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3.3.2.1: Number of research papers per teachers in the Journals notified on UGC website during the last five years

3.3.2.1 Any Additional Information



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List of Publications

Sl. No.	Title of paper	Name of the author/s	Name of journal	Year of publication	ISBN / ISSN number	Link to website of the Journal	Link to article/paper/abstract of the article	UGC CARE list/Scopus/ Web of Science/other clearly.
2016-17								
1	Role of Yogikolla Sacred Grove in Conservation of Medicinal Plants	Yelavattimath G.P. & K. Kotresha	Research & Review: Journal of Botany	2016	2278-2222	http://sciencejournals.stmjournals.in/index.php/RRJoB	https://issuu.com/stmpublications/docs/research_review_s_journal_of_botany	UGC CARE List
2017-18								
2	Rashtriya andolandalli Chitradurg pradesha	H. E. Basavarajappa	Charitre Adhyayana	2018	2278-5043	http://kannadauniversity.org/english/prasanga/#Journals	---	---
2018-19								
3	Assessment of plant diversity in the community protected forest of Kusnur Village, Hangal, Haveri District, Karnataka, India	K Kotresha, Sidanand V Kambhar , Nagabhushan S Harihar	Biodiversity International Journal	2018	2575-906X	https://medcraveonline.com/BIJ/	https://medcraveonline.com/BIJ/assessment-of-plant-diversity-in-the-community-protected-forest-of-kusnur-village-hangal-haveri-district-karnataka-india.html	PORTOCO, BASE, WorldCat
4	Floristic Assessment of Panchlingeshwar Sacred Grove, Nandikuruli, Raibag, Belagavi, Karnataka	Sidanand V. Kambhar , Teja B. Jagatap, G. P. Yelavattimath and K. Kotresha	Indian Forester	2018	2321-094X	http://www.indianforester.co.in/index.php/indianforester/article/view/123006	http://www.indianforester.co.in/index.php/indianforester/article/view/123006	UGC CARE List



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5	Impact of NPA in Indian Economy with reference to Indian Banks	Laxmana P and Laxmikantha Nayaka T.O	Acme Intellects International Journal of Research in Management, Social Sciences & Technology	2019	2320-2793	---	---	---
2019-20								
6	Occupational Health Hazards of Women Beedi Rollers in Nippani Taluk, South India	Kalpana. I. Pattan, Sridevi I. Puranik	International Journal of Scientific Research in Biological Sciences	2019	2347-7520	https://www.isroset.org/journal/IJSRBS/index.php	https://doi.org/10.26438/ijsrbs/v6i3.130132	Index Copernicus International
7	On Extended Adjacency Index with Respect to Acyclic, Unicyclic and Bicyclic Graphs	Bin Yang, Vinayak V. Manjalapur , Sharanu P. Sajjan, Madhura M. Mathai and Jia-Bao Liu	Mathematics	2019	2227-7390	https://www.mdpi.com/journal/mathematics	https://doi.org/10.3390/math7070652	Scopus
8	Effect of Dy on structural and low temperature magnetic properties of Ca _{0.7} Dy _{0.3} MnO ₃	Bharamagoudar, Ravi, Matteppanavar, Shidaling , Patil, Anil S, Pattar, Vinayak, V, Jagadeesha Angadi, Manjunatha, K	Chemical Data Collections	2019	2405-8300	https://www.journals.elsevier.com/chemical-data-collections	https://doi.org/10.1016/j.cdc.2019.100288	Scopus
9	On Complementary Distance Signless Laplacian Spectral Radius and Energy of Graphs	H. S. Ramane, G. A. Gudodagi, V. V. Manjalapur , A. Alhevaz	Iranian Journal of Mathematical Sciences and Informatics	2019	2008-9473	https://ijmsi.ir/	http://ijmsi.ir/article-1-1017-en.html	Scopus
10	Effect of Pr ³⁺ -doping on the structural, elastic and magnetic properties of Mn–Zn ferrite nanoparticles prepared by solution combustion synthesis method	H.R.Lakshmi prasanna V. Jagadeesha Angadi B. Rajesh Babu, Mehaboob Pashad K. Manjunatha, Shidaling Matteppanavar	Chemical Data Collections	2019	2405-8300	https://www.journals.elsevier.com/chemical-data-collections	https://doi.org/10.1016/j.cdc.2019.100273	Scopus



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11	Post-operative hypertension in children undergoing surgical treatment for Wilms tumor	R B Nerli, SreeharshaNatalpati, Priyeshkumar Patel, Shridhar C Ghagane, Sridevi I Puranik , Saziya R Bidi, Rajeshkumar Gupta, Neeraj S Dixit	Indian journal of Child Health	2019	2349- 6126	https://mansapublishers.com/IJCH	https://doi.org/10.32677/IJCH.2020.v07.i02.014	Index Copernicus International
12	Exploring the Structural, Dielectric and Magnetic Properties of 5 Mol% Bi ³⁺ -Substituted CoCr ₂ O ₄ Nanoparticles	Manjunatha, K.; JagadeeshaAngadi, V.; Srinivasamurthy, K. M.; Matteppanavar Shidaling ; Pattar, Vinayak K.; Mahaboob Pasha, U.	Journal of Superconductivity and Novel Magnetism	2020	1557- 1947	https://www.springer.com/journal/10948	https://doi.org/10.1007/s10948-019-05403-2	Scopus
13	Impact of NPAs on performance of public sector banks	LakshmikanthaNayaka T.O.	Parishodha Journal	2020	2347- 6648	http://www.parishodhpu.com/	DOI:09.0014.PARISHODH.2020.V9I3.0086781.58039	UGC CARE List
14	Local structure and electrical switching in Al ₂₀ Te ₇₅ X ₅ (X = Si, Ge, As, Sb) glasses	P. T. Wilson, R. Ramanna , ShwetaChahal, Roopali Shekhawat, M. Madesh Kumar & K. Ramesh	Applied Physics A	2020	1432- 0630	https://www.springer.com/journal/339	https://doi.org/10.1007/s00339-020-03471-z	Scopus, UGC CARE List
15	Structural, electronic, vibrational and magnetic properties of Zn ²⁺ substituted MnCr ₂ O ₄ nanoparticles	K. Manjunatha, V. JagadeeshaAngadi, Renan A. P. Ribeiro, Elson Longo, Marisa C. Oliveira, Mauricio R. D. BomiodSergio R. de Lázaro, ShidalingMatteppanavar , S.Rayaprol. P.D.Babug, Mahaboob Pasha	Journal of Magnetism and Magnetic Materials	2020	0304- 8853	https://www.journals.elsevier.com/journal-of-magnetism-and-magnetic-materials	https://doi.org/10.1016/j.jmmm.2020.166595	Scopus
16	Sennaitalica Mill. subsp. italica (Fabaceae; Caesalpinioideae): An Overlooked species from Karnataka State, India	Sidanand V. Kambhar & Kotresha, K.	Indian Forester	2020	2321- 094X	http://www.indianforester.co.in/	http://www.indianforester.co.in/index.php/indianforester/article/view/147952	UGC CARE List



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17	ITS Gene based Molecular Genotyping of Nepetasheilae Hedge & R.A. King (Lamiaceae) Endemic to Saudi Arabia	Alzeibr, F.A., Ajmal Ali, M. Rahman M., O., fahad Al-Hemaid, F., Lee, J. and Sidanand V. Kambhar	Bangladesh Journal of Plant Taxonomy	2020	2224-7297	https://www.banlajol.info/index.php/BJPT	https://doi.org/10.3329/bjpt.v27i1.47579	UGC CARE List
18	Structural, Thermal and Morphology Studies of Cu-CoZnFe ₂ O ₄ Nano Ferrites by Combustion Method	Madhukumar R., Raghu S. , Mohan N.R., Harihar C.A and Basavaraj H.G	Nano Progress	2020	2582-1598	https://www.ariviyalpublishing.com/nanoprogress/	https://doi.org/10.36686/Ariviyal.NP.2020.02.03.010	Scopus
19	Structural, electronic and magnetic properties of Sc ³⁺ doped CoCr ₂ O ₄ nanoparticles	K Manjunatha, V Jagadeesha Angadi, RAP Ribeiro, MC Oliveira, SR de Lázaro, MRD Bomio, S Matteppanavar, S Rayaprol, PD Babu, U Mahaboob Pasha	New Journal of Chemistry	2020	1144-0546	https://pubs.rsc.org/en/journals/articleissues/nj#!recentarticles&adv	https://doi.org/10.1039/D0NJ03062G	Scopus
20	Note on extended distribution of Vignaindica Dixit et al. (Fabaceae) in Karnataka, India	Sidanand V. Kambhar, Rahul R. Patil and Manjunath L. Hanji	The Journal of Plant Science Research	2020	0976-3880	https://www.pripublication.com/journal/thejournalofplantscienceresearch12818263520674149434	https://doi.org/10.32381/JPSR.2020.36.1-2.26	UGC CARE List
21	In vitro Anti-oxidant and Anti-cancer Activity of Tetrademusacuminatus Microalgae Extract on MCF-7 Human Breast Cancer Cell Line	Mohammed Abdul Mujeeb, Ankalabasappa Vedamurthy, Arun Kashivishwanath Shettar, Sridevi Indrajeet Puranik, Shridhar Ghagane and Shivasharana Chandrabanda Thimmappa	International Journal of Cancer Research	2020	1811-9735	https://scialert.net/current.php?issn=1811-9727	https://scialert.net/abstract/?doi=ijcr.2020.1.9	Cambridge Scientific Abstract, Chemical Abstract Services, SCIMAGO



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23	Belagavi Jilleya Patroti Samudaya: Ondu Chintane	Shivanand Helavar, H. E. Basavarajappa	Pratibimba- Multi Disciplinary Kannada Research Journal of IIMRD	2020	2582-2284	https://www.iimrd.com/aboutjournal.html	https://www.iimrd.com/volume2/issue1/03.pdf	---
24	Impact of Covid-19 on primary to higher education	Suvarna S. Madar	An International Multidisciplinary Quarterly Research Journal AJANTA	2020	2277-5730	http://www.sjifactor.com/passport.php?id=18979	---	UGC CARE List
25	Ethnobotanical Survey of Medicinal plants in Raibag, Belagavi, Karnataka	Sidanand V. Kambhar, Rahul R. Patil , SatishDandinnavar, SavitaHirekudi	International Journal of Botany Studies	2020	2455-541X	http://www.botanyjournals.com/	http://www.botanyjournals.com/archives/2020/vol5/issue6/5-5-66	UGC CARE List
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28	Evidence of Weak Ferromagnetism, Space Charge Polarization, and Metal to Insulator Transition in Dy-Doped CaMnO ₃	Ravi Bharamagoudar, V. JagadeeshaAngadi, I. Shivaraja, BasavarajAngadi, RajibMondal, Anil S. Patil, Sunil Patil, VinayakPattar, S. Raghu & Shidaling Matteppanavar	Journal of Superconductivity and Novel Magnetism	2021	1557-1947	https://www.springer.com/journal/10948	https://doi.org/10.1007/s10948-020-05770-1	Scopus
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30	Disparities of phytochemical constituents and antioxidant activities of some Indigofera species	Kolar, FRK, Sidanand V. Kambhar , ManjulaChavan, Shruti Kadam and Peerambi Nadaf	Israel Journal of Plant Sciences	2021	2223-8980	https://brill.com/view/journals/ijps/ijps-overview.xml	https://doi.org/10.1163/22238980-bja10025	Scopus
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37	Shakespeare criticism: Dr. Johnson contribution to Shakespeare criticism	KrishnakantPatil	EPRA International Journal of Multidisciplinary Research	2021	2455-3662	http://sjifactor.com/passport.php?id=18322	http://doi.org/10.36713/epra2013	International Scientific Indexing, ZB MED



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38	The Theme of Sin, Redemption and Mortality in Christopher Marlowe's Play Dr. Fautus	KrishnakantPatil	Literary Herald	2021	2454-3365	https://www.tlhjournal.com/	http://tlhjournal.com/uploads/products/12.krishnakant_patil_article.pdf	Cosmos, SJIF
39	New species of Asterina and Balladyna (black mildew fungi) from Mahabaleshwar, Maharashtra, India	Mahendra R. Bhise, Chandrahas R. Patil , Chandrakant B. Salunkhe & Sidanand V. Kambhar	Phytotaxa	2021	1179-3163	https://www.biota.org/Phytotaxa/index	https://doi.org/10.11646/phytotaxa.511.3.7	Scopus
40	Incidence of Bladder Cancer at a Tertiary Care Centre in North Karnataka	Puranik SI , Ghagane SC, Nerli RB, Hiremath MB	Middle East Journal of Cancer	2021	2008-6709	https://mejc.sums.ac.ir/	https://mejc.sums.ac.ir/article_47793.html	Web of Science

Role of Yogikolla Sacred Grove in Conservation of Medicinal Plants

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²Department of Botany, Floristic Laboratory, Karnataka Science College, Dharwad, Karnataka, India

Abstract

The study deals with the role of Yogikolla sacred grove in conservation of plant biodiversity in Belgavi district of Karnataka, India. Sacred groves are closely related to the social and cultural life of local people and number of cultural rituals in which the local medicinal plants are protected. Over 167 different plant species were reported in the present investigation. The Yogikolla sacred grove is partially threatened due to anthropogenic pressure. Degradation of sacred grove not only signifies the loss of species rich vegetation, but also the rich cultural heritage of the locality.

Keywords: Sacred groves, biodiversity, medicinal plants, conservation

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INTRODUCTION

India is among the 12 mega biodiversity countries in the world having 25 hotspots of the richest and highly endangered ecoregion of the world [1]. Due to increasing pressure of population, degradation and depletion of forests, it remains a demanding task to handle forests in a sustainable manner. There are about 0.63 million villages [2], out of which nearly one-third are in the vicinity of forests. The sacredness of the plant enters into every form of religion; it roots on the earliest conception of the unity of life in nature in the sense of communion and fellowship with divine centre and source of life [3]. The sacred groves in primitive time might have developed into temples in the course of time there is an opinion that they were always situated at a distance from human settlement which suggests their origin in the nomadic period of the society and presiding deities generally lie open to sky [4]. Paranjape [5] described sacred groves as a traditional customs for sustained use of common property resources realizing the conservation aspect of sacred groves as highlighted by the above authors. Some undisturbed vegetation patches can be put together as sacred groves, which in turn will be protected by villagers itself.

Although named differently in different states of India and named by local people for various

reasons, the entire sacred groves are the hotspots of biodiversity protecting good number of plant and animal species including some species that are rare, threatened, and endemic.

Ethnobotany is defined as "the study of relationship which exists between primitive society and their surrounding plants". It has got heritage that flows from vedic literature dating from 2000 to 800 BC so it has wide scope in India. In the first millennium BC, medicinal plants were classified by Charaka and Sushruta on the basis of pharmacological applications. The term Ethnobotany was first coined by Berger [6]. The literature survey reveals that the sacred groves of Belgaum district have not been attempted hence the present investigation was undertaken. Vis-a-Vis medicinal plants has not only established the topic as one of ecological significance, but this tradition of nature conservation based on sociocultural grounds has got a new found value as well keeping this mind.

METHODOLOGY

Study Area: Yogikolla Sacred Grove, Gokak, Karnataka, India

The district of Belgavi is located east of the Western Ghats and is situated in the North West part of the Karnataka state. It is bordered by the state of Goa on its South-West and

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ಪ್ರಕಾಶಕ ಸಂಚಿಕೆಯಲ್ಲಿ ಪ್ರಕಟವಾದ ಲೇಖನಗಳ ಅಭಿಪ್ರಾಯಗಳಿಗೆ
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ಪುಸ್ತಕ ದೂರಿಯುವ ಸ್ಥಳ
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ಕನ್ನಡ ವಿಶ್ವವಿದ್ಯಾಲಯ ಪ್ರಾದೇಶಿಕ ಕಚೇರಿ
ಸಂ. ೧, ಕಾನೂನು ಕಾಲೇಜಿನ ಹಳೆಯ ಕಟ್ಟಡ
ಮೈಸೂರು ಬ್ಯಾಂಕ್ ವೃತ್ತ, ಅರಮನೆ ರಸ್ತೆ
ಬೆಂಗಳೂರು ೫೬೦ ೦೦೯
ರೂ.: ೦೮೦-೨೨೩೭೨೩೮೮

ಮುದ್ರಣ
ಮಾಹಿತಿಗಾಗಿ ಕಮ್ಯುನಿಕೇಶನ್ ಆಫೀಸ್ ಅಧ್ಯಕ್ಷೇಶ್ವರಿಗಂಗಾ ಲಿಮಿಟೆಡ್, ಬೆಂಗಳೂರು

ಪರಿವಿಡಿ

ಸಂಪಾದಕೀಯ

ಸ್ವಾತಂತ್ರ್ಯ ಹೋರಾಟದ ಪುಟಗಳಿಂದ

ಕಿತ್ತೂರು ಸಂಗ್ರಾಮದ ಐತಿಹಾಸಿಕ ಪರಿಷ್ಕೇಷಣೆ

ಅಶೋಕ ಶಿಟ್ಟಿರ್

ರಾಷ್ಟ್ರೀಯ ಆಂದೋಲನದಲ್ಲಿ ಚಿತ್ರದುರ್ಗ ಪ್ರದೇಶ

ಬಸವರಾಜಪ್ಪ ಎಚ್.ಕೆ.

ಸ್ವಾತಂತ್ರ್ಯ-ಪೂರ್ವ ಕರ್ನಾಟಕದಲ್ಲಿ ಕಮ್ಯುನಿಸ್ಟರ ಹೋರಾಟಗಳು

ಪ್ರಕಾಶ್ ಕೆ.

ಚರಿತ್ರೆ ಸಂಕಥನ

ಇತಿಹಾಸಪು ಸಮಾಜದ ನೆನಪಿನ ಎಳೆಗಳೇ?

ಸುರೇಂದ್ರ ರಾವ್ ಬಿ.

ಎಡಿಟರ್ಸ್ ಚಾಯ್ಸ್

ಕನ್ನಡ-ಕರ್ನಾಟಕ ಚರಿತ್ರೆ ಪರಂಪರೆ: ಒಂದು ಓದು

ಷ. ಶಿಟ್ಟಿರ್

ಅಂಬೇಡ್ಕರ್ ಮತ್ತು ಹಿಂದುಳಿದ ವರ್ಗಗಳು

ದ್ವಾರಕನಾಥ್ ಸಿ.ಎಸ್.

ವಿಶೇಷ ಲೇಖನಗಳು

ಸಮಾಜವಾದ: ಚಾರಿತ್ರಿಕತೆ ಹಾಗೂ ಪ್ರಸ್ತುತತೆ

ಗೋವಿಂದರಾಜು ಸಿ.ಆರ್.

ಊರು-ಕೇರಿ: ಸಾಮಾಜಿಕ ಹಿನ್ನೆಲೆಯ ಚಾರಿತ್ರಿಕ ವಿಶ್ಲೇಷಣೆ

ಚಿನ್ನಸ್ವಾಮಿ ಸೋಸಲೆ ಎನ್.

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ರಾಷ್ಟ್ರೀಯ ಆಂದೋಲನದಲ್ಲಿ ಚಿತ್ರದುರ್ಗ ಪ್ರದೇಶ

ಬಸವರಾಜಪ್ಪ ಎಚ್.ಈ.*

ರಾಷ್ಟ್ರೀಯ ಆಂದೋಲನದಲ್ಲಿ ಚಿತ್ರದುರ್ಗ ಪ್ರದೇಶವು ಮಹತ್ವಪೂರ್ಣವಾದ ಪಾತ್ರವಹಿಸಿದೆ. ಬ್ರಿಟಿಷ್ ಆಳ್ವಿಕೆ ಮತ್ತು ಅದನ್ನು ಕಿತ್ತೊಗೆಯಲು ಹುಟ್ಟಿ ಬೆಳೆದ ರಾಷ್ಟ್ರೀಯ ಆಂದೋಲನದ ವ್ಯಕ್ತಿಗತ ನೆನಪುಗಳು ಸಹಜವಾಗಿಯೇ ಮಸುಕಾಗಿವೆ. ಆದರೂ ಅದರಲ್ಲಿ ಭಾಗವಹಿಸಿದರಿಗೆ, ಜನ ತಾವೇ ತಮ್ಮ ಭವಿಷ್ಯವನ್ನು ರೂಪಿಸಿಕೊಳ್ಳುವಂತಹ ಭಾರತ ಹೇಗಿರುತ್ತದೆ ಎನ್ನುವುದರ ಬಗ್ಗೆ ಕಾಣ್ಕೆಗಳಿದ್ದವು. ಈ ಕಾಣ್ಕೆಗಳು ಮಾತ್ರ ತಮ್ಮ ಪ್ರಸ್ತುತತೆಯನ್ನು ಕಳೆದು ಕೊಳ್ಳುವುದಿಲ್ಲ. ಈ ಪ್ರಬಂಧದಲ್ಲಿ ಸಾಂಪ್ರದಾಯಿಕ ಇತಿಹಾಸ ಅಧ್ಯಯನಗಳಲ್ಲಿ ಸಾಮಾನ್ಯವಾಗಿ ಕಂಡುಬರುವ ಕೊರತೆಗಳನ್ನು ತುಂಬುವ ಒಂದು ಪ್ರಯತ್ನ ಇದಾಗಿದೆ.

ಚಿತ್ರದುರ್ಗದ ರಾಷ್ಟ್ರೀಯ ಕಾಂಗ್ರೆಸ್‌ನ ಶಾಖೆಯೊಂದಿಗೆ ೨೦ನೆಯ ಶತಮಾನದ ಮೊದಲ ಭಾಗದಿಂದಲೂ ಗುರುತಿಸಿಕೊಂಡ ನಾಯಕರಲ್ಲ ಪ್ರಬಲ ಸಮುದಾಯಗಳಿಗೆ ಸೇರಿದವರು. ಇವರೆಲ್ಲ ಭೂಹಿಡುವಳಿಯ ಹಿನ್ನೆಲೆಯಿಂದ ಬಂದವರಾಗಿದ್ದರು. ಚಿತ್ರದುರ್ಗ ಜಿಲ್ಲೆಯಲ್ಲಿ ನಡೆದ ಹಲವು ರೈತ ಸಮ್ಮೇಳನಗಳಲ್ಲಿ ಈ ನಾಯಕರು ರೈತರ ಪರವಾದ ತೆರಿಗೆ ವ್ಯವಸ್ಥೆ, ಕಡಿಮೆ ಬಡ್ಡಿದರದಲ್ಲಿ ರೈತರಿಗೆ ಸಾಲ ನೀಡಲು ಸರ್ಕಾರಕ್ಕೆ ಒತ್ತಾಯ, ಕೃಷಿ ಬ್ಯಾಂಕ್‌ಗಳ ಸ್ಥಾಪನೆ ಮುಂತಾದ ರೈತರ ಹಿತಾಸಕ್ತಿ ಪರವಾದ ನೀತಿಗಳನ್ನು ಅನುಸರಿಸಿದರು. ಈ ನೀತಿಯು ಚಿತ್ರದುರ್ಗದ ಪ್ರಬಲ ಸಮುದಾಯಗಳ ಭೂಹಿಡುವಳಿದಾರರಿಗೆ ಹೆಚ್ಚು ಲಾಭವಾಗಿದ್ದರಿಂದ ಕಾಂಗ್ರೆಸ್ ಕೂಡ ಪ್ರಬಲ ಸಂಘಟನೆಯಾಗಿ ಬೆಳೆಯಲು ಕಾರಣವಾಯಿತು.

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Assessment of plant diversity in the community protected forest of Kusnur Village, Hangal, Haveri District, Karnataka, India

Abstract

An assessment was carried out through random quadrates plot in the study area. A total 129 plant species were documented. Frequency and density varied greatly among the taxa, while many species were not evenly abundant in the study areas. The present study revealed that there are many medicinal plants which are used by local peoples, who residing near the forest area. Besides medicine, plant resources were found utilized as other sources as vegetables and also for forage, manure, sheltering and religious purposes which indicates diversity of the study area and needs urgent conservation.

Keywords: biodiversity, invasive species, medicinal plants, plant diversity

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Introduction

India is one of the 12 centres of mega-diversity in the world and encompass of 17,500 flowering plant species. It exhibits a wealth of complex and diverse ecosystems with a great deal of variation.¹ It accounts for 8% of the global biodiversity with only 2.4% of the total land area in the world.² Plants are one of the major component of biodiversity, thus the knowledge of plant species found in the different areas of the world is a pre-requisite to conserve the ecological biodiversity and an essential resource for human well-being.^{3,4} For this reason precise information of the known local plant species from a given area is essential. It is worth to explore any area with wide range of forest types and identify the economically and medicinally important plant species found there. Further the knowledge about the plants in the region is essential with the increasing conspicuous of people about the environment and its impact on living organisms in general.

Material and methods

The study area Kusnur is located at 14. 69 42.41 N 75.23 00.89 E in the outskirts of Western Ghats lies in a maiden with a few outcrops of low hills. The topography of the area in not even, so it create many minor as well as major tanks. The soil pattern changes variably and annual rainfall is fairly good. The survey was carried out in 2009-2010. The sufficient sample plots of 30 x 30m were laid out randomly, covering the entire forest area about 339 acres. The trees were identified and the density and diameter of each tree species per plots were recorded⁵⁻⁷ and analyzed for carbon sequestration followed by Pearson et al.⁸ The collected specimens were identified with the aid of floras.⁹⁻¹² The collected specimens were pressed and prepared herbarium followed by dry method of Jain and Rao.¹³ The specimens were deposited in the Herbarium of Botany Department, Karnatak Science College, Dharwad.

Results and discussion

Floristic

The survey indicates that, they are about 129 species belonging to

109 genera under 52 families (Table 1). Of the 52 families documented, the family Fabaceae is the dominant family, comprising 9 spp., the dominance of Fabaceae may be due to the nitrogen-fixing bacteria with which these taxa often are associated, allowing these species to improve their soils.¹⁴ This was followed by *Caesalpinaceae* (8 spp.), *Euphorbiaceae* (7 spp.), *Capparaceae* and *Mimosaceae* (6 spp. each), *Asclepiadaceae*, *Asteraceae*, *Malvaceae*, *Tiliaceae* are represented by 5 species each. The families *Boraginaceae*, *Liliaceae*, *Rubiaceae* are represented by 4 species each. Seven families are represented by 3 species each, they are: *Acanthaceae*, *Apocyanaceae*, *Convolvulaceae*, *Moraceae*, *Poaceae*, *Rutaceae*, *Verbenaceae*. Again seven families are represented by 2 species *Amaranthaceae*, *Combretaceae*, *Dioscoreaceae*, *Meliaceae*, *Sapindaceae*, *Scrophulariaceae* and *Vitaceae*. The family *Aizoaceae*, *Alangiaceae*, *Anacardiaceae*, *Aponogetonaceae*, *Araceae*, *Aristolochiaceae*, *Cactaceae*, *Calestraceae*, *Cucurbitaceae*, *Diospyraceae*, *Flacourtiaceae*, *Hypoxidaceae*, *Lamiaceae*, *Lythraceae*, *Menispermaceae*, *Myrtaceae*, *Oleaceae*, *Polygonaceae*, *Rhamnaceae*, *Sapotaceae*, *Simaroubaceae*, *Solanaceae*, *Sterculiaceae*, *Urticaceae*, *Violaceae* and *Zingiberaceae* are represented by only a single species.

Of these, many are medicinally important plants and other economic uses are beedi (*Diospyros malabarica* Kostel), plate (*Butea monosperma* (Lam.) Taub.) and broom making (*Dodonea angustifolia* L.f.) plants were also found in the area. The community managed forest area is over dominated by *Eucalyptus globulus* Labill. (*Myrtaceae*), *Gliricidia sepium* (Jacq.) Kunth ex Walp (*Fabaceae*) and *Azadirachta indica* A. Juss (*Meliaceae*). The survey clearly indicates that, there is a severe threat to the forest mainly from these two alien species *i.e.* *Eucalyptus globulus* Labill. and *Gliricidia sepium* (Jacq.) Kunth ex Wal. Seed dribbling programme was conducted every year since 1987. It was not been success, because these two invasive alien species (*Eucalyptus globulus* Labill. and *Gliricidia sepium* (Jacq.) Kunth ex Wal.) are over dominated and they emits oil through the leaves. It affects the germination and growth of the other species especially native species and this is known as allelopathic interaction.

Carbon sequestration observation during quadrat studies

The sufficient number of quadrats of 30x30meters size was laid

Floristic Assessment of Panchlingeshwar Sacred Grove, Nandikurali, Raibag, Belagavi, Karnataka

The Sacred groves are forest patches conserved by the local people based on the socio-cultural and religious practices. The sacred groves are rich in diversity and play a significant role in the conservation of biodiversity. The present work was carried with the aim to document the floristic account and its assessment in the Panchlingeshwar sacred grove, Nandikurali, Raibag, Belagavi. A total of 171 taxa belonging to 145 genera distributed in 59 families were recorded, also the grove representing with 54 medicinal plant species belonging to 48 genera and 28 families.

Key words: Sacred groves, Nandikurali, Conservation, Belagavi.

Introduction

Prehistoric man was well cherished with their surroundings. The ancient generation gave importance to trees and surrounding forests, and they worshipped and protected these forests and trees. The protection of these forest patches as sacred groves and several tree species as sacred trees belong to the religion based conservation of ancient people all over the world. Sacred groves are community based repositories of biological diversity and got protected on the basis of religious practices and faith (Hasting, 1934).

In India, about 13,720 sacred groves have been enumerated from different states. Andhra Pradesh, Kerala, Maharashtra and Tamil Nadu have the maximum number of these forests. In Karnataka, Western Ghat have has maximum number of sacred patches with compare to Deccan terrain, namely Uttara Kannada, Shimoga, Udupi, Mangalore, Dakshina Kannada and Kodagu harbour 1477 sacred groves (Kalam, 1996; Malhotra, 1998; Gokhale *et al.*, 1998). Western Ghats sacred groves broadly fall under two categories, small groves are entirely protection, biomass extraction may be allowed. Larger groves function sustained and ecological security (Chandran and Gadgil, 1993). Sacred groves are referred to by different names in local languages (in Kannada) Devarbana, Devarakadu, Hulidevarakades, Nogabana, Bhutappanbana, Jataka-panbana, Chowdibana, etc.

These sacred groves are protected by some ethnic communities. The ethnic people all over the world have affecting and symbiotic relationship with biodiversity, which they have been protecting and conserving since ancient time. These sacred groves forest harbouring rich biodiversity protected by the local people based on the ground of indigenous cultured and religious belief and taboos (Airi *et al.*, 2000). These ethnical peoples protect the plants because of worshiping and also medicinal value.

These medicinally important sacred plant species were used to treat diverse type diseases and to maintain good health. These groves provides very basic of human survival and economic well-being and comprises the resources upon which families, communities, nations and future generations depend and also they have some ecologically valuable species such as *Albizia lebbek* and *Ficus* spp. which have high amount of nitrogen, phosphorous, magnesium and calcium in their leaves (Singh *et al.*, 1994). Apart from this, many sacred groves hold water resource in the form of

*The
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is the site of
conservation of
ecological and
medicinal plant
species.*

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Impact of NPA in Indian Economy with reference to Indian Banks

by

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Abstract

The Indian banking sector has been facing serious problems of raising Non- Performing Assets (NPAs). The NPAs growth has a direct impact on profitability of banks. Non- performing assets are one of the major concerns for scheduled commercial banks in India. The recommendations of Narasimham committee and Verma committee, some steps have been taken to solve the problem of old NPAs in the balance sheets of the banks. It continues to be expressed from every corner that there has rarely been any systematic evaluation of the best way of tackling the problem. There seems to be no unanimity in the proper policies to be followed in resolving this problem. NPAs reflect the performance of banks.

A high level of NPAs suggests high probability of a large number of credit defaults that affect the profitability and net-worth of banks and also erodes the value of the asset. NPAs affect the liquidity and profitability, in addition to posing threat on quality of asset and survival of banks. The problem of NPAs is not only affecting the banks but also the whole economy. In fact high level of NPAs in Indian banks is nothing but a reflection of the state of health of the industry and trade. It is necessary to trim down NPAs to improve the financial health in the banking system. An attempt is made in this paper to understand NPA, the status and trend of NPAs in Indian Scheduled commercial banks, The factors contributing to NPAs, reasons for high impact of NPAs on Scheduled commercial banks in India and recovery of NPAS through various channels.

Keywords: Non- Performing Assets, NPA, Scheduled Commercial banks, Narasimham committee

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1. Introduction:

The banking system in India comprises commercial and cooperative banks, of which the former accounts for more than 90 per cent of banking system's assets. Besides a few foreign and Indian private banks, the commercial banks comprise nationalized banks (majority equity holding is with the Government), the State Bank of India (SBI) (majority equity holding being with the Reserve Bank of India) and the associate banks of SBI (majority holding being with State Bank of India). These banks, along with regional rural banks, constitute the public sector (state owned) banking system in India. The banking industry has undergone a sea change after the first phase of economic liberalization in 1991 and hence credit management.



Occupational Health Hazards of Women Beedi Rollers in Nippani Taluk, South India

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Abstract— In this study, we surveyed 47 women beedi workers of Nippani, a place in North Karnataka of India - known for tobacco trade and industries. We found that this labor intensive task has led to enormous health conditions in the women involved in rolling the beedis manually. Respiratory problems like cough and throat burns were reported by more than 50% of women. The incidence of Orthopedic and Ophthalmic illness was also common. Other health conditions included GI problems, Giddiness and Headache.

Keywords— *Beedi-workers, Tobacco, Respiratory problems, orthopedic problems, Indian small scale industry.*

I. INTRODUCTION

A 'Bidi' also known as 'poor men's cigarette' is a type of cheap cigarette common in South Asia. It is made up of uncured tobacco rolled in a traditional leaf (*Diospyrox melanoxylon*) tied up on both ends with threads. It is popular among the rural population of India and neighboring countries and mostly consumed by lower economic groups like laborers, farmers, lorry drivers, masons and others. In India approximately 800 million bidis are sold per year. Beedi rolling is a popular small-scale industry in most parts of rural India and perhaps it is the biggest unorganized sector of the country. As each beedi is rolled individually, this is an arduous and labor intensive task. 90% of the beedi workers as reported in previous studies are women. Srinivasulu¹. These workers are mostly exposed to unburnt tobacco through nasopharyngeal and cutaneous routes. Bagwe and Bhisey² and Swami et al.³ Women beedi rollers who start their profession at a very early stage of life are exposed to tobacco dust for approximately 4 –10 h each day. Various studies in different populations have suggested a number of health abnormalities which include respiratory, dermatological, reproductive, gastrointestinal disorders, eye problems and postural pains. Nippani is a part of India that is one of the notable Tobacco producer and trade market. We conducted this study in the rural beedi workers of this place.

II. RELATED WORK

The objective of the present study is to investigate the Occupational health hazards of women beedi rollers of Nippani taluk.

III. METHODOLOGY

The study was conducted in Nippani, India. Forty-seven female beedi rollers, without tobacco smoking/chewing habits were monitored for occupation related exposure to tobacco flakes and dust. Relevant information was collected by visiting the house of each beedi roller. We also ensured that all the subjects did not suffer with any serious disease and were not on any medications. The study subjects were interviewed and a questionnaire was filled for each subject, which included details about their age, educational qualification, monthly income and health problems faced by them.

IV. RESULTS AND DISCUSSION

The socio-demographic profiles (Table 1) of women beedi workers reflect that most of the subjects (60%) are belonging to the age group between 40 – 60 years, 21% are in the age between 20 – 40 years and 19% are above the age 60 years. The education level of these women is below 10th class (60%), illiterate (20%), primary education (19%) and below 12th (9%). The family size is more than four (36%), four (30%), three (20%), two (9%), single (5%). The educational level of their children was much better (35%) graduation, 12th (33%), 10th (23%) and primary school (9%).

Article

On Extended Adjacency Index with Respect to Acyclic, Unicyclic and Bicyclic Graphs

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Abstract: For a (molecular) graph G , the extended adjacency index $EA(G)$ is defined as Equation (1). In this paper we introduce some graph transformations which increase or decrease the extended adjacency (EA) index. Also, we obtain the extremal acyclic, unicyclic and bicyclic graphs with minimum and maximum of the EA index by a unified method, respectively.

Keywords: degree of vertex; extended adjacency index

1. Introduction

Molecular descriptors are playing an important role in Chemistry, Pharmacology, etc. Among them, topological indices have a prominent place. Topological indices (molecular structure descriptor) are numerical quantities of a molecular graphs (or simple graphs), that are invariant under graph isomorphism. And, are used to correlate with various physico chemical properties, chemical reactivity or biological activity. There are hundreds of topological indices that have found some applications in theoretical chemistry, especially in QSPR/QSAR research. Among all topological indices one of the most investigated are the degree based topological indices, among them, the old and widely studied topological index is Randić index [1], see the recent articles [2,3] and references cited there in. Recently researchers are studying various degree based topological indices such as Zagreb group indices [4–9], forgotten index [10–13], etc.

Let $G = (V, E)$ be a simple graph without loops and multiple edges. Let $V(G)$ and $E(G)$ be the vertex set and the edge set of G , respectively. The degree of a vertex u in G is the number of edges incident to it and is denoted by $d_G(u)$. For $v \in V(G)$ and $e \in E(G)$, let $N_G(v)$ be the set of all neighbors of v in G .

Extended adjacency index is one of the degree based topological descriptors which has been proposed by the authors Yang et al. [14] in 1994 and defined as, for any graph G extended adjacency (EA) index is:

$$EA = EA(G) = \sum_{uv \in E(G)} \frac{1}{2} \left(\frac{d_G(u)}{d_G(v)} + \frac{d_G(v)}{d_G(u)} \right). \quad (1)$$

In [14] Yang et al. described that EA index exhibits high discriminating power and correlate well with a number of physico chemical properties and biological activities of organic compounds. There



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Data Article

Effect of Dy on structural and low temperature magnetic properties of $\text{Ca}_{0.7}\text{Dy}_{0.3}\text{MnO}_3$ 

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ABSTRACT

Investigated the structural and low temperature magnetic properties of polycrystalline single phase $\text{Ca}_{0.7}\text{Dy}_{0.3}\text{MnO}_3$ compound which was prepared by solid state reaction method. From the room temperature (RT) X-ray diffraction measurements it is confirmed that formation of single phase orthorhombic structure, with $Pnma$ space group and average grain size $2\ \mu\text{m}$ was verified by SEM analysis. Rietveld refinement was carried out on RT X-ray diffraction data and obtained the structural parameters, $a = 5.2811(2)\text{\AA}$, $b = 7.5409(1)\text{\AA}$ and $c = 5.2748(6)\text{\AA}$ are well matching with previous reports. Low temperature DC magnetic measurements were carried out at 500 Oe to understand the magnetic ordering in $\text{Ca}_{0.7}\text{Dy}_{0.3}\text{MnO}_3$, which shows the transition of antiferromagnetic to paramagnetic phase. The susceptibility measurement reveals antiferromagnetic transition (T_N) at around 55 K. At low temperature below 10 K weak ferromagnetic ordering is observed. Inverse susceptibility and derivative of field cooled curve shows a clear anomaly around 55 K. Curie Weiss fitting was done on inverse susceptibility measurement and obtained the paramagnetic curie constant $\theta_p \sim -57\text{ K}$, which clearly indicates the evidence of antiferromagnetic ordering in the $\text{Ca}_{0.7}\text{Dy}_{0.3}\text{MnO}_3$ sample.

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On Complementary Distance Signless Laplacian Spectral Radius and Energy of Graphs

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ABSTRACT. Let D be the diameter and $d_G(v_i, v_j)$ be the distance between the vertices v_i and v_j of a connected graph G . The complementary distance matrix of a graph G is $CD(G) = [cd_{ij}]$ in which $cd_{ij} = 1 + D - d_G(v_i, v_j)$ if $i \neq j$ and $cd_{ij} = 0$ if $i = j$. The complementary transmission $CT_G(v)$ of a vertex v is defined as $CT_G(v) = \sum_{u \in V(G)} [1 + D - d_G(u, v)]$. Let $CT(G) = \text{diag}[CT_G(v_1), CT_G(v_2), \dots, CT_G(v_n)]$. The complementary distance signless Laplacian matrix of G is $C DL^+(G) = CT(G) + CD(G)$. In this paper, we obtain the bounds for the largest eigenvalue of $C DL^+(G)$. Further we determine Nordhaus-Gaddum type results for the largest eigenvalue. We also establish some bounds for the complementary distance signless Laplacian energy.

Keywords: Complementary distance signless Laplacian matrix (energy); diameter; complementary transmission regular graph.

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Effect of Pr³⁺ -doping on the structural, elastic and magnetic properties of Mn–Zn ferrite nanoparticles prepared by solution combustion synthesis method

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Abstract

Ferrite nanoparticles are currently used for important applications in the field of medical particularly, target-directed medicine and cancer treatment. Keeping this in mind, in the present work we prepared Pr³⁺ doped Mn_{0.5}Zn_{0.5}Fe₂O₄ nanoparticles by combustion route. The crystallinity and structure were confirmed by XRD. The Elastic properties are estimated by using FTIR data and reveals that variation of elastic constants has been interpreted in terms of strength of inter-atomic bonding and electronic configuration of the

FEEDBACK 

Post-operative hypertension in children undergoing surgical treatment for Wilms tumor

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ABSTRACT

Introduction: Wilms tumor (WT) is the most common form of childhood kidney cancer. Hypertension (HT) is noted in children with WT either at the time of initial presentation or in the post-operative follow-up period. Increased renin secretion could be the probable reason in most of the cases. **Objective:** The objective of this study was to assess the severity of HT and response to the treatment. **Materials and Methods:** We retrospectively reviewed all the children who had been treated for WT and presented with HT in the follow-up period. All the children below the age of 18 years with histologically confirmed WT, diagnosed between January 2000 and December 2018 at our hospital, were included in the study. Only patients with a documented diagnosis of HT that required treatment with antihypertensive therapy were included in the hypertensive group. **Results:** A total of 3 patients (8.57%) developed age-related HT in the follow-up period, needing medications. Amlodipine (calcium channel blocker) was a drug used in all children to control HT. **Conclusion:** HT is known to occur in children treated for WT at the time of initial diagnosis or during follow-up. Children can be properly managed with the use of medications.

Key words: Hypertension, Nephron-sparing surgery, Wilms tumor

Wilms tumor (WT) is the most common form of childhood kidney cancer. It accounts for 6% of all pediatric cancers and represents more than 95% of the kidney tumors in children and is commonly seen in children younger than 5 years [1,2]. Considerable progress has been made in the treatment of WT over the past few decades. At present, the 5-year overall survival (OS) exceeds 90% [3,4].

Hypertension (HT) is commonly noted in children presenting with WT. It could be due to increased renin secretion in response to renal ischemia produced by the pressure of the tumor on the hilar or intrarenal vessel. Moreover, the tumor itself could directly be responsible for HT by producing renin itself. In addition, as the Brenner-Barker hypothesis noted, there is a significant reduction of nephrons with the development of renal HT and progressive renal failure [5,6]. Approximately 20–55% of children with WT reportedly present with HT at diagnosis [7-9].

Cozzi *et al.* [10] reported that there is an inverse relationship between the number of nephrons and blood pressure (BP), irrespective of whether nephron number is reduced congenitally or in postnatal life [11]. Vahid-Hosseini *et al.* found that patients who had undergone bilateral partial nephrectomy (PN) demonstrated less HT than those who underwent unilateral partial

plus contralateral total nephrectomy [12]. Hubertus *et al.* reported that 66.7% of their patients had HT after unilateral partial plus contralateral total nephrectomy and 20% after bilateral PN [13]. We retrospectively reviewed our series of children who had been treated for WT and presented later with HT.

MATERIALS AND METHODS

We retrospectively included all children below the age of 18 years with histologically confirmed WT, diagnosed between January 2000 and December 2018 at our hospital. This was a single-center study with clearance obtained from the Institutional Ethical Committee. All the patients signed informed consent before the commencement of the study. Data on demographics, BP at diagnosis, histopathology, stage (I, II, III, IV, or V), chemotherapy, radiotherapy, complications, and treatment outcomes were collected. Only patients with a documented diagnosis of HT that required treatment with antihypertensive therapy were included in the hypertensive group.

Patients with incomplete data were excluded from the study. HT was diagnosed based on the published standard definition of systolic and/or diastolic BP $\geq 95^{\text{th}}$ percentile for age, gender, and height [14]. Documented BP was used to classify children



Exploring the Structural, Dielectric and Magnetic Properties of 5 Mol% Bi³⁺-Substituted CoCr₂O₄ Nanoparticles

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Abstract

In the present work for the first time, we report in-depth structural, electrical, optical and magnetic properties of a family of cobalt chromate nanoparticles with 5 mol% Bi³⁺ substitution of the average crystallite size of 15 nm, fabricated by a solution combustion method using urea and glucose as a fuel. Co_{0.95}Bi_{0.05}Cr₂O₄ shows a single phase with spinel cubic structure with a space group of *Fd3m* with a lattice parameter of 8.334 Å. The morphology of the family of Bi³⁺-doped CoCr₂O₄ shows a highly porous nature. Transmission electron microscopy (TEM) shows samples are in nano size, i.e. 22 nm with well crystalline nature. The energy gap was estimated by using UV spectrum and found in the range of 3.86 eV. Temperature-dependent dielectric constant (ϵ'), dielectric loss (ϵ'') and loss tangent ($\tan \delta$) are explained by using Maxwell–Wagner and Koop's phenomenological theory. The evolution of magnetic behaviour was studied as a function of temperature and magnetic field to study the magnetic transitions such as paramagnetic to long-range collinear ferrimagnetism transitions, and it was found at 98 K and non-collinear ferrimagnetism at 26 K. M–H loop at 300 K nearly shows a paramagnetic phase at 98 K, and it clearly suggests that samples exhibit superparamagnetic nature.

Keywords Chromates · Solution combustion method · Ferrimagnetism · Koop's phenomenological theory

1 Introduction

Cobalt chromate (CoCr₂O₄) samples have recently attracted good attention due to their physical and potential applications [1, 2, 4]. The magnetoelectric coupling between magnetic order and ferroelectric order exhibits only single phase without any impurity phases, and there is immense evidence for this in

scientific application. The transition metal-doped CoCr₂O₄ multiferroics are very important magnetic materials. CoCr₂O₄ spinel cubic is in the form of AB₂O₄, where A site and B site represent tetrahedral and octahedral sites, respectively, coordinated by oxygen atoms. CoCr₂O₄ spinel, tetrahedral site is occupied by cobalt ions, and octahedral site is occupied by chromium ions [5]. In cobalt chromate multiferroic materials, magnetic transition occurs from a paramagnetic phase to a ferrimagnetic phase at the critical temperature (T_C) (93 K to 97 K) and a ferrimagnetic to a spiral magnetic ordering at the spiral ordering temperature (T_S) (26 K to 24 K) and, lastly, to a lock-in transition at the lock-in-transition temperature (T_L) (12 K to 14 K) [6]. Below critical temperature, the ferrimagnetic component exhibits long-range order at all temperatures below the T_C while the spiral component exhibits long-range order at all temperature. At spiral component, temperature exhibits short-range order. Again, below spiral temperature, short-range order transforms into a long-range order below [7]. The lock-in temperature shows only in single crystal material and not in bulk or nanomaterial.

Various techniques like citrate gel combustion method, sol–gel method, co-precipitation method, solution combustion

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Impact of NPAs on performance of public sector banks

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Abstract

The banking sector plays an important function within the finance region. Without the sound and green gadget of the economic institution will result in a healthy economic gadget. The Narasimhan group brought the thought of non-performing assets. It's miles with first-rate manner of adjudicating fame of bank. The encumbrance untruth of financial institution with non-rate of loans. The loans are not reimbursed there may be a massive damage to the financial institution and there might be cash to manage the various clients. It is a hazard springing up from the clients to the monetary organization. The economic group desires to undergo all of the dangers. Currently NPA is stored on growing in every community region bank and personal sector bank. They façade closing existence in the arcade. As associated to public location-non-public sector bank have a great deal less non-performing property, and their remaining value is barely swelling.

INTRODUCTION

NPA damages the budget over bank in investment market. The government of India promulgates numerous coverage and policies to lower and regulator the non-appearing property. Non-performing belongings are the most effective explanations to reduction on income. The item of this contrast among the personal area bank and public quarter banks is to untouchable the effect among them and the motives in the back of the banks on NPA. And to propose the technique to lessen the non-performing belongings. And additionally motives for the growth in non-performing belongings.

CAUSES FOR RISING NON-PERFORMING ASSETS IN INDIA

Banking location is support of the financial system. Over the banking zone, satisfactory U. S . A. Can check the duty which probably to reason saves you of the monetary system. To



Local structure and electrical switching in $\text{Al}_{20}\text{Te}_{75}\text{X}_5$ ($\text{X} = \text{Si}, \text{Ge}, \text{As}, \text{Sb}$) glasses

P. T. Wilson^{1,4} · R. Ramanna² · Shweta Chahal³ · Roopali Shekhawat³ · M. Madesh Kumar⁴ · K. Ramesh³

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Abstract

$\text{Al}_{20}\text{Te}_{75}\text{X}_5$ ($\text{X} = \text{Si}, \text{Ge}, \text{As}, \text{Sb}$) glasses prepared by the melt quenching method exhibit threshold switching. Local structure of these glasses studied by ^{27}Al MAS-NMR measurements reveals that Al is in four-, five- and sixfold coordination. For Al to be in higher coordination states, Te transfers its lone pair electrons. Due to the higher coordinated Al and Te, the cross-linking in the network increases. The increased cross-linking and rigidity constraint the structural reorganization required for memory switching, resulting in the observed threshold switching. Interestingly, glass transition and crystallization temperatures were found to be high for $\text{Al}_{20}\text{Te}_{75}\text{Si}_5$ glass and low for $\text{Al}_{20}\text{Te}_{75}\text{Sb}_5$ glass. Also, the bond energy of Si–Te is higher than the bond energy of Sb–Te. Correspondingly, the threshold voltage is high for $\text{Al}_{20}\text{Te}_{75}\text{Si}_5$ glass and low for $\text{Al}_{20}\text{Te}_{75}\text{Sb}_5$ glass. The ^{61}Al site peak shows a split which may offer greater insight into the structure of these glasses.

Keywords Chalcogenide glasses · MAS-NMR · Electrical switching · Network connectivity · Glass formation

1 Introduction

Chalcogenide glasses subjected to high electric fields exhibit switching from a low conducting (OFF) state to a high conducting (ON) state. This electrical switching is of two types: threshold and memory [1–5]. Upon the removal of the applied field, threshold switching glasses return to their initial OFF state, whereas the memory switching glasses remain in their high conducting state. In memory-type switching glasses, due to the Joule heating, a structural phase transition from amorphous to crystalline state (non-reversible transition) occurs. The threshold-type switching glasses do not undergo structural phase transition and the switching is due to the reversible electronic transitions.

Unlike their crystalline counterparts, the composition of these glasses can be varied continuously over a wide range of compositions, which offers the possibility of tailoring their optical and electrical properties to a desired level. Many of these properties depend on the local structure of these glasses. Recent ^{27}Al NMR studies on Al–Te and Al–As–Te glasses have revealed three different coordinations (four-, five- and sixfold) for Al [6–9]. These glasses are found to exhibit threshold switching. This is in contrast to the memory switching reported earlier in the literature where Al is found to reside only in four- and sixfold coordination [10, 11]. In the case of Al–As–Te glasses, for lower concentrations of As and Al, a memory switching is observed, and for higher concentrations of As and Al, a threshold switching is observed [9, 12]. In Cu–As–Se glasses, the Cu atoms are found to be in fourfold coordination. According to the formal valence shell (FVS) model, the lone pair electrons of chalcogen atoms (in this case, Se) formally transferred to Cu, to keep Cu in fourfold coordination [13–15]. By donating the lone pair electrons, chalcogen atoms will also increase their coordination. The connectivity of the structural network increases, and for 32 at.% of Cu, the average coordination of the Cu–As–Se network reaches to 4. This modulation in the local structure influences the physical properties of the chalcogenide glasses to a larger extent [15–17]. A threshold (for lower concentrations of Cu) to memory (for

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Research articles

Structural, electronic, vibrational and magnetic properties of Zn²⁺ substituted MnCr₂O₄ nanoparticles

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Highlights

- Mn_{0.5}Zn_{0.5}Cr₂O₄ nanoparticles were synthesized by solution combustion method.
- Structural, electronic and magnetic properties are discussed using DF

FEEDBACK 



Senna italica Mill. subsp. *italica* (Fabaceae; Caesalpinioideae): An Overlooked species from Karnataka State, India

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Abstract

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**ITS GENE BASED MOLECULAR GENOTYPING OF *NEPETA SHEILAE*
 HEDGE & R.A. KING (LAMIACEAE) ENDEMIC TO SAUDI ARABIA**

FAHAD M.A. ALZEIBR¹, M. AJMAL ALI^{*2}, M. OLIUR RAHMAN³,
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Key words: Nepeta sheilae Hedge & R.A. King; Lamiaceae; nrDNA; ITS; Endemic;
 Saudi Arabia.

The genus *Nepeta* L. (family Lamiaceae), commonly known as ‘catmint’ or ‘catnip’, is represented by c. 300 species (Kaya and Dirmenci, 2008), distributed in Asia, Europe, North Africa and America (Jamzad *et al.*, 2000), morphologically characterized by herbaceous, perennial or annuals, sturdy stem and green to greyish-green cordate leaves (Jamzad *et al.*, 2003). In the flora of Saudi Arabia, the genus *Nepeta* is represented by two species i.e. *N. deflersiana* Schweinf. and *N. sheilae* Hedge & R.A. King. *N. sheilae* is endemic to Saudi Arabia, mainly distributed in northern Hizaz mountains (Chaudhary, 2000). The morphological characters of *N. sheilae* i.e. woody-based, lamina triangular ovate, inflorescence verticillaster, many-flowered, bracteoles narrowly linear-lanceolate, corolla exerted, curved, nutlets brown, apically verrucose or tuberculate etc. overlap with *N. deflersiana* (Chaudhary, 2000). The morphology of *N. sheilae* (Chaudhary, 2000) resembles with section *Oxynepeta*, and the section *Oxynepeta* is consistent in the generic classification of *Nepeta* proposed by Bentham (1848), Briquet (1896) and Budantsev (1993), which are characterized by herbaceous habit; bracts green, inconspicuous; inflorescence interrupted, verticillaster or lax, pedunculate cymes; middle lobe of the lower lip of corolla concave with dentate margin; pollen bi-reticulate, rarely perforate reticulate; and pollen primary muri well-defined, prominent, while secondary muri inconspicuous (Jamzad *et al.*, 2000). Though the phylogenetic relationships in the genus *Nepeta* and other related genera of Lamiaceae have previously been inferred using ITS sequences of nrDNA, the taxonomic status of *N. sheilae* is unresolved (Jamzad *et al.*, 2003). The nrDNA ITS sequence is well known plant DNA barcoding gene widely applied to represent evolutionary relationships at lower taxonomic ranks, notably at the intrageneric ones (Ali, 2019); hence, the present study aims to resolve the taxonomic status of *N. sheilae* using molecular genotyping of ITS sequence of nrDNA.

The leaves of *N. sheilae* for sequencing were collected from the herbarium specimen [Voucher information: Jabal Lakus Lauz area, South of Haql NW side, 20.5.1990, I.S. Collenette 13417 (RIY)]. The total genomic DNA was isolated using Qiagen DNeasy Plant Mini Kit (Valencia, CA, USA). The nrDNA ITS sequence was amplified using ITS primer (White *et al.*, 1990), and sequenced using ABI PRISM 3100 DNA Analyzer (Perkin-Elmer, Applied Biosystems). In order to unravel the proximity of *N. sheilae* with the members of Nepetoideae, the

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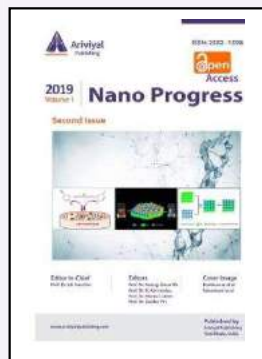
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Structural, Thermal and Morphology Studies of Cu-CoZnFe₂O₄ Nano Ferrites by Combustion Method

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Abstract: A detailed investigation on the effect of preparation method on the structural, thermal and morphology Cu-Co ferrite nanoparticles prepared by solution combustion method. The resulting ferrites were calcined at 450°C and 750°C. Sharper X-ray diffraction (XRD) peaks were observed for the samples calcined at 750°C, indicating greater crystallinity of the samples calcined at higher temperature. Average crystallite sizes fell in the ranges of 30.4–42.1 nm for the samples calcined at 450°C and 750°C, respectively. Agglomeration of particles was observed in the scanning electron microscopy (SEM) images. Cumulative acidity decreased for the samples calcined at higher temperature. The results underline the effect of preparation conditions on the morphology, crystallite size, and magnetic properties of nano ferrites. The thermal properties such as onset of decomposition and glass transition temperatures were determined by Thermo Gravimetric Analysis (TGA/DSC). The TGA data shows that nanoferrites have significantly enhanced thermal stability. Thermal studies on as prepared samples have been undertaken over a wide range of decomposition at room temperature to up to 1000°C.

Keywords: Cu-CoZnFe₂O₄ nano ferrites; XRD; SEM; DSC/TGA

1. Introduction

Nanotechnology, shortened to "nanotech", is the study of controlling matter on an atomic and molecular scale. Generally, nanotechnology deals with structures of the size 100 nanometers or smaller in at least one dimension, and involves developing materials or devices within that size. Nanotechnology is very diverse, ranging from extensions of conventional device physics to completely new approaches based upon molecular self-assembly, from developing new materials with dimensions on the nanoscale to investigating whether we can directly control matter on the atomic scale.

Nanotechnology has the potential to create many new materials and devices with a vast range of applications, such as in medicine, electronics and energy production. On the other hand, nanotechnology raises many of the same issues as with any introduction of new technology, including concerns about the toxicity and environmental impact of nanomaterials and their potential effects on global economics.^[1,2]

Materials reduced to the nanoscale can show different properties compared to what they exhibit on a macroscale, enabling unique applications. The nanotechnology can offer the following: opaque substances become transparent (Cu); stable materials turn combustible (Al); insoluble materials become soluble (Au). A material

such as gold, which is chemically inert at normal scales, can serve as a potent chemical catalyst at nanoscales. Much of the fascination with nanotechnology stems from these quantum and surface phenomena that matter exhibits at the nanoscale. The application of cobalt ferrite is a kind of drug delivery system, cobalt modified for recording materials, magnetic materials, and light spin filter.^[3] These properties and suitability have made the cobalt ferrite one of the most highly studied magnetic materials. The general nature of the spinel ferrite nanoparticles is that their properties can be changed to meet the requirements by varying the synthesis process, precursor pH, catalyst ion substitution, annealing conditions, agglomeration, and the like.^[4] In spinel ferrite, nickel-copper-cobalt ferrite has mixed spinel structure and belongs to the cubic system. It is a magnetic recording material with good performance. In the field of material science, magnetic materials have become a subject of considerable interest in the field of power storage devices. Especially in magnetic data storage, magnetic fluid technology, magnetic targeting drug delivery, magnetic resonance imaging has important applications.^[5] Nickel-Copper-cobalt ferrite also has high magnetic anisotropy, high coercivity, high resistivity and good magnetic spectrum properties. Meanwhile, this ferrite is not easy to wear and corrosion and it has good performance in high frequency and ultra-high frequency applications. More and more researchers are improving the magnetic properties of spinel ferrite by doping and substitution.^[6,7]

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From the journal:

New Journal of Chemistry

Structural, electronic and magnetic properties of Sc³⁺ doped CoCr₂O₄ nanoparticles



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Abstract

Note on extended distribution of *Vigna indica* Dixit *et al* (Fabaceae) in Karnataka, India

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The species of *Vigna indica* Dixit *et al*, was recorded from Vijayapur and Chikodi tahshil of Belagavi District, Karnataka. The present collection of this species found new distribution record for Karnataka state. The short description and distribution also been provided.

Keywords: *Vigna*, Fabaceae, Chikodi, Belagavi

INTRODUCTION

The Leguminosae, commonly called the bean or pea family, is currently divided into three subfamilies (Caesalpinioideae, Mimosoideae and Papilionoideae), further subdivided into 35 tribes which together comprise 751 genera containing a total of ca. 19,500 species. The Leguminosae is second only to the grass family in economic value, but has significantly greater habit, flower and fruit diversity. The legumes represent one of the most phenomenal examples of manipulation and utilization of a plant family by human cultures worldwide. It has involved the domestication of a set of globally important food crops, such as soybean, culinary beans, groundnut, lentil, grain legumes (*Vigna*), chickpea and pea (LPWG 2013).

The genus *Vigna* consists of approximately 104 species which are distributed throughout the world. Initially the genus *Vigna* was divided into seven subgenera, *Ceratotropis* (Piper) Verdc., *Haydonia* (Wilczek) Verdc., *Lasiozporon* (Benth.) Verdc., *Plectotropis* (Schum.) Baker, and *Vigna Savi* Marechalet *et al.* (1978). The subgenus *Ceratotropis* has centre of species diversity in Asia Lewis *et al.* (2005). India is represented with 24 species of genus *Vigna* (Sanjappa, 1992). In Flora of Karnataka (Vol 1.), 10 species of *Vigna* has been reported by C. Saldanha & B. Gurudev Singh (1984), they are *Vigna aconitifolia* (Jacq.) Marechal, *V. angularis* (Willd.) Ohwi & Ohashi, *V. dalzelliana* (Kuntz.) Verdc, *V.*

Pilosa (Willd.) Baker, *V. trilobata* (L.) Verdc, *V. radiata* (L.) Wilezekvar *sublobata*, *V. umbellata* (Thunb.) Ohwi & Ohashi, *V. vexillata* (L.) A. Rich., *V. radiata* (L.) Wilezek var *radiata* (Hesaru) and *V. unguiculata* (L.) Walp (Halasande). Therefore, the present record found to be a new distributional record for the Karnataka state.

MATERIALS AND METHODS

During regular floristic exploration surveys in 2017–18, a species of *Vigna Savi* was observed with good population near Toravi, Tikota, Bhutnal Lake, Begum Lake of Vijayapur District and also in open hills of Chikodi of Belagavi District of Karnataka. After critical examination and reference to relevant taxonomic literature, it was identified as *Vigna indica* Dixit *et al.*, (2011). The collected specimens were processed and deposited in the Herbarium, Post Graduate Department of Botany, KLE Society's, Basavaprabhu Kore Art's, Science and Commerce College, Chikodi, Belagavi, Karnataka

Short description

Vigna indica Dixit *et al.*, in Rheedea, 21:1-7. 2011. *Vigna trilobata* (L.) Verdc. var. *pusilla* Naik & Pokle in J. Econ. Tax. Bot. 7:670 (1985) 1986; Sanj. Legumes of India 276. 1991; Naik, Fl. Marathwada 1 : 5. 1998.

Herbs, trailing or twining, 15–100 cm. high. Leaves pinnately 3–foliolate or deeply 3–lobed, lobes



Research Article

In vitro Anti-oxidant and Anti-cancer Activity of *Tetradesmus acuminatus* Microalgae Extract on MCF-7 Human Breast Cancer Cell Line

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Abstract

Background and Objective: Microalgae are the vital constituents in food chains of aquatic ecosystems and have been used for human consumption as food and as medicines. The wide diversity of compounds synthesized from different metabolic pathways of fresh water algae provides promising sources of secondary metabolites in the form of phytochemical constituents. These metabolites are very interesting source of producing an herbal medicine to treat diseases like cancer which is a major public health concern. The study aims to determine the phytochemical constituents, antioxidant and anti-cancer activities of *Tetradesmus acuminatus* algal extraction MCF-7 human breast cancer cell line. **Materials and Methods:** The dried and dehydrated algae biomass was subjected to extraction by cold maceration method using 5 solvents of increasing polarity from a non-polar (hexane) to a more polar solvent (aqueous). Phytochemical screening was done using different biochemical tests. Quantitative analysis for phenol was determined by Folin-Ciocalteu reagent method. The antioxidant activity was tested using 2, 2-diphenyl-1-picrylhydrazyl, ferric ion reducing power assay. *In vitro* anti-cancer activity on MCF-7 human breast cancer cell line was evaluated by (3-(4, 5-dimethylthiazol-2-yl)-2, 5-diphenyltetrazolium bromide) MTT assay. **Results:** The phytochemical analysis revealed broad spectrum of bioactive compounds including flavonoids, glycosides, phenols, tannins, fats and oils. Methanol and aqueous extracts exhibited higher phenolic content as compare to ethanol extract. Antioxidant capacities were shown highest in methanol and ethanol aqueous based on the test performed. The methanol and aqueous extracts were found to be selectively cytotoxic *in vitro* to on MCF-7 human breast cancer cell line with IC₅₀ values 468.31 ± 24.15 and 598.12 ± 12.18 µg mL⁻¹ for MCF-7, respectively, while it had no cytotoxic effect on normal mice embryo fibroblast cells. **Conclusion:** The results indicate that *Tetradesmus acuminatus* was a promising antioxidant and anti-cancer agent for MCF-7 human breast cancer cell line. However, further studies are needed to conclude its therapeutic use.

Key words: Phytochemical screening, *Tetradesmus acuminatus*, anti-oxidant, MCF-7, human breast cancer cell line, carcinogenesis, antimetastatic activity

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Competing Interest: The authors have declared that no competing interest exists.

Data Availability: All relevant data are within the paper and its supporting information files.



Temperature-Dependent Dielectric and Magnetic Properties of Scandium-Substituted HoFeO₃ Nanoparticles

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Abstract

In the present work, the HoFeO₃ and HoFe_{0.8}Sc_{0.2}O₃ nanoparticles prepared by the solution combustion method have been studied to understand their structural, dielectric, and magnetic properties. The refined X-ray diffraction pattern (XRD) confirms the single-phase formation with *orthorhombic* structure having space group *Pbnm* (*D*_{2h}¹⁶). The average crystallite size observed in nanometer for both samples and field emission-scanning electron microscopy (FE-SEM) confirms that the grain sizes were about in the region of micrometer. The temperature-dependent dielectric parameters were obtained such as the real part of the dielectric constant, dielectric loss tangent, and AC conductivity studied with frequency. The real part of the dielectric constant is high at lower frequencies and it is constant at higher frequency region. This sort of dielectric behavior can additionally be clarified based on various polarization mechanisms happening in various frequency ranges. The dielectric loss tangent increases with temperature. For both samples, the AC conductivity increases with temperature and frequency. The magnetic transitions and magnetic parameters were studied through the temperature-dependent susceptibility and field-dependent magnetization. For HoFeO₃ and HoFe_{0.8}Sc_{0.2}O₃, the Neel temperature transition at 5 and 8 K was observed which is characterized to the antiferromagnetic nature. The M-H loop confirms the antiferromagnetic nature at 5 K for HoFeO₃ and the ferromagnetic nature at 5 K for HoFe_{0.8}Sc_{0.2}O₃. Overall, it confirms the changes of nature from antiferromagnetic nature to ferromagnetic nature after substitution of Sc³⁺ on HoFeO₃.

Keywords Solution combustion method · Field emission-scanning electron microscopy · AC conductivity · Antiferromagnetism

1 Introduction

In recent years, the orthoferrite oxide (RFeO₃) nanoparticles have pulled in significant enthusiasm because of their good electrical and magnetic properties [1–3]. The high degree of symmetry of orthoferrites makes them desirable for investigation of their magnetic and electrical properties [4, 5]. Magneto-optical storage, memory-based devices, logic events, and other related uses of these mixes are of both scientific inspiration and commercial use [6]. Generally, orthoferrites are antiferromagnetic insulator showing strong negative roundabout trade communication in the system of Fe³⁺-O-Fe³⁺, which causes two attractive magnetic sublattices normally in anti-parallel direction [7]. A weak ferromagnetism is available because of a little inclining in the arrangement of the antiferromagnetically coupled cross sections. These are uniaxial with the orthorhombic c-axis magnetically preferred [8]. As of late, similar outcomes have also been reported [9, 10]. The magnetic, electrical, and magneto-optical properties of these materials have been concentrated broadly in the mass structure. Be that as it may,

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ಬೆಳಗಾವಿ ಜಿಲ್ಲೆಯ ಪಾತ್ರೋಟಿ ಸಮುದಾಯ: ಒಂದು ಚಿಂತನೆ

ಶಿವಾನಂದ ಹೆಳವರ¹ ಮತ್ತು ಡಾ. ಎಚ್.ಇ. ಬಸವರಾಜಪ್ಪ² Dr. H. E. Basavarajappa

ಪೀಠಿಕೆ

ಬೆಳಗಾವಿ ಜಿಲ್ಲೆಯಲ್ಲಿ ಪಾತ್ರೋಟಿ ಮನೆತನಗಳನ್ನು ಪಾತರದವರು, ಪಾತರವಾಟಿಯವರು, ಪಾತ್ರೋಟಿ ಮೊದಲಾದ ಹೆಸರುಗಳಿಂದ ಕರೆಯುತ್ತಾರೆ. ಬೆಳಗಾವಿ, ಬಾಗಲಕೋಟೆ, ವಿಜಯಪುರ ಜಿಲ್ಲೆಗಳಲ್ಲಿ ಈ ಸಮುದಾಯದ ಜನರಿದ್ದಾರೆ. ಇಂದು ಬೆಳಗಾವಿ ಜಿಲ್ಲೆಯಲ್ಲಿ ವಾಸಿಸುತ್ತಿರುವ ಪಾತ್ರೋಟಿ ಮನೆತನಗಳನ್ನು ಕ್ಷೇತ್ರಕಾರ್ಯದ ಮೂಲಕ ಸಮೀಕ್ಷಿಸಿದಾಗ, ಅವರು ಬೇರೆ ಬೇರೆ ಪಂಗಡಗಳಿಗೆ ಸೇರಿದ್ದಾರೆಂಬ ಕಲ್ಪನೆ ಮೂಡಿತು. ಬೆಳಗಾವಿ ಸಮೀಪದ ಅಲತಗಾ ಗ್ರಾಮದಲ್ಲಿ ಪಾತ್ರೋಟಿ ಮನೆತನದವರು 'ಉಪ್ಪಾರ ಜಾತಿ'ಗೆ ಸೇರಿದ್ದರೆ, ಬೈಲಹೊಂಗಲ ತಾಲೂಕಿನ ನಾವಲಗಟ್ಟಿ ಗ್ರಾಮದ ಪಾತ್ರೋಟದವರನ್ನು 'ಕೊರವ'ರ ಜಾತಿಗೆ ಸೇರಿಸಲಾಗಿದೆ. ಕೊಣ್ಣೂರು, ಗೋಕಾಕ ಮೊದಲಾದ ಕಡೆ ಈ ಸಮುದಾಯವನ್ನು ಗಾಡಿವಡ್ಡರ, ಬಂಡಿವಡ್ಡರ, ಗಿರಣಿ ವಡ್ಡರು ಎಂದು ಗುರುತಿಸಲಾಗಿದೆ. ಆದರೆ ಬೆಳಗಾವಿ ಜಿಲ್ಲೆಯ ಪಾತ್ರೋಟಿ ಸಮುದಾಯವನ್ನು 'ಗಂಟಿಚವಡಿ' ಅಥವಾ 'ಗಂಡಿಚೋರಿ' ಎಂದು ಕರೆಯುವುದು ಹೆಚ್ಚಾಗಿ ಕಂಡುಬರುವುದನ್ನು ಕ್ಷೇತ್ರಕಾರ್ಯ ಸಂದರ್ಭದಲ್ಲಿ ಕಂಡುಕೊಳ್ಳಲಾಗಿದೆ.

ಪಾತ್ರೋಟಿ ಸಮುದಾಯದವರ ಮನೆಮಾತು ಕನ್ನಡವಾಗಿರುವುದು ವಿಶೇಷ. ಮೇಲೆ ಹೇಳಿದ ಉಪ್ಪಾರ, ವಡ್ಡರ ಮಾತೃಭಾಷೆಗಳು ಬೇರೆ ಬೇರೆಯಾಗಿವೆ. ಉಪ್ಪಾರರು ಪ್ರಾರಂಭದಲ್ಲಿ ಉಪ್ಪು ತಯಾರಿಸಿ ಅಥವಾ ಆಮದುಮಾಡಿಕೊಂಡು ಮಾರಾಟ ಮಾಡುತ್ತಿದ್ದರು. ಕೊರವರು ಬುಟ್ಟಿ, ಚಾಪೆ, ಕಸಬರಿಗೆಗಳನ್ನು ತಯಾರಿಸುತ್ತಿದ್ದರು. ಹೀಗಾಗಿ ಇವರಿಗೂ ಪಾತ್ರೋಟಿ ಸಮುದಾಯಕ್ಕೂ ಯಾವುದೇ ಸಂಬಂಧವಿಲ್ಲವೆಂದು ಸ್ಪಷ್ಟವಾಗುತ್ತದೆ.

ಕರ್ನಾಟಕದ ಪಾತ್ರೋಟಿ ಸಮುದಾಯವನ್ನು ಕೆಲವು ವಿದ್ವಾಂಸರು ಮಹಾರಾಷ್ಟ್ರದಲ್ಲಿರುವ ಕಲಾವಂತ ಜನಾಂಗದೊಂದಿಗೆ ಸಮೀಕರಿಸುತ್ತಾರೆ. "ಉತ್ತರ ಕರ್ನಾಟಕದ ಬೆಳಗಾವಿ ಜಿಲ್ಲೆ ಮತ್ತು ದಕ್ಷಿಣ ಮಹಾರಾಷ್ಟ್ರ ಪ್ರದೇಶಗಳಲ್ಲಿ 'ಕಲಾವಂತ' ಜನಾಂಗದವರು ವಾಸಿಸುತ್ತಾರೆ. ಇವರನ್ನು ಬಾಂದೋಡಕರ, ಕಾಕೋಡಕರ, ಶಿರೋಡಕರ, ಮಂಗೇಶಕರ ಇತ್ಯಾದಿ ಅಡ್ಡ ಹೆಸರುಗಳಿಂದ ಗುರುತಿಸಲಾಗುತ್ತದೆ. ಇವರಲ್ಲಿ ಗೋವಾದವರು, ಮಹಾರಾಷ್ಟ್ರದವರು, ಕರ್ನಾಟಕದವರು-ಇವರಲ್ಲಿಯೇ ಮತ್ತೆ ಉತ್ತರ ಕನ್ನಡದವರು ಮತ್ತು ತೇಲಂಗರು ಎಂಬ ಒಳಪಂಗಡಗಳಿರುವುದಾಗಿ ತಿಳಿದುಬರುತ್ತದೆ"¹ ಎಂದು ನೇಗಿನಹಾಳರವರು ಹೇಳುತ್ತಾರೆ. ಆದರೆ ಈ ಕಲಾವಂತರ ಆಚರಣೆಗಳಿಗೂ, ಪಾತ್ರೋಟಿ ಸಮುದಾಯದವರ ಆಚರಣೆಗಳಿಗೂ ತುಂಬ ವ್ಯತ್ಯಾಸವಿದೆ. ಅಲ್ಲದೆ ಮಂಗೇಶಕರ ಎಂಬ ಅಡ್ಡ ಹೆಸರಿನವರು ದೇವಸ್ಥಾನದಲ್ಲಿ ದೇವದಾಸಿಯಾಗಿದ್ದರು ಎಂಬುದು ಇಲ್ಲಿ ಗಮನಿಸುವ ಅಂಶ. ಲತಾ ಮಂಗೇಶಕರ ಭಾರತದ ಬಹುದೊಡ್ಡ

¹ ಸಂಶೋಧನಾ ವಿದ್ಯಾರ್ಥಿ, ಎಸ್‌ಪಿಎಂ ಕಲಾ, ವಿಜ್ಞಾನ ಮತ್ತು ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ, ಮು.ಪೊ: ಹಾರೂಗೇರಿ, ರಾಯಬಾಗ, ಬೆಳಗಾವಿ.

² ಮಾರ್ಗದರ್ಶಕರು, ಬಸವಪ್ರಭು ಕೋಲೆ ಕಲಾ, ವಿಜ್ಞಾನ ಮತ್ತು ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ, ಚಿಕ್ಕೋಡಿ ತಾಲೂಕು, ಬೆಳಗಾವಿ.

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19. Impact of Covid-19 on Primary to Higher Education

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Abstract

The impact of pandemic Covid-19 is observed in every sector around the world. The Education sector of India as well as world are badly affected by this It has enforced Student life, Schools to Colleges all education activities in India. The outbreak of Covid-19 has advised use that change in inevitable. It has worked as a catalyst for the educational institutions to grow and opt for platforms and technologies This paper Highlights some measures taken by Govt, Both the positive and negative impacts of Covid-19 are offline Higher Education open of India Education activities during the Impact situation.

Key words : Government of India, Government of Karnataka, Education, Covid- Impact.

Introduction

The pandemic Covid-19 has spread. Over whole world and Compelled the human society to maintain Social and Economic distancing. It has significantly disrupted the education sector which is a critical determinant of a country's economic future or February 11, 2020.the World Health Organization proposed an official name of the Covid-19, an acronym for coronavirus disease 2019. It was first identified in Whuhan, China on December 31, 2019, First death by Covid-19 was the 62 year old man in Whuhan, China on January 11, 2020 WHO declared Covid-19 as a pandemic on March 11, 2020. The first case of the Covid-19 pandemic in India was reported on 30 January 2020 in the state of Kerala the affected had travel history from Whuhan, China. The first death due to Covid-19 was reported in India on March 12, 2020. It has affected more than 4.5 million peoples world wide. According to the UNESCO report, it had affected more than 90% of total world's Student population during mid April 2020 which is now reduced to nearly 67% during June 2020. Outbreak of CCovid-19 impacted more than 120 Crores.,In India more than 32 crores of Students have been affected by the various restrictions and nation wide Lockdown for Covid-19 . About primary to higher Education are affected levels in India.



Ethnobotanical Survey of Medicinal plants in Raibag, Belagavi, Karnataka

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Abstract

Traditional herbal medicines prepared from wild plants play a very significant role in the primary healthcare. The survey was undertaken during 2019 to 2020 to document wild medicinal plants used in rural areas of Raibag taluka of Belagavi District, Karnataka. In the present survey 66 medicinal plants belonging to 58 genera and 31 families have been documented. The data has been presented schematically as serial number, ailments with their botanical name with family name, Kannada name, part used and mode of preparation.

Keywords: medicinal plants, Raibag, Belagavi, Karnataka

Introduction

Medicinal plants are highly utilized throughout the world in two distinct lines of health practices and management. They are traditional system of medicine and modern system of medicine. The traditional medicinal system is mainly functions through two distinct ways (1) Local or folk or tribal stream and, (2) Codified and organized Indian system of medicines like Ayurveda, Siddha and Unani. Since last few decades, importance and applications of traditional medicine has been expanded globally and has received attention by the peoples. It has been continuously used for primary health care of the poor and developing countries. According to World Health Organization (WHO), traditional medicine is defined as "the sum total of the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health, as well as in the prevention, diagnosis, improvement or treatment of physical and mental illnesses" [19].

The traditional herbal medicines are comparatively safer and cheaper than modern medicine [1]. A great deal of information about the traditional uses of plants is still intact with tribal or rural peoples. But the native healers are often reluctant to accurately share their knowledge to outsiders [27]. Most of the rural people in the district use traditional medicine for various ailments with very negligible cost or sometime free of cost. There is increasing demand for wild plant resources and their habitats because of over exploitation [11]. This traditional knowledge is verbally transmitted from generation to generation, and hence in danger of extinction as older people die and younger generations fail to learn the traditional way of life. This situation is degraded by rapid socio-economic, technological and environmental changes [28]. Indigenous knowledge about uses of wild plant resources such as medicinal plants is disappearing fast from traditional or rural communities [3]. Urbanization, mining, agricultural expansion and other developmental works have also resulted in the decline of interest in traditional culture and its practices. The available literature divulges that documentation of traditional knowledge has not been carried out earlier in the study area.

Hence, there is an urgent need to document and preserve all information on medicinal plants used by rural communities in the Raibag before it is completely lost or verge of extinct. Documenting the indigenous knowledge through ethnobotanical studies is important for the conservation of biological resources and their sustainable utilization.

Materials and Methods

Ethno-medicinal survey was carried out from 2019 to 2020. The information on use of medicinal plants was gathered through oral interviews with the local people specially the geriatric person. Different plants and its parts used to cure different ailments are recorded during this interview. All the gathered information was cross checked with available published literature. The plants were identified as per the local name [10, 4] and regional and state flora of Karnataka [7, 21, 22]. The specimens were deposited in the Herbarium P.G. Department of Botany, B. K. College, Chikodi, Belagavi.

Results and Discussion

A total of 66 medicinal plants belonging to 58 genera and 31 families were documented in the study area. The results gathered during the survey are summarized in the Table 1. The most represented families are Fabaceae with 6 species, followed by Anacardiaceae, Cucurbitaceae, Moraceae. Eight families are represented by 3 species each they are Apiaceae, Arecaceae, Asteraceae, Combretaceae, Lamiaceae, Malvaceae, Myrtaceae and Zingiberaceae. The families like Acanthaceae, Amaryllidaceae, Annonaceae, Apiaceae, Oleaceae, Piperaceae and Solanaceae represented with 2 species. Other families like Apocynaceae, Boraginaceae, Caricaceae, Lauraceae, Menispermaceae, Phyllanthaceae, Rhamnaceae, Rubiaceae, Rutaceae, Santalaceae, Verbenaceae and Vitaceae represented with only one species each. In similar results were found in Coochbehar district of West Bengal where Fabaceae were dominant families [8]. Medicinal plants belonging to families like, Lamiaceae were dominant in Kadapa district of Andhra Pradesh [19]. Asteraceae were the leading families in Kerala state [17], whereas in Kancheepuram district of Tamil Nadu, Amaranthaceae were dominant ones [5].

DISSECTING MOLECULAR EVOLUTIONARY RELATIONSHIP OF KRAMERIACEAE INFERRED FROM PHYLOTRANSCRIPTOMIC ANALYSIS

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Keywords: Zygophyllales; Zygophyllaceae; Krameriaceae; Phylotranscriptome; Phylogeny.

Abstract

The systematic relationships of Krameriaceae have changed considerably. The phylotranscriptomic data sets provide highly informative data for resolving deeper-level phylogenetic relationships. The phylotranscriptomic analyses to infer evolutionary relationships of Krameriaceae in the order Zygophyllales using the Minimum Evolution, Maximum Parsimony and Maximum Likelihood methods recovered similar topology and taxon proximity. Under the Zygophyllales clade, *Krameria lanceolata* Torr. of the family Krameriaceae nested with *Tribulus eichlerianus* K.L. Wilson and *Larrea tridentata* (Sessé & Moc. ex DC.) Coville belonging to the family Zygophyllaceae with strong nodal support. The phylotranscriptomic analyses suggest that the family Krameriaceae is sister to Zygophyllaceae.

Introduction

The order Zygophyllales Link in the Fabids comprises two families viz. Zygophyllaceae R. Br. and Krameriaceae Dumort. (APG IV, 2016). The Zygophyllaceae commonly known as the ‘Caltrop Family’, possesses mostly opposite, compound leaves, pinnate or 2-foliolate with paired persistent stipules, flowers with disc, distinct stamens bearing basal scales, polycarpellary syncarpous with 5 carpals and 4-5 loculed ovary. The Zygophyllaceae consists of c. 25 genera [e.g. *Augea* Thunberg, *Balanites* Delile, *Bulnesia* C. Gay, *Fagonia* L., *Gonopterodendron* (Grisebach) Godoy-Bürki, *Guaiaacum* L., *Kallstroemia* Scopoli, *Kelleronia* Schinz, *Larrea* Cavanilles, *Melocarpum* (Engl.) Beier & Thulin, *Metharme* Engler, *Morkillia* Rose & Painter, *Neoluederitzia* Schinz, *Pintoa* C. Gay, *Plectrocarpa* Gillies, *Porlieria* Ruiz & Pavón, *Roepera* A. de Jussieu, *Seetzenia* R. Brown, *Sericodes* A. Gray, *Sisyndite* Sonder, *Tetraena* Maximowicz, *Tribulopsis* R. Br., *Tribulus* L., *Viscainoa* Greene, *Zygophyllum* L.] and c. 325 species under 5 subfamilies (e.g. Larreoideae, Morkillioideae, Seetzenioideae, Tribuloideae and Zygophylloideae), distributed in dry and warm or cool temperate and tropical regions (Beier *et al.*, 2004; Brummitt, 2007; APG IV, 2016; Godoy-Bürki *et al.*, 2018). The monogeneric family Krameriaceae (e.g. *Krameria* Loefl.) commonly known as ‘Rhatany’ is characterized by small-leaved, moderate-sized shrubs to subshrubs with somewhat woody underground stems and roots with the prostrate

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Employee Attitude towards Organizational Changes in Auto Mobile Industries with reference to Penya Industrial Area, Bengaluru

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Abstract: The life is continuously changing. That helps to people move, careers changes, the climate changes and life cycle begins and ends. If a person can adapt to these changes and become a ready to participate in a continuously changing world. The employee attitude can influence character communicate the repose to change. Employee attitude concentrated on individual attitude towards change in organization. Attitude is related to psychology, attitude is differs from person to person perception. The main focus of research on attitude concerns the nature and function of the attitude and how employees shape themselves towards change. Employee attitude focused on individual attitude towards organizational changes. There are 2types of employee's attitude towards change. The attitude brings Positive and Negative type of activities of employees during the change process. In negative attitude towards the change, the employees are refusing to accept the change in organization. And in positive attitude towards the change, the employees are likely to accept the change in organization.

Keywords: Change, Career, Attitude, Employees, psychology, Organization, Perception.

Article History

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1. Introduction:

Change in some way is the necessary aspect of human life is change. Change is the only constant in this world. Everything keeps on changing continuously. Change simply refers to alteration in the existing conditions of an organization. Occupational stress and organizational change are now widely accepted as two major issues in organizational life. The current study explores the linkage between employees attitudes towards organizational and two of the most



Evidence of Weak Ferromagnetism, Space Charge Polarization, and Metal to Insulator Transition in Dy-Doped CaMnO_3

Ravi Bharamagoudar¹ · V. Jagadeesha Angadi² · I. Shivaraja³ · Basavaraj Angadi³ · Rajib Mondal⁴ · Anil S. Patil⁵ · Sunil Patil⁶ · Vinayak Pattar⁷ · S. Raghu⁸ · Shidaling Matteppanavar⁸

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Abstract

The effect of Dy doping on CaMnO_3 (CDMO) has been thoroughly investigated. The room-temperature structure, low-temperature magnetic transitions, and high-temperature electrical properties of CDMO were studied using X-ray diffraction, magnetization, and dielectric techniques. The CDMO exhibits an orthorhombic structure with Pnma symmetry. The low-temperature magnetic susceptibility data show the ferromagnetic domains embedded in the antiferromagnetic structure (G-type), and it confirms the Neel temperature (T_N) approximately 55 K. Temperature-dependent dielectric data measured using a few selected frequencies show a high dielectric constant $\sim 29,108,808$ at 1 kHz. The presence of a high dielectric constant at the lower frequency side can be attributed to the space charge polarization (SCP) and compositional disorder (heterogeneity) in the compounds. The impedance cole-cole plot shows a depressed semicircle; mathematically these data were fitted by the Kohlrausch-Williams-Watt model. From this model obtained two mechanisms: (i) the electric modulus divulges the CDMO ceramic tails the Non-Debye type of relaxation and (ii) the electric modulus peak shifting evidence the charge carrier mobility from long range to short range. High-temperature dielectric, resistivity, and conductivity data show a clear anomaly around 461 K, owing to metal to insulator transition.

Keywords Manganites · Ferro–antiferromagnetism · Dielectric polarization · Conductivity and ceramics

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1 Introduction

The rare-earth elements doped CaMnO_3 exhibit several thought-provoking performances, viz., spin-orbital coupling, mesoscopic phase separation, charge, colossal magnetoresistance (CMR), and the strange behavior of transport properties. All these mechanisms are strongly internally associated and subtle to external effects, such as electromagnetic, temperature, pressure, and A-site ionic radii [1, 2]. Pure CaMnO_3 or rare earth-doped CaMnO_3 properties are directly linked to the superexchange interactions, Zener double-exchange mechanism of electron hopping, and Jahn-Teller type electron-phonon interactions [3]. A lot of rare earth-doped CaMnO_3 exhibit captivating properties such as ferromagnetism at very low temperature, charge ordering, and metal to insulator (M-I) transition at high temperature [1, 4–9]. The ferromagnetic behavior in these mixed-valence compounds is due to the movement of e_g electrons from Mn^{3+} to Mn^{4+} sites (double-exchange interaction) [10]. The concurrent occurrence of ferromagnetism and metallic behavior in the rare-earth-doped



Neutron Diffraction Magnetic and Mossbauer Spectroscopic Studies of $\text{Pb}_{0.8}\text{Bi}_{0.2}\text{Fe}_{0.728}\text{W}_{0.264}\text{O}_3$ and $\text{Pb}_{0.7}\text{Bi}_{0.3}\text{Fe}_{0.762}\text{W}_{0.231}\text{O}_3$ Ceramics

I. Shivaraja¹ · Shidaling Matteppanavar² · P. S. R. Krishna³ · Sudhindra Rayaprol⁴ · P. D. Babu⁴ · V. Jagadeesha Angadi⁵ · S. P. Kubrin⁶ · Basavaraj Angadi¹

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Abstract

We report on high-temperature crystallographic structure, magnetic and physical properties of chemically B-site disordered lead-bismuth iron tungstate, $(\text{PFW})_{1-x}(\text{BFO})_x$ (which can be written as $\text{Pb}_{0.8}\text{Bi}_{0.2}\text{Fe}_{0.728}\text{W}_{0.264}\text{O}_3$ (0.8PFW–0.2BFO) for $x = 0.2$ and $\text{Pb}_{0.7}\text{Bi}_{0.3}\text{Fe}_{0.762}\text{W}_{0.231}\text{O}_3$ (0.7PFW–0.3BFO) for $x = 0.3$) or PBFW, solid solutions through neutron diffraction (ND), magnetization, electron paramagnetic resonance, and Mössbauer spectroscopic studies. From the high temperature magnetic susceptibility measurement, it is observed that increase antiferromagnetic to paramagnetic phase transition around $T_N = 435$ K ($\text{Pb}_{0.8}\text{Bi}_{0.2}\text{Fe}_{0.728}\text{W}_{0.264}\text{O}_3$) and 504 K ($\text{Pb}_{0.7}\text{Bi}_{0.3}\text{Fe}_{0.762}\text{W}_{0.231}\text{O}_3$), compared to pure PFW. Room-temperature crystallographic study confirms the formation of pseudo *cubic* structure with *Pm-3m* space group, whereas the magnetic structure is commensurate G-type antiferromagnetic ordering. The obtained temperature dependent structural parameters from the ND, evidenced to existence of strong spin-lattice coupling around T_N for both the compounds. The discontinuity in the Pb/Bi–O bond length around ferroelectric transition (T_C) indicates the presence of magnetoelectric coupling. Interestingly, microscopic 1:1 B-site ordered nanoclusters of PBFW exhibits the ferrimagnetic clusters along with antiferromagnetic order and it observed through the opening of *M* vs *H* hysteresis curves in the lower field regime. The EPR and Mössbauer spectroscopic studies well support the magnetic property and also reveal the Fe^{+3} state, and the weak signal in EPR and broader linewidth in the Mössbauer spectra exhibit the B-site disorderliness.

Keywords Spin lattice · Magnetoelectric coupling · Neutron diffraction · Ferrimagnetism and antiferromagnetism

1 Introduction

Recently, multiferroic materials have gained enormous attention due to the coupling of spin, charge, and lattice degrees of

freedom in single-phase materials [1, 2]. This coupling between these three ferroic properties leads to the realization of technologically potential device applications such as magnetoelectric memory, voltage tunable spintronics, transducers, and sensors [3–7]. In this context, the coupling mechanisms in such single-phase materials need a proper understanding of the underlying fundamental physical concepts, attracting many researchers in solid-state and materials science. Due to the symmetry constraints such as magnetic symmetries, time-reversal, and spatial inversion symmetry, only a few multiferroic materials occur naturally [8]. Due to the contradictory nature in the origin of magnetism by d^n (n indicates the free/unpaired electrons in transition $3d$ elements) while ferroelectricity from d^0 , it is difficult to obtain the multiferroic properties in the ABO_3 (A: Pb, Bi, Sc, and Ba, etc.; and B: transition metal ions Fe, Co, Ni, Mg, Nb, and W, etc.) perovskites. Free electrons in the d shell suppress the ferroelectricity in a simple ABO_3 structure [8, 9]. Therefore, to overcome from these issues, the complex perovskite system with structure

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Disparities of phytochemical constituents and antioxidant activities of some *Indigofera* species

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ABSTRACT

The current study was intended to examine the difference in the phytochemical and antioxidant profile of nine *Indigofera* species. With this aim, the species were assessed for total phenolic content, flavonoid content, and antioxidant activity using ferric reducing antioxidant power (FRAP), DPPH free radical scavenging, ferrous ion chelating activity, phosphomolybdenum reducing power, deoxyribose degradation, β -carotene bleaching, nitric oxide scavenging, and superoxide radical scavenging assays. The content of total phenolics and flavonoids ranged from 1.33 to 22.5 mg TAE/g plant material and 0.47 to 5.02 mg QE/g plant material respectively in the various species, while the antioxidant activity as tested with different antioxidant test models varied with the species studied as well as with the solvents used for the extraction. Interestingly, all the tested extracts demonstrated considerable free radical scavenging activity, moreover, *I. hirsuta*, *I. glandulosa*, *I. linnaei*, *I. hochstetteri*, *I. linifolia*, and *I. trita* were found to be the most effective among the species studied. The results indicated the significant differences in phytochemical constituents and the antioxidant activity among the species. The Pearson correlation coefficient analysis exhibited a significant correlation of phenolics and flavonoids with the antioxidant activity.

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KEYWORDS

Fabaceae; *Indigofera*;
phytochemicals;
antioxidants; correlation

Introduction

The genus *Indigofera* is a large genus comprising some 800 species in the family Fabaceae. The species are confined to the tropical and subtropical regions of the world. In India, the genus is characterized by about 60 species and 11 varieties, of which 16 species and 7 varieties are endemic (Chauhan et al., 2013). *Indigofera* species possess a wide range of uses ranging from several ecological and economic purposes, feed for livestock or ornamental, medicinal plant recipes, as well as a dye for commercial purpose and, are also used in the treatment of several diseases. Numerous studies have been conducted to unveil the pharmacological activities of the different species of the genus *Indigofera* (Nisar et al., 2009; Rajaperumal et al., 2013; Rahman et al., 2018; Vijayan et al., 2018; Karakousi et al., 2020). The systematic literature collection, about this investigation,

confirmed that the intake of plant product containing antioxidant compounds could reduce the risk of being attacked by several diseases (Xie et al., 2015). In recent years, increasing interest has been paid to phytochemicals, because of their multiple bioactive activities including antioxidant activity (Abraham et al., 2018). Furthermore, it is well known that antioxidant activity and phytochemical composition of plant extracts depends on plant species, phenological stage, biotic pressures, genetic composition, geographical locations, and/or different changes in environmental conditions (Alfaro et al., 2013). In this study, we might relate disparities in the phytochemical compounds and antioxidant profile of different *Indigofera* species. In this sense, the current investigation deals with quantitative analysis of total phenolic content, flavonoid content, and antioxidant activities of different solvent extracts of the *Indigofera* species.



Digital India

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Abstract:

The world has transformed from knowledge savy to techno knowledge savy. The things should be available on one click. The Digital Media comprises of various initiatives each targeted to prepare India for becoming a knowledge and for bringing good governance to citizens through synchronized and coordinated engagement of the entire government. Digital indicates to electronic technology which generates stores and processes data. Digital Technologies include cloud Computing and Mobile Applications. Digital India is one of the step by the government to motivate and connect Indian economy to knowledge savyworld. The present paper aims to clear concept of digital India.

Introduction:

The digitally connected India can help in improving social and economic condition of people through development of non-agricultural economic activities apart from providing access to education, health and financial services. With this hope government of India has launched the Programme called 'Digital India ' on 1 July 2015 by prime Minister Narendra Modi. To prepare the world 's largest and fastest development economy ready for knowledge based future. The main objective of the programme is to connect the rural India with digital world. In today's world of competition, every economy wish to get digitalizes develops at faster rate. With launch of abitious Digital India Programme, Indian government has taken abig step to transform its economy into digitally empowered knowledge economy. Digital India is not just a Programme, it is the beginning of digital revolution in the economy.It is a dream which is created by

the Government of India to ensure that government services are made available to citizens electronically, even in remote and rural areas by improving online infrastructure and by increasing Internet connectivity. The Programme has one mission and one target that is to take nation forward digitally and economically. With a hope that, a digitally connected India can help in improving social and economic condition of people through development of non – agricultural economic activities apart from providing access to education, health and financial services government has launched its ambitious programme of 1.33 lakh crore rupees.The initiative will enable people to get engaged in innovation process which is needed by economy to Move forward.

Prime Minister Narendra Modi is initiative includes plans to connect rural areas with high-speed internet networks. Digital India consists of three core components. These include: The creation



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Impedance and modulus studies of $\text{Pb}(\text{Fe}_{0.5}\text{Nb}_{0.5})\text{O}_3$ – $\text{Pb}(\text{Co}_{0.33}\text{Nb}_{0.67})\text{O}_3$ solid solutions



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ABSTRACT

The high quality polycrystalline $(1-x)\text{Pb}(\text{Fe}_{0.5}\text{Nb}_{0.5})\text{O}_3$ (PFN)– $x\text{Pb}(\text{Co}_{0.33}\text{Nb}_{0.67})\text{O}_3$ (PCN) (abbreviated as PFCN) ceramic solid solutions ($x = 0.1, 0.2, 0.3, 0.4$ and 0.5) were synthesized via single-step solid-state reaction technique. The formation of a single-phase, monoclinic structure with Cm symmetry and without any secondary phase was confirmed through the room temperature (RT) X-ray diffraction (XRD). The microstructure of sintered ceramics with well-grown grains having average grain size of 1–2 μm were observed through scanning electron microscopy (SEM). To understand the electrical response of the material impedance and modulus spectroscopy studies were carried out. A detailed temperature (301–481 K) and frequency (100 Hz to 6 MHz) dependent impedance and modulus of PFCN ceramic solid solutions were reported. The impedance spectroscopy reveals the increase of conductivity in the system by the addition of $\text{Pb}(\text{Co}_{0.33}\text{Nb}_{0.67})\text{O}_3$ due to increased number of oxygen vacancies (OVs)/defects created at the grain boundary interface during the synthesis. The Z' vs. frequency shows the creation of space charges by the participating ionized OVs in the conduction process and Z'' vs. frequency shows the presence of temperature-dependent relaxation processes in the PFCN solid solutions. The Nyquist plot (Z'' vs Z') shows the depressed semicircles suggesting the deviation from Debye type of relaxation behaviour and a decrease in the grain resistance for all compositions with rise in temperature, correlates the NTCR (negative temperature coefficient of resistance) nature. The M' vs. frequency display the step-like behavior due to dipole contribution to the modulus present in the grain and grain boundary region. Fitted Kohlrausch-Williams-Watts (KWW) function to M'' vs. frequency demonstrates the non-Debye type relaxation behavior in the PFCN solid solutions. The mismatch of f_{max} in the Z'' , M'' vs. frequency indicates the short-range mobility of localized charge carriers.

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1. Introduction

Magnetolectric multiferroics are the prevalent scientific research interest due to the unique structure and interplay/coupling of electric and magnetic properties induces new functionalities which are not present in either one. This unique character makes the material potential for cutting edge technological applications, such as low power spintronics devices, spin valves, sensors, actuators, etc. [1–5]. In this context, $\text{Pb}(\text{Fe}_{0.5}\text{Nb}_{0.5})\text{O}_3$ (PFN), $\text{Pb}(\text{Co}_{0.33}\text{Nb}_{0.67})\text{O}_3$ (PCN), and other Pb-based solid solutions are the most reliable B-site mixed perovskites and magnetolectric multiferroics. Among these Pb based complex structured systems, PFN is one of the most

promising and extensively studied systems. It displays anti-ferromagnetic, spin glass, piezoelectric and pyroelectric properties, which has already shown its potential in various electronic applications such as multilayer capacitors (MLCs), actuators, electrostrictive devices [6–8].

PFN crystallizes in a complex perovskite structure $A(\text{B}'\text{B}'')\text{O}_3$, A-site Pb^{2+} and B''-site Nb^{5+} give the electric order and the B' site $\text{Fe}^{3+}(d^5, S = 5/2)$ ion provides the magnetic moment. PFN undergoes a ferroelectric to paraelectric phase transition at 385 K Curie temperature (T_C) with a structural change from monoclinic to cubic phase [6,8]. Also, PFN undergoes a magnetic ordering from paramagnetic to antiferromagnetic order with a G-type anti-ferromagnetic structure below the Neel temperature T_N (150 K) [6,8]. Another low-temperature magnetic anomaly at 20 K, is a magnetic glassy state below 20 K [6,8]. PCN is another relaxor ferroelectric

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Uniqueness of differential q -shift difference polynomials of entire functions

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Abstract

In this paper, we prove the uniqueness theorems of differential q -shift difference polynomials of transcendental entire functions.

Keywords differential q -shift difference · logarithmic order · meromorphic function · Nevanlinna theory.

Mathematics Subject Classification MSC 30D35 · MSC 39A05

1 Introduction and results

In this paper, we assume that the reader is familiar with the fundamental results [3, 6, 7]. We adopt the standard notations of the Nevanlinna theory of meromorphic function $m(r, f)$, $N(r, f)$, $\bar{N}(r, f)$ and $T(r, f)$ denote the proximity function, the counting function, the reduced counting function and the characteristic function of $f(z)$, respectively

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Dr. B.R. Ambedkar And Women Empowerment In India

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Abstract:

Dr. Bhimarao Ramji Ambedkar also known as a Babasaheb was an Indian Justist, Political thinker, Philosopher, Prolific writer, Economist, Women emancipator, an eminent and erudite scholar and Chief architect of Indian Construction. Dr. B. R. Ambedkar was a fighter for the dignity of women and human rights Being a pioneer of social justice. Dr. B. R. Ambedkar started his movement in 1920. He started fierce propaganda against the Hindu social order and launched a journal Mook Nayak in 1920 and Bahiskrit Bharat in 1927 for this purpose. Through its Issues he put stress on the gender equality and the need for Education and exposed the problems of the depressed as well as women. The encouragement of Dr. Ambedkar to empower women to speak boldly was seen when Radhabai Vadale addressed a press conference in 1931. He strongly advocated for family planning measures for women in Bombay Legislative Assembly. Dr. B. R. Ambedkar spent his life for betterment of women even involved in bad practice and professional like prostitutions. Ambedkar created Awareness among poor and illiterate women inspired them fight against the unjust and social practices like child marriages and devadasi system. He tried an adequate inclusion of woman's rights in the political vocabulary and constitution of India. He always functioned for the empowerment of women. He started work for the liberation of women and their rights. His aim was to make a Society based on social justice. Dr. B. R. Ambedkar has given equal status to women as men by providing many provisions in the Indian constitution, for upliftment the position of women. Dr. B. R. Ambedkar's thoughts towards women empowerment. Empowerment means moving from a position of enforced powerlessness to one of power.

Key words: Women Education, social justice, social behaviour, status, women empowerment

Introduction:

The word 'women' signify for suppression, exploitation and vulnerability before independence. The assumptions and behaviour towards the women change time to time. The evidences from the available resources prove the higher status of women in Vedic period. The continuity of higher status of women is disrupted in post Vedic period to modern age. However the contribution of social reformer British and post British period has brought the changes in worsen condition of women. The contribution of Dr. B.R. Ambedkar is milestone in women empowerment. Dr. B.R. Ambedkar an educationist, reformers an activist has founded women's issues and strived to improving the condition of women by participating women in movement educating them and on the- contrary attacking on the orthodox mentality towards women. The rise of Dr. Babasaheb Ambedkar in the field of social justice is a milestone towards liberty of women. The work of Dr. B.R. Ambedkar is a ray of hope for the oppressed and underprivileged section of the society.

Objectives of the study:

1. To study the women's status prior to rise of Dr. Ambedkar
2. To study the Dr B.R. Ambedkar's contribution towards women empowerment.
3. To study the of Dr. B. R. Ambedkar's Steps and efforts for the empowerment of India.

**Women's Education in Women Empowerment and Development India****Dr. Suvarna S. Madar**

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Abstract:

Swami Vivckananda said " Educate your women first and leave them to themselves, then they will tell you what reforms are necessary for them ". Women Empowerment is process of enabling and developing ability or prospective in women so that they can think and act freely, exercises their choice and control their lives and thereby reducing discrimination and exploitation towards them. It brings about upliftment of women in social., economic and political spheres where they are able ato play an equal role at par with men in society by the role of education Indian context. According to the Census, 2011, 74.04% of the population is literacy rate, comprising 65.46% female and 82.14% males. This paper attempts to find the possible faced and possibilities ahead in promoting women empowerment through education. Through Education Women enhance the quality for improve the quantity of knowledge and put every steps further achieve her goals and aware the society by showing the power of women's empowerment.

Keywords: Education, employment, Women Development, women empowerment, Indian Context.

Introduction:

Education is milestone of women empowerment because it enables them to responds to the challenges to confront their traditional role and change their life. Education is considered as basic requirement and a fundamental right for every citizens of any nation. It is a powerful tool for reducing inequality as it can give people the ability to become independent Empowerment of women is essentially the process of upliftment of Socio-Economic and political status of women and it involves the building up of society where in women in a traditionally in the society. Although women constitute half of the population and an active of social change, yet they are still being oppressed and suffered from fewer rights and lower social status in the Contemporary period. The widespread discrimination and exploitation upon women the need of empowerment of women and education can be used as an effective instrument for achieving it for their sustainable life.

Objectives of the study

- To study to know the need of educational in women empowerment and assess the present scenario of women empowerment in Indian
- To study role of education for achieving women empowerment

Methodology:

The present study is secondary data .The secondary data will be collected from Government records, Indian context, Articles, Newspapers, books, internet sources and journals etc.

**MOLECULAR AUTHENTICATION OF *EUPHORBIA SCHIMPERIANA*
 SCHEELE USING INTERNAL TRANSCRIBED SPACER
 SEQUENCES OF NUCLEAR RIBOSOMAL DNA**

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Keywords: Molecular signature; *Euphorbia schimperiana*; ITS; nrDNA; Phylogenetic relationships.

Abstract

The Internal Transcribed Spacers (ITS) sequences of nuclear ribosomal DNA (nrDNA) are commonly used in plant molecular phylogenetics for the molecular based taxonomic identification and DNA barcoding because of shorter length and easy to amplify by using the universal primers, and further has discrimination ability to distinguish the taxon at lower taxonomic level. The present molecular phylogenetic analysis of ITS nrDNA sequences focuses to determine the taxonomic status of an unresolved medicinally important species *Euphorbia schimperiana* Scheele of the family Euphorbiaceae reported from Saudi Arabia. The combined length of the entire ITS region in *E. schimperiana* is 644 nucleotides. The study reveals that *E. schimperiana* shows a close proximity with the members of the subgenus *Esula*.

Introduction

The Euphorbiaceae is a large family of flowering plants with about 300 genera and 7,500 species. The genus *Euphorbia* L. *sensu lato* belonging to the family Euphorbiaceae comprises nearly 2,000 recognized taxa with global distribution. It is considered as the largest genus of flowering plants (Govaerts *et al.*, 2000; Frodin, 2004). In Saudi Arabia, *Euphorbia* is represented by 42 species (Abedin *et al.*, 2001). The four main molecular phylogenetic studies of *Euphorbia* to date have revealed the overall phylogeny of the genus, with a major point of consensus being the recognition of four subgeneric clades: *Rhizanthium*, *Esula*, *Euphorbia*, and *Chamaesyce* (Steinmann and Porter, 2002; Bruyns *et al.*, 2006; Park and Jansen, 2007; Zimmermann *et al.*, 2010).

The Internal Transcribed Spacers (ITS) of Nuclear Ribosomal DNA (nrDNA) in plants is being extensively used for phylogenetic studies, molecular discrimination of raw drug material and DNA barcoding (Ali *et al.*, 2014). The DNA sequence of *Euphorbia schimperiana* has not been done before and is not available in the GenBank, moreover, the molecular evolutionary

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SHAKESPEARE CRITICISM; DR JOHNSON CONTRIBUTION TO SHAKESPEARE CRITICISM

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ABSTRACT

Dr Johnson's Preface to Shakespeare is an important contribution to English literature and criticism. Dr Johnson is a neo-classical writer, his comments of Shakespeare is unbiased and worthy on the whole. Johnson not only praises but also points out his defects. For Shakespeare he believes audience as great judges. Johnson's duty was to show Shakespeare under the sunshine of neo-classical taste. Johnson does this satisfactorily though in some instances he's not fully justified. Preface to Shakespeare opens with a tribute to Shakespeare's writing, which Johnson consider it long lasting value. Further he also made comments to the defects of Shakespeare. In this paper we will going to see how Dr Johnson criticises Shakespeare.

KEYWORDS – Shakespeare, drama, puns, characterisation, nature

INTRODUCTION

Samuel Johnson's criticism on preface to William Shakespeare has been looked at masterpiece to the English literary criticism. In this criticism Johnson sets out his important principles and appreciate Shakespeare for his "excellences" and "as well as defects of the works of Shakespeare. Johnsons many points treated as fundamental aspects of modern criticism; others give greater insight into Johnson's prejudices than into Shakespeare's genius. Johnson may be a true classicist in his concern with the universal instead of with the particular; the very best praise he bestows upon Shakespeare is to mention that his plays are "just representations of general nature." The dramatist has relied upon his knowledge of attribute, instead of on bizarre effects, for his success. Johnson concludes. It is for this reason that Shakespeare has outlived his century and reached the purpose at which his works are often judged solely on their own merits.

JUST REPRESENTATION OF GENERAL NATURE

As per Johnson the essential requirement beauty and truthfulness found in the nature. He finds this plentiful in Shakespeare. Johnson says, "Shakespeare is especially writers a minimum of especially modern writers, the poet of nature; the poet that holds up to this

readers a faithful mirror of manners and of life. His characters aren't modified by the customs of particular places, unpractised by the remainder of the world; y t e peculiarities of studies or professions, which may operate but upon small numbers; or by the accidents of transient fashions or temporary opinions: they're the real progeny of common humanity, like the planet will always supply, and observation will always find." In other words, dr Johnson, heavily admired the universal quality in Shakespeare's plays.

UNIVERSALITY OF SHAKESPEARE'S CHARACTERS

Dr Johnson continue on to praise the Shakespeare of characterisation. He says that his characters are on the base of general principles and thus the entire system of life is continued in motion. The implication of the neo-classical creed—"Just representation of general nature"—is that attribute, nature, a minimum of the refined attribute, is perennial. It is due to this universality that the work of an excellent artist has an inventive appeal which continues through the ages. That is why Pope asserts that the Greek and Roman writers expressed the foremost exceptional way of emulating nature which therefore to repeat Homer or Virgil was to imitate nature realistically. Pope feels that the lads of ancient period weren't much different from the lads of his own

**The Theme of Sin, Redemption and Morality in Christopher Marlowe's Play
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Abstract

Insofar as Doctor Faustus may be a Christian play, it deals with the themes at the guts of Christianity's understanding of the planet. The basic theme in the play are sin and redemption and also there is theme of wisdom and knowledge is also seen. First, there's the thought of sin, which Christianity defines as acts contrary to the desire of God. during the process of a pact with Lucifer, Faustus commits sin, not only does he disobey God, but he consciously and even eagerly announced submission to devil, choosing instead to swear allegiance to the devil. In a Christian framework, however, even the worst deed are often forgiven through the redemptive power of Jesus, God's son, who, consistent with Christian belief, died on the cross for humankind's sins. Thus, however terrible Faustus's pact with Lucifer could also be, the likelihood of redemption is usually hospitable him. All that he must do, theoretically, is ask God for forgiveness. In this play the characters were personified abstractions of vice or virtues like Good deeds, Faith, Mercy, Anger, Truth, Pride etc. Here in this paper I going to show how the themes of sin, redemption and morality affected the play.

Keywords – morality, Lucifer, Mephistopheles, redemption, Christianity

Introduction

The play is basically a fusion of allegory and therefore the religious drama of the miracle plays. The play often ended with a solemn moral. In the light of those points we may call Christopher Marlowe play a kind of moral play in spite tragic ending. Christopher Marlowe greatly follower of Christianity the play explores the alluring temptation of sin, its harsh consequences, and therefore the possibility of redemption for a sinner like Doctor Faustus. Faustus's journey are often seen in reference to the possible trajectory from temptation to sin to redemption: Faustus'



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New species of *Asterina* and *Balladyna* (black mildew fungi) from Mahabaleshwar, Maharashtra, India

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Abstract

Two new black mildew fungal species, *Asterina rubiacearum* sp. nov. and *Balladyna canthiigena* sp. nov., which infect the leaves of *Canthium dicoccum* var. *umbellatum* (Rubiaceae) are described from Mahabaleshwar, Maharashtra (India). Taxonomic descriptions, photomicrographs, line drawings and comparative account of close associate species are provided.

Keywords: 2 new species, *Asterina*, asterinaceae, *Balladyna*, meliolaceae

Introduction

India has a rich diversity of black mildew fungi with about 1159 taxa reported. Many of the black mildews belong to the meliolaceae and asterinaceae fungi with 745 and 300 taxa, respectively, in the world (Hosagoudar 1999, 2008). These fungi are characterised by forming black, ectoparasitic, superficial colonies on the host leaf surface. They are host specific in nature producing septate branched hyphae with appressoria; ascospores develop inside the thyriothecia or perithecia (Hosagoudar 2012). The family Rubiaceae is infected by many of these fungi. Especially so the genus *Canthium* on which eleven meliolaceae fungi, two asterinaceae fungi and five species of *Balladyna* have been reported (Hosagoudar 2013).

During the exploration of foliicolous fungi from Mahabaleshwar and its adjoining forest area (located in Satara District, Maharashtra State, India), a new species of *Asterina* and another of *Balladyna* were discovered on *Canthium*. These two new species are presented here with detailed description and illustration and they are compared with their closely related taxa.

The species of *Asterina* and *Balladyna* were collected from various localities in the study area during several field trips in 2012–2014. The host plant was identified with the aid of flora of Maharashtra and prepared as herbarium material (Hosagoudar 2004). The dried leaf material was processed to observe fungal specimen and after critical examination, the fungi were identified as new species by using standard literature (Hosagoudar 2009, Deshpande *et al.* 1995, Farr & Rossman 2014). The new species were deposited in Herbarium Cryptogamae Indiae Orientalis (HCIO), IARI, New Delhi (India). Biometric data was recorded with at least 20 measurements of structures; illustrations were prepared with Camera Lucida and photomicrographs taken using a digital camera attached to a Leica DM2000 fluorescence microscope.

Original Article**Running Title:** Incidence of Bladder Cancer

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Incidence of Bladder Cancer at a Tertiary Care Centre in North Karnataka

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Background: Understanding the prevalence, clinical characteristics, and changing demographics of Indian Bladder cancer (BC) has emerged as an important field of study. Herein, we aimed to present the case series of BC patients of a single tertiary care centre in North Karnataka.

Method: This retrospective study was designed for 14 years from 2004 to 2017, conducted in the urology clinic. A total of 468 newly diagnosed BC patients (M = 415; F = 53) were included in the study. Socio-demographic, clinical characteristics, cystoscopic, and pathological findings were recorded and analyzed via IBM SPSS statistics software Inc. version 20.0.

Results: The mean age of the patients was M = 62.27 years and F = 54.22 years. Hematuria was a common clinical symptom in both genders accounting for 42.02 versus 45.28% of the male and female subjects, respectively. Transition cell carcinoma (TCC) was the common variant seen in the male and female participants (92.99 versus 94.88%, respectively). Low-grade cancer was found in patients with >60 years of age in 39.7% versus 42.1% of respectively the males and females ($P = 0.002$) as compared to the patients <60 years. Non-muscle invasive BC in the males and females was respectively 55.42% versus 52.83%, whereas muscle-invasive cancer was 44.57% versus 47.16% respectively in the two groups ($P = 0.008$). 53 patients (29.22%) in both the genders received transurethral resection/intravesical Bacilli Calmette-Guerin (BCG) therapy, which showed a significant improvement ($P = 0.019$).