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## INTRODUCTION

University Malaysia Sabah intends to increase the visibility of universities in global rankings. Through this eNewsletter, university's achievements, products and international activities at UMS distributed to all institutions, especially outside of Malaysia. Email of notification was sent to the institution on March 21, 2016. We also requested a suggestions regarding when and how this eNewsletter to be sent to the institution according to your needs.

## OBJECTIVE

The main objective of this eNewsletter is to create an alternative medium for displaying information about UMS.

- eNewsletter is a monthly publication throughout the year.
- eNewsletter contains three (3) segments,
  - the achievement of the university,
  - product of the university; and
  - university international seminar / conferences.

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## ACHIEVEMENT



## Breakthrough in Grouper Aquaculture at UMS

The Borneo Marine Research Institute (IPMB) of [Universiti Malaysia Sabah](#) (UMS) has successfully spawned naturally in captivity the Tiger Grouper x Giant Grouper (TGGG) brood stock (F1 Generation) for the first time, yielding high quality eggs and larvae (F2 generation of hybrid).

This is a journey of 10 years of sustained efforts on brood stock management and intensive research to develop the closed cycle TGGG.

According to the Director of IPMB, Professor Dr. Rossita Shapawi, the institute has progressed from the first-in-the-world production of hybrid of TGGG in 2006.

“The approach and technology developed at our fish hatchery has since been adopted across many grouper industries in Southeast Asia and contributed to the sustainability of seed production and hence economic viability of this enterprise.

“The hybrid has many attributes including fast

UMS ADMISSION

UNDERGRADUATE

POSTGRADUATE

PUBLICATION

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growth, higher resilience to environmental variations, better disease resistance and excellent organoleptic quality,” she said.

To date, 100 million eggs of F2 TGGG hybrid have been harvested from 5 batches of spawning at IPMB’s fish hatchery. The hatching rate of F2 hybrid TGGG is remarkably high ranging from 95% to 98%, reflecting a strong possibility of resilience that heterosis could have imparted.

“The survival rate is as high as 40% and all larvae and early juvenile of the F2 generation are taken care of and remain under intensive investigations,” she added.

IPMB is also in partnership with Kinki University, a leader in Japan in the aquaculture industry that will help to strengthen the grouper research and its commercialisation.

“I am please to invite the corporate sector to be partner in our economically viable aquaculture programmes,” Professor Dr. Rossita concluded.

– FL

By Feria Lee

Source: Flora Anne Asalin, Curator (IPMB)

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**PRODUCT**

## RESEARCH HIGHLIGHTS

### RESEARCHERS

Mohd. Afif Zakaria  
Bakhtiar Effendi Yahya  
Mahadimenakbar Mohd Dawood

### F/C/I/U

Institute for Tropical Biology  
and Conservation

### EMAIL

afif.maz@gmail.com,  
bakhtiar@ums.edu.my,  
menakbar@ums.edu.my

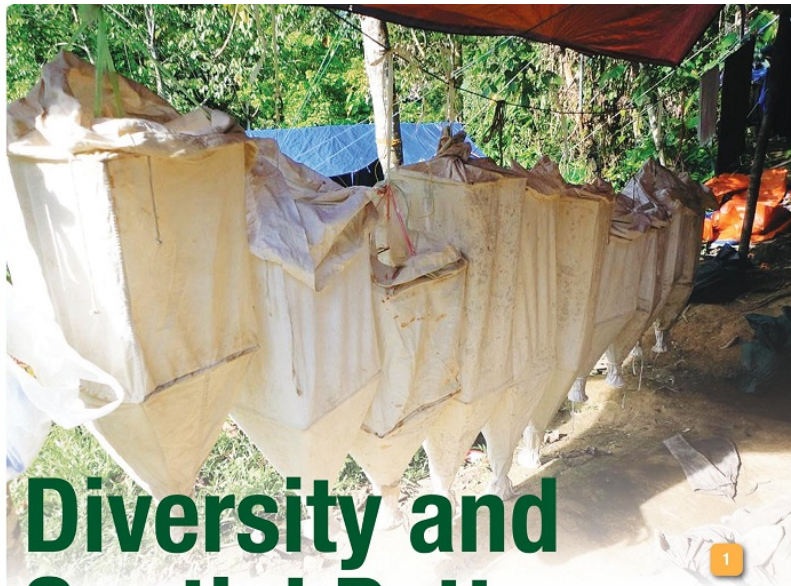
### GRANT CODE

FRG0302-STWN-1/2011

### GRANT PERIOD

FRG0302-STWN-1/2011

- 1 Winkler's extraction technique
- 2 Sampling point in logged forest site.



# Diversity and Spatial Pattern

## of ground-dwelling ants in different habitat types, in Kalabakan, Sabah

The conversion of natural forests often leads to serious damage such as forest fragmentation, forest degradation as well as loss of total habitat which eventually leads to significant loss of biodiversity. Ants can be good bio-indicators due to their abundance, diversity and sensitivity to environmental changes. Logging activities can alter the structure of ant communities where forest specialists are more abundant in undisturbed forest compared to disturbed forest. A study on ant species composition in different habitats was conducted in the Stability of Altered Forest Ecosystem (SAFE) experimental sites in Kalabakan Forest Reserve and its surrounding areas located in south central Sabah.

This study investigated (i) the difference in species richness and abundance of ant in different habitats, (ii) the effects of environmental variables on ant assemblages, (iii) species similarity between habitats and indicator species of each habitat and (iv) spatial distribution of ants across different habitat types. Ants were collected along 200m long line transects using the Ants of Leaf Litter (ALL) Protocol from old growth forest (OG), secondary forest (SF) and oil palm (OP) plantation areas. Environmental variables, namely forest quality, soil pH and temperature, low vegetation, canopy cover, humidity, abundance of liana, and leaf litter depth were collected. A total of 174 species of ants belonging to 64 genera in twelve subfamilies were recorded in this study. Species richness was significantly higher in OG (121 species) than in SF (105 species) and OP (70 species). Air temperature, canopy cover, abundance of low vegetation, and leaf litter depth influenced the ants' assemblage. Five ant species have been identified to be potential biological indicators for each of the studied habitats except in SF.

*Lophomyrmexbedoti* was identified to be potential indicator species for OP while *Strumigenysjuliae*, *Acropyga* sp.1 and *Carebara* sp.1 and *Ponera* sp.2 were identified to be potential indicator species for OG. The ants' spatial distribution in this study was not structured by the non-random pattern of species co-occurrence. Hence, preserving the old growth forest and secondary forest are indeed important since both habitats can still harbour a high number of ant species. In contrast, the oil palm plantation is not capable of serving as a refuge habitat for ground-dwelling forest ants.



## SEMINAR / CONFERENCE

2016 International Conference on Science and  
Technology Application in Climate Change  
9-12 August 2016



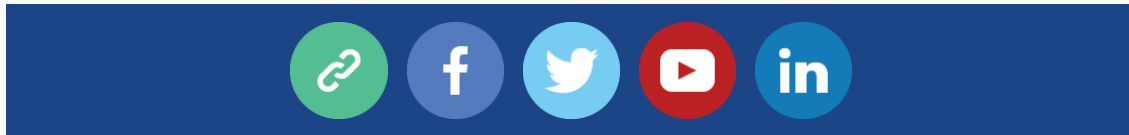
Kota Kinabalu, Sabah, Malaysia

10th INTERNATIONAL MALAYSIAN STUDIES CONFERENCE

15-17 August 2016

Universiti Malaysia Sabah,  
Kota Kinabalu, Sabah, Malaysia

THE 10<sup>th</sup> INTERNATIONAL  
MALAYSIAN  
STUDIES CONFERENCE (MSC10)  
GLOBALIZATION  
AND REGIONALISM:  
MALAYSIA IN ASEAN  
COMMUNITY BUILDING



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**Our mailing address is:**

Universiti Malaysia Sabah, Jalan UMS, 88400,  
Kota Kinabalu, Sabah

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