



ಭಾರತದಲ್ಲಿ ಸೆಕ್ಯೂಲರ್‌ವಾದ
ಮತ್ತು ಅದರ ವಿಮರ್ಶೆ



ಭಾರತದಲ್ಲಿ ಸೆಕ್ಯುಲರ್‌ವಾದ ಮತ್ತು ಅದರ ವಿಮರ್ಶೆ

ಕುವೆಂಪು ವಿಶ್ವವಿದ್ಯಾಲಯದ ಮತ್ತು ದಾವಣಗೆರೆ ವಿಶ್ವವಿದ್ಯಾಲಯದ
ಸ್ನಾತಕೋತ್ತರ (ಎಂ.ಎ.) ರಾಜ್ಯಶಾಸ್ತ್ರ ಪಠ್ಯಕ್ರಮ ಹಾಗೂ ಕರ್ನಾಟಕ ರಾಜ್ಯದ ಎಲ್ಲ
ವಿಶ್ವವಿದ್ಯಾಲಯಗಳ ಸ್ನಾತಕ (ಬಿ.ಎ.) ಪದವಿಯ ಪ್ರಥಮ ಸೆಮಿಸ್ಟರಿನ ರಾಜ್ಯಶಾಸ್ತ್ರ
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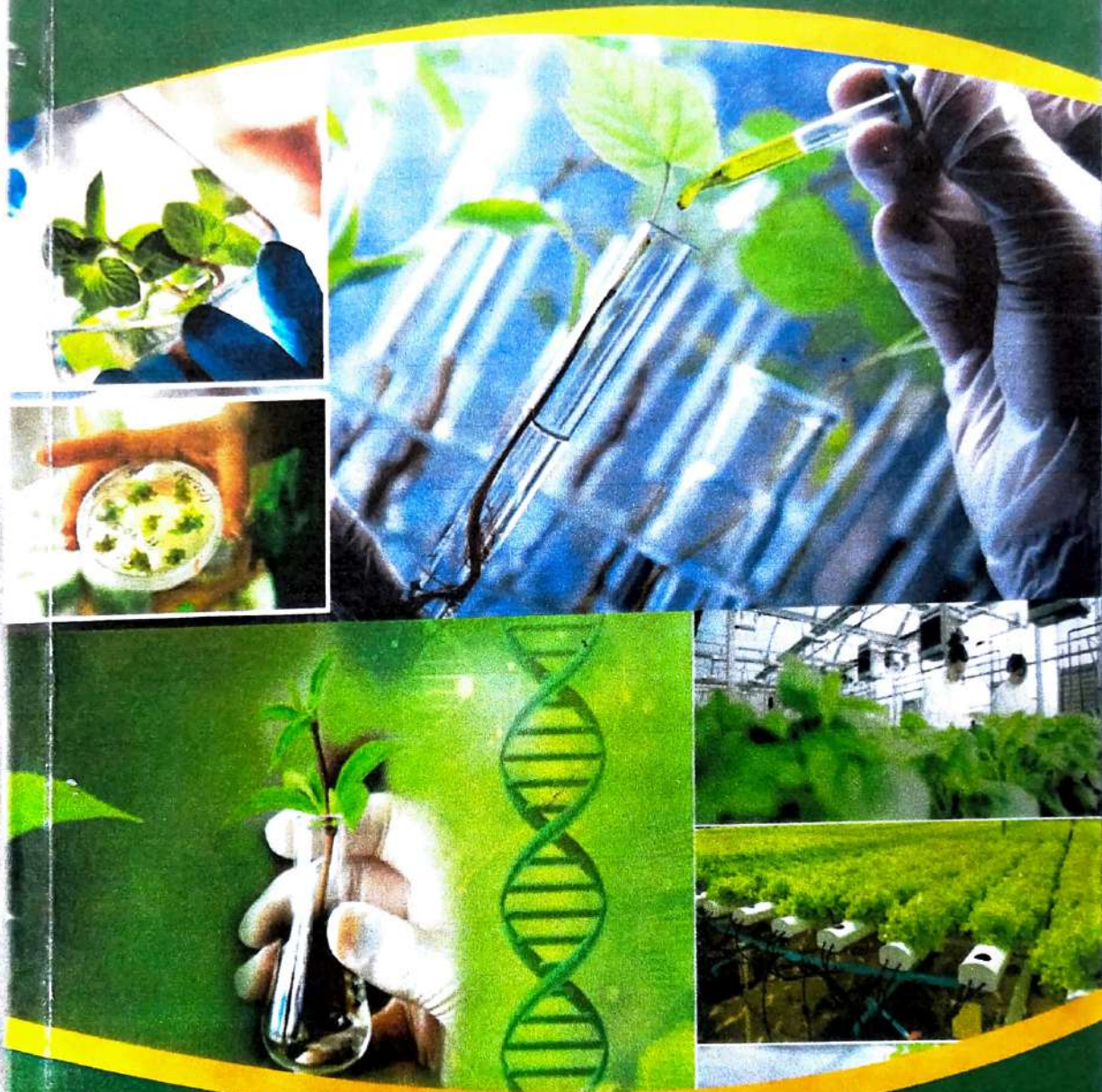
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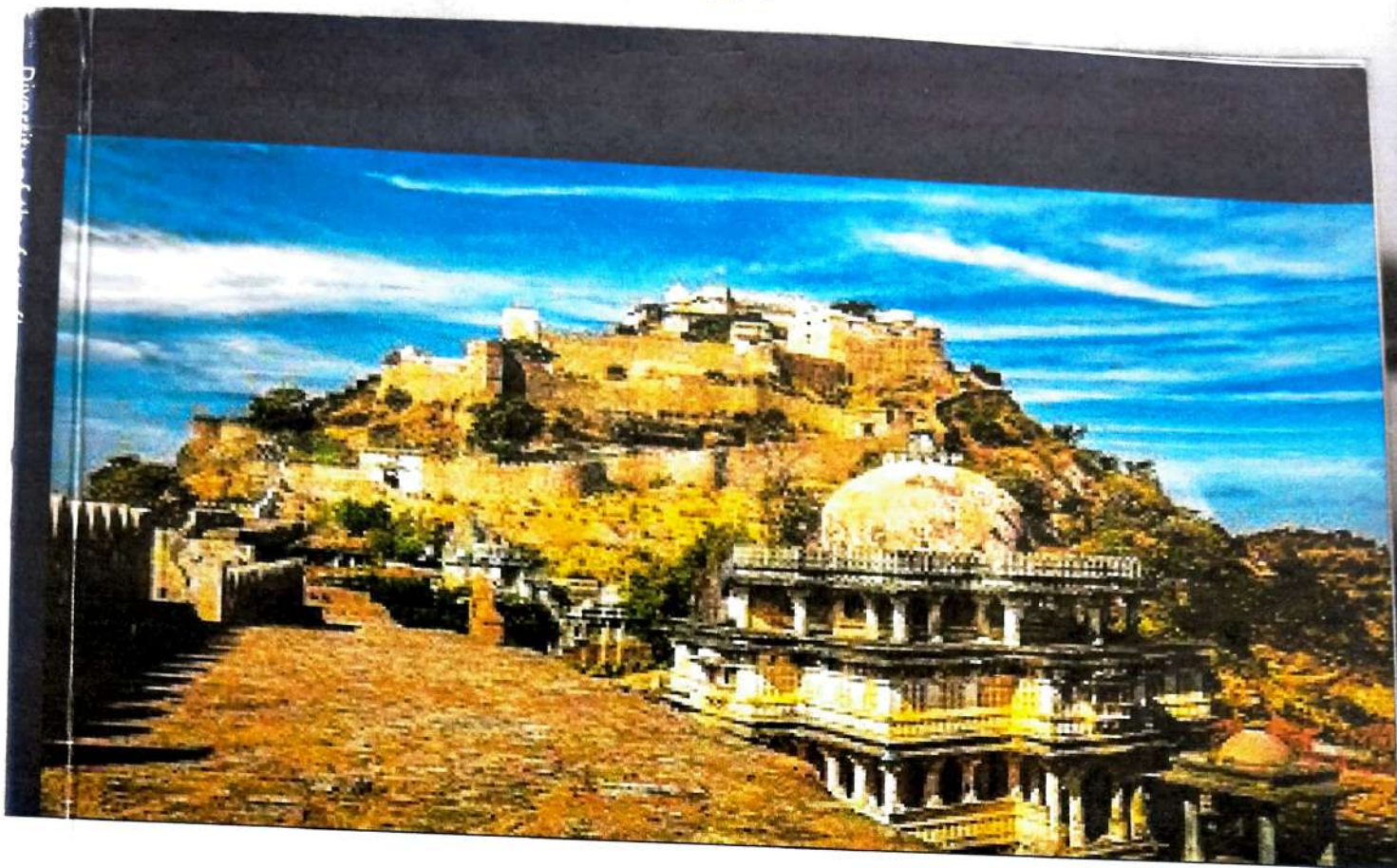
BASICS OF PLANT BIOTECHNOLOGY



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Documentation of plant diversity from the forts of
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ಅಧ್ಯಾಯ - 2

ವಸಾಹತುಶಾಹಿ ಆಳ್ವಿಕೆಯಲ್ಲಿ ವೈಯಕ್ತಿಕ ಕಾನೂನು

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Review article.



Phenomenon in Environmental and Nano Science

JAYA
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Chrysanthemum cinerariaefolium
(Pyrethrum) / *Tanacetum*
cinerariifolium

P. Shivakumar Singh, GD. Yogashree and HC. Shrishail

1. Introduction

Chrysanthemum is a cosmopolitan genus, comprising about 300 species of herbs and under shrubs, among which a few yield the commercial insecticide known as Pyrethrum. Several species of *Chrysanthemum* are ornamental and grown in gardens for their large, showy, multicoloured flowers (Anon, 1992). Pyrethrum (*Chrysanthemum cinerariaefolium*) has been under cultivation around the world for nearly 150 years, with Kenya accounting for about 83% of the present world production (Bhat *et al.*, 1985). In India, it is cultivated on a large scale only in Kashmir, though successful trials of cultivation have been reported at Kullu, Palampur, May-urbhanj, Kumaun, Assam, Karnataka, Kerala and Kodai-kanal. Its flowers yield an important insecticide, i.e. the pyrethrins. The pyrethrin content, being a quantitative character, always poses a problem before the breeders while selecting desired genotypes having high pyrethrin content (Pandita *et al.*, 1989).

Tylophora indica (Burm.F) Merrill.

P. Shivakumar Singh, GD. Yogashree and HC. Shrishail

1. Introduction

Tylophora is a plant that grows in tropical parts of Asia, including India, Sri Lanka, Thailand, and Malaysia. While it did not originate there, it now also grows in Africa. In India it is mainly found in Assam, West Bengal, Orissa and Peninsular India. The name Tylophora comes from "tylos" meaning knot and "phoros" meaning bearing. *Tylophora indica* (Burm.F) Merrill, commonly known as Indian antmool belongs to family Asclepiadaceae. *T. asthamatica* Wight & Arn. is the **Synonym. In English:** Emetic Swallow Wort, Indian or Country Ipecacuanha; **In Ayurvedic:** Antamuula, Muulini, Arkaparni; **Siddha/Tamil:** Nay Palai, Nangilaippiratti

The plant is perennial, small, slender, a twining or climbing herb tylophora is traditionally used as folk remedy in certain regions of India for the treatment of bronchial asthma, inflammation bronchitis, allergy, and dermatitis. Tylophora also seems to be a good remedy in traditional medicine as anti-psoriasis.


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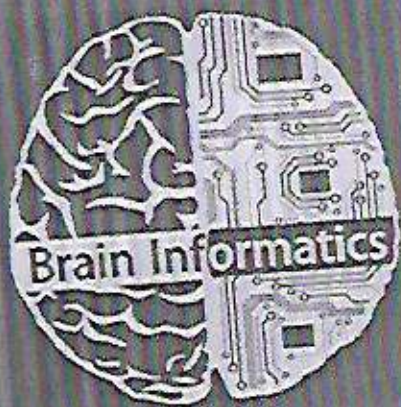
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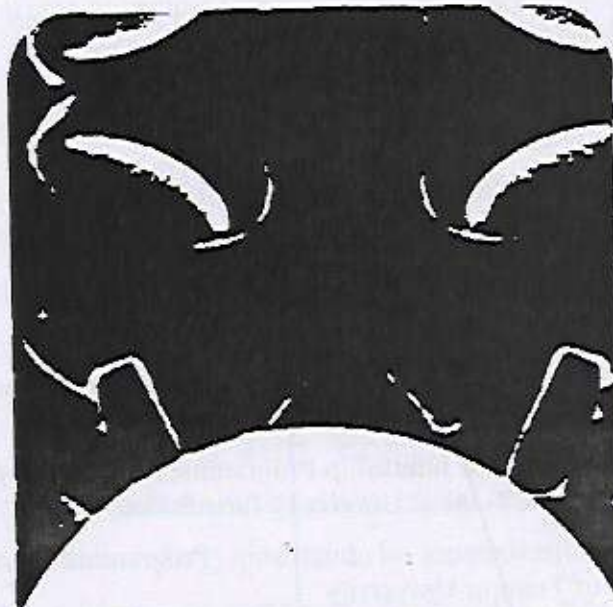


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Print ISSN 2319-4766



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ACADEMICALLY RESEARCH JOURNAL FOR INTERDISCIPLINARY STUDIES

OCT-DEC, 2023. VOL. 11, ISSUE 65

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An International
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OCT-DEC, 2023, VOL. 11, ISSUE 65

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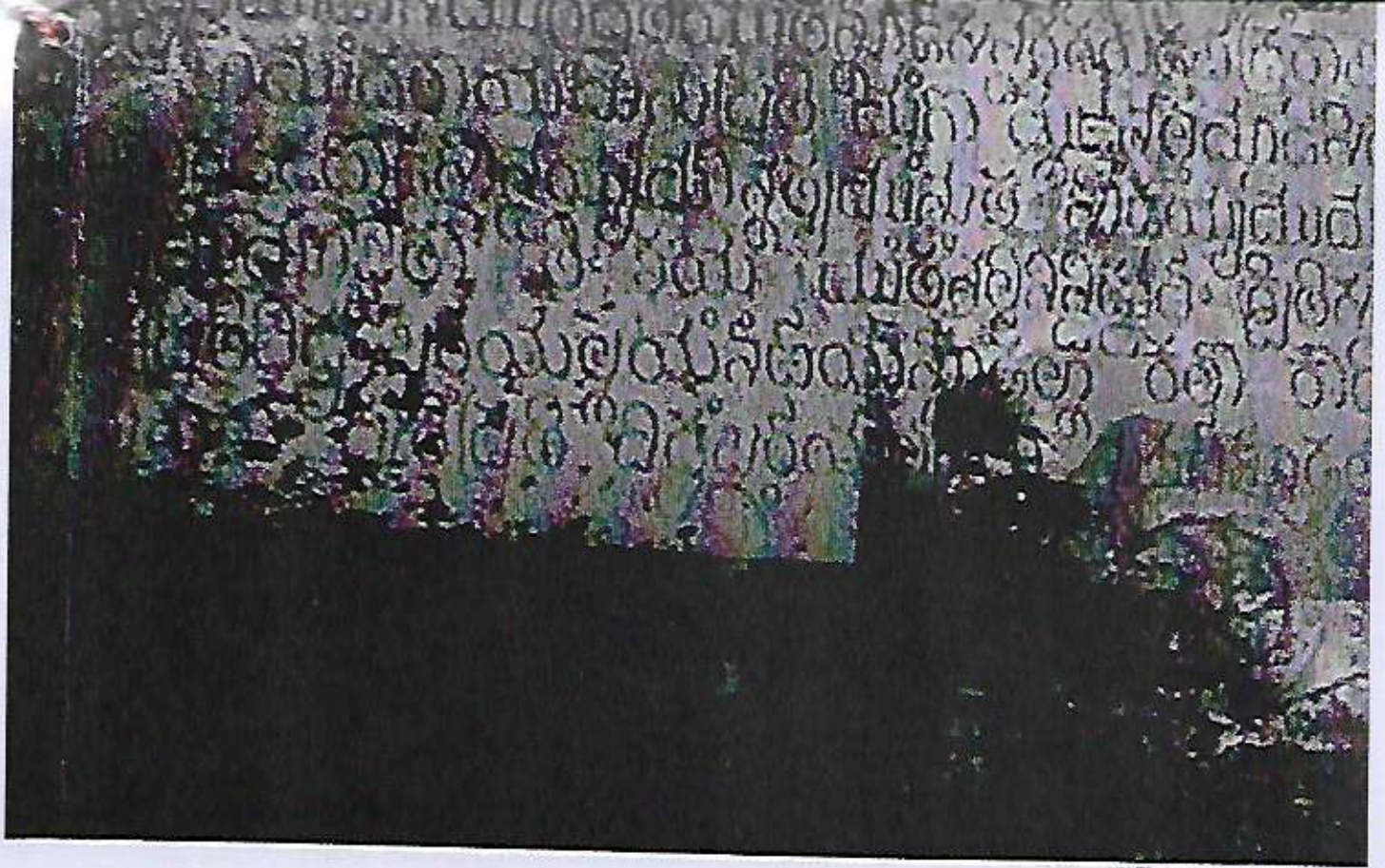
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ಪ್ರೊ. ಶಿವಾನಂದ ಕೆಳಗಿನಮನಿ
ಡಾ. ನೆಲ್ಲಕಟ್ಟೆ ಎಸ್.ಸಿದ್ದೇಶ್



ಮಾಧ್ಯಮ ಯೋಜನೆ

ಡಾ.ನೀಲಿಶಂ ಕುಮಾರ್ ಅಧ್ಯಕ್ಷರು



Thermal Conductivity in the Boundary Layer of Non-Newtonian Fluid with Particle Suspension

Rudraswamy N.G., Ganeshkumar K.,
Krishnamurthy M.R., Gireesha B.J. and Venkatesh P.

Additional information is available at the end of the chapter

<http://dx.doi.org/10.5772/intechopen.76345>

Abstract

The present chapter is focused on studies concerned with three-dimensional flow and heat transfer analysis of Carreau fluid with nanoparticle suspension. The heat transfer analysis in the boundary was carried out with the fluid flow over a stretching surface under the influence of nonlinear thermal radiation, mixed convection and convective boundary condition. Suitable similarity transformations are employed to reduce the governing partial differential equations into coupled nonlinear ordinary differential equations. The equations in non-linear form are then solved numerically using Runge-Kutta-Fehlberg fourth-fifth-order method with the help of symbolic algebraic software MAPLE. The results so extracted are well tabulated and adequate discussions on the parameters affecting flow and heat transfer analysis were carried out with the help of plotted graphs.

Keywords: Carreau nano fluid, nonlinear thermal radiation, mixed convection, stretching sheet, convective boundary condition, numerical method

1. Introduction

Thermal radiation, the fundamental mechanism of heat transfer is an indispensable activity in rocket propulsion, plume dynamics, solar collector performance, materials processing, combustion systems, fire propagation and other industrial and technological processes at high temperatures. With the developments in computational dynamics, increasing attention has been diverted towards thermal convection flows with the significant radiative flux. Rayleigh initiated the theory of thermal convection, by deriving critical temperature gradient (Critical Rayleigh number). Importance of such radiations is intensified with absolute temperatures at

Nonlinear Radiative Heat Transfer of Cu-Water Nanoparticles over an Unsteady Rotating Flow under the Influence of Particle Shape

K. Ganesh Kumar, B.J. Gireesha and S. Manjunatha

Additional information is available at the end of the chapter.

<http://dx.doi.org/10.5772/intechopen.74807>

Abstract

A 3D study on Cu-water rotating nanofluid over a permeable surface in the presence of nonlinear radiation is presented. Particle shape and thermophysical properties are considered in this study. The governing equations in partial forms are reduced to a system of nonlinear ordinary differential equations using suitable similarity transformations. An effective Runge-Kutta-Fehlberg fourth-fifth order method along with shooting technique is applied to attain the solution. The effects of flow parameters on the flow field and heat transfer characteristics were obtained and are tabulated. Useful discussions were carried out with the help of plotted graphs and tables. It is found that the rate of heat transfer is more enhanced in column-shaped nanoparticles when compared to tetrahedron- and sphere-shaped nanoparticles. Higher values of rotating parameter enhance the velocity profile and corresponding boundary layer thickness. It has quite the opposite behavior in angular velocity profile. Further, unsteady parameter increases the velocity profile and corresponding boundary layer thickness.

Keywords: particle shape effect, nonlinear radiation, Cu-water nanoparticles, unsteady rotating flow

1. Introduction

The interaction of thermal radiation has increased greatly during the last decade due to its importance in many practical applications. We know that the radiation effect is important under many isothermal and nonisothermal situations. If the entire system involving the polymer extrusion process is placed in a thermally controlled environment, then radiation

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First South Asia edition 2022

First published 2022

by Routledge

2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge

605 Third Avenue, New York, NY 10158

Routledge is an imprint of the Taylor & Francis Group, an informa
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British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library

Library of Congress Cataloging-in-Publication Data

A catalog record has been requested for this book

ISBN: 978-1-032-33222-2 (hbk)

ISBN: 978-1-003-15287-3 (ebk)

DOI: 10.4324/9781003152873

Typeset in Bembo

by Deanta Global Publishing Services, Chennai, India

Printed and bound in India

For sale in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka only.

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Shikaripura, Shimoga District, Karnataka State
Phone : 08187-222344, 9620083614
E-mail: suvvibooks@gmail.com**

First Impression : 2023

Pages : 238

Paper Used : 70 gsm NS

Book Size : 1/8th Demy

© : Author

Price : 350

ISBN : 978-81-958711-0-0

DTP : Swetha

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Chamundheshwari Printers
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Gama -577214

Shikaripura, Shimoga District, Karnataka State

Phone : 9620083614

E-mail: suvvibooks@gmail.com

First Impression : 2023

Pages : 248

Paper Used : 70 gsm NS

Book Size : 1/8th Demy

© : Author

Price : 300/-

ISBN : 978-81-958711-1-7

DTP : Swetha

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Bangalore- 560 072. INDIA

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www.collegebookhouse.com

First Edition : 2018

© : Authors

ISBN No. : 978-93-819798-0-8

Pages : vi + 174 = 180

Price : ₹ 495/-

Cover Page Design : Chandrakant pattan

Page layout : Sneha Graphics, Mob : 9341158906

Printers : Vinayaka Graphics, Bangalore.

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□□□

STUDY ON WETLANDS OF LAKKAVALI RANGE OF BHADRA WILDLIFE SANCTUARY, MID WESTERN GHAT REGION, KARNATAKA

H.T. RAJAVENDRA GOUDIA AND VIJAYA KUMARA

INTRODUCTION

The wetlands have ecological and economic functions. Wetlands in Lakkavali range, Bhadra Wildlife Sanctuary, Chikmagalur, are shallow water bodies that become flooded for a sufficiently long period of time during winter and spring. In the Lakkavali range there were two types of wetlands (natural and man made). They were from small waterholes, hollows and swamps in almost permanent wetlands. They are usually inundated for at least 56 months every year. Some wetlands may hold water throughout the year, whereas others may remain dry for more than one season, depending on the amount of rainfall. Thus, they possess significant variations in soil depth, depth, diversity among flora and fauna.

Wetlands are very common in Lakkavali range of Bhadra Wildlife Sanctuary and are known by local names (Table 1). Wetlands are especially critical habitats for wildlife and exceed all other land types in wildlife productivity (Vogelbein and Borewester, 1981; Corwell and Gierlich 1982; Paine, 1992). Wildlife species use wetlands as either a permanent or temporary home for breeding, food and shelter (Paine and Paine, 1982; Rajarat and Prabha, 1985). Soils are complex mixtures of minerals, organic compounds and living organisms that interact continuously in response to natural and imposed biological, chemical and physical forces. Soils are the natural bodies in which plants grow. Most soils are capable to some degree of absorbing and detoxifying various pollutants to harmless levels through chemical and biochemical processes. The soil performs five essential functions of retaining water, sustaining animal and plant life, filtering potential pollutants, cyclic nutrients, and supporting structure.

Soil is a complex physio-biological system providing water, mineral ions, nutrients, dissolved oxygen and anchorage to plants. The planktonic study is very useful tool for the assessment of water quality in any type of waterbody and also contributes to an understanding of the basic nature and generally economy of the wetland. They have several management scope for environmental management in rural conditions, landscapes, landscapes.

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Manuscript Title - ECOBIOLOGICAL STUDY OF ANEGUNDI IN
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Hydro-chemistry and Phytoplankton in Wetlands of Muthodi Range of Bhadra Wildlife Sanctuary, mid Western Ghat Region, India

Vijaya Kumara and A.F.Pramod*

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ABSTRACT

Systematic study has been carried out to evaluate physicochemical characteristics of Water and Phytoplankton in the selected wetlands in Muthodi Range of the Bhadra Wildlife sanctuary from May 2009 to April 2010. Three major wetlands which come across the temperate zone of the sanctuary *viz.*, Halgae Kere, Nagara Bavi and Thalabidrae kere have been selected for the study. Eighteen physico-chemical water quality parameters have been analyzed for pre, post and monsoon seasons. The obtained data analyzed with reference to BIS and WHO standards. The physico-chemical characters of water are well within the permissible limit and the

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DIVERSITY AND DISTRIBUTION OF AVIFAUNA IN BHADRA WILD LIFE SANCTUARY, INDIA

M.N. HARISHA AND B.B. HOSETTI

CONSERVATION OF TROPICAL BIODIVERSITY

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INTRODUCTION

Birds are among the best monitors of environmental changes and have been used to evaluate the environment throughout the history as "biomonitors" and; the changes in their population, behavior patterns and reproductive ability have most often been used to examine the long term effects of habitat fragmentation. Hence, they are the good indicators of ecological status of any given ecosystem (Bilgrami, 1995). Forests attract a large number of avifauna because of the habitat suitability for most of them. This especially include the birds that are associated with the vegetation, and for most, the existence of trees is vital to their life cycle. Birds show different levels of interest to various stands depending on the age of the stands. The bird species composition is highly related to the forest vegetation structure. The diversity of birds, and in particular the native species, is positively correlated with increasing structural complexity of the vegetation. Also a seasonal change in species diversity of birds occurs in forests due to their foraging behaviour (Robertson and Hackwell, 1995). The present study was undertaken to assess the pattern of distribution and diversity of avifauna in the Westernghat, India.

STUDY AREA

Lakkavalli range forest encompasses an area of 229.65 sq km and is one of the largest range forest in the limits of Bhadra Wildlife Sanctuary spanning between 13°22' to 1347' N latitude; 75°29' to 75°45' E longitude (Map 1). Lakkavalli range forest is located 30 km south of Shimoga city with a varied type of vegetation encompassing dry mixed deciduous forest, moist mixed deciduous forest and sparsely spread semi-evergreen forest. Northern part of the forest range adjoins the Bhadra Reservoir. The terrain in the reserve is undulating with valleys surrounded by steep hills. Temperature within the sanctuary varies from 9° to 35° C and mean annual rainfall varies from 1200 to 2600 mm dominated by southwest monsoon during July to September. The study area has been divided into 6 line transects each measures up to 500 m in length and their width depending upon the vegetation pattern (20 m in plantation, 30 m in mixed forest patches).

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Aavishkar Publishers, Distributors
Jaipur 302 003 (Raj.) India

2012

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STUDIES ON ORNITHOLOGICAL DIVERSITY ON
TWO FRESHWATER PONDS OF DHARWAD
DISTRICT, KARNATAKA

M.N. HARISHA, S.N. HORAKERI AND K.L. NAIK

**BIODIVERSITY
CONSERVATION**
(APPLICATIONS AND IMPLICATIONS)

Editors

B.B. Hosetti

D. Bharathi

AUTHOR COPY

2018

 Educationist Press

An imprint of



Write & Print Publications

New Delhi-110 015

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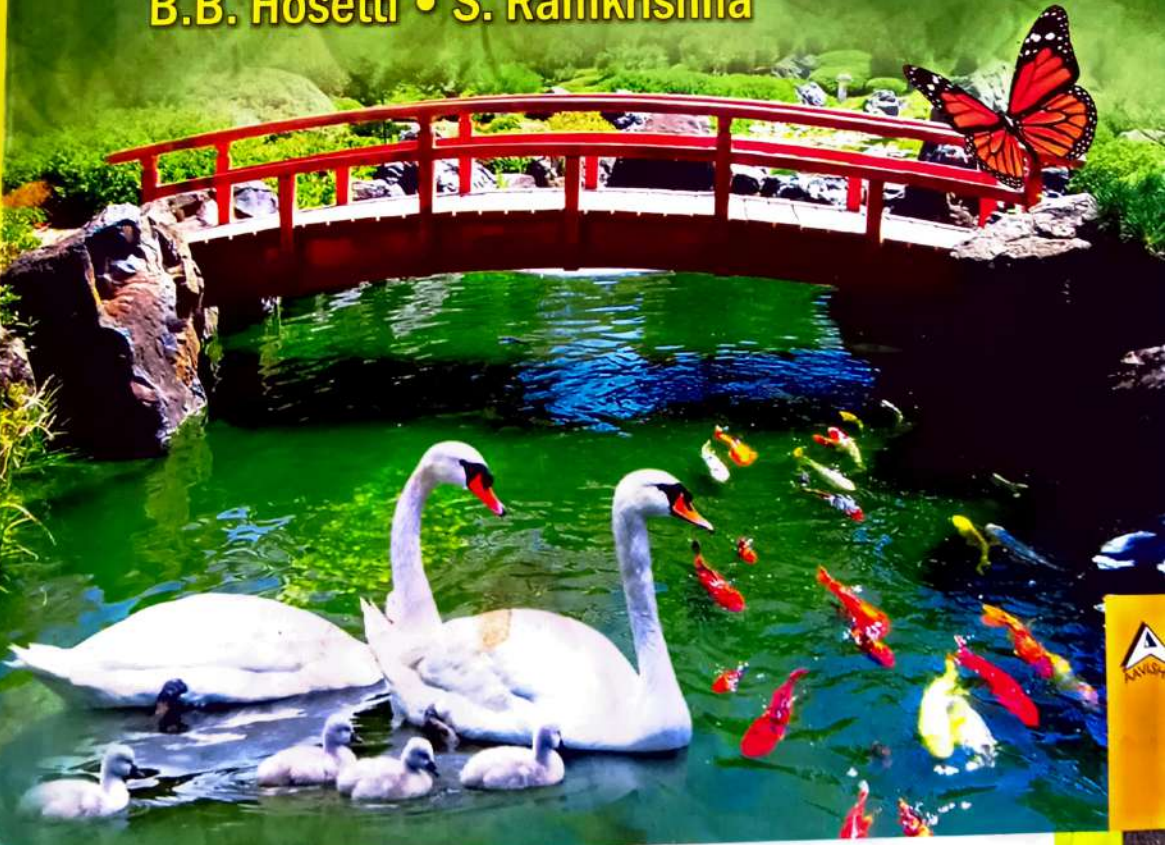
M.N. HARISHA, S.N. HORAKERI AND K.L. NAIK



Biodiversity

Concepts and Conservation

B.B. Hosetti • S. Ramkrishna



Chapter 2

Floral Diversity of Daroji Sloth Bear Sanctuary, Hospet, Bellary District, Karnataka, India

—M.N. HARISHA¹ AND B.B. HOSETTI²



Biodiversity

Monitoring and Utilisation

B.B. Hosetti
K.L. Naik

POINER

