

**Message**
from the Chairperson**Shin-ichi Nakano**

Happy New Year! I hope the year 2020 will be full of success and happiness for all of you. In this year, we are going to have two important international meetings in East Asia: the 9th EAFES International Congress of the East Asian Federation of Ecological Societies (EAFES) and the 35th Congress of the International Society of Limnology.

The former congress will be held in Hohhot, China on June 19-22. EAFES is the federation of collaboration among ecological societies of China, Korea and Japan, and we hold an international congress every two years. The congress is hosted by the Ecological Society of China (ESC) this year. The theme of the congress is "Harmonizing People and Nature for Better Asia", which focuses on harmonious and sustainable development among people, nature and society in the

context of Asia development. Hohhot, the capital of the Inner Mongolia Autonomous Region, is located 140km away from Genetala Grassland which is famous for the natural beauty.

Please refer to <http://eafes2020.csp.escience.cn>.

The latter congress will be held in Gwangju, South Korea, from 23 to 28 August. The theme of congress is "Biodiversity and Ecosystem Functions: Healthy Rivers, Lakes, and Humans". The congress would be dominated by limnologists, and I am strongly sure we would have many ecology and biodiversity researchers in aquatic systems. Gwangju, the capital of the Honam region, is located in the southwestern part of South Korea. It is famous for its rich and diverse cuisine. Gwangju is also well known as a symbol city of democracy, Human Rights and Peace.

Please see <http://sil2020.org> for more details.

Those two are very important for ecology and biodiversity research in Asia. Do not miss them!

**Message**
from the Secretary General**Atsushi Ishida**

We held 2019 DIWPA International Field Biology Course (IFBC) in Indonesia last August. Please see page 2 to 4 for details. Moreover, DIWPA invited Dr. Jia Huan Liew from The University of Hong Kong to *Symposium of Integrative Biology II: World Tour*, sponsored by Center for Biological Research, Kyoto University, last November. He introduces his report on page 5 to 7 of this newsletter.

Now, we are making a plan of 2020 IFBC at the Ogasawara (Bonin) Islands, locating in the subtropical North Pacific Ocean about 1,000 km south of Tokyo, Japan. Many endemic livings exist in the islands and they were recognized as one of the World Natural

Heritage sites in 2011 by UNESCO. According to the climate record during the last 50 years in the islands, the temperature and vapor pressure in air are gradually increasing year by year. Although no trends are found in the annual precipitation, the number of days without rain has significantly increased during the last 50 years. Nowadays, I feel that the event of drought-induced tree death and the number of working time of the seawater desalination plant have increased, especially when the precipitation was low. In the next IFBC, we would like not only to make a training course of tree physiology but also to introduce the activity of forest conservation in the oceanic islands. More details will be announced in the near future, and we will invite young researchers for the IFBC in 2020 through DIWPA homepage.

<http://diwpa.ecology.kyoto-u.ac.jp/index.html>

2019 DIWPA International Field Biology Course (IFBC) at The Upstream of Citarum River-Indonesia

Luki Subehi, Imroatushshoolikhah and Gunawan Pratama Yoga

Research Center for Limnology
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The International Conference on Tropical Limnology 2019 (Troplimno 2019) was conducted in Salak Hotel - The Heritage, Bogor, Indonesia from August 28 to 30, 2019 (<https://www.troplimno2019.or.id>). The Research Center for Limnology (RCL), Indonesia Institute of Sciences (LIPI) is responsible for the organization of the conference. To begin with, One-day Workshop of International Field Biology Course (DIWPA IFBC) by Kyoto University, Japan, preceded Troplimno 2019 on August 27. 2019 DIWPA IFBC in Indonesia is proposed by Dr. Luki Subehi from RCL - LIPI, as a member of DIWPA. Prof. Shinichi Nakano, DIWPA Chairperson, and Associate Prof. Hiromi Uno, an expert instructor of DIWPA, were also supported and guided the workshop.

Furthermore, RCL set up the National Lake Forum on the first day of the conference, August 28 and Annual National Scientific Meeting of the Indonesian Society of Limnology on the last day, August 30. In conjunction with the conference, South East Asian Limnological Network (SEALNet) conducted the second meeting on August 29, 2019.

One-day workshop location : The Cibodas Botanical Garden

The participants could enjoy the scenery of beautiful vegetation, since the location is in the area of the Cibodas Botanical Garden. This Botanical Garden was founded in 1852 by J. E. Teijsmann, a Dutch botanist. It is on the slope of twin volcanoes, Gede Pangrango, approximately 1,300-1,425 meters above mean sea level. It is located about 100 km from Jakarta, the capital city of Indonesia, and approximately 80 km from Bandung, the capital city of West Java. The Garden has an average annual precipitation of 2,972 mm, where the wet season usually occurs from September to February. The Temperatures range from 16 to 28°C. The range of humidity is from 70 - 90%. (Fig. 1)

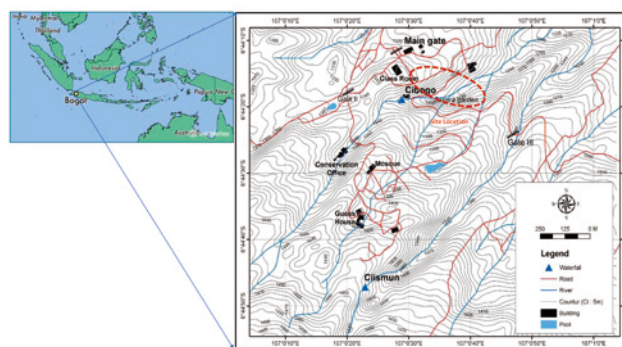


Fig. 1. Location map of one-day workshop

The Garden covers an area of 86 ha and divided into nine sections (blocks), which are not only planted by living tree collections, but also are occupied by lawns, ponds, buildings, stone paths and forested areas.

There are two main rivers in the garden, namely the Cibodas River and the Ciwalen River. The Cibodas River flows from the south to the eastern part and the stream creates a beautiful waterfall namely Ciismun Waterfall. The Ciwalen River flows through the middle of the garden. Cibogo waterfall, which was used as a sampling site of IFBC workshop, is located in this river.

The Participant

A total of 23 participants joined in the workshop. Based on the theme “Basic methods for stream ecology”, it was held at upstream of Citarum River, particularly in Ciwalen River and Cibogo waterfall. This location is part of the Cibodas Botanical Garden, Indonesian Institute of Sciences. The participants



Fig. 2. A group photo of the participants

came from several countries including the United Kingdom, Thailand, Cambodia and Indonesia, which have various backgrounds such as a research institute, university and ministry of government. (Fig. 2)

The Workshop

Basic method of stream ecology is an important step for studying the dynamics of the ecosystem in tropical climate. In this workshop, we conducted two assessments: habitat assessment and biological assessment. We did activities both in the field and in the class/lab.

First, Prof. Nakano and Associate Prof. Uno gave brief introductions in the beginning of the workshop. Prof. Nakano explained his experiment related to the microalgae and its roles in the ecosystem. Then, Associate Prof. Uno introduced some aquatic insects which commonly found in stream ecosystems, as a prologue of the fieldwork.

After they finished the introduction, the participants were divided into three groups. These three were doing sampling in three different types of habitat: Sunny, Shaded and Cascade. Every group brought some equipment to collect the data and samples, such as net-surber, small net, tray, small bottle for algae, brush, densimeter, petri dish, tweezers and papers.

The details of the fieldwork activities are described as below: (Fig. 3)

- Describing the general stream water

quality: water temperature, pH, conductivity and dissolved oxygen concentration. Those parameters was measured by using Water Quality Checker.

- Assessing habitat condition: canopy openness was counted by using densimeter; water discharge was measured by using a flow meter and roll meter.
- Biological sampling: benthic invertebrates were taken by using net-Surber; and algae were sampled by using net-plankton.



Fig. 3. Fieldwork (physical habitat measurement)

The Results

After having collected the data and the samples, every groups analyzed the physical aspects of those three types of habitat, including the water discharge and the canopy opened. Then, every group identified the invertebrates and observed the algae, which had collected in the stream.

The result shows that, based on the canopy openness analysis, these three habitats have quite similar openness between one and another. The canopy openness in the Sunny habitat was around

17,9%. This location was the more open than two others. Meanwhile, in the Shaded area, it's around 17.2%. The shaded area more open than the Cascade area (16.9%).

However, based on the biological samples, the Sunny habitat shows the most variable of invertebrates. Eleven families were found, which consists of ten families of aquatic insects and one family of flatworm, with the total of 46 individuals. According to the Functional Feeding Group (FFG), invertebrates in the Sunny area dominated by collector feeder and then were followed by grazer. While, the Shaded area was occupied by ten families of invertebrates, which consists of eight families aquatic insects and two families of flatworms with the total of 50 individuals. In this second type habitat, most of the invertebrates are found from collector feeder and shredder in the second place. Meanwhile, in the third type habitat, the Cascade area, consists of seven families of aquatic insects, one family of flatworm and one family of amphipod. Those nine families are mostly collector feeder and predator. (Fig. 4)



Fig. 4. Lively discussion

Symposium of Integrative Biology II: World Tour

Jia Huan Liew

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The Anthropocene is defined by global human activity and its dominance in driving contemporary environmental change. An unfortunate by-product of the exponential growth of the human footprint is the proliferation of complex issues requiring international and interdisciplinary solutions. It was therefore very timely that *the Symposium of Integrative Biology II: World Tour* brought together experts from over the world in various fields of study to discuss several pressing environmental issues. (Fig. 1) I was very fortunate to be invited as an early career scientist to speak at the symposium, and in this issue of the DIWPA News Letter, I have also been given the privilege to summarise my thoughts about the meeting.

The symposium was headlined by four keynote talks by Professors Kanehiro Kitayama, Richard Corlett, Shiro Koshima, and LeRoy Poff, respectively. The keynote talks highlighted a recurring theme throughout the symposium: a need for international collaborations and cross-border capacity building. Human population growth and development in the coming decades are likely to be most intense in the developing parts of the world, yet the scientific expertise and resources in these regions can sometimes be limiting. Talks from Drs. Kitayama, Koshima, and Poff illustrate how the uneven distribution of scientific resources can partly be overcome if the growth of local research infrastructures is emphasized



Fig. 1. A group photo of the participants

in international collaborations. The joint research efforts also achieved more than scientific publications. Often, data collection efforts initiated by these projects continue for years, or even decades—suggesting great potential for scientific discovery from within communities which were historically under-represented in wider academia. This notion was further reinforced by Dr. Corlett’s insights into the growing environmental awareness amongst the general population of a rapidly developing Southeast Asia. Overall, the keynote talks encouraged cautious optimism amidst the often-gloomy undertones in discussions about the state and future of our natural environment. (Fig. 2)

During the symposium, I was impressed on many occasions by the organisers’ support of young researchers — many members of the committee being early-career scientists themselves. Five of the six invited talks were allotted to young scientists. These represented a change in pace and were generally more



Fig. 2. World map marking the participants’ research areas and countries visited

geographically and/or taxonomically focused than the keynote presentations. Drs. Nishikawa, Ishihara, Sato, and Takayama presented findings which are scientifically important, yet, represent only a portion of ongoing research undertakings. This was exciting to me because it demonstrates great ambition and clear research directions, in spite of recent concerns about the viability of a career in academia as young scientists. Dr. Hobbie added experience to the proceedings by highlighting the value of paying attention to the more cryptic components of our study systems. In our pursuit of a wider understanding of the natural world, I am reminded of the need to balance scientific inquiry with a greater depth of knowledge within specific fields of research. (Fig. 3)



Fig. 3. Prof. Ishida introduces Jia Huan Liew at the Symposium of Integrative Biology II: World Tour

The symposium’s formalities ended with a poster session involving more than 60 presentations. The organising committee opted for a more casual approach, encouraging poster presenters to interact with other participants in lieu of standing-by their presentations. This turned out to be a good decision as poster presenters had the opportunity to freely discuss their work and interact with

their peers. It was evident that neither nationality nor seniority in the academy were barriers to lively exchanges over a generous spread of local and international delicacies.

A major highlight for me, was the post-symposium field workshop at Ashiu Forest Research Station. As with much of the symposium proper, the post-symposium field workshop was well thought-out and carefully planned. Participants were given the opportunity to choose research areas/organisms of interest and each group was guided through unique hands-on experiences. I chose to join the ‘fish group’ led by Drs. Nakagawa and Uno. Having spent almost my entire career so far working in the tropics, I found great value in learning about the diversity and ecology of temperate Japanese streams. It would also be remiss of me to not remark

that the field workshop was as much fun as it was educational. I had the opportunity to explore a new environment using field equipment that were similarly unfamiliar to me — the latter being a source of amusement to fellow participants in my group. (Fig. 4)

The Symposium of Integrative Biology II: World Tour did an admirable job in balancing the importance of outlining the current state of science with the need to look forward to what is to come. I am very grateful to DIWPA and the organisers of the meeting for the opportunity to be a part of the meeting, and I am thankful for all the exciting potential research collaborations as well as the many new friendships formed.



Fig. 4. Sampling with a cast net in a stream in the Ashiu Forest Research Station



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Nominations Open for The MIDORI Prize for Biodiversity 2020

The MIDORI Prize for Biodiversity is established with the aim of promoting biodiversity conservation and sustainable use. The MIDORI Prize is a biennial international prize to honor individuals who have made outstanding contributions to the conservation and sustainable use of biodiversity at global, regional or local levels, established by the AEON Environmental Foundation in 2010 in commemoration of the 20th anniversary of the Foundation.

Nominations from the public are accepted through the MIDORI Prize website. Nominations are also invited from experts who are academics, scientists and others working on biodiversity around the world. Nomination deadline is March 30, 2020. Please find further information at <https://www.aeon.info/ef/en/prize/>.

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