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Sr. No.	Name of the teacher	Title of the book/chapters published	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
1	Dr. D. K. Bisen	Climatology	2019	987-93-86011-57-2	M. B. Patel College, Deori	Saijyoti Publication Nagpur
2	Dr. S. V. Bhandarkar	Limnology	2020	978-93-88901-01-7	M. B. Patel College, Deori	Bhumi Publishing, Nigave Khalasa, Kolhapur 416207, Maharashtra, India
3	Dr. Trimurti L. Lambat	Applications of Metal/Metal Oxides Nanoparticles in Organic Transformations	2020	978-1-64490-097-0	M. B. Patel College, Deori	Published by Materials Research Forum LLC Millersville, PA 17551, USA
4	Dr. Trimurti L. Lambat	Pyrano[2,3- c]pyrazole Derivatives: Synthesis and Applications	2020	9781536183801	M. B. Patel College, Deori	Published by Nova Science Publishers, Inc. † New York
5	Prof. V. M. Gangne	Arshyatle Pratibimba	2021	978-81-949503-1-8	M. B. Patel College, Deori	Gouri Prakashan, Wardha
6	Dr. S. V. Bhandarkar	SHORTS NOTES ON CLADOCERA: A SENTINEL ORGANISM	2021	978-93-88901-21-5	M. B. Patel College, Deori	Bhumi Publishing, Nigave Khalasa, Kolhapur 416207, Maharashtra, India
7	Dr. S. V. Bhandarkar	A Text Book of Advanced Applied Zoology	2021	978-93-91201-65-4	M. B. Patel College, Deori	Sai Jyoti Publication, Nagpur-
8	Dr. S. V. Bhandarkar	A Text Book on General Mammalian Physiology	2021	978-93-91291-42-3	M. B. Patel College, Deori	Sai Jyoti Publication, Nagpur-
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डॉ. देवेन्द्र बिसेन | डॉ. नानाभाऊ कुदर

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The way of Light



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डॉ. देवेन्द्र बिसेन
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विभाग प्रमुख भूगोल
एम.बी.पटेल कॉलेज, देवरी
जि. गोंदिया

डॉ. नानाभाऊ कुदनर
सहाय्यक प्राध्यापक,
विभाग प्रमुख भूगोल
सी.जे.पटेल कॉलेज, तिरोडा
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इ-मेल- ospdnagpur@yahoo.com
- ❖ अक्षर जुळवणी:
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Editors:

Dr. Maruti S. Darade

Dr. Sudhir V. Bhandarkar

Dr. Chintada Vivek

Dr. Gangotri S. Nirbhavane

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Editors

Dr. MARUTI S. DARADE

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Govt. Vidarbha Institute of Science and Humanities, Amravati, M.S. India

DR. SUDHIR V. BHANDARKAR

Department of Zoology
M. B. Patel College, Deori, M.S. India

DR. CHINTADA VIVEK

Academic Consultant, Department of Zoology,
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Department of Environmental Studies,
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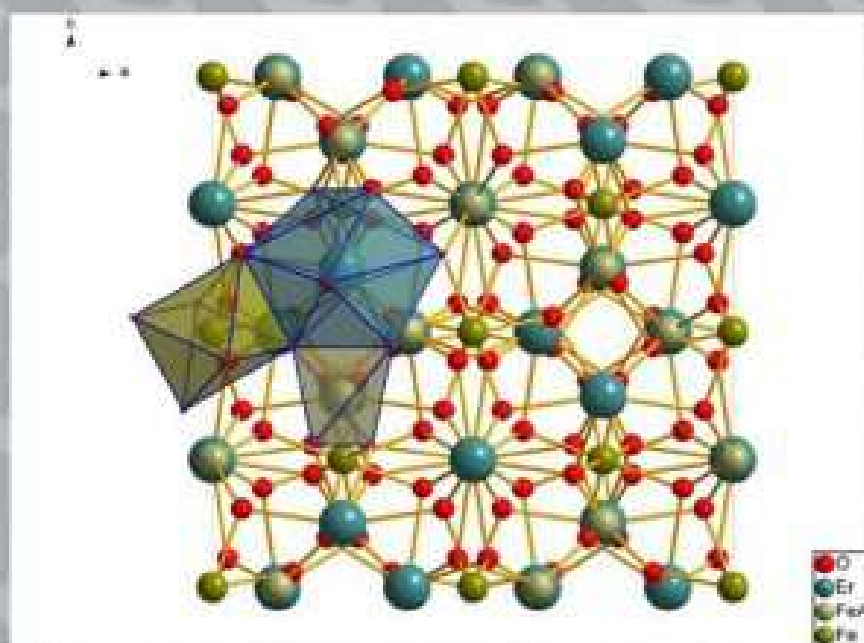
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Magnetic Oxides and Composites II



Rajshree B. Jotania
Sami H. Mahmood

M | R | F

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Applications of Metal/Metal Oxides Nanoparticles in Organic Transformations

Aniruddha Mondal^{1*,a}, S.K. Tarik Aziz^{2,b}, Ajay K. Potbhare^{3,c}, S. Mondal^{3,d},
Trimurti L. Lambat^{4,e}, Ratiram Gomaji Chaudhary^{3*,f}, Ahmed A. Abdala^{5*,g}

¹Department of Chemical Engineering, Tatung University, Taipei 104, Taiwan, ROC

²Department of Chemistry, Bar Ilan Institute for Nanotechnology and Advanced Materials (BINA), Bar Ilan University, Ramat-Gan 52900, Israel

³Post Graduate Department of Chemistry, Seth Kesarimal Porwal College of Arts, Science and Commerce, Kamptee – 441 001, India

⁴Department of Chemistry, Manoharbai Patel College of Arts, Commerce and Science, Deori - 441 901, India

⁵Chemical Engineering Program, Texas A&M University at Qatar, POB 23784, Doha, Qatar

^aaniruddhacsmcri@gmail.com; ^btarikazizchem@gmail.com; ^cajaypotbhare2@gmail.com;

^dsudipmondal5555@gmail.com; ^elambatmbpc@gmail.com; ^fchaudhary_rati@yahoo.com; ^g

^gahmed.abdala@qatar.tamu.edu

Abstract

Catalysis plays a significant role in improving the catalytic processes to enhance efficiency of chemical transformations by reducing wastes. The research on catalysis temporarily emerged as one of the pioneered research in modern chemistry. In the last few years, nanocatalysis has become an emerging area of science and technology owing to their exceptional potential effects in catalysis and selectivity. On the nano-level, the nanostructured materials possessed different size, which rendered different surface area, that conveys the exclusive assets to nanocatalysts compared to their bulk counterpart. In this chapter, we emphasise on the fundamental understanding of different nanocatalysts and how they catalyse catalytic reactions.

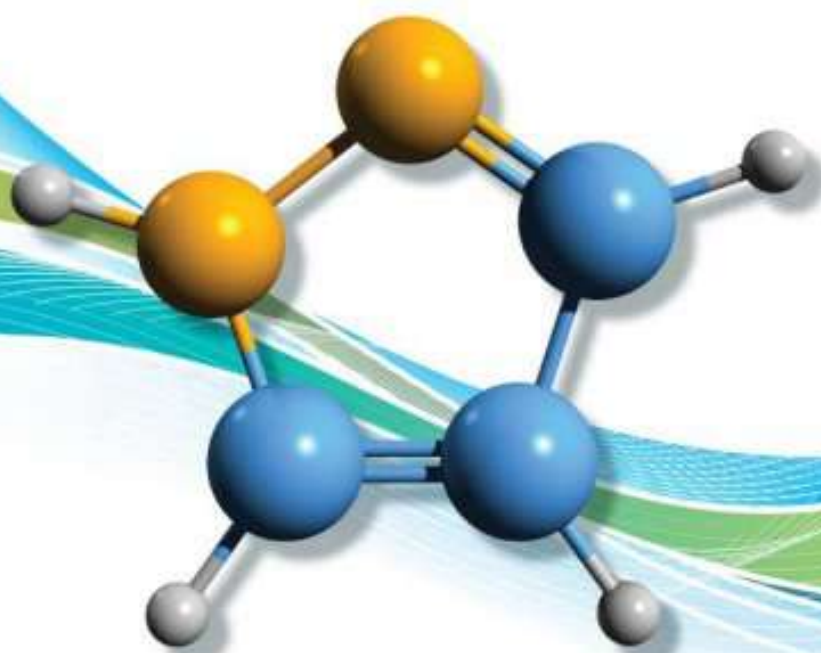
Keywords

Metal Oxide Nanoparticles, Mesoporous Materials, Nanocatalysts, Heterogeneous Catalysts, Organic Transformation

CHEMISTRY RESEARCH AND APPLICATIONS

Pyrazole

Preparation and Uses



Dilipkumar Pal
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Chapter 11

PYRANO[2,3-C]PYRAZOLE DERIVATIVES: SYNTHESIS AND APPLICATIONS

*Devendra Dewangan¹, Trimurti L. Lambat²,
Sami H. Mahmood³ and Subhash Banerjee^{1,*}*

¹Department of Chemistry, Guru Ghasidas University,
Koni, Bilaspur, Chhattisgarh, India

²Department of Chemistry, Manoharbai Patel College of Arts,
Commerce & Science, Deori, Gondia, Maharashtra, India

³Department of Physics, The University of Jordan, Amman, Jordan & Department of
Physics and Astronomy, Michigan State University, East Lansing, MI, US

ABSTRACT

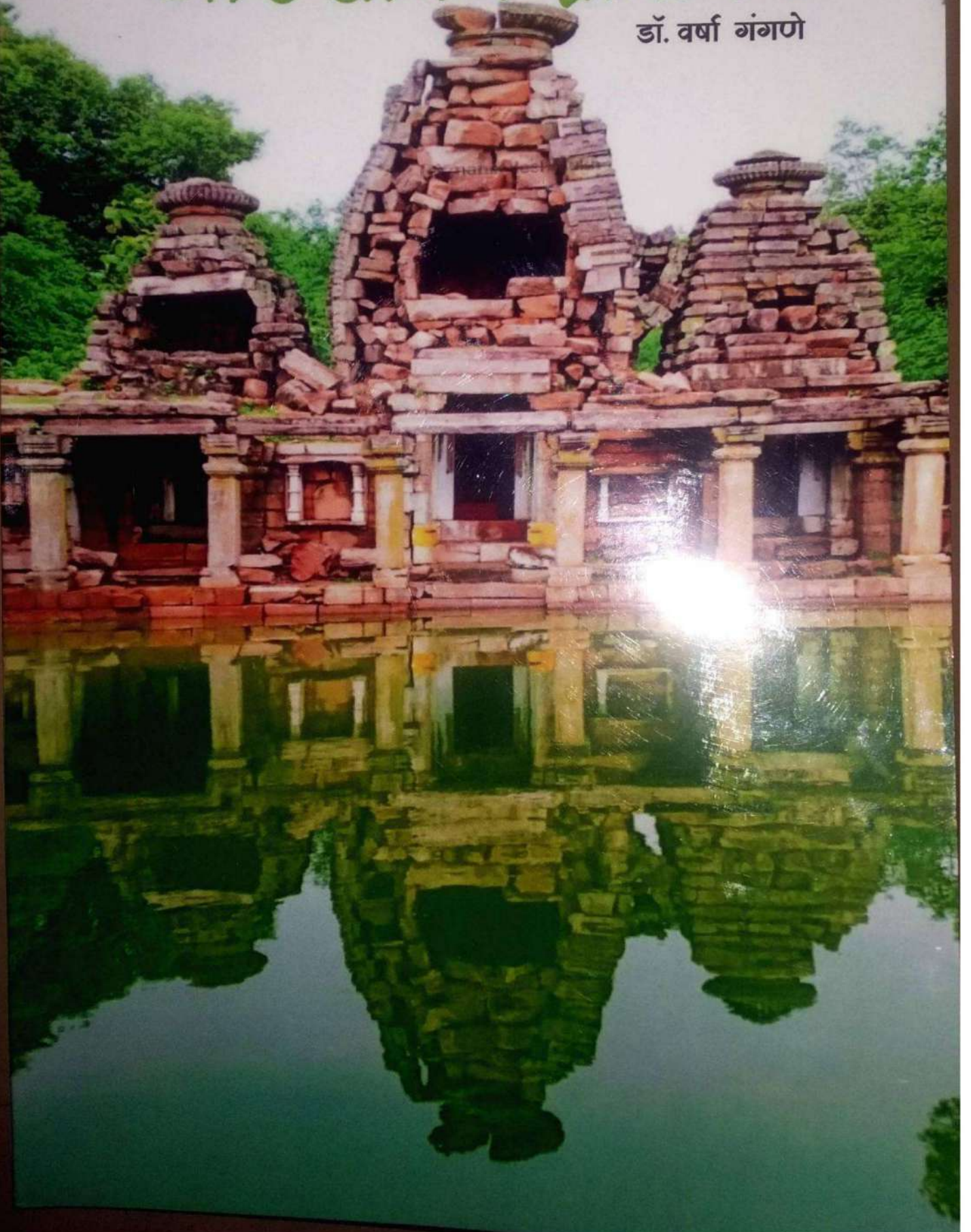
Polyfunctionalized heterocyclic scaffolds have been extremely emphasized in modern organic syntheses due to their improved functional diversity which provides superior possibilities for changeable pharmacophoric groups which could react with a broad variety of receptors. In this connection, pyran-fused poly-heterocyclic scaffolds are increasingly becoming fruitful area of the study for their numerous biological activities. Among such fused hetero-polycyclic molecules, the pyrano[2,3-c]pyrazoles have provided a variety of scaffolds, displaying analgesic, anticonvulsant, anti-inflammatory, anti-platelet, antimicrobial, Chk1 inhibitors, anticancer, vasodilator, molluscidal and antifungal properties. Furthermore, pyranopyrazoles were found to be antioxidants and effective inhibitors to steel corrosion for lubricant oil.

Pyrano[2,3-c]pyrazoles are considered to be the easiest structures to obtain in association to other pyranopyrazoles from the synthetic point of view. This convenience

* Corresponding Author's E-mail: ocsb2006@gmail.com

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□ ई-मेल

gouriprakashan4@gmail.com

□ प्रथम आवृत्ती : जून २०२१

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DR. SUNITA GUPTA

DR. SHAKUN MISHRA

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SHORTS NOTES ON CLADOCERA: A SENTINEL ORGANISM

Sudhir V. Bhandarkar*¹ and Gopal T. Paliwal²

¹Department of Zoology,
M. B. Patel College, Deori, Dist. Gondia, Maharashtra.

²Department of Zoology,
S. S. Jaiswal College, Arjuni-Morgaon, Dist. Gondia, Maharashtra

*Corresponding author E-mail: sudhirsense@gmail.com

Abstract:

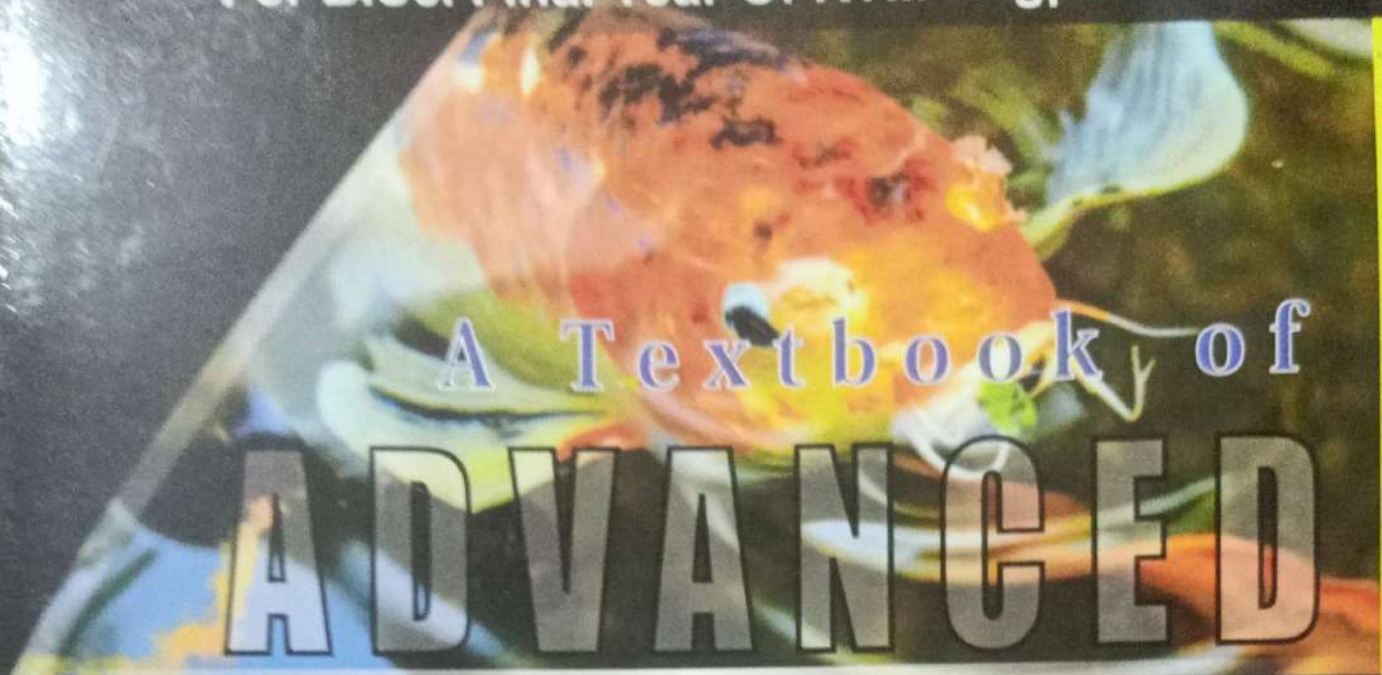
The Cladocera are one of the small group of organism, belongs to crustaceans and it is a representative order in the systematic position. They are generally known as water fleas as they are found in most of the type of waters even in marine habitats. More than 700 species are known to us and many of still unknown because of undescribed. The microorganisms like zooplankton are the integral part of freshwater ecosystem. Among the planktonic communities Cladocera is one of the groups of crustacean organism. They are rich in high nutrient enriched water responded to various physicochemical ecological factors as there is interrelation with changing water environment therefore the group of Cladocera is considered as important freshwater bioindicator of aquatic ecosystem. Now this group is implemented in evaluating the trophic status of many aquatic studies.

Keywords: Cladocera, Bioindicator, Aquatic Ecosystem, Environmental Variable, Pollution.

Introduction:

Sentinel organisms or Indicator species or indicator communities are often used for bio-monitoring. Many of the aquatic organisms are used as indicator species for pollutants including nutrient enrichment (Phillips and Rainbow, 1993). Biochemical, genetic, morphological and physiological changes in certain organisms have been noted as being related to particular environmental stressors and can be used as indicators (Bharti *et al.*, 2013). The absence or presence of indicator organisms or community may reflect environmental conditions. The indicator organisms or sentinel species which accumulate pollutants in their tissues from the surrounding environment are vital bio-monitoring devices (Phillips and rainbow 1993; Kennish 1992).

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Dr. Sudhir Bhandarkar

Head Department of Zoology
Manoharabhai Patel College Deori, Dist. Gondia.

Dr. Milind Shinkhede

Asso. Professor, Department of Zoology
DRB Sindhu Mahavidyalaya Nagpur

Dr. Sandeep Bande

Asst. Professor, Department of Zoology
Tai Golwalkar College Ramtek

Dr. Archana Bhende

Asst. Professor, Department of Zoology
Vidya Vikas Arts, Commerce & Science College,
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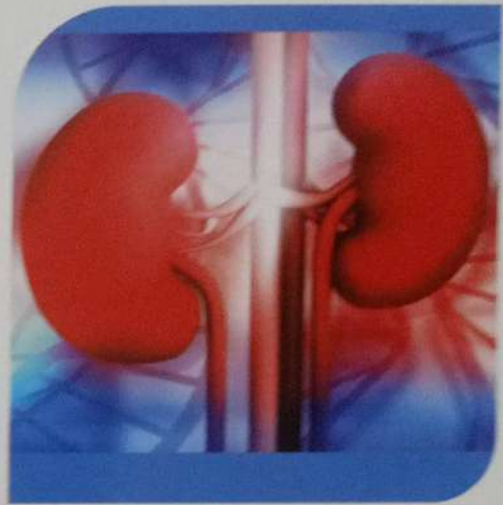
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Head Department of Zoology
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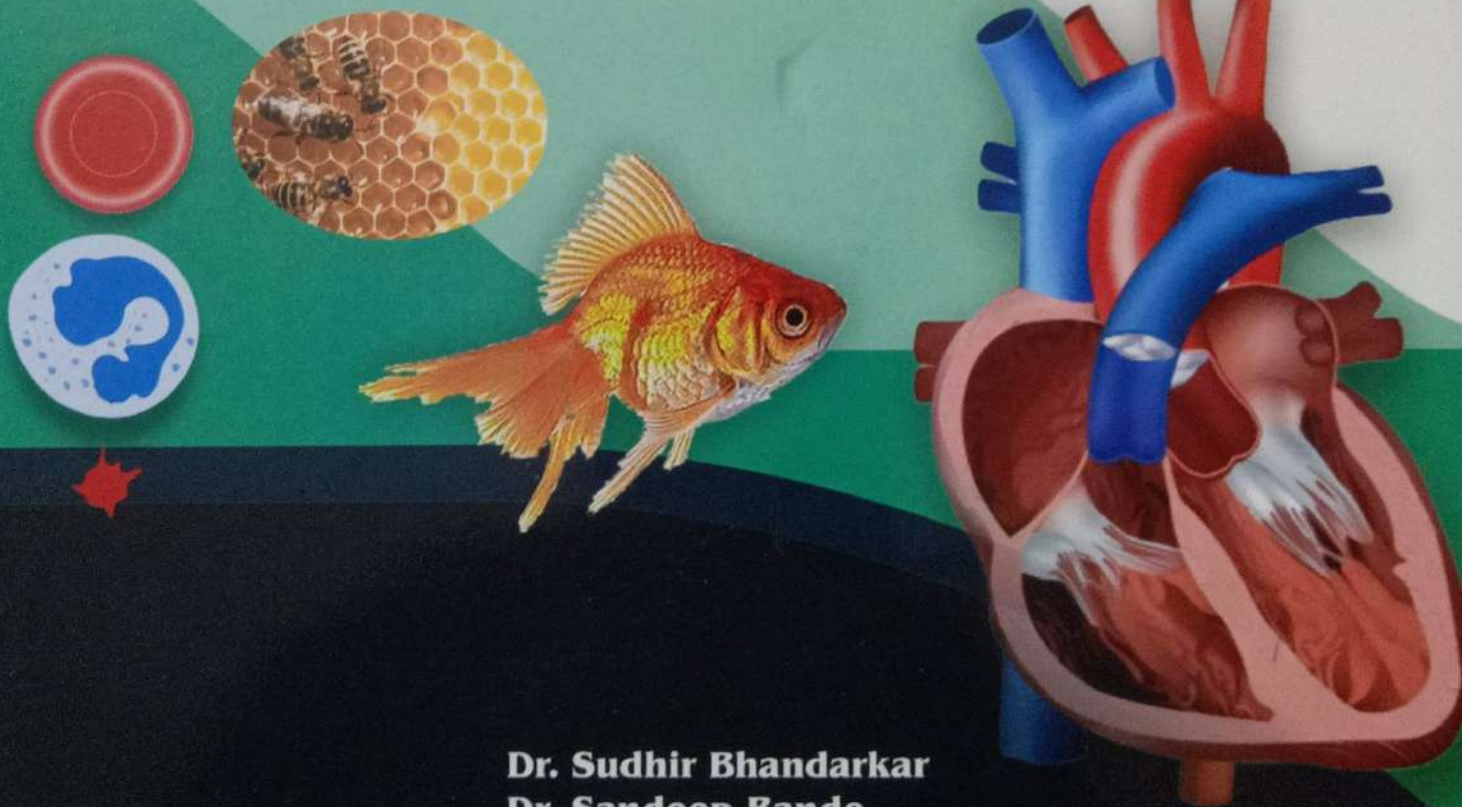
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Ecofriendly microorganism assisted fabrication of metal nanoparticles and their applications

Sudip Mondal¹, Manjiri S. Nagmote¹, Suraj V. Kombe², Barun K. Dutta³, Trimurti L. Lambat⁴, Prashant B. Chouke¹, Aniruddha Mondal⁵

¹POST GRADUATE DEPARTMENT OF CHEMISTRY, SETH KESARIMAL PORWAL COLLEGE OF ARTS AND SCIENCE AND COMMERCE, KAMPTEE, MAHARASHTRA, INDIA ²POST GRADUATE DEPARTMENT OF MICROBIOLOGY, S. K. PORWAL COLLEGE OF ARTS AND SCIENCE AND COMMERCE, KAMPTEE, MAHARASHTRA, INDIA ³DEPARTMENT OF CHEMISTRY AND CHEMICAL ENGINEERING, XIAMEN UNIVERSITY, XIAMEN, P.R. CHINA ⁴DEPARTMENT OF CHEMISTRY, MANOHARBHAI PATEL COLLEGE OF ARTS, COMMERCE AND SCIENCE, DEORI, INDIA ⁵DIVISION OF MATERIALS SCIENCE, DEPARTMENT OF ENGINEERING SCIENCES AND MATHEMATICS, LULEA UNIVERSITY OF TECHNOLOGY, LULEA, SWEDEN

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4.1 Introduction

The interest of the 20th century scientists toward nanoparticles (NPs) has been growing exponentially day by day (Ramadhania et al., 2022). The diverse applications of NPs is the key behind

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२१ व्या शतकातील मराठी महानगरीय कथा

प्रा. मुनिता प्र. रंगारी

सहाय्यक प्राध्यापिका, मराठी विभाग

एम.बी. पटेल महाविद्यालय, देवरी, जि. गोंदिवार.

मो. ९३०७३३०४७६.

ई-मेल - sunitarangari72@gmail.com

प्रास्ताविक :

साहित्य किंवा इतर कोणत्याही कलाकृतीची निर्मिती ही काही थेट आर्थिक वा राजकीय प्रक्रियांचे प्रतिबिंब करणारी नसते. खरे म्हणजे कला आणि आर्थिक वा सामाजिक वास्तवाचा असा थेट संबंध लावणे देखील उचीत नाही. कारण कलाकृती आपल्या सभोवतालच्या वास्तवाकडे ज्या नजरेने पाहते त्या नजरेमधून ती वाचकाला वा रसिकाला 'पाहण्याचा' एक नवा दृष्टिकोन देत असते. वर्ष बदलले म्हणून लगेच तो बदल कलाकृतीमध्ये प्रतिबिंबित केला जाऊ शकत नाही. व्यक्तींच्या आयुष्यात बदलत्या वास्तवाने घडवून आणलेले पृष्ठस्तरीय बदल आणि त्यांनी उठवलेली तरंगवर्तुळे वा वादळे टिपत लेखक त्या समाजाच्या अंतःस्तरीय भागात चाललेली खळबळ समजावून घेतो आणि त्या धाग्यांच्या अनोख्या गुंफणीतून साहित्याची रचना करतो.

'कथा' या ललित साहित्याचा विचार करतांना हा वाङ्मयप्रकार प्राचीन असल्याचे जाणवते. नीतिकथा, बोधकथा, परीकथा, दृष्टांतकथा, दैवतकथा इत्यादी रूपांतून कथा पुढे पुढे सरकत राहिली. काळाबरोबर माणसांच्या जगण्याच्या, विचार करण्याच्या व एकंदरीत त्याच्या विविध प्रश्नांचा धांडोळा घेणारी, मौखिक परंपरेपासून सुरु झालेली कथा आजवर, कलात्मक गुणवत्ता सांभाळत समर्थपणे जीवनदर्शन घडवत आली आहे. काळाच्या विविध टप्प्यांतील स्थित्यंतरांचे दर्शन कथेने घडविलेले दिसते.

आधुनिक कथेचा प्रवास १८७४ पासून सुरु झाला असे ढोबळमानाने म्हणता येते. या कालखंडात लघुकथा नवकथा यासारखी कथासंस्कृतीची अनेक रूपे आकाराला आली. १९६० नंतर कथा या वाङ्मय प्रकारात अनेक नवे प्रवाह आल्याने ती अधिक संपन्न व वैविध्यपूर्ण झाली. साधारणपणे १९९० नंतर माध्यमांमध्ये क्रांती झाली, त्यामुळे समजारचना गुंतागुंतीची झाल्याचे दिसते. जागतिकीकरणाचाही मोठा प्रभाव समाजावर पडला त्यामुळे या काळातील साहित्याचा विचार करतांना हे घटक लक्षात घ्यावेच लागतात.

महानगरीय कथेचा विचार करतांना २१ व्या शतकाच्या सुरुवातीला विज्ञान तंत्रज्ञानातील क्रांतीने जे अनेक नवे समाजात घडून आले त्याचा सर्वात जास्त परिणाम हा लघुकथातील महानगरीय जीवनावर झाला. त्यामुळे महानगरीय कथा, जाणिवे व त्यातून निर्माण झालेल्या महानगरीय वास्तवाचा विचार करावा लागतो. 'कथा' या वाङ्मयाद्वारे हा महानगरीय वास्तवाचा वेध घेण्याचा हा अल्पसा प्रयत्न आहे.

२१ शतकातील महानगरीय मराठी कथा :

२१ व्या शतकातील महानगरीय मराठी कथेचा विचार करतांना विशिष्ट कालखंडाचा उल्लेख करावा लागतो. २००१ या वर्षापासून जरी २१ वे शतक सुरु होत असले तरी, त्याच गाजावाजा १९९० नंतरपासूनच सुरु झालेला दिसतो. त्यामुळे २१ व्या शतकातील कथेची सुरुवात १९९० च्या काळात भारताने स्वीकारलेल्या मुक्त अर्थव्यवस्थेपासूनच झालेली आहे, असे म्हणण्यास हरकत नसावी. खाजगीकरण, उदारकरण व जागतीकीकरण या त्रीसुत्रीच्या स्वीकाराने देशात बहुराष्ट्रीय कंपन्यांचे आगमन झाले. मॉल संस्कृती वाढीस लागली. त्यातून भारतीय समाजाचे विशेषतः महानगरीय समाजाचे जीवन झपाट्याने बदलले. त्यातून अनेक प्रश्न निर्माण झाले. चंगळवादाबरोबरच एकाकीपणाची कीडही समजावर वेळूक लागली. राजकारणातील स्पर्धा तीव्र तर झालीच, त्यातील नैतिकता पार लयाला गेली. तंत्रज्ञानाच्या वाढत्या वेगवेगळ्या धर्माधताही वाढीस लागली. याबाबत कथाकार सततच लक्षे भ्रमणाल, बदलत्या काळात महानगरांची ही जी नवीन वाटचाल सुरु आहे, त्यामध्ये शहरे आणि महानगरे येथील जमजीवनात मोठेच फरक पडला आहे. महानगरात आर्थिक उन्नतीच्या पर्वायाने सुखकंदू, उंची राहणीमान यांच्या शक्तता अधिक असतात. करीअर क्लब प्रेस कमावण्याकडे भर असतो. ज्यामुळे शहरी महानगरीय वास्तविकते प्रचंड अस्वस्थता जाणवते. एकूण काय तर महानगरीय जीवनातील घालमेल दिसामासाने वाढलेच आहे.

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मुद्रक

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Dr. Chandramani Kailash Gajbhiye, MLISC, M.A.(Dr. Ambedkar Thought), M.Phil, PhD, NET is working as Librarian at Manoharabhai Patel College of Arts, Commerce, and Science Deori, Dist. Gondia. He has got more than 12 years of Librarian. He worked as an Assistant Librarian in Government Polytechnic, Sakoli, Dist. Bhandara from 2007-2010. He has experience of teaching and guiding for UGC NET/SET and other competitive examinations. He has published several papers in seminars, conferences, and journals at national and international level have more than 30 papers to his credit. He is author of two books, "Citation Analysis of Dissertations: Study of Citation Analysis of Dissertations on Dr. Babasaheb Ambedkar Thought submitted to RTM Nagpur University, Nagpur" published by Scholars Press, Germany and second book, "Analysis of Citations in Doctomal Thesis" published by Scholar Press, Germany. He has organized one national webinar. He is a life member of professional associations – ILA and MUCLA.

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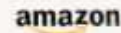


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प्राचीन काळापासून दलित जाणीवा व्यक्त करणारे लेखन झालेले दिसते. चोखामेळा, संत जनाबाई, संत सोयराबाई यांच्या लेखनातून हा विचार व्यक्त झाला आहे. परंतु दलित साहित्याची चळवळ मात्र १९६० नंतर सुरू झाली, असे दिसते. महात्मा जोतीराव फुले यांच्या उदयानंतर शिक्षणाची कवाडं बहुजनांसाठी खुली झाली. पुढे डॉ. बाबासाहेब आंबेडकरांच्या सर्वव्यापी प्रेरणेमुळे जागृत झालेल्या दलित समाजामध्ये नवे आत्मभान जागृत झाले. या जागृतीतून दलित साहित्याची एक चळवळ सुरू झाली. या चळवळीतून जे लेखन पुढे आले, त्यातून या समाजाचे पिढ्यान् पिढ्या भोगलेले वंचिततेचे, उपेक्षेचे, वेदनांचे, दुःखाचे, अज्ञानाचे भोग हिरीरीने मांडले आहे.

डॉ. आंबेडकरांच्या प्रेरणेतून हे साहित्य निर्माण झाल्यामुळे, या साहित्याला पुढे आंबेडकरी साहित्य हे नामाभिधान प्राप्त झाले. दलित साहित्याबद्दल विचार करतांना त्या साहित्यातून व्यक्त झालेल्या सामाजिक संदर्भांचा विचार करावा लागतो. जो भोगवटा त्यांच्या वाट्याला आला ; रूढी—परंपरा—संस्कृतीच्या नावाखाली त्यांचे जे सामाजिक शोषण झाले, ते साहित्यातून व्यक्त करतांना त्यांनी हे साहित्यप्रकार वापरले, त्यांचा उहापोह या लेखातून करण्याचा प्रयत्न केला आहे. दलित साहित्याच्या या चळवळीबद्दल बाळकृष्ण कवठेकर म्हणतात, “दलित साहित्याची चळवळ ही महाराष्ट्राच्या सांस्कृतिक जीवनातील अपूर्व आणि असामान्य महत्वाची घटना होय. हजारो वर्षे मूक राहिलेल्या दलितांच्या अंतःकरणातील व्यथा आणि वेदना, प्रक्षोभ, आणि विद्रोह यांना या चळवळीमुळेच शब्दरूप मिळाले. त्यातून निर्माण झालेल्या दलित साहित्याने एक नवा शक्तिस्त्रोत मराठी साहित्यात आणून सोडला. हे सारे डॉ. बाबासाहेब आंबेडकर यांचे कार्य आणि विचार यांनी जागृत केलेल्या दलित आत्मभानामुळेच शक्य झाले, असे मला वाटते.”१

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दलित काव्याचा पहिला हुंकार चोखामेळा या संतकवीच्या काव्यरचनेतून उमटलेला दिसतो. आधुनिक काळात दलित चळवळीतून उदयाला आलेल्या साहित्यात

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B.Sc. Semester - IV

Paper-VII: Life and Diversity of Animals-Chordates
(Reptilia, Aves and Mammals)

Paper-VIII: Molecular Biology and Immunology



Dr. S. V. Bhandarkar

Dr. S. N. Bande

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B. Sc.
(Semester - IV)

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Dr. Sudhir Bhandarkar

Head Department of Zoology
Manoharbhai Patel College Deori, Dist. Gondia.

Dr. Sandeep Bande

Asst. Professor, Department of Zoology
Tai Golwalkar College, Ramtek.

Dr. Milind Shinkhede

Asso. Professor, Department of Zoology
DRB Sindhu Mahavidyalaya, Nagpur.

Dr. Amarpal Singh Bhadauriya

Asst. Professor, Department of Zoology
Shankarlal Agrawal Science College, Salekasa.

Dr. Kanchan Khaparde

Asst. Professor, Department of Zoology
Manoharbhai Patel College, Sakoli.



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Dr. Vijaykumar I. Rane



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Dr. Arun K. Zingare

Principal & Head, Department of Botany

Manoharbai Patel Arts,
Commerce & Science College,

Deori, Dist-Gondia (M.S.)-441901

Dr. Vijaykumar I. Rane

Head, Department of Botany,

Jagat Arts, Commerce & I. H. Patel Science College,

Goregaon, Dist-Gondia(M.S.)-441801



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Dr. Arun K. Zingare

Principal & Head, Department of Botany
Manoharbai Patel Arts, Commerce & Science College,

Deori, Dist-Gondia (M.S.)-441901

Dr. Vijaykumar I. Rane

Head, Department of Botany,
Jagat Arts, Commerce & I. H. Patel Science College, Goregaon,

Dist-Gondia(M.S.)-441801

Dr. Bhagwan G. Suryawanshi

Associate Professor in Botany,
Jagat Arts, Commerce & I. H. Patel Science College, Goregaon,

Dist-Gondia-(M.S.) 441801

Dr. Amit A. Jagiya

Head, Department of Botany
Manoharbai Patel Arts, Commerce & Science

College, Sakoli, Dist-Bhandara-(M.S.)



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AN OVERVIEW OF METHODS USED FOR PRODUCTION OF TRANSGENIC ANIMALS AND TRANSGENE DIAGNOSTICS

Ashish Suresh Gadwe

Manoharbai Patel College of Arts Commerce and Science,
Deori, Gondia, Maharashtra, India

*Corresponding author E-mail: profgadwe@gmail.com

Abstract:

The underlying principle in the production of transgenic animals is the introduction of foreign gene or genes into an animal. It is important that foreign gene must be integrated in the genetic material of every cell of the animal including germ cells so that it could transmit. The successful transgenesis depends upon the method used in the process of gene transfer. The proper diagnosis of the transgene is also equally important. This chapter examines the effectiveness of various techniques and tactics employed up to this point in the production of transgenic animals as well as several transgene diagnosis techniques.

Keywords: Transgenic animals; Transgenesis; Transgene Diagnostics; Nuclear Transfer; Microinjections.

Introduction:

Ever since the introduction of field of biotechnology, man is able to manipulate the cellular processes, physiology and genetic makeup of organisms. This undoubtedly enhances the production of some useful products from genetically modified animals, especially domestic animals. In 1980, Ralph Brinster and Richard Palmiter had produced the first transgenic animals.

The transgenic animal is the animal whose genetic material is intentionally altered due to introduction of foreign genes. The foreign genes which are inserted said to be transgenes and the entire practice is called Transgenesis (Wakchaure *et al.*, 2015). Transgenic animals carry the particular genes of other species. Even though there are lot of ethical issues around, the technique has already produced mice, rats, rabbits, pigs, sheep and cows. Transgenic technique has provided new dimension to the development of production of farm animals and animal breeding programs.

The transgenic animals and Genetic engineering will play a crucial role in the production of pharmaceutical proteins and bring about an enhancement in agriculture production by increasing the quality and quantity of yield, environmental safety, maintenance of genetic diversity and overall improvement in animal's welfare.

The foreign DNA is introduced in the animal with the intention that it will pass on through germ line to every cell of the body including germ cells. After integration of foreign DNA into germ line cells they are more likely to pass on to the subsequent generations (Kumar *et al.*, 2015). Production of transgenic animals is mainly influenced by factors like defined control of gene expression and transgenic efficiency.

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A Text book of

ZOOLOGY

B. Sc. Semester - I

**Paper - I - Life and Diversity of Non chordates
(Protozoa to Annelida)**

Paper - II - Environmental Biology



**Dr. Sudhir Bhandarkar
Dr. Sandeep Bande
Dr. Madhuri Thakare
Mrs. Surekha Vairagade**

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Dr. Sudhir Bhandarkar
Head, Department of Zoology
Manoharbai Patel College,
Deori.

Dr. Sandeep N. Bande
Assi. Professor, Department of Zoology
Tai Golwalkar College,
Ramtek.

Dr. Madhuri Thakare
Head, Department of Zoology
Sant Gadge Maharaj Mahavidyalaya,
Hingna.

Mrs. Surekha Vairagade
Assi. Professor, Department of Zoology
Manoharbai Patel College
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Novels of Vikram Seth

Vikram Seth, an Indian novelist and poet, who has written several novels and poetry books, was born on June 20, 1952. He has received several awards including *Padma Shri*, *Sahitya Akademi Award*, *Pravasi Bharatiya Samman*, *WH Smith Literary Award* and *Crossword Book Award*. Seth, who believes literature and life should be enjoyable and not otherworldly, mocks any kind of extreme or romantic attitude towards life. At a time when coming up with new literary styles as a way to shock readers is a norm, Seth goes back to old literary models to create contemporary literature, something often termed as a postmodern style. Seth is an international writer, the kind who breaks national boundaries by refusing to keep characters settled in one place. He has written books set in India, England, USA, and also a travel book about China.



Dr. Abhinandan Guruprasad Pakhmode is working as Head, Dept. of English at *Manoharbai Patel College of Arts, Commerce, and Science Deori, Dist- Gondia*. With 10 years of teaching experience, he is Ph.D. supervisor, RTM Nagpur University, Nagpur. He has authored a book entitled, "*Fictional World of Amit Chaudhuri*" and wrote several research papers.



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