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EFFECT OF DIFFERENT FRACTION OF *JUNIPERUS COMMUNIS* L. LEAVES ON THE RADIAL GROWTH OF AFLATOXIGENIC *ASPERGILLUS FLAVUS*

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Abstract: Plants have provided a source of inspiration for novel drug compounds, as plant derived medicines have made large contributions to human health and well-being. In present study, different concentration of chloroform, methanol, ethanol and petroleum ether of *Juniperus* leaf extract against Aflatoxigenic *Aspergillus flavus* MTCC 2798. It was found that methanolic extract have maximum percent growth inhibition followed by ethanol (52%), petroleum ether (39%) and Chloroform (27%) at 4000 ppm concentration.

Key words: *Juniperus*, Aflatoxigenic, *Aspergillus flavus*

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SOME NOTEWORTHY ETHNOMEDICINAL PLANTS FROM SHIVALIK HILLS OF J&K, INDIA

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Abstract: The paper deals with ethnomedicinal information on 50 plant species belonging to 37 families and 46 genera's collected during the field survey from the Shivalik Hills of J&K State. Of the 37 families, Rosaceae represented by 4 species dominated the floral composition followed by Fabaceae and Euphorbiaceae represented by 3 species each. The four major reported life forms were trees, shrubs, herbs and climbers. Herb makes up the highest proportion of the medicinal plant with 25 species followed by trees (12 species), shrubs (10 species) and climber with 3 species. All the parts of plants were used as a source of medicine against various ailments. Leaf was the most frequently used part of plant species followed by fruit, root, flower and bark etc. 25 ailments were reported among the inhabitants of Shivalik Hills of J&K State. The study reveals that most common diseases among the locals were skin problems.

Key words: Ethnomedicinal information, Shivalik Hills, Ailments, Life forms.

A CONSOLIDATED ACCOUNT OF PAST AND PRESENT WORK ON EMEX

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Abstract: The genus *Emex* is represented by two weedy species- *E. australis* and *E. spinosa*. The two have spread to different places around the world widening thereby the range of their distribution. Of the two, *E. australis* is more obnoxious on account of its hard spiny seeds which remain dormant for years leading to the formation of persistent seed banks in the soil. Though the reports of the two species in India date back to mid- 1980's little work has been carried out despite the fact that *E. australis* has spread to different parts of J&K. It is quite likely to assume an aggressive status in near future and may interfere with major crops like wheat as it has already done in Australia. Keeping this impending problem in mind the authors besides initiating research have consolidated the past and present work on this species.

Key words: *Emex australis*, *E. spinosa*, Australia, weed, wheat.

OPTIMUM HEALTH MANAGEMENT THROUGH RIGHT FOOD INTAKE IN PARAMEDICS

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Abstract: Phyto nutrients, dietary and enzymatic antioxidants or their inducers and metabolic activators present in some known herbs may be used to (1) neutralize various free radicals produced during aerobic metabolism. (2) Therapeutic ayurvedic formulations and (3) inhibit or alter oxidative damages and reversal of neurological, musculo skeletal, cardio vascular as well as obesity; hyper sensitivity and radiation related diseases. These along with yoga and exercise therapy enhance recovery from obesity, age related diseases and poor immunity. Thus, modern wellness industry depends on traditional medical practitioners, physio therapists, cosmetologist, dietician and masseurs. Present communication deals with these intricacies.

Key words: Antioxidants, Food, Health, Nutrients

UNICELLULAR AND COLONIAL CHLOROPHYCEAN ALGAL TAXA FROM JAMMU AND ADJOINING AREAS

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Abstract: Present communication deals morpho-taxonomic description of 30 taxa belonging to class – Chlorophyceae. Study was undertaken in district Jammu of Jammu and Kashmir from 2008-2009 with an aim to explore the diversity of this class. During the study period samples were collected from different aquatic habitats of the study area. These 30 taxa belong to 2 orders, 7 families, 11 genera, 27 species and 4 varieties.

Key words: Chlorophyceae, taxa, fresh water, Jammu.

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TAXONOMIC STATE OF ZIZIPHUS: A COMPARATIVE STUDY FOR IDENTIFICATION OF COMMON INDIAN JUJUBE.

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Abstract: The wild edible *Indian jujube* is one of the diffused species wild resources in India. The Indian species described under the name *Ziziphus mauritiana* Lam., is native from the province of Yunnan in Southern China to Afghanistan, Malaysia and Queensland. *Ziziphus jujuba* has been distinguished into two main groups, *Chinese jujube* and *Indian jujube*. Actual Taxonomy of *Ziziphus* as found in the literature as well as in various herbaria is all chaos and confusion. Till now several attempts has been made in Indian flora to study Taxonomy of *Ziziphus species*, but the nomenclature of entire genus is unclear as also the taxonomic identity of the varieties. In most of the Indian flora, Indian jujube has been described under the name of *Ziziphus jujube*. but several botanists distinguish Indian jujube as *Ziziphus mauritiana* Lam. The present paper discusses the comparative study of *Ziziphus jujube* mill. and *Ziziphus mauritiana* lam. and also study actual taxonomic state of *Ziziphus mauritiana* Lam. and *Ziziphus jujuba* Mill. on the basis of leaf and fruit morphology, which helps us to identify the species present in India.

Key words: *Ziziphus jujuba* Mill., Taxonomic state, Flora, *Ziziphus Mauritiana Lam.*, Leaf Morphology, fruit Morphology.

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ANTIBIOTIC SUSCEPTIBILITY OF POTENTIALLY PROBIOTIC HUMAN FAECAL LACTOBACILLI

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Abstract: Bacteria of the genus *Lactobacillus* have been proposed as probiotic microorganisms to restore the ecological equilibrium of the gastrointestinal tracts (GIT). The aim of the present study is to determine the antibiotic susceptibility of six human faecal probiotic lactobacilli. The disc diffusion method was performed in Mueller Hinton, LAPTg and MRS agars by the NCCLS (National Committee for Clinical Laboratory Standards) procedure was performed. Due to the absence of a *Lactobacillus* reference strains, the results were compared to those of *Staphylococcus aureus* MTCC 740. Antibiotic sensitivity was determined with 12 different antibiotics in LAPTg agar, MRS agar and MHA. All human faecal *Lactobacilli* were sensitive to Chloramphenicol, Ciprofloxacin, Gentamicin, Lincomycin, Pefloxacin, Streptomycin, Intermediate to Kanamycin and resistant to Ampicillin. *Lactobacillus plantarum* (Hef24) and *L. casei* (Hef19) were found resistant to Vancomycin and Rifampicin. *L. fermentum* (Hef2), and *L. plantarum* (Hef4), were found intermediate resistant to Vancomycin. *L. casei* (Hef 19) is only exception that is resistant to Pefloxacin. *L. plantarum* (Hef 24) and *L. casei* (Hef 19) are only two strain resistant to Rifampicin. *L. fermentum* (Hef 3), *L. plantarum* (Hef 24) and *L. casei* (Hef 19) are three strain which are resistant to Vancomycin. The NCCLS method needs to be standardized in an appropriate medium to determine the antimicrobial susceptibility of *Lactobacillus*. Faecal probiotic lactobacilli do not display uniform susceptibility to antibiotics. Resistance to Ampicillin suggests that lactobacilli could be simultaneously used as a probiotic with Diarrheal treatment. However, the NCCLS procedure needs to be standardized for this genus.

Key words: Antibiotics, Lactobacilli, Probiotics.

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SEED COAT STRUCTURE IN BIGNONIACEAE

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Abstract: The **Bignoniaceae**, or **Trumpet Creeper Family**, is a *family of flowering plants* has remain neglected so far. There is very little work on the seed structure. Seed structure is often neglected by many authors in taxonomic works. Several botanists have emphasized the importance and utility of seed anatomy in solving the taxonomic and phylogenetic problem. The microscopic characters of the seed have not been exploited fully in understanding the taxonomy and phylogeny of the angiosperms families. The studies of seed coat structure have positively shown the great utility in relation to taxonomy and phylogeny of the Bignoniaceae.

Key words: Bignoniaceae, Tabebuia Taxonomy, Phylogeny, Angiosperms, Catalpa ovata

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NITRATE CONTAMINATION IN DRINKING WATER AROUND THE VILLAGES OF KALI EAST RIVER, MEERUT U.P., INDIA

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Abstract: Nitrate contaminations in drinking water were measured around the villages of Kali east river of Meerut district. The results indicate a large variation of nitrate from 2.5 mg/l-80 mg/l. In this study 32 sample were collected for the study and found about 21.85% high nitrate contents (>50 mg/l), which is more than the permissible limit in drinking water. The study indicates that ground water of villages near Kali east river is more polluted. The possible

source for the high nitrate level in ground water were identified as excessive utilization of nitrogenous fertilizers for agricultural purposes and effluent from different industries, sewerage of city and villages are dumped in to kali east river without any treatment which pollute the river and ground water resources.

Key words: Nitrate pollution, Ground water, Kali east river, Meerut, India.

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EFFECT OF PLANT GROWTH-PROMOTING RHIZOBACTERIA (PGPR) AND MICRONUTRIENTS ON PIGEONPEA (*CAJANUS CAJAN* (L.) MILLSP.) IN RELATION TO NODULATION

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A field study was conducted to examine the effect of PGPR and micronutrients viz. Mn, Fe, Mo and B on the two cultivars, namely UPAS 120 and Pusa 992 of pigeonpea. The application of PGPR along with Mn @ 0.6 kg/ha, Fe @ 0.5 kg/ha, Mo @ 0.1 kg/ha and B @ 0.1 kg/ha enhanced the nodulation in both the cultivars of pigeonpea.

Key words: *Cajanus cajan*, PGPR, Nodulation

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INFLUENCE OF RHIZOPHORA MUCRONATA AND PISUM SATIVUM ON SOIL CHARACTERISTICS

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Abstract: Plants inhabit a range of soil and climate type for the growth. However, cultural practices make exotic species also inhabit a different soil and climate. With the idea of studying the requirement of a mangrove plant from the soil, a variety of soil including its native soil brought from different provinces (U.P., A.P., Uttaranchal) and provenances of U.P-Polluted, Irrigated, Roadside were studied for their physical and their nutrient properties initially and after the growth of the *Rhizophora mucronata*. Similarly in artificially made combination of soil to math with the area close to the coal fields, a study was carried out after growing a pulse crop. Barren soil of Uttaranchal with minimum organic matter, CEC, WHC, Moisture% and Total N₂ exhibited best growth of *Rhizophora mucronata* in meerut climate (35°C, 60% RH). It also exhibited maximum Na⁺ uptake by the plant whereas, the plant did not take up Na⁺ from mangrove soil. Rest of the soil extracted out Na⁺ from the seedling in the form of leachates. The normal irrigated soil initially at pH 8.0, after growth of a pulse crop *Pisum sativum*, lowered down in pH with additional CEC in contrast to the previous observation and also lost organic matter by 50%. The study throws light on regeneration of abandoned and degenerating lands.

Key words: *Rhizophora mucronata*, *Pisum sativum*, Soil-climate regime and Salinity.

SOME IMPORTANT LESSER KNOWN ETHNOMEDICINAL PLANTS IN KEDAR VALLEY OF WESTERN HIMALAYA DISTRICT RUDRAPRAYAG (UTTARAKHAND)

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Abstract: Unique assemblage of flora and fauna in Himalayan region make it one of the most biodiversity hotspot on the Indian subcontinent. This area is a storehouse of numerous medicinal plants. Garhwal Himalayan region is a rich source of medicinal plants, some of which have been explored and some are still underutilized. The present study concern with exploration of some important lesser known plants which have been traditionally used by indigenous people in Kedar valley, but they have until recently been neglected by research institutions, policy planners and food and medicine processing industries. The study deals with the some important lesser known ethnomedicinal plants used in traditional healthcare in Kedar valley of western Himalaya district Rudraprayag (Uttarakhand).

Key words: Kedar valley of Western Himalaya, Ethnomedicine, Traditional healthcare, indigenous plants, lesser known.

HEALTH BENEFITS OF FERMENTED AND FUNCTIONAL FOODS

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Abstract: Current and prospective benefits of Fermented foods, Prebiotics, Probiotics and Ganoderma foods on human health especially on rejuvenation, immunity enhancement, nutrient supplementation, digestion and progression of some diseases have been discussed and Indian Scenario has been highlighted albeit there is no foolproof conclusive study so far that proves they are an effective cure for diseases except diaroea for any reason, including that induced by antibiotics. Notwithstanding, many clinical trials seem to hold promise and prebiotic and probiotic are the byword everywhere, therefore. Judged from the standpoints of longevity, impact on earth, evolutionary success and geographical spread, Yeasts, moulds and lactobacilli, which participate in forming fermented and functional foods are among the top 100 species (C. Lloyd, 2009; Times of India).

Key words: Fermented and Functional food benefits

ETHNOBOTANICAL NOTES ON SOME IMPORTANT PLANTS OF POONCH DISTRICT, JAMMU AND KASHMIR

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Abstract: The present survey was conducted in District Poonch of Jammu and Kashmir State (Northwest Himalaya) with a view to consider only those plants which are easily available to the local populace for their day to day needs as most of the population in far flung areas is economically weak. The survey includes 28 plant species, of these, 11 are trees and have maximum pressure, as these yield fuel wood, wood for construction purposes, fodder, agricultural implements and edible fruits which are basic requirements of every household in rural areas.

Key words: Ethnobotany, Wood, Fuel, Jammu & Kashmir

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COMPARATIVE ANALYSIS OF TWO METHODS FOR CURING *PED*⁺ PLASMID PCP289 FROM *PEDIOCOCCUS ACIDILACTICI* MTCC 5101

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Abstract: The DNA-intercalating agents, ethidium bromide and ascorbic acid (vitamin C), were used to eliminate plasmid DNA from *Pediococcus acidilactici* MTCC 5101, a lactic acid bacteria. The strain was grown in the presence of 0.03 mM ethidium bromide or 1 mM ascorbate for 18 hours at 42 °C, which resulted in the loss of its ability to produce pediocin, a plasmid-specified trait. Agarose gel electrophoresis of plasmid DNA and spot-on-lawn assay showed concomitant loss of an 8.9 kb plasmid pCP289 coding for pediocin from these colonies. Since ascorbic acid is a readily available, shows less effect on cell viability, non-hazardous and more efficient compound in contrast to ethidium bromide, the possibility of its use in determining plasmid-encoded traits in food grade lactic acid bacteria is also proposed.

Key words: Curing, ethidium bromide, ascorbic acid, *Pediococcus acidilactici* MTCC 5101

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HERBAL REMEDIES USED AGAINST SOME COMMON AILMENTS IN INFANTS IN KISHTWAR HIGH ALTITUDE NATIONAL PARK (JAMMU AND KASHMIR) INDIA.

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Abstract: Traditional herbal medicine plays a large role in Indian society. All though the role of medicinal herbs as a source of traditional medicine have decreased due to the introduction of allopathic drugs but still their importance as a prime source of rural healthcare is unparalleled. Kishtwar High Altitude National Park (KHANP) is situated in the North of Kishtwar town in newly created district Kishtwar carved out of the erstwhile district Doda of Jammu

and Kashmir State. The area of the National Park includes 35 villages with about 20000 human population. Since the area is unelectrified, lacks motorable road connectivity and modern healthcare facilities, the local populace is largely dependent on traditional resources for day to day needs. The paper presents information on the traditional uses of twenty plant species in the treatment of some common ailments in infants by local inhabitants of Kishtwar High Altitude National Park, Jammu and Kashmir.

Key words: Herbal, Ailments, Diseases, Inhabitants, Infants.

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FUNCTIONAL ANOTATION OF EXPRESSED SEQUENCE TAGS (ESTs) IN ARABIDOPSIS

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Abstract: Expressed Sequence Tags are the short single pass reads obtained from the ends of a cDNA clone. They are currently the most widely sequenced moiety in case of nucleotide sequences. ESTs provide a cost effective way to gene indexing, gene discovery and the characterization of alternatively spliced forms. The information 01: what gene EST belongs to or is it coming from a new gene can be easily done by clustering the EST sequences and assembling them into contigs, indexing them such that each contig contains the information lor only one gene. The present study was aimed at the same principle, following which, 3'-ESTs from Arabidopsis thaliana were clustered and a total of LJO 18 contigs were generated. Of the total S I ,518 ESTs under study, 17,853 remained unassembled and were marked as unassembled or Singleton ESTs. Among the 4018 contigs. 3767 courigs gave a match with the nonredundant database with a success rate of 93.75%.

Key words: EST, CODONCODE ALIGNER, NCBI, BLAST

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EFFECT OF TREATED SUGAR FACTORY EFFLUENT ON GROWTH PERFORMANCES IN TRITICUM AESTIVUM, LINN.

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Abstract: The present paper describes the effect oftwo concentration (10% and 50%) of treated sugar factory effluent on growth performance of Triticum aestivum, Linn. Observation shows that 10% treated effluent concentration is promotory to plant growth, where as 50% treated effluent concentration is inhibitory to plant growth.

Key words: *Triticum aestivum*, Effluent, growth, yield.

EFFECT OF ZINC ON SEEDLING GROWTH OF VIGNA SINENSIS LINN

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Abstract: Observation shows that metal Zinc increases seedling growth of Vigna Sinensis Linn lower concentration and inhibits growth at higher concentrations. Thus 1 ppm zinc promotes seedling growth and beyond this all can contribute in habit growth.

Key words: Zinc Seeding growth, Vigna Sinensis.

EFFECT OF POLLUTED STREAM ON PLANT DISTRIBUTION AT DISTRICT SAHARANPUR (U.P.)

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Abstract: The present paper summarizes the distribution of plants along Pao Dhoi river water at one site before confluence and two sites after confluence of clean river water with polluted Dhamola river water at Saharanpur observation shows that some plant species show tolerance for polluted stream water.

Key words: Polluted water, Distribution, Tolerance.

STUDY ON INTER RELATION AND PATH COEFFICIENT FOR YIELD AND ITS ATTRIBUTING CHARACTERS IN SOYABEAN [*GLYCINE MAX (L.)*]

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Abstract: Twenty promising breeding lines of soybean were evaluated for correlation and path coefficient for eighteen economically important attributes. The mean squares were significant for all the characters. Based on mean performance, six genotypes viz. ISS-522, ISS-524, ISS-631, ISS-715, ISS-734 and ISS-889 were significantly superior in yield and other major yield contributing characters. Seed yield showed significant positive correlations with total dry matter weight and harvest index. And, these characters were also positively associated with each other. Protein and oil contents showed significant and negative association with each other. While, 100-seed weight had positive association with oil content but negative with protein content, path coefficient analysis indicating major role of pods/plant, total dry matter, primary branches/plant, seed yield efficiency and 100-seed weight both directly

and indirectly influenced seed yield. Therefore, main emphasis should be given on these traits during phenotypic selection for the developing high yielding genotypes of soybean.

Key words: Correlation, Path analysis, Direct & indirect effect.