

TABLE OF CONTENTS

AGRICULTURAL SCIENCES

AGRONOMY

Estimation of Genetic Variability in Two Maize (<i>Zea mays</i> L.) Populations for Drought Tolerance	3
--	---

Maria Alma B. Bautista, Artemio M. Salazar, Jose E. Hernandez and Pompe C. Sta Cruz

Upland Rice Landraces and Traditional Varieties of Bukidnon: <i>How Diverse? How Valuable?</i>	4
--	---

Rosemarie V. Cortes and Joy M. Jamago

Soybean Breeding at Central Mindanao University for High Seed Protein and Seed Yield	5
--	---

Joy M. Jamago, Rush A. Tinhay, Mitchel G. Villanueva, Hope T. Ramirez, and Grace Glend R. Gabisay

Induced Chlorophyll Variation in Pineapple cv. ‘Queen’ by Gamma Irradiation (⁶⁰ Cobalt)	6
---	---

Lolita DC. Valencia

Scaling Up of SSNM Maize Technology for Wider Adoption in the Philippines	7
---	---

Apolonio M. Ocampo, Jocelyn D. Labios, Romeo V. Labios, Julie Mae Pasuquin and Mirasol Pampolino

Chemical Fertilizer Replacement Capability of Mykovam Biofertilizer for Increased Growth and Fruit Yield of Okra	8
--	---

Adoracion T. Guy and Nelly S. Aggangan

Bio-fortification of Zinc in Rice (<i>Oryza sativa</i> L.) Grains through Soil and Water Management	9
--	---

Jonathan C. Descalsota and Pearl B. Sanchez

ANIMAL HUSBANDRY

Single Nucleotide Polymorphisms in the Water Buffalo (<i>Bubalus bubalis</i>) Leptin Gene Associated with High Milk Yield with Implications to the Philippine Carabao Center’s Dairy Buffalo Breeding Program	10
---	----

Ester B. Flores, Jesus Rommel V. Herrera, Amie S. Villanueva and Jennifer F. Maramba

Growth Performance of Sheep Fed With Concentrates and Urea Molasses Mineral Block <i>Benito B. Balneg, Corazon Diana A. Pastor and Roseminda R. Sair</i>	11
Developmental Competence and Midkine Expression of Water Buffalo (<i>Bubalus bubalis</i> L.) Oocytes in Media Supplemented with Retinoic Acid During <i>In Vitro</i> Maturation <i>Lilibeth A. Cajuday, Annabelle A. Herrera and Danilda H. Duran</i>	12
<i>BIOLOGICAL CONTROL</i>	
Immune Response of <i>Macrobrachium rosenbergii</i> Immersed with Hot-Water Extract from <i>Gracilaria edulis</i> Challenged with <i>Vibrio alginolyticus</i> <i>Mary Beth B. Maningas, Eldrin M. Abquina, Patrick Raymond G. Gonzalez, Maribon M. Obias, Rainier S. Pausanos and Jyacinth Lucille Y. Siapno</i>	13
Cytotoxic Potential of the Invasive Weed Species <i>Chromolaena odorata</i> L. in the Zamboanga Peninsula <i>Lina T. Codilla and Ephrime B. Metillo</i>	14
<i>CLIMATE CHANGE</i>	
Assessment of the Variability of Rainfall and Temperature in Ilocos Norte, Philippines for Crop Production Management <i>Evangeline S. Galacgac and Charito G. Acosta</i>	15
Elevated Soil Organic Carbon Turnover in Limed Acid Soils: Contributions of Priming Effect of Lime to Atmospheric CO ₂ Emissions <i>Wilfredo A. Dumale, Kenta Hirai, Taku Nishimura, and Tsuyoshi Miyazaki</i>	16
<i>CROP MODELLING</i>	
GIS-Aided Crop Suitability Assessment and Design of Crop Intensification and Diversification Models for Major Upland Soil Series in Batangas, Philippines <i>Jacob B. Labita and Rodrigo B. Badayos</i>	17
<i>ENTOMOLOGY</i>	
Phenotypic Diversity in a Population of Rice Black Bugs, <i>Scotinophora molavica</i> (Hemiptera: Pentatomidae) from Buug, Zamboanga Sibugay, Philippines <i>Mark Anthony J. Torres, Grayvimin S. Figueiras, Aprille Joy</i>	18

*M. Luceño, Ma. Lotus E. Patiluna, Muhmin Michael E. Manting,
Rolliebert B. Rampola, Ravindra C. Joshi, Alberto T. Barrion,
Leocadio S. Sebastian and Cesar G. Demayo*

FISHERIES

Dietary Effect of Saponin and/or Yucca on Growth, Antioxidant Capacity and Metabolic Response of Nile Tilapia *Oreochromis niloticus* L. 19

*Laila N. Gallego, Isagani P. Angeles, Jr., Quirino D. Parallag
and Yew-Hu Chien*

Cage Culture and Lake Management Practices in Lake Danao, San Francisco, Central Philippines 20

*Ricardo B. Gonzaga, Serapion N. Tanduyan and Berenice T.
Andriano*

Antioxidant Capacity and Metabolic Response of Red Striped Snapper (*Lutjanus erythropterus* Bloch, 1790) Fed Diets with Astaxanthin and/or Oxidized Oil 21

Isagani P. Angeles, Jr., Quirino D. Parallag and Yew-Hu Chien

FOOD SCIENCE

Formulation and Evaluation of Different Mutton Recipes 22

*Corazon Diana A. Pastor, Benito B. Balneg and Roseminda R.
Sair*

FORESTRY

Growth Performance of *Eucalyptus robusta* Sm. and *Pterocarpus indicus* Willd. to Weeding and Spacing Treatments in Bukidnon, Philippines 23

Rico A. Marin

Priority Protection, Conservation and Development Areas of Makiling-Banahaw Geothermal Area, Philippines 24

*Susana M. Maligalig, Amelita C. Luna and Emmanuel R.G.
Abraham*

Developing Site Index Equation for Smallholder Tree Plantation Using Height – Age Relationship 25

Richmund A. Palma

Characterization and Detection of Forest Landuse Change in a Small Mangrove Forest: The Case of Banacon Island, Bohol, Philippines 26

Dixon T. Gevaña and Sangjun Im

INTEGRATED PEST MANAGEMENT	
Effect of Glyphosate on Survival, Growth and Reproduction of <i>Pontoscolex corethrurus</i>	27
Eufemio T. Rasco Jr., Georgianna Kae R. Oguis, Hanna Mia Monica D. Taya, Michael Val G. Lacsamana and Richie Eve G. Ragas	
PLANT PATHOLOGY	
Reaction of Wild and Cultivated Musa Species to Major Banana Virus Diseases	28
Fe M. Dela Cueva, Eric G. Dinglasan, Olivia P. Damasco and Lorna E. Herradura	
PLANT PHYSIOLOGY	
Biomass Composition and Sugar Content of Sweet Sorghum (<i>Sorghum bicolor</i> (L.) Moench) at Different Developmental Stages	29
Dane Mikhael S. Calica, Glory S. Bitanga, Jezzica R. Balagso, Marachel Grace Domingo and Shirley C. Agrupis	
Potassium and Sodium Uptake of Corn (<i>Zea mays</i> L.) Grown on Saline Soil	30
Primitivo Jose A. Santos, Jonathan C. Descalsota, Pearl B. Sanchez, Apolonio M. Ocampo and Pompe C. Sta Cruz	
A Pre-Harvest 1-Methylcyclopropene (1-MCP) Aqueous Spray Formulation to Delay Ripening of Mango (<i>Mangifera indica</i> L. cv. 'Carabao')	31
Katherine Ann T. Castillo-Israel, Elda B. Esguerra, Florinia E. Merca, Edralina P. Serrano and Veronica C. Sabularse	
POST-HARVEST	
Modified Atmosphere Packaging (MAP) Technology for the Extension of Mango (<i>Mangifera indica</i> L.) Fruit Freshness	32
Rachel F. Rocafort, Jocelyn M. Sales and Abigail S. Rustia	
Disease Control Methods for Mangoes Under Modified Atmosphere Packaging (MAP)	33
Abigail S. Rustia, Rachel F. Rocafort and Jocelyn M. Sales	
SOIL SCIENCE	
Fertilizers and Organic Residue Effects on the Dynamics of CO ₂ and N ₂ O in Saturated and Unsaturated Soils	34

*Kei Takizawa, Wilfredo A. Dumale Jr., Taku Nishimura and
Tsuyoshi Miyazaki*

WEED SCIENCE

Explaining the Persistence of Nine Weed Species in a Plantation Agriculture Environment 35

Georgianna Kae R. Oguis, Eufemio T. Rasco Jr. and Ed Levi C. Camarillo

Eradication of Wild Daisy (*Wedelia trilobata* (L.) Hitchc) Using Different Levels of Herbicide 36

Jason Pumatong, Richmund A. Palma and Nely Omboy

BIOLOGICAL SCIENCES

BIODIVERSITY

Population Assessment of Butterfly Host Plants in Selected Sites Near Mt. Banahaw de Lucban, Lucban, Quezon, Philippines 39

Mary Ann R. Agudilla

Floristic Composition and Physiognomy of Mangrove Forest in Pagbilao, Quezon, Philippines 40

Amalia E. Almazol, Cleofas R. Cervancia, Inocencio E. Buot Jr., William SM. Gruezo and Nelson M. Pampolina

Species Diversity of Lizards along Elevational Bands of Mt. Hilong-hilong, Diwata Range, Agusan del Norte 41

Jacqueline R. Carillo and Emmanuel Pacheco Leaño

Biodiversity Assessment of Mt. Banahaw de Dolores 42

Cecilia N. Gascon, Ronald C. Garcia, Francisco N. Beltran, Wilfredo C. Faller and Mary Ann R. Agudilla

Species Composition and Vegetation Analysis of Mangrove Forests Along Butuan Bay, Philippines 43

Jess H. Jumawan

Diversity of Bats in the Montane Forest of Mt. Hilong-hilong, Diwata Range, Agusan del Norte 44

Emmanuel Pacheco Leaño and Joanne Ruth Paano Joven

Habitat Determinants of Philippine-Endemic and Mindanao-Endemic Bird Communities on Canticol and Mt. Hilong-hilong, Philippines	45
<i>Sherry L. Paz, Dusit Ngoprasert, Olga M. Nuneza, Neil Aldrin Mallari and George A. Gale</i>	
Aquatic Insects' Diversity at Taytay Falls in Barangay Taytay, Majayjay, Laguna: Indicator of Water Quality	46
<i>Kristian Rodrigo A. Yara and Mary Ann R. Agudilla</i>	
BIOREMEDIATION	
Nickel Tolerance of Three Isolates of Ectomycorrhizal Fungus <i>Pisolithus</i> Inoculated onto <i>Eucalyptus urophylla</i> S.T. Blake Seedlings	47
<i>Nelly S. Aggangan</i>	
Determining the Efficiency of <i>Talinum paniculatum</i> (Jacq) Wild as a Phytoremediator and its Morpho-Anatomical Responses to Iron in Lateritic Soils	48
<i>Vivian S. Tolentino and Jill Mary J. Bautista</i>	
Growth Performance and Phytoremediation Potential of <i>Pongamia pinnata</i> (L.) Pierre, <i>Samanea saman</i> (Jacq.) Merr., and <i>Vitex parviflora</i> Juss in Copper-contaminated Soils Amended with Zeolite and VAM	49
<i>Adrian M. Tulod, Arturo SA. Castillo, Wilfredo M. Carandang and Nelson M. Pampolina</i>	
Bioremediation Performance of <i>Arachis pintoi</i> (Mani -Mani) Under Greenhouse Condition	50
<i>Cheryl Joy T. Villanueva and Flordeliz R. Estira</i>	
Bioremediation Potential of Bacterial Isolates from the Laoag City Sanitary Landfill	51
<i>Princess Kimberly F. Dumlaao and Flordeliz R. Estira</i>	
CYTOTOLOGY	
Cytologic and Mitogenic Effect of Topical Minoxidil on the Skin of <i>Mus musculus</i>	52
<i>Majal Rani O. Espiritu and Doreen D. Domingo</i>	
DEVELOPMENTAL BIOLOGY	
Histochemical Study on <i>Hibiscus rosa-sinensis</i> L. (Gumamela) Flower and the Effect of its Extract on White Mice Fetus	53
<i>Metchie T. Dunay, Reggie Yadao-dela Cruz and Heidi C. Porquis</i>	

Cellular Phone Radiation Effects on the Fetus of White Mice <i>Baby Jean B. Tabalbag, Reggie Yadao-dela Cruz, Lorelei A. Samaniego and Heidi C. Porquis</i>	54
Teratogenic Effect of <i>Datura metel</i> Leaf Aqueous Extract on the Embryo of <i>Danio rerio</i> <i>Suzzeth M. Untalan</i>	55
ECOLOGY	
Assessment of Resiliency of Intertidal Mangrove Communities to Nutrient Fluxes and Climate Change <i>Teri S. Del Rosario, Raymond J. Sucgang, Aida P. Conanan and Benelita R. Sucgang</i>	56
Ecological Assessment of Mangrove Coastal Areas of Mulanay, Quezon, Philippines <i>Sherwin C. Abantao, Orlex B. Yllano, Theodore Clyde Apacible, Ma. Lourdes Orijola, Gerry C. Mediavillo, Sanny P. Cortez, Linar T. Pereda and Joselito A. Ojeda</i>	57
Vegetation and Land-Use of Mak-Ban Geothermal Area, Philippines <i>Emmanuel R.G. Abraham, Amelita C. Luna and Susana M. Maligalig</i>	58
Ecological Status of Camatian River in Lucban, Quezon: A Tributary to Laguna de Bay <i>Maria Luisa A. Enal, Ma. Joeylynn V. Magallanes, Ann Joy P. Quindoza, Shiela A. Babia, Jacquilyn A. Bañal, Florence C. Maranan, Fidesmarie A. Villenas and Wilma L. Comia</i>	59
Environmental Conditions Influencing Daytime Abundance of Mesozooplankton and Ichthyoplankton in Marine Reserves in Iligan Bay, Northern Mindanao, Philippines <i>Ephrime B. Metillo, Stephanie P. Faith Ravelo, Jan Alfred P. Duyaguit and Leonir S. Diaz</i>	60
Assessment of Mangroves in Enclaro, Binalbagan, Negros Occidental <i>Heide G. Taleon, Daisy G. Cari-an and Rosebella L. Malo</i>	61
Polluters and Water Quality of Cebu City Rivers <i>Pedro P. Cuizon, Cecilio S. Baga and Bonifacio S. Villanueva</i>	62

Assessing Water Quality and Larval Mosquito Abundance in Caloocan City, Philippines <i>Glenn L. Sia Su</i>	63
ENTOMOLOGY	
Ultrastructural Predatory Activity of <i>Arthrobotrys oligospora</i> on Parasitic Juvenile Stages of Citrus Nematode, <i>Tylenchus semipenetrans</i> <i>Gina Leah A. Dizon, Jonar I. Yago and Liberty G. Torres</i>	64
Status of Butterflies in Dinagat, Philippines <i>Alma B. Mohagan and Dave P. Mohagan</i>	65
FOOD SCIENCE	
Mycоchemical Analysis, Nutritional Characterization and Toxicity of <i>Lentinus tigrinus</i> , A Philippine Edible Mushroom <i>Rich Milton R. Dulay, Sofronio P. Kalaw, Renato G. Reyes, Esperanza C. Cabrera, Noel F. Alfonso and Fumio Eguchi</i>	66
GENETICS	
Identification and Characterization of the Chalcone Synthase Gene (CHS) in <i>Curcuma longa</i> L. and <i>Curcuma zedoaria</i> Rosc. Rhizomes <i>Vivian A. Panes, Emilio Serafin Adriano, Mennold Archee P. Redota and Neil H. Tan Gana</i>	67
Molecular Sequence Characterization of the Glycolytic Regulatory Enzyme, Phosphofructokinase in <i>Cocos nucifera</i> L. <i>Reggie Yadao-dela Cruz</i>	68
Preliminary Estimation of Genetic Variation through Isozyme Analysis in Freshwater Sardines, <i>Sardinella tawilis</i> (Herrе), from Two Different Sites near Taal Lake: Lemery and Talisay, Batangas <i>Joan Christine O. Adajar, Rosalina N. Tandang, Ma. Cecilia S. Reamillo and Ma. Carmina C. Manuel</i>	69
IMMUNOLOGY	
Evaluation of the Immunomodulatory Activity of <i>Macaranga mappa</i> (Euphorbiaceae) Ethanol Extracts in Balb/C mice <i>Mellissa C. Alcantara and Elena S. Catap</i>	70
The Effects of <i>Tabernaemontana pandacaqui</i> POIR. Leaf Extracts on Some Nonspecific Immune Response of Cyclophosphamide-treated Balb/C Mice <i>Elena S. Catap and Charmaine R. Peredas</i>	71

Different Levels of Confinement Stress: Its Effect to the Immune System of White Mice (<i>Mus musculus</i>)	72
<i>Doreen D. Domingo and Asuncion C. Saguid</i>	
<i>MICROBIOLOGY</i>	
Microbial Enumeration and Detection of <i>Staphylococcus aureus</i> from the Selected Dried Fishery Products	73
<i>Corazon P. Macachor</i>	
Molecular Diversity of Rumen Methanogens in Carabao and Cattle in Response to Dietary Tannin	74
<i>Gondelina A. Radovan</i>	
Application of <i>Salmonella</i> DAS™ Kit for Rapid Monitoring of <i>Salmonella spp.</i> in Composts and other Environmental Samples	75
<i>Teresita J. Ramirez, Jennifer D. Saguibo, Susan A. Sedano, Arsenia B. Sapin, Armi R. Creencia, Christine B. Brown, Nik Shawn C. Tabao and Noel H. Tan Gana</i>	
Use of <i>Salmonella</i> DAS™ Kit for Detection of <i>Salmonella spp.</i> in Swabs of Contact Surfaces	76
<i>Arsenia B. Sapin, Teresita J. Ramirez, Jennifer D. Saguibo and Susan A. Sedano</i>	
Molecular Detection and Phylotyping Analysis of <i>Ralstonia solanacearum</i> Isolated from White Potato and Reduction of its Population by Biofumigation	77
<i>Danah Jean A. Concepcion, Mark Angelo O. Balendres, Fe M. Dela Cueva, Michelle J. Vergara, Edna Y. Ardales, Valeriana P. Justo, Nandita Pathania and Peter Trevorrow</i>	
Perithecial and Ascospores Development of <i>Haematonectria haematococca</i> Causes Twig Blight Disease of Citrus in the Philippines	78
<i>Jomar L. Dulnuan, Jonar I. Yago, Danuwat Peng-ont and Sunchai Aroonrungrote</i>	
Morphogenesis of <i>Lentinus sajor-caju</i> Fr.	79
<i>Sofronio P. Kalaw, Karen Kae Santos, Rich Milton R. Dulay and Renato G. Reyes</i>	
<i>MOLECULAR BIOLOGY</i>	
Gene Silencing of VP9: a Novel Nonstructural Protein from WSSV and	80

its Role in Shrimp-Virus Interaction	
<i>Rod Russel R. Alenton and Mary Beth B. Maningas</i>	
ApCAMBIA Expression Vector Containing the Bunchy Top Virus Nuclear Shuttle Protein (NSP) Gene pCAMBIA	81
<i>Mary Ann Robelle L. Polido and Vermando M. Aquino</i>	
A pCAMBIA Expression Vector Containing the Bunchy Top Virus Movement Protein (MP) Gene	82
<i>Fides Angeli DLC. Zaulda, Jasca Gayle G. Españaola and Vermando M. Aquino</i>	
Isolation and Identification of cDNA Encoding a Midgut Trypsin-Like Enzyme in the Cigarette Beetle <i>Lasioderma serricorne</i> Fabricius (Coleoptera: Anobiidae) cDNA	83
<i>Angelo A. dela Fuente and Vermando M. Aquino</i>	
MORPHOLOGY	
Geographic Variation in Vegetative and Flower Morphometry Among Populations of <i>Lilium philippinense</i> Baker (Liliaceae), An Endemic Species in the Philippines	84
<i>Teodora D. Balangcod, Virginia C. Cuevas and Kryssa D. Balangcod</i>	
Mandibular Shape Variation in the Ants <i>Diacamma rugosum</i> and <i>Pheidologeton diversus philippinus</i>	85
<i>Muhmin Michael E. Manting, Eugene Vernon V. Tañedo Jr., Mark Anthony J. Torres and Cesar G. Demayo</i>	
Foliar Anatomy of Jade Vine, <i>Strongylodon macrobotrys</i> A. Gray (Fabaceae): Implications of Ground and Vascular Tissue Organization to Growth and Development	86
<i>Jan Lorie M. Robil and Vivian S. Tolentino</i>	
MYCOLOGY	
Compositional Analysis of Banana Stalks Degraded by <i>Pleurotus ostreatus</i> Under Solid State Fermentation	87
<i>Ma. Concepcion Birjinias and Shirley C. Agrupis</i>	
Lawn Culture of <i>Schizophyllum commune</i> Fr. on Selected Tropical Fruit Substrates	88
<i>Renato G. Reyes, Sofronio P. Kalaw and Liezel F. de La Cruz</i>	

NATURAL PRODUCTS

- Carotenoid Content of Canistel or Tiesa (*Pouteria campachiana* (HB.K) Baehni) 89

Elmira P. Capistrano and Ma. Leonora dL. Francisco

- Pediculicidal Activity of a Shampoo Formulated from the Crude Ethanolic Extract of *Tinospora rumphii* Boerl (Menispermaceae) Stems 90

Joanne Katherine T. Manlusoc, Agnes L. Castillo, Tracy V. Mamaril, Amabelle Lou C. Marcelo, Mark Christian C. Mendoza, Maria Vicroria D. Naga, Justin W. Ng Sinco and Tanya Angela P. Perez

- A 10% Cream Preparation from the Crude Ethanolic Extract of the Dried Seeds of Tonkin (*Ipomoea muricata*): Formulation and Its Quality Control 91

Sandra C. Sy, Mary Rose S. Angeles, Jessica Rei N. Camina, Agatha Christie T. Castillo, Romielhyne Z. Diaz, Nico S. Murillo and Liana Aira V. Quibael

- Phytochemical Studies on Two Philippine Endemic Rubiaceae Species- *Gardenia merrellii* and *Villaria odorata* 92

Mario A. Tan, Christian Nicolo Ll. Concepcion and Raychel Ann P. Villacorta

- Evaluation of Polyethylenimine/Carrageenan Multi-layer for Antibacterial Activity of Pathogenic Bacteria 93

Annabelle V. Briones, Toshinori Sato and Urcila G. Bigol

PLANT PHYSIOLOGY

- Abiotic Stresses to Enhance Bioactive Potential of Peanut Kernels 94

Jocelyn D. Masiglat-Sales and Anna V. A. Resurreccion

- Correlation of Fruit Variables to the Physico-Chemical and Biochemical Attributes of the Coconut (*Cocos nucifera* L.) Liquid Endosperm 95

Chester C. Deocaris and Dina B. Masa

TAXONOMY

- Inflorescence and Leaf Morphology of Some Wild Gingers (Zingiberaceae) Recorded from Eastern Mindanao, Philippines 96

Florfe M. Acma, William SM. Guezo, Inocencio E. Buot Jr., Teresita U. Dalisay and Leonardo M. Florece

A Novel Endemic Philippine Species of <i>Bikkia</i> Reinw. (Rubiaceae) Inferred from Multiple DNA Data, with Implication on its Conservation Status and Biological Activities	97
<i>Grecebio Jonathan D. Alejandro, Lorenzo Angelo R. Santos, Hao Wei C. Hsu, Michelle Samantha S. Mejillano, Propa Joy R. Santor and Ericson M. Paragas</i>	
Four New Species of <i>Nepenthes</i> in Two Mountain Ecosystems in Southern Philippines	98
<i>Victor B. Amoroso and Fulgent P. Coritico</i>	
Contributing to the Philippines' Biodiversity: Establishment of Two Philippine Rubiaceae Genera Based on Plastid and Nuclear DNA Including Their Conservation Status	99
<i>Axel H. Arriola and Grecebio Jonathan D. Alejandro</i>	
Molecular Detection and Classification of a New <i>Theileria</i> species in the Philippines	100
<i>Lawrence P. Belotindos, Jonathan V. Lazaro, Marvin A. Villanueva and Claro N. Mingala</i>	
Why New Hats are Better: Two New Endemic Species of Philippine <i>Gynochthodes</i> Blume and Molecular Support on the Re-classification of <i>Morinda elliptifolia</i> Quisumb. & Merr. (Morindeae-Rubiaceae)	101
<i>Jayson G. Chavez, Joshua Johnnedel P. Salvacion, Gerson C. Contreras, Wei Yi D.C. Hung, Fernan Macrin C. Ramos, Diana Grace B. Ysaac and Grecebio Jonathan D. Alejandro</i>	
Taxonomic and Ecological Study of Microalgae in Lake Buhi, Camarines Sur	102
<i>Erwin P. Elazegui</i>	
Taxonomy of the Genus <i>Sargassum</i> (Sargassaceae, Phaeophyta) from Camotes Island, Cebu	103
<i>Wilfred John E. Santiañez and Gavino C. Trono, Jr.</i>	
Genetic Identification of Selected Lactic Acid Bacteria and Structural Gene Elucidation of Their Bacteriocins	104
<i>Francisco B. Elegado, Ma. Teresa M. Perez, Takeshi Zendo and Kenji Sonomoto</i>	

Genomic Sequence Identity of *Haematonectria haematococca* Causing Twig Blight Disease of Citrus in the Philippines 105

Jonar I. Yago and Kuang-Ren Chung

Identification of *Chryseobacterium indologenes* from Salt Using the Analytical Profile Index API 20E 106

Prima Fe R. Franco, Cecille Gaoat and Rowena Acosta

Proteus Species Identified Using the Analytical Profile Index API 20E: Potential Biological Control From Borer Infesting Sweet Sorghum 107

Cecille Gaoat, Prima Fe R. Franco, Samuel S. Franco and Heraldo L. Layaoen

VIROLOGY

Activation of Endogenous Banana streak badnavirus (eBSV) in *Musa* Genotypes Under Drought Condition 108

Eric G. Dinglasan, Fe M. Dela Cueva, Evelyn F. Delfin, Antonio C. Laurena and Marina P. Natural

ZOOLOGY

Structural and Ultrastructural Characteristics of the Testes of the Invasive Suckermouth Sailfin Catfish *Pterygoplichthys spp.* Gill 1858 (Siluriformes: Loricariidae) from the Marikina River System, Philippines 109

Joycelyn Jumawan and Annabelle Herrera

Ectoparasites of Cave-Dwelling Bats in Marinduque Island, Philippines 110

Ace Kevin S. Amarga, Phillip A. Alviola, Sheryl A. Yap, Ireneo Lit, Jr., Leonila Corpuz-Raros and Rodolfo Verdida, Jr.

CHEMICAL, MATHEMATICAL AND PHYSICAL SCIENCES

CHEMISTRY

Molecular Assembly and Electropolymerization of 3,4-ethylenedioxythiophene on Au(100) Single Crystal Electrode Using *In Situ* Electrochemical Scanning Tunneling Microscopy 113

Jonyl L. Garcia, Bernard John V. Tongol and Shueh-Lin Yau

Preparation and Characterization of Carbon-Supported PtSn Electrocatalysts for Ethanol Oxidation: Possible Application for Inkjet Ink Formulations 114

Bernard John V. Tongol and Hao Yuhn C. Hsu

Preparation and Characterization of Dye-Sensitized Solar Cell Based on Pt Nanoparticles/Poly(3,4-ethylenedioxythiophene)-poly(styrenesulfonate) on Fluorine-doped Tin Oxide as Counter Electrode Electrocatalyst <i>Lei Angeli S. Morenos, Bernard John V. Tongol and Koichiro Mitsu</i>	115
Gold Nanoparticles in Silica Sol-gel Matrix: Preparation, Characterization, and Application <i>Alan Rodelle M. Salcedo and Blessa Bianca C. Estacion</i>	116
Secondary Metabolites from the Leaves of <i>Psychotria gitingensis</i> Elmer Jameson A. Eusebio and Mario A. Tan	117
Custom Synthesis of Isotope-Labelled <i>Apis mellifera</i> Pheromone <i>Raymond J. Sucgang, Aida P. Conanan, Nicole Marie A. Cortes, Cristel Lyn R. Daguno and Jose Angelo A. Temponuevo</i>	118
Development of Laboratory Method for the Simultaneous Determination of Gross Alpha and Gross Beta Activities in Water by Liquid Scintillation Counting <i>Soledad S. Castañeda, Raymond J. Sucgang, Preciosa Corazon B. Pabroa and Norman DS Mendoza</i>	119
Potentiometric Sensor for Melamine Using Electropolymerized Polyaniline Membrane <i>Dasha A. Fernandez, Francis G. Biñas and Fortunato B. Sevilla III</i>	120
Effect-directed Analysis of Potential Endocrine Disruptors from the Extracts and Fractions of Sediments from Laguna Lake, Philippines Using the LYES-Assay. <i>Arnold V. Hallare, Christine Schonlau, Werner Brack and Henner Hollert</i>	121
Synthesis of Cobalt Boride Nanoparticles Using Radio Frequency Thermal Plasma <i>Lorico DS. Lapitan Jr., Ying Ying Chen, Seesoek Choi and Takayuki Watanabe</i>	122
Development of Lyophilized Coconut Water for Isotonic Beverages <i>Rosalinda C. Torres, Carmelita O. Manalo, Teresita S. Bonifacio, Evelyn B. Manongsong, Elvira L. Arrogante, Eduardo A. Lanto and Romulo R. Estrella</i>	123

Isolation and Structure Characterization of Chemical Constituents from Micromelum compressum with *In Vitro* Antituberculosis Activity 124

Warren S. Vidar, Allan Patrick G. Macabeo, Paul Kohls, Mathias Knorn, Yuehong Wang, Scott G. Franzblau and Ma. Alicia M. Aguinaldo

MATHEMATICS

Synchronizing p Timepieces in $\Theta(\log_2 p)$ Steps 125

Jaderick P. Pabico

The Hankel Transform of Generalized Bell Numbers 126

Roberto B. Corcino

Some Convolution-Type Identities and Congruence Relation of the Limit of the Differences of Generalized Factorial 127

Miraluna L. Herrera and Roberto B. Corcino

Sharpness of the Critical Constant of the Improved Rellich Inequality 128

Alnar L. Detalla

On the AB-Generalized Lucas Sequence by Hessenberg Matrices 129

Michael B. Frondoza and Mhelmar A. Labendia

Super-Continuity and Super-Connectedness 130

Mhelmar A. Labendia and Sergio R. Canoy, Jr.

On the Hamiltonicity of Product Graph $G \square S_m$, for a Graph G of Order n , and Star Graph S_m , $n \geq m$ 131

Aurea Z. Rosal

Determination of the Intruder's Location in a Given Network 132

Sergio R. Canoy, Jr. and Gina A. Malacas

The Average of the 10^{th} Power of the L_{10} Norm over the Littlewood Polynomials on the Boundary of the Unit Disk 133

Braullo D. Peñalosa and Jocelyn S. Paradero-Vilela

ENGINEERING SCIENCES AND TECHNOLOGY

CHEMICAL ENGINEERING

Parametric And Kinetic Studies on the Treatability Of Distillery Slop By 137

Photocatalysis Using Paint-Immobilized Titanium Dioxide <i>Ramer P. Bautista, Jovita L. Movillon, Marilyn C. del Barrio, John Meynard M. Tengco and Rhebner E. Arocena</i>	138
Parametric Study on the Growth of Green Alga <i>Chlorella vulgaris</i> Beij. (Chlorophyta) Cultivated in Polyethylene Photobioreactors under Outdoor Operations <i>Denise Ester O. Santiago, Milagrosa M. Goss, Rex B. Demafelis, June Owen O. Nacorda, Jovita L. Movillon and Sammy D.C. Aquino</i>	138
BIOFUELS	
Pre-treatment Studies of Sweet Sorghum Non-Grain Biomass for Bioethanol Processing <i>Shirley C. Agrupis and Praveen Vadlani</i>	139
ENVIRONMENT	
Land Cover Change and Water Yield of Silang-Santa Rosa River Subwatershed, Laguna, Philippines <i>Kathreena G. Engay and Damasa B. Magcale-Macandog</i>	140
Utilizing Spectral Reflectance and Vegetation Indices of <i>Bougainvillea spectabilis</i> in Monitoring Particulate Air Pollution in Metro Manila <i>Alex S. Olpenda and Enrico C. Paringit</i>	141
INFORMATION AND COMMUNICATIONS TECHNOLOGY	
Development of A Computer Vision System for Brown Rice Quality Analysis <i>Andres M. Tuates Jr. Aileen R. Ligisan and Manolito C. Bulaong</i>	142
Estimation of Aboveground Biomass in Mount Makiling Forest Reserve Using Landsat ETM+ Data <i>Shierel F. Vallesteros, Nathaniel C. Bantayan and Arvin P. Vallesteros</i>	143
HEALTH SCIENCES	
Molecular Identification of T4 and T5 Genotypes of <i>Acanthamoeba</i> Isolates in the Philippines <i>Michael O. Baclig, Corazon C. Buerano, Abigail D. Trinidad, Lindsay Sydney N. Fajardo, Irwin Y. Cua and Filipinas F. Natividad</i>	147

Assessment of Distal Gut Microbial Diversity among Filipino Children of Different Nutritional Status through the Ribosomal RNA Gene	148
<i>Leslie Michelle M. Dalmacio, Raul V. Destura and Evelyn Mae Tecson-Mendoza</i>	
Diagnosis and Molecular Characterization of <i>Trichomonas vaginalis</i> in Sex Workers in the Philippines	149
<i>Windell L. Rivera and Macario Ireneo P. Queza</i>	
<i>Trichomonas vaginalis</i> Induces Apoptosis in Human Lung Alveolar Basal Carcinoma Epithelial Cell Line A549	150
<i>Daile Meek C. Salvador, Sonia D. Jacinto and Windell L. Rivera</i>	
Immunomodulatory Effect of <i>Tinospora rumphii</i> Boerl Lotion in <i>Sarcoptes scabiei</i> var <i>hominis</i> - Infected Patients and Its Predicted Shelf Life: A Pilot Study	151
<i>Agnes L. Castillo, Marina O. Osi, John Donnie A. Ramos, Jean L. De Francia, Marylaine U. Dyjunco and Peter F. Quilala</i>	
A Double Blind Randomized Controlled Trial on the Effectiveness of 10% Lemongrass Oil (<i>Cymbopogon citratus</i>) vs. 1% Clotrimazole Solution in Treating <i>Tinea corporis</i> and <i>Tinea cruris</i>	152
<i>Pamela Christine C. Cue, Rosalinda C. Torres and Arnelfa C. Paliza</i>	
Cellular Response to <i>Aglaia loheri</i> Blanco Active Principle, Maldi 531.2[M+H] ⁺ is predicted by Genes	153
<i>Else F. Galutan, Sonia D. Jacinto and Thomas Efferth</i>	
Hair Lead Bio-monitoring Among School Children in the Province of Cavite, Philippines	154
<i>Janet P. Macawile and Glenn L. Sia Su</i>	
HPLC Analysis of Cortisol and Cortisone in Human Urine	155
<i>Cherrie B. Pascual, Ma. Cristina B. Portilla, Jessa Karyl R. Apa and Jason Paul C. Monlinong</i>	
Detection of Dengue Virus Using a Quartz Crystal Microbalance (QCM)-Based Immunosensor	156
<i>Olga Corales, Jason Paul Monlinong, Roland Jay Miguel, Luis Sison, Cherrie Pascual and Ronald Matias</i>	

SOCIAL SCIENCES

AGRICULTURE

- Considering Farmers Preferences in Breeding and Dissemination of White Corn Varieties as Staple Food 159
Romeo V. Labios, Jocelyn D. Labios, Proceso Manguiat, Dona Bae Malayang, Bernabe Cia, Leonardo Tamisin, Jr, Avelita Rosales, Teresita Mangaya-ay and Jessie Lumbao

ECONOMICS AND WELL-BEING

- The Link between Extreme Poverty and Young Dependents in the Philippines: Evidence from Household Surveys 160
Dennis S. Mapa, Manuel F. Albis and Michael C. Lucagbo
- The Income-Happiness Paradox Among Filipino Participants: Do Daily Income, Housing Type, and Education Influence Subjective Wellbeing? 161
Elaine P. Durado and Nixon V. Agaser

EDUCATION

- Developmental Differences of Children in Private Preschools and Day Care Centers 162
Nixon V. Agaser and Melanie T. Salagubang
- Learning Styles of Engineering Technology Students and their Conceptual Understanding on the Particulate Nature of Matter 163
Elizabeth L. Marasigan and Erwin P. Elazegui

- Perceptions of Faculty and Students in the Agriculture Programs of the Isabela State University at Cabagan Campus 164
Audrey B. Simon and Gerald G. Claravall

KNOWLEDGE MANAGEMENT

- Handling Knowledge and Ideas as Patterns: Employ Paradigms as Packets Forming Non-regular Interloping Finite Fractal 165
Wilfredo I. Jose

RISK

- Integrating Science and Local Knowledge for Climate Change Impacts and Vulnerability Assessments 166
Juan M. Pulhin, Rex Victor O. Cruz, Maricel A. Tapia, Rose Jane J. Peraas and Chandyllane G. Cantre

Disaster Risk Reduction and Management: Critical Factors for Success 167
at the Local Government Level

Franco G. Teves