhanu Singh & Sonu College (Dange)

Abstract: The present study is focused on the physicochemical parameters such as Temperature, pH, Turbidity, Total Dissolved Solids and Conductivity of water in Etapalli that Gadchiroli District of Maharashtra. The samples were collected from different places in the district. All the samples of water were taken from borewells.

Index Terms: Temperature, pH, Turbidity, Total Dissolved Solids and Conductivity.

1. INTRODUCTION

The composition of water is varying with location, and sampling time, (Kishore et al., 2009) (Kishore et al., 2009). The pH value for any sample is the measure of activity of hydrogen ion per liter. (Dhawan, 2017) and (Joshi, 2017). The range of pH for water is from 1 to 14. It means the water with pH below 7 is considered as acidic, while above 7 is considered as basic. The exact pH range for drinking water is between 6.5 and 8.5 (WHO, 2011). The pH value is determined by two methods, that is by using electronic method, which gives accurate results but it is expensive. Another one is colorimetric method which also gives accurate results and it is less expensive but has some drawbacks of color, turbidity, turbidity prevents in water sample (Kishore, 2009). Water is most common liquid for all living things and it is colorless, odorless, tasteless, (Dhawan, 2017). Water shows many properties due to the presence of H₂O and OH⁻ ions (Dhawan, 2017). The water on which pH of any solution is given by international agreement (Dhawan, 2017). The pH scale is important in the various field like Agriculture, Medicine, Research and Development, Nutrition, Food Science, etc. (Dhawan, 2017). The best way to calculate pH of any solution there are two methods for pH meter and electronic method (Dhawan, 2017).

The results obtained for turbidity is due to the scattering of light by sample from incident light. (Kishore, 2009) For calculation of turbidity the turbidity meter is used. This instrument consists of a light source which produces beam of light that passes through a sample and there is photo electric device which shows the reading between intensity of incident light and scattered light. (Kishore, 2009) The water sample from borewell shows very low turbidity due to natural filtration action. (Dhawan, 2017) Drinking water is obtained from natural sources like surface of earth and underground of earth. The water that comes from river, pond, Lake etc. may be polluted by some particles or chemical while underground water is contaminated with oil and water contain particles. Thus the degradation of soil content in water results completion, water mismanagement, they particles are responsible to produce natural source of water (Dhawan, 2009). Turbidity treatment is important factor to remove completion, suspended material from water (Michael, 2017). The heavy concentration of nitrate in the sky is responsible for acid rain (Kishore, 2017). If turbidity value is higher than 5 NTU in comparison water supply then corrosion of pipes, pipelines and leakage of pipe occurs (Dhawan, 2017). Turbidity has major impact on distribution system (Narain, 2017).

The calculation of TDS is nothing but the calculation of inorganic salts present in the water sample. (Kishore, 2009) The water which contains very low concentration of Total Dissolved Solids is also effective for drinking (Dhawan, 2017). When the pollutants, like particles are with water is contaminated, so that the TDS parameters can be checked regularly and if it is out of range then the treatment action (www.safewater.org) The total solids can be measured by using evaporating method and Total Dissolved Solids TDS meter. In the evaporating method there is requirement of drying oven, analytical balance, evaporating dish, desiccator, vacuum pump and crucible, means this method takes long time.

The conductivity of any solution is due to the presence of ions in that solution. (Dhawan, 2017) Generally the pure water is neutral hence it has no conductivity. But the tapwater water has 3.5×10^{-4} S/m, drinking water has 0.007 – 0.07 S/m and Desalinated has 5 S/m (Kishore, 2009) and (Kishore, 2009). Conductivity of water is the property which gives information about water quality. (Dhawan, 2017) Also, it is used to determine the purity of water, drinking water (Kishore, 2009). At different concentrations of NaCl and at different temperature the conductivity of the solution is different (Dhawan, 2017). Conductivity is used to determine whether ions present in pure water, drinking water (Kishore, 2009). At different concentrations of NaCl and at different temperature the conductivity of the solution is different (Dhawan, 2017).

II. MATERIAL AND METHODS

All the samples were collected from selected points in bottles and take in laboratory for further analysis. Some people are using this water for drinking purpose. All these locations are in Gadchiroli.

2.1 Temperature: Temperature is measured by using thermometer directly dip into water sample, after some time note down the reading.

2.2 pH: The pH meter Model AN70-01 which works according to electrochemical method is used. Firstly, the pH meter is standardized by using buffer solution of sample and another buffer solution having different pH.

2.3 Turbidity: The calibration of Digital Turbidity Meter is according to the operating instructions. Take sample in sample tube and keep in turbidity bottle. Insert the tube in the sample tube.

2.4 Total Dissolved Solids: Insert the tube in the sample tube in the TDS meter Model AN-100-01 which shows directly reading where it dip in water sample. Take the sample of water and dip the TDS meter after the mark.

2.5 Conductivity: Generally the conductivity is measured by standard method. We use the pen like Conductometer Model AN-100-01 which dip in water sample shows directly reading.

III. RESULTS AND DISCUSSION

3.1 The parameters given by various standards are as

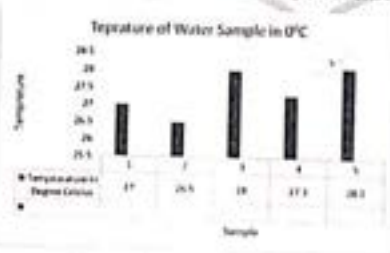
Table 3.1: Standards by ISI and WHO

No.	Parameter	Standards by ISI	Standards by WHO
1	Temperature	10-15	10-15
2	pH	6.5-8.5	6.5-8.5
3	Turbidity	1 NTU	1 NTU
4	Total Dissolved Solids	500 ppm	500 ppm
5	Conductivity	500-1000 µg/cm	1000 µg/cm

The analysis results for all the parameters are as follows.

3.2 Temperature

The temperature for all sampling point is found between the range 17.0°C to 28.1°C. All the samples are from different region.





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EFFECT OF SOIL PH ON THE FUNGAL COMMUNITY AT BHAMRAGAD TALUKA, DISTRICT GADCHEROLI

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Abstract:

One of the most influential factors affecting the microbial community in soil is pH. pH strongly influences abiotic factors, such as carbon availability, nutrient availability, and the solubility of metals. In addition, soil pH may control biotic factors, such as the biomass composition of fungi and bacteria, in both forest and agricultural soils.

Key Words: Fungi, soil pH.

Introduction:

An inherent problem in studying soil pH effects is its varied influence on multiple parameters. Experimentally manipulating the pH of a soil may result in changes in several factors that are hard to separate.¹ Conversely, comparing pH of different natural soils introduces confounding factors, frequently unidentifiable, derived from differences in soil type and management regimes that also vary between soils. The largest effect of pH above pH 4.5 was on fungal and bacterial growth, and there were opposing pH effects.² Most commonly encountered genera of fungi in soil are: *Alternaria*, *Aspergillus*, *Chaetomium*, *Cephalosporium*, *Basillus*, *Chaetomium*, *Fusarium*, *Mucor*, *Penicillium*, *Tetrahymena*, *Trichoderma*, *Rhizopus*, *Gloeosporium*, *Monilia*, *Pyrenopeziza*, etc. This resulted in a 30-fold increase in the relative importance of fungi; the influence of pH on fungal growth has been investigated previously. Baath and Amehmet reported that treatment of forest soils with lime and ash, which resulted in pH changes from about pH 4 to 7 and increased fungal growth about fivefold. A similar study that included 100 different soils sample from areas Ennapali had been reported.^{3,7}

However, one limitation of these observational studies is that it is impossible to determine whether the communities are structured directly or indirectly by pH. In other words, we do not know whether pH itself is the factor shaping these communities, or whether pH may be indirectly related to the observed community changes through many environmental factors (for example, nutrient availability, organic C characteristics, soil moisture regime and vegetation type), which often co-vary with changes in soil pH.⁸ Similarly, we do not know whether soil

also correlated with the community composition of fungi, another dominant microbial group in soil.⁹ Our objectives for this study were observe the effect of soil pH on the fungal community across the 100-m distance of the Ennapali dist. Gadchiroli.

Material and Methods:

Soil sample were collected from across the Bhamragad Taluka of District Gadchiroli to investigate the direct influence of soil pH on the abundance, taxonomic diversity and composition of the major soil microbial fungi. We sampled along the first 100m of the strip taking 5 cm-diameter, 0-25cm depth cores at each sampling position along the gradient. The gradient was sampled every 15m between 0-40 m, and every 3m between 40 and 120m and, then every 10m between the final 120-180m of the gradient. Two fifty soil samples were sieved (2.8mm) in the laboratory, removing apparatus, roots, leaf pieces, and pH was measured using an electronic pH meter.

Result and Discussion:

Spanning a pH range from 4 to 8, showed that there was an increase in bacterial growth with decreased fungal growth was found at higher pH. This, suggesting decrease in fungal dominance of decomposition at higher soil pH. The close correlation between the declines in fungal growth as soil pH declines requires explanation. One potential explanation could be independent physiological limitations by pH of the separate decomposer groups; i.e., low hydrogen ion concentrations limit fungal growth. Recent study has demonstrated that changes in soil microbial communities across space are often strongly correlated with differences in soil chemistry. In particular, it has been shown that the composition, and in some cases diversity, of soil fungal communities is often strongly correlated with soil pH. However, bacterial and fungal growth revealed diverse differences in the activity of these microbial decomposer communities. In contrast, fungal growth was maximal at pH 4.5, and decreased by a factor of more than 5 toward the high pH end.⁴

Sam.No.	pH	Sam.No.	pH	Sam.No.	pH	Sam.No.	pH	Sam.No.	pH
1	7.1	5	7.8	9	7	13	6	17	7.1
2	4.3	6	6	10	7	14	8.3	18	7.6
3	4.8	7	8.2	11	7.1	15	7.8	19	6
4	8.1	8	8.8	12	7.2	16	7.8	20	5

Throughout the Ennapali taluka the measured pH of the soil sample found to be lying in between 4.3 to 8.7. The value of observed soil pH is given in table below. The majority of soil sample shows basic in nature and some soil sample shows neutral pH. The fungal growth in this range of pH hardly survives. One of the collected sample the sample collected from river area shows 4.3 pH. This indicates that there is better survival of fungi. From above diagram it clearly shows that the majority of the sample having pH is greater than 6 pH.

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Poonam Devi
Religious Intolerance in the novel A Suitable Boy by Vikram Seth: A Review

Dr. Aditi Dubey
A Review Study on Computational Linguistics and Natural Language Processing

Anil Kumar, Dr Manju Gupta, Prof. Priyank Shrivastava
OPTIMIZATION OF UTILITY SCALE ON GRID SOLAR PV WITH CAPTIVE POWER PLANT

Kiran Bala
Impact of covid-19 over mental health of children

Nidhi Tyagi
A Review: New Education Policy 2020 of India

Anhiti Mandal
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Anurag Tripathy
Study of Internet of things and challenges in construction of a Smart City

Sahilpreet Singh
Smart Home Energy Management - Functionalities and Architecture of HEMS: A Review

Hiya Kachhawa
Gene therapy in diabetes: A review of case study conducted ever since to cure type 2 diabetes and obesity

Manya Bhatia
Impact of eCommerce Companies on Indian Economy

Gurraj Singh
Quantum Computers: A review of Powers and Applications

Gracy Singh
Study of Vaccination is types and working over immune system of Human Body

Kashvi Verma
A review of Intergovernmental Panel on Climate Change (IPCC) reports

Arpita Rajput, Dr. (Mrs.) V. Tare
A REVIEW PAPER ON PERFORMANCE OF WARM MIX ASPHALT COUPLED WITH RECLAIMED ASPHALT PAVEMENT

✓ Dr. Shreuti Dipak Gubbawat
Score and Significance of Ecology : A review

Alka Singh, Dr Rashi Kesh
A review of Impact of Intrinsic and Extrinsic Rewards Female Field worker's Job Satisfaction in Health Sector

Harshat Wankar, Prof. R.C. Roychaudhary
Design of a Blockchain Based Security Model For IPv6 Addressing Communication

Reema C. Roychaudhary, Fatma Farha Rahim
Design of a high efficiency addressing model for IPv6 Networks via bio-inspired computing

Mr. Moin Afzal Sheikh, Prof. D.W. Wajgi
Autonomous Car and Lane Detection

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Enhancing Data Storage Security in Cloud Using Cryptography

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Real time user access control on Social Network using Deep Learning

Puneet Jain
MOBILE COMMERCE - A NEW CONCEPT

Dr. Inda Ravish
Consequence of COVID-19 on the Education System

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Scope and Significance of Ecology : A review

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Abstract

Once it was determined that rotifers could live for months without water, the current scientific study of desiccation tolerance could begin in 1702. In 1860, the debate over whether or not living things might be dried out without perish, led to the creation of a special French commission to settle the issue once and for all. Today in the year 2000, we know that some groups of animals and many species of plants are able to withstand desiccation while they are actively reproducing in the adult stage of their life cycles. There are a wide variety of lichens and bryophytes here, along with some ferns and a very few flowering plants, but no trees or gymnosperms. When plants are dried, they can withstand temperatures ranging from 272 to 100 °C and can live without water for more than ten years without significant loss of vitality. Plants that can withstand dry conditions are widespread over the globe, although they are most common in arid regions. These patterns raise two major questions. First, how can plants manage to survive periods of drought? The question then arises as to why desiccation-resistant plants are not more prevalent in the natural world. In light of recent findings from molecular and biochemical research, it is becoming clear that tolerance may be achieved via a variety of processes, many of which include shielding against oxidants and the re-configuration of macromolecules that occurs during dehydration. Possible causes for the limited biological range of desiccation-tolerant plants include the plants' intrinsic "trade-offs between desiccation tolerance and growth rate and their inability to sustain a cumulative positive carbon balance over repeated cycles of soaking and drying.

Key-words: biodiversity, climate change, ecosystem services, education, humans dimensions, human-wildlife conflicts, pollution, protected area, tiger

Introduction

Now more than ever, the sustainable management of Earth's resources and the support systems rests on the shoulders of ecologists and others in related fields. As the world's largest populous democracy and the world's fastest-growing major economy, India has a significant influence


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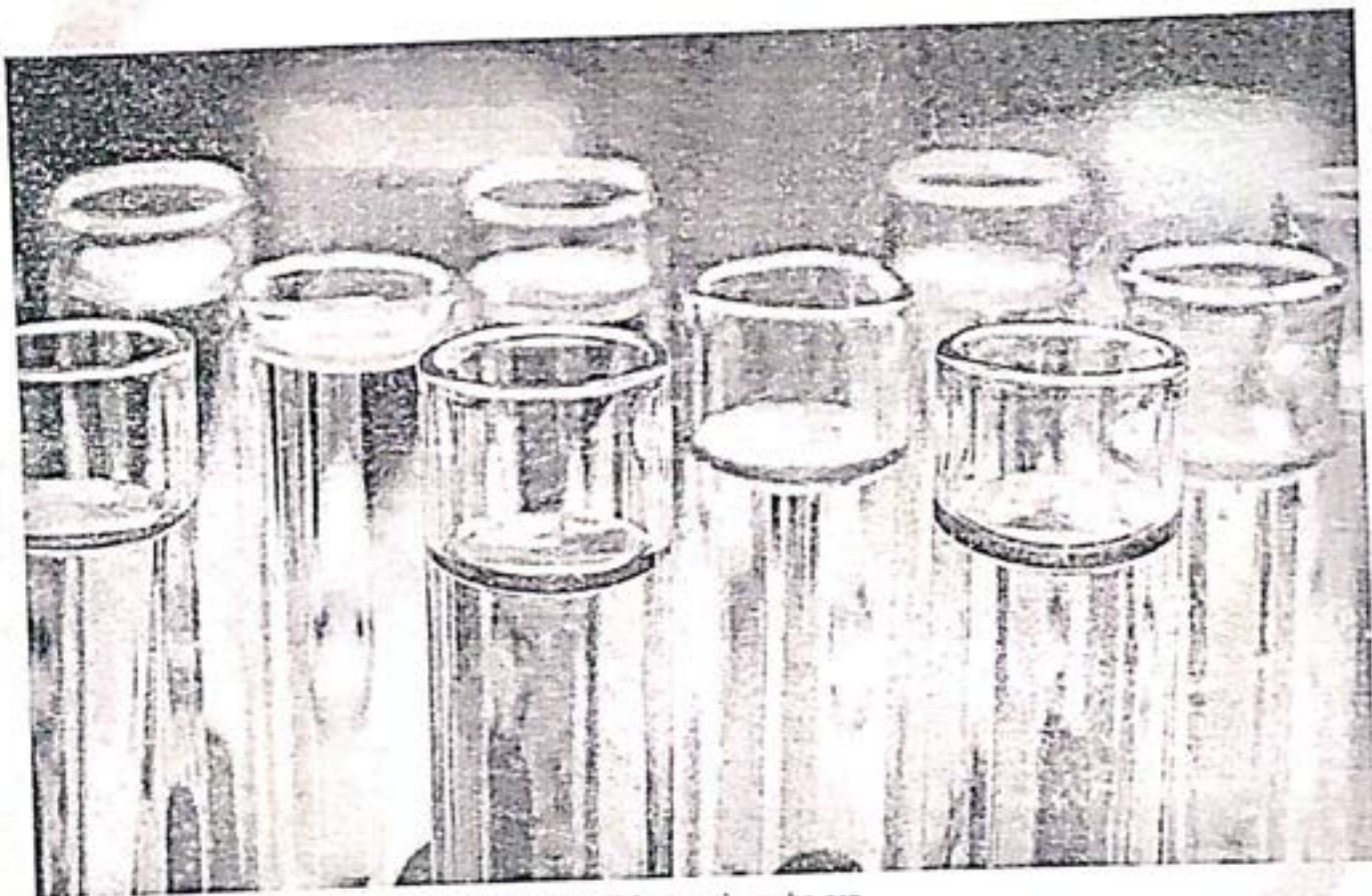
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Innovative Methods for Synthesis of 1-Phenyl Naphthalene Lignan- A Green Chemistry Approach

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ABSTRACT

To generalize the methods for Synthesis of α -arylidenes β -benzoyl propionic acid has been carried out to finalized product such as 1-phenyl naphthalene lignan. To extend the scope of Perkin reaction and cleavage of α -arylidenes γ -phenyl δ - β - γ -butenolide are prepared as β -benzoyl propionic acid and aryl aldehydes underwent perkin condensation at α -methylene to gives α -Arylidene γ -phenyl δ - β - γ -butenolide which on cleavage gives α -arylidenes β -benzoyl propionic acid under two experimental methods are conventional and Ultrasonication method. We carried out the reactions of β -BPA and with series of aldehyde (anisaldehyde, vanillin, vanillic acid, salicylaldehyde, vanillin and benzaldehyde) to obtain the corresponding butenolides on cleavage with alcoholic sodium carbonate gives α -Arylidene β -benzoyl propionic acid. The entire cleavage products have been characterized by their FTIR, ¹H NMR, and mass spectroscopy.

Keywords: β -benzoyl propionic acid, α -arylidenes β -benzoyl propionic acid, α -arylidenes γ -phenyl δ - β - γ -butenolide, Ultrasonication method, 1-Phenyl naphthalene.

1. INTRODUCTION

The Friedel-Crafts reactions are a set of reactions developed by Charles Friedel and James Crafts in 1877 to attach substituent's to an aromatic ring [1]. There are two main types of Friedel-Crafts reactions are alkylation and acylation reactions. Both proceed by electrophilic aromatic substitution reactions. The Friedel-Crafts Alkylation may give poly alkylated products, so the Friedel-Crafts Acylation is a valuable alternative. The acylated products may easily be converted to the corresponding alkanes followed by Clemmensen Reduction or Wolff-Kishner Reduction. Friedel-Crafts acylation is the acylation of aromatic rings with a succinic anhydride using a strong Lewis acid catalyst. Friedel-Crafts acylation is also possible with acid chlorides and cyclic anhydrides [2]. Reaction conditions are similar to the Friedel-Crafts alkylation mentioned above.

Synthesis of 1-phenyl naphthalene has been subject of great interest, as it is an important intermediate for synthesis of cyclolignans and also for physiological properties. Various attempts have been made for the synthesis of 1-phenyl naphthalene and the different types of lignans by large number of workers but only few were successful in synthesizing the naturally occurring isomers. The synthesis of aryl naphthalene lignan has been carried out by various methods, the oxidative coupling method, where aryl naphthalene was prepared by aryl dihydronaphthalene in several steps including oxidation, hydrolysis, reduction, and lactonization. Pericyclic reaction method has also been used extensively for preparation of a wide variety of aryl naphthalene lignans. With the view to all reaction zeolite play an important role and increase yield however decrease their reaction time in Ultrasonication method.

The butenolides were previously reported by Borshe [3], when beta benzoyl propionic acid, aryl aldehyde, acetic anhydride and pyridine were taken 250 ml beaker. As we performed synthesis of pericarbonylignans lactone, we needed two step syntheses. But we also performed the synthesis of 1-phenyl naphthalene and Pericarbonylignans by cyclization of Perkin condensation product α -arylidenes β -benzoyl propionic acid with the phosphoric acid and conc. H₂SO₄. Nanozeolite can be achieved in one step.

To extend the scope of Perkin reaction and to generalize the methods for cleavage of α -arylidenes γ -phenyl δ - β - γ -butenolide to Synthesis of α -arylidenes β -benzoyl propionic acid has been carried out. In present work 1-phenyl naphthalene lignan are prepared as β -benzoyl propionic acid and aryl aldehydes underwent perkin condensation at α -methylene to gives α -Arylidene γ -phenyl δ - β - γ -butenolide which on cleavage gives α -

Phytochemical Analysis of Protein and Amino Acid Composition of Shade Dried Leaves of Some Wild and Cultivated Plant Species

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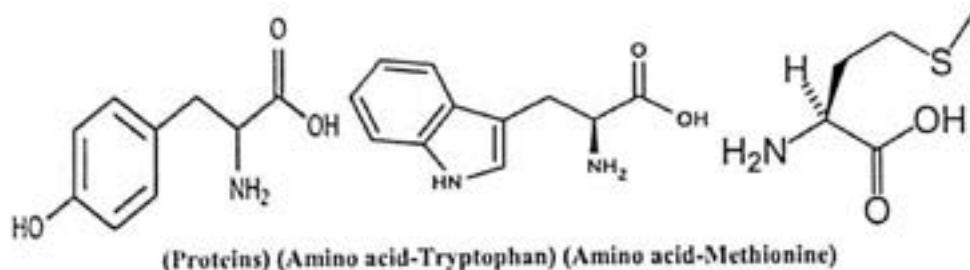
Abstract: The present study aims to evaluate the proximate composition of proteins (Crude as well as soluble protein) and some amino acids in shade-dried leaf samples. The photosynthetic active green foliage of grasses, legumes and other plants contains in general high amounts of proteins and amino acids. Protein is a food component that has functional properties that affect the properties of food products. In the present investigation shade dried leaves samples from seven different plant species viz. Berseem (*Trifolium alexandrinum* L.), Alysicarpus vaginalis L. var. stocksii, Alternanthera paronychioides St. Hil., Cabbage (*Brassica oleracea* L. var. capitata), Radish (*Raphanus sativus* L.), Adulsa (*Adhatoda vasica* Nees.), and Bauchi (*Psoralea corylifolia* L.) were prepared and was assessed for proteins and amino acids. The prepared sample has 6-26% crude protein and 1-14% soluble protein. The amino acids like methionine and tryptophan range from 0.171-2.262 g / 16gN.

Keywords: Protein, Amino acid, Leaves, Methionine, Tryptophan, shade drying

1. Introduction and Review of Literature

Green plant leaves are an excellent source of protein. The leaves of a few species mostly leafy vegetables are at present utilized by man. Phytochemical investigations have revealed diverse kinds of chemical constituents in various plants and have been enumerated as an inception of precious chemicals and some of them have been used as drugs. Abundant data demonstrated that protein is one of the most important nutrients in human and domestic animal nutrition (Altschul, 1958; Abbott, 1966; Milner, 1968).

They are particularly valuable as muscle and nerve builders, rather than as a source of energy. Protein is the most important aspect of nutrition in the human diet as it is connected with growth, maintenance and several other processes of life. The chief attribute of proteins are the presence of high nitrogen, sulphur and phosphorous content. The nutritive value of protein is explained by its digestibility as well as by the availability and amount of various essential amino acids. Amino acids are the building blocks of protein, which in turn represent the basic foundation of protoplasm.



The proteins are the precursors in the formation of secondary metabolism molecules and these molecules were involved in cell signaling, gene expression, hormone synthesis, phosphorylation of protein and antioxidant capacity (Moran-Palacio et al.2014). The biological value of protein depends on the make-up of amino acids (Longenecker 1963). The dietary protein provides a metabolic reserve of amino acids from which new body proteins are synthesized. The consistent presence and proper composition of all the amino acids are the most important factor for the normal functioning and development of an organism. The

deterioration in health status takes place if changes occur in the composition of amino acids (Agbadi et al.2017).

It was further stated that the content of amino acids and proteins would be increased if the leaf samples were subjected to different drying methods e. g. sun and shade drying (Gladys, 2011; Omah, et al.2022). The dehydration of leaf sample can be responsible for the concentration of a fair amount of proteins and amino acids (Sonkamble and Pandhure, 2017). The dried leaf sample can improve its shelf life without significantly altering the rich nutritional benefits of the vegetable (Abioye, et al.2014). Dried leafy vegetables

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ANALYSIS OF SOME NUTRITIONAL AND QUALITY ATTRIBUTES OF SHADE DRIED LEAVES OF SOME WILD AND CULTIVATED PLANT SPECIES

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ABSTRACT:

The present study aimed to evaluate different nutritional and chemical compositions in shade-dried leaves samples of various plant species. No doubt fresh green leaves contain a high amount of nutritional and quality attributes. However, these fresh leafy materials are also highly perishable and after post-harvest, most of them are subject to goes waste. There are different methods of preservation among them; the shade drying method is most suitable as it retains all the nutrients and other mineral composition intact as suggested by various workers. Therefore in the present investigation shade dried leaves samples from seven different plant species which are underutilised viz. Berseem (*Trifolium alexandrinum* L.), Alysicarpus vaginalis L. var. stocksii., Alternanthera paronychioides St. Hil., Cabbage (*Brassica oleracea* L. var. capitata), Radish (*Raphanus sativus* L.), Adulsa (*Adhatoda vasica* Nees.), and Bauhi (*Psoralea corylifolia* L.) were prepared and was assessed for various chemical composition viz. total carbohydrate, total chlorophyll, crude fat, crude fibre, total ash and acid insoluble ash. The results shows the prepared samples have 5.80% - 24.03% of total carbohydrate, 14.89 - 503.69mg/100g of total chlorophyll content, crude fat content ranges from 7.0% - 22.93%, crude fiber content ranged between 4.60% - 33.50% , total ash content was found to be 9.40% - 23.75% and acid insoluble ash content ranges from 0.43% - 4.87%.

Keywords: - Carbohydrate, Chlorophyll, Crude fat, Crude fibre, Shade drying etc.

INTRODUCTION :

Green leaves are the chief source of micronutrients, but in the past, it was considered that the utilisation of green leafy vegetables was allocated to the sign of poverty. It was supposed that the peoples who consume it were too poor to afford meat (Gladys, 2011). Although green leafy material constitutes the main component in the diets of most of the human and animal population. It can be consumed in various ways some of them can use as raw or it can be used by cooking. Green leafy materials have a variety of health benefits for consumers, due to their proximate content of minerals, vitamins, protein, fibres, chlorophylls,

fats, carbohydrates and antioxidant compounds, etc. Their inclusion in daily diet can promote dietary diversity and reduce micronutrient deficiency (Garti, et al. 2018; 2019; Achimugu and Emmanuel, 2021). It adds flavour, taste, colour and aesthetics to the diet (Omah, et al. 2022).

Green plant leaves are prone to be more susceptible to fluctuating seasons, these are radially and abundantly available during the rainy season but there is a scarcity or less availability in the dry season. Secondly, after harvesting, they lose their moisture content very quickly, and due to this, the appetizing quality deteriorates rapidly. This rapid deterioration results in less shelf life of 3-5 days under normal



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