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Elemental Analysis of Some Sea-Fishes in Myeik Township, Taninthayi Region

Moe Sanda *

Abstract

Some sea-fish samples were analyzed using energy - dispersive x-ray fluorescence (EDXRF) detection technique. The concentrations of elements contained in the samples were analyzed by using Thermo Noran EDXRF analysis software and the concentration of elements were compared.

Effect of Boron on the Structural Properties of ZnO Particle

Aye Thandar Oo¹, Su Su Lwin², Zayar Pyae Phyoo Aung², Aye Thandar³

Abstract

Zinc acetate ($\text{Zn}(\text{CH}_3\text{COO})_2$), boric acid (H_3BO_3), De-ionized water and methanol (CH_3OH) were used as starting chemicals. Boron, B doped Zinc Oxide, ZnO were formed by precipitation method at 80°C . It was annealed at 400°C for 1h to be crystalline. The crystalline states of B doped ZnO were interpreted by X-ray Diffraction (XRD) and Scanning Electron Microscopy (SEM). The formation of single phase compounds in the hexagonal system had been confirmed by X-ray diffraction studies at room temperature. The scanning electron microscopy results showed an increase in the grain size of ZnO with the addition B, which is related to the effect of dopant concentration.

Keywords: precipitation method, ZnO, B-doped ZnO, single phase compounds, XRD, SEM .

Structural and Optical Characterization of ZnO-TiO₂Nanocomposite

Su Su Lwin^{*}, Zayar Pyae Phyo Aung¹, Aye Thandar Oo³, Than Than Win⁴ and Yin Maung Maung⁵

Abstract

ZnO-TiO₂ nano-composite synthesized in molar ratio 1:1 was prepared by mechanochemical activation. X-ray diffraction (XRD) technique was employed to examine the crystal structure and phase analysis of pure ZnO and ZnO-TiO₂nanocomposite. As a result, only anatase phase was clearly formed for ZnO-TiO₂nanocomposite at 400 °C maintained 1 h. The elemental composition of pure ZnO and ZnO-TiO₂ nanocomposite were characterized by wavelength dispersive x-ray spectroscopy (WDXRF) analysis. The optical properties of pure ZnO and ZnO-TiO₂nanocomposite were identified by ultraviolet-visible spectroscopy (UV-Vis spectroscopy). UV-Vis spectra of ZnO-TiO₂ nanocomposite exhibited maximum absorption peak at 289 nm and 372 nm. The sizes of the particles and the surface structure were examined by atomic force microscope (AFM) analysis.

Preparation, Characterization and Growth Mechanism of SnO₂Nanofibers

Zayar Pyae Phyo Aung¹, Su Su Lwin², Aye Thandar Oo³, Yin Maung Maung⁴ and Than Than Win⁵

Abstract

Nanocrystalline tin oxide (SnO₂) powders have been synthesized by a direct precipitation from an aqueous solution. SnO₂nanopowders were prepared by using two different materials: (a) stannous chloride dehydrate (SnCl₂.2H₂O) that dissolves in distilled water (b) stannous chloride pentahydrate(SnCl₄.5H₂O) that dissolves in distilled water. The two final products were grounded into a fine powder and then annealed at 650°C for 6 h.The crystallitesize, lattice parameters, dislocation density and number of unit cells in SnO₂nanocrystalline powders were observed by X-ray diffraction (XRD). The results of XRD showed that pure SnO₂nanocrystalline powder exhibited tetragonal rutile structure; the broad peak indicated small crystalline size of SnO₂. The nanostructure was confirmed by field emission gun-scanning electron microscope (FESEM).SnO₂ nanofibers were prepared by electrospinning homogeneous viscous solution of tin acetate in polyvinyl alcohol (PVA). 10% polyvinyl alcohol (PVA) solution was prepared by conventional method. The electrospinning was under taken by applying a DC voltage of 23 kV to the tip of a syringe and maintaining the tip to collector distance (TCD) of 7 cm. The spinning or running time interval was set to 30 min.The green nanofibers were calcined at 600°C for 3 h. Thenanofibers treated at 600°C were examined by X-ray diffractin (XRD) and field emission gun-scanning electron microscope (FESEM).

Keywords: Electrospinning, Tin oxide, polyvinyl alcohol, Nanofibers

Modules with the Closed Sum Property

Dr. Aye Aye Khaing¹

Abstract

In this paper, we introduce the concept of modules with the closed sum property (the CSP) as a dual of modules with the closed intersection property (the CIP). We investigate the basic properties of this type of modules and some relations of these modules.

Keywords: closed submodules, modules with the closed intersection property and modules with the closed sum property.

Solving Problems by Using Lukasiewicz-Pavelka Fuzzy Logic

Khin Thida Thein¹

Abstract

This paper presents Lukasiewicz structure, fuzzy valuation, fuzzy theory, axiom system of fuzzy logic, some properties of Lukasiewicz-Pavelka fuzzy logic and its sequences. Then some problems solved by using this fuzzy logic.

Study on Some Behavioral Patterns and Food Plants of Rhesus Macaque in Phoe Win Mountain, Yin Mar Pin Township, Sagaing Region

Win Win Than¹, Toe Toe Soe², Zin Mar Win³

Abstract

The present communication deals with the behavioral study of rhesus macaque. The study was conducted for a period of one day and population structure of rhesus macaques was recorded by personal interviews and information from local people, on a troop consisting of 300 to 400 individuals inhabiting in Phoe Win Mountain, is situated in Yin Mar Pin Township Sagaing Region. The investigation reveals that the rhesus macaque, five types of behavior were observed during the study period such as resting, feeding, grooming, locomotion and aggressive behaviors. Rhesus macaques consumed 19 species of plant; 13 species of fruit, leaves of nine plant species and flower of four plant species. In conclusion, these results increase our understanding the behavior pattern and regards determining types of feeding of rhesus macaques.

Key words: rhesus macaque, behaviors and consume

The influence of different mediason the freshwater zooplankton

Moinamicrura(Kurz, 1874)

Aye Aye Cho*

Abstract

Ecologically, zooplankton are one of the most important biotic components influencing all the functional aspects of an aquatic ecosystem, such as food chains, food webs, energy flow and cycling of matter. Their products are important in the function of aquatic communities and are the main food for various species of aquatic animals. Among them *Moina* is easily available, has high nutritional value, and the ability to produce mass cultures. In fact the present study was carried out to better understand the production of *Moina micrura*(Kurz, 1874). Ten individuals were cultured separately in starters of 20ml, 40ml and 60 ml of the different media. The number of individuals produced from different media in different volumes of water were analysed. Parameters were recorded daily. The experiment was conducted from July 2016 to December 2016. The study aims to contribute knowledge and support abundant live food for larviculture.

Keywords: *Moina micrura*, different media, *Moina* population

Morphological Characteristics and Abundance of Mantis Shrimps in Myeik Environs

Dr Win Win Si *

Abstract

In this research, morphological characteristics and abundance of mantis shrimp were studied. The fishing sites of mantis shrimps were caught from six locations in Myeik environs. It was carried out from June 2014 to March 2015. A total of mantis shrimp species of two genera under family Squillidae belonging to the order Stomatopoda were recorded. Mantis shrimps are edible species and they are the main exportable crustaceans. The sites with the highest species were found in The'-aw, Yae-kan-aw and Kan-maw where three species were recorded.

Keywords: Mantis shrimp, morphological characteristics, abundance, edible species

**A Study on the Consumption rate of *Crossopriza lyoni*
Blackwall, 1867 on *Aedes aegypti* Linnaeus, 1762 in vitro**

Kay Thi Mya*

Abstract

Spiders play an important role in the ecology by being exclusively predatory and thereby regulate insect population. *Aedes* mosquito is the vector of human Dengue fever in this world. The sampling area was Pharyarkone village, Thanlyin Township, Yangon Region. The biocontrol test was conducted in the laboratory and it lasted from July to September, 2016. The mean numbers of collected live male and female *Crossopriza lyoni*, Blackwall, 1867 were recorded and compared as 3.67 ± 0.58 (n=11) and 3.33 ± 1.53 (n=10). The numbers of various life cycle stages of *Aedes aegypti*, Linnaeus, 1762 correlated with temperature and humidity. Monthly mean numbers of various stages of *A. aegypti* were compared. In biological control test in vitro, the consumption rates of female spider on adult mosquitoes (n=30) were higher than those of male spider during the study period.

Keywords: *Crossopriza lyoni*, *Aedes aegypti*, biocontrol test, consumption rate

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Morphological and microscopical characters from leaves of *Crataeva religiosa* G. Forst.

Myint Myint San*

Abstract

A medicinal plant of *Crataeva religiosa* G. Forst. belongs to the family Capparaceae. This plant was collected from Tharkayta Township, Yangon Region during the flowering period from April to June, 2017. Then, the collected specimens were classified and identified to confirm the morphological characters with the help of available literatures. In this research, the morphological characters of *Crataeva religiosa* G. Forst. and microscopical characters from leaves of this plant have been carried out. In morphological study, woody plant, compound leaves, trifoliolate, racemose inflorescence (corymbose), the flowers greenish white, tetramerous, bisexual, hypogynous, gynophores present. In the microscopical study, the anomocytic type of stomata present only on the lower surface. The mesophylls were made up of palisade and spongy cells. The vascular bundle is collateral type in the lamina, midrib, petiolule and petiole. Calcium oxalate crystals present in the cortex. In addition, the diagnostic characters of powdered leaves were also investigated for their standardization used in medicine.

Key words: Morphological, microscopical characters of leaves

Study of Plateau Limestone Group from Taungbawgyi Area, Pindaya Township, southern Shan State

Mi Nwe Ni Aung¹, Aye Aye Aung², Myint Swe³

Abstract

The research area lies on the Shan-Tanintharyi Block that is mainly composed of the carbonate sedimentary rocks of the Plateau Limestone (Middle Permian to Middle Triassic) and thick-bedded, well jointed and karst topography are distinct in the research area. It is in northern continuation of Tanintharyi Ranges. The investigated area is situated on the eastern limb of south plunging anticline of Pindaya Range. We emphasized on the Plateau Limestone consisting of a succession of thick-bedded to massive crystalline limestone and dolomitic limestone. There are three microfacies in the Plateau Limestone: Biosparite, pelbiomicrite, and intrabiomicrite. They probably lie under shallow marine conditions of the intertidal and subtidal environments.

Key words: Plateau Limestone, Taungbawgyi, Middle Permian to Middle Triassic, Microfacies, Crystalline limestone

Introduction

Carapace width/length and body weight relationship of blue swimming crab *Portunus pelagicus* from Aleman Island

Khin May Chit Maung¹, Nyo Nyo Tun², Khin Yu Nwe³ and Kay Khine Soe⁴

Abstract

The carapace width/ length and body weight relationship of blue swimming crab: *Portunus pelagicus* was analyzed by using the samples collected from the gill net fishery of Aleman Island. The observed mathematical equations were $W=0.15773 L^{3.57}$ in males and $W=0.2284 L^{3.23}$ in females for carapace width and weight relationship and $W=0.85133 L^{3.01}$ in males and $W=1.11708 L^{2.65}$ in females for carapace length and weight relationship. The resulted coefficient correlation (r) values showed that it was positively correlated and highly significant.

Keywords: Blue swimming crab, Coefficient correlation, Length weight relationship, *Portunus pelagicus*.

Study on the length-weight relationships of some penaeid shrimps of Myeik coastal waters

Kay Khine Soe¹, Khin Yu Nwe² and Khin May Chit Maung³

Abstract

A total of 7 species of penaeid shrimps namely, *Metapenaeus affinis*, *M. brevicornis*, *M. ensis*, *Parapenaeopsis hungerfordi*, *P. sculptilis*, *Penaeus indicus* and *P. merguensis* under family Penaeidae, were collected from the fish landing area of Myeik during June, 2016 to May, 2017. Length and weight relationships were investigated using length frequency analysis. The results indicated that negative allometric growth of all shrimps occurred except female *Penaeus indicus* ($b=3.14$). Strong correlation of lengths and weights ($r>0.5$) occurred except *M. brevicornis* and male *M. ensis*. The highest condition factor (K) was found in *M. ensis*, male (K=0.024) and female (K=0.028) while the others were lower than the values (K=0.006) of female *Parapenaeopsis hungerfordi* and male *Penaeus merguensis*, thus the current results indicate that the fishing activities involve immature shrimps in inshore waters of Myeik.

Mangrove Algal Communities of Myeik Tidal Marshes

Hnin Hnin Maw¹, Zarni Ko Ko², Thet Lyar Win³, and Honey Shwe⁴

Abstract

Ecosystem of mangrove comprises over 30 species of trees, fern, and palms. The dominant plants in this forest are *Avicennia alba* and *Avicennia officinalis*, and the pneumatophores of those plants and other root systems are the convenient places for algae attachment. The most common alga in this mangrove forest is *Catenella nipae* and it is also moderately populated with *Caloglossa lepricurii* and *Dictyota adnata*. Approximately over 18 species of algae were observed in this forest, some attaching on mud. The algae growing in this mangrove area are euryhaline. The relationship between algal communities and some environmental conditions are briefly discussed.

Keywords: algae, euryhaline, mangrove.

မြန်မာစကားပုံနှင့် ထားဝယ်စကားပုံနှိုင်းယှဉ်လေ့လာချက်

ဇင်မာယု^{*၁}

စာတမ်းအကျဉ်း

ဤစာတမ်းသည် မြန်မာစကားပုံနှင့် ထားဝယ်စကားပုံကို နှိုင်းယှဉ်လေ့လာထားသော စာတမ်းဖြစ်သည်။ မြန်မာစကားပုံနှင့် ထားဝယ်စကားပုံကို နှိုင်းယှဉ်ရာတွင် မြန်မာစကားပုံနှင့် ထပ်တူကျသော ထားဝယ်စကားပုံများ၊ မြန်မာစကားပုံနှင့် စကားအသုံး ထပ်တူမကျသော်လည်း အဓိပ္ပာယ်တူသော ထားဝယ်စကားပုံများ၊ မြန်မာစကားပုံတွင်မတွေ့ရသော ထားဝယ်စကားပုံများဟူ၍ နှိုင်းယှဉ်လေ့လာထားပါသည်။

သော့ချက်ဝေါဟာရများ-မြန်မာစကားပုံ၊ ထားဝယ်စကားပုံ၊ စကားအသုံး၊ အနက်အဓိပ္ပာယ်။

A CASE STUDY ON THE CULTURAL ASPECTS IN PEARL.S.BUCK'S "EAST WIND: WEST WIND"

Daw Nay Chi Khin*

Abstract

Literature is like a bank. Literature expresses the most significant ideas and sentiments of human beings. The universal value and validity over a historical period can be seen in the literature. Through literature, the culture and ideologies different from our own in time and space would be understood and appreciated. Therefore, people would get the tradition of thought, feeling and artistic form within the heritage the literature of culture endows. Our thoughts, our love, our feelings and our experiences are kept there in order to know about us and to share our experiences. Literature is a way of building bridges between the generations. Through literature like novels, plays and poems, we can know about the people at the particular time: Pearl.S. Buck's "East Wind: West Wind" is a novel that tells about the Chinese people in the early part of the 20th century. Pearl. S. Buck is a good writer who can write to reflect the lives of the people in the particular time in China. So the Chinese people's culture, their lives and their experiences can be found through the character portrayal of the novel.

Study on the Nagani Song

Sa Bei¹

Abstract

The *Nagani* Song mentioned in this research paper is the Song sung at the inauguration ceremony of the *Nagani* Book Club on 4th November 1937. Shwedaing Nyunt had composed it with the help of Thakhin Nu. The vocalist was the actor Khin Maung Yin. The Song reflects the process of history, political situation and the life of Myanmar people at that time as well as their traditional faith and beliefs.

Keyword: *Nagani* Song, the process of history, Myanmar's traditional faith and beliefs.

'Avstaububg from stealing' as provision for the stability and development of myanmar society

Saw Lar Ka Baw¹

Abstract

Morality is essential in human society. Without morality human relationship cannot run smoothly. Without morality society will run chaotically. Ethics evaluates morality. Morality is more concerned with feeling and emotion but ethics is concerned with reasoning. Most of the Myanmar people are Buddhists. So, they are so familiar with the five precepts. The second precept is 'abstaining from stealing. For the Christian, the eighth commandment is 'Thou shalt not steal'. Myanmar people have to observe the 'Abstaining from stealing' for the sake of the stability and development of Myanmar society. The problem here is, "Why is 'abstaining from stealing' crucial for the well-being of the people in Myanmar Buddhists society?"¹ The implication of 'stealing' is far-reaching. Direct theft as well as general theft is prohibited. Because of 'stealing' the whole world run chaotically in the past. Stealing from nature in our era, will cause natural disaster and will destroy sustainable development of the environment.² The root of stealing is desire, covetousness and greed. In order to refrain from 'stealing', love must be nurtured. Metta is one of the cardinal virtues for Myanmar people. Christian religion is based on 'love'. So, love could stop 'stealing'.³ The principles of deduction, induction and analogy will be used.⁴ The descriptive method, comparative method and the evaluative method will be used to resolve the research problem.⁵

Key word: morality, ethics, stealing

1. Research problem
2. Research finding
3. Contribution
4. Research principle
5. Research methods

The history of “Atwin Sone Lay Sone” (Four Pairs of Inter Pagodas) near Kalwin Village, Myeik

Ohnmar Swe*

Abstract

Firstly, I would state to the history of “Sone Lay Sone”. By means of “Sone Lay Sone” it refers to (1) “Atwin Sone Lay Sone” (Inter Four Pairs) and (2) “Apyin Sone Lay Sone” (Outer Four Pairs). The word “Sone” means “Two”. “Ta Sone” (One Pair) and since it has two Pagodas, there are 8 Pagodas in “Sone Lay Sone”. They all face the same directions in “Ta Sone” (One Pair). Atwin Sone Lay Sone (Inter Four Pairs) was built approximately 300 years ago according to “Tabaung” (random utterance) in the history of “Myeik”. “Apyin Sone Lay Sone” (Outer Four Pairs) was built by Saywankapar Sayardaw U *Sūriya*, at the places where he meditated in the past life. This paper expresses the significant facts of “Atwin Sone Lay Sone” near Kalwin Village, Myeik.

Key Words: Myeik, Sone Lay Sone, Tabaung, *Magga*, *Phala*

Study on Antimicrobial Activity of Leaf Extracts of *Madhuca* sp.(India Butter Nut) in Tanintharyi Region

Mi Mi Lay

Abstract

This research deals with preliminary phytochemical investigation, determination of nutritional parameters, elemental evaluation and antimicrobial activity of India Butter Nut leaf of *Madhuca* sp. in Tanintharyi Region. On performing preliminary tests for the phytochemical constituents, the results revealed the presence of alkaloids, glycosides, carbohydrates, reducing sugars, phenolic compounds, flavonoids, saponins, tannins and coumarins and the absence of α -amino acids and starch in India Butter Nut leaf. The nutritional parameter values such as moisture, ash, crude protein, crude fibre, crude fat, carbohydrate and energy value of a Butter Nut leaf of *Madhuca* sp. were determined. The resulting data indicated 12.48 % moisture content, 4.81 % ash content, 8.76 % crude protein content, 35.43 % crude fibre content, 2.78 % crude fat content and 35.74 % carbohydrate content respectively. In addition, the energy value 207 kcal/ 100g was obtained from India Butter Nut leaf sample. Mineral contents of this leaf such as Al, Cl, K, S, Ca, Fe, Ti, P, Mn, Cr and Cu were detected by EDXRF analysis. From the data, the highest amount of Aluminium content was observed. Antimicrobial activities of aqueous and ethanolic leaf extracts were performed by agar well diffusion method against five bacterial and one fungal strains. Antibacterial and antifungal activity of watery extract showed higher inhibition than that of ethanol extract of India Butter Nut leaf. Moreover, both leaf extracts inhibited the best in *E.coli* among other bacteria. Therefore, India Butter Nut leaf is good for human body as it has many bioactive compounds and antimicrobial activity.

Keywords: India Butter Nut leaf, phytochemical constituents, nutritional parameters, elemental analysis, antimicrobial activity, EDXRF, agar well diffusion method¹

Characterization of Synthesized Chitosan from Prawn Shell Wastes

Nway Shwan Oo¹, Thi Thi Aye²,

Abstract

Chitosan was produced from prawn shell by chemical process which contains demineralization, deproteinization and deacetylation at ambient temperature. Chitosan of prawn shell waste powder was synthesized by chemical method and characterized by spectroscopic techniques such as FT IR analysis which also confirms the presence of chitin and chitosan. Physicochemical and functional properties of purified chitosan such as moisture content, molecular weight, fat binding capacity (FBC), water binding capacity (WBC) as well as the degree of acetylation (DD%) yield were determined.

Keywords: Chitosan, prawn shell, FT IR, FBC, WBC, DD%