
GEOSS AP symposium
24-26 October 2018, Kyoto, Japan
New ideas for a new work plan of AP BON
Tetsukazu Yahara, Sheila Vergara and Eun-Shik Kim

CBD COP10 (2010, Aichi)

Life in harmony, into the future

United Nations Decade on Biodiversity

History of AP-BON and Other Network Activities

Year	GEOSS AP Symposia	GEO BON	AP BON Meetings	National BONs	CBD COPs	IPBES
2009	3rd GEOSS AP (Kyoto, February)		1st AP BON (July, Japan) 2nd AP BON (December, Japan)	Japan BON (May)		
2010	4th GEOSS AP (a session, Bali, March)	GEO BON Meeting (February, USA)	3rd AP BON (CBD COP10 Preconference, March, Japan)		COP10 (Japan, Side-event)	
2011			4th AP BON (December, Japan)			
2012	5th GEOSS AP (Tokyo, April)	GEO BON Meeting (December, USA)	WCC of IUCN (September, Korea)	Korea BON, Nepal BON, Bangladesh BON	COP11 (India, Side-event)	
2013	6th GEOSS AP (Ahmedabad, February)		5th AP BON (November, ACB, Philippines)	Philippines BON		Plenary-1
2014	7th GEOSS AP (Tokyo, May)	IC and AB (June, Germany)	6th AP BON (October, NIBR Korea)		COP12 (Korea, Side-event)	Plenary-2
2015	8th GEOSS AP (Beijing, September)	IC and AB (June, Germany)		Sino BON, Indonesia BON		Plenary-3
2016	2016-2025 A New GEO Strategy Plan Initiated	All-Hands Meeting (July, Germany)	7th AP BON (ACB, Thailand) 8th AP BON (Taipei, Taiwan)	WCC of IUCN (September, USA)	COP13 (Mexico)	Plenary-4
2017	9th GEOSS AP (Tokyo, January) , 10th GEOSS AP (Hanoi, September)	IC and AB (July, Germany)				Plenary-5
2018	11th GEOSS AP (October, Kyoto)	All-Hands Meeting (July, Beijing)	9th AP BON (Bangkok, February), 10th AP BON (Kuching, July)		COP14 (Egypt)	Plenary-6
2019						Plenary-7
2020					COP15 (China)	Plenary-8

New work plan to 2021

Current scheme of AP BON

GEOBON/ GEO | CBD | IPBES | ILTER | GBIF | IUCN | ATBC | SDGs/ Future Earth

Networking/Fascillitating

JULY 1 - 5, 2018
KUCHING, SARAWAK
MALAYSIA

APBON/ GEOSSAP/ AOGEOSS

ACB | AP regional assessment | ILTER EAP | GBIF Asia | IUCN Asia Office | ATBC Asia Chapter | Future Earth Asia Centre

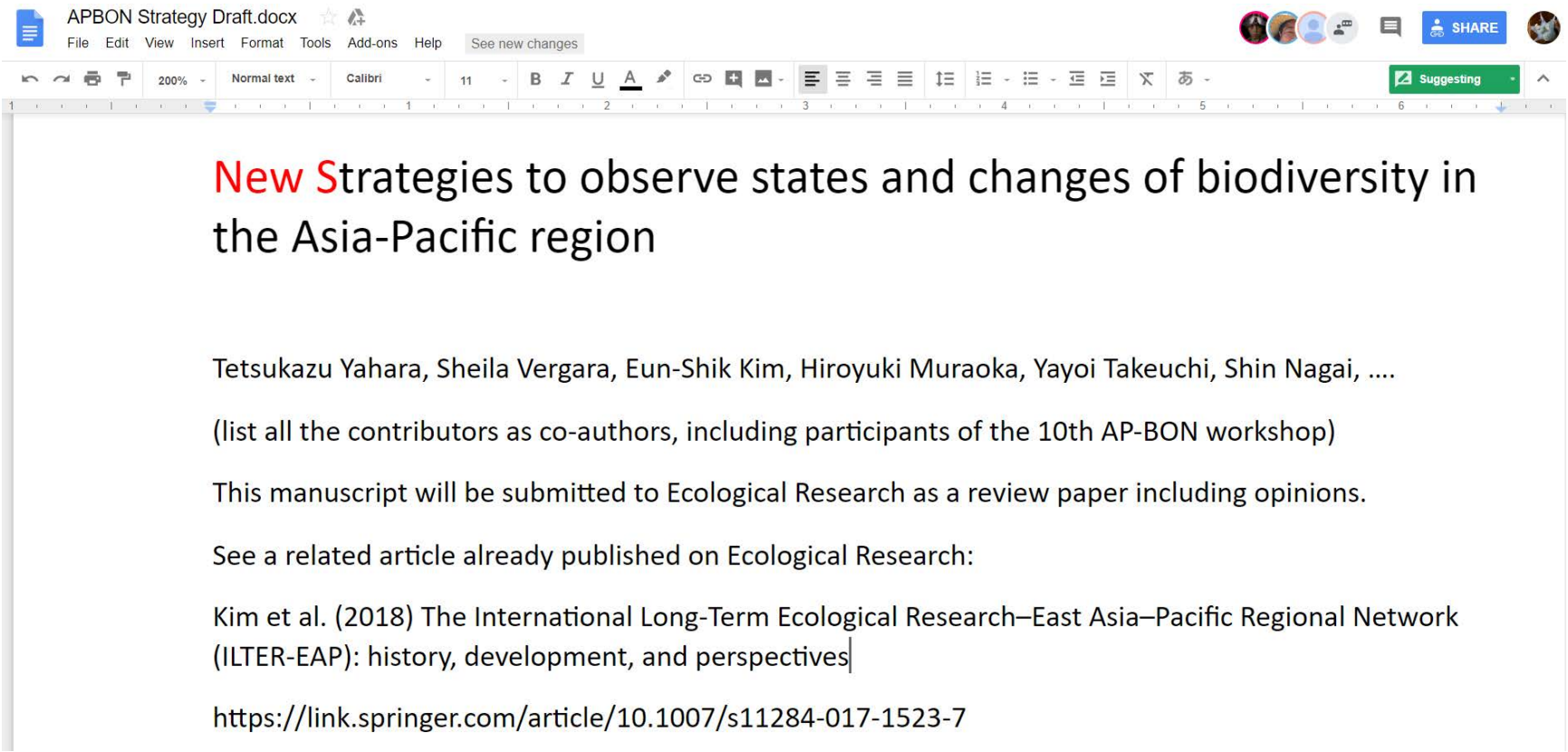
Promoting and networking national/regional projects

J-BON
K-BON
China BON
Sino BON etc

Observing same sites (plots) repeatedly to assess not only states but also trends

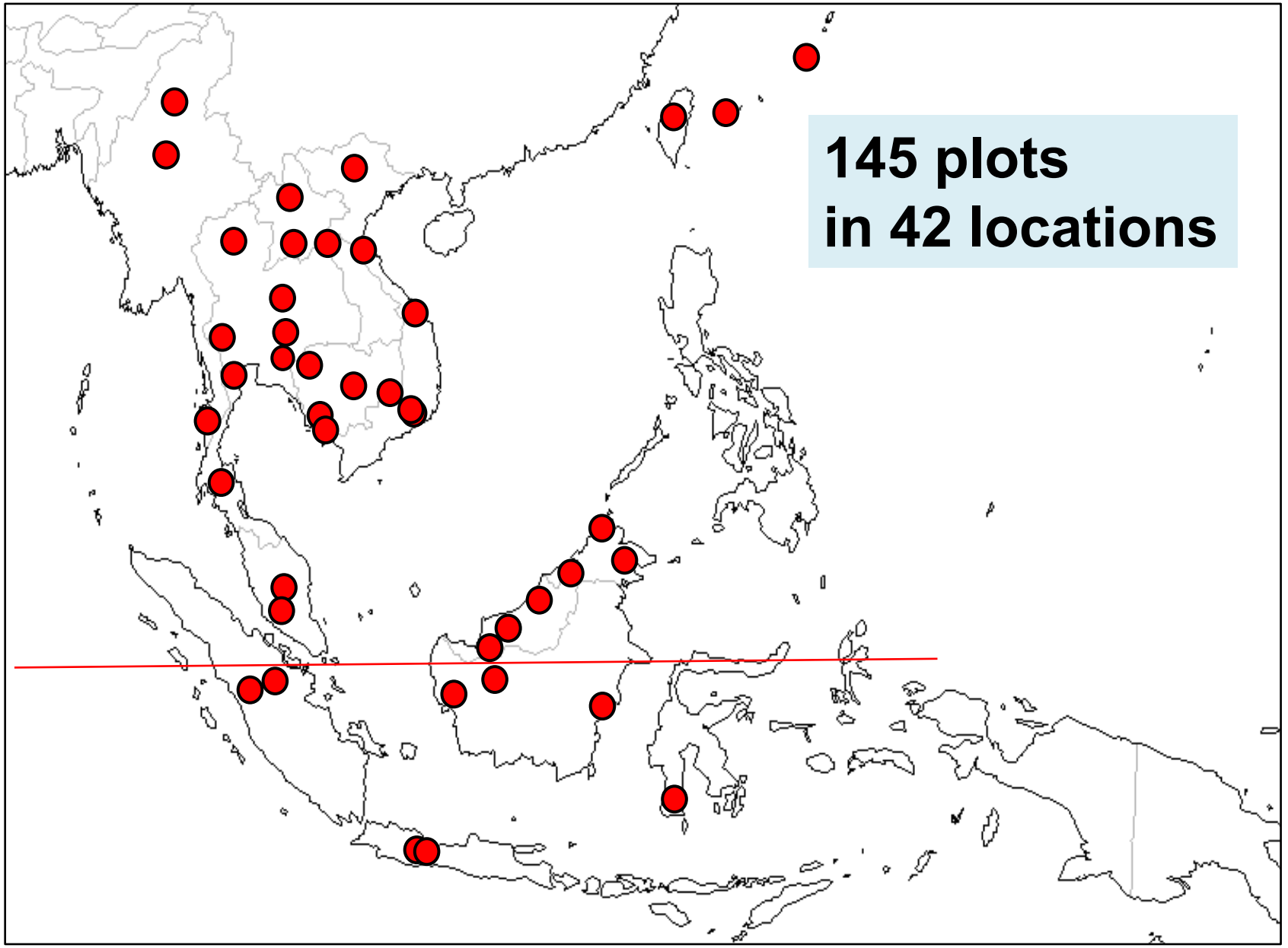
A Next Step of AP BON

Drafting a work plan document



https://docs.google.com/document/d/15382jyNtCRnXgJMVl8le1MjYcduMfjcW3KG1KeLr0dU/edit?ts=5b399a27#

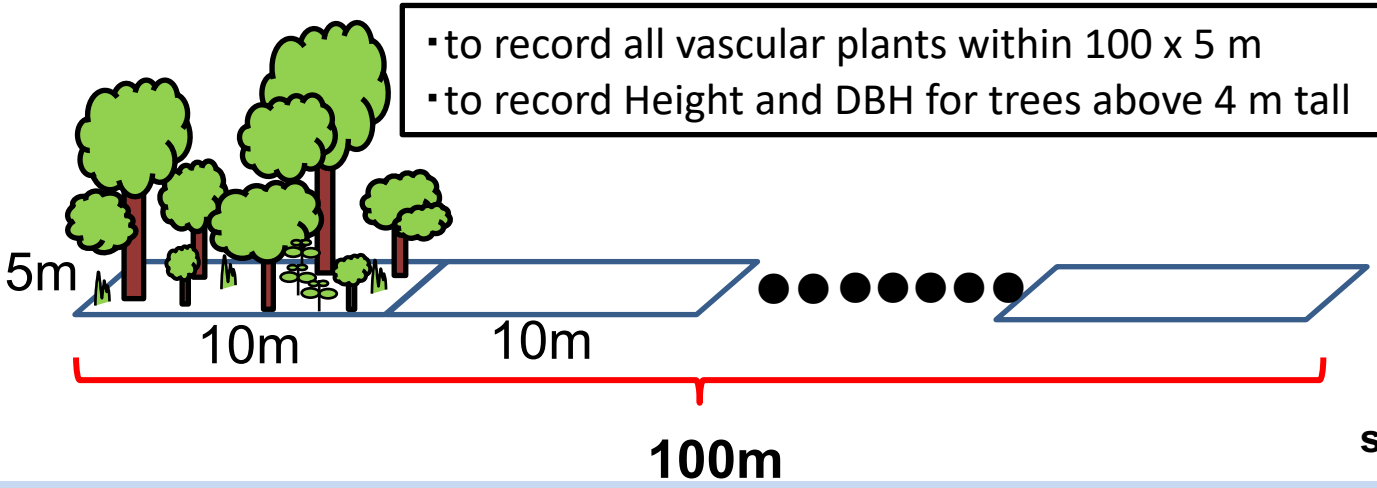
Project 1A: Plant diversity assessment (2011-present)



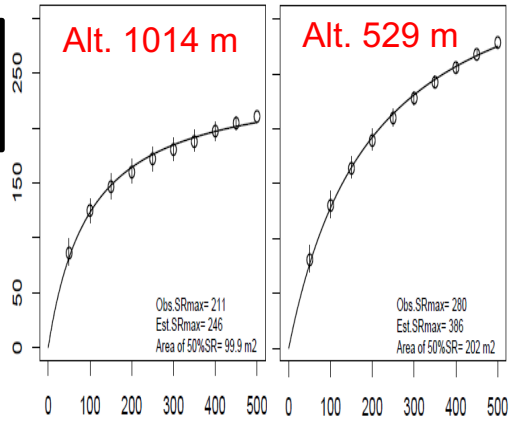
Network of plant diversity assessment

- **Cambodia**: Sokh Heng, Chhang Phourin, Ma Vuthy, Samreth Vanna (Forest Administration)
- **Vietnam**: Son Van Dang (ITB), Nguyen Van Ngoc, Hoang Thị Binh (Dalat University), Hoang Thanh Son (Vietnamese Academy of Forest Sciences)
- **Laos:** Phetlasy Souladeth (National University of Laos)
- **Thailand**: Somran Suddee, Sukid Rueangruea, Dokrak Ma (Forest Herbarium)
- **Myanmar**: Mu Mu Aung (Forest Research Institution)
- **Malaysia**: Saw Leng Guan, Lim Chung Lu, Yao Tze Leong, Sam Yen Yen (FRIM), Bibian Anak Michael Diway, Julia Anak Sang (FRC), Mohizah Bt. Mohamad (Sarawak Herbarium), Zedtee SDN, Kinabalu National Park
- **Burnei**: Ferry Slik (Universiti Brunei Darussalam)
- **Indonesia**: Dedy Darnaedi, Marlina Ardiyani, Arief Hidayat (LIPI), Anes Syamsuardi (Andalas University), Ibrahim Dberjadin, Ngakan Putu Oka (Hasanudin University)
- **Japanese fieldwork members**: Shuichiro Tagane (Kagoshima University), Hironori Toyama, Akiyo Naiki (Ryukyu University), Meng Zhang, Noriaki Okabe, Ai Nagahama (Kyushu University), Hidetoshi Nagamasu, Mamoru Kanzaki (Kyoto University), Eiji Suzuki (Kagoshima University), Shinji Fujii (University of Human Environments)

Project 1A: Plant diversity assessment (2011-present)



- to record all vascular plants within 100 x 5 m
- to record Height and DBH for trees above 4 m tall



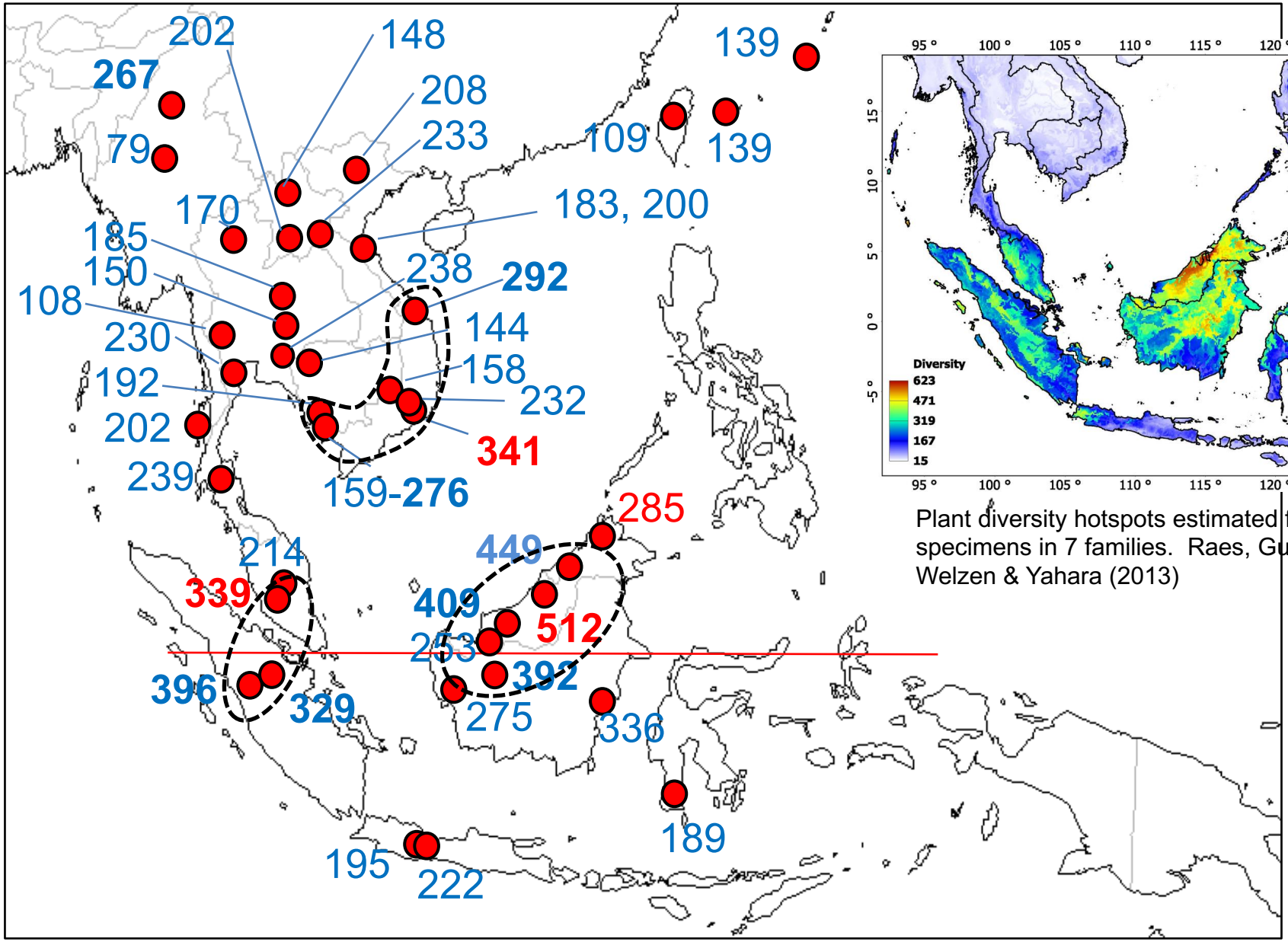
species accumulation curve

(1) Collect plants and record data, (2) Taking photos, (3) Collect leaf pieces for DNA analysis and (4) Make voucher specimens.

(5) Identify the plant species based on herbarium specimens, literature and DNA barcoding

(6) Study on taxonomy, ecology, phylogeny and biogeography; Picture guide, Database, etc.

Vascular Plant Species Richness / Transect (500 m²)



Plant diversity hotspots estimated from specimens in 7 families. Raes, Guan, Welzen & Yahara (2013)

Fig. species richness observed in one transect line (500m²)


Kinabalu National Park; August 17-26, 2018

Pasoh Forest Reserve; July 18-27, 2018

Technical progress

7th International Legumue Conference (29 Aug.-2 Sept. 2018, Sendai)

TOHOKU UNIVERSITY

MIG-seq and multiplexed DNA barcoding

: an efficient combination for molecular phylogenetic analysis

Yoshihisa Suyama[a*], Ayumi Matsuo[a], Shun Hirota[a], Chika Mitsuyuki[b], Tetsukazu Yahara[b]

[a] Tohoku University, [b] Kyushu University

MIG-seq: Multiplexed ISSR Genotyping by sequencing

A PCR-based procedure for SNP discovering and their genotyping using next-generation sequencing (NGS).

Overview

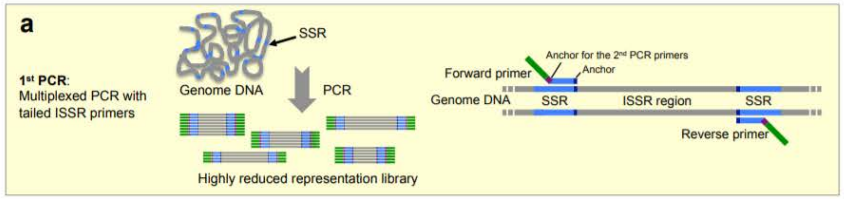
- PCR-based (multi ISSR-PCR)
  =applicable to low quantity DNA
- ~1000< SNP discovery & typing
  =without prior genetic info.
- Applicable to a wide range of species
  =without any optimization


SCIENTIFIC REPORTS

OPEN MIG-seq: an effective PCR-based method for genome-wide single-nucleotide polymorphism genotyping using the next-generation sequencing platform

Advantages

- Quick: 3 days for 192 or more samples
- Simple: 2 PCRs for library construction
- Low cost: *ca*. 10 USD/sample



Multiplexed DNA barcoding

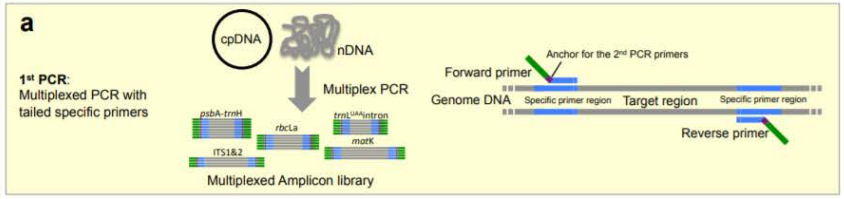
A simple and economical protocol to detect sequences of ITS and several cpDNA regions together using one run of NGS.

Overview

- Multi PCR of ~5 or more regions
  =*psb*A-*trn*H, *rbc*L, *trn*L^{UAA}intron, (*mat*K),and ITS1&2
- ~500 bp sequences for each region
  =~250 bp from both ends
- Applicable to a wide range of plant species
  =without any optimization

Advantages

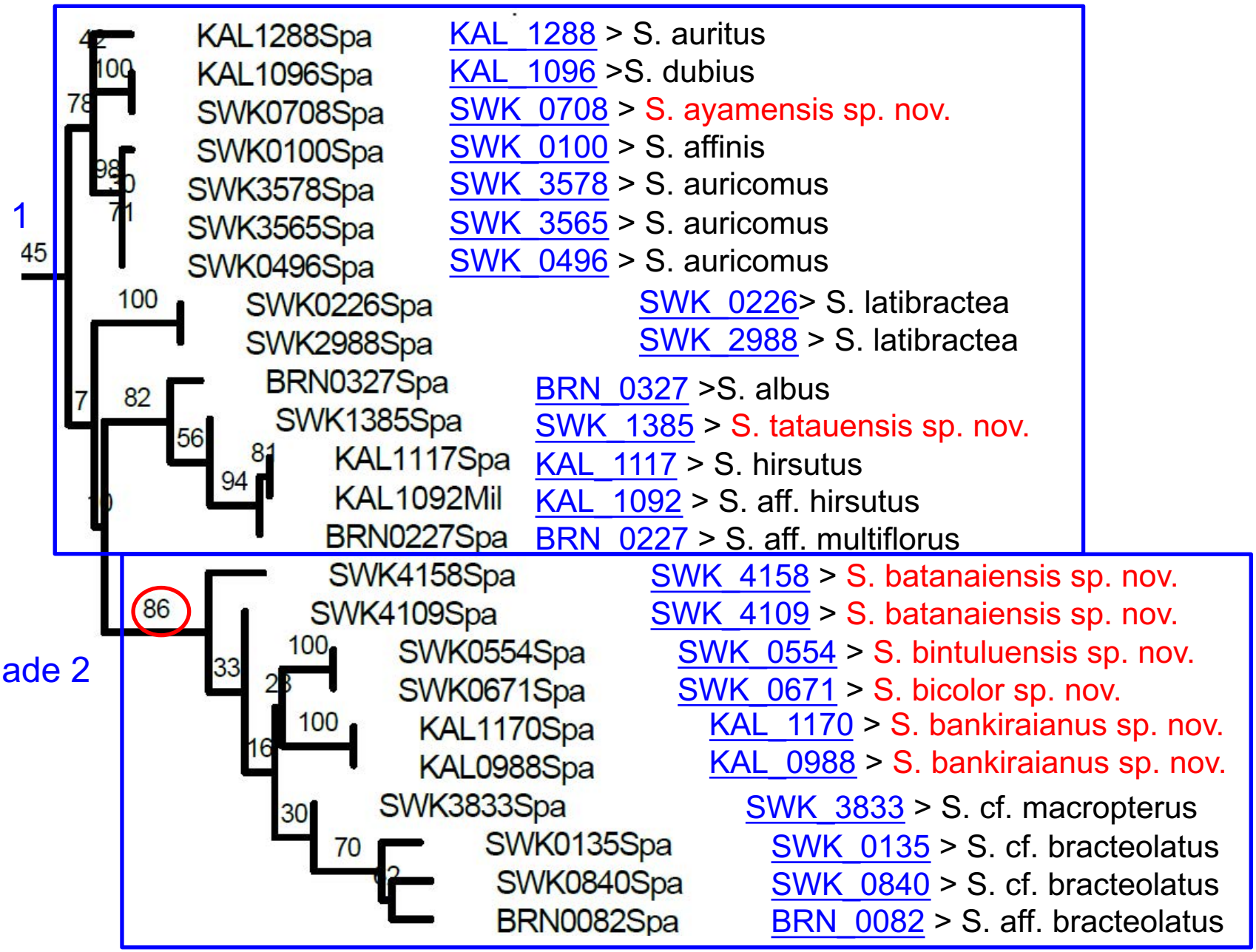
- Quick: 3 days for 384 or more samples
- Simple: 2 PCRs for library construction
- Low cost: *ca.* 2 USD/sample

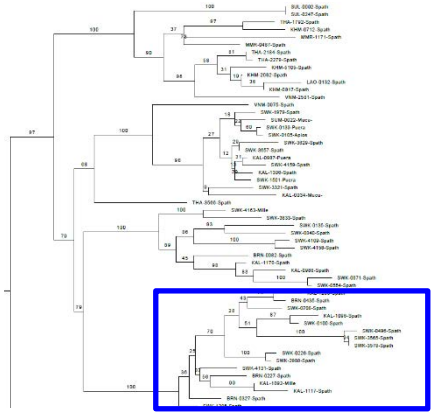


Scientific name: Fabaceae ***Spatholobus gyrocarpus*** (Willd.) Benth.
Local name:
No. M542
#

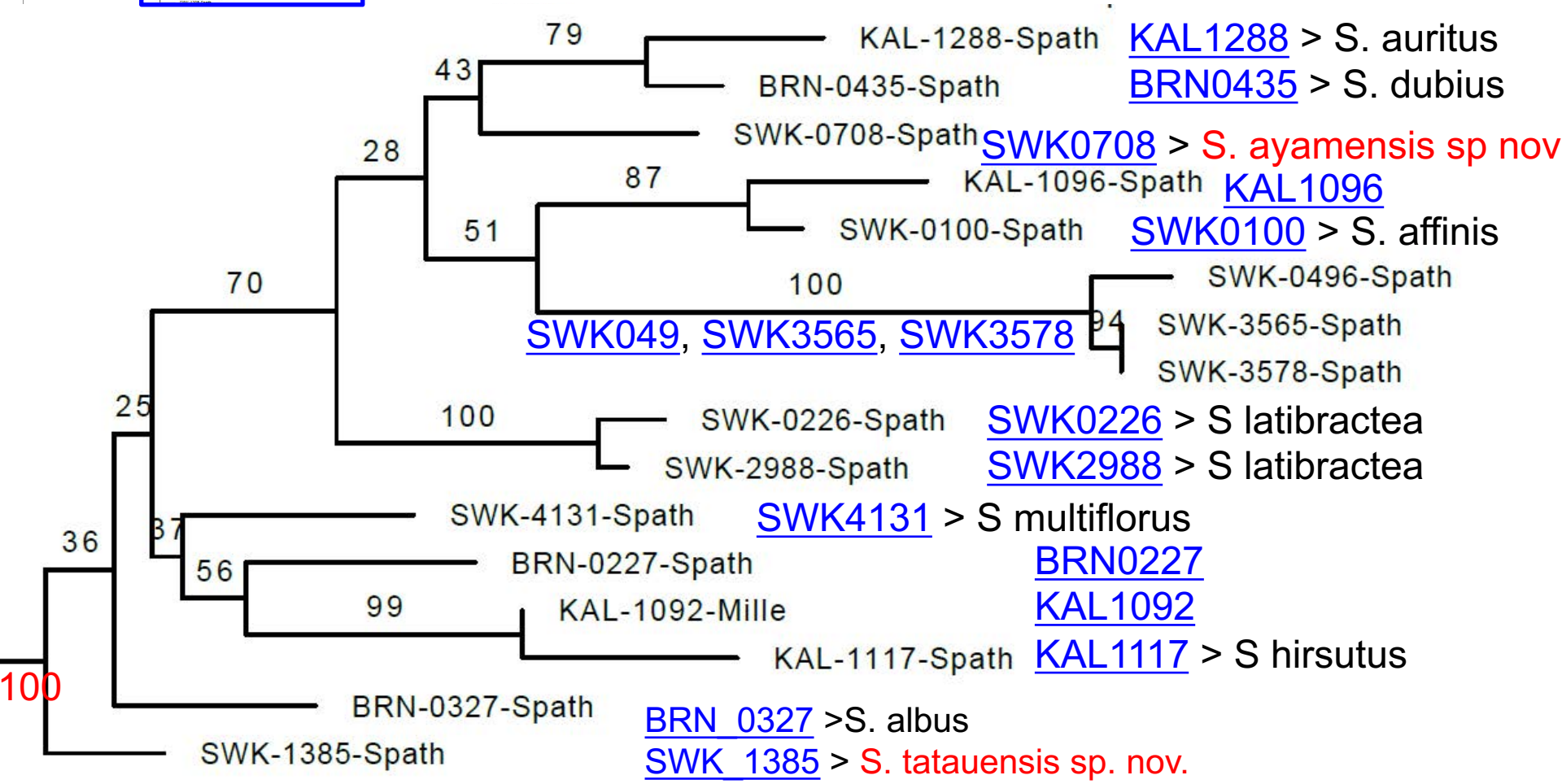
Pasoh Forest Reserve, Malaysia
Outside (Alt. 148 m)

ITS: Malesian clade

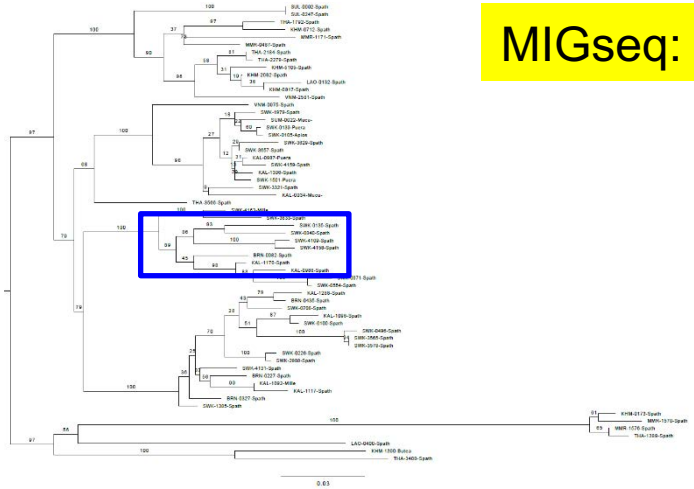


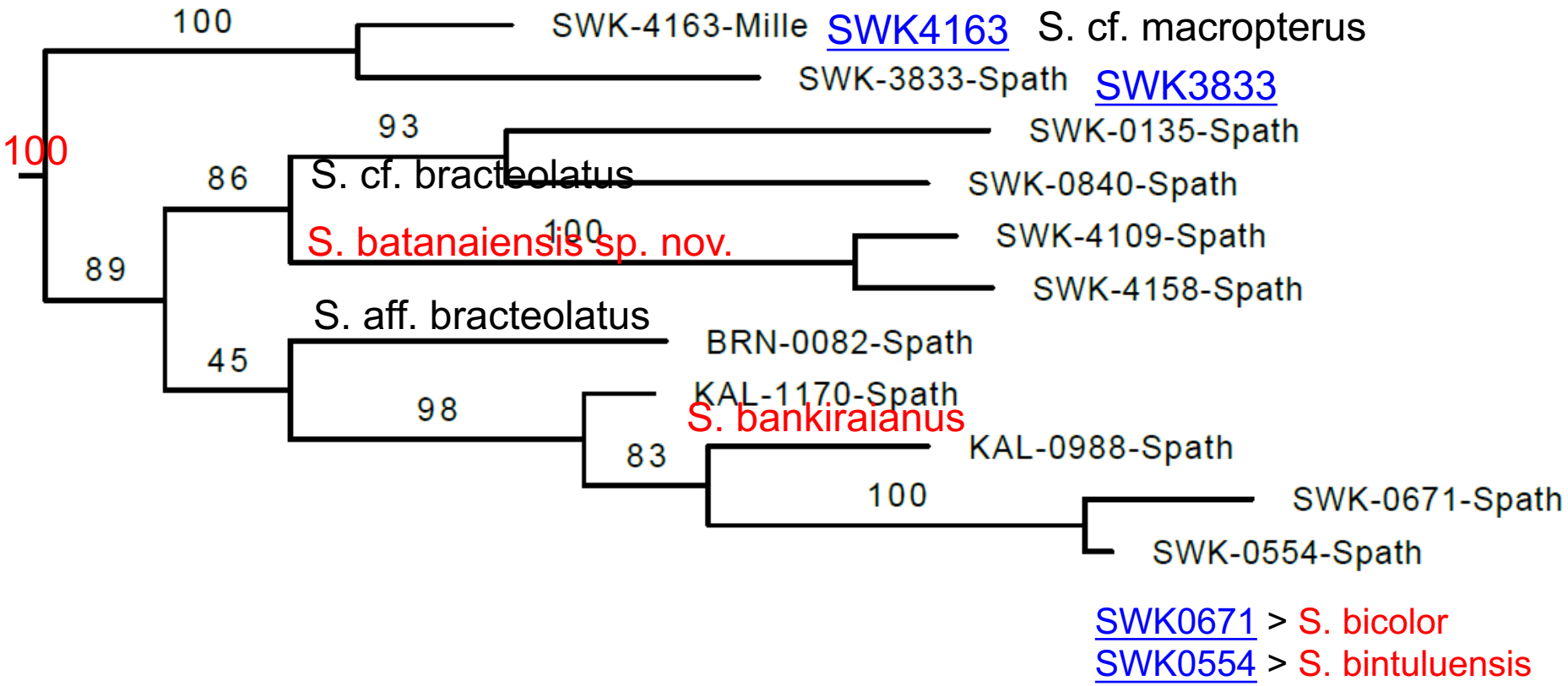


MIGseq: Malesian clade 1



MIGseq: Malesian clade 2





SWK0671 > S. bicolor
SWK0554 > S. bintuluensis

Scientific name: Fabaceae ***Sphatholobus bicolor*** sp. nov.
No. SWK671
#

Line 1_Watercatchment Camp Ayam
alt. 381 m

Scientific name: Fabaceae ***Sphatholobus bintuluensis*** sp. nov.
No. SWK554
#

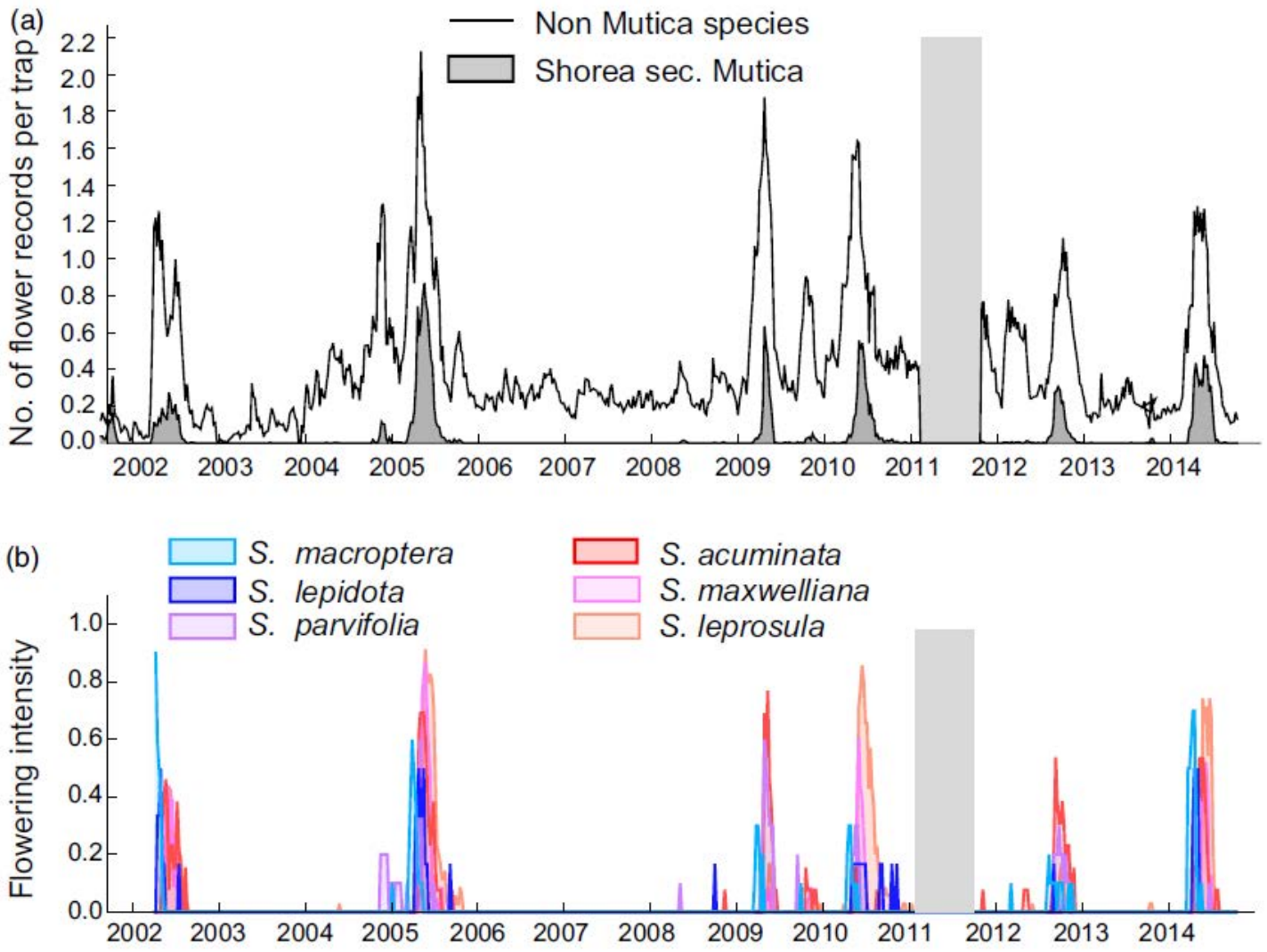
Line 1_Watercatchment Camp Ayam
(alt. 389 m)

Trait matrix of *Spatholobus* in Malaysia

		Lateral vein	Leaflet shape	Leaflet ape:	Lateral leafle	Tertiary veins	Tertiary veins	Petiole
S. auritus	12 <	curved just below margin, not looped with an upper one	elliptic	caudate	Asymmetric, lower half distinctly broader	scalariform, undulate	indistinct above	glabrous
S. latibractea	12 <	Curved towards margin, looped with an upper one	obovate to oblanceolate	obtuse or cuspidate	Only slightly asymmetric	scalariform, undulate	distinctly sunken above, raised below	brownish hairy
S. multifibrus	12 <	Curved towards margin, looped with an upper one	elliptic	caudate	Only slightly asymmetric	scalariform, undulate	distinctly sunken above, raised below	white-brownish hairy
S. affinis	9 to 11	Curved towards margin, looped with an upper one	oblong	acuminate	Only slightly asymmetric	scalariform-reticulate	distinctly sunken above, raised below	brownish hairy at base
S. tatauensis	9 to 11	Curved towards margin, looped with an upper one	narrowly elliptic	attenuate	Only slightly asymmetric	scalariform-reticulate	distinctly sunken above, raised below	glabrous
S. batanaiensis	6 to 8	Curved towards margin, looped with an upper one	narrowly elliptic	attenuate	Only slightly asymmetric	coasely scalariform-reticulate	distinctly sunken above, raised below	glabrous
S. bankiraianus	6 to 7	Curved towards margin, looped with an upper one	elliptic	caudate	Only slightly asymmetric	coasely reticulate	flat above, raised below	glabrous
S. hirsutus	6 to 7	Curved towards margin, not looped with an upper one	oblanceolate	acuminate	Only slightly asymmetric	scalariform, undulate	distinctly sunken above, raised below	brownish hairy at base
S. dubius	5 to 6	Curved towards margin, not looped with an upper one	narrowly ovate	acuminate	Only slightly asymmetric	reticulate	indistinct above	glabrous
S. ayamensis	5 to 6	Curved towards margin, not looped with an upper one	oval	caudate	Only slightly asymmetric	reticulate	intistinct both above and below	glabrous
S. albus	5 to 6	Curved towards margin, not looped with an upper one	lanceolate	acuminate	Only slightly asymmetric	scalariform-reticulate	indistinct above, distinct but flat below	glabrous
S. auricomus	5 to 6	Curved towards margin, looped with an upper one	obovate	caudate	Asymmetric, lower half distinctly broader	coasely reticulate	distinctly sunken above, raised below	white-brownish hairy
S. bicolor	5 to 6	Curved towards margin, looped with an upper one	narrowly elliptic	attenuate	Only slightly asymmetric	coasely reticulate	flat above, raised below	glabrous
S. bintuluensis	5 to 6	Curved towards margin, looped with an upper one	elliptic	caudate	Only slightly asymmetric	coasely reticulate	distinctly sunken above, raised below	glabrous
S. macropterus	5 to 6	Curved towards margin, looped with an upper one	elliptic to oblanceolate	attenuate	Only slightly asymmetric	Coasly scalariform, undulate	distinctly sunken above, raised below	sparely hairy
S. bracteolatus	4 to 5	Curved towards margin, looped with a tertiary vein branced from an upper lateral vein	elliptic	caudate	Only slightly asymmetric	coasely reticulate to scalariform	slightly sunken above, slightly raized below	sparsely hariy?
S. bruneiensis	3 to 4	Curved towards margin, looped with a tertiary vein branced from an upper lateral vein	elliptic	?	Only slightly asymmetric	coasely reticulate to scalariform	indistinct above, visible but flat below	glabrous

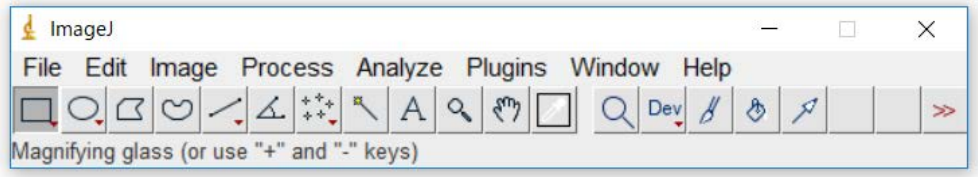
Project 1B: Plant phenology observation

Flowering records in Pasoh, Malaysia (Chen, Satake, Sun et al. 2017)



Bi-Doup Nuiba National Park, Vietnam

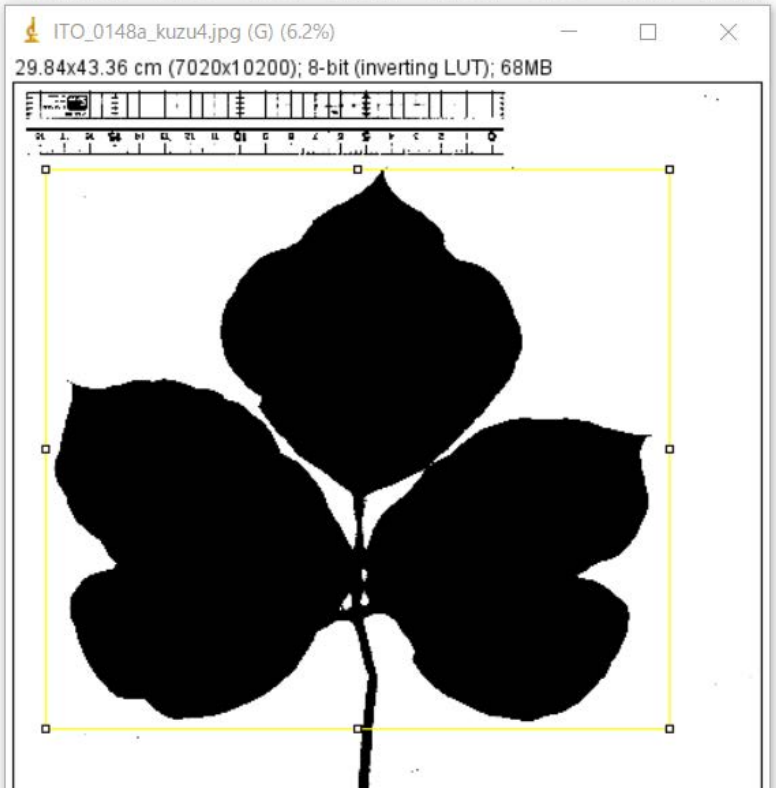
Project 1C: Trait diversity assessment



Results

File Edit Font Results

	Area	BX	BY	Width	Height	Circ.	AR	Round	Solidity
1	317.626	1.590	3.401	23.969	22.311	0.190	1.174	0.852	0.809



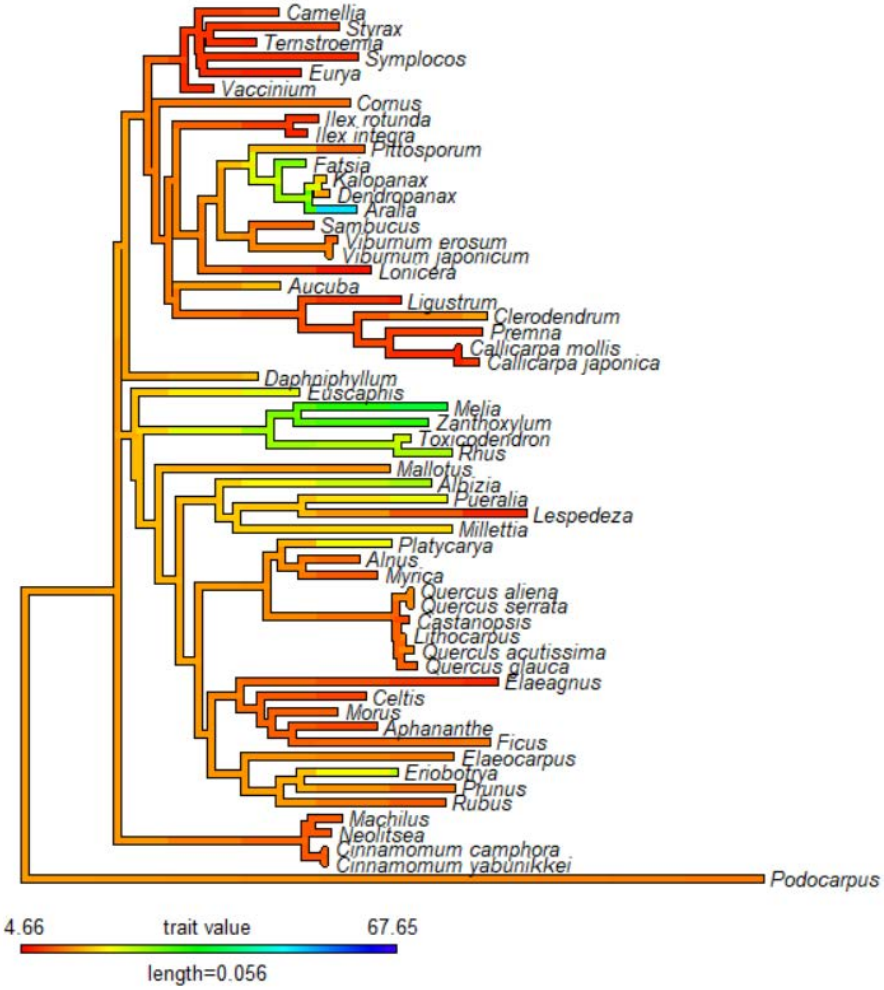
SPAD−502Plus

Project 1C: Trait diversity assessment

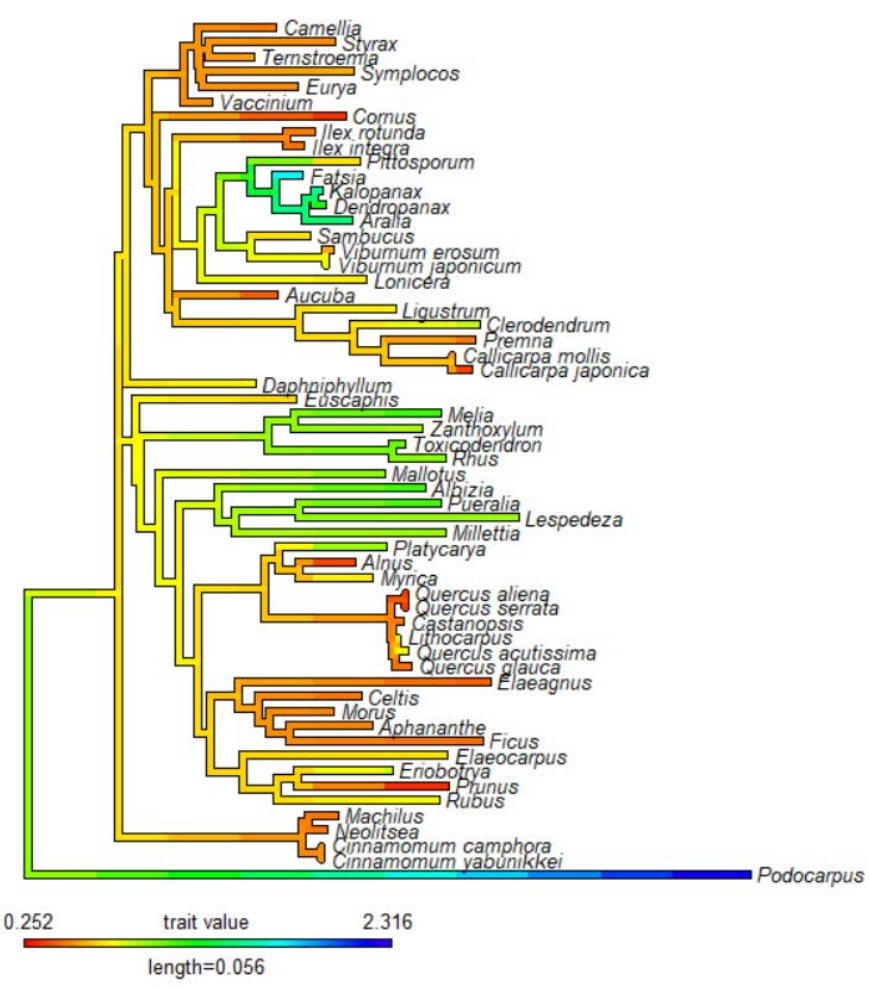
Species	DPL	Lweigh	NoLL	Thickne	SPAD	Wood	Area	Width	Length	Circula	AR	Roundn	Solidity	Llonge	SLA	RPL
Aucuba	3.38	0.66	1.00	0.27	51.28	0.57	79.04	7.10	16.52	0.52	2.30	0.44	0.97	2.00	119.15	0.22
Mallotus	6.12	0.59	1.00	0.19	43.87	0.47	81.45	9.77	13.00	0.63	1.21	0.83	0.92	0.70	139.16	0.51
Quercus_glauca	2.16	0.42	1.00	0.35	50.29	0.65	23.95	3.77	10.07	0.44	2.48	0.41	0.94	2.00	57.63	0.22
Ficus	1.71	0.25	1.00	0.25	42.44	0.56	43.58	5.68	11.75	0.62	1.96	0.52	0.97	0.70	173.39	0.16
Podocarpus	0.00	0.15	1.00	0.38	74.47	0.60	9.25	1.02	11.75	0.17	10.91	0.10	0.86	2.00	60.56	0.00
Styrax	0.82	0.18	1.00	0.17	51.67	0.50	25.15	4.76	8.75	0.58	1.63	0.62	0.93	0.70	138.84	0.10
Celtis	0.75	0.23	1.00	0.23	44.71	0.56	21.90	4.05	8.09	0.58	1.91	0.53	0.96	0.70	96.35	0.10
Alnus	1.61	0.36	1.00	0.18	39.18	0.51	36.69	5.50	10.48	0.36	1.87	0.54	0.95	0.70	101.73	0.16
Dendropanax	8.12	0.51	1.00	0.25	48.67	0.56	71.88	10.78	11.65	0.50	1.21	0.84	0.85	2.00	140.78	0.74
Zanthoxylum	9.25	4.63	17.67	0.20	43.26	0.40	356.62	23.94	33.01	0.05	1.69	0.61	0.56	0.70	77.03	0.25
Clerodendrum	5.61	0.58	1.00	0.18	48.41	0.43	98.86	10.00	14.53	0.67	1.36	0.74	0.96	0.70	171.01	0.41
Pueralia	13.39	1.14	3.00	0.17	34.76	0.31	265.67	22.10	21.52	0.29	1.15	0.89	0.79	0.70	232.97	0.67
Cinnamomum_camp	2.31	0.23	1.00	0.23	41.30	0.45	20.08	4.16	7.61	0.61	1.67	0.62	0.96	1.00	87.09	0.31
Quercus_acutissima	2.06	0.40	1.00	0.19	40.74	0.78	37.71	4.22	14.67	0.19	3.77	0.27	0.86	0.70	94.54	0.14
Cornus	2.12	0.38	1.00	0.19	48.28	0.60	39.31	5.24	11.30	0.54	2.06	0.50	0.94	0.70	104.37	0.20
Ilex_rotunda	2.05	0.36	1.00	0.34	75.77	0.58	25.05	4.40	8.29	0.68	1.75	0.58	0.97	2.00	70.57	0.25
Symplocos	0.81	0.18	1.00	0.36	67.87	0.60	13.61	2.86	7.08	0.58	2.36	0.43	0.98	2.00	73.71	0.12
Quercus_serrata	1.04	0.38	1.00	0.22	44.91	0.65	34.83	4.83	11.58	0.41	2.43	0.43	0.93	0.70	92.33	0.09
Viburnum_erosum	0.42	0.14	1.00	0.24	38.48	0.67	23.93	4.49	8.48	0.51	1.73	0.58	0.92	0.70	175.08	0.05
Euscaphis	5.11	0.95	9.80	0.17	56.97	0.45	158.03	14.92	22.09	0.15	1.79	0.60	0.64	0.70	166.35	0.25
Vaccinium	0.56	0.09	1.00	0.23	57.33	0.59	11.13	2.79	6.20	0.60	2.03	0.50	0.97	2.00	129.21	0.09
Neolitsea	2.39	0.30	1.00	0.30	53.17	0.43	23.84	3.69	9.71	0.52	2.44	0.41	0.98	2.00	80.17	0.26
Castanopsis	0.88	0.19	1.00	0.31	47.19	0.55	12.80	2.70	7.53	0.45	2.55	0.40	0.93	2.00	66.99	0.12
Melia	15.06	3.15	121.80	0.10	60.90	0.41	484.26	35.68	39.36	0.03	1.60	0.64	0.47	0.70	153.83	0.35

Project 1C: Trait diversity assessment

Leaf length



Shape uniqueness



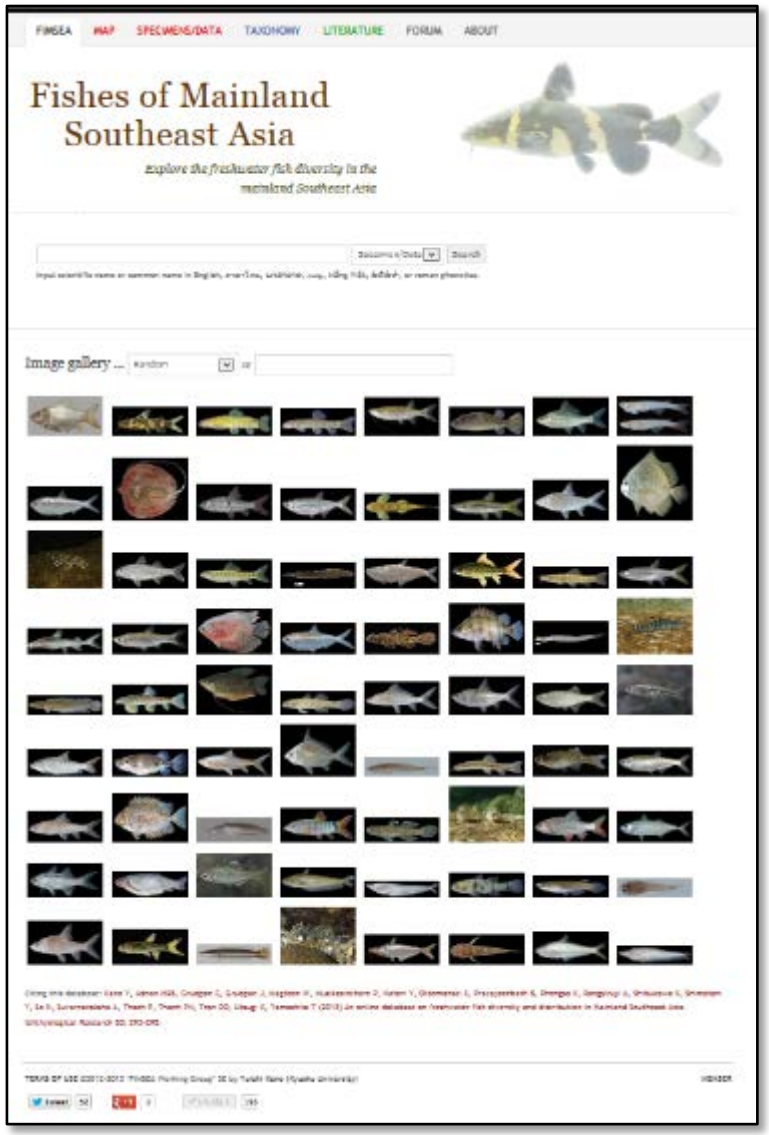
Project 1 in Thailand and Sarawak

- Project in Thailand
  - Besides traditional biodiversity monitoring and forest dynamic studies, current activities emphasize on 1) the **visualization of observation information** to advice decision making and policy development for biodiversity conservation and for public awareness, and 2) **vulnerability and resilience to climate change.**

- Project in Sarawak
  - We found **rapid forest cover decline and livelihood change**; however, remnant forests which are managed by local communities still harbored high biodiversity including endangered species (Takeuchi et al 2017). We are also investigating the ecosystem services from those remnant forest to local people would be essential. However, as local use and perception has been changing , we need to assess **both social and biological consequences of biodiversity and ecosystem services** for effective conservation planning in those developing areas.

Project 2: Freshwater fish assessment

http://ffish.asia developed by Kano et al. (2013)



Ichthyol Res
DOI 10.1007/s10228-013-0349-8

NEWS AND COMMENTS

An online database on freshwater fish diversity and distribution in Mainland Southeast Asia

Yuichi Kano · Mohad Shalahuddin Adnan · Chaiwut Grudpan · Jarungjit Grudpan · Wichan Magtoon · Prachya Musikasinthorn · Yoshihiro Natori · Stefan Ottomanski · Bounthob Praxaysonbath · Koneouma Phongsa · Achariya Rangsiruji · Koichi Shibukawa · Yukihiro Shimatani · Nam So · Apinun Suvarnaraksha · Phanara Thach · Phuong Nguyen Thanh · Duc Dinh Tran · Kenzo Utsugi · Tomomi Yamashita

Received: 28 April 2013 / Revised: 10 May 2013 / Accepted: 12 May 2013

Mainland Southeast Asia, the region that includes Cambodia, Laos, Thailand, Vietnam and Peninsular Malaysia, is known for its high diversity of freshwater fishes (e.g., Myers et al. 2000; Dudgeon 2005; Kang et al. 2009). Recently, however, intensive exploitation pressures have been threatening this biodiversity. While some studies on fish fauna of the region have been made (e.g., Taki 1974; Rainboth 1996; Kottelat 2000; Vidthayanon and Premcharoen 2002), most have been of limited duration and geographical range, and the full extent of the effect of this exploitation on the fish diversity is not fully understood.

The main obstacles standing in the way of a proper understanding of the threats to this biodiversity and determining the means to alleviate them have been hindered by several factors: one is a general shortage of trained scientists in the region proficient in fish taxonomy; another is that exchanges of the results of the taxonomical studies done by scientists in the region are few and far between. And finally there is a general lack of awareness of the significance of species diversity in ecosystems.

Beginning in 2007, the Nagao Natural Environment Foundation (NEF), from Japan, has been working to improve this situation in the Mekong-Chao Phraya region, the results of which are presented in a new online database, "Fishes of Mainland Southeast Asia (FiMSEA)" (Fig. 1; URL: http://ffish.asia).

Since the outset of the project, the NEF has worked in collaboration with a number of counterpart institutions in the region, namely: Can Tho University (Vietnam), The Inland Fisheries Research and Development Institute

Y. Kano (✉) · Y. Shimatani · T. Yamashita
Centre for Asian Conservation Ecology, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka 819-0395, Japan
e-mail: kano@species.jp

M. S. Adnan
Faculty of Civil and Environmental Engineering, Universiti Tun Hussein Onn Malaysia, Beg Berkunci 101 Parit Raja, Batu Pahat, Johor 86400, Malaysia

C. Grudpan · J. Grudpan
Department of Fisheries, Faculty of Agriculture, Ubon Ratchathani University, Warin Chamrap, Ubon Ratchathani 34190, Thailand

W. Magtoon · A. Rangsiruji
Faculty of Science, Srinakharinwirot University, Sukhumvit 23, Bangkok 10110, Thailand

P. Musikasinthorn
Faculty of Fisheries, Kasetsart University, Chatuchak, Bangkok 10900, Thailand

Y. Natori · S. Ottomanski · K. Shibukawa · K. Utsugi
Nagao Natural Environment Foundation, 701, 3-3-7 Kouraibashi, Sumida-ku, Tokyo 130-0022, Japan

B. Praxaysonbath · K. Phongsa
Faculty of Science, National University of Laos, Dong Dok Campus, Vientiane 7322, Lao PDR

N. So · P. Thach
Inland Fisheries Research and Development Institute of Fisheries Administration, Norodom Blvd 186, Phnom Penh 582, Cambodia

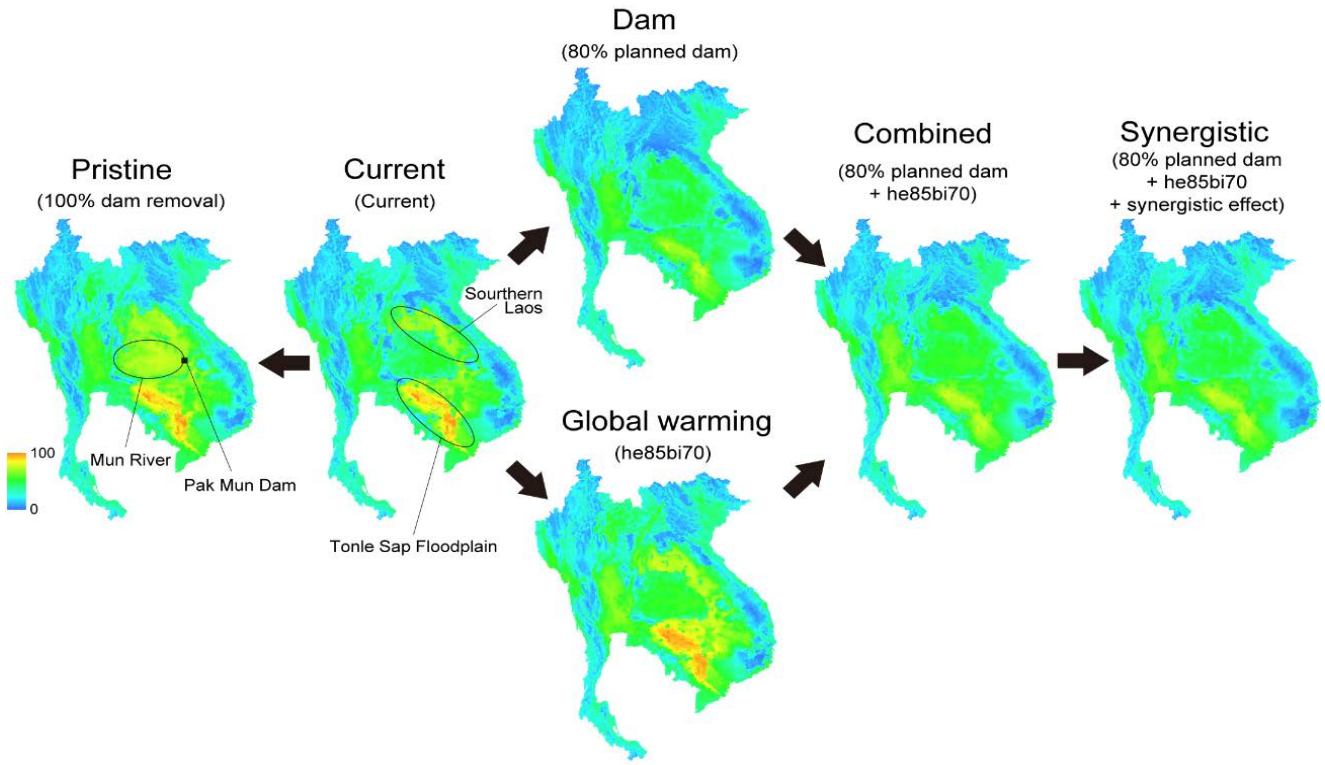
A. Suvarnaraksha
Faculty of Fisheries Technology and Aquatic Resources, Maejo University, Sansai, Chiang Mai 50290, Thailand

P. N. Thanh · D. D. Tran
Department of Fisheries Management and Economics, College of Aquaculture and Fisheries, Can Tho University, 3/2 street, Ninh Kieu, Can Tho, Vietnam

Published online: 21 June 2013

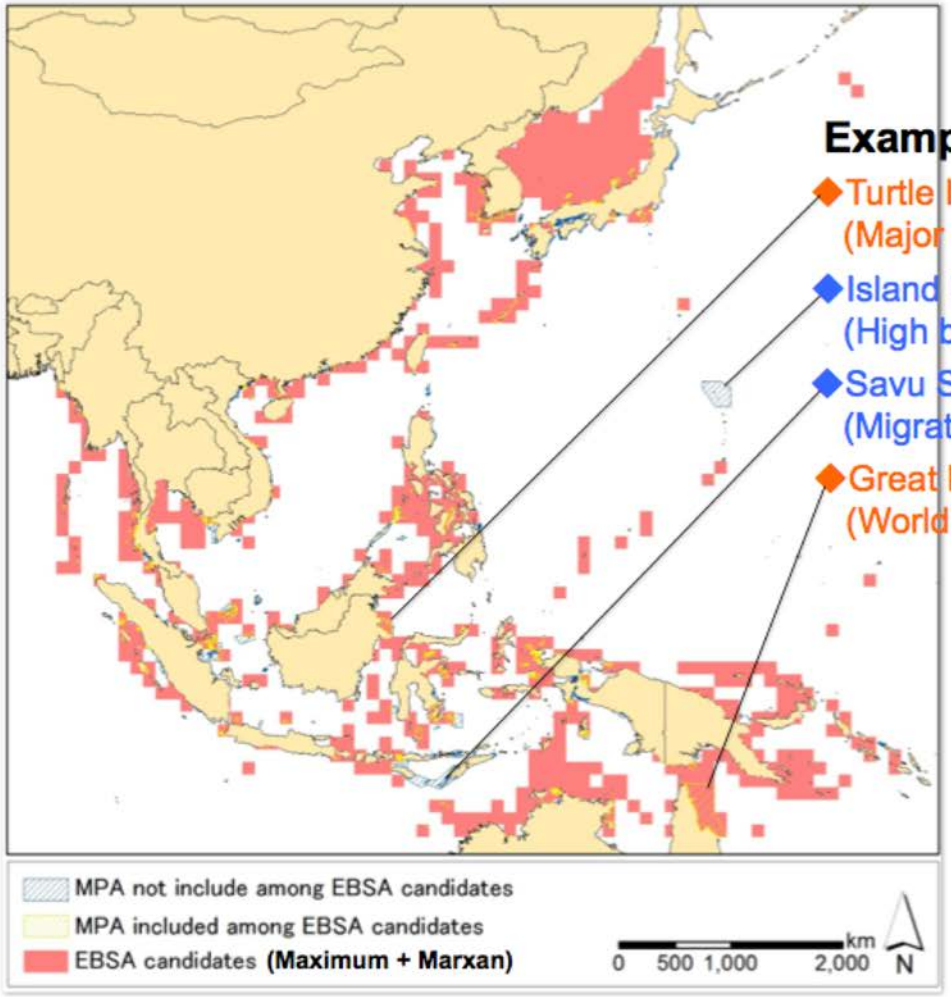
Project 2: Freshwater fish assessment

Threats of dam construction and global warming upon freshwater fish diversity in Mekong Basin (Kano et al. 2016, Plos One)



Fish bidodiversity index	Pristine	Current	Dam	Global warming	Combined	Synergistic
Mean species richness	39.6	37.3	32.8	41.1	36.1	34.2
Mean range size (km^2)	637,097	613,626	564,744	586,691	546,480	511,394
Threatened species	0.0%	4.7%	16.0%	35.0%	39.7%	40.5%

Project 3: Coastal biodiversity assessment



Yamakita et al. (2017) Marine Policy

Examples of Agreements and Disagreements

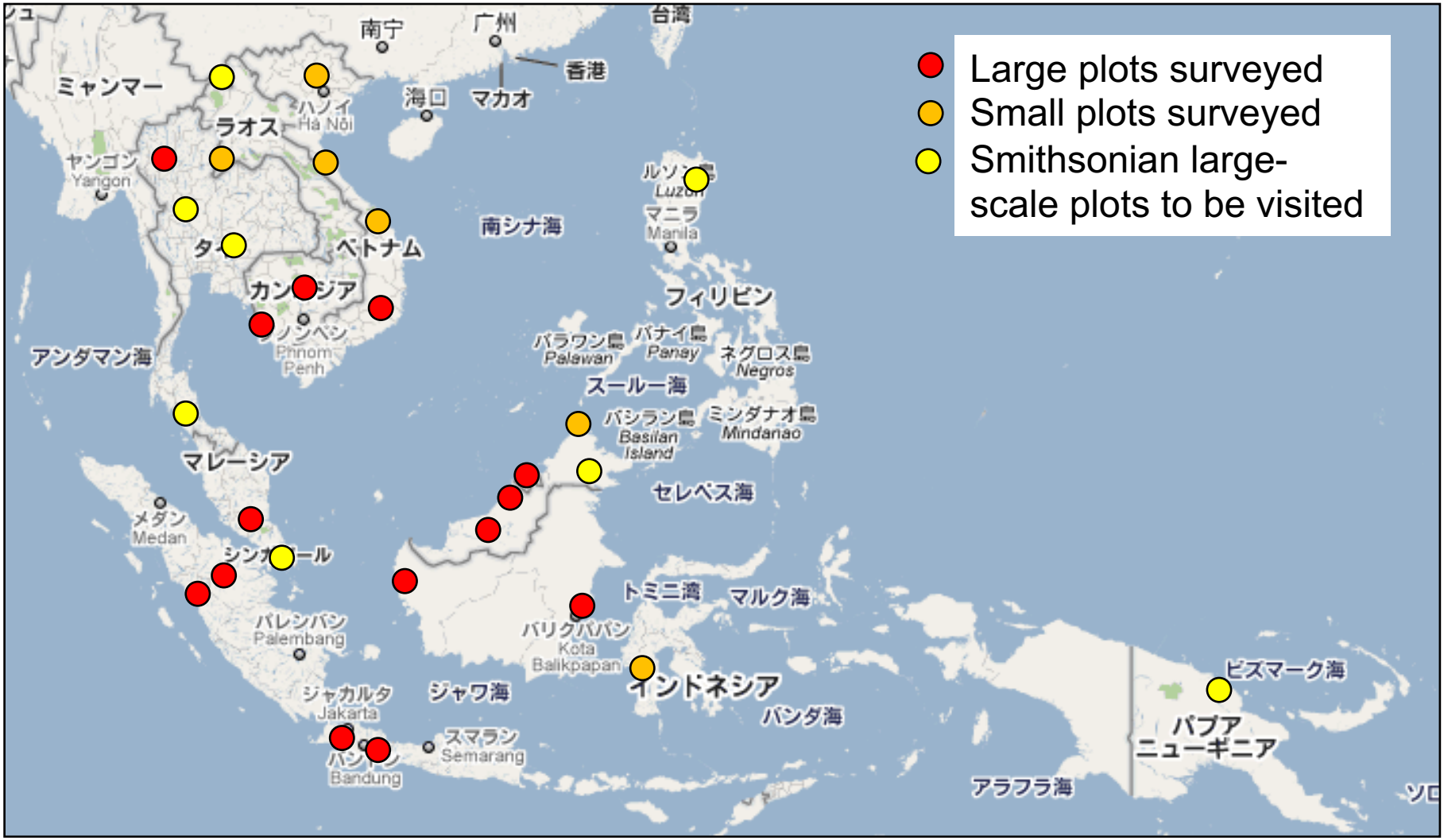
- Turtle Islands Heritage Protected Area
  (Major nesting area of marine turtles)
- Island Unit of Mariana Trench Marine National Monument
  (High biodiversity of seamounts and hydrothermal vents)
- Savu Sea Marine Protected Area
  (Migration corridor for threatened species, high nutrient)
- Great Barrier Reef Marine Park
  (World largest coral reefs)

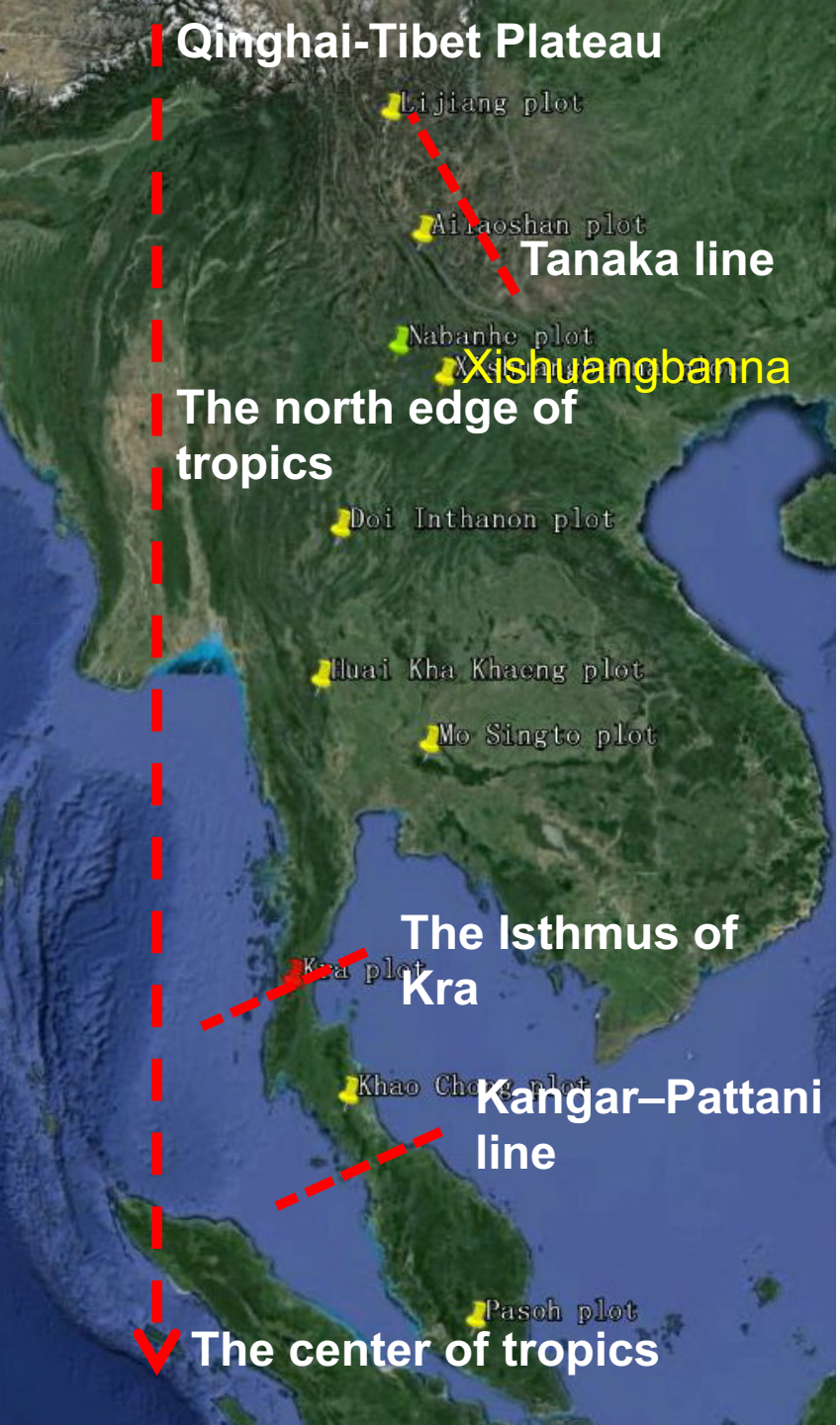
Sea area within Asia-Pacific region	Rate (%)
Marine Protected Area (MPA)	1.1
MPA included among EBSA candidates	0.5
MPA not included among EBSA candidates	0.6
EBSA candidate not overlap with MPA	13.9

Total area of EBSAs became 14.4% of the study area.
Only 45% of MPAs overlapped with EBSA candidates.

Project 4: Networking observation sites

Candidate “master sites” in SE Asia





Tree species diversity along a latitudinal-gradient forest transect in Southwest China and the Indo-China Peninsula

Luxiang Lin 林露湘

Shenzhen，2017/07/28

中国科学院西双版纳热带植物园
XISHUANGBANNA TROPICAL BOTANICAL GARDEN, CHINESE ACADEMY OF SCIENCES

‘101°E’ forest transect from Southwest China to the Indo-China Peninsula

Project 4: Networking observation sites

Candidate “master sites” in SE Asia

	UNESCO BR	Forest GEO
Japan	Yakushima	
Korea	Jeju Island	
China	Xishuangbanna	Xishuangbanna
Taiwan		Lienhuachih
Vietnam	Langbian	Bidoup
Laos		
Cambodia	Tonle Sap	
Thailand	Mae Sa-Kog Ma	Doi Inthanon
Myanmar	Inlay Lake	
Malaysia	Crocker Range	Pasoh, Lambir
Brunei		Kuala Belalong
Singapore		Bukit Timah
Indonesia	Cibodas	
Phillipines	Pallawan	Palanan

Yakushima and Kuchinoerabu Jima

Ecological Sciences

Man and Biosphere Programme

Biosphere Reserves

- Main Characteristics
- World Network (WNBR)
- Advisory Committee
- Designation Process
- Periodic Review Process
- Withdrawal of biosphere reserves
- Regional and Subregional Collaboration
- Biosphere Reserves in Practice
- BiosphereSmart Initiative

Capacity Building and Partnerships

Climate Change

UNESCO MAB Category II Centres & Chairs

Yakushima and Kuchinoerabu Jima

The Yakushima and Kuchinoerabu Jima Biosphere Reserve situated 60km south of the Island of Kyushu is known for the Yaku cedar primeval forest. It encompasses the area inscribed on the World Heritage List, also under the name of Yakushima, and now covers the entire island, as well as the island of Kuchinoerabu and the marine area surrounding both. It is famous for the Yaku cedar primeval forest, and it includes Yakushima World Natural Heritage site which was inscribed in 1993.

©UNESCO/Yakushima and Kuchinoerabu Jima Biosphere Reserve
Yakushima and Kuchinoerabu Jima Biosphere Reserve

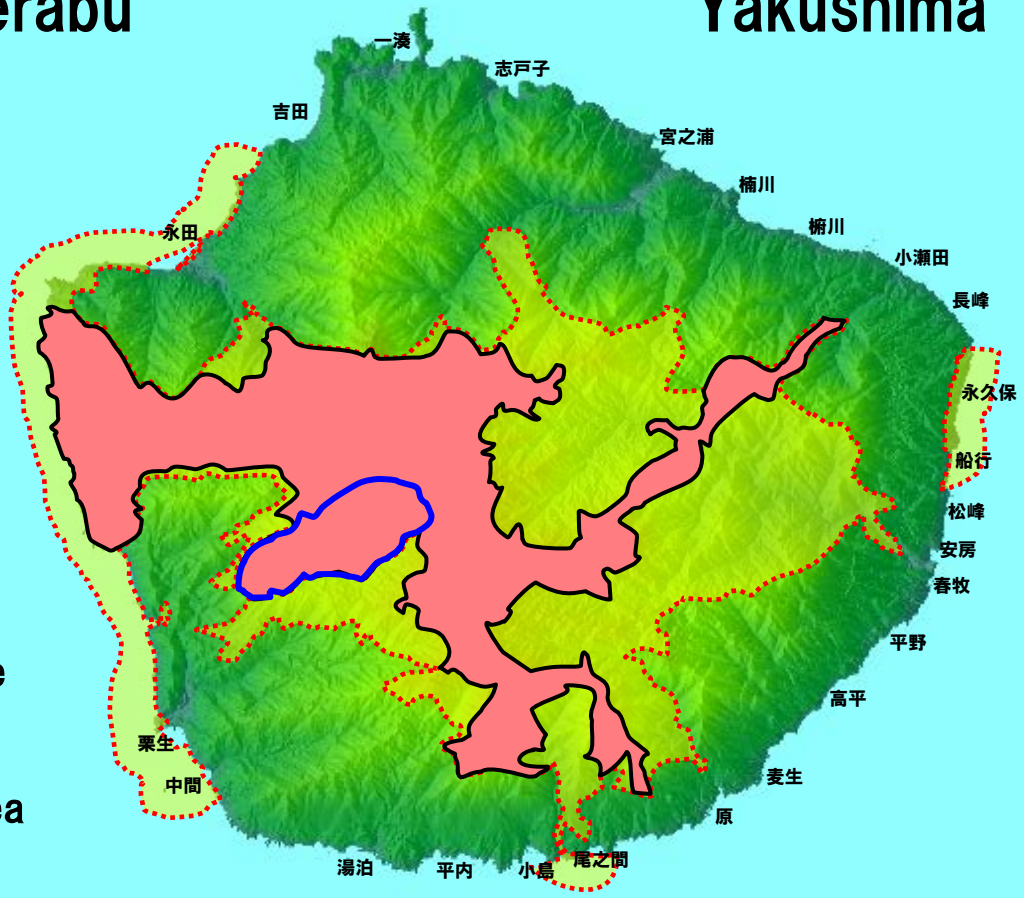
Designation date: 1980 (extended in 2016)
Administrative authorities: Forestry Agency, Ministry of the Environment, Ministry of Education, Culture, Sport, Science, and Technolgy, Fisheries Agency, Kagoshima Prefecture, Yakushima Town.
Surface area (terrestrial and marine): 78,196 ha
Core area(s): 12,359 ha
Buffer zone(s): 20,137 ha
Transition area(s): 45,700 ha

Location
Latitude: 30°12’30"N – 30°29’58"N
Longitude: 130°07’56"E – 130°41’33"E
Midpoint: 30°21’12”N – 130°24’30”E

Yakushima and Kuchinoerabu Jima

Kuchinoerabu Jima

Yakushima



← National park

← World Natural Heritage

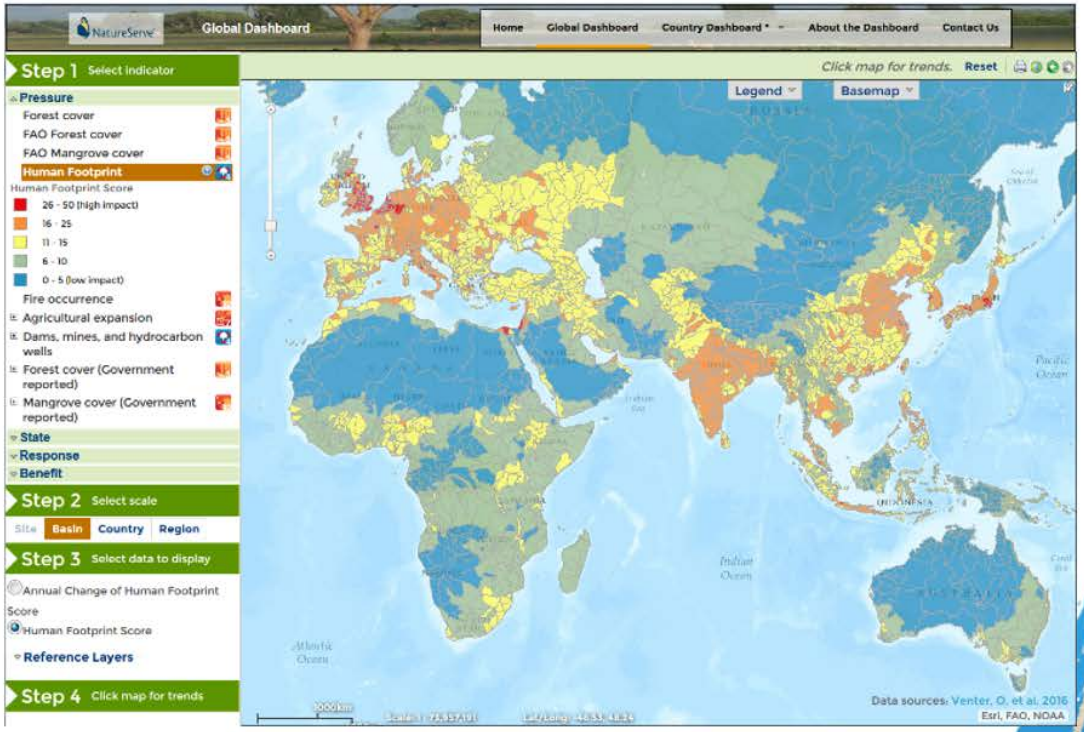
← Strictly protected area

Yakushika: *Cervus nippon yakushimae*

Yakushima: Vegetation loss by deer grazing

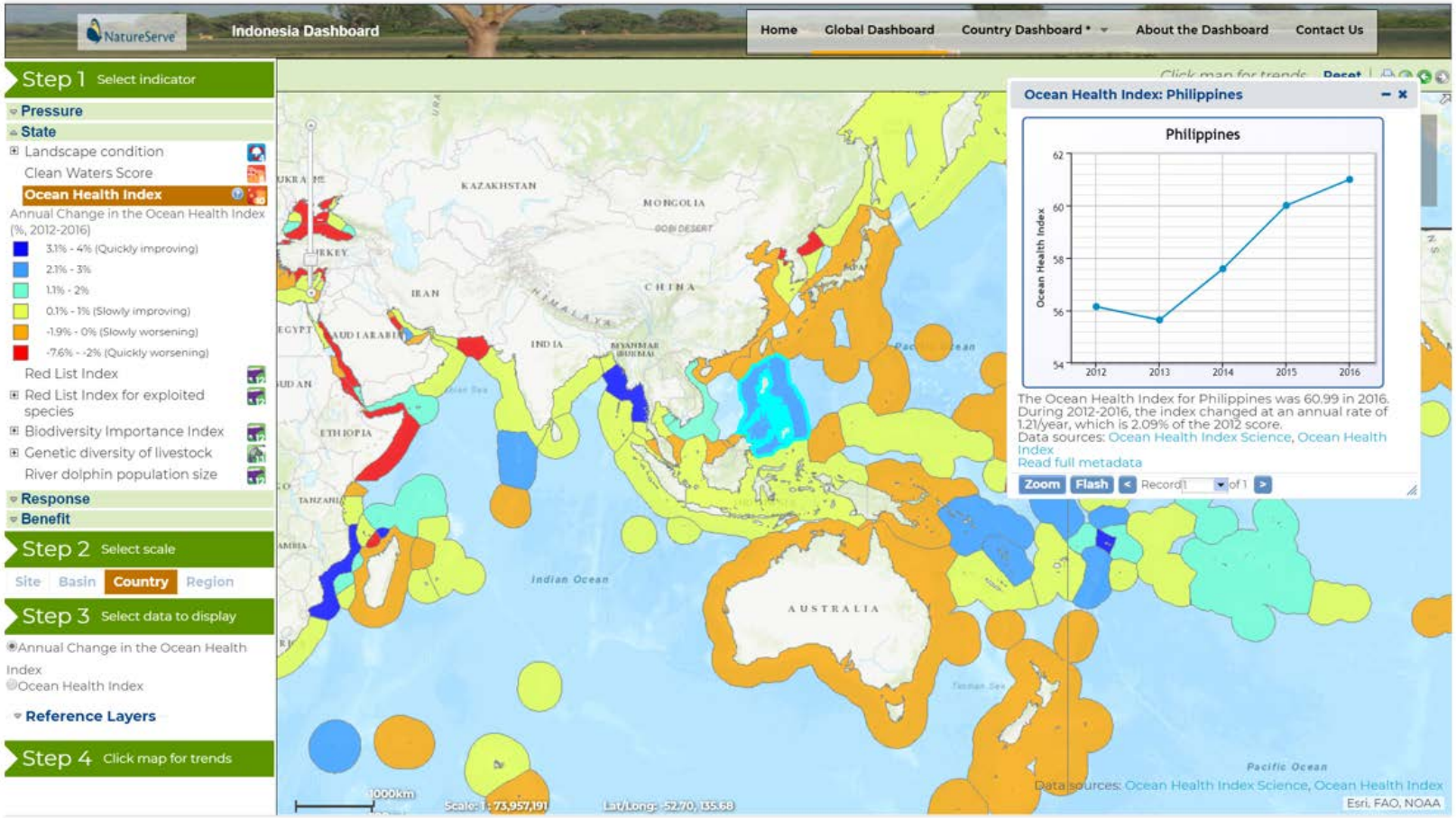
Project 5 Developing Tailor-fit Indicators and Visualization Tools

Analysis, **visualization**, and **communication** of datasets on biodiversity status and trends



Project 5 Developing Tailor-fit Indicators and Visualization Tools

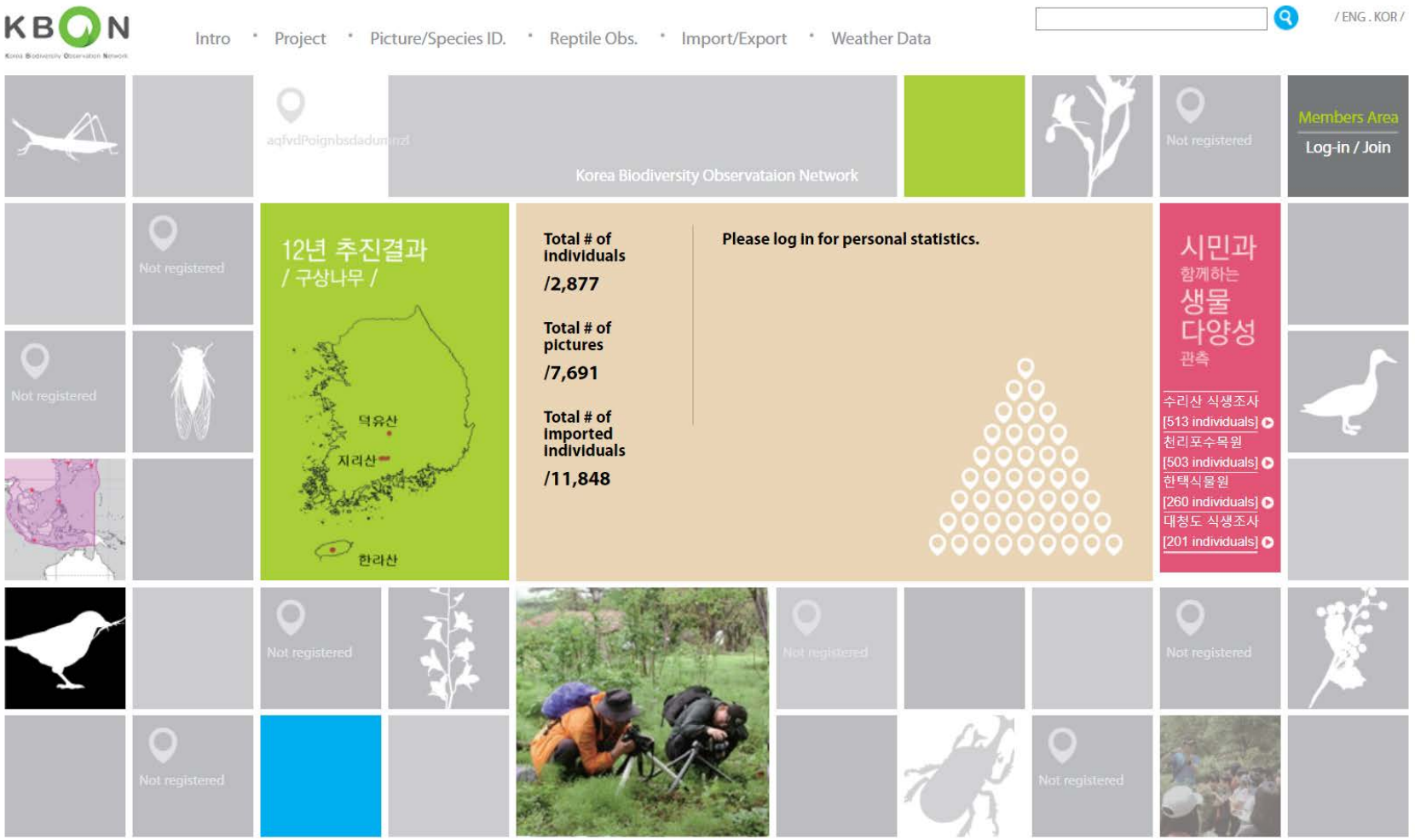
Marine Indicators



-- Indicator from Ocean Health Index Science

Networking observations by citizen

Good success in Korea and Japan



Networking observations by citizen

Flora of Vietnam Facebook group

Capacity building

Development of biodiversity informatics cookbook and regional training workshop for Asia in 2016

Mao-Ning Tuanmu[1] & Tsuyoshi Hosoya[2]

[1]Taiwan Biodiversity Information Facility (TaiBIF)

[2]Japan Node of Global Biodiversity Information Facility (JBIF)

2017 GBIF Asia Regional Meeting

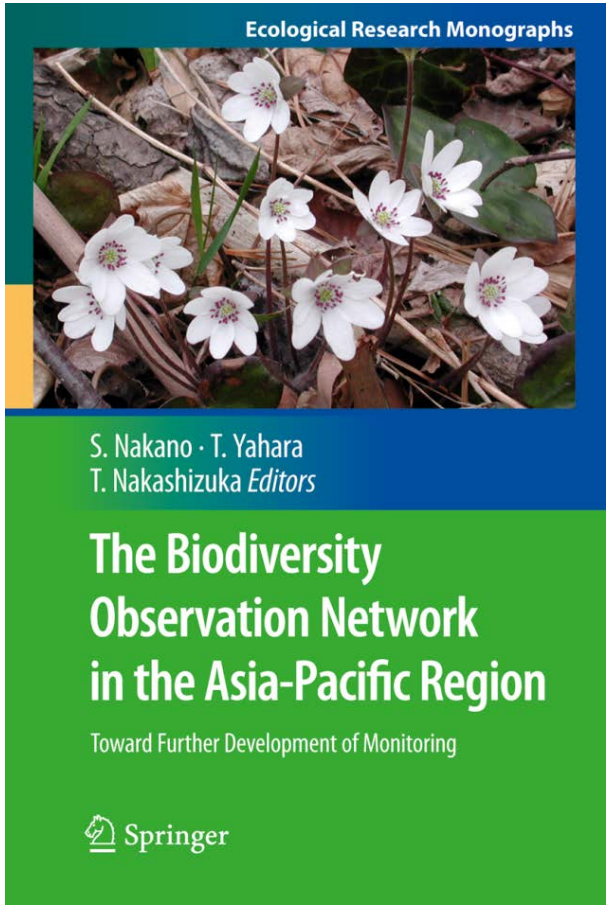
2017-06-13

Hanoi, Vietnam

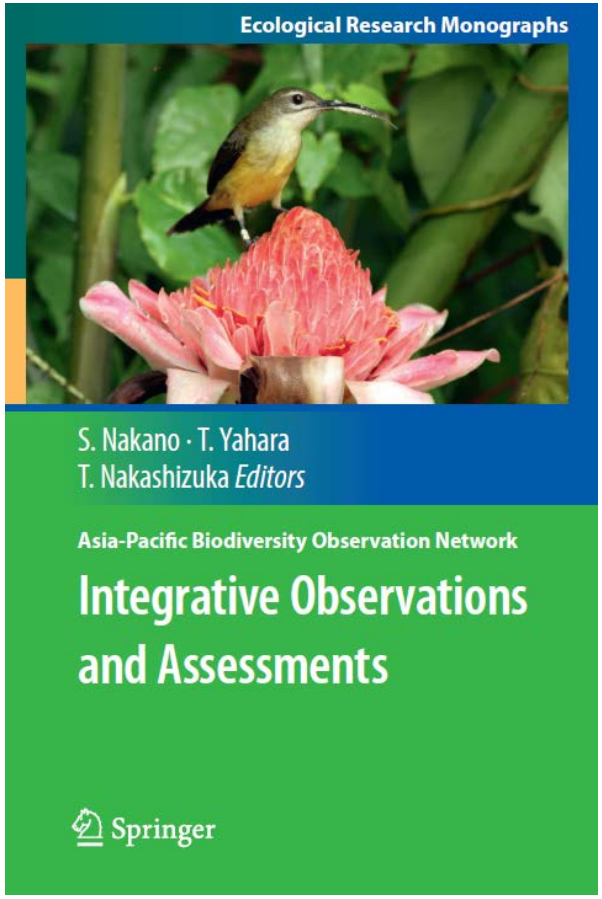
https://assets.ctfassets.net/uo17ejk9rkwj/mZRkHybrrwcacKSucGa2c/8a688316ef1664e15c3bc62008987877/9_Development_of_biodiversity_informatics_cookbook_and_regional_training_workshop_for_Asia_in_2016.pdf

Publication of AP BON Book series

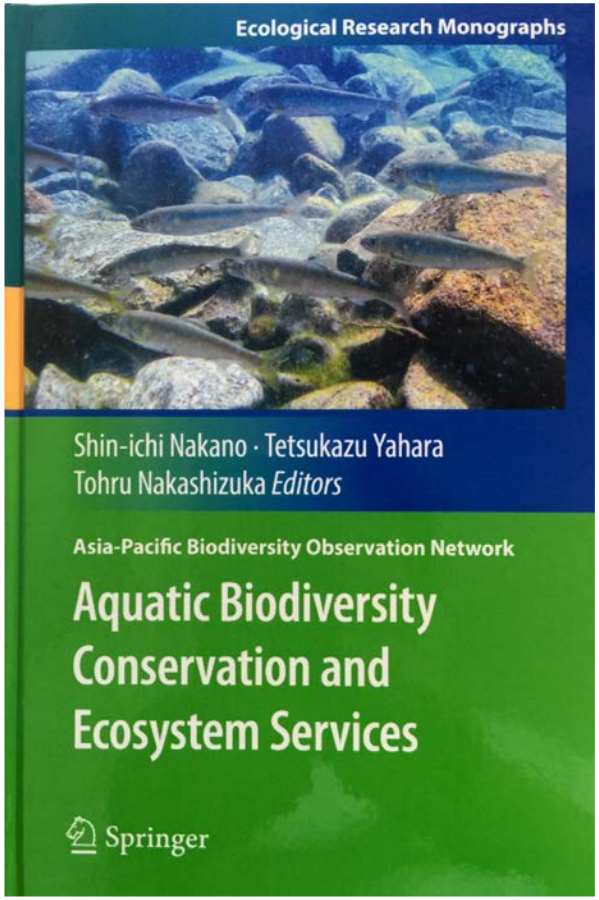
2012



2014

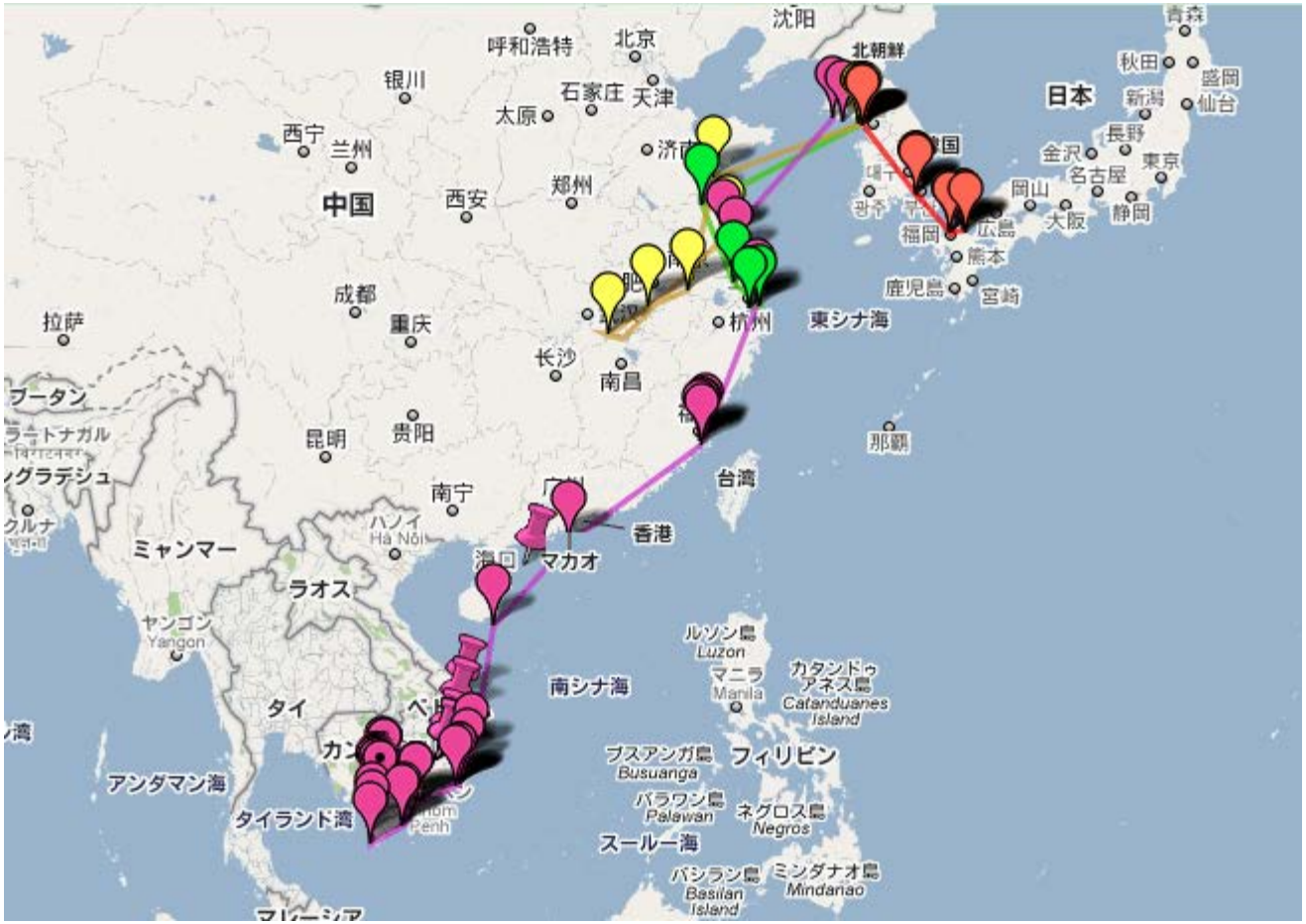


2016



Networking migratory birds observations

The case of black-faced spoonbill



Center for Asian Conservation Ecology

Korea, Japan, China, Vietnam and Cambodia are connected

- 15:45-16:10 Keynote presentation and discussion (from forest)
  - **“Networking of forest plots in Asian countries”**
  - Chair (and 5 min. presentation): Kaoru Kitajima
- 16:10-16:35 Keynote presentation and discussion (from forest)
  - **“Relationship among phenology, ecosystem process, and biodiversity”**
  - Chair (and 5 min. presentation): Shin Nagai
- 16:35-16:50 Keynote presentation and discussion (from forest)
  - **“Possible linkage with the UNESCO’s Man and Biosphere programme”**
  - Chair: Yayoi Takeuchi
  - Dedy Darnaedi: UNESCO’s Man and Biosphere programme in Indonesia
- 16:50-17:15 Keynote presentation and discussion (from forest)
  - **“Evaluation of ecosystem services and biodiversity in river basin scale”**
  - Chair (and 5 min. presentation): Yongyut Trisurat
- 17:15-17:45 Keynote presentation and discussion (from fresh water)
  - **“Threats and future of freshwater fish biodiversity in Southeast Asia”**
  - Chair (and 5 min. presentation): Yuichi Kano
- 17:45-17:50 **Activities in TERN Australia** (Mark Grant)
- 17:50-18:00 Announcement and comments

Co-chairs and co-organizers

- **Co-chairs:**
- Tetsukazu Yahara (Kyusyu Universeity, Japan)
- Sheila Vergara (ASEAN Centre of Biodiversity, Philippines)
- Yongyut Trisurat (Kasetsart University, Thailand)
-
- **Session Co-organizers:**
- Yayoi Takeuchi (National Institute for Environmental Studies, Japan)
- Shin Nagai (JAMSTEC, Japan)
- Takehisa Yamakita (JAMSTEC, Japan)
- Yuichi Kano (Kyusyu University, Japan)
- Kaoru Kitajima (Kyoto University, Japan)