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Original Article

DIVERSITY OF *FICUS* L. (MORACEAE) AND ITS USES IN SIKKIM HIMALAYAS (INDIA)

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ABSTRACT

The paper deals with diversity and uses of various aspects in the field of medicine, artifacts, livelihood, folklore and ethnobotany of genus Ficus occurring within the state of Sikkim Himalayas. A list of different types of Ficus species found in Sikkim has been prepared. A total of 115 taxa have been categorised out of which 36 species have been recorded in Sikkim according to the accessible information and published records. Ficus species plays an important role in supporting the lives of common people by providing edible products, as fodder, medicine and as religious value. All the species provided with their nomenclature, taxonomy, synonyms, distribution and uses has been examined.

KEYWORDS: Diversity, Ficus, Fodder, Medicine & Sikkim

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1. INTRODUCTION

Ficus L. is the largest genus of Moraceae family, it has a total of 755 species worldwide (Corner, 1958, 1960, 1965 and Berg & Corner, 2005). The genus has been classified into six subgenera, 19 sections and 27 subsections based on morphological features and distributional pattern (Ramirez, 1977; Berg & Corner, 2005).

King (1887-88) was the first to give systematic account of the Indian *Ficus* in which he had recorded 113 species and 47 infraspecific taxa from whole British India out of which only 75 species and 16 infraspecific taxa

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Review Paper

Ethnobotanical studies of Sikkim: a review

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Abstract

The present study was reveal to documentation of ethnobotany included by various ethno botanists in their report prepared by survey of ethnobotanical knowledge of Sikkim. The interest in research based activities in the area of ethnobotany has improved extremely in last ten years. However, the commencement of ethnobotanical knowledge, technical studies in ethnobotany has made a significant input to know the indigenous people, tribal medicine, conservation and agriculture practices. There are 200 research papers in 13 categories were collected in different aspects of ethnobotany for their scientific documentation. Of these, agriculture (3), conservation (25), culture and religions (8), edible plants (18), general ethnobotany (49), ethno-medicine (34), ethno-veterinary (3), Folklore (6), floral diversity (9), sacred grove (8), socio-economic (6), traditional food (9) and tribals (22) were studied.

Keywords: Ethnobotany, Ethno-medicine, Tribal and Sikkim.

Introduction

The botany of any ethnic group comprises ethnobotanical

Botanical Survey of India (Kolkata) in 1954. Dr. S. K. Jain (Indian Ethno botanist) was started rigorous field survey among the tribal areas in middle India in 1960[3-12]. There are several

Kalyan Bharati

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ONLINE EDUCATION IN COLLEGES OF SIKKIM, INDIA DURING COVID-19 PANDEMIC- STATUS AND PREFERENCES

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Abstract

The outbreak of COVID-19 forced India to impose nation-wide lock-down for 21 days from 25th March, 2020 which was later extended for 19 more days since then all educational institutions were shut down. The state of Sikkim was no exception, all the educational institutions in the state were closed from last week of April, 2020. Educational institutions over the state had adopted online teaching-learning approach to meet the needs of the educational institutions and students. However, the major concern is about the quality of learning which is closely related with how well the online content is designed and executed and it is also depends on the learner's digital access and efficiency. Further, the shutting down of educational institutions and the decision of shifting traditional classrooms to digital platforms is not only increasing learning inequality among children, but also pushing a large number of children out of school due to the digital divide. Therefore, it was felt very necessary to understand the status and preference of college going students on online education in Sikkim. The finding of the study show that 88.3 percent students responded that they had no experience of online classes before the COVID-19 pandemic. The mostly used device for online classes by students was smartphone (53.2 percent) followed by laptop and mostly used application for communication is WhatsApp. For conducting online classes most used platform is google meet and google classroom. For internet access the students were found mostly relying of mobile data pack (92.4 percent). Further, the finding reflects that lack of connectivity (65.5 percent) was the major constraint of online classes, followed by data limit (63.4 percent), data speed (62.6 percent), lack of device (57.1 percent) and unsupported learning environment at home (55.8 percent) were also the major constraint of online learning. Similarly, lack of human touch (54.9 percent) and technophobia (50.2 percent) were some other constraint of online learning in the colleges of Sikkim.

Keywords: Status, preferences, online education, COVID-19, pandemic.

Introduction

The outbreak of COVID-19 pandemic in the beginning of the year 2020 have impacted significantly in every sector of the society around the world, education sector is no exception. It has enforced many countries to order closure of all educational institutes, this world-wide lock down have very badly affected the teaching-learning processes and the student's life. Educational institutions have come to a functional standstill since they had to protect their students from viral exposures.

In the beginning of February 2020, schools only in China and a few other affected countries were closed due to the proliferating contamination. However, by mid-March, nearly 75 countries have implemented or announced closure of educational institutions. As on 10 March, 2020, school, college and university were closured globally due to the COVID-19 has left one in five students out of school

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An overview study of birds in south Sikkim (India)

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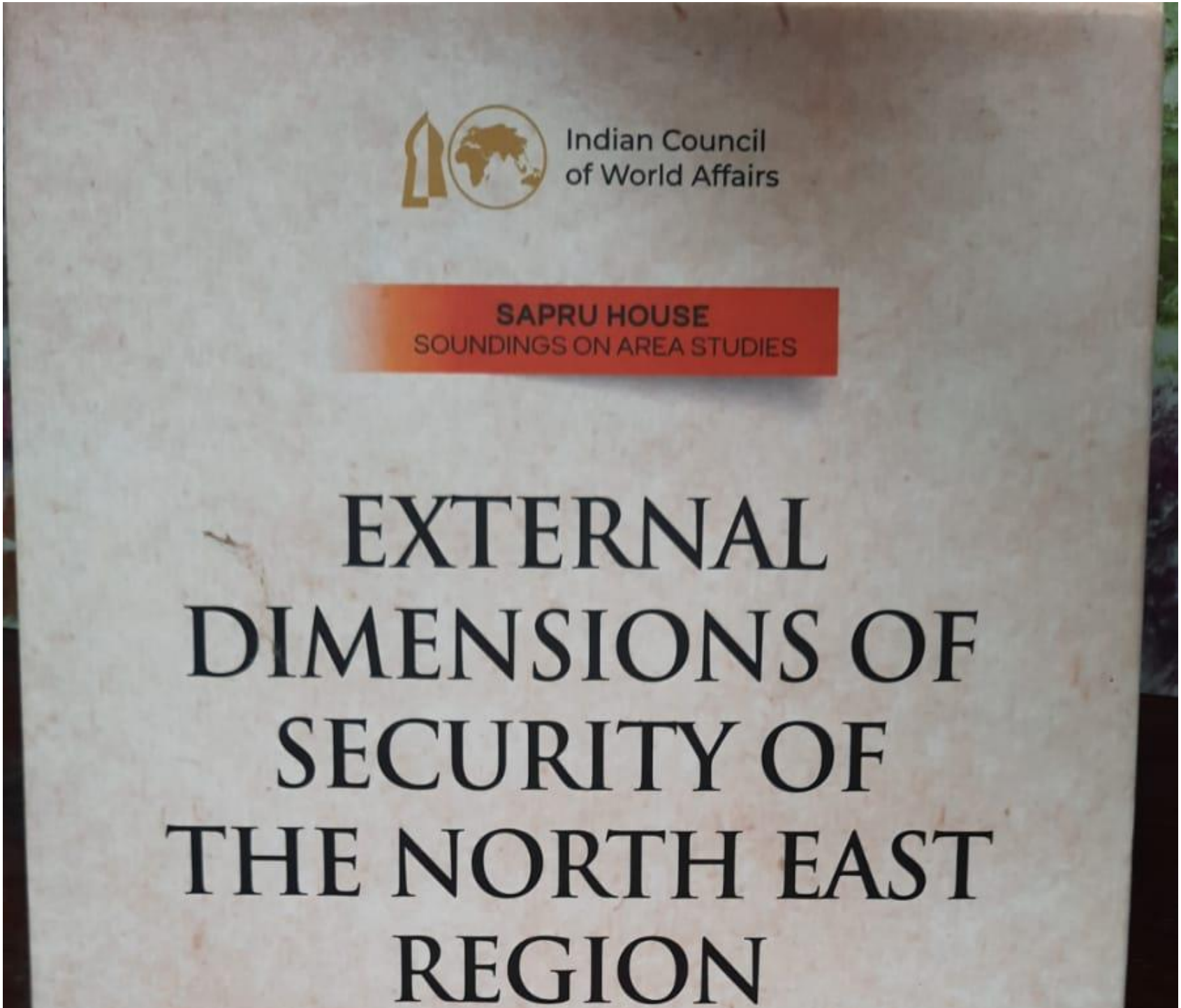
Abstract
Sikkim (27°03'-28°07'N & 88°03'-88°57'E), a small state lies on the foothills of Himalayas, comprising only of 7096 sq km, having a varied climatic condition and vegetation, ranging from cold desert in the north to the lowland forest in south. The study of avian faunal diversity is an essential ecological tool, which acts as an indicator to evaluated different habitats both qualitatively and quantitatively the present day study was carried out to document the avian diversity in South District of Sikkim (Tarey Bhir and Melli Dara). A total of 51 species of birds belonging to 24 families were recorded. In terms of family richness, Corvidae dominates in the field of study areas, comprising 6 species followed by Muscicapidae with 5 species, Pycnonotidae and Turdidae with 4 species each. The present day study adds some valuable information on bird diversity in the study area.

Keywords: birds, conservation, corvida, diversity and Sikkim

Introduction
Birds are a group of warm-blooded vertebrates constituting the class Aves, characterized by feathers, toothless beaked jaws, the laying of hard-shelled eggs, a high metabolic rate, a four-chambered heart, and a strong yet lightweight skeleton. Birds live worldwide and range in size from 5 cm

2000 mtr with terraced slopes interrupted by spring patched forest. The district also comprises two sanctuaries (Kitam Bird Sanctuary and Maenam Wildlife Sanctuary).

Materials and methods
Study Areas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SOUNDINGS ON AREA STUDIES
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Half-metallic ferromagnetism in molybdenum doped methylammonium lead halides ($MAPbX_3$, X = Cl, Br, I) system: First-principles study

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ARTICLE INFO

Keywords:
Magnetic semiconductors
Density functional theory
Mo-doping

ABSTRACT

Magnetic properties of molybdenum doped methylammonium lead halides ($MAPbX_3$, X = Cl, Br, I) system has been studied using density functional theory for the very first time. Spin-polarized magnetic calculations indicate that the doping of Mo-atoms at Pb-site generates a significant magnetic moment in all the three $MAPbX_3$ systems, where the d-orbital electrons of the dopant primarily generate the induced magnetism in the system. The Spin density distribution and Bader charge analysis also support that the magnetic moment is concentrated around the dopant. The unpaired spins of the Mo-dopants prefer parallel alignment, which makes a stable ferromagnetic spin ordered system. The defect formation energy of the Mo-doping at Pb-site is also small, which makes it a potential candidate for spintronics application.

1. Introduction

In the past two decades, room temperature ferromagnetism in semiconductors has attracted considerable research attention due to their potential applications in non-volatile memory [1], spintronics [2,3], quantum computing, etc. [4,5]. The presence of ferromagnetic property in semiconductors will pave the way to pass spin-polarized electrons, which is also an essential requirement in spintronics [6]. With the first report on the possibility of Curie temperature above room temperature in ZnO and GaN [7], lots of experimental reports claimed the presence of room temperature ferromagnetism in transition elements doped samples [8,9]. However, these reports also raised serious concern on the source of ferromagnetism in these samples, as the results were not reproducible and ferromagnetism was also observed in some nanocrystalline undoped samples [10,11]. Moreover, ferromagnetism was found in various non-magnetic semiconducting samples by doping non-magnetic elements [12–18] and also by creating atomics defects [25–27]. Recent studies suggest that $MAPbI_3$ [28,29] and $MAPbBr_3$ [30] systems show ferromagnetic ordering when subjected to atomic-vacancies. Also, the Co-doped $MAPbBr_3$ system along with Pb-vacancy generates a p-type semiconducting property in addition to ferromagnetic ordering, which could be useful in the realization of spin-valve [30]. Moreover, a light-emitting diode has been successfully built by passing spin polarised electrons through the $MAPbBr_3$ sample [31], which invites more studies on the magnetic properties of these perovskite halides towards their feasibility in spintronics application. Zhou et al., roperted new properties in transition metal doped halides systems [32]. In the present work, detailed first-principles calculations have been carried out to investigate the magnetic properties in the Mo-doped $MAPbX_3$ hybrid perovskite system. Both theoretical [33–35] and experimental [36] reports suggest molybdenum atom as a suitable dopant to generate high magnetic moment along with ferromagnetic spin ordering in non-magnetic materials. Thus, the Mo-doped $MAPbX_3$ system could give rise to interesting electronic properties, which will

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Anchor Investment and Post-Listing Price Performance of IPOs: Evidence from India

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ABSTRACT

Security Exchange Board of India (SEBI) in June 2009 launched the mechanism of 'Anchor investment' with twin objectives of ensuring greater efficiency and enhancing the confidence of investors in Initial Public Offering (IPO) in Indian capital market. The orientation of the mechanism is price stability in the post-listing share price. The present study is an attempt to examine the influence of anchor investment on IPOs price performance. As many as 162 samples (IPO Anchor backed and IPO non-Anchor backed) issued through book building method and listed in National Stock Exchange of India from July 2009 to December 2016 have been considered. Analysis of the data using Mann Whitney U-test revealed that on listing date, anchor investment has no influence on the price of share. However, in six months and in one year after listing date, anchor investment has a positive influence on price performance of IPOs. However, a further research with extended empirical evidence is suggested to validate the present findings.

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SHODHSAMHITA
शोधसंहिता

MOUNTAIN AGRICULTURE AND FOOD SECURITY IN SIKK

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Introduction

As far as mountain agriculture is concerned, food grain production has not been able to me requirements of mountain households. As in the case of mountain farmers, there are reports indicat of attention and interest in farming, thus drastically decreasing the proportion of people indulged in In the past multiple livelihood strategies through diversification of households activities have be management strategy to meet food and other requirements. However, these options for maintaining are becoming substandard in quality and also moving back over time.

Sikkim, a small Himalayan State lies between 27°00'46" to 28°07'48" North latitude and 8 88°55'25"East longitude and is the second smallest State in India. It has a total area of only 7,096 sq just 114 km long and 64 km wide, but bounded by three neighboring countries i.e. China (220 km with Tibet), Nepal (100 km border with Nepal) and Bhutan (30 km border with Bhutan). Sikkim co 0.2 percent of geographical area of the country. But in spite of

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Tracing the Significance of the Prophecies of the Witches in Shakespeare's "Macbeth "and the Nepali Shamans in the Perspective of Folklore

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Abstract

The practice of witchcraft like shamanism transcends the realms of religion, age and country. When Shakespeare wrote Macbeth in (1606), witchcraft was a topic of considerable importance. The witches in "Macbeth" had the power to see into the future and create storms whereas the Nepali shamans acted as a visible link to the invisible future. The paper tries to assess the witches as mythological construction and an amalgamation of ancient folkloric elements. One such mythical and folkloric element is their unique art of prophesying. Like the prophecies of the witches the predictions of the shamans are clothed with metaphorical

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Hydro Power Projects and Rongkups of Sikkim Himalayas: intricate issue

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Abstract

The only last strong holds of Rongkup "Lepchas - the primitive tribe of Sikkim Himalayas" is at a threat, these "children of snowy peak" were living with the nature along the mighty river Teesta valley at North Sikkim. The need of renewal source of energy and State Government intention towards harvest the has resulted numerous hydro-electric power plants in Sikkim viz. HEP at different stages along the perennial river Teesta has been a matter of concern