



Organizing Committee

Dr. Thomas von Rintelen (Museum für Naturkunde, Berlin)
 Dr. Evy Arida (Indonesian Institute of Sciences, Research Center for Biology, Bogor)
 Dr. Hendrik Freitag (Ateneo de Manila University, Manila)
 Dr. Lukas Rüber (Naturhistorisches Museum, Bern)
 Dr. Mirza Kusriani (Bogor Agricultural University)

Scientific Committee

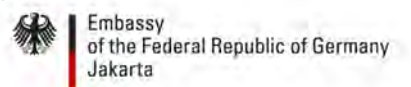
Dr. David Gower (Natural History Museum, London)
 Prof. Douglas Haffner (Great Lakes Research Institute, Windsor)
 Prof. Robert Hall (Royal Holloway, London)
 Dr. Kenneth Johnson (Natural History Museum, London)
 Dr. Alice Hughes (Xishuangbanna Tropical Botanical Garden)
 Prof. Djoko Iskandar (Bandung Institute of Technology)
 Prof. Peter Ng (National University of Singapore)
 Prof. James Russell (Brown University, Providence, RI)
 Prof. Ferry Slik (Xishuangbanna Tropical Botanical Garden)

Organized by



museum für
 naturkunde
 berlin

Sponsored by



www.sage2017.org



SAGE 2017

3rd Southeast Asian Gateway Evolution Meeting
 August 28-31, Bogor, Indonesia

SAGE 2017 Conference Program and Abstracts



Conference Program and Abstracts



1



Patterns of Biodiversity

Organizer: Dr. Hendrik Freitag

2



Natural History Stories

Organizer: Dr. Thomas von Rintelen

3



SE Asian Molluscs: Biodiversity, Biogeography, Ecology and Evolution

Organizers: Ayu Nurinsiyah & Dr. Liew Thor Seng

4



Biogeography and Evolution of Lepidoptera in South-East Asia - classic hypotheses and new insights

Organizers: Dr. Djunijanti Peggie & Dr. Christoph Häuser

5



Ancient Lakes - natural laboratories for integrated studies on geological and biological evolution

Organizers: Dr. Björn Stelbrink & Dr. Hendrik Vogel

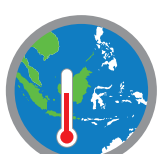
6



Biodiversity and Health

Organizers: Prof. Alexandra Muellner-Riehl, Dr. Jan Schnitzler & Prof. Ludger Wessjohann

7



Understanding the impact of the glacial maxima on the biogeography of Sundaland and insular SE Asia

Organizer: Dr. Alice Hughes

8



Hominin dispersal into Southeast Asia - Evidence, paleoecological framework and modelling

Organizer: Dr. Hanneke Meijer

Origins of the South East Asian Rainforest

Organizer: Dr. Robert Kooyman



9

How Natural and Human-mediated Species dispersals Shaped the Biogeography of Island Southeast Asia

Organizers: Dr. Laurent Frantz, Dr. James Haile & Prof. Greger Larsen



10

New Biomonitoring Techniques for SE Asia

Organizers: Dr. Catharina Karlsson & Prof. Rudolf Meier



11

Conservation Genetics of Fauna and Flora across the Southeast Asian Gateway

Organizer: Dr. Evy Arida



12

General session



G

How to proceed towards progress and sustainable cooperation in biodiversity research in Southeast Asia?

Organizer: Dr. Evy Arida



W

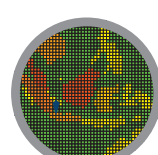
Biogeography Initiation of ASEAN Malacological Society - towards a better understanding of molluscan diversity in SE Asia

Organizers: Ristiyanti M. Marwoto & Prof. Aileen Tan Shau Hwai



Fundamentals of GIS for ecology, and species distribution modeling workshop

Instructor: Dr. Alice Hughes



SAGE 2017

**3rd Southeast Asian Gateway Evolution Meeting
August 28-31, Bogor, Indonesia**

Conference Program and Abstracts

Research Center for Biology, Indonesian Institute of Sciences

**Museum für Naturkunde –
Leibniz Institute for Research on Evolution and Biodiversity**





This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/>.



Publisher: Research Center for Biology, Indonesian Institute of Sciences

Editors: Evy Arida and Thomas von Rintelen

Design and layout: Andreas Wessel & Björn Stelbrink

Printed by CV. Media Aksara, Bogor (<http://www.mediaaksara.co.id>)

Contents

Welcome to SAGE 2017	5
Greetings from the host institutions	6
General Information	8
Instructions for Presenters	10
Special Events	11
Program Summary	12
Workshops	13
Detailed Program	14
Abstracts	23
List of Delegates	243
Author Index	252

Organizing Committee

Dr. Evy Arida

Indonesian Institute of Sciences, Cibinong, Indonesia

Dr. Thomas von Rintelen

Museum für Naturkunde – Leibniz Institute for Research on Evolution and Biodiversity, Berlin, Germany

Dr. Hendrik Freitag

Ateneo de Manila University, Quezon City, Philippines

Dr. Mirza Kusri

Bogor Agricultural University, Bogor, Indonesia

Prof. Dr. Rudolf Meier

Lee Kong Chian Natural History Museum, Singapore

Welcome to SAGE 2017

Dear delegate,

we warmly welcome you to the 3rd International conference on Southeast Asian Gateway Evolution (SAGE 2017) in Bogor. The meeting is finally being held in Southeast Asia and we hope that this will allow SE Asian researchers in particular to benefit from the only conference focussing on the evolution and conservation of the region's megadiverse fauna and flora. The diverse topics covered by the fifteen symposia and workshops of SAGE 2013 reflect both the interdisciplinary nature of this conference and internationality of research on the region. We believe that the continuation and expansion of collaborative, multilateral research is the only way forward to unite the resources and interests of SE Asian and Western scientists for understanding and ultimately preserving the region's unique biota.

We hope you will enjoy the meeting,
the SAGE 2017 Organizing Committee

Greetings from the host institutions

Lembaga Ilmu Pengetahuan Indonesia - Indonesian Institute of Sciences

The 3rd Southeast Asian Gateway Evolution conference (SAGE) is being held in Indonesia. The Indonesian Institute of Sciences (LIPI) is proud to host this meeting of life and earth scientists, who are to exchange their views on interdisciplinary topics, including the origin, diversification, and conservation of Southeast Asia's megadiverse fauna and flora with the background of the region's complex geology and climate history. In our view as a leading science and research institute in Indonesia, Southeast Asia is an important region with great diversity both in the marine and terrestrial ecosystems, especially in the Indo-Australian archipelago. One of the four missions of LIPI is to develop science-based knowledge applicable for nature conservation and sustainable use of natural resources. SAGE is very much in line with our mission as it offers an opportunity for scientists, students, and stakeholders from all around the world to share the latest results in science and to discuss potential new ideas in their fields of research within the scope of this rich region called Southeast Asia.

The Southeast Asian Gateway region contains numerous biogeographic boundaries and is interesting from a scientific perspective. Therefore, the scientific communities use the SAGE conferences to share scientific results, research ideas, and experiences working on the gateway. In addition, participants might wish to strengthen existing collaborations and initiate new networks through these meetings. I do believe that we should expect a continuation of SAGE in the future for the fruitful discussions and many other benefits from such a scientific meeting for the advancement of science itself as well as a sustainable development in our countries. Thus, I encourage participating scientists in SAGE 2017 to connect especially with those working in applied sciences, as it would help direct the applications of research results, for example in the field of conservation and sustainable use of biodiversity. With a spirit of cooperation, I wish you all a wonderful conference and a pleasant stay in Indonesia.

Bogor, August 2017



Prof. Dr. Enny Sudarmonowati
Deputy Chairman for Life Sciences
Indonesian Institute of Sciences (LIPI)

Museum für Naturkunde - Leibniz Institute for Evolution and Biodiversity Science

At Museum für Naturkunde Berlin, our mission is to study life and planet Earth, in dialogue and together with people. We are a partnership organization and with our friends and partners in Southeast Asia we want to work together on this timely and important quest: to discover and study the underexplored tropical megadiversity and beautiful nature in this region. This diversity evolved over tens of millions of years driven by a dramatically changing geology and global climate fluctuations. It provides a home for many species and many cultures. Today, it is under intense pressure from a growing human population and non-sustainable exploitation of natural resources. The survival of the rich SE Asian biota crucially depends on opening up the treasure trove for the full benefit of the region's people – scientists and people have to work together, deepening research and communicating results, engaging in societal discourse at every level. A full inventory of biodiversity is a necessary prerequisite; the global taxonomic community needs to do its homework and deliver the data that science and society need to understand the origin and evolution of SE Asia's flora and fauna. This, in turn, will allow a full assessment of the immense ecosystem services nature renders, and to unleash the potential for its sustainable development.

Southeast Asia is a focus region for biodiversity discovery of Museum für Naturkunde Berlin and together with many local and global partners we are establishing sustainable research networks that will open up technical expertise and global collection infrastructures to the region's highly motivated biodiversity researchers for a truly global and collaborative biodiversity science. The SAGE meetings provide an excellent forum for advancing this goal and Museum für Naturkunde is proud to have once again the opportunity to participate in the organization of this important conference.

Berlin, August 2017



Prof. Johannes Vogel, PhD
Director General

Museum für Naturkunde - Leibniz Institute for Evolution and Biodiversity Science

General Information

Venue and conference rooms

The meeting will take place in the **Salak Tower Hotel** (Jalan Salak No. 38-40). The conference rooms are located on the 5th and the 6th floor. Plenary sessions and one of the two parallel sessions of the meeting will be held in the *Himalaya 1-4* room on the 6th floor, the second parallel session will take place in the *Alpen 5* room on the 5th floor. Posters will be presented in the *Himalaya 5* room on the 6th floor.

Coffee and Tea Breaks

Hot and cold beverages and refreshments will be available during the morning and afternoon breaks outside the seminar rooms at the 5th and 6th floor.

Lunch and dinner

Lunch will be served in the *Skyview* Restaurant at the 7th floor. Lunch vouchers are included in the conference package.

Evening meals are only included for delegates staying at *Salak Tower Hotel* on the evenings from Monday, August 27, until Thursday, August 31, and will also be served in the *Skyview* Restaurant at the 7th floor. Dinner vouchers will be provided by the hotel when registering.

Conference Dinner (by reservation only)

All delegates that have opted for the conference dinner at the *de Leuit* restaurant (Sundanese food) will receive a personalized voucher with their conference package. Please bring this voucher with you to the conference dinner shuttle bus where it will be collected.

Internet Access

All delegates will receive a voucher with a WiFi access code with their conference package. Wireless internet access will be available throughout the meeting.

Security Issues

Bogor is a very safe place at all times. Thefts do occur, though, so please do not leave any valuables including mobile phones, laptops etc. unattended at any time.

Restaurants, Pubs and Bars

You will find a decent range of cafés and restaurants within walking distance of the conference venue. We have listed a few suggestions below including a few bars that are a bit further away but might be worth a visit. Tipping is not customary in Indonesia and there is no general smoking ban in restaurants.

Within easy walking distance of Salak Tower Hotel:

Coffee Time Restaurant and Cafe – Munti Bali Ceramics, Jalan Guntur No. 2, Babakan, Bogor Tengah

Roofpark Cafe Bogor – RAJA FO Bogor, 3rd Floor, Jalan Raya Pajajaran No.3, Babakan, Bogor Tengah

Hancock Resto & Cafe (alc. served) – Jalan Malabar 1 No. 7, Babakan, Bogor Tengah

Southeast of the Botanical Gardens (c. 25 mins on foot from Salak Tower Hotel):

Eatery and restaurants at **Botani Square Mall** – Jalan Raya Pajajaran No. 3A, Tegallega, Bogor Tengah; a big **supermarket** (*Giant*) is also situated at the mall

Further south (c. 40 mins on foot from Salak Tower Hotel - minibus recommended):

Two Stories (alc. served) – Jalan Pajajaran Indah V No.7, Baranangsiang, Bogor Timur

West of the Botanical Gardens (c. 35 mins on foot from Salak Tower Hotel - minibus recommended):

Salak Sunset Cafe (alc. served) – Jalan Paledang No. 38, Paledang, Bogor Tengah

Gumati Cafe and Restaurant – Jalan Paledang No. 26 & 28 Paledang, Bogor Tengah

Both places offer a nice view of Mt. Salak.

This is by no means a comprehensive list - please do also check out *TripAdvisor* or similar websites/apps. You may of course also approach the conference desk for advice on where to go and how to get there.

Places to see

We do not offer a dedicated program for accompanying persons, but Bogor and Jakarta offer quite a few sightseeing options for all tastes, not least the famous Botanical Gardens. Please take a look at the brochures included in your conference package for a first overview. You might also want to check out *TripAdvisor* or similar websites/apps.

Instructions for Presenters

Oral presentations

Time slots for regular talks will be 15 mins (12+3), keynote speakers will have 30 mins (25+5).

We would rather prefer if we could avoid switching between systems within a session, so we would request Mac users to please create a presentation that will run smoothly on a PC. The preferred file format for presentations is Microsoft Powerpoint, PDF presentations are also acceptable. Please contact the conference desk if you wish to check whether your presentation runs smoothly on our computers.

We will run two parallel sessions with oral presentations throughout the meeting and in order to permit people to smoothly switch between sessions, we must request you not to exceed the time slot allocated to your presentation. Session chairs will strictly enforce the time limit.

Please give us a copy of your presentation at the earliest possible time. Please contact the support staff in the seminar rooms for uploading your talk onto our computers. At the very latest, we must have it before 30 mins before the respective sessions

Posters

Posters must be in portrait orientation and should not exceed A0 format (c. 84x119 cm). The official poster presentation will take place on Tuesday, August 29. Please put up your poster at the earliest possible time, so that SAGE delegates will have a chance to see the posters before the poster session during the breaks on Monday and Tuesday.

Adhesive pads for fixing your poster onto the poster boards are available at the conference desk.

Just before the classical poster session, you will have the chance to highlight the core message of your poster in a 'Quickfire Poster Session'. If you have not yet done so, please prepare a single Powerpoint slide for presentation in one minute or less.

We will need your slide before 13.15 on Tuesday at the very latest.

Special Events

Icebreaker

Sunday, August 27, 15.00-18.00, Museum Zoologicum Bogoriense

The Museum Zoologicum Bogoriense (MZB) was founded in 1894 and is with more than 2 million objects in the scientific collection the largest collection of its kind in Southeast Asia. MZB is part of the Research Center for Biology of the Indonesian Institute of Sciences (LIPI). The collections were moved to the present facility at LIPI's Cibinong Science Center in 1997. Tours to the collections will be offered during the ice breaker.

Shuttle buses from Salak Tower Hotel will leave at 14.00.

Poster Session and Fingerfood

Tuesday, August 29, 18.30-20.00, Salak Tower Hotel (Room *Himalaya 5*, 6th floor)

Present your poster and take the chance to socialize while enjoying some Indonesian snacks. Beer can be purchased from the hotel.

Conference Dinner (by reservation only)

Thursday, August 31, 19.00-22.00, de Leuit restaurant, Jalan Pakuan 3, Bogor

We meet in front of Salak Tower Hotel at 18.15 – our shuttle bus departs at 18.30.

De Leuit is well known for its selection of traditional Sundanese (West Javan) dishes. A decent selection of non-alcoholic drinks is included, beer can be purchased from the restaurant.

Post-Conference Excursions

Friday, September 1

We are offering two post-conference excursions (Cibodas Botanical Garden and Thousand Islands) that will start from Salak Tower Hotel. For current information on these excursions please visit the SAGE website: www.sage2017.org/social-events.htm. If you pre-booked an excursion, please pay the fee directly to the tour operator, who will be present at the conference office throughout the meeting. Please do also approach the tour operator in case you decide to join a tour whilst attending the conference.

Sunday, August 27

15.00-18.00

ICEBREAKER

Monday, August 28

08.00-08.45

WELCOME

08.45-12.15

*Patterns of Biodiversity Symposium
Dispersal & Biogeography Symposium*

13.15-14.45

Collaborative research Workshop

14.45-17.45

*Patterns of Biodiversity Symposium
Biodiversity and Health Symposium***Tuesday, August 29**

08.00-12.15

*Patterns of Biodiversity Symposium
Impact of Glacial Maxima Symposium
Open Session*

13.15-17.30

*Patterns of Biodiversity Symposium
SE Asian Molluscs Symposium*

17.30-20.00

QUICKFIRE POSTER SESSION
POSTER SESSION**Wednesday, August 30**

08.00-12.15

*Hominin Dispersal Symposium
Biomonitoring Techniques Symposium
Patterns of Biodiversity Symposium*

13.15-17.00

*Ancient Lakes Symposium
SE Asian Molluscs Symposium*

17.00-18.30

ASEAN Molluscan Society Workshop

Thursday, August 31

8.00-12.15

*Conservation Genetics Symposium
SE Asian Lepidoptera Symposium
Open Session*

13.15-15.15

*Origin of SE Asian Rainforests Symposium
Open Session*

15.45-16.30

STUDENT AWARDS & CLOSING

18.30-22.00

CONFERENCE DINNER

Friday, September 1

07.00-18.00

EXCURSIONS

Workshops

For a more extensive description of the topics and aims of the workshops, please also see the conference website (<http://sage2017.org/symposia-and-workshops.htm>).

How to proceed towards progress and sustainable cooperation in biodiversity research in Southeast Asia?

Monday, August 28, 13.15-14.45, Himalaya 1-4 Conference Room, 6th floor

Organizer: Evy Arida

The workshop is a forum to exchange ideas, share knowledge, and learn best practices of collaborative research on biodiversity in Southeast Asia. A discussion on the matter should shed light on the technical difficulties of conducting research on biodiversity in Southeast Asia and on ways to improve the current state of research towards progress as well as a sustainable cooperation.

Initiation of ASEAN Malacological Society - towards a better understanding of molluscan diversity in SE Asia

Wednesday, August 30, 16.30-18.00, Alpen 4 Conference Room, 5th floor

Organizers: Ristiyanti M. Marwoto & Aileen Tan Shau Hwai

This workshop aims at initiating an ASEAN Malacological Society and regional malacologists as well as foreign researchers who are involved in research on molluscs in SE Asia are invited to in order to gather, discuss and get involved in moving forward respective studies. We hope that the initiation of this regional society will facilitate more intense research collaboration between different countries in South East Asia and beyond.

Fundamentals of GIS for ecology, and species distribution modeling workshop

September 4-8, Museum Zoologicum Bogoriense, Cibinong Science Center

Instructor: Alice Hughes

The workshop aims to train students in fundamental GIS tools and techniques, teach them how to design and implement studies that utilize GIS techniques, discuss the use of predictive modeling techniques to spatially project species distributions using various approaches, use predictive approaches to project species distributions under changing conditions, and use various approaches and spatial statistics to interpret and analyse the results.

Monday, August 28

Himalaya 1-4 Conference Room (6th floor)		
08.00	Opening of conference and welcome addresses Deputy Chairman for Life Sciences, Indonesian Institute of Sciences (LIPI), Prof. Dr. Enny Sudarmonowati Deputy Director General, Museum für Naturkunde, Dr. Christoph Häuser	
Plenary Session		
08.45	Three magic bullets	Peter Ng
09.15	Neogene palaeogeography of Sulawesi, Indonesia	Robert Hall
TEA & COFFEE BREAK		
Patterns of Biodiversity Symposium		
10.30	Why fresh is better? A fish-eye view	Tan Heok Hui
10.45	Patterns and processes of evolutionary diversification in snakeheads	Lukas Rüber
11.00	What can be learned from the DNA-based inventory of Sundaland fishes? A case study with the Javanese ichthyofauna	Nicolas Hubert
11.15	Biodiversity and food webs in artificial lakes in Singapore: novel assemblages in natural patterns	Darren Yeo (J.H. Liew)
11.30	Stranger in the house: invasive African sharptooth catfish have displaced native counterparts in the Malay Peninsula	Bi Wei Low
11.45	Molecular Evolution and historical biogeography of the Asian spiny eel (Synbranchiformes: Mastacembelidae)	Jamsari Jamaluddin*
12.00	Phylogeography of Bighead Catfish, <i>Clarias macrocephalus</i> populations from Peninsular Malaysia and Mekong River Basin based on mtDNA markers	Nazia Abdul Kadar
LUNCH		
Collaborative Research in SE Asia Workshop		
13.15	Research collaborations in Indonesia	Sadjuga
13.30	The SEABIO consortium for biodiversity research and the latest results from Thailand, Cambodia, and the Philippines	Hendrik Freitag
13.45	DISCUSSION	
Plenary Session		
14.45	Can the evolutionary history of plants help guide better healthcare, new leads, conservation, sustainable use and agriculture of medicinal plants?	Nina Rønsted
TEA & COFFEE BREAK		
Patterns of Biodiversity Symposium		
15.45		
16.00	Phylogenomography of the Green Crested Lizards (<i>Bronchocela</i>): with insights on spatial and temporal evolution	Perry L. Wood Jr
16.15	Variation in the file snake <i>Acrochordus</i> across (especially Southeast) Asia	David J. Gower
16.30	Distribution patterns of the amphibians and reptiles of Mindanao, Philippines	Marites Sanguila
16.45	Unravelling underestimated diversity within the genus <i>Macrocolamus</i> Günther, 1864 (Serpentes, Colubridae)	Evan S.H. Quah
17.00	Uncovering cryptic diversity – underestimated species numbers in puddle frogs (<i>Occidozyga</i> , Dicroglossidae, Anura)	Stefan T. Hertwig
17.15	Simultaneous studies in ecology and taxonomy: conservation efforts in data deficient habitats	André Jankowski*
17.30	Population and landscape genomics for species delimitation: an empirical example from Malaysian Torrent Frogs	Chan Kin Onn*

*Student presentation

TEA & COFFEE BREAK

Dispersal & Biogeography Symposium

10.30	Synchronous diversification of Sulawesi's iconic artiodactyls driven by recent geological events	Laurent Frantz
10.45	Lizards of the lost arcs: biotic persistence and marginalisation east of Wallace's Line	Paul Oliver
11.00	Phylogenomics of Melanesian Forest Frogs: Biogeography of a fringing Southeast Asian radiation	Scott L. Travers*
11.15	Testing biogeographic predictions derived from Quaternary island connectivity using genomic data from mammals in the southern Philippines	Karen Olson*
11.30	Orchid diversity and endemism, and active mountain building in insular southeast Asia	Stephen Kirby
11.45	Historical Biogeography and Diversification in Southeast Asia's Angle-headed lizards (Agamidae: <i>Gonocephalus</i>)	Luke J. Welton
12.00	Phylogenetic relationships and biogeographic range evolution in Cat Snakes <i>Boiga</i> (Serpentes: Colubridae)	Jeffrey L. Weinell*
12.15	LUNCH	

TEA & COFFEE BREAK

Biodiversity and Health Symposium

15.15		
15.45	Phylogenetic and spatial patterns of anti-infective compounds across the flora of Indonesia	Jan Schnitzler
16.00	Identification of natural products as anti-infective drug candidates using chemoinformatics and metabolomics	Ludger Wessjohann
16.15	Medicinal Properties of Indonesian Hoya	Sri Rahayu
16.30	Speeding up biodiversity discovery for the health sciences – The IndoBioSys project	Christoph Häuser
16.45	Evaluation of antimycobacterium activity from deep sea bacteria	Tutik Murniasih
17.00	Monitoring of marine heterobranch biodiversity in Indonesia – and its applied aspect	Heike Wägele

*Student presentation

Tuesday, August 29

Himalaya 1-4 Conference Room (6th floor)

Plenary Session

- | | | |
|-------|---|---------------|
| 08.00 | Flying lizard phylogenomics and Sulawesi biogeography | Jimmy McGuire |
| 08.30 | Augmenting the PAIC Paradigm: new ways to study evolutionary processes of diversification in a model island archipelago | Rafe Brown |

Patterns of Biodiversity Symposium

- | | | |
|-------|--|--------------------|
| 09.00 | Phylogeography of the Oriental Dwarf Kingfisher (<i>Ceyx erithaca</i>) using RADseq markers | Robert Moyle |
| 09.15 | Comparative phylogeography of three lizards of the genus <i>Eutropis</i> (Squamata: Scincidae) on Borneo | Benjamin R. Karin* |
| 09.30 | Improving geographic range estimates for island endemics | Susan M. Tsang |
| 09.45 | The diversity of illegally hunted wildlife from Rawa Aopa Watumohai National Park, Indonesia | Ikeu Sri Rejeki* |

TEA & COFFEE BREAK

- | | | |
|-------|---|----------------------------|
| 10.30 | From specimens to digital reference collections: A rapid and large-scale initiative to discover and present Singapore's biodiversity online | Yuchen Ang |
| 10.45 | Diversification, plant-disperser interactions, Wallace's Line and the biogeography of the rainforest tree genus <i>Aglaja</i> (Meliaceae) | Caroline Pannell |
| 11.00 | What shapes tropical trees diversity? Specific and common factors driving diversity gradient in oaks | Damien D. Hinsinger |
| 11.15 | Taxonomy of foliose and fruticose lichens in Mt. Data, Mountain Province, Philippines | Shenly M. Gazo (L.C. Uy) |
| 11.30 | Molecular phylogeny of pantropical <i>Panus</i> sensu stricto (Polyporaceae, Basidiomycota) | Jaya Seelan Sathiya Seelan |
| 11.45 | Molecular phylogeny of wild dimittic <i>Pleurotus</i> of Southeast Asia | Foo She Fui* |
| 12.00 | Phylogeography of two red algae in the Indo-Pacific transition zone | Stefano Draisma |

LUNCH

Plenary Session

- | | | |
|-------|---|--------------|
| 13.15 | Biogeography of the mainland Southeast Asian tree snail genus <i>Amphidromus</i> and some genera of the ariophantid ground snails | Somsak Panha |
|-------|---|--------------|

Patterns of Biodiversity Symposium

- | | | |
|-------|--|------------------------|
| 13.45 | Accelerating the diet profile generation of assassin bugs (Heteroptera: Reduviidae) with next-generation sequencing of DNA meta-barcodes | Wei Song Hwang |
| 14.00 | Assignment of developmental stages of genus <i>Sparsorythus</i> (Insecta, Ephemeroptera, Tricorythidae) using mtDNA sequences | Jhoana M. Garcés* |
| 14.15 | Very common, but generally neglected: minute marsh-loving beetles (Coleoptera: Limnichidae) of the Philippines – An update of diversity and distribution | Emmanuel D. Delocado* |
| 14.30 | <i>Aretidris</i> : a new genus of ants from the mountains of Luzon Island, Philippines | David Emmanuel General |
| 14.45 | First Anthicidae from Timor (Insecta: Coleoptera), and biogeographic patterns of the Papuan Anthicidae | Dmitry Telnov |
| 15.00 | Phylogeny and island biogeography of leaf beetle in the biodiversity hotspot of Sabah, Borneo | Kam-Cheng Yeong* |

TEA & COFFEE BREAK

- | | | |
|-------|--|------------------|
| 15.45 | Parade of little vampires: Streblidae (Diptera: Hippoboscoidea) fauna of the Philippines | Ace Kevin Amarga |
| 16.00 | The biogeography of Australasian arachnids: what do we know? | Daniilo Harms |
| 16.15 | Systematic analysis on scolopendromorph centipedes in Southeast Asia | Warut Siriwut |
| 16.30 | Philometrid Nematodes (Nematoda: Philometridae) from Balinese Waters | Kartika Dewi |
| 16.45 | Echinoderms of Maluku (Indonesia): An Inventory and Research History Review | Ana Setyastuti |

Plenary Session

- | | | |
|-------|--|-----------------------|
| 17.00 | QUICKFIRE POSTER SESSION | |
| 18.00 | POSTER SESSION (Himalaya 5 Conference Room, 6 th floor) | *Student presentation |

General Session

09.00	Biodiversity enrichment experiment in oil palm plantations (Sumatra, Indonesia)	Clara Zemp
09.15	Macroinvertebrate communities: structural indicators for assessing efficacy of different riparian buffer types in oil palm plantations in Malaysian Borneo	Darshanaa Chellaiah*
09.30	IPBES activities with special reference to the pollination assessment	Martin Wiemers (J. Settele)
09.45	Geoconservation and geotourism as implemented in Indonesia's geoparks	Heryadi Rachmat

TEA & COFFEE BREAK

Impact of Glacial Maxima Symposium

10.30	Biodiversity in a changing landscape; the impact of glaciation on the current biodiversity patterns of Southeast Asia	Alice C. Hughes
11.00	Paleoendemism and genetic uniformity across 25 different clades of amphibians and reptiles in the sky-island archipelago of Peninsular Malaysia	Lee Grismer
11.15	The impact of Quaternary sea level change on vertebrate gene flow across Sundaic landmasses	Frank E Rheindt
11.30	Do paleo-drainage systems in Sumatra play a role in amphibian diversification?	Umlaela Arifin*
11.45	Phylogeography of <i>Macaranga</i> pioneer trees in Sundaland: indications for limited migration and restricted gene flow across the Sunda shelf	Daniela Guicking
12.00	Fossilized orang-utan (<i>Pongo</i>) teeth indicate tropical rain forest have existed since Early Pleistocene in Sangiran Central Java, Indonesia	Johan Arif

LUNCH

SE Asian Molluscs Symposium

13.45	Land snails crossing supposed biogeographical borders – Biogeographical patterns of terrestrial molluscs across the Indo-Australian Archipelago	Bernhard Hausdorf
14.00	Hidden diversity - biogeographic pattern, endemism and phylogeny of the Wallacean and Papuan Diplommatinidae (Gastropoda)	Kristine Greke
14.15	Phylogeny and biogeography of the Philippine Helicostyliinae (Gastropoda: Eupulmonata)	Gizelle Batolomaque*
14.30	Incongruence between morphology and molecular phylogeny of <i>Dolichulota</i> spp. of Taiwan	Chih-Wei Huang
14.45	Molecular Phylogenetics of the endemic land snail genus <i>Everettia</i> : Implications for the evolutionary history of Northern Borneo	Thor-Seng Liew
15.00	Biodiversity of micro land snails in the northeastern slope of Mount Makiling, Philippines	Brooklyn Bernadett Uy*
15.15	TEA & COFFEE BREAK	
15.45	Using fine-scale land snail biogeography to improve tropical karst conservation planning in Peninsular Malaysia	Junn Kitt Foon*
16.00	Land snail community in a marble quarried land in Besole village, Tulungagung, East Java	Hatta Fauzia
16.15	Predicting the distribution of two invasive land snail species <i>Lissachatina fulica</i> and <i>Bradybaena similaris</i> as a precaution alert for conservation area managers in Java	Ayu Nurisriyah*
16.30	Effects of island's area, isolation and elevation on species richness and composition: A case study on land snails from west coast islands of Sabah.	Chee-Chean Phung*
16.45	Diversity and distribution patterns of land snails in Pamitanan Protected Landscape, Rizal, Philippines	Emmanuel Ryan de Chavez

*Student presentation

Wednesday, August 30

Himalaya 1-4 Conference Room (6th floor)		
Plenary Session		
08.00	Mammal fossils as palaeoenvironmental indicators	Julien Louys
08.30	New Biodiversity Monitoring techniques: Where is technology taking us and how can we utilize it?	Rudolf Meier et al.
Patterns of Biodiversity Symposium		
09.00	Species diversity and phylogeography of the atyid freshwater shrimp <i>Caridina</i> of Sulawesi, Indonesia	Thomas von Rintelen
09.15	Freshwater prawns of the genus <i>Macrobrachium</i> (Crustacea: Caridea: Palaemonidae) from Manokwari and adjacent area, Papua Barat Province, Indonesia	Daisy Wowor
09.30	Spatial patterns of Southeast Asian freshwater crabs: assessing vulnerability to invasive alien species and climate change	Zeng Yiwen
09.45	Biogeography of the semi-aquatic earthworms <i>Glyphidrilus</i> Horst, 1889 (Oligochaeta, Almidae) in Southeast Asia	Parin Jirapatrasilp*
TEA & COFFEE BREAK		
Hominin Dispersal Symposium		
10.30	Geological and paleontological aspects of Semedo archaeological site, Central Java, Indonesia	Sukiato Khurniawan*
10.45	Palaeoenvironment surrounding the Early to Middle Pleistocene hominins of Java, Indonesia, based on tooth enamel stable isotope analysis of fossil Proboscidea	Mika Puspaningrum
11.00	The fossil terrestrial fauna record of Sulawesi and hominin colonization	Gerrit van den Bergh
11.15	Did <i>Homo sapiens</i> cause the extinction of <i>Panthera pardus</i> in Sumatra? Modelling competition within a Late Pleistocene carnivore guild on Sumatra	Rebekka Volmer
11.30	Stable isotopes in Holocene and Pleistocene fossil faunas reflect the glacial and interglacial paleoenvironments of hominins in Sundaland	Renée Janssen
11.45	Beyond the horizon: The predictive power of palaeoecology and dispersal of insular dwarf proboscideans in models on the dispersal of hominins into Wallacea	Alexandra van der Geer
12.00	Using intervisibility and least-cost pathways to constrain models of human colonisation through Wallacea	Shimona Kealy*
12.15	LUNCH	
Plenary Session		
13.15	Integrating the geological and biological evolution of SE Asia's largest ancient lake: Results from the Lake Towuti Drilling Project	James Russell
Ancient Lakes Symposium		
13.45	Lacustrine species flocks in the ancient lakes of Sulawesi: species diversity, phylogeny and evolution	Thomas von Rintelen
14.00	Linking depositional processes with biological evolution in ancient Lake Towuti, Sulawesi	Hendrik Vogel
14.15	Microbial ecology in the ancient Malili Lakes, Indonesia	Sean Crowe
14.30	Using DNA to examine the deep biosphere and reconstruct paleoecology in Lake Towuti	Rachel Simister
14.45	A 600,000 year record of vegetation, fire and biodiversity from Lake Towuti, Sulawesi	Janelle Stevenson
15.00		
TEA & COFFEE BREAK		
15.45	Population structures of adrianchthyids in the Malili Lakes system	Kazunori Yamahira
16.00	Radula transcriptomes shed light on molluscan key innovations and trophic diversification of <i>Tylomelania</i>	Leon Hilgers*
16.15	Lake Lanao – a forgotten ancient lake(?)	Björn Stelbrink

*Student presentation

Biomonitoring Techniques Symposium

- | | | |
|-------|--|---------------------------------|
| 09.00 | Using unmanned aerial vehicle (UAV) technology in mapping Orang-utan areas | Aini Hasanah binti Abd Mutalib* |
| 09.15 | High congruence between morphology and DNA barcodes allows for rapid species identification in megadiverse Dolichopodidae (Insecta: Diptera) | Patrick Grootaert |
| 09.30 | Can blowfly-derived DNA complement camera trapping in assessing mammal diversity in tropical forests? | Gopalasamy Reuben Clements |
| 09.45 | Rapid characterization of natural history of Southeast Asian mammals using fecal metagenomics | Amrita Srivathsan |
| 10.00 | TEA & COFFEE BREAK | |
| 10.30 | A pathway to recovery: Sumatran tiger population in an 'in danger' UNESCO World Heritage Site | Wulan Pusparini |
| 10.45 | Biomonitoring of Singapore waters with NGS barcodes: Species-level resolution for non-biting midges (Diptera: Chironomidae) and implications for conservation | Bilgenur Baloglu* |
| 11.00 | A DNA based approach to biomonitoring of reservoirs and streams | Sujatha Narayanan Kutty |
| 11.15 | Next-generation freshwater bioassessment: eDNA metabarcoding reveal metazoan biodiversity and reservoir-specific communities in tropical freshwater ecosystems | Rebecca K., Loh* |
| 11.30 | Call characteristics of the Mindanao Island river toads, genus <i>Ansonia</i> (Amphibia: Anura: Bufonidae) species complex in the Philippines | Nelieta B. Arnejo Bedoya |
| 11.45 | Looking at Soundscapes: Using acoustic indices and visualisation to monitor species activity | Karlina Indraswari* |

12.15 LUNCH

SE Asian Molluscs Symposium

- | | | |
|-------|---|------------------------|
| 13.45 | Diversity and abundance of Bivalvia (Phylum Mollusca) in mangrove area of Setiu Wetlands, Malaysia | Nurulaffah Yahya* |
| 14.00 | Phylogeny and geometric morphometric of <i>Conradens conradens</i> (Bivalvia: Unionidae) in Thailand | Ekgachai Jeratthitikul |
| 14.15 | Diversity and distribution of marine macromolluscs from continental shelf of Sarawak, Malaysian Borneo | Wan Zabidii Wan Morni* |
| 14.30 | Biogeography of heterobranch (Mollusca: Gastropoda) sea slugs in south-eastern Australia | Matthew Nimbs* |
| 14.45 | Biodiversity of Gastropoda in intertidal zones of East Coast, Peninsular Malaysia | Nursalwa Baharuddin |
| 15.00 | First extensive survey of heterobranch sea slugs (Mollusca, Gastropoda, Heterobranchia) from Bunaken National Park, with emphasis around Bunaken Island | Fontje Kaligis |
| 15.15 | TEA & COFFEE BREAK | |
| 15.45 | Understanding the roles of climate and geography in governing 'into India' dispersal of freshwater snail family Viviparidae | Maitreya Sil* |
| 16.00 | Cryptic Diversity: Identifying two morphologically similar species of invasive apple snails in Peninsular Malaysia | Suganiya Rama Rao* |
| 16.15 | Cracking hard shells: using evolutionary systematics to delineate Thai freshwater gastropods | Benedikt Wiggering* |
| 16.30 | Diversity and distribution of freshwater apple snails (Ampullariidae) in Thailand | Ting Hui Ng |

ASEAN Molluscan Society Workshop

Expected duration: 1.5h (until 18.30)

*Student presentation

Thursday, August 31

Himalaya 1-4 Conference Room (6th floor)		
08.00	Why genetics: policy and capacity gaps to conserve biodiversity in Indonesia	Noviar Andayani
08.30	Gateway, cradle or relic – an integrated approach to butterfly diversity in Southeast Asia	Rienk de Jong
Conservation Genetics Symposium		
09.00	Population genomics of the mountain tree shrew (<i>Tupaia montana</i>) in the sky islands of Borneo	Lillian Parker*
09.15	Patchiness of distribution of mangrove insects imposes protection of multiple sites to maintain insect diversity	Patrick Grootaert
09.30	Preliminary studies on the genetic variation of the Malayan pangolin as inferred by cytochrome b gene	Chong Ju Lian
09.45	Applying DNA molecules for conservation: Species identification of Indonesian monitor lizards using DNA barcodes	Evy Arida
TEA & COFFEE BREAK		
General session		
10.30	Forest-fire- monsoon feedbacks: A ~5000-year record from mainland south-east Asia	Rebecca Hamilton
10.45	Temporal rainfall patterns and geomorphic dynamics of tropical peat domes	Alex Cobb
11.00	Maintenance of biodiversity in domed peat swamp forests: the role of forest disturbance and tip-up pools	René Dommain
11.15	Ethnobotany and biodiversity conservation among the indigenous people of Butuan City, Philippines	Evelyn Bigcas (Marie Clarie T. Taguic)
11.30	Alien amphibians, a threat to Philippine biosecurity: pest risk mapping of invasive alien frogs in the Philippines	Arman Pili*
11.45	Correlates of Land Cover Changes in Lake Lanao-Agus River Basin	Danilo Mero
12.00	The Gondwanan green algae <i>Tasmanites</i> sp. In the Permian lacustrine deposits of West Timor	Eko Budi Lelono
12.15	LUNCH	
Plenary Session		
13.15	Assembly of the Southeast Asian flora in relation to tectonic and climate change	Robert Morley
Origin of SE Asian Rainforests Symposium		
13.45	Palaeo-Antarctic plant lineages in rainforests of Australasia and Southeast Asia: diversity, abundance and ecology	Robert Kooyman
14.00	Patagonia to Kinabalu: plant fossils show significant West Gondwanan legacy in SE Asian rainforests	Peter Wilf
14.15	Origins of the northern Australian flora: Role of the Sunda-Sahul Floristic Exchange	Elizabeth Joyce*
14.30	Genomic diversity and phylogeography of Sino-Australasian Lauraceae	Joeri Strijk
14.45	Historical biogeography of <i>Elaeocarpus</i> (Elaeocarpaceae): origins and radiation in Sahul and beyond	Sook-Ngho Phoon
15.00	Filters of floristic exchange: how traits and climate shaped the invasion of Sahul from Sunda	Sam Yap
TEA & COFFEE BREAK		
BESTOWAL OF STUDENT PRESENTATION AWARDS		
15.45	Closing of conference	
16.00		
18.30	CONFERENCE DINNER - de Leuit restaurant	

*Student presentation

Thursday, August 31

Alpen 4 Conference Room (5th floor)

SE Asian Lepidoptera Symposium

- | | | |
|-------|---|------------------|
| 09.00 | Towards a global information system for SE Asian butterflies | Eulalia Gasso |
| 09.15 | The need for better mechanisms for data integration – Indonesian Swallowtails as a case study (Lepidoptera: Papilionidae) | Christoph Häuser |
| 09.30 | Adaptive radiation of Batesian mimetic butterflies in the Indo-Australian Archipelago | David J. Lohman |
| 09.45 | Allopatry, reproductive isolation and systematics: defining species in the biogeographically complex Indo-Australian Region | Jahnvi Joshi |
| 10.00 | TEA & COFFEE BREAK | |
| 10.30 | The Microlepidoptera of Java with special emphasis on the fauna of the Mt. Halimun-Salak National Park | Wolfram Mey |
| 10.45 | Butterfly diversity and their conservation effort at protected forest of southern Malang, East Java, Indonesia | Imti Yazil Wafa |
| 11.00 | Distribution of Trogonoptera brookiana in Peninsular Malaysia – past and present | Chooi-Khim Phon* |

Natural History Stories Session

Talks are 5 minutes each

- | | | |
|-------|--|---------------------|
| 11.30 | Two New species of <i>Gyrinops</i> (Thymelaeaceae) from North Celebes, Indonesia | Tri Mulyaningsih |
| | Unusual distribution pattern of the intertidal barnacle <i>Amphibalanus zhujiangensis</i> : An invasive species, Asian or Australian Origin? | Romanus Edy Prabowo |
| | Surprise in Metro Manila – a new species discovery from a megacity | Hendrik Freitag |
| | Acrobatic mating behaviour in dung flies | Gowri Rajaratnam |

12.15 LUNCH

General Session

- | | | |
|-------|---|----------------------------|
| 13.45 | Are rehabilitated orangutans less exposed to infection by gastrointestinal parasites compared to wild orangutans? | Salhiza Akmar Kamaruzaman* |
| 14.00 | Motivational factor of zoo workers on captive organutan by in-depth interview | Zainol M. Zaki |

15.15 TEA & COFFEE BREAK

*Student presentation

SAGE 2017

**3rd Southeast Asian Gateway Evolution Meeting
August 28-31, Bogor, Indonesia**

Abstracts

The Ecology of padang sapu-sapu, North Bangka

1	S
2	
3	
4	M
5	
6	P
7	
8	O
9	
10	S
11	
12	I
G	
W	U
	M

Eddy Nurtjahya

Universitas Bangka Belitung, Indonesia

The padang sapu-sapu ecosystem, which was reported as a degraded heath forest, has specific characteristics. In Bangka and Belitung province, it is located near the beach, in the sandy and low nutrient soil. This report is a review of some studies conducted in North Bangka, which is suggested to have the largest padang sapu-sapu in the province. This ecosystem is dominated by sapu-sapu (*Baeckea frutescens* L., Myrtaceae) - a small tree of less than 6 m height -, *Melaleuca cajuputi* Roxb., and *Syzygium bankense* (Hassk.) Merr & Perry. The sapu-sapu epidermal layer was the thickest among the three dominant species. The Shannon-Wiener index of surface fauna was 2.06 – 2.34 with 40 species belonging to Entomobryidae, Sminthuridae, and Gryllidae. The surface soil was dominated by predatory insects, in contrast to decomposers which were dominant in the nearby forest. There were 38 species of 12 families of Collembola in the ecosystem with *Pararhopalites* sp.1, *Acrocyrthus* sp.3, and *Lepidosira* sp.1 as potential bioindicators. The report recorded five families of Lepidoptera, and Geometridae was found to be the dominant family. The highest average number of phosphate solubilizing bacteria colonies at 0-10 cm was 16.8×10^5 cell g^{-1} of which *Pseudomonas* sp.1 showed the highest phosphate solubilizing index.

Cobb, Alex	Singapore-MIT Alliance for Research and Technology, Singapore	alex.cobb@smart.mit.edu
Coolen, Marco	Curtin University, Bentley, Australia	Marco.Coolen@curtin.edu.au
Crayn, Darren	Australian Tropical Herbarium, James Cook University, Smithfield, Australia	darren.crayn@jcu.edu.au
Crowe, Sean	Sean Crowe, Vancouver, Canada	sean.crowe@ubc.ca
de Chavez, Emmanuel Ryan	University of the Philippines Los Baños, Philippines	radixquad@yahoo.com
de Jong, Rienk	Naturalis Biodiversity Center, Leiden, Netherlands	rienk.dejong@naturalis.nl
Dechruksa, Wivitchuta	Silpakorn University, Mueang, Thailand	wivitcuta@gmail.com
Delocado, Emmanuel	Ateneo de Manila University, Quezon City, Philippines	edelocado@ateneo.edu
Dewi, Kartika	RC. Biology-LIPI, Cibinong, Indonesia	kartika_mzb@yahoo.co.id
Diesmos, Mae Lowe	University of Santo Tomas, Manila, Philippines	maediesmos@gmail.com
Docot, Rudolph Valentino	University of Santo Tomas, Makati City, Philippines	dukerudolph@gmail.com
Dommain, René	University of Potsdam, Germany	rene.dommain@gmx.de
Draisma, Stefano	Excellence Center for Biodiversity of Peninsular Thailand, Hat Yai, Thailand	sgadraisma@yahoo.com
Dumrongrojwattana, Pongrat	Department of Biology, Faculty of Science, Burapha University, Chonburi, Thailand	oldsnails@hotmail.com
Dwijaya, Bayu Awifan	Jenderal Soedirman University, Bekasi, Indonesia	bayu.goldha@gmail.com
Ebrahim, Mohammad Imran	Universiti Malaysia Sabah, Kota Kinabalu, Malaysia	mran930801@gmail.com
Fan, Qiang	Sun Yat-Sen University, Guangzhou, China	fanqiang@mail.sysu.edu.cn
Fardiansah, Riko	Jambi University, Jambi, Indonesia	fleurico379@gmail.com
Fauzia, Hatta	Universitas Negeri Malang, Indonesia	hatta_fauzia@yahoo.de
Foo, She Fui	Institute Tropical Biology and Conservation, Kota Kinabalu, Malaysia	rainea_92@hotmail.com
Foon, Junn	Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah, Kota Kinabalu, Malaysia	jkfoon.research@gmail.com
Frantz, Laurent	Queen Mary University London, London, United Kingdom	laurent.frantz@gmail.com
Freitag, Hendrik	Ateneo de Manila University, Quezon City, Philippines	hfreitag@ateneo.edu
Galan, Gloria	Central Mindanao University, Maramag, Philippines	glorialonopgalan2013@gmail.com

Dwijaya	62	Glos	99	Hertler	221
Dwiyanto	31	Gonzales	58	Hertzner	213, 225
		Gower	73	Hibbett	189, 190
Ebrahim	63	Grand	189	Hilgers	86
Edgecombe	199	Greke	74	Hin	140
Ediza	186	Griffin	166	Hinsinger	87, 205
Eisenbarth	105, 213, 225	Grismer, J	45	Ho	66
Enghoff	201	Grismer, L	45, 75, 174, 227,	Hofreiter	86
Eri	49		231	Hölscher	239
Esselstyn	80	Grootaert	44, 76, 158	Holtum	104
Evin	66	Grudinski	88	Hölzchen	221
		Grudpan	98	Holzmeyer	88, 89, 188, 228
Fahri	31	Grün	216	Hou	118
Fauzia	64	Guicking	77	Hovenkamp	108
Fauziah	152			Hoyt	49
Feng-Yi	177	Haas	35, 85, 99	Hua	79
Ferreras	221	Hadi	142	Huang, CW	90
Fiala	77	Hadiaty	91	Huang, G	148
Fisch	213, 225	Hafiz	195	Hubert	91
Flury	85	Haji Su'ut	49	Hughes	92
Fobofou	228	Hall	66, 78, 113	Hundeshagen	77
Foo, M	30, 76	Hallam	51, 197	Hutama	91
Foo, SF	190	Hamidy	73	Hwang	93
Foon	65	Hamilton	50, 79, 204		
Franke	188, 228	Hampe	100	Idris	233
Frantz	66	Handika	80	Ijong	213, 225
Freitag	55, 67, 68, 69,	Hanner	91	Indraswari	94
	70, 129, 184	Harms	81	Inkhavilay	159
Friese	197	Hartmann	86	Inmadon	96
		Harun	140, 192	Irawan	239
Gabriel	61	Harvey	49	Iskandar	35, 99
Galbusera	66	Harvey	49, 60	Isnaningsih	95, 130
Gan	119	Hassan, M	48	Ivory	204
Gandois	49	Hassan, R	137		
Garces	69, 70	Hauenschild	88	Jackman	107
Gassó	71	Hausdorf	82, 151, 152	Jacob	34
Gazis	189	Häuser	83, 84	Jaihan	96
Gazo	215	Hawkins	162	Jainih	97
General	72	Helgen	162	Jamaluddin	98
Glass	51	Henny	51	Jamsari	77
Glaubrecht	218, 229	Herder	222	Jamsari, FH	25