

3rd International Conference on Biological Sciences and Biotechnology (ICBSB 2017)

Exploration and Conservation of Natural
Resources for Biotechnology Development

IOP Conference Series: Earth and Environmental Science
Volume 130

Medan, Indonesia
23 – 24 August 2017

ISBN: 978-1-5108-6009-4
ISSN: 1755-1307

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2017) by the Institute of Physics
All rights reserved. The material featured in this book is subject to
IOP copyright protection, unless otherwise indicated.

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of contents

Volume 130

**The 3rd International Conference on Biological Sciences and Biotechnology
23–24 August 2017, Medan, Indonesia**

Preface

The 3rd International Conference on Biological Sciences and Biotechnology

Acknowledgement

Organizer

Peer review statement

Papers

Cellulose microfibril structure: inspirations from plant diversity

A W Roberts.....1

Thermus Thermophilus as a Model System for the Study of Ribosomal Antibiotic
Resistance

Steven T. Gregory.....8

Herbal medicine, radical scavenger and metal detoxification: bioinorganic, complexity
and nano science perspectives

Sutiman B. Sumitro and Sukmaningsih Alit.....16

Correlation between homocysteine and dyslipidemia in ischaemic stroke patients with and without hypertension

Cut Aria Arina, Darwin Amir, Yahwardiah Siregar and Rosita J. Sembiring.....25

Contrast induced nephropathy in hypertensive patients after elective percutaneous coronary intervention

Cut Aryfa Andra, Andi Khairul, Cut Aria Arina, Zulfikri Mukhtar and Isfanuddin Nyak Kaoy.....30

An ability of endophytic bacteria from nutgrass (*Cyperus rotundus*) from Lafau beach of North Nias in producing indole acetic acid and in solubilizing phosphate

Atriani Zega, Dwi Suryanto and Yurnaliza.....35

Optimization of the development of reproductive organs of *Celepuk Jawa* (*Otus angelinae*) owl which supplemented by turmeric powder

Tyas Rini Saraswati, Enny Yusuf W. Yuniwati and Silvan Tana.....42

Wheat bran soil inoculant of sumateran nematode-trapping fungi as biocontrol agents of the root-knot nematode *meloidogyne incognita* on deli tobacco (*nicotiana tabaccum* l) cv. deli 4

Liana Dwi Sri Hastuti and Jane Faull.....48

Polymorphism in beta fibrinogen -455 g/a gene was associated with diabetic in severe ischemic stroke patients

Kiking Ritarwan, Alfansuri Kadri and Rosita Juwita Sembiring.....60

Antimicrobial activity of lactic acid bacteria isolated from bekasam against *staphylococcus aureus* ATCC 25923, *escherichia coli* ATCC 25922, and *salmonella* sp

Melia Sari, Dwi Suryanto and Yurnaliza.....66

The Potency of Local Bacterial Isolates Encapsulated Within Sodium Alginate in Carbofuran Degradation

Nunuk Priyani, Dian Pratiwi and Dwi Suryanto.....73

Isolation and analysis of a multifunctional triterpene synthase *KcMS* promoter region from mangrove plant *kandelia candel*

M Basyuni, R Wati, N Sulistiyono, Sumardi, H Oku, S Baba and H Sagami.....82

Viability of lactic acid bacteria coated as synbiotic during storage and gastro-intestinal simulation

It Jamilah, Nunuk Priyani and Santa Lusiana Natalia.....88

Growth characteristics of mangrove seedling in silvofishery pond – the allometric relationship of height, diameter and leaf abundance

Endah Dwi Hastuti and Rini Budi Hastuti.....95

Exclusion of *pituitary homeobox 2* gene polymorphism in vertical mandibular asymmetry patients: a preliminary study

Ervina Sofyanti, Trelia Boel, Benny Soegiharto, Syafruddin Ilyas, Lidya Irani Nainggolan and Elza Ibrahim Auerkari.....102

Plagiochila (marchantiophyta) of mount sibayak north sumatra

Etti Sartina Siregar, Nunik S. Ariyanti and Sri S. Tjitrosoedirdjo.....110

Survey on aedes mosquito density and pattern distribution of *aedes aegypti* and *aedes albopictus* in high and low incidence districts in north sumatera province

Fazidah A Siregar and Tri Makmur.....121

Characterization of lactic acid bacteria from local cow's milk kefir

YS Ismail, C Yulvizar and B Mazhitov.....131

Influence of exercise on plasma ammonia and urea after ingestion beverages of carbohydrate electrolyte

Gusbakti Rusip, Sri Mukti Suhartini and Ang Boon Suen.....139

In vivo thermoterapy: attempt to eliminate virus in potato tuber

Ida Ayu Astarini, Deborah Margareth and I Gede Rai Maya Temaja.....146

Effect of incubation time of sago (metroxylon sago) waste by local microorganism "ginta" on ph, crude protein, and crude fiber content

Nurzainah Ginting and E Pase.....150

Community structure, phytoplankton density and physical-chemical factor of batang palangki waters of sijunjung regency, west sumatera

Gusmaweti and L. Deswati.....156

Selection of forages by timor deer (*cervus timorensis* blainville) in menjangan island, bali

I Ketut Ginantra, Ida Bagus Made Suaskara and I Ketut Muksin.....163

Development of extract library from indonesian biodiversity: exploration of antibacterial activity of mangrove *bruguiera cylindrica* leaf extracts

K A Audah, J Amsyir, F Almasyhur, A M Hapsari and H Sutanto.....174

Detection of *mecA* gene from methicillin resistant *staphylococcus aureus* isolates of north sumatera

Gabriella Septiani Nasution, Dwi Suryanto and R Lia Kusumawati.....182

Growth and root development of four mangrove seedlings under varying salinity

M Basyuni, D A Keliat, M U Lubis, N B Manalu, A Syuhada, R Wati and Yunasfi.....189

The influence of altitude of the place on the vegetative growth of several varieties of sugarcane (*saccharum officinarum* L.)

Lince R. Panataria and Ramli Lubis.....195

Dadih bamboo ampel (*bambusa vulgaris*) and bamboo gombong (*gigantochloa verticilata*) 2 and 3 days fermented : effect on salad dressing hedonic quality

Nurzainah Ginting.....202

Phytoplankton community as bioindicator of fertility in belawan river

Mayang Sari Yeanny.....208

Development of unidentified dna-specific hif 1 α gene of lizard (*hemidactylus platyurus*) which plays a role in tissue regeneration process

T Novianti, M Sadikin, S Widia, V Juniantito and E A Arida.....216

Phenotypic and molecular detection of ^{BLA}CTX-M gene extended-spectrum beta-lactamases in *escherichia coli* and *klebsiella pneumoniae* of north sumatera isolates

Mirzan Hasibuan, Dwi Suryanto and R Lia Kusumawati.....224

Production of litter and detritus related to the density of mangrove

Miswar Budi Mulya and HJ Arlen.....230

Effect of *lawsonia innermis* (linn) leaves ethanolic extract on blood glucose and malondialdehyde level in alloxan-induced diabetic rats

Mutiara Indah Sari, Syafruddin Ilyas, Tri Widyawati and Maya Anjelir Antika.....237

The addition of zeolite adsorbents and calcium oxide on purification of bioethanol from sugar palm (*arenga pinnata merr*)

Netti Herlina and Ici Siska Dewi Harahap.....244

The effect of paraquat inhalation on parkinsonism, organ morphology and anatomy of mice and its recovery with the application of *etliringea hemisphaerica* (blume, r.m. smith) crude extract

Choirul Muslim and Santi Nurul Kamila.....252

Molecular genetics of craniosynostosis

Caterine and Elza Ibrahim Auerkari.....261

Medicinal plants used in the treatment of diabetes in karo ethnic, north sumatra, indonesia

Barita Raja Nasution, T. Alief Aththorick and Suci Rahayu.....270

Genome sequence analysis of predicted polyprenol reductase gene from mangrove plant *kandelia obovata*

M Basyuni, H Sagami, S Baba and H Oku.....280

Traditional risk factors as determinants of heart rate recovery in patients with diabetes mellitus type 2 without known coronary artery disease

Sanny Silaban, A Afif Siregar, H Hasan and C Aryfa Andra.....287

In vivo test of bitter (*andrographis paniculata* nees.) extract to ejaculated sperm quality

R Sumarmin, NK Huda, E Yuniarti and Violita.....295

Antihyperglycemic and antihyperlipidemic effects of pirdot (*saurauia vulcani* korth.) leaves extract in mice

Salomo Hutahaean, Masitta Tanjung, Diah Puspita Sari and Vevy Elfia Ningsih.....300

The test about blood serum capabilities in maintaining the quality of bull spermatozoa during storage in cep diluent at refrigerator temperature

Nur Ducha.....307

Density and white shrimp growth pattern (*penaeus merguensis*) in kampung nipah waters of perbaungan north sumatera

Sri Natalia Silaen and Miswar Budi Mulya.....312

Cucumber plants (*cucumis sativus* L.) growth and crop yield of chicken manure fertilized with plant spacing

Sri Pratiwi Aritonang, Ernitha Panjaitan and Fetrus Parsaulian Tondang.....319

Characterization of protease from *bacillus* sp. on medium containing FeCl₃ exposed to magnetic field 0.2 mt

Sumardi, Rochmah Agustrina, Christina Nugroho Ekowati and Yovita Selvie Pasaribu.....330

Quantity and quality of guinea pig (*cavia porcellus*) spermatozoa after administration of methanol extract of bitter melon (*momordica charantia*) seed and depot medroxy progesterone acetate (DMPA)

Syafruddin Ilyas, Salomo Hutahaeen and Nursal.....342

Transforming growth factor expression (TGF- β) correlate with serum level of malondialdehyde (MDA) after EVOO administration in preclinical rat models of preeclampsia

Syafruddin Ilyas, Salomo Hutahaeen and dan Evi Irianti.....349

Antibacterial activity of cinnamon ethanol extract (*cinnamomum burmannii*) and its application as a mouthwash to inhibit *streptococcus* growth

Syahdiana Waty, Dwi Suryanto and Yurnaliza.....356

RAPD markers on genetic diversity in three populations of *pisifera* type of oil palm (*elaeis guineensis*)

M Basyuni, H Prayogi, L A P Putri, I Syahputra, E S Siregar, I Risnasari, R Wati and D Arifiyanto.....363

Species of leafy liverworts in protected forest of simancik 1, regency of deli serdang, north sumatera

Nursahara Pasaribu, Etti Sartina Siregar and Wardatur Rahmi.....368

Predicting size limit of wild blood python (*python brongersmai* stull, 1938) harvesting in north sumatera

Markus Mangantar Pardamean Sianturi, Erni Jumilawaty, Delvian and Adrian Hartanto.....372