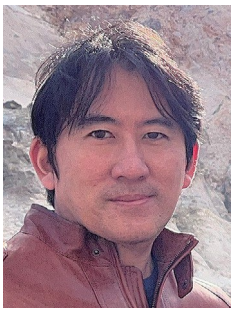
Plenary Lecture 1

July 19 (Sat) 15:45-17:00 : Room A

A call for a greater focus on intraspecific variation to integrate biodiversity, ecosystem functioning, evolutionary dynamics, and geodiversity



Shunsuke UTSUMI
Professor, Hokkaido University, Japan
ESJ

There is a great concern regarding biodiversity loss. The rapid decline of intraspecific variation, encompassing genomic and phenotypic diversity within and among populations, represents a hidden biodiversity crisis. Biodiversity assessments often overlook this critical loss within species. While biodiversity exists at multiple levels in the biological organization, most assessments focus primarily on species diversity and phylogenetic diversity among species. As a result, the significance of intraspecific diversity is frequently ignored.

Intraspecific diversity plays a fundamental role in shaping community structure and ecosystem function. Previous studies across various taxonomic groups have demonstrated that differences in genotypes can significantly influence population growth rate, community diversity, and ecosystem processes. Moreover, ecological effects of interspecific and intraspecific diversity are often comparable in magnitude, and both diversities can interactively influence ecosystem functioning outcomes.

Intraspecific variation is also a crucial source of evolutionary responses to environmental changes. Anthropogenic environmental changes, such as urbanization, trigger rapid evolution in many organisms. However, if intraspecific variation is lost, species may lose their ability to adapt to these changes. Understanding how intraspecific variation supports adaptive evolution and monitoring its spatio-temporal dynamics within and among species are urgent research priorities. Importantly, interspecific and intraspecific diversity are interconnected. Changes in species diversity and composition can impose different natural selection, altering genetic variation within species. These evolutionary shifts, in turn, influence species diversity and composition, forming a process known as eco-evolutionary feedback. While eco-evolutionary feedback can contribute to the maintenance of biodiversity at both interspecific and intraspecific levels, its role remains poorly understood in natural populations and communities.

Finally, geodiversity—the comprehensive abiotic heterogeneity of Earth's surface and subsurface—is gaining recognition for its influence on biodiversity and community assembly. It is well established that abiotic environments shape biodiversity and vice versa. However, the detailed relationship between geodiversity and biodiversity, in particular intraspecific diversity, remains largely unexplored. Thus, we need to newly bridge the gaps among multiple biological levels from gene to ecosystem.

In this talk, I will discuss a demand of much greater focus on intraspecific variation towards integrating biodiversity, ecosystem functioning, evolutionary dynamics, and geodiversity, even though we have already recognized the importance of intraspecific variation. Recent advances of methodology can provide tools and dataset for the new integration. We should reflourish studies on intraspecific variation in multiple fields in ecology and evolution, and in both basic and applied sides.

Plenary Lecture 2
July 19 (Sat) 15:45-17:00 : Room A

ESG, TNFD and Biodiversity Conservation

Do-Soon CHO
Professor Emeritus, Catholic University of Korea
Ex-President, National Institute of Ecology, Korea
ESK

In the 21st century, the most serious global environmental crises are global climate change and loss of biodiversity, and CBD and UNFCCC were launched at the Rio Earth Summit in 1992 to deal with these challenges. However, these two issues cannot be solved without the participation of private sectors since private corporations are significant contributors of carbon emissions and conversion and destruction of natural habitats. Fortunately, ESG (Environmental, Social and Governance) framework has emerged as a critical driver for integrating these environmental challenges into corporate and financial decision-making. ESG focuses on non-financial factors that can impact a company's long-term performance and sustainability. In the environmental pillar of ESG, climate change is currently the hottest issue, but biodiversity loss is expected to become comparable to climate change in its importance. Many international organizations and reporting initiatives have prepared disclosure standards, and EU, USA, and other countries will enforce these guidelines into regulations. However, ESG has some shortcomings in biodiversity conservation such as lack of clear standardized metrics for biodiversity, weak representation within environmental field and possibility of greenwashing, and this is part of the background for the establishment of TNFD. TNFD (Taskforce on Nature-related Financial Disclosures), launched in 2021, is a global initiative that builds on the success of TCFD (focused on climate) but applies its principles to nature-related risks. TNFD provides companies with a comprehensive framework to assess and disclose their dependencies, impacts, risks, and opportunities related to nature. Its core methodology, the LEAP (Locate, Evaluate, Assess, Prepare) approach, helps organizations systematically analyze how their activities interact with ecosystems and biodiversity. It aims to redirect financial flows toward nature-positive outcomes, thereby contributing significantly to biodiversity conservation. Its final recommendation was announced in September 2023, and it aligns with global policy goals such as the Kunming-Montreal GBF (Global Biodiversity Framework). Kunming-Montreal GBF target 15 is related with ESG, asking businesses to assess, disclose and reduce biodiversity-related risks and negative impacts. In 2023, Korean Government established NBSAP for 2024-2028 based on the Kunming-Montreal GBF, setting up 21 targets, one of which is ESG management (disclosure) on biodiversity. ESG and TNFD together with Kunming-Montreal GBF will serve as a pivotal tool in integrating biodiversity considerations into financial and business practices. Difficulties and current trends related with ESG and TNFD will be discussed.

Plenary Lecture 3

July 20 (Sun) 9:00-9:45 : Room A

Spatial conservation planning toward integrated solutions for biodiversity conservation and other environmental and social issues

Fumiko ISHIHAMA
Chief Senior Researcher, National Institute for Environmental Studies, Japan
ESJ

Spatial conservation planning is becoming increasingly important. in recent years. The“30 by 30”goal that aims to conserve 30% of the land and sea by 2030 is exactly on spatial planning. In addition to biodiversity conservation, there are multiple critical environmental issues that need to be addressed at the same time as conservation, such as climate change mitigation. Spatial planning is also essential to the simultaneous resolution of such environmental issues, for ex- ample, ensuring the appropriate siting of renewable energy installations considering conservation.
In addition, because of limited human and financial resources, it is essential to search for measures that enable integrated solutions of conservation and the other social issues using ecosystem services, such as disaster prevention and sustainable agriculture utilizing pollination service. Spatial planning also plays an important role for such purposes by efficiently allocating area of conservation and land uses depending on ecosystem services. I will introduce examples of integrated spatial planning analysis in Japan and discuss research efforts related to the “Nature Symbiosis Sites,” which are the Japanese certification system of OECM (Other Effective Area-based Conservation Measures), which is attracting attention in achieving the 30by30 target.

Plenary Lecture 4
July 21 (Mon) 9:00-9:45 : Room A

Planetary homeostasis of reactive nitrogen

Yongguan ZHU
Director General, Research Center for Eco-Environmental Sciences, CAS, China
ESC

Nitrogen is an essential element for all lives. The increasing demand to feed growing world population requires ever increasing use of chemical nitrogen, which has dire consequences on both environmental quality and climate change, such as the emission of potent greenhouse gas-N_2O and high demand on energy for ammonia synthesis. On a global average, reactive nitrogen (Nr) in Earth's environment has crossed the safe operation space of the planetary boundaries, therefore maintaining the homeostasis of reactive nitrogen is key to planetary health and sustainability. This presentation will discuss major pathways that will contribute to the mitigation of environmental pollution with Nr. The first pathway is the anaerobic ammonium oxidation (anammox) process that can counteract the release of ammonium and N_2O in many oxygen-limited situations, facilitating the homeostasis of Nr in the Earth's ecosystem. In this talk we will discuss the characteristics of the anammox hotspots across various types of ecosystems, particularly at the oxic-anoxic transition zones worldwide. Based on the discovery of an anammox hotspot capable of oxidizing ammonium under anoxic conditions into N_2 without N_2O by-product, an innovative concept and technical route of nature-based anammox hotspot geoengineering has been developed and used in the real world. In this 'Earth's wrinkle zones' geoengineering project, anammox has been proven to be effective in ensuring clean drinking water, regulating the climate, fostering plant and animal diversity, and enhancing long-term environmental quality. The second pathway is to use microbial reduction of N_2O through the enzyme N_2O reductase (NosZ), which catalyzes the reduction of N_2O to N_2, thus mitigating the emission of greenhouse gas and reducing Nr pollution. It has been demonstrated that by using organic waste as a substrate and vector for N_2O-respiring bacteria selected for their capacity to thrive, thus will significantly strengthen NosZ activity in the environment to mitigate N_2O emission. The last route this talk will cover is the Nr retention and recovery from soil and waste stream, which is facilitated by both microbial and chemical processes, such as abiotic nitrate reduction to ammonium in paddy soils, and microbial protein production from high Nr-organic wastes.

Symposium Program

Symposium 01 July 20 (Sun) 10:00-12:00 Room A

Responses of forest ecosystems to geographical and temporal environmental changes in East Asia

Organizer Hiroyuki Muraoka (The University of Tokyo, ESJ)

Co-Organizer Tsutom Hiura (The University of Tokyo, ESJ)

Forest ecosystems cover approximately 30% of the terrestrial biosphere and play crucial roles in providing ecosystem services such as environmental regulation, biodiversity conservation, and natural resources. Ecological and biogeochemical mechanisms on the temporal dynamics of tree and forest growth, their consequences with carbon and nutrient cycles, and impacts on local and regional ecosystem services in a changing environment have been explored by numerous scientists in the last decades. These understandings are formulating our fundamental knowledge in basic ecology and development of Earth system science under climate change. However, we are facing urgent needs of further comprehensive understanding on the forest ecosystem dynamics and their responses to ongoing and future climate change for pursuing harmonization of nature and society. This symposium will share recent knowledge on tree growth, carbon cycle, and ecosystem functions in a changing environment in typical forest ecosystems in East Asia. We will learn achievements and emerging research questions from intensive studies applying broad-scale plot surveys, open-field manipulation experiments, and carbon cycle process research. Through the presentations and discussions, we aim to gain further insights on how these forest ecosystem studies contribute to biodiversity conservation and forest management in the era of climate and societal changes.

S01-1 Unraveling the diversity-productivity link: Findings from long-term forest census records
＊Tetsuo I. Kohyama (The University of Tokyo, ESJ), Tsutom Hiura (The University of Tokyo), Douglas Sheil (Wageningen University and Research), Takashi S. Kohyama (Hokkaido University)

S01-2 Long-Term Forest Dynamics in a Typhoon-Prone Ecosystem: 20 Years of Research at Fushan FDP, Taiwan
＊I-Fang Sun (National Dong Hwa University)

S01-3 Responses of *Pinus densiflora* seedlings to open-field climate manipulation: a synthesis of fifteen years of experiments
＊Yowhan Son (Korea University, ESK), Heejae Jo (Korea University)

S01-4 Effects of long-term warming on plant-insect interactions in boreal forest
＊Masahiro Nakamura (Hokkaido University, ESJ), Takafumi Hino (Hokkaido Research Organization), Chisato Terada (Hokkaido University), Hayato Iijima (Forestry and Forest Products Research Institute), Tatsuro Nakaji (Hokkaido University), Tsutom Hiura (The University of Tokyo)

S01-5 Assessment of Alpine Forest Expansion in Taiwan: A Multi-Temporal Analysis (1980-2021)
＊Teng-Chiu Lin (National Taiwan Normal University), Kuang-Yu Chen (National Taiwan Normal University)

Symposium 02 July 20 (Sun) 10:00-12:00 Room B

Ecology and biogeography of aquatic organisms in various systems

Organizer Shin-ichi Nakano (Kyoto University, ESJ)

Co-Organizer Renhui Li (Wenzhou University)

Aquatic organisms are susceptible to subtle changes in environmental conditions and have been used as indicators of eutrophication, pollution, and climate warming. These organisms also drive biogeochemical processes regulated through stoichiometry (carbon, nitrogen, and phosphorus mass-balance). Thus, information about the ecology, biodiversity, and biogeography of aquatic organisms provides both structural and functional understanding for freshwater, brackish, and marine systems, and can be used for environmental assessments. The purpose of this symposium is to stimulate studies on the ecology, biodiversity, and biogeography of aquatic organisms, along with research on biogeochemical processes. We welcome any topics related to aquatic organisms in freshwater, brackish, and marine systems, regardless of whether the talks are basic or applied. Most importantly, we encourage presentations by budding researchers such as students and post-docs.

S02-1 Benthic cyanobacteria/cyanobacterial biofilms: diversity and eco-environmental effects

＊Renhui Li (College of Life and Environmental Sciences, Wenzhou University), Youxin Chen (Institute of Hydrobiology, the Chinese Academy of Sciences), Yao Cheng (College of Life Science and Technology, Harbin Normal University), Yangyang Wu (College of Life and Environmental Sciences, Wenzhou University), Ruozheng Geng (College of Life and Environmental Sciences, Wenzhou University)

S02-2 Physiological response of toxin-producing *Microcystis aeruginosa* to CO_2 change

＊Nanqin Gan (Institute of Hydrobiology, CAS/University of Chinese Academy of Sciences), Jingyu Jiang (Institute of Hydrobiology, CAS)

S02-3 Spatiotemporal change of snow-ice microbes on the glacier

＊Masato Ono (Center for Ecological Research, Kyoto University, ESJ), Jun Uetake (Field Science Center for Northern Biosphere, Hokkaido University), Fuki Konishi (Graduate School of Science and Engineering, Chiba University), Daiki Seto (Graduate School of Science and Engineering, Chiba University), Suzunosuke Usuba (Graduate School of Science and Engineering, Chiba University), Kino Kobayashi (Graduate School of Science and Engineering, Chiba University), Nozomu Takeuchi (Department of Earth Sciences, Graduate School of Science, Chiba University)

S02-4 Diversity and feeding strategy of predatory protist and their application to the control of harmful algal bloom

＊Yingchun Gong (Institute of Hydrobiology, Chinese Academy of Sciences)

S02-5 Simulating the response of freshwater plankton communities to climate change in Republic of Korea

＊Hyun-Woo Kim (Sunchon National University, ESK), Hyo Gyeom Kim (Korea Environment Institute), Gea-Jae Joo (Pusan National University)

S02-6 Interpreting long-term changes of food web structure of fish community in brackish water along environmental gradients

＊Dae-Hee Lee (Kyung Hee University, ESK), Hye-Ji Oh (Nara Women's University), Yerim Choi (Kyung Hee University), Geun-Hyeok Hong (Kyung Hee University), Jeong-Hui Kim (EcoResearch Incorporated), Doo-Hee Won (Doohee Institute of Ecological Research, Korea Ecosystem Service Inc.), Sung-Ho Lim (Doohee Institute of Ecological Research, Korea Ecosystem Service Inc.), Kwang-Hyeon Chang (Kyung Hee University)

S02-7 Cold-water fish distribution responds to horizontal heterogeneity in dissolved oxygen, potentially restructuring offshore lake food webs

＊Ryosuke Katayose (National Institute for Environmental Studies/United Graduate School of Agricultural Science, Tokyo University of Agriculture and Technology, ESJ), Taku Kadoya (National Institute for Environmental Studies)

S02-8 How to improve longitudinal connectivity of aquatic ecosystem: Current status of fish passages in South Korea

＊JuDuk Yoon (National Institute of Ecology, ESK), Dongwon Kang (National Institute of Ecology)

Symposium 03 July 20 (Sun) 10:00-12:00 Room C

Biodiversity, functional stability and restoration of cold and arid ecosystems

Organizer Jianming Deng (State Key Laboratory of Herbage Improvement and Grassland Agro-Ecosystems, College of Ecology, Lanzhou University, ESC)

Co-Organizer Xiang Liu (State Key Laboratory of Herbage Improvement and Grassland Agro-Ecosystems, College of Ecology, Lanzhou University, ESC)

Cold and arid ecosystems, encompassing more than half of the world's terrestrial area, are vital components of the Earth's biosphere. These regions provide indispensable ecosystem functions and services, particularly to countries in the Global South, supporting livelihoods through livestock production, biodiversity conservation, and the regulation of material cycling and energy flow. Additionally, they play a critical role in global carbon sequestration, windbreak and sand fixation, and soil and water conservation, making them essential for mitigating climate change and combating desertification. However, the integrity and resilience of these ecosystems are increasingly threatened by the dual pressures of climate change and human activities. Climate change manifests in these regions through rising temperatures, shifting precipitation patterns, and the increased frequency of extreme weather events, while human activities such as overgrazing, nitrogen deposition, urbanization, and infrastructure development further exacerbate ecological degradation. These stressors collectively undermine biodiversity, disrupt ecosystem functions, and reduce the stability and provisioning of ecosystem services. This symposium, titled "Biodiversity, Functional Stability, and Restoration of Cold and Arid Ecosystems", aims to address these pressing challenges by fostering interdisciplinary discussions and presenting cutting-edge research. We invite contributions that explore the impacts of climate change and human activities on cold and arid ecosystems across multiple scales—from individuals and populations to communities and entire ecosystems. Topics of interest include, but are not limited to, the adaptive mechanisms of plants, animals, and microorganisms; the dynamics of biodiversity under environmental stress; the functional stability of ecosystems in response to disturbances; and innovative strategies for ecosystem restoration and sustainable management. By bringing together ecologists, conservationists, and policymakers, this symposium seeks to advance our understanding of these critical ecosystems and promote science-based solutions for their preservation and restoration. We welcome studies that integrate field observations, experimental approaches, and modeling techniques to provide holistic insights into the challenges and opportunities facing cold and arid ecosystems in a rapidly changing world. Together, we aim to contribute to the global effort of safeguarding these ecosystems for future generations.

S03-1 Asymmetric response of aboveground and belowground temporal stability to nitrogen and phosphorus addition in a Tibetan alpine grassland
＊Yonghui Wang (Inner Mongolia University, ESC), Wenhong Ma (Inner Mongolia University)

S03-2 Microbial Network Complexity of Biocrusts and Its Role in Ecosystem Restoration in Arid Regions
＊Guang Song (Xi'an University of Architecture and Technology, ESC)

S03-3 The effects of fine roots and arbuscular mycorrhizal fungi on soil macropores
＊Ying Zheng (CHANG'AN UNIVERSITY, ESC)

S03-4 Shrub encroachment reduces herbaceous diversity via enhancing light competition in grasslands
＊Yao Xiao (Lanzhou University, ESC)

S03-5 Microbial community succession during soil development in an arid land
＊Yaping Liu (Peking University, ESC), Kazuo Isobe (Peking University), Zhihua Bao (School of Ecology and Environment), Yaru Wei (School of Ecology and Environment)

S03-6 The response of greenhouse gases to global change in a temperate desert steppe
＊Ping Yue (Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences, ESC)

S03-7 The effects of precipitation changes on the stability of plant communities in arid desert steppe ecosystems
＊Xiaoan Zuo (Northwest Institute of Eco-Environment and Resources, Chinese Academy of Science, ESC), Ping Yue (Northwest Institute of Eco-Environment and Resources, Chinese Academy of Science)

S03-8 Biodiversity Patterns and Near-Natural Restoration of Urban Vegetation in Arid and Semi-Arid Regions, Shaanxi Province, China
＊Tianyi Chen (College of Architecture, Xi'an University of Architecture and Technology, ESC), Yuandong Hu (College of Landscape Architecture, Northeast Forestry University), Liangjun Da (Institute of Ecological Science and Engineering for Arid and Semi-Arid Zones, Xi'an University of Architecture and Technology)

S03-9 Navigating the biogeography of wide-spread short-forests in global drylands
＊Ning Chen (Lanzhou University, ESC), Xiaoxue Dong (Lanzhou University), Changming Zhao (Lanzhou University)

S03-10 Impacts of climate change on plant species distribution range and richness in drylands
＊Ying Sun (Lanzhou university, ESC)

Symposium 04 July 20 (Sun) 10:00-12:00 Room D

Pathways to biodiversity-friendly farmlands in East Asia: challenges and opportunities

Organizer Naoki Katayama (Institute for Agro-Environmental Sciences NARO, ESJ)
Co-Organizers Da-Li Lin (Taiwan Biodiversity Research Institute, ESJ)
Yuta Nagano (Kobe University, ESJ)

Agriculture is one of the most detrimental causes of biodiversity loss globally. Nevertheless, the impacts of agriculture on biodiversity depend on various factors, including crop type, management type and intensity, surrounding landscape, climate, and the history of agriculture. For example, low-intensity managed traditional rice paddies can provide habitats for some wetland species. Understanding such complex relationships between agriculture and biodiversity conservation is crucial for paving the way for sustainable agriculture in East Asia. The objective of this symposium is to explore current knowledge, barriers, and opportunities for biodiversity-friendly farmlands. Our focus is broad, and we welcome various topics on different threats (e.g., agricultural intensification, abandonment, and climate change), taxonomic groups (e.g., plants and birds), opportunities (e.g., organic farming, land-sparing approaches, and ecological intensification), and countries. We hope that this symposium will serve as a starting point for future collaborations towards more sustainable agriculture in East Asia.

S04-1 Assessing Anthropogenic Pressures and Habitat Suitability for Farmland Birds in Taiwan: Insights from Chiayi Region
＊Chen-Fa Wu (National Chung Hsing University), Tzu-Yao Liu (National Chung Hsing University), Chih-Peng Tsou (National Chung Hsing University), Luu Van Thong Trac (National Chung Hsing University)

S04-2 Enhancing the Occurrence of Reintroduced Oriental Storks with Wildlife-friendly Rice Paddy Managements
＊Mina Izaki (University of Hyogo/Toyooka Municipal Government, ESJ), Yota Imai (Kobe city College of Technology), Hiromune Mitsuhashi (Museum of Nature and Human Activities), Tomohiro Deguchi (University of Hyogo/Hyogo Park of the Oriental White Stork)

S04-3 Monitoring Population Trajectories of Wild Animals through Low-Cost Conservation Actions in Agricultural Landscapes of Taiwan
＊Da-Li Lin (Taiwan Biodiversity Research Institute, ESJ)

S04-4 Does organic farming promote soil fauna diversity? Lessons from earthworms in subtropical pomelo orchards in Taiwan
＊Chih-Han Chang (Department of Life Science, National Taiwan University/Institute of Ecology and Evolutionary Biology, National Taiwan University), Hui-Ming Zhong (Institute of Ecology and Evolutionary Biology, National Taiwan University), Da-Li Lin (Taiwan Biodiversity Research Institute), Zeng-Yei Hseu (Department of Agricultural Chemistry, National Taiwan University), Pei-Ling Wang (Institute of Oceanography, National Taiwan University)

S04-5 Impact of Solar Power Generation on Habitat Management in Rice-Paddy Wetlands
＊JI YOON KIM (Kunsan National University, ESK), Woong-Bae Park (Kongju National University), Miharu Nakatani (Tokyo Metropolitan University), Kota Tawa (National Institute for Environmental Studies), Shohei Tsujimoto (Meijo University), Yuna Hirano (National Institute for Environmental Studies), Akira Noda (Tokyo Metropolitan University), Yuno Do (Kongju National University), Hyun-Woo Kim (Sunchon National University)

S04-6 Challenges and opportunity for biodiversity conservation in Japanese rice ecosystems
＊Naoki Katayama (NARO, ESJ)

S04-7 Field margin grasslands as a key to enhancing crop pollination services in smallholder agricultural landscapes
＊Yuta Nagano (Kobe University/The University of Tokyo, ESJ), Tadashi Miyashita (The University of Tokyo)

S04-8 Advantages and Challenges of Access to Newly Developed Climate-Resilient Varieties: Case Study on Rice in Asia
＊Kenichi IMAI (Osaka University of Economics and Law, ESJ)

Symposium 05 July 20 (Sun) 13:30-15:30 Room A

Mobilizing regional efforts to conceptualize and craft Essential Biodiversity Variables for East Asia

Organizer Jamie M. Kass (Tohoku University, ESJ)

Co-Organizers Yayoi Takeuchi (Osaka Metropolitan University, National Institute for Environmental Studies, ESJ)
Sangdon Lee (Ewha Womans University, ESK)

International frameworks for ecological monitoring and conservation are developing quickly to address global declines in biodiversity. These frameworks were originally modeled on similar ones for climate change, but as the complexity of biodiversity has resulted in many metrics and definitions, measuring and reporting it have proven to be difficult exercises compared to those for greenhouse gases. In response, a set of Essential Biodiversity Variables (EBVs) was established in 2013 by the Group on Earth Observations Biodiversity Observation Network (GEO BON) to standardize the data products used to derive global indicators. But this framework, mostly envisioned and adopted in North America and Europe, has not seen much development in other regions of the world, including East Asia. As these efforts are global in nature, we must recognize that data availability differs around the world, but also that regional differences in the ways people interact with and manage nature will shape what biodiversity variables they deem "essential". Each region needs agency in deciding how to craft their variables. Particularly in East Asia, data sharing and collaborative ecological research tends to be rather insular, but this must be overcome if we are to develop EBVs that cross country borders. In this symposium, we will discuss what EBVs for East Asia should look like and what progress we are making to realize them. We will also focus on how to cooperatively leverage existing data-collection techniques (e.g., remote sensing, semi-automated monitoring, eDNA) and modeling approaches (e.g., species distribution models, geospatial analysis) to build and maintain shared datasets that describe biodiversity in this region.

S05-1 Implementation and accessibility of modeling methods for production of Essential Biodiversity Variables
＊Jamie M Kass (Tohoku University, ESJ)

S05-2 Advancing Essential Biodiversity Variables in Japan and Asia: fostering regional collaboration for effective implementation
＊Yayoi Takeuchi (Biodiversity Division, National Institute for Environmental Studies/Graduate School of Science, Osaka Metropolitan University, ESJ), Lea Végh (Biodiversity Division, National Institute for Environmental Studies), Jamie M. Kass (Macroecology Lab, Graduate School of Life Sciences, Tohoku University)

S05-3 Assessment of habitat suitability for endangered species in South Korea using MaxEnt models
＊Sangdon Lee (Ewha Womans University, ESK)

S05-4 Spatiotemporal factors driving the distribution of the river otter (*Lutra lutra*) in South Korea using high-resolution imagery
＊Hyomin Park (The Hwaseong Institute/Ewha Womans University), Sangdon Lee (Ewha Womans University)

S05-5 From Data to Decisions: Connecting EBVs to Biodiversity Policy through Citizen Science and Cutting-Edge Technology
＊Chanho Park (Chonnam National University, ESK)

S05-6 Improving the forecast for redistribution of marine biodiversity in East Asia under climate change
＊Zhixin Zhang (South China Sea Institute of Oceanology, Chinese Academy of Sciences, ESC), Xin Wang (South China Sea Institute of Oceanology, Chinese Academy of Sciences), Meng Qu (South China Sea Institute of Oceanology, Chinese Academy of Sciences), Geng Qin (South China Sea Institute of Oceanology, Chinese Academy of Sciences), Jiahui Xu (South China Sea Institute of Oceanology, Chinese Academy of Sciences), Qiang Lin (South China Sea Institute of Oceanology, Chinese Academy of Sciences)

Symposium 06 July 20 (Sun) 13:30-15:30 Room B

Carbon and Nitrogen Cycling in Asian Terrestrial Ecosystems under Global Change

Organizer Yunting Fang (Institute of Applied Ecology, Chinese Academy of Sciences, ESC)
Co-Organizers Naishen Liang (National Institute for Environmental Studies, Japan, ESJ)
Poneng Chiang (National Taiwan University)

Global change, characterized by a complex interplay of factors, is having a far-reaching and profound impact on the structure and function of ecosystems across the globe. Among these, the carbon and nitrogen cycles stand out as key processes within ecosystems. These cycles are not only fundamental to determining the productivity and stability of ecosystems but also play a pivotal role in global climate change. Understanding how the carbon and nitrogen cycles respond to and feedback on global change is of utmost importance. It is essential for accurately predicting future trends in ecosystem changes and formulating effective, targeted strategies.

This session is specifically centered on carbon and nitrogen cycling in Asian ecosystems in the context of global change. Asia, with its diverse range of ecosystems from tropical rainforests to arctic tundras, provides a unique and rich study ground. Global climate change, nitrogen deposition, and land-use change are three major factors that can significantly alter the carbon and nitrogen cycles in these ecosystems. For example, rising temperatures due to climate change can accelerate the decomposition of organic matter, affecting carbon storage. Nitrogen deposition from industrial and agricultural activities can disrupt the natural nitrogen balance, leading to changes in plant growth and biodiversity. Land-use change, such as deforestation and urbanization, can directly modify the carbon and nitrogen stocks in soil and vegetation.

The session aims to gather researchers from various related fields, including ecology, environmental science, and biogeochemistry. By bringing these experts together, we hope to comprehensively explore the impact mechanisms, detailed processes, and wide-ranging ecological effects of the aforementioned factors on the carbon and nitrogen cycles in Asian ecosystems. This session will serve as an excellent platform for participants to exchange and share their latest research findings, which will greatly promote cross-disciplinary integration.

This session will provide scientific evidence and technical support for solving relevant environmental problems. It will also play a crucial role in cultivating and uniting outstanding young scientific researchers in this field. By enhancing international influence, we can better address the global challenges related to carbon and nitrogen cycling. We sincerely invite experts and scholars from around the world to participate in this session and jointly contribute to the research on carbon and nitrogen cycling in ecosystems under global change.

S06-1 The important role of soil microbes in carbon and nitrogen cycling
＊edith bai (Northeast Normal University, ESC)

S06-2 Capacity of foliar NO2 uptake and turnover of assimilated N from a tree seedling leaf-15NO2 feeding study
＊Ronghua Kang (Institute of applied ecology, Chinese academy of Sciences, ESC), Meng Yao (Institute of applied ecology, Chinese academy of Sciences)

S06-3 Effects of long-term high nitrogen deposition on tropical forest ecosystems
＊Xiankai Lu (South China Botanical Garden, Chinese Academy of Sciences, ESC)

S06-4 The key processes of soil C and N response to landuse change in tropics
＊Wenjun Zhou (Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences/University of the Chinese Academy of Sciences, ESC), D. Balasubramanian (Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences), Yunting Fang (Institute of Applied Ecology, Chinese Academy of Sciences, Shenyang 110016, China/ University of the Chinese Academy of Sciences), Ping Ding (Guangzhou Institute of Geochemistry, Chinese Academy of Sciences), Liqing Sha (Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences/University of the Chinese Academy of Sciences), Qinghai Song (Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences/University of the Chinese Academy of Sciences), Yiping Zhang (Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences/University of the Chinese Academy of Sciences)

S06-5 Climate warming reduces carbon sequestration of coastal wetlands: Evidence from the Yellow River Delta, China
＊Guangxuan Han (Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences, ESC)

S06-6 Disproportional community structure and abundance of ammonia-oxidising archaea and bacteria decipher the heterogeneity of fertilizer-induced N_2O emissions in long-term conservation tillage soils
＊Weiyan Wang (Northwest A&F University, ESC), Xiaoxia Wen (Northwest A&F University)

S06-7 Effects of water and straw management on nitrous oxide emission during rice cultivation
＊Chuan Fu Kao (National Taiwan University), Shan Li Wang (National Taiwan University)

S06-8 The Impact of Land Use Changes on Greenhouse Gas Emissions in Wetlands: A Case Study of the Sun and Moon Lake peatland
＊Cheng Chun He (Agricultural Net-Zero Carbon Technology and Management Innovation Research Center, College of Bioresources and Agriculture, National Taiwan University), Po-Neng Chiang (The Experimental Forest, College of Bio-Resources and Agriculture, National Taiwan University), Shan-Li Wang (Agricultural Net-Zero Carbon Technology and Management Innovation Research Center, College of Bioresources and Agriculture, National Taiwan University/Department of Agricultural Chemistry, College of Bioresources and Agriculture, National Taiwan University)

Symposium 07 July 20 (Sun) 13:30-15:30 Room C

Ecosystem GHGs Exchange and Its Response to Climate Change in Northeast Asia

Organizer Naishen Liang (National Institute for Environmental Studies, ESJ)

Co-Organizers Hyun Seok Kim (Seoul National University, ESK)

Zhi Chen (Institute of Geographic Sciences and Natural Resources Research, CAS, ESC)

Yoshiyuki Takahashi (National Institute for Environmental Studies, ESJ)

Asian terrestrial ecosystems, spanning tropical forests and wetlands in Southeast Asia to boreal ecosystems in northeastern Asia and alpine regions on the Tibet Plateau, are crucial as regional and global carbon sinks, helping mitigate global warming. However, climate change, especially extreme events linked to the Pacific and Indian Ocean monsoons, significantly impacts their carbon cycle. Precisely quantifying balances of CO_2, CH_4, N_2O, and H_2O is essential for setting emission reduction targets and identifying effective mitigation strategies. By integrating ChinaFLUX, JapanFlux, and KoFlux, an East Asian consortium of three countries (A3) has conducted advanced and comprehensive research on the Asian terrestrial carbon cycle. This session will feature leading researchers and highly motivated young scientists from A3, who will present their recent findings on Northeast Asia's climate-sensitive terrestrial ecosystems. Their presentations will cover long-term, multi-scale measurements of carbon flux and storage, field experiments, remote sensing, and data-model fusion techniques.

S07-1 Eddy covariance observations of terrestrial carbon flux in Asia: recent development of AsiaFlux

＊Ryuichi Hirata (National Institute for Environmental Studies, ESJ), Hiroki Iwata (Department of Environmental Science, Shinshu University), Masahito Ueyama (Graduate School of Agriculture, Osaka Metropolitan University), Takashi Hirano (Research Faculty of Agriculture, Hokkaido University,), Shuli Niu (Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences), Minseok Kan (National Center for AgroMeteorology, Seoul National University), Guan Xhuan Wong (Sarawak Tropical Peat Research Institute), Lulie Melling (Sarawak Tropical Peat Research Institute)

S07-2 Energy-Water-Carbon Coupling Analysis in a Rice Paddy Field at the Naju Observation Site

＊JAEIL CHO (Chonnam National University, ESK), Bo-Kyeong Kim (Chonnam National University), Hyunki Kim (National Institute of Crop Sciences), Hyung-Dong Moon (Chonnam National University), Kyeong-Min Kim (Chonnam National University), Hayeon Won (Chonnam National University), Subin Choi (Chonnam National University), Hyunhwan Yang (Chonnam National University), Jong-Sung Ha (Korea Aerospace Research Institute), Seung-Taek Jung (Korea Aerospace Research Institute), Jong-Min Yeom (Jeonbuk National University)

S07-3 TBC

＊Xuhui Zhou (Northeastern Forestry University, ESC)

S07-4 Estimating forest carbon stock and changes using multi-scale satellite imagery

＊jaebeom Kim (Department of Environmental Science, Kangwon National University), Minkyu Moon (Department of Environmental Science, Kangwon National University)

S07-5 Widespread Greening Significantly Enhanced Evapotranspiration in Chinese Terrestrial Ecosystems

＊Le Xin Ma (Key Laboratory of Ecosystem Network Observation and Modeling, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, ESC), Zhi Chen (Key Laboratory of Ecosystem Network Observation and Modeling, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences)

S07-6 Comparative assessment of methane ebullition in a rice paddy by chamber and eddy covariance methods

＊Minseok Kang (Gangneung-Wonju National University, ESK), Sung-Won Choi (National Center for AgroMeteorology), Seungwon Sohn (National Center for AgroMeteorology), Sungsik Cho (National Center for AgroMeteorology/Seoul National University), Juhan Park (National Center for AgroMeteorology)

S07-7 Interpretable Machine Learning Empowers the Study of Soil Respiration Dynamics under Climate Change

＊Fubo Yu (Institute of Geographic Sciences and Natural Resources Research, CAS, ESC), Zhi Chen (Institute of Geographic Sciences and Natural Resources Research, CAS)

S07-8 Remote Sensing of GPP and Methane Emissions via Solar-Induced Fluorescence in a cool-temperate bog in Japan

＊KANOKRAT BUAREAL (Research Faculty of Agriculture, Hokkaido University/Graduate School of Global Food Resources, Hokkaido University), Tomomichi Kato (Research Faculty of Agriculture, Hokkaido University / Global Center for Food, Land, and Water Resources, Research Faculty of Agriculture, Hokkaido University), Tomoki Morozumi (National Institute for Environmental Studies (NIES)), Naohisa Nakashima (Department of Agro-Environmental Science, Obihiro University of Agriculture and Veterinary Medicine), Kitpanuwat Tanatarakeree (Research Faculty of Agriculture, Hokkaido University), Masahito Ueyama (Graduate School of Agriculture, Osaka Metropolitan University), Takashi Hirano (Research Faculty of Agriculture, Hokkaido University)

Symposium 08 July 20 (Sun) 13:30-15:30 Room D

Beyond boundaries I: lightning talk session for diverse ecological topics

Organizer Kenta Uchida (The University of Tokyo, ESJ)

Co-Organizer Yoichi Tsuzuki (The University of Tokyo, ESJ)

Ecology is often a scientific discipline that addresses research themes ranging from region-specific ecological phenomena to large-scale issues extending beyond national borders. EAFES is an opportunity to promote ecological research in East Asia by providing a setting for active discussions with neighboring countries. However, active communication is not always easy for those with few connections to other countries, such as young researchers and students attending EAFES for the first time. This symposium will provide an opportunity to casually present their own research and encourage active interactions beyond the research topics and national borders.

S08-1 Population genetics reveals ontogenetic characteristics of perennial plant populations
＊Yoichi Tsuzuki (University of Tokyo, ESJ)

S08-2 Behavioral response to humans in urban mammals
＊Kenta Uchida (The University of Tokyo, ESJ)

S08-3 Connecting Landscape (CoLa): A Cutting-Edge Simulation of Connectivity and Gene Flow for the Return of the Clouded Leopard in Taiwan.
＊Yi Feng Leo Wang (Wildlife Conservation Research Unit, University of Oxford), Ivan Orlando Gonzalez (School of Informatics, Computing and Cyber Systems, Northern Arizona University), Patrick Jantz (School of Informatics, Computing and Cyber Systems, Northern Arizona University), Zaneta Kaszta (Wildlife Conservation Research Unit, University of Oxford/Department of Biological Sciences, Northern Arizona University), Samuel A Cushman (Wildlife Conservation Research Unit, University of Oxford), Dawn Burnham (Wildlife Conservation Research Unit, University of Oxford), Andrew J Hearn (Wildlife Conservation Research Unit, University of Oxford), David W Macdonald (Wildlife Conservation Research Unit, University of Oxford)

S08-4 Evolution of Mating Systems: From Resource Defense to Lekking
＊Ryuichiro Isshiki (SOKENDAI RCIES, ESJ), Hisashi Ohtsuki (SOKENDAI RCIES)

S08-5 Effects of roads on animals and mitigation measures in Asia
＊Qilin Li (Hainan Tropical Ocean University), Yun Wang (China Academy of Transportation Sciences), Haotong Su (China Academy of Transportation Sciences)

S08-6 The evolutionary record in teeth: diversity and change in plants and dinosaurs
＊Kanna Shobayashi (University of Tsukuba, ESJ)

S08-7 Effects of chronic individuals and infected carcasses on classical swine fever infection dynamics in wild boar
＊Mayuko Uesaka (University of Tokyo, ESJ), Shohei Kawata (National Institute of Genetics), Gaku Takimoto (University of Tokyo)

S08-8 Examining the chemical trait space of dominant native and invasive plant species in Okinawa and their influence on decomposer community assembly
＊Amy Hana Morrell (Okinawa Institute of Science and Technology Graduate University), David Armitage (Okinawa Institute of Science and Technology Graduate University)

S08-9 Effect of Nitrogen Application Under Drought Treatments on the Growth, Yield, and Grain Quality of Spring Maize
＊Nina Chen (Institute of Atmospheric Environment, China Meteorological Administration, Shenyang, ESC)

S08-10 Invasion and Spatial Genetic Structure of *Humulus japonicus* in Korean Riparian Zones
＊Haeji Shin (Gwangju Institute of Science and Technology, ESK), Eunsuk Kim (Gwangju Institute of Science and Technology)

S08-11 Enhancing migrants' subjective well-being through ecosystem services perceptions in the context of hydropower resettlement
＊Xiaoyin He (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, ESC), Ranhao Sun (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences)

Symposium 09 July 20 (Sun) 15:45-17:45 Room A

Environmental DNA Studies in East Asia: Current Status, Challenges, and Pathways to Large-Scale Applications

Organizer Masayuki Ushio (The Hong Kong University of Science and Technology, ESJ)
Co-Organizers Toshifumi Minamoto (Kobe University, ESJ)
Junjie Wang (South China Normal University, ESC)
Venus E. Leopardas (Mindanao State University at Naawan)

This symposium will bring together leading environmental DNA (eDNA) researchers from China, Hong Kong, Japan, the Philippines, and South Korea to present and discuss the current status of eDNA studies in their respective countries. eDNA refers to genetic material obtained directly from environmental samples such as soil, water, or air, without the need for capturing or observing the organisms themselves. This technique has revolutionized ecological studies by enabling the detection and monitoring of multiple species, including those that are rare or elusive.

Each invited speaker will present the ongoing eDNA research, latest findings, and challenges they are facing in their country. We also accepted young researchers from Asian countries for contributed oral presentations. This will provide attendees with a broad understanding of the regional progress in eDNA applications. In particular, the symposium will address the common challenges faced by researchers in East Asia, such as technical limitations, data analysis, protocol standardization, and environmental variability. Discussions will focus on identifying solutions and best practices to overcome these obstacles. A portion of the symposium will be dedicated to exploring the potential for establishing a larger eDNA network across East Asia. The symposium will provide a platform for researchers, practitioners, and policymakers to connect, fostering collaborations and partnerships that can drive future eDNA initiatives.

S09-1 Tracing Biodiversity: eDNA Insights from Philippine Mangrove Ecosystems
＊Venus Empron Leopardas (Mindanao State University at Naawan)

S09-2 Expanding eDNA Applications through Epigenetics: Spawning Monitoring Focus
＊Itsuki T Hirayama (Kobe Univ., ESJ), Toshifumi Minamoto (Kobe Univ.)

S09-3 Understanding urban ecosystem structure through species composition: insights from eDNA research in Korea
＊Youngkeun Song (Seoul National Univ.), Heejung Sohn (Seoul National Univ.), Yujin Kang (Seoul National Univ.)

S09-4 Community and evolutionary dynamics in the wild ecosystems and their connections: Exploring eco-evolutionary feedback using an arboreal eDNA approach
＊Fugen Okuma (Graduate School of Env. Science, ESJ), Shunsuke Utsumi (Faculty of Env. Earth Science)

S09-5 Empirical Dynamic Modeling of Environmental DNA Time Series Identifies Temperature-Caused Community Assemblages and Their Stability Drivers
＊Sangwook Scott LEE (Hong Kong University of Science and Technology (HKUST), ESK), Masayuki USHIO (Hong Kong University of Science and Technology (HKUST))

S09-6 From Headwaters to Mangroves: eDNA-Based Insights into Fish Biodiversity in the Urauchi River, a Subtropical UNESCO World Heritage Site
＊Bernadeth Grace Suerte Pananganan (United Graduate School of Agricultural Sciences, Kagoshima University/ Iriomote Station, Tropical Biosphere Research Center, University of the Ryukyus), Marizka Grafane Juliano (United Graduate School of Agricultural Sciences, Kagoshima University/Iriomote Station, Tropical Biosphere Research Center, University of the Ryukyus), Yukinobu Isowa (Iriomote Station, Tropical Biosphere Research Center, University of the Ryukyus), Maria Daniela Artigas Ramirez (Iriomote Station, Tropical Biosphere Research Center, University of the Ryukyus), Tadashi Kajita (United Graduate School of Agricultural Sciences, Kagoshima University/ Iriomote Station, Tropical Biosphere Research Center, University of the Ryukyus)

S09-7 ANEMONE Global: Building an Inclusive Network for eDNA-Based Aquatic Biodiversity Monitoring.
＊Imane Sioud (Tohoku University, ESJ), Michio Kondoh (Tohoku University), Yuki Minegishi (University of Tokyo), Tadashi Kajita (University of the Ryukyus), Yukinobu Isowa (University of the Ryukyus)

S09-8 The Research Progress of environmental DNA in China
＊Junjie Wang (South China Normal University, ESC)

Symposium 10 July 20 (Sun) 15:45-17:45 Room B

The mechanisms underlying variation in forest structure and the maintenance of ecosystem functions

Organizer Hiroko Kurokawa (Kyoto University, ESJ)

Co-Organizer Qing-Wei Wang (Institute of Applied Ecology, Chinese Academy of Science, ESC)

Forests, the main body of terrestrial ecosystems, have crucial ecological functions, playing a vital role in maintaining regional ecological security and providing numerous societal services. Historically, long-term logging and other human activities have led to unprecedented resource depletion and ecological degradation in existing forests. This degradation has disrupted ecosystem functions, causing imbalances and widespread loss of synergistic effects. Against the backdrop of global climate change and increasingly diverse human resource demands, systematically clarifying the key processes regulating forest structure and ecosystem functions is an urgent prerequisite for enhancing forest ecosystem service quality while maintaining a coordinated balance between ecological security and sustainable forest resource use. Therefore, this symposium invited the latest research on a wide range of topics, including but not limited to: mechanisms of forest succession and community assembly, biodiversity maintenance, relationships between forest diversity and ecosystem functions, community structure of forest soil food webs and their role in ecosystem multifunctionality, key processes in biogeochemical cycles (e.g., aboveground-belowground processes, soil C or N decomposition), and responses and adaptation mechanisms of forest biological communities and ecosystem functions to disturbances and environmental changes (e.g., warming, increased nitrogen deposition, elevated CO_2 concentrations, and changes in solar radiation). Future trends and research hotspots will be discussed to provide a scientific basis for enhancing the multifunctionality and sustainability of global forest ecosystems.

S10-1 Variations of growth strategies and environmental adaptations among diverse canopy tree species in temperate natural forests of Japan

＊Kyaw Kyaw Htoo (Kyoto University, ESJ), Masanori Onishi (Kyoto University/DeepForest Technologies Co., Ltd), Md. Farhadur Rahman (Kyoto University/Bangabandhu Sheikh Mujibur Rahman Agricultural University), Ryuichi Takeshige (Kyoto University/National Institute for Environmental Studies), Kaoru Kitajima (Kyoto University), Yusuke Onoda (Kyoto University)

S10-2 In situ nitrogen uptake preference and regulating mechanisms by dominant tree species in northeast China

＊Feifei Zhu (Institute of Applied Ecology, Chinese Academy of Sciences, ESC)

S10-3 Tree species turnover along soil nutrient gradients sustains forest productivity in tropical ecosystems

＊Ryota Aoyagi (Kyoto University, ESJ), Richard Condit (Individual researcher), Benjamin L. Turner (Gyeongsang National University)

S10-4 How tree diversity affects soil carbon accumulation?

＊Xinli Chen (Zhejiang A&F University, ESC), Scott X. Chang (University of Alberta), Masumi Hisano (Hiroshima University), Anthony R. Taylor (University of New Brunswick), Peter B. Reich (University of Michigan), Han Y.H. Chen (Lakehead University)

S10-5 The contribution of photodegradation to aboveground carbon loss along latitude

＊Qing-Wei Wang (Institute of Applied Ecology, Chinese Academy of Sciences, ESC), Juanjuan Zhang (Institute of Applied Ecology, Chinese Academy of Sciences), Hiroko Kurokawa (Kyoto University)

S10-6 TBC

＊Jian Yang (University of Kentucky, ESC)

S10-7 Legacy over a thousand years: Canopy soil of old-growth Yakusugi forest fosters rich and unique invertebrate diversity

＊Ikuyo Saeki (University of Osaka/Tokyo Metropolitan University, ESJ), Sho Hioki (Kobe University), Wakana A Azuma (Kobe University), Noriyuki Osada (Meijo University), Shigeru Niwa (Japan Wildlife Research Center), Aino T Ota (National Museum of Nature and Science), Hiroaki Ishii (Kobe University)

Symposium 11 July 20 (Sun) 15:45-17:45 Room C

Advances in Ecological Science: Understanding Biodiversity and Ecosystem Functions from Microbes to Ecosystems

Organizer Lee Changsuk (National Institute of Ecology, ESK)

Co-Organizer Keisuke Koba (Center for Ecological Research, Kyoto University, ESJ)

This symposium, an official collaboration between NIE (Korea) and CER (Japan), highlights recent advances in ecological science, exploring biodiversity and ecosystem functions across scales—from microbes to entire ecosystems. Researchers from Korea, China, and Japan will present innovative survey methodologies, long-term monitoring results, and diverse ecological processes. The symposium aims to deepen ecological understanding and promote collaboration within East Asia.

S11-1 Integrated plant-soil-microbiome systems constrained by microbial metabolism across forests in Japan
＊Kazuo Isobe (Peking University, ESJ), Yaping Liu (Peking University), Nobuhito Ohte (Kyoto University)

S11-2 National Ecosystem Survey System and Its Role in Analyzing the State of National Ecosystem
＊Seung Se Choi (National Institute of Ecology, ESK), Tae Woo Yi (National Institute of Ecology), Ju-Kyeong Eo (National Institute of Ecology)

S11-3 Monitoring Seabird Populations using UAVs and Deep learning
＊Yunkyoung Lee (National Institute of Ecology, ESK)

S11-4 Deep Learning Meets Ecology: Advancing Camera Trap Data Processing for Wildlife Conservation
＊Youngmin Kim (National Institute of Ecology/Pusan National Universuty, ESK), Anya Lim (National Institute of Ecology), Cheol-Han Kim (Sphere AX), Chang-Seob Yun (Sphere AX), Geajae Joo (Pusan National Universuty)

S11-5 Transfer of long-chain polyunsaturated fatty acids between aquatic and terrestrial ecosystems via animal movements
＊Ayano Medo (Center for Ecological Research, Kyoto University, ESJ), Takuya Sato (Center for Ecological Research, Kyoto University)

S11-6 Assessing plant microbial interaction in rhizosphere across forests in north China
＊Wen Guo (Peking university), Kazuo Isobe (Peking university)

S11-7 Garlic mustard (*Alliaria petiolata*) Invasion Reshapes Soil Microbial Communities and Network Structures in South Korea
＊Yousuk Kim (Gwangju Institute of Science and Technology (GIST)/University of Minnesota/Institute for Basic Science (IBS), ESK), Eunsuk Kim (Gwangju Institute of Science and Technology (GIST)), Byungwook Choi (University of Minnesota), Seorin Jeong (Institute for Basic Science (IBS)), Tae-min Kim (Gwangju Institute of Science and Technology (GIST))

Symposium 12 July 20 (Sun) 15:45-17:45 Room D

Evolution and biogeography of freshwater organisms

Organizer Takahiro Hirano (University of the Ryukyus, ESJ)

Co-Organizer Mingbo Yin (Fudan University)

The freshwater ecosystems on our planet are undergoing a biodiversity crisis that has been influenced by long-term impact of anthropogenic pressures including eutrophication, habitat degradation and climate change. East Asia is recognized as a biodiversity hotspot for freshwater organisms, ranging from micro-organisms to vertebrates. However, much of their evolutionary history in this region remains unexplored. This symposium aims to address key issues related to the evolution and biogeography of freshwater organisms in East Asia. By integrating ideas from multiple disciplines (e.g. taxonomy, ecology, evolution and genomics), we seek to develop a comprehensive understanding of the evolutionary processes that had shaped current freshwater biodiversity in this region. Major topics in this symposium will include the impact of historical events such as the formation of ancient lakes and river basins, biological dispersal processes, climate changes, and anthropogenic effects on freshwater biodiversity (across various taxa) in East Asia. Since freshwater ecosystems transcend n ational borders, international collaboration is crucial for advancing biogeographic and evolutionary researches. This symposium will bring together international researchers specializing in different model organisms. By comparing patterns of speciation and adaptation across different freshwater taxa and different geographical regions in East Asia, we aim to derive both unified and specific insights. During the symposium, we seek to foster interdisciplinary and international dialogue to deepen our understanding of the evolution and biogeography of freshwater organisms in East Asia. By doing that, we aim to facilitate the establishment of new research networks and promote future collaborations to address conservation challenges faced by the freshwater ecosystems in East Asia. The knowledge gained from this symposium is expected to contribute to the advancement of evolutionary researches on freshwater biodiversity and to lay the foundation for conservation strategies.

S12-1 High-altitude adaptations of a keystone zooplanktonspecies on the Tibetan Plateau
＊Mingbo Yin (Fudan University)

S12-2 The fascinating world of riverine insects: insights from phylogeography
＊Masaki Takenaka (University of Tsukuba)

S12-3 Phylogeographic consequences of land-locked life history evolution in freshwater shrimps
＊Yusuke Fuke (Setsunan University, ESJ)

S12-4 Insights into the evolutionary history of Japanese amphibians from genetic data
＊Atsushi Tominaga (University of the Ryukyus)

S12-5 Revealing hidden species interaction via bird banding: foraging and dispersal
＊Masanori Tatani (Graduate School of Life Sciences, Tohoku University, ESJ)

S12-6 New insights into the evolutionary history of the freshwater fishes in Japan, focusing on Lake Biwa, based on nuclear genome information
＊Ryoichi Tabata (Lake Biwa Museum, ESJ)

S12-7 Evolution and biogeography of freshwater molluscs in East Asia
＊Takahiro Hirano (University of the Ryukyu's, ESJ)

S12-8 Diversity and geographic distribution of parasitic trematodes in the freshwater snails in the genus *Semisulcospira*
＊Osamu Miura (Kochi University, ESJ)

Symposium 13 July 21 (Mon) 10:00-12:00 Room A

Collaborating restoration and biodiversity in a changing environment

Organizer Shirong LIU (Chinese Academy of Forestry, ESC)

Co-Organizers Zuomin SHI (Ecology and Nature Conservation Institute, Chinese Academy of Forestry, ESC)
Hui Wang (Ecology and Nature Conservation Institute, Chinese Academy of Forestry, ESC)

Background:

Global biodiversity loss and ecosystem degradation, exacerbated by climate change and anthropogenic pressures, demand urgent interdisciplinary collaboration. Ecological restoration has emerged as a critical tool to reverse these trends, yet its integration with biodiversity conservation remains fragmented. This conference seeks to bridge gaps between science, policy, and practice, fostering innovative solutions for resilient ecosystems in a rapidly changing world. This conference will catalyze transdisciplinary partnerships to address the dual crises of biodiversity decline and climate disruption, aligning with UN Sustainable Development Goals. By integrating diverse perspectives, we aim to redefine restoration paradigms for a sustainable future.

Objectives:

1. Advance Knowledge: Explore innovative approaches integrating ecological restoration, biodiversity conservation, and climate adaptation. Share cutting-edge research on biodiversity-ecosystem linkages under climate stressors.

2. Promote Collaboration: Unite ecologists, policymakers, Indigenous leaders, and NGOs to co-design restoration frameworks.

3. Drive Action: Translate science into scalable strategies for habitat recovery, species protection, and sustainable resource management.

Themes:

Climate-adaptive restoration theory and techniques, Socioecological synergies in conservation, Policy integration and funding mechanisms, Technology-driven monitoring (e.g., AI, remote sensing).

Format: A 2-hour event featuring lectures and debates.

Expected Outcomes:

A peer-reviewed conference proceedings publication, Launch of an international restoration new idea.

Target Audience:

40+ participants from academia, governmental agencies, and NGOs across China, Japan, South Korea, and more countries.

S13-1 Biodiversity and climate-friendly forest ecosystem conservation and restoration
＊Shirong Liu (Chinese Academy of Forestry, ESC)

S13-2 Distribution patterns of weeds/spontaneous plant community along urban wastelands and main affecting factors in Tibet Autonomous Region, China
＊Liangjun Da (Xi'an University of Architecture and Technology, ESC), Lin He (Xi'an University of Architecture and Technology), Yao Yao (Xi'an University of Architecture and Technology), Luyi Lan (Xi'an University of Architecture and Technology), Zhiwen Gao (East China Normal University), Jiao Chen (Xi'an University of Architecture and Technology)

S13-3 Embedding Biodiversity Conservation in Local Problem-Solving: Lessons from Nature-based Approaches in Japan
＊Jun NISHIHIRO (National Institute for Environmental Studies, ESJ)

S13-4 Relationship of tree species diversity and soil organic carbon under climate change
＊Hui Wang (Ecology and Nature Conservation Institute, Chinese Academy of Forestry, ESC)

S13-5 Quantifying ecosystem respiration and nitrous oxide emissions from greenhouse cultivation systems via a novel whole-greenhouse static chamber method
＊Zhi Quan (Institute of Applied Ecology, Chinese Academy of Sciences/Weifang Institute of Modern Agriculture and Ecological Environment, ESC), Xue Li (Institute of Applied Ecology, Chinese Academy of Sciences), Yunting Fang (Institute of Applied Ecology, Chinese Academy of Sciences)

S13-6 How to Maximize the Multiple Benefits of Ecosystem Restoration under Cost Constraints
＊Jiaquan Duan (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, ESC)

S13-7 Latitudinal pattern of leaf P fractions sheds physiological insights into large-scale plant P-use strategy
＊Qingquan Meng (Key Laboratory of Plant-Soil Interactions, Ministry of Education, College of Resources and Environmental Sciences, China Agricultural University, ESC), Zhengbing Yan (Institute of Botany, Chinese Academy of Sciences), Zhijuan Shi (Key Laboratory of Plant-Soil Interactions, Ministry of Education, College of Resources and Environmental Sciences, China Agricultural University), Tingting Dong (Institute of Botany, Chinese Academy of Sciences), Jia Wang (Key Laboratory of Plant-Soil Interactions, Ministry of Education, College of Resources and Environmental Sciences, China Agricultural University), Hnas Lambers (Key Laboratory of Plant-Soil Interactions, Ministry of Education, College of Resources and Environmental Sciences, China Agricultural University/School of Biological Sciences, The University of Western Australia), Wenxuan Han (Key Laboratory of Plant-Soil Interactions, Ministry of Education, College of Resources and Environmental Sciences, China Agricultural University)

Symposium 14 July 21 (Mon) 10:00-12:00 Room B

Ecological Resilience and Sustainable Futures of the Mongolian Plateau

Organizer Wenhong Ma (Inner Mongolia University, ESC)
Co-Organizers Qing Zhang (Inner Mongolia University, ESC)
Biao Zhu (Peking University/Inner Mongolia University, ESC)
Jianguo Wu (Arizona State University)

The global drylands cover more than 41% of the earth's land area and support over 38% of the world's population. The Mongolian Plateau, located in central Asia and characterized by vast grasslands and deserts, is an essential part of the global drylands. The plateau is rich in biodiversity and provides diverse ecosystem services, with a long and storied history of nomadism and pastoralism. However, climate change and landscape transformations by human activities (e.g., cultivation, urbanization, and coal mining) have resulted in myriad ecological and environmental problems, undermining the ecological resilience and sustainability of the region. Although many ecological studies have been carried out on the plateau (especially within Inner Mongolia over the past 40 years), a comprehensive and holistic understanding of the ecology and sustainability of the Mongolian Plateau is lacking.

To fill the knowledge gap and to promote collaborations among Asian scientists, therefore, the main objectives of this symposium are: (1) to examine the major impacts of climate change and land use and land cover change on biodiversity, ecosystem processes, and ecosystem services across the plateau through syntheses and case studies; (2) to explore pathways and mechanisms for improving the resilience and sustainability of the plateau at multiple scales; and (3) to foster future international collaborations to advance the science and practice of ecology and sustainability on the Mongolian Plateau. The symposium will feature well-established scientists from China, Japan, and Mongolia, who have conducted extensive research on the Mongolian Plateau. The organizers plan to publish a synthesis paper based on the symposium, which will involve most or all of the speakers. In addition, a special issue in a mainstream journal will be seriously pursued, depending on the level of enthusiasm among the symposium participants.

S14-1 Human activities further amplify the cooling effect of vegetation greening in Chinese drylands
＊Yangjian Zhang (lnstitute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, ESC)

S14-2 Impacts of multi-year extreme drought on grasslands at regional and global scales
＊Qiang Yu (Beijing Forestry University, ESC)

S14-3 Monitoring the Impacts of Climate Change and Assessing Adaptation in the Mongolian Grasslands
＊Qinxue WANG (National Institute for Environmental Stuides), Tomohiro OKADERA (National Institute for Environmental Stuides), Tadanobu NAKAYAMA (National Institute for Environmental Stuides)

S14-4 Plant litter loss exacerbates drought influences on grasslands
＊YONGFEI BAI (Institute of Botany, the Chinese Academy of Sciences/College of Resources and Environment, University of Chinese Academy of Sciences, ESC)

S14-5 Temporal and spatial variability in aboveground net primary production of boreal steppe of Mongolia
＊Ariuntsetseg Lkhagva (National University of Mongolia)

S14-6 Enhancing the resilience of drylands to global change
＊Takehiro Sasaki (Yokohama National University, ESJ)

S14-7 The impact of herding strategies on dry rangeland resilience: insights from mathematical modelling
＊Toyo Vignal (Okinawa Institue of Science and Technology/Maxwell Institute), Mara Baudena (National Research Council (CNR-ISAC)), Angeles Garcia Mayor (Universidad Complutense de Madrid), Jonathan Sherratt (Maxwell Institute)

S14-8 Soil texture regulates climate-vegetation-soil carbon relationships in semi-arid grasslands
＊(Frank) Yonghong Li (Inner Mongolia University, ESC)

S14-9 Progress and prospects of Geography in promoting the United Nations Sustainable Development Goals A discussion on the theoretical framework of Sustainable Geography
＊Wenwu Zhao (Beijing Normal University, ESC), Caichun Yin (Beijing Normal University)

Symposium 15 July 21 (Mon) 10:00-12:00 Room C

Ecology and evolutionary biology of zooplankton in various systems

Organizer Kwang-Hyeon Chang (Kyung-Hee University, ESK)

Co-Organizer Yurie Otake (Kyoto University, ESJ)

Zooplankton are important components of aquatic ecosystems, serving as intermediate consumers that connect primary producers and higher-order consumers. Due to their ecological importance and unique characteristics, zooplankton have been ideal research targets in fields like Ecology and Evolution, helping to test and propose theories such as rapid evolution and the paradox of plankton. Additionally, zooplankton are used globally as environmental indicators for monitoring aquatic systems. Therefore, understanding zooplankton ecology and evolution is crucial for scientific development and environmental conservation. Recent studies increasingly highlight East Asia as a zooplankton hotspot. Integrating zooplankton research from multiple East Asian countries is vital for understanding biodiversity and its formation mechanisms, the historical formation of zooplankton phylogeographic patterns, and associated evolution. This symposium aims to share and discuss ecological and evolutionary research on zooplankton across a broad range of fields (freshwater to marine), regions throughout East Asia, zooplankton research targets, and themes. Through this, we hope to stimulate studies on zooplankton ecology and evolutionary biology and enhance our understanding of them.

S15-1 Seasonal and annual heterogeneity in the genetic structure of a *Daphnia* population in a small mountain lake
＊Jotaro Urabe (Tohoku University/Yokohama National University, ESJ), Keisuke K. Yamaki (Tohoku University)

S15-2 How population genetic structure is developed? Observation using lake sediment and *Daphnia ephippia*
＊Yurie Otake (Center for Ecological Research, Kyoto University, ESJ), Yuka Onishi (University of Tokyo), Masato Yamamichi (National Institute of Genetics), Jotaro Urabe (Tohoku University), Takehito Yoshida (University of Tokyo)

S15-3 Phenotypic integration and plasticity in invasive populations: insights from Daphnia pulex under variable environmental conditions
＊Xiaofei Tian (Zhejiang Ocean University, ESC), Wenping Feng (Zhejiang Ocean University), Xiumei Zhang (Zhejiang Ocean University)

S15-4 Body Size-Based Assessment of Zooplankton Community in a Brackish Lake: Ecological Function and Food Web Perspectives
＊Geun-Hyeok Hong (Kyung Hee University, ESK), Hye-Ji Oh (Nara Women's University), Yerim Choi (Kyung Hee University), Dae-Hee Lee (Kyung Hee University), Kwang-Hyeon Chang (Kyung Hee University)

S15-5 Effects of acid stress on life history traits of the perennial calanoid copepod *Eodiaptomus japonicus* from Lake Biwa, Japan
＊Xin Liu (Guangxi Academy of Sciences, ESC), Huanan Gao (Tsinghua University), Yasushi Iseri (Wenzhou University), Aimin Hao (Wenzhou University), Min Zhao (Wenzhou University), Syuhei Ban (The University of Shiga Prefecture)

S15-6 Divergence of the zooplankton community dynamics driven by ontogenetic omnivores
＊Hiromichi Suzuki (Tohoku University, ESJ), Jamie Michael Kass (Tohoku University), Jotaro Urabe (Tohoku University)

S15-7 Morphological traits of common rotifer species (*Keratella cochlearis*) as an ecological index: implications for the responses of zooplankton structure to lake environments
＊Yerim Choi (Kyung Hee University, ESK), Hye-Ji Oh (Nara Women's University), Geun-Hyeok Hong (Kyung Hee University), Dae-Hee Lee (Kyung Hee University), Geung-Hwan La (Eco-lab Gongsaeng), Hyun-Woo Kim (Sunchon National University), Min-Ho Jang (Kongju National University), Kwang-Hyeon Chang (Kyung Hee University)

S15-8 Ecological trait-based grouping of rotifers and its response to lake characteristics
＊Hye-Ji Oh (Nara Women's University, ESJ), Kwang-Hyeon Chang (Kyung Hee University), Nan-Young Kim (Konkuk University), Soon-Jin Hwang (Konkuk University), Min-Ho Jang (Kongju National University), Izumi Katano (Nara Women's University)

Symposium 16 July 21 (Mon) 10:00-12:00 Room D

Present and Future of Pollination Service in East Asia

Organizer Tomoyuki Yokoi (Institute of Life and Environmental Sciences, University of Tsukuba, ESJ)
Co-Organizers Chuleui Jung (Dept Plant Medicals. Andong National University, ESK)
Kae Natsume (Graduate School of Agriculture, University of Tokyo, ESJ)

This symposium, organized by East Asian researchers, will focus on pollination services in natural ecosystems. There's increasing global concern about the decline in pollinator diversity and abundance, especially among insects, which are crucial for crop production and wild plant diversity. Understanding their basic ecology and assessing food resources are urgent tasks. While Western countries have advanced in this research, studies in East Asia, including Japan, Korea, Nepal, and China, are still in early stages despite the region's high diversity of crops and wild plants. Environmental changes, like climate change and land- use alterations, significantly impact Asian pollinators. Thus, information sharing among researchers is vital for maintaining and utilizing pollinator diversity in this region. The symposium welcomes participants interested in pollination services and plant-insect interactions. We'll assess the current status of pollination in East Asia, including its utilization and challenges, and discuss conservation, sustainable management strategies, and the economic and nutritional importance of pollination. Topics will include pollination by bumble bees, honey bees, wild bees, and other insect pollinators. Invited researchers will present studies on the pollination behavior of wild and managed bees, current use and conservation management, and contributions of lesser- known pollinators like ants.

S16-1 Current status of wild bee pollination service in Japan
＊Tomoyuki Yokoi (Institute of Life and Environmental Sciences, University of Tsukuba, ESJ)

S16-2 Pollinator diversity in fruit crop orchards in Korea and possible impacts of large scale disturbance
＊Chuleui Jung (gyeongkuk national university, ESK), gwanhee Lee (gyeongkuk national university), Ehsan Rahimi (gyeongkuk national university)

S16-3 Ant pollination in common buckwheat and its implication in agriculture
＊Kae Natsume (University of Tokyo, ESJ), Tadashi Miyashita (University of Tokyo)

S16-4 Buzz of Pollinators Decline: Impact on the Economic and Nutritional Benefits of rural people of Nepal
＊Kedar Devkota (Faculty of Agriculture, Agriculture and Forestry University)

S16-5 TBC
＊Hong Wang (Kunming Institute of Botany Chinese Academy of Sciencesy, ESC)

S16-6 Detecting flowering phenology using high-resolution satellite imagery
＊Sukyung Kim (Kangwon National University/Seoul National University, ESK), Minkyu Moon (Kangwon National University), Hyunjae Lee (Kangwon National University), Jaebeom Kim (Kangwon National University), Hyun Seok Kim (Seoul National University)

Symposium 17 July 21 (Mon) 10:00-12:00 Room E

Beyond boundaries II: lightning talk session for diverse ecological topics

Organizer Gaku Takimoto (The University of Tokyo, ESJ)

Ecology is often a scientific discipline that addresses research themes ranging from region-specific ecological phenomena to large-scale issues extending beyond national borders. EAFES is an opportunity to promote ecological research in East Asia by providing a setting for active discussions with neighboring countries. However, active communication is not always easy for those with few connections to other countries, such as young researchers and students attending EAFES for the first time. This symposium will provide an opportunity to casually present their own research and encourage active interactions beyond the research topics and national borders.

The symposium is a series of lightning talks, each of which is about 5-10 minutes long. Speakers can present their findings, introduce ongoing projects, and share their ideas. We basically welcome talks on any ecological topics, but will mainly target research fields not covered by other symposia, such as behavior, disease, population, and community ecology. We also encourage applications from students and young researchers, although there is no strict definition of "young", we welcome researchers who are in their early careers. We hope that the interactions in this symposium will be a good opportunity to build a long-term relationship and future collaborations.

S17-1 Evolutionary rescue of *Chlorella vulgaris* under temperature and salinity stress
＊Shohei Kawata (National Institute of Genetics, ESJ), Shota Shibasaki (Doshisha University), Masato Yamamichi (National Institute of Genetics)

S17-2 Unpacking laws of spatial directionality in urban expansion morphology and carbon emissions
＊Chengwei Li (NYU Shanghai/ECNU, ESC), ChengHe Guan (NYU Shanghai)

S17-3 The adaptive characteristics of growth and reproduction of *Phragmites australis* community in the Yangtze River estuary wetland and its environmental influencing factors
＊Chao Zhang (Schoof of Geographical Sciences, East China Normal University, ESC), Qi Zhang (Schoof of Geographical Sciences, East China Normal University)

S17-4 Balancing multiple protected objects and cost in national park planning
＊Zhenhua Zang (Research Center for Eco-Environmental Sciences, Chinese Academy Sciences, ESC)

S17-5 Carbonz balance of post-harvest stage of forestry: Approach evolution and assessment
＊Xiaobiao Zhang (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, ESC)

S17-6 Climate-induced shifts in sulfate dynamics regulate anaerobic methane oxidation in a coastal wetland
＊Jaehyun Lee (Korea Institute of Science and Technology, ESK), Yerang Yang (Korea Institute of Science and Technology)

S17-7 Impacts of Livestock Spatial Distribution under Different Resource Conditions on Grassland Health and Quality
＊Yunxiang Cheng (Inner Mongolia University)

S17-8 *In situ* nitrogen uptake from inorganic and organic sources by the fine-root systems of five alpine tree species
＊Ryunosuke Suwa (Graduate school of science and technology, Shinshu university, ESJ), Naoki Makita (Graduate school of science and technology, Shinshu university)

S17-9 Effect of Bacilius velezensis CE 100 and shading on physiological and flowering characteristics of *Platycodon grandiflorum*
＊Juhyun Kim (Department of Agriculture, Forestry and Bioresources, Seoul National University, ESK), Umashankar Chandrasekaran (Department of Biological Sciences, Kangwon National University), Mega Trishuta Pathiassana (Department of Agriculture, Forestry and Bioresources, Seoul National University), Sanghee Park (Department of Agriculture, Forestry and Bioresources, Seoul National University), Kunhyo Kim (Department of Agriculture, Forestry and Bioresources, Seoul National University), Hye young Yoo (Department of Agriculture, Forestry and Bioresources, Seoul National University), Yunhee Park (Interdisciplinary Program in Agricultural and Forest Meteorology, Seoul National University), Ahrem Yun (Interdisciplinary Program in Agricultural and Forest Meteorology, Seoul National University), Jiwon Baek (Department of Agriculture, Forestry and Bioresources, Seoul National University), Handoo Shin (Department of Agriculture, Forestry and Bioresources, Seoul National University), Jeonghyun Hong (Department of Agriculture, Forestry and Bioresources, Seoul National University), Seongjun Na (National Institute of Forest Science), Jimin Park (National Institute of Forest Science), Hyun Seok Kim (Department of Agriculture, Forestry and Bioresources, Seoul National University/Interdisciplinary Program in Agricultural and Forest Meteorology, Seoul National University/Research Institute for Agriculture and Life Sciences, Seoul National University)

S17-10 Predator-specific prey defense stabilizes predator coexistence despite fitness differences
＊Gaku Takimoto (University of Tokyo, ESJ), Shinji Kobayashi (University of Tokyo)

Symposium 18 July 21 (Mon) 13:30-15:30 Room A

Restoring ecosystem structure and function under global change

Organizer Zhanfeng Liu (South China Botanical Garden, Chinese Academy of Sciences, ESC)

Co-Organizer Dejun Li (Institute of Subtropical Agriculture, Chinese Academy of Sciences, ESC)

Anthropogenic global change - encompassing climate shifts, biodiversity loss, and landscape fragmentation - has disrupted critical ecosystem processes at unprecedented rates. While ecological restoration traditionally focused on species reintroduction, contemporary challenges demand integrated approaches addressing both structural components (species composition, physical habitat) and functional recovery (nutrient cycling, pollination networks, carbon sequestration). This session will bridge theoretical ecology and applied restoration science to explore:

Synthesize recent advances in process-based restoration ecology

Identify critical knowledge gaps in predicting ecosystem responses to coupled stressors

Develop interdisciplinary protocols for monitoring multifunctional outcomes

Foster partnerships between academia, policymakers, and practitioners

S18-1 Joint effects of multiple natural and anthropogenic drivers on soil nitrogen cycling

＊Xiaoli Cheng (Yunnan University, ESC), Yong Zhang (Yunnan University)

S18-2 The Global Biodiversity Standard ---an Assess and Guidance for Science-Based Forest Restoration

＊Xiangying WEN (South China Botanical Garden, Chinese Academy of Sciences/Botanic Gardens Coservation International (BGCI), ESC), David Bartholomew (Botanic Gardens Coservation International (BGCI))

S18-3 The effect of inundation depth on carbon fluxes and fraction in the Yellow River Delta Wetland, China

＊Mingliang Zhao (Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences, ESC), Guangxuan Han (Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences)

S18-4 Forest soil carbon sequestration and its responses to climate changes

＊Wu Fuzhong (College of Geographic Sciences, Fujian Normal University, ESC), Lin Xiaohao (College of Geographic Sciences, Fujian Normal University)

S18-5 Soil property recovery following restoration of abandoned sugarcane plantation

＊Po-Neng CHIANG (Experimental Forest, National Taiwan University), Jui-Chu YU (Experimental Forest, National Taiwan University), Yen-Jen LAI (Experimental Forest, National Taiwan University)

S18-6 TBC

＊Faming Wang (South China Botanical Garden, Chinese Academy of Sciences, ESC)

S18-7 Microbial necromass dominates particulate and mineral-associated organic carbon accumulation in calcareous soil following afforestation

＊Zihong Zhu (Institute of Subtropical Agriculture, Chinese Academy of Sciences, ESC), Dejun Li (Institute of Subtropical Agriculture, Chinese Academy of Sciences)

S18-8 Mechanisms of synergistic regulation of soil organic matter transformation by climatic and pedogenesis processes

＊Zhijian Mou (South China Botanical Garden, Chinese Academy of Sciences, ESC), Zhanfeng Liu (South China Botanical Garden, Chinese Academy of Sciences)

Symposium 19 July 21 (Mon) 13:30-15:30 Room B

Sustainability and carbon sink of plantation forest ecosystems

Organizer Jiaojun ZHU (Institute of Applied Ecology, Chinese Academy of Sciences, ESC)
Co-Organizers Guangyou HAO (Institute of Applied Ecology, Chinese Academy of Sciences, ESC)
Qiaoling YAN (Institute of Applied Ecology, Chinese Academy of Sciences, ESC)
Xiao ZHENG (Institute of Applied Ecology, Chinese Academy of Sciences, ESC)

With the increasing global demand for timber production and ecosystem services, such as carbon sequestration, plantation forests have expanded worldwide, with the majority established as monocultures of pure conifers or broadleaved tree species. These plantation forests play a crucial role in climate change mitigation strategies across East Asia. However, long-term sustainability challenges have emerged, including decreased soil fertility, biodiversity loss, increased vulnerability to forest diseases and pests, and reduced resilience to global changes, particularly extreme climate events.

To ensure the sustainable development of plantation forest ecosystems, this symposium aims to address critical knowledge gaps regarding:

1. Carbon sink formation and maintenance mechanisms in plantation forests, with special focus on the interactions between aboveground vegetation dynamics, belowground ecological processes, and climate factors across various forest types in East Asia;
2. Advanced methodologies for accurate carbon sink measurement and evaluation in plantation forests under complex terrain and changing environmental conditions;
3. Development of comprehensive stability indicators to assess plantation forest resistance and resilience under global change scenarios, including extreme weather events, shifts in precipitation patterns, and rising temperatures;
4. Management strategies to optimize both timber production and carbon sequestration while enhancing ecosystem stability and biodiversity.

This symposium will bring together ecologists, forest managers, and policymakers to share recent research advances, discuss practical management approaches, and explore future research directions that promote sustainable plantation forestry in East Asia. We welcome contributions addressing these critical issues through field observations, experimental studies, and modeling approaches.

S19-1 Comparison of carbon flux in larch plantation and secondary forests over complex terrains by using Qingyuan-Ker Towers

＊Jiaojun ZHU (Institute of Applied Ecology, Chinese Academy of Sciences, ESC)

S19-2 Effects of warming and snow changes on phenology, growth and physiology of two co-existing seedlings in a temperate forest

＊Qiaoling YAN (Institute of Applied Ecology, Chinese Academy of Sciences/Qingyuan Forest CERN, National Observation and Research Station, ESC), Junfeng YUAN (Qingyuan Forest CERN, National Observation and Research Station/Key Laboratory of Vegetation Restoration and Management of Degraded Ecosystems, South China Botanical Garden, Chinese Academy of Sciences), Jiaojun ZHU (Institute of Applied Ecology, Chinese Academy of Sciences/Qingyuan Forest CERN, National Observation and Research Station)

S19-3 Hydraulic functionality as a key determinant of the productivity of major afforestation tree species in Northeast China

＊Guangyou Hao (Institute of Applied Ecology, Chinese Academy of Sciences, ESC), Guang-You Hao (Institute of Applied Ecology, Chinese Academy of Sciences), Jing-Jing Guo (Institute of Applied Ecology, Chinese Academy of Sciences), Yong-Jiao Zhou (Institute of Applied Ecology, Chinese Academy of Sciences), Shen-Hao Song (Institute of Applied Ecology, Chinese Academy of Sciences), Xiao-Han Yin (Institute of Applied Ecology, Chinese Academy of Sciences), Da Yang (Institute of Applied Ecology, Chinese Academy of Sciences), Jia Song (Institute of Applied Ecology, Chinese Academy of Sciences)

S19-4 Assessing farmland shelterbelts in combating soil erosion, carbon storage and crop yields

＊Xiao Zheng (Institute of Applied Ecology, Chinese Academy of Sciences, ESC)

S19-5 TBC

＊Yirong SUN (Institute of Applied Ecology Chinese Academy of Sciences, ESC)

S19-6 Near real-time monitoring of carbon effects from continuous forest change in rapidly urbanizing region of china

＊Dou Zhang (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences/Zhejiang Sci-Tech University, ESC)

S19-7 Molecular characterization of soil organicmatter across forests in northeastern China

＊Xiangxia Yang (Institute of Ecology, Peking university, ESC), Xiaoding Lin (Institute of Ecology, Peking university), Le Chang (Institute of Ecology, Peking university), Kazuo Isobe (Institute of Ecology, Peking university)

Symposium 20 July 21 (Mon) 13:30-15:30 Room C

Illuminating Marine Ecology Through Genomic Innovations

Organizer Nina Yasuda (The University of Tokyo, ESJ)

Co-Organizer Masumi Kamata (The University of Tokyo, ESJ)

This symposium will spotlight the cutting-edge ecological research that leverages genomic data from a diverse range of aquatic organisms.

A focused topic is the rapidly evolving field of environmental DNA (eDNA) applications. By employing fish metabarcoding techniques, researchers can now assess marine biodiversity with unprecedented accuracy and speed. This advancement not only streamlines the evaluation of species presence and distribution, but also helps detect elusive or rare organisms that may escape conventional survey methods.

In addition, environmental RNA (eRNA) method could help to assay coral heat stress based on many gene expression without damage. This method is groundbreaking for monitoring coral health and could apply to coral conservation.

Moreover, we focused on the extensive microbiome that could support coral environmental adaptation research by using metabarcoding methods. The research elucidate the unexplained aspects of symbiosis relationship between microbiomes and corals.

Additionally, multiple aspect, metagenomics and epigenomics, could help to monitor coastal plankton communities in Northeast Japan. This study could construct meta-epigenomics observation database "PlanDyO" for predicting future costal marine ecosystem.

The symposium will also feature ongoing research on chemical communication in marine life, elucidated through whole-genome analyses. Of particular interest is the identification and characterization of olfactory genes. Insights into the molecular basis of its chemical sensing have broad implications for understanding starfish behavior and developing novel management strategies.

We aim to foster interdisciplinary collaboration and showcase how genomic insights can drive innovative approaches to conservation, management, and our broader understanding of life in the oceans.

S20-1 A DNA barcode reference library construction for marine fish species from southern China

＊Min Liu (Xiamen University/South China Agriculture University), Chen Wang (Xiamen University), Jianlong Li (Hainan University), Xiao Chen (South China Agriculture University)

S20-2 Exploring the Microbiome of Acropora digitifera in the Sesoko Region

＊Kodai Gibu (University of Tokyo/ National Institute of Advanced Industrial Science and Technology, ESJ), Hiroki Kise (National Institute of Advanced Industrial Science and Technology), Yuki Yoshioka (National Institute of Technology Okinawa College), Naoki Saito (National Institute of Advanced Industrial Science and Technology), Yuichi Nakajimka (National Institute for Environmental Studies), Kazuhiko Sakai (University of the Ryukyus), Atsushi Suzuki (National Institute of Advanced Industrial Science and Technology), Nina Yasuda (University of Tokyo), Akira Iguchi (National Institute of Advanced Industrial Science and Technology)

S20-3 The Evolution and Functional Roles of Olfactory Receptors in Starfish: Insights from the Genus Acanthaster

＊Masumi KAMATA (The University of Tokyo/Geological survey of Japan, National Institute of Advanced Industrial Science and Technology (AIST), ESJ), Rei Kajitani (Institute of Science Tokyo), Takehisa Ito (Institute of Science Tokyo), Kodai Gibu (The University of Tokyo/Geological survey of Japan, National Institute of Advanced Industrial Science and Technology (AIST)), Yoshihito Niimura (University of Miyazaki), Nina Yasuda (The University of Tokyo)

S20-4 Non-Invasive Detection of Coral Stress Responses via Environmental RNA (eRNA)

＊Anna Rudyk (The University of Tokyo), Hyuga Houtoku (The University of Tokyo), Mikito Murakami (The University of Tokyo), Fei Xia (The University of Tokyo), Nina Yasuda (The University of Tokyo)

S20-5 Monitoring Coastal Plankton Communities in Northeast Japan through Metagenomics and Epigenomics in the PlanDyO Project

＊Takeshi Obayashi (Advanced Institute for Marine Ecosystem Change (WPI-AIMEC), Tohoku University/Graduate School of Information Sciences, Tohoku University), Toyonobu Fujii (Advanced Institute for Marine Ecosystem Change (WPI-AIMEC), Tohoku University/Onagawa Field Center, Graduate School of Agricultural Science, Tohoku University), Akane Kitamura (Advanced Institute for Marine Ecosystem Change (WPI-AIMEC), Tohoku University), Gaku Kumano (Advanced Institute for Marine Ecosystem Change (WPI-AIMEC), Tohoku University/Asamushi Research Center for Marine Biology, Graduate School of Life Sciences, Tohoku University), Minoru Ikeda (Advanced Institute for Marine Ecosystem Change (WPI-AIMEC), Tohoku University/Onagawa Field Center, Graduate School of Agricultural Science, Tohoku University)

Symposium 21 July 21 (Mon) 13:30-15:30 Room D

Evolutionary ecology of low-dispersal insects: geographic differentiation, local adaptation and interactions between closely related species

Organizer Kohei Kubota (Heisei International University, ESJ)
Co-Organizers Yasuoki Takami (Kobe University, ESJ)
Sheng-Nan Zhang (Anhui Agricultural University)

The active and passive flight abilities of insects have promoted adaptive radiation and led to their evolutionary success. On the other hand, flight ability is a costly trait, and in stable environments, there are quite a fewinsects that have degenerated flight ability and reduced dispersal ability. This symposium focuses on such low-dispersal insects. Low dispersal is prone to population differentiation and speciation due to geographic isolation of insects. In addition, adaptation to local environments may cause niche differentiation of intraspecific populations. Secondary contact after differentiation may also lead to interactions such as gene flow, promoting reproductive isolation, and character displacement. In addition, due to resource competition and reproductive interference between closely related species, they may show exclusive distribution or acquire sympatry. EAFES member countries are rich in topographical diversity, with China, which is mainly continental, Korea, which is located on a peninsula, and Japan, which is an island nation. The purpose of this symposium is to discuss the above-mentioned phenomenon of low-dispersal insects in each country from an evolutionary ecological perspective.

S21-1 Evolutionary history and climate-driven range shifts in the cold-adapted beetle genus *Platycerus* in East Asia
＊Kohei Kubota (Heisei International University, ESJ), Xue-Jiao Zhu (South China Agricultural University), Tao Ma (South China Agricultural University), Xiu-Jun Wen (South China Agricultural University), Sheng-Nan Zhang (Anhui Agricultural University)

S21-2 Evolutionary History of Yeast Symbionts in *Platycerus* and *Prismognathus* Beetles
＊Shengnan Zhang (Anhui Agricultural University, ESC)

S21-3 Latitudinal variation and environmental dependence in the genital size of Eucarabus ground beetles in Korean Peninsula
＊Yutaro Nakao (Kobe University, ESJ), Tae-woong Jang (Kangwon National University), Yong-hwan Park (Kobe University/Kangwon National University), Jong-kuk Kim (Kangwon National University), Jun-lark Kim (Uiduk University), Kohei Kubota (Heisei International University), Yasuoki Takami (Kobe University)

S21-4 Reproductive character displacement in the shape and physical property of the male genitalia in *Ohomopterus* ground beetles in central Japan
＊MAEMURA TOON (Kobe University, ESJ), Takami Yasuoki (Kobe University), Inoue Mari (Kobe University), Nishimura Taira (Kobe University)

S21-5 Did the adaptation and subsequent isolation into mountainous forests contribute to multiple degeneration of flight ability in ground beetles?
＊Takashi Shimizu (The University of Tokyo, ESJ), Hiroshi Ikeda (The University of Tokyo), Kôhei Kubota (The University of Tokyo/Heisei International University)

Poster with Award Entry
Poster core time July 20, Sun 18:00-19:30

Yayoi Auditorium Annex

evolution, mathematical ecology, animal population, life history of animals

P001 Sex Identification in The Raccoon Dog (*Nyctereutes procyonoides*) Using Genetic Tools

＊Negin Eslamibidgoli (Center for Ecological Research (CER), Kyoto University, ESJ), Wanyi Lee (Center for Ecological Research (CER), Kyoto University), Hiroyuki Tanaka (Center for Ecological Research (CER), Kyoto University), Goro Hanya (Center for Ecological Research (CER), Kyoto University)

P002 Evaluation of relationships between Norway rat (*Rattus norvegicus*) occurrence and garbage collection methods: A case study of a drinking district in Japan

＊Nanami Shimamura (Graduate School of Life Sciences, Toyo University, ESJ), Kazutaka M. Takeshita (Graduate School of Life Sciences, Toyo University)

P003 The effect of swimming cells of marine green algae on the growth of marine ciliates.

＊Katsuhiro Kawaguchi (Marine Biosystems Research Center, Chiba University, ESJ), Kosei Mochizuki (Marine Biosystems Research Center, Chiba University), Yusuke Horinouchi (Tokyo University of Marine Science and Technology), Tomonori Kikuchi (Marine Biosystems Research Center, Chiba University), Tatsuya Togashi (Marine Biosystems Research Center, Chiba University)

P004 A theoretical study on the evolution of filamentous cyanobacteria under size-selective predation

＊Hikari Kai (Tokyo Metropolitan University, ESJ), Yuuya Tachiki (Tokyo Metropolitan University)

P005 Clarification of the life cycles of a phoretic nematode *Acrostichus* sp. in the invasive *Sagra femorata* in Japan

＊takuto shikanai (Graduate school of Bioresources, Mie University, ESJ), Yosuke Matsuda (Graduate school of Bioresources, Mie University), Yudai Kitagami (Graduate school of Bioresources, Mie University)

P006 Impact of cave types and distribution on the Eastern Bent-winged bats' distributional changes since the LGM in Japan

＊Rei Akiyama (Graduate School of Agricultural and Life Science, The University of Tokyo, ESJ), Yuuto Kane (Graduate School of Agricultural and Life Science, The University of Tokyo), Susumu Goto (Graduate School of Agricultural and Life Science, The University of Tokyo), Dai Fukui (Graduate School of Agricultural and Life Science, The University of Tokyo)

P007 Why do egg sacs show color variation from transparent to opaque in the Japanese black salamander?¯A comparison with a related species who spawns only transparent egg sacs¯

＊Shona Yasuda (The University of Tokyo, ESJ), Ryota Morii (The University of Tokyo), Hiroshi Ikeda (The University of Tokyo)

P008 Environmental Factors Influencing Green-Brown Polymorphism in the Migratory Locust (*Locusta migratoria*)

＊Keiryu Hirota (The United Graduate School of Agricultural Sciences-Iwate University), Ryohei Sugahara (Hirosaki University)

P009 A Trial Reconstruction of Temporal Changes in Fish Stocks over the Past 6,000 Years Using Sedimentary DNA

＊Naoto Horie (Ehime University), Michinobu Kuwae (Ehime University), Masanobu Yamamoto (Hokkaido University), Tomohisa Irino (Hokkaido University), Ken Ikehara (Advanced Industrial Science and Technology), Keitaro Yamada (Yamagata University), Tsurayuki Ohmori (The University of Tokyo), Keiji Takemura (Kyoto University),Tsuyosi Haraguchi (Tohoku University), Hikaru Takahara (Kyoto Prefectural University), Misaki Shimada (Kyoto Prefectural University), Akira Hayashi (Doshisha University), Katsuaki Suzuki (Advanced Industrial Science and Technology), Narumi Tsugeki (Matsuyama University)

P010 Life history strategy of toads against urbanization

＊Sena Irie (Tokyo University of Agriculture and Technology, ESJ), Kenta Owaku (Tokyo University of Agriculture and Technology), Reina Kumada (Tokyo University of Agriculture and Technology), Tomoaki Murakami (Tokyo University of Agriculture and Technology), Noriko Iwai (Tokyo University of Agriculture and Technology)

P011 Seasonal and interannual changes in tree cavity use of *Diplothrix legata* (Muridae: Rodentia) in Okinawajima Island, Japan: Insights from five years of monitoring

＊TEPPEI HIGASHI (University of the Ryukyus, ESJ), Shun Kobayashi (University of the Ryukyus)

P012 Life cycles of trematodes in mollusks on the coast of Japan

＊HAKUYU SEKINE (Toho university, ESJ), Masanori Taru (Toho University Tokyo Bay Ecosystem Research Center), Tomohito Ojima (Research Group of Aquatic Life in Port of Tokyo), Masako Ojima (Research Group of Aquatic Life in Port of Tokyo), Hiroaki Fukumori (Research Center for Marine Biology Graduate School of Life Sciences Tohoku University), Toshio Furota (Toho University Tokyo Bay Ecosystem Research Center), Sho Toshino (Kuroshio Biological Research Foundation), Soma Okamoto (Fukui Coastal Nature Center), Masato Nitta (Japan Fisheries Research and Education Agency), Tsukasa Waki (Toho university)

P013 The Insect Fauna of Fruit-Piercing Stink Bugs (*Pentatomidae*) at Otemae Takamatsu Junior and Senior High School

＊Chisa AOKI (Kobe College/Otemae Takamatsu Junior & High School, ESJ), Akira MUROTA (Otemae Takamatsu Junior & High School), Yu SUEYOSHI (Otemae Takamatsu Junior & High School), Mao TAMURA (Otemae Takamatsu Junior & High School)

Yayoi Auditorium Annex

landscape ecology, biodiversity, conservation, education and popularization of ecology

P014 Relationship between anurans density and landscape factors in paddy field using environmental DNA analysis

＊Akinori Ogura (Kobe University Graduate School of Human Development and Environment, ESJ), Qianqian WU (Kobe University Graduate School of Human Development and Environment), Ryohei NAKAO (Kobe University Graduate School of Human Development and Environment/Yamaguchi University Graduate School of Science and Technology for Innovation), Atushi USHIMARU (Kobe University Graduate School of Human Development and Environment), Toshifumi MINAMOTO (Kobe University Graduate School of Human Development and Environment)

P015 Impact of farmland abandonment on survival of a small salamander (*Hynobius setouchi*) using environmental DNA analysis

＊Nana Matsumoto (Kobe University, ESJ), Masayuki K. Sakata (Hokkaido University), Yuta Kunimasa (Kobe University), Yuna Yamamoto (Kobe University), Toshifumi Minamoto (Kobe University)

P016 Detection of Chinese White Dolphin in Hong Kong waters using environmental DNA analysis

＊Robinson Okoth Kisero (THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY), Masayuki Ushio (THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY), Takamitsu Ohigashi (THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY), Eszter Matrai (OCEAN PARK), Lindsay Porter (SOUTHEAST ASIA MARINE MAMMAL RESEARCH), Satsuki Tsuji (KYOTO UNIVERSITY)

P017 Applying D-Loop Haplotype Analysis in Grouper Population Studies

＊Ming Wai Li (Hong Kong University of Science and Technology ocean science department, ESC)

P018 Applicability of single-factor models in assessment of habitat suitability¯A case study of wetland bird habitats

＊Xiuzhi WANG (Department of Biology, Hong Kong Baptist University/Department of Life Sciences, Beijing Normal- Hong Kong Baptist University, ESC), Siu-Tai TSIM (Department of Life Sciences, Beijing Normal-Hong Kong Baptist University/Guangdong Provincial/Zhuhai Key Laboratory of Interdisciplinary Research and Application for Data Science, Beijing Normal-Hong Kong Baptist University), Jian-Wen QIU (Department of Biology, Hong Kong Baptist University), Lingzi LIANG (Department of Biology, Hong Kong Baptist University/Department of Life Sciences, Beijing Normal-Hong Kong Baptist University), Jungong GUO (Zhuhai Bird Watching Society)

P019 Ecosystem Condition: Concept, Accounting Methods and Case Study

＊Yu Zhao (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, ESC), Lingxiao Ying (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences), Guanshi Zhang (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences)

P020 Determinants and Action Pathways for Enhancing Ecological Security from a Complex Systems Perspective: A Case Study of Yellow River Basin, China.

＊Jiayin Li (School of Management, Lanzhou University/Data Intelligence Laboratory of Tibetan Plateau Humanistic Environment/Emergency Management Research Center, Lanzhou University), Cuorong Chai (School of Management, Lanzhou University/Data Intelligence Laboratory of Tibetan Plateau Humanistic Environment/ Emergency Management Research Center, Lanzhou University), Wenhao Fu (School of Management, Lanzhou University/Data Intelligence Laboratory of Tibetan Plateau Humanistic Environment/Emergency Management Research Center, Lanzhou University)

P021 From Spawning Grounds to Feeding Fronts: Assessing Climate Change Vulnerability of Pacific Bluefin Tuna (*Thunnus orientalis*) Migration Pathways in the North Pacific Ocean

＊Matthew Durant (Tohoku University, ESJ), Jamie M Kass (Tohoku University)

P022 Associations among three types of nature connections and their consequences for human well-being and conservation behaviours

＊Yutaro Aota (The University of Tokyo/Forestry and Forest products Research Institute, ESJ), Yusuke Yamada (Forestry and Forest products Research Institute), Satomi Mitsui (Forestry and Forest products Research Institute), Yuichi Yamaura (Forestry and Forest products Research Institute), Masashi Soga (The University of Tokyo)

P023 Approaches to Enhancing the Detection Sensitivity of *Schistosoma mansoni* eDNA

＊Yuna Yamamoto (Kobe University, ESJ), Qianqian Wu (Kobe University), Evans Asena Chadeka (Nagasaki University/Kenya Medical Research Institute (KEMRI)), Benard Ngetich (Maseno University), George Ododa Sonye (Ability to solve by Knowledge (ASK) Community Based Organization), Sachiyo Nagi (Tokyo Women's Medical University), Kyoko Futami (Nagasaki University), Ayako Hyuga (Nihon University), Sammy Njenga (Kenya Medical Research Institute (KEMRI)), Collins Ouma (Maseno University), Shinjiro Hamano (Nagasaki University), Toshifumi Minamoto (Kobe University)

P024 The Rapid Shrinkage of China' s Tidal Flat (2000-2023): Trends, Drivers, and Ecological Impacts

＊QIQI HUANG (State Key Laboratory of Regional and Urban Ecology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, ESC)

P025 Effectiveness of an online quiz-based birdsong training tool "TORI-TORE" : Changes in participants' birdsong identification skills and interest in birds

＊Yui Ogawa (University of Tsukuba/National Institute for Environmental Studies, ESJ), Keita Fukasawa (National Institute for Environmental Studies), Akira Yoshioka (National Institute for Environmental Studies), Nao Kumada (National Institute for Environmental Studies), Akio Takenaka (Unaffiliated), Takashi Kamijo (University of Tsukuba)

P026 Comparison of butterfly communities among land use types and topographic conditions in the agricultural landscape of Hokkaido, northern Japan

＊Gakuto Nihei (Mie University, ESJ), Munehiro Kitazawa (National Institute for Environmental Studies), Noriyuki Suzuki (Mie University), Futoshi Nakamura (Hokkaido University)

P027 Modeling the potential distribution of the golden eagle in Japan and investigating its relationship with satoyama landscapes

＊Ryo Nishida (Macroecology Lab, Graduate School of Life Sciences, Tohoku University, ESJ), Everton Miranda (Macroecology Lab, Graduate School of Life Sciences, Tohoku University), Jamie Michael Kass (Macroecology Lab, Graduate School of Life Sciences, Tohoku University)

P028 Visualizing the Invasion Stage of *Bufo formosus* on Hachijo-jima Island Using SDMs and Field Surveys

＊Yusuke Magome (University of Tsukuba, ESJ), Kiyoto Sawada (University of Tsukuba), Kohei Suzuki (Tokyo university of agriculture), Takashi Kamijo (University of Tsukuba)

P029 Effects of urbanization and related environmental factors on soil microbial communities in the Seoul Metropolitan Area, South Korea

＊Jaeyeon Lee (Konkuk University, ESK), Haegeun Chung (Konkuk University), Deageun Ko (Konkuk University), Ana Mitcov (Konkuk University), Kwanyoung Ko (Konkuk University), Jaeho Kim (Konkuk University)

P030 National Desert Parks and Dryland Sustainability

＊YUEMING PAN (Graduate School of Environmental Studies, Nagoya University, ESC), TAKAFUMI MIYASAKA (Graduate School of Environmental Studies, Nagoya University), HAO QU (Key Laboratory of Ecological Safety and Sustainable Development in Arid Lands, Urat Desert-grassland Research Station, Northwest Institute of Eco- Environment and Resources, Chinese Academy of Sciences)

P031 Urban Policy and Mangrove Change: A Remote Sensing Assessment of Hong Kong's Coastal Regulations (2013-2025)

＊Sum Yee Luk (Hong Kong Baptist University/University of Hong Kong School of Professional and Continuing Education), Shoko Sakai (Hong Kong Baptist University), Muhammad Sajjad (University of Hong Kong)

P032 Ontogenetic differences in food resource use by invasive channel catfish (*Ictalurus punctatus*) in the outlet of Lake Biwa, central Japan

＊Keita Takasaku (Kindai University Graduate School/Kindai University/Shiga Prefectural Fisheries Experimental Station, ESJ), Tomonori Yoshikawa (Kindai University Graduate School), Yuta Kishiwaki (Kindai University), Kohei Oda (Kindai University), Kazuma Suehiro (Kindai University), Akane Iwasaki (Kindai University), Daisuke Ishizaki (Shiga Prefectural Fisheries Experimental Station), Nobuyuki Oue (Shiga Prefectural FisheriesExperimental Station), Yasushi Mitsunaga (Kindai University), Toru Kobayashi (Kindai University), Takeshi Kikko (Kindai University)

P033 Effect of nutrient levels on the growth of the invasive alga *Micrasterias hardyi* isolated from Lake Biwa

＊Fuji Xie (Center for Ecological Research, Kyoto University, ESJ), Naoki Fujiwara (Lake Biwa Environmental Research Institute), Kenya Iwamoto (Lake Biwa Environmental Research Institute), Arata Kawakami (Lake Biwa Environmental Research Institute), Shin-ichi Nakano (Center for Ecological Research, Kyoto University)

P035 Remote Sensing Based Classification of Abandoned Paddy Fields Reveals Successional Impacts on Insect Biodiversity

＊Jaeyeon Kim (Seoul National University, ESK), Youngkeun Song (Seoul National University), Seungwoo Han (Seoul National University), Jiweon Yun (Seoul National University), Seunghyeon Lee (Seoul National University)

P036 Integrating Spatiotemporal Dynamics and Landscape Connectivity to Improve Ecosystem Service Supply-Demand Imbalances: A Dual Perspective on Quantity and Space

＊Tian HANG (Seoul National University, ESK), Youngkeun Song (Seoul National University)

P037 Analyses of the effects of microplastics and warming on soil microorganisms

＊Juyeon Park (Konkuk University, ESK), Jaeho Kim (Konkuk University/Korea Institute of Industrial Technology), Jaeyeon Lee (Konkuk University), Daegeun Ko (Konkuk University), Haegeun Chung (Konkuk University)

P038 The Current Status and Relationship Between Bitterlings and Freshwater Mussels, and Challenges for Their Conservation

＊Ruka SHIKENYA (Otemae Takamatsu Junior and High School, ESJ), Chisa AOKI (Otemae Takamatsu Junior and High School/Kobe College), Naoto OGAWA (Otemae Takamatsu Junior and High School), Ryota KANAI (Otemae Takamatsu Junior and High School)

P039 Detecting the presence of *Ursus thibetanus ussuricus* using airborne eDNA through various sampling methods in a controlled environment

＊Hyensoo Kim (Graduate School of Environmental Studies, Seoul National University, ESK), Yujin Kang (Environmental Planning Institute, Seoul National University), Gawoo Kim (Environmental Planning Institute, Seoul National University), Seungwoo Han (National Natural Heritage Center), Youngkeun Song (Graduate School of Environmental Studies, Seoul National University)

P040 Ploidy-Dependent Establishment and Expansion of Hybrid Dandelions in Japan

＊Toru Jogaki (Osaka Metropolitan University/Osaka City University, ESJ), Tenuen T (Osaka City University), Satoshi Nanami (Osaka Metropolitan University), Akira Itoh (Osaka Metropolitan University)

P041 Decline of seagrass and seaweed beds in marine protected areas due to high water temperatures: A case study of the Bungo Channel, Japan

＊Shojiro Amano (University of Tokyo, ESJ), Mitsutaku Makino (University of Tokyo/Atmosphere and ocean research institute)

P042 Quantifying functional redundancy and resilience in bumble bees using species distribution models and hypervolumes

＊Megan Mei Yan Low (Tohoku University, ESJ), Yukari Suzuki-Ohno (Tohoku University/Center for Sustainable Society), Jamie Michael Kass (Tohoku University)

P043 Threat to the genetic integrity of the Japanese allotetraploid spined loach, *Cobitis sakahoko*, population in the Sendai River in southern Kyushu, Japan

＊Hayato OKA (Graduate School of Agriculture, Kindai University, ESJ), Tadao KITAGAWA (Graduate School of Agriculture, Kindai University)

P044 DNA Analysis Of *Orcaella brevirostris* In Malaysia

＊Nuqman Maher (Centre for Ecological Research, Kyoto University/Institute of Biological Sciences, University Malaya), Zulqarnain Mohamed (Institute of Biological Sciences, University Malaya), Song Looi Sze (Institute of Biological Sciences, University Malaya)

P045 Estimate Plant Species Richness in Forested Isolated Wetlands: A Spatial Modeling Approach

＊Yoonjeong Heo (Seoul National Unuversity, ESK), Minwoo Oh (National Institute of Ecology), Hyun Tak Shin (Korea National Arboretum), Jongbin An (Korea National Arboretum), Eun Ju Lee (Seoul National Unuversity)

P046 Effects of exotic tree species extermination on vegetation in planted sites on artificial islands

＊Souta Okuyama (Graduate School of Agricultural Science, Kobe University), Naoto Kawata (Graduate School of Agricultural Science, Kobe University), Keita Kashiwagi (Graduate School of Agricultural Science, Kobe University), Hiroaki Ishii (Graduate School of Agricultural Science, Kobe University)

P047 Ecological and genetic characteristics of the endangered tree species *Pyrus ussuriensis* var. *aromatica*

＊Shiho Fujita (Graduate School of Agricultural Science, Kobe University, ESJ), Naoka Nagayama (Graduate School of Agricultural Science, Kobe University), Hironori Katayama (Graduate School of Agricultural Science, Kobe University), Hiroaki Ishii (Graduate School of Agricultural Science, Kobe University)

Yayoi Auditorium Annex

plant ecology, succession and regeneration

P048 Fine root distribution and soil water uptake concentrated to shallow layer rather than the deep layer under rainfall exclusion treatment in a black locust plantation in Loess Plateau, China

＊Mei-Jun Liu (College of Forestry, Northwest A&F University/State Key Laboratory of Soil and Water Conservation and Desertification Control, Northwest A&F University, ESC), Sheng Du (State Key Laboratory of Soil and Water Conservation and Desertification Control, Northwest A&F University/Institute of Soil and Water Conservation, Chinese Academy of Sciences and Ministry of Water Resources), Guoqing Li (State Key Laboratory of Soil and Water Conservation and Desertification Control, Northwest A&F University/Institute of Soil and Water Conservation, Chinese Academy of Sciences and Ministry of Water Resources), Le Chang (College of Forestry, Northwest A&F University/State Key Laboratory of Soil and Water Conservation and Desertification Control, Northwest A&F University), Qiu-Wen Chen (College of Forestry, Northwest A&F University/School of Geographical Sciences, Southwest University)

P049 Interspecific hybridization and microhabitat niche shift in sympatric *Ixora* species: A mechanism for increasing species diversity in Bornean rainforest

＊Takeru KAWARATANI (Osaka Metropolitan University, ESJ), Seiya OKUNO (Osaka Metropolitan University), Natsuki KOMADA (Hiroshima University), Takafumi MIZUNO (Kyoto University), Sylvester TAN (ForestGEO), Mohizha MOHAMAD (Forest Department Sarawak), Melvin T. GUMAL (Sarawak Forestry Corporation), Hayato TOKUMOTO (Osaka Metropolitan University), Shizue YOSHIHARA (Osaka Metropolitan University), Akira ITOH (Osaka Metropolitan University)

P050 Do leaf traits differ between deciduous and evergreen species in Cambodian seasonally dry tropical forest?

＊Hiroki Hosokawa (Nagoya University, ESJ), Sopheak Thav (Nagoya University/Royal University of Agriculture), Sophors Chea (Royal University of Agriculture), Hiiragi Katsuura (Japan International Research Center for Agricultural Sciences), Naoko Matsuo (Mie University), Michiko Nakagawa (Nagoya University)

P051 Comparison of ecological characteristics between dioecious and cosexual species of Japanese *Acer* species

＊Takuma KATO (Osaka Metropolitan University, ESJ), Satoshi NANAMI (Osaka Metropolitan University),Seiya OKUNO (Osaka Metropolitan University), Atsushi NAGANO (Nagoya University/Keio University), Akira ITOH (Osaka Metropolitan University)

P052 Tree adaptation to temperature: a reciprocal experiment of eight woody species across a latitudinal gradient

＊Xin WANG (Kyoto University, ESJ), Haruhiko Taneda (University of Tokyo), Masahiro Nakamura (Hokkaido University), Hideki Sugiura (Kyoto University), Yusuke Onoda (Kyoto University)

P053 Ocean currents, dispersal traits, and historical factors shape the genetic structure of three coastal plant species in eastern Japan

＊Kanako Akimoto (Ochanomizu University, ESJ), Madoka Kodama (Ochanomizu University), Keisuke Tanaka (Tokyo University of Information Sciences), Tetsuo I. Kohyama (The University of Tokyo), Kei Matsubayashi (Rakuno Gakuen University), Shingo Akita (Hokkaido University)

P054 Intra- and interspecific relationships between sprouting ability and functional traits of woody species in a Japanese beech forest

＊Kotaro Masuda (Niigata University, ESJ), Rei Shibata (Niigata University)

P055 Advancing Leaf pH Measurement: Optimizing Pretreatment, Preservation, and Non-Grinding Methods

＊Jiashu Chen (China Agricultural University, ESC), Wenxuan Han (China Agricultural University), Sining Liu (China Agricultural University/Sichuan Agricultural University), Yan Luo (Xinjiang University), Yufei Hou (China Agricultural University)

P056 Spatial Patterns of Disease Infection in Barley: A Genotypic Neighborhood Perspective
＊IQRA AKRAM (Graduate School of Environmental Science, ESJ), Yasuhiro Sato (Graduate School of Environmental Science)

P057 UAV-based seasonal vegetation mapping and habitat characterization in an abandoned paddy wetland
＊Youngeun Yang (Seoul National University, ESK), Jiseon Ro (Seoul National University/Suwon Research Institute), Youngkeun Song (Seoul National University)

P058 Distribution Change of *Suaeda japonica* and *Phragmites communis* Using Time-Series Vegetation Indices in Suncheon Bay
＊GapSeong Jekal (Seoul national university, ESK), Young Keun Song (Seoul national university), Yong Hwan Kim (Seoul national university), Ji Weon Yun (Seoul national university), Do Hee Kim (Seoul national university), Ji Seon Ro (Seoul national university), Dae Yeol Kim (Seoul national university), Seung Hyeon Lee (Seoul national university),Young Eun Yang (Seoul national university), Jae Yeon Kim (Seoul national university)

P059 Forest Dynamics Under the Combined Influence of Climate Change and Deer Herbivory
＊Ai Obata (The university of Tokyo, ESJ), Gen Kusakabe (The university of Tokyo), Tsutom Hiura (The university of Tokyo)

P060 Population Dynamics of the Korean Endemic Monotypic Genus *Coreanomecon hylomeconoides* Nakai Using an Integral Projection Model
＊Hong-Geun An (Department of Environment and Energy Engineering, Gwangju Institute of Science and Technology, ESK), Eunsuk Kim (Department of Environment and Energy Engineering, Gwangju Institute of Science and Technology), Dongyeob Lee (Department of Environment and Energy Engineering, Gwangju Institute of Science and Technology), Hyungsoon Jeong (Invasive Alien Species Team, National Institute of Ecology)

P061 The overlooked importance of small-scale flowering in dwarf bamboos: Multiple cases of seedling recruitment
＊Risa Ogawa (Yamagata University/Akita Prefectural University, ESJ), Yuzu Sakata (Yokohama National University/ Akita Prefectural University), Akifumi Makita (Akita Prefectural University), Hiroshi Tomimatsu (Yamagata University)

P062 Functional Trait-Based Comparison of Aquatic Plant Life Forms
＊Migyeong Jung (Department of Biological Science, Kunsan National University, ESK), Ji Yoon Kim (Department of Biological Science, Kunsan National University), Ran-Young Im (Center for Convergent Agro-Bioengineering, Kunsan National University)

P063 Why are flower colors geographically fixed? An integrative analysis of color polymorphism in Campanula punctata
＊Ruiqi ZHANG (Tohoku University/Sado Island Center for Ecological Sustainability, Niigata University, ESJ), Harue Abe (Sado Island Center for Ecological Sustainability, Niigata University), Megan Mei Yan Low (Tohoku University), Jamie Michael Kass (Tohoku University)

P064 The response of plant nitrogen resorption to restoration in Inner Mongolia, China
＊Xiang Li (Nagoya University, ESJ), Takafumi Miyasaka (Nagoya University), Hao Qu (Urat Desert-grassland Research Station, Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences)

P065 Elevated CO_2 Alters Competitive Dynamics between Endemic *Aster koraiensis* and Alien *Coreopsis lanceolata*: Physiological Responses and Future Distribution Projections
＊Ji Yeong Hwang (Seoul National University, ESK), Eun Ju Lee (Seoul National University), Youngsung Joo (Seoul National University)

Yayoi Auditorium Lobby
animal-plant interaction, animal community

P066 Comparison of moth communities in semi-natural grasslands in central Honshu and northern Kyushu and their relationship with the site environment
＊Hisashi Tajima (Shinshu uni., ESJ), Kumiko Okubo (Shinshu uni.)

P067 Urbanization and habitat diversity promote endozoochorous seed dispersal by raccoon dogs (*Nyctereutes procyonoides*) within forest fragments in Tokyo
＊Harsh Yadav (Yokohama National University, ESJ), Yuki Iwachido (Yokohama National University), Shyam S. Phartyal (Mizoram University), Takehiro Sasaki (Yokohama National University)

P068 Influence of flower predation by Yakushima macaques on the reproduction of *Camellia japonica*
＊Fumiya Kakuta (Kyoto University, ESJ), Miori Fukuda (Tokyo University of Agriculture), Haruka Kameda (Tokyo City University), Rentaro Kimpara (Kyoto University), Chihiro Nakato (Hiroshima University), Madoka Satake (Utsunomiya University), Shiori Tezuka (Tokyo University of Agriculture and Technology), Goro Hanya (Kyoto University)

P069 Does the local extinction of Japanese macaques affect the seed dispersal distance of *Morella rubra*?
＊Ayane Watanabe (Nagoya University, ESJ), Nobuhiro Tomaru (Nagoya University), Goro Hanya (Kyoto University), Michiko Nakagawa (Nagoya University)

P070 Shifts in Land Use Consistently Alter Aquatic Size Structures in Japanese Streams
＊Giovanna Collyer Resende (The University of Tokyo, ESJ), Victor Saito (Federal University of Sao Carlos), Terutaka Mori (Public Works Research Institute), Takehito Yoshida (The University of Tokyo)

P071 How to monitor pollinators: Comparision among conventional and eDNA metabarcoding methods
＊Eimi Nagahama (Kobe University, ESJ), Gaku Hirayama (Kobe University), Tomoya Yoshihara (Kobe University), Kazuya Takeda (Mount Fuji Research Institute), Toshifumi Minamoto (Kobe University), Atushi Ushimaru (Kobe University)

P072 Fish communities monitoring using eDNA metabarcoding considering seasonal and depth variations
* Ryota P. Kitani (Kobe University, ESJ), Rikuto Yazawa (Yaizuchuo High School), Towa Masuda (Yaizuchuo High School), Yo Kurazono (Ogaki Minami Senior High School), Yuichi Yaoi (Yaizuchuo High School), Toshifumi Minamoto (Kobe University)

P073 Evolution of secondary metabolites, morphological structures and associated gene expression patterns in galls among four closely-related aphid species
* Mayu MIZUKI (Tokyo Univ., ESJ), Yohei KANEKO (FIHES), Yoshitaka YUKIE (Tsuguro Satoyama Nature Field), Yoshihisa SUYAMA (Tohoku Univ.), Shun HIROTA (Fukushima Univ.), Shinichiro SAWA (Kumamoto Univ.), Minoru KUBO (NAIST), Akira YAMAWO (Kyoto Univ.), Michiko SASABE (Hirosaki Univ.), Hiroshi IKEDA (Tokyo Univ.)

P074 Pollination mutualism between *Chrysosplenium* ser. *Macrostemon* and *Nipponorhynchus* sawflies: Ecological and evolutionary perspectives
* Marika Yamaguchi (The University of Tokyo/National Museum of Nature and Science, ESJ), Hideo Takahashi (Independent Researcher), Namiki Kikuchi (Toyohashi Museum of Natural History), Takahiro Yoshida (Ehime University Museum), Noriaki Murakami (Museum of Nature and Human Activities), Yudai Okuyama (The University of Tokyo/National Museum of Nature and Science)

P075 How does floral scent control the pollinator diversity of *Asarum* sect. *Heterotropa*?
* Anna K Valchanova (Graduate School of Science, University of Tokyo, ESJ), Satoshi Kakishima (Department of Botany, National Museum of Nature and Science/The Mt. Fuji Institute for Nature and Biology, Showa Medical University), Kanako Sekimoto (Graduate School of Nanobioscience, Yokohama City University), Jui-Tse Chang (Department of Life Science, National Taiwan Normal University), Yudai Okuyama (Graduate School of Science, University of Tokyo/Department of Botany, National Museum of Nature and Science)

P076 Factors Determining Partners in *Xiphydria* Woodwasp-Fungus Symbiosis: Fungal Growth is Better on Wasp's Host- Tree Species
* Ryu Takagi (Graduate School of Bioagricultural Science, Nagoya University, ESJ), Hisashi Kajimura (Graduate School of Bioagricultural Science, Nagoya University)

P077 Isotope enrichment trends of aquatic fish parasites in Lake Biwa
* Kei Kinoshita (Kyoto univ. CER/Fukushima univ., ESJ), Yuji Onishi (RIHN), Ketaro Fukushima (Fukushima univ.), Keisuke Koba (Kyoto univ. CER)

P078 The relationship between fruit preference and fruit traits in seed dispersal by crows
* Shogo Shimada (Niigata Univeresity, ESJ), Shoji Naoe (Forestry and Forest Products Research Institute Tohoku Research Center), Rei Shibata (Niigata Univeresity)

P079 Does the microbial loop link to the grazing food chain in Lake Biwa?: Predation by the Calanoid Copepod *Eodiaptomus japonicus* on protists
* Madoka Inoue (Center for Ecological Research, Kyoto university), Syuhei Ban (University of Shiga Prefecture)

P080 Ecological Resilience and Species Balance in Mutualistic communities
* Gohki Kasahara (Tohoku university, ESJ), Yutaka Osada (Tohoku university), Michio Kondoh (Tohoku university)

Yayoi Auditorium Lobby

fungi and microbes, material cycling

P081 Spatial distributions of *Burmannia championii* and its *association with* arbuscular mycorrhizal *fungi in Cryptomeria japonica plantations*
* Yuka Onishi (Graduate school of Bioresources, Mie University), Yudai Kitagami (Graduate school of Bioresources, Mie University), Yosuke Matsuda (Graduate school of Bioresources, Mie University)

P082 Resilience of ectomycorrhizal fungal communities in coastal Japanese black pine forests to salt stress
* Riku MURAKAMI (Tokyo University of Agriculture, ESJ), Takahiko KOIZUMI (Tokyo University of Agriculture)

P083 Developments of species-specific primers for the detection of endangered *Rhizopogon togasawarius*
* Hirofumi Shimizu (Faculty of Bioresources, Mie University, ESJ), Keita Henry Okada (Graduate School of Sciences and Technology for Innovation, Yamaguchi University), Yudai Kitagami (Graduate school of Bioresources, Mie University), Masao Murata (Forestry Research and Training Center, Akita prefecture), Kazuhide Nara (Graduate School of Frontier Sciences, Tokyo University), Yosuke Matsuda (Graduate school of Bioresources, Mie University)

P084 Does *Dorcus striatipennis* have different strains of yeast symbionts depending on their habitats?
* Taiga Hashikawa (The University of Tokyo, ESJ), Gaku Ueki (The University of Tokyo/Shinshu University), Hiroshi Ikeda (The University of Tokyo), Kohei Kubota (The University of Tokyo)

P085 Divergent soil P status and tree nutritional strategies in carbonate rock ecosystems in Japan
* Rimato Shiba (Kyoto Univ. Forest Ecology, ESJ), Yusuke Onoda (Kyoto Univ. Forest Ecology), Ryota Aoyagi (Kyoto Univ. Forest Ecology/Hakubi center)

P086 Taxonomic study of the genus *Tulasnella* (Fungi, Basidiomycota) in Japan focusing on its teleomorph
* Kosuke Nagamune (UGSAS, Tottori University, ESJ), Nitaro Maekawa (Faculty of Agriculture, Tottori University), Naoki Endo (Faculty of Agriculture, Tottori University), Akira Nakagiri (Faculty of Agriculture, Tottori University), Dai Nagamatsu (Faculty of Agriculture, Tottori University)

P087 Poplar Root-Microbe Interactions Drive Soil Nutrient Cycling and Micro-Food Web Stability in Degraded Mollisols
* Jia Yang (Northeast Forestry University, ESC), Hui Yan Gu (Northeast Forestry University)

P088 Dynamics and grazing responses of plant nitrogen use strategies are driven by plant nitrogen demand and resource availability

＊Lin Wu (School of Ecology and Environment, Inner Mongolia University, ESC), Frank Yonghong Li (School of Ecology and Environment, Inner Mongolia University)

P089 Context-Aware Marine Plankton Classification with Multimodal Large Language Model and Retrieval-Augmented Generation Reasoning

＊Jaronchai Dilokkalayakul (Graduate School of Information Sciences, Tohoku University), Akane Kitamura (Advanced Institute for Marine Ecosystem Change (WPI-AIMEC), Tohoku University), Takeshi Obayashi (Graduate School of Information Sciences, Tohoku University/Advanced Institute for Marine Ecosystem Change (WPI-AIMEC), Tohoku University)

P090 Effects of deer-induced understory degradation on soil mesofauna community via changes in soil properties in beech forests: comparison between Kyushu and San-in

＊Erika Kawakami (Kyushu University, ESJ), Takuo Hishi (Fukuoka University), Ayumi Katayama (Kyushu University)

P091 Crushed ALC as a Functional Substrate Material for Green Roofs: A Pilot Study with AMF Inoculation

＊Tsukasa Iwata (Graduate School of Horticulture, Chiba University, ESJ), Kiyoshi Umeki (Graduate School of Horticulture, Chiba University), Terumasa Takahashi (Graduate School of Horticulture, Chiba University), Ryosuke Shimoda (Graduate School of Horticulture, Chiba University)

P092 Slope aspects affect stability of soil respiration to drying-rewetting disturbance in a cool-temperature forest

＊Fangzheng FU (Okayama University, ESJ), Takuo Hishi (Fukuoka University), Fujio Hyodo (Okayama University)

P093 An effective transfer learning method for automatic fine root extraction using ARATA and fine-root dynamics in a 100-year-old Chamaecyparis obtusa forest.

＊Hinata Yoshida (Nagoya University, ESJ), Ryota Yanase (Nagoya University), Takuto Yamagata (University of Hyogo), Rimpei Yoshie (Nagoya University), Toko Tanikawa (Nagoya University), Mizue Ohashi (University of Hyogo), Hidetoshi Ikeno (The University of Fukuchiyama), Ryota Hayashi (Nagoya University), Yasuhiro Hirano (Nagoya University)

Yayoi Auditorium Lobby

animal reproduction, behavior

P094 Formation of large oocytes and planulae in *Aurelia coerulea* (Cnidaria, Scyphozoa) as an adaptive strategy to low water temperatures

＊Satauki Takauchi (Graduate School of Marine Biosciences, Kitasato University, ESJ), Hiroshi Miyake (Graduate School of Marine Biosciences, Kitasato University)

P095 Anti-predator defenses of adult weevils: how do they escape predation by frogs?

＊Uran Sumi (School of Agricultural Science Faculty of Agriculture Kobe University, ESJ), Shinji Sugiura (School of Agricultural Science Faculty of Agriculture Kobe University)

P096 The coevolution of mating behavior between male and female driven by sexual conflict in leaf beetles (Chrysomelidae)

＊Hiromu Nakaegawa (The University of Tokyo, ESJ), Hiroshi Ikeda (The University of Tokyo)

P097 What do spines function for diving beetles?―Focused on walking, swimming and flight―

＊Kengo Hide (The University of Tokyo, ESJ), Ryota Morii (The University of Tokyo), Shona Yasuda (The University of Tokyo), Hiroshi Ikeda (The University of Tokyo)

P098 Monogamous Tanganyikan cichlid with biparental offspring use vocal signals to maintain social bonds: novel evidence of fish vocal communications?

＊Ryoichi Inoue (Osaka Metropolitan University, ESJ), Ryo Hidaka (Osaka Metropolitan University), Kento Kawasaka (Niigata University), Shun Satoh (Kyoto University)

P099 Dominant breeders punish idle helpers depending on group size and spatial proximity in a cooperatively breeding cichlid fish: First evidence in non-human animals

＊Ryo Hidaka (Osaka Metropolitan University, ESJ), Ryoichi Inoue (Osaka Metropolitan University), Chisaki Hosoda (Osaka Metropolitan University), Yuto Kitamukai (Osaka Metropolitan University), Satoshi Awata (Osaka Metropolitan University)

P100 Comprehensive evaluation and optimization strategy of ecological resilience on the Qinghai-Tibet Plateau

＊Wenhao Fu (School of Management, Lanzhou University/Data Intelligence Laboratory of Tibetan Plateau Humanistic Environment/Emergency Management Research Center, Lanzhou University), Cuorong Chai (School of Management, Lanzhou University/Data Intelligence Laboratory of Tibetan Plateau Humanistic Environment/ Emergency Management Research Center, Lanzhou University), Jiayin Li (School of Management, Lanzhou University/Data Intelligence Laboratory of Tibetan Plateau Humanistic Environment/Emergency Management Research Center, Lanzhou University)

P101 Ejaculation volume is not influenced by female reproductive potential or mating status, but is adjusted according to sperm stock in the Japanese pygmy squid

＊Ryohei Tanabe (School of Science and Technology, Tokai University/Institute of Oceanic Research and Development, Tokai University, ESJ), Yoko Iwata (Atmosphere and Ocean Research Institute, The University of Tokyo), Noriyosi Sato (Department of Fisheries, School of Marine Science and Technology, Tokai University)

P102 Machine learning of individual identification and age-class classification of wild Japanese macaque vocalizations using mel spectrograms

＊Rentaro Kimpara (Kyoto University), Fumiya Kakuta (Kyoto University), Hiroki Koda (The University of Tokyo), Ikki Matsuda (Kyoto University), Goro Hanya (Kyoto University)

P103 Optimizing camera trap sampling designs in rocky montane environments: Comparing fixed vs rotating placement

＊Fatima Chaudhary (Hokkaido University, ESJ), Junko Morimoto (Hokkaido University)

P104 Mapping Suitable Nest-sites for the Tiger Shrike *Lanius tigrinus* Based on Food Availability and Reproductive Success

＊Koki Tateishi (Graduate School of Science and Technology Niigata University, ESJ), Taito Kamata (Faculty of Agriculture Niigata University), Takuhiko Murakami (Faculty of Agriculture Niigata University), Tsuneo Sekijima (Faculty of Agriculture Niigata University)

P105 The effects of spectrally distinct artificial night light on insect development and reproductive traits in urban and rural populations

＊Ryushin Takamoto (Chiba university, ESJ), Yuma Takahashi (Chiba university)

P106 Do specialist and generalist ticks respond differently to host odor?

＊Keita Kouno (Department of Graduate School of Agriculture, Tokyo University of Agriculture and Technology, ESJ), Kandai Doi (Department of Wildlife Biology, Forestry and Forest Products Research Institute), Satoshi Koyama (Department of Graduate School of Agriculture, Tokyo University of Agriculture and Technology), Toshiyuki Satoh (Department of Graduate School of Agriculture, Tokyo University of Agriculture and Technology)

Poster without Award Entry
Poster core time July 21, Mon 15:45-17:15

Yayoi Auditorium Annex

evolution, mathematical ecology, animal population, life history of animals

P107 Molecular mechanisms underlying diversification of thermal tolerance during embryonic and larval development in sticklebacks

＊Mayu Fukuda (The University of Tokyo, ESJ), Asano Ishikawa (The University of Tokyo)

P108 Resolving the Phylogeographic Inconsistencies among *Onychodactylus* Species in Northeast Asia

＊Hahyun Nam (Interdisciplinary Program in Earth Environmental System Science & Engineering, Kangwon National University, ESK), Min-Woo Park (Interdisciplinary Program in Earth Environmental System Science & Engineering, Kangwon National University), Natsuhiko Yoshikawa (Department of Zoology, National Museum of Nature and Science), Amaël Borzée (Laboratory of Animal Behavior and Conservation, College of Biology and the Environment, Nanjing Forestry University), Jongsun Kim (Department of Science Education, Kangwon National University), Jaejin Park (Department of Science Education, Kangwon National University), Daesik Park (Interdisciplinary Program in Earth Environmental System Science & Engineering, Kangwon National University/Department of Science Education, Kangwon National University)

P109 Evolutionary developmental factors of the exaggerated genital morphology in the *Ohomoputerus* ground beetles

＊Chinami Furumoto (Kobe Univercity, ESJ), Yasuoki Takami (Kobe Univercity), Karen Terada (Kobe Univercity/ Sumiyoshi Junior high school)

P110 A study on the migratory status of Warbler complex in the Republic of Korea using genetic analysis

＊Yun-Sun Lee (Migratory Birds Center, National Institute of Biological Resources, ESK), Eujin Cheong (Migratory Birds Center, National Institute of Biological Resources), Hyun-Ah Lee (Migratory Birds Center, National Institute of Biological Resources), Jae-Woong Hwang (Migratory Birds Center, National Institute of Biological Resources), Wha-Jung Kim (Migratory Birds Center, National Institute of Biological Resources), Chang-Wan Kang (The Korean Association for Bird Protection Jeju), Eun-Hee Jrong (The Korean Association for Bird Protection Jeju), Hee-Man Kang (Jeju Wildlife Research Center), Eun-Mi Kim (Jeju Nature Park), Wee-Haeng Hur (Research Institute of Agriculture and Life Science, Seoul National University), Dong-Won Kim (Migratory Birds Center, National Institute of Biological Resources)

P111 Genetic analysis of the Eastern Buzzard *Buteo japonicus* wintering in the Republic of Korea

＊Eujin Cheong (Migratory Birds Center, National Institute of Biological Resources, ESK), Seung-Gu Kang (Research Center for Endangered Species, National Institute of Ecology), Hyun-Ah Lee (Migratory Birds Center, National Institute of Biological Resources), Yun-Sun Lee (Migratory Birds Center, National Institute of Biological Resources), Dong-Won Kim (Migratory Birds Center, National Institute of Biological Resources)

P112 Quantifying Migratory Connectivity and Spatial Clustering of the Rook *Corvus frugilegus* Using Tracking Data

＊Yu-Seong Choi (National Migratory Birds Center, National Institute of Biological Resources, ESK), Ji-Yeon Lee (National Migratory Birds Center, National Institute of Biological Resources), Mi-Rae Oh (National Migratory Birds Center, National Institute of Biological Resources), Han-I Choi (National Migratory Birds Center, National Institute of Biological Resources), Jin-Hee Yi (Wildlife Ecological Conservation Institute), In-Ki Kwon (Bird Research SaeZiP), Wee-Haeng Hur (Research Institute of Agriculture and Life Science, Seoul National University), Hyun-Ah Lee (National Migratory Birds Center, National Institute of Biological Resources), So-Hyeon Yoo (National Migratory Birds Center, National Institute of Biological Resources), Hyung-Kyu Nam (National Migratory Birds Center, National Institute of Biological Resources), Dong-Won Kim (National Migratory Birds Center, National Institute of Biological Resources)

P113 The study for different feed on the growth performance of larval *Andrias davidianus*

＊lijian OUYANG (Guizhou University of Engineering Science, ESC)

P114 Temperature modulates the ontogenetic effects of microplastics on amphibian life history.

＊Jun-Kyu Park (Kongju National University, ESK), Woong-Bae Park (Kongju National University), Ji-Eun Lee (Kongju National University), Jun-Sung Kim (Kongju National University), Yuno Do (Kongju National University)

P115 Effects of Group Size and Habitat Disturbance on Intestinal Parasite Load in Free-ranging Proboscis Monkeys

＊Muhammad Nur Fitri-Suhaimi (Wildlife Research Center, Kyoto University, ESJ), Liesbeth Frias (Department of Infectious Diseases and Public Health, City University of Hong Kong), Elke Zimmermann (Institute of Zoology, University of Veterinary Medicine Hannover), Primus Lambut (Sabah Wildlife Department), Joseph Tangah (Sabah Forestry Department, Forest Research Center), Henry Bernard (Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah), Vijay Kumar (Biotechnology Research Institute, Universiti Malaysia Sabah), Ikki Matsuda (Wildlife Research Center, Kyoto University/Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah/Chubu Institute for Advanced Studies, Chubu University)

P116 Roadkill of Terrestrial Vertebrates in the Northern part of Okinawajima Island: Ecological Insights from a Year-Round Survey

＊Yusuke Maruta (Graduate School of Agriculture, University of the Ryukyus, ESJ), Kaori Tsurui-Sato (Faculty of Agriculture, University of the Ryukyus/The United Graduate School of Agricultural Sciences, Kagoshima University), Hiroyuki Shimoji (Faculty of Agriculture, University of the Ryukyus/The United Graduate School of Agricultural Sciences, Kagoshima University), Kazuki Tsuji (Faculty of Agriculture, University of the Ryukyus/The United Graduate School of Agricultural Sciences, Kagoshima University)

P117 Comparison of Population Density and Dynamics of Eurasian Otters (*Lutra lutra*) between Urban and Rural Areas Using a non-invasive Spatially Explicit Capture-Recapture Model

＊Boyoung Lee (Department of Animal Science and Biotechnology, Kyungpook National University, ESK), Jooseong kim (Department of Animal Science and Biotechnology, Kyungpook National University), Seunghyeok Kang (Department of Animal Science and Biotechnology, Kyungpook National University), Oliwia Uche-Eze (Department of Animal Science and Biotechnology, Kyungpook National University/Cardiff University), Chaeho Noe (Department of Animal Science and Biotechnology, Kyungpook National University), Sungwon Hong (Department of Animal Science and Biotechnology, Kyungpook National University)

P118 Evaluating nymphal behavior of *Riptortus pedestris* (Hemiptera: Alydidae) to balance symbiont acquisition and predation avoidance using an individual-based model

＊Jung-Wook Kho (Department of Life Sciences, Gachon University), Joo-Young Kim (Department of Life Sciences, Gachon University), Doo-Hyung Lee (Department of Life Sciences, Gachon University)

P119 Morphological Feminization of Hermit Crab Hosts Induced by Rhizocephalan Parasites

＊Asami Kajimoto (Kanagawa University, ESJ), Aiko Iwasaki (Tohoku University), Tsuyoshi Ohira (Kanagawa University), Kenji Toyota (Kanagawa University/Tokyo University of Science/Hiroshima University)

P120 Impacts of Grazing Intensity on Soil Carbon and Nitrogen Storage in Grasslands of Gannan

＊Meiling Zhang (Gansu Agricultural University), Qiaonan Wang (Gansu Agricultural University), Yarui Zhan (Gansu Agricultural University)

P121 Discrete time population dynamics model for exploitative competition between native and alien predators

＊Akshat Goyal (Tohoku University)

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P122 Climate warming-driven expansion and retreat of novel ecosystems-alpine scree in the Third Pole over the past 45 years

＊guanshi zhang (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences), Lingxiao Ying (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences), Yu Zhao (Research Center for Eco- Environmental Sciences, Chinese Academy of Sciences)

P123 Plant functional groups modulate the effects of landscape diversity on natural predators

＊Zhi Wen (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, ESC), Hua Zheng (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences)

P124 Characterization and potential use of citizen science-derived biodiversity data from ten Nature Sanctuaries.

＊Shoma Jingu (Department of Forest Management, Forestry and Forest Products Research Institute, Forest Research and Management Organization, ESJ), Yui Ogawa (Graduate School of Science and Technology, University of Tsukuba)

P125 The spatial pattern of butterfly diversity and its impact factors in Beijing urban green spaces

＊Zhimin Su (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, ESC)

P126 Construction and optimization of urban ecological network based on bird friendly perspective: a case study of Hefei

＊Dexian Zhao (Anhui Agricultural University, ESC), Yuxin Ding (Anhui Agricultural University), Qian Ma (Anhui Agricultural University)

P127 Traditional management practices sustaining plant species diversity in thatch-producing grasslands in central Japan

＊Hideyuki Ida (Shinshu University, ESJ)

P128 Estimation of conservation importance of tidal flats under different environmental contexts using endangered fish species

＊Ryuya Sakamoto (University of Miyazaki, ESJ), Mika Mukai (Tanabe Kankyo Kougaku Co., Ltd), Atsunobu Murase (University of Miyazaki)

P129 The Current Status and Trends of Natural Capital Accounting in China

＊Chaoqiong Li (State Key Laboratory of Regional and Urban Ecology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, ESC), Chunquan Zhu (World Economic Forum Beijing Representative Office), Zhiyun Ouyang (State Key Laboratory of Regional and Urban Ecology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences)

P130 Impact of Global Warming on Lake Biwa Fish: Identifying Climate-Sensitive Species

＊QIANQIAN WU (Kobe University, ESJ), Jinxin ZHOU (Tokyo University), Yuan YAO (Hokkaido University), Toshiyuki ISHIKAWA (Shiga University), Daisuke KITAZAWA (Tokyo University), Toshifumi MINAMOTO (Kobe University)

P131 Impact of rainfall on water quality and plankton in the river and lake supplied by reclaimed water

＊Yufen REN (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, ESC)

P132 eDNA from Rainfall Runoff Can Provide More Biodiversity Information Than We Anticipate.

＊Keonhee Kim (Konkuk University Human and Ecocare center, ESK), Junghwan Park (PJ Factory Co.)

P133 Trends in Cephalopod Consumption and Ocean Conditions at the Time of Stranding in Risso's Dolphins (*Grampus griseus*) along the Japanese Coast.

＊Makiko Ishikawa (Yamazaki University of Animal Health Technology/Graduate School of Science, The University of Tokyo, ESJ), Ayaka T. Matsuda (Faculty of Fisheries Sciences, Hokkaido University/Stranding Network Hokkaido), Kouhei Iizumi (Yamazaki University of Animal Health Technology), Gaiya Iida (Yamazaki University of Animal Health Technology), Seiya Sato (Yamazaki University of Animal Health Technology), Yuki Otsuka (Yamazaki University of Animal Health Technology), Mizuki Sudo (Yamazaki University of Animal Health Technology), Tsunemi Kubodera (National Museum of Nature and Science), Yuko Tajima (National Museum of Nature and Science)

P134 Validation of acoustic imaging sonar for monitoring submerged aquatic vegetation in small agricultural reservoirs

＊Seong Min Lee (Kunsan National University, ESK), Ji Yoon Kim (Kunsan National University)

P135 Environmental DNA Analysis to Assess Species and Genetic Diversity of Dominant Trees in Riverine Forests

＊Rina Horie (Tohoku University, ESJ), Kodai Hamatsu (Tohoku University), Naoko Ishikawa (Tohoku University), Daiki Takahashi (Kyushu University), Yoshihisa Suyama (Tohoku University)

P136 Assessment of Urban OECM Candidate Sites Using a Biotope Map: A Case Study of Suwon City

＊Sae Mi Lee (Seoul National University, Graduate School of Environmental Studies, ESK)

P137 Taxonomy and Evolutionary Study of Spider-Pathogenic Fungi

＊Mingjun Chen (Anhui Agricultrual University, ESC)

P138 Prioritizing Conservation Areas for the Endangered Long-tailed Goral (*Naemorhedus caudatus*) in South Korea

＊Soyeon Park (Ewha Womans University, ESK), Sangdon Lee (Ewha Womans University)

P139 Monitoring distribution and height of coastal plant communities in the Janghang Songlim wetland using UAV-based LiDAR data

＊DONG WAN HONG (Department of Biological Science, Kunsan National University, ESK), Ji Yoon Kim (Department of Biological Science, Kunsan National University)

P140 Phylogeographic structure of *Podocarpus macrophyllus* in Japan revealed by genome-wide SNPs

＊WENHAN ZHAI (Tohoku University, ESJ), Kaho Kumagai (Tohoku University), Daiki Takahashi (Kyusyu University), Yoshihisa Suyama (Tohoku University)

P141 Dispersal and Management of *Coreopsis lanceolata*: Controlling Its Sexual and Asexual Reproduction

＊Eunhee Cho (Dankook University, ESK), Yeongeun Yoon (Dankook University), Minhyo Seo (Dankook University), Deokjoo Son (Dankook University)

P142 Aesthetic ecosystem services of old-growth grassland: Diverse preferences for wildflowers among people

＊Mahoro Tomitaka (Sugadaira Research Station, Mountain Science Center, University of Tsukuba, ESJ), Taiki Inoue (Sunlit Seedlings Ltd.), Gaku S Hirayama (Kobe university), Atushi Ushimaru (Kobe university), Hiroshi S Ishii (University of Toyama), Takehiro Sasaki (Yokohama National University), Tanaka Kenta (Sugadaira Research Station, Mountain Science Center, University of Tsukuba)

P143 Quantifying the effects of land use on wetland biodiversity with consideration of the groundwater cycle

＊Yuna Hirano (National Institute for Environmental Studies, ESJ), Noe Matsushima (National Institute for Environmental Studies), Natsuko I Kondo (National Institute for Environmental Studies), Hiroki Kato (National Institute for Environmental Studies), Hiroshi C Ito (National Institute for Environmental Studies), Jun Nishihiro (National Institute for Environmental Studies)

P144 Promotion and practice of China's desertification control technology in the Great Green Wall of Africa

＊Na Zhou (Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences), Jiaqiang Lei (Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences)

P145 Desertification and Its Control Modes in Xinjiang, China

＊Yuan You (Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences), Yongdong Wang (Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences)

P146 Novel attempt to assess marine mammal dynamics over the past 100 years using sedimentary DNA: An example in finless porpoise

＊Narumi Tsugeki (Matsuyama University, ESJ), Kai Nakane (Ehime University), Hideyuki Doi (Kyoto University), Mari Ochiai (Ehime University/Azabu University), Tomohiko Isobe (National Institute for Environmental Studies), Tatsuya Kunisue (Ehime University), Michinobu Kuwae (Ehime University)

P147 Snapshot Japan: a nationwide camera trap monitoring project in Japan

＊Kana Terayama (National Institute for Environmental Studies, ESJ), Keita Fukasawa (National Institute for Environmental Studies), Yoshihiro Nakashima (Nihon University), Takahiro Morosawa (Tokyo University of Agriculture and Technology)

P148 The novel identification method of the hybrid using environmental DNA

＊Masayuki K. Sakata (Hokkaido University, ESJ), Nanako Yano (Kobe University), Akio Imamura (Hokkaido University of Education), Hiroki Yamanaka (Ryukoku University), Toshifumi Minamoto (Kobe University)

P149 Enhancing Carbon Sequestration Efficiency by Coupling *Halophila beccarii* with Carbon-Based Materials

＊Henan Li (Guangxi Academy of Marine Sciences, Guangxi Mangrove Research Center, ESC), Guanglong Qiu (Guangxi Academy of Marine Sciences, Guangxi Mangrove Research Center)

P150 Assessing Habitat Prediction for Clithon retropictus in South Korea and Japan Using the MaxEnt Model

＊Jiyoung Choi (Research Institute of Agriculture and Sciences, Seoul National University, ESK)

P151 Integrating decision-making preferences into ecosystem service conservation area identification: A case study of water-related ecosystem services in the Dawen River watershed, China

＊Ying Hou (State Key Laboratory of Regional and Urban Ecology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, ESC), Kai Li (College of Landscape Architecture, Sichuan Agricultural University/ Department of Geoscience and Natural Resource Management, Faculty of Science, University of Copenhagen), Qi Fu (School of Politics and Public Administration, Soochow University), Mark Taylor Randall (Department of Geoscience and Natural Resource Management, Faculty of Science, University of Copenhagen), Peter Stubkjær Andersen (Department of Geoscience and Natural Resource Management, Faculty of Science, University of Copenhagen), Mingkun Qiu (School of Geographical Sciences, South China Normal University), Hans Skov-Petersen (Department of Geoscience and Natural Resource Management, Faculty of Science, University of Copenhagen)

P152 Evaluating the Effectiveness of Management Plans for Protected Areas: A Case Study of Lake Tofutsu Ramsar Site, Hokkaido, Japan

＊Suguru Hirahara (Tokyo University of Agriculture and Technology)

P153 Long-term organic mulching enhances the stability of soil organic carbon in Phyllostachys praecox

＊Zhuangzhuang Qian (Anhui Agricultural University, ESC), Yichen Zhang (Anhui Agricultural University)

P154 Risk Assessment of Ecological Environment Projects Based on Complex Network

＊Yaqiong Zhang (Zhengzhou Railway Vocatinal & Technology College/Henan Province Engineering Technoloay Research Center of Human-Machine inteligence interaction in Safety-Critical system, ESC), Lei Wang (Zhengzhou Railway Vocatinal & Technology College)

P155 Individual and interactive effects of N and P additions on leaf P fractions in evergreen forests of China

＊Wenxuan Han (China Agricultural University, ESC), Qingquan Meng (China Agricultural University), Zhijuan Shi (China Agricultural University), Zhengbing Yan (Institute of Botany, Chinese Academy of Sciences), Yan Luo (Xinjiang University), Hans Lambers (The University of Western Australia)

P156 Boosting biodiversity monitoring using smartphone-driven, rapidly accumulating community-sourced data

＊Keisuke Atsumi (Biome Inc./Kyoto Sangyo University, ESJ), Yuusuke Nishida (Biome Inc.), Masayuki Ushio (Department of Ocean Science, The Hong Kong University of Science and Technology), Hirotaka Nishi (Toyohashi Museum of Natural History), Takanori Genroku (Biome Inc.), Shogoro Fujiki (Biome Inc.)

P157 Assess the Threatened Risks of Provincially Significant Wetlands by IUCN Red List of Ecosystems¯A Case Study of Jiangsu, China

＊YING KONG (Seoul National University, ESK), Youngkeun SONG (Seoul National University)

P158 Preferences and Perceptions of Ecosystem Services and Disservices in Urban Green Spaces of Ulaanbaatar, Mongolia

＊Oyuntselmeg Enkhbat (Department of Sustainable Energy and Environmental Engineering, Graduate School of Engineering, Osaka University, ESJ), Takashi Machimura (Department of Sustainable Energy and Environmental Engineering, Graduate School of Engineering, Osaka University)

P159 Imbalance in lakes variability but not embodying in driving factors on the Qinghai-Tibetan Plateau calls on heterogeneous lake management

＊Xuejing Leng (Jiangsu Key Laboratory of Soil and Water Processes in Watershed, College of Geography and Remote Sensing, Hohai University, ESC), Xiaoming Feng (State Key Laboratory for Ecological Security of Regions and Cities, Research Center for Eco-Environmental Sciences Chinese Academy of Sciences), Mayra Yeerken (Jiangsu Key Laboratory of Soil and Water Processes in Watershed, College of Geography and Remote Sensing, Hohai University), Xin Wang (Jiangsu Key Laboratory of Soil and Water Processes in Watershed, College of Geography and Remote Sensing, Hohai University), Jiarui Wang (Jiangsu Key Laboratory of Soil and Water Processes in Watershed, College of Geography and Remote Sensing, Hohai University), Zhenghao Liu (Jiangsu Key Laboratory of Soil and Water Processes in Watershed, College of Geography and Remote Sensing, Hohai University), Bojie Fu (State Key Laboratory for Ecological Security of Regions and Cities, Research Center for Eco-Environmental Sciences Chinese Academy of Sciences)

P160 Mapping Soil Carbon Stocks in Forests with Complex Terrain Combining Efficiency-Oriented Multipoint Surveys and Machine Learning

＊Hiromasa NAKAJIMA (The University of Tokyo, Graduate School of Agricultural and Life Sciences), Shoji HASHIMOTO (The University of Tokyo, Graduate School of Agricultural and Life Sciences/Forestry and Forest Products Research Institute), Naoyuki YAMASHITA (Forestry and Forest Products Research Institute), Akihiro IMAYA (Forestry and Forest Products Research Institute), Hiroyuki MURAOKA (The University of Tokyo, Graduate School of Agricultural and Life Sciences), Masaya MASUMORI (The University of Tokyo, Graduate School of Agricultural and Life Sciences)

P161 Restoration of Aquatic Biodiversity Using Ecosystem-Enhancing Wavelength-Specific LED Light Irradiation

＊Aimin Hao (Wenzhou University), Yasushi Iseri (Wenzhou University), Renhui Li (Wenzhou University), Xin Liu (Wenzhou University/Guangxi Academy of Marine Sciences), Tomokazu Haraguchi (Saga University), Koji Asai (Yamaguchi University), Tetsuya Oishi (Civil Engineering Research Institute for Cold Region), Shunsuke Watanabe (Akita Prefectural University), Takahiro Kuba (Kyushu University), Min Zhao (Wenzhou University)

P162 Variation in Microbial Communities Across Reforested and Afforested Mangroves in Arid United Arab Emirates Driven by Forest Age, Physicochemical Properties, and Tidal Gradient

＊Alsayeda Zahra Salman (Kyoto University, ESJ), Henda Mahmoudi (International Center for Biosaline Agriculture), Shunsuke Matsuoka (Kyoto University), Tadashi Ookami (Kyoto University), Hojeong Kang (Yonsei University), Ryunosuke Tateno (Kyoto University)

P163 The Impact of the Rapid Increase in National Nature Parks on Local Vegetation

＊Xiaoying Lu (Graduate School of Environmental Studies, Nagoya University, ESJ), Takafumi Miyasaka (Graduate School of Environmental Studies, Nagoya University), Hao Qu (Urat Desert-grassland Research Station, Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences)

P164 Assessing the alien species invasions and their ecological and socio-economic drivers in Japan

＊Risa S Naito (The University of Tokyo, ESJ), Masahiro Aiba (The University of Tokyo), Mifuyu Ogawa (The University of Tokyo), Takehito Yoshida (The University of Tokyo)

P165 Comparing native and non-native species with interstage flow and reproductive-value flow matrices

＊Hiroyuki Yokomizo (National Institute for Environmental Studies, ESJ), John G. Lambrinos (Oregon State University), Keiichi Fukaya (National Institute for Environmental Studies), Takenori Takada (Hokkaido University)

P166 Expansion of the distribution range of glyphosate-resistant *Amaranthus palmeri* in Japanese ports

＊Ayako Shimono (Toho University/Institute for Plant Protection, NARO, ESJ), Naoki Chida (Toho University), Motoaki Asai (Institute for Plant Protection, NARO)

P167 "Namul," Traditional Wild Eadible Plants: Bridging Ecological Knowledge between Parents and Children

＊Eunjeong Ju (Seoul Naitional University of Education, ESK)

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plant ecology, succession and regeneration

P168 Sika deer feeding damage and the effect of deer-proof fences in the wetlands of the Kujyu district, Aso Kujyu National Park

＊Kumiko Okubo (Faculty of Agriculture, Shinshu Uni., ESJ)

P169 Effect of Ligularia sagitta Expansion on Alpine Meadow Vegetation and Soil in the Qinghai-Tibet Plateau

＊Juan Qi (Key Laboratory of Grassland Ecosystem of Ministry of Education, College of Grassland Science, Gansu Agricultural University, ESC), Aolong ZHANG (Key Laboratory of Grassland Ecosystem of Ministry of Education, College of Grassland Science, Gansu Agricultural University), Xin Lu (Key Laboratory of Grassland Ecosystem of Ministry of Education, College of Grassland Science, Gansu Agricultural University)

P170 Urbanization and spatial aggregation impair multifunctionality in urban vacant lots

＊Yuki Iwachido (Yokohama National University, ESJ), Himari Katsuhara (Yokohama National University), Kaho Maehar (Yokohama National University), Mahoro Tomitaka (MSC, University of Tsukuba), Kensuke Seto (Yokohama National University), Masayuki Ushio (The Hong Kong University of Science and Technology), Maiko Kagami (Yokohama National University), Takehiro Sasaki (Yokohama National University)

P171 Identifying the distribution of giant panda staple food bamboo by integrating multi-source remote sensing data and deep learning techniques

＊Zhiqiang Guo (Research Center for Eco-Environment Sciences, Chinese Academy of Science, ESC), Weihua Xu (Research Center for Eco-Environment Sciences, Chinese Academy of Science)

P172 Classification of Aquatic Vegetation Cover Using Sentinel-2 Satellite Imagery

＊Jonghun Kim (Kunsan National University, Deapartment of Biological Science, ESK), Ji Yoon Kim (Kunsan National University, Deapartment of Biological Science)

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plant ecology, succession and regeneration

P173 Phylogeographic analysis of *Phellodendron amurense* in Japan based on simple sequence repeat markers and chloroplast DNA sequences

＊Michiko Inanaga (Forest Tree Breeding Center, Forestry and Forest Products Research Institute, Forest Research and Management Organization, ESJ), Eitaro Fukatsu (Forest Tree Breeding Center, Forestry and Forest Products Research Institute, Forest Research and Management Organization), Tomonori Hirao (Forest Tree Breeding Center, Forestry and Forest Products Research Institute, Forest Research and Management Organization), Yuichiro Oribe (Forest Tree Breeding Center, Forestry and Forest Products Research Institute, Forest Research and Management Organization), Naoki Takata (Forest Bio-Research Center, Forestry and Forest Products Research Institute, Forest Research and Management Organization), Ryosuke Sato (Forest Bio-Research Center, Forestry and Forest Products Research Institute, Forest Research and Management Organization), Keiya Isoda (Forest Tree Breeding Center, Forestry and Forest Products Research Institute, Forest Research and Management Organization)

P174 Discrimination of *Bidens pilosa* var. *pilosa* provenances within a single city

＊Hitomi S. Kikkawa (National Research Institute of Police Science, ESJ), Koichiro Tsuge (National Research Institute of Police Science)

P175 Microhabitat analysis on the Genus *Racomitrium* from East Asia

＊Eunhwa YOO (Semyung University, ESK), Kyounghoon Kim (Semyung University), Jeeeun Koo (Semyung University), Shin-Ho Kang (Semyung University)

P176 Phylogeography of Four Conifer Species With Different Elevational Distributions Reveal Partial Quaternary Origins of Extant Lineages

＊Yuka Iwai (University of Tsukuba, ESJ), Kentaro Uchiyama (Forestry and Forest Products Research Institute), James R.P Worth (Forestry and Forest Products Research Institute), Takaki Aihara (University of Tsukuba), Yoshihiko Tsumura (University of Tsukuba)

P177 Genetic differentiation in the timing of budburst along altitude and its causal factors in *Fagus crenata* populations

＊Kiyoshi Ishida (Hirosaki University, ESJ), Yuki Kondo (Hirosaki University), Mizuho Orui (Tohoku regional Forest Office), Saki Sugimoto (Tohoku regional Forest Office)

P178 Ecological Traits and Plant Growth-Promoting Activities of Endophytic fungi Isolated from *Cymbidium macrorhizon*

＊JEONG SOOK HWANG (Department of Biology, Kyungpook National University/Department of Research, Nature and People Co. Ltd., ESK), JONG HYUN KIM (Department of Research, Nature and People Co. Ltd.), HYE JUNG BANG (Department of Research, Nature and People Co. Ltd.), YEON SIK CHOO (Department of Biology, Kyungpook National University)

P179 Hidden Forces: Non-Adaptive Urban Evolution in White Clover Phenotypic Clines

＊Yoshinori Miyake (Tokyo Metoropolitan University, ESJ), Yuya Fukano (Chiba University), Koichiro Tamura (Tokyo Metoropolitan University), Yuuya Tachiki (Tokyo Metoropolitan University)

P180 Comparison of root growth costs among rice species in natural habitats with different soil oxygen conditions

＊Motoka Nakamura (Tamagawa University, ESJ), Motoka Nakamura (Tamagawa University)

P181 Black locust developed different water use strategies to acclimatize to semiarid and sub-humid sites in the Loess Plateau, China

＊Sheng Du (Institute of Soil and Water Conservation, Northwest A&F University/Institute of Soil and Water Conservation, Chinese Academy of Sciences and Ministry of Water Resources, ESC), Jinlin Lyu (Institute of Soil and Water Conservation, Northwest A&F University/Institute of Soil and Water Conservation, Chinese Academy of Sciences and Ministry of Water Resources), Mei-Jun Liu (Institute of Soil and Water Conservation, Northwest A&F University/Institute of Soil and Water Conservation, Chinese Academy of Sciences and Ministry of Water Resources), Guoqing Li (Institute of Soil and Water Conservation, Northwest A&F University/Institute of Soil and Water Conservation, Chinese Academy of Sciences and Ministry of Water Resources)

P182 Divergent responses of root traits of nitrogen-fixing and non-nitrogen fixing seedlings to phosphorus addition in southern China

＊Qifeng Mo (South China Agricultural University, ESC)

P183 Nitrogen addition alleviates water loss of Moso bamboo (*Phyllostachys edulis*) under drought by affecting light-induced stomatal responses

＊Xi-pin Wu (Northwest University/International Centre for Bamboo and Rattan, ESC), Xiaomin Gao (International Centre for Bamboo and Rattan/Chinese Academy of Forestry), Ruichang Zhang (Northwest University), Junwei Luan (International Centre for Bamboo and Rattan), Yi Wang (International Centre for Bamboo and Rattan), Shirong Liu (Chinese Academy of Forestry)

P184 Floral trait variation in *Oxalis corniculata* along an urbanization gradient: Shifts in herkogamy without genetic divergence

＊Yusuke Hoshino (Botanical Gardens, Tohoku University, ESJ), Sachiko Horie (Botanical Gardens, Tohoku University), Shoki Murakami (Makino Herbarium, Tokyo Metropolitan University), Ikumi Dohzono (Department of Environmental Sciences, Tokyo Gakugei University), Masayuki Maki (Botanical Gardens, Tohoku University)

P185 Differentiated impacts of light intensity and soil properties on rhizobial and rhizosphere bacterial communities associated with *Sophora davidii* during forest succession

＊Ying Cao (Northwest University, ESC), Ming Yue (Northwest University)

P186 Carbon Emission Reduction and Benefit Analysis of Comprehensive Utilization of Crop Straw in Karst Areas: A Case Study of Guizhou Province

＊Haifeng Nie (College of Ecological Engineering, Guizhou University of Engineering Science)

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animal-plant interaction, animal community

P187 Effect of Early Waterlogging on Aquatic Oligochaete Density and Weed Abundance in the Setouchi District

＊Satoshi Kaneda (Western Region Agricultural Research Center, NARO/Western Region Agricultural Research Center, NARO, ESJ), Hidekazu Kobayashi (Western Region Agricultural Research Center, NARO), Shunsuke Okada (Western Region Agricultural Research Center, NARO)

P188 Nectar Sugar Enhancement in Response to Bee Buzzing in *Rhododendron* x *pulchrum*: Sound-sensing Organs and Sensitivity Range

＊Kokomi Seike (Hyogo Prefectural Kobe High School), Atsushi Tani (Graduate School of Human Development and Environment, Kobe University/Molecular Photoscience Research Center, Kobe University), Gaku S. Hirayama (Graduate School of Human Development and Environment, Kobe University), Atushi Ushimaru (Graduate School of Human Development and Environment, Kobe University)

P189 Possible Pollinator Attraction by Long-chain Hydrocarbonsin Floral Volatiles of *Asimitellaria* Species.

＊Naoko OKUI (Department of Biological Sciences, Graduated School of Science, The University of Tokyo, ESJ), Yudai Okuyama (National Museum of Nature and Science Tsukuba Botanical Garden)

P190 Community in the gall: torophic and non-trophic interactions with gall midges

＊Honoka Nagashima (Kobe University, ESJ), Ayman Khamis Elsayed (Saga University), Makoto Tokuda (Saga University), Kaoru Tsuji (Kobe University)

P191 Do spider webs help plants?¯Herbivore-mediated indirect effect of spider webs on plants¯

＊Sho Mishima (Faculty of Agriculture and Life Science, Hirosaki University, ESJ), Mito Ikemoto (Faculty of Agriculture and Life Science, Hirosaki University/The National Institute for Environmental Studies), Kanta Yokogawa (Faculty of Agriculture and Life Science, Hirosaki University), Koya Hashimoto (Faculty of Agriculture and Life Science, Hirosaki University/The National Institute for Environmental Studies)

P192 Tracking climate impacts on Kuroshio marine fish communities using environmental DNA

＊Jiwei Yang (WPI-AIMEC, Tohoku University, ESJ), Michio Kondoh (WPI-AIMEC, Tohoku University)

Yayoi Auditorium Lobby

fungi and microbes, material cycling

P193 Community structures of ammonia-oxidizing archaea associated with fine roots of old growth *Cryptomeria japonica* in a pristine forest

＊Yosuke Matsuda (Mie University, ESJ), Raku Oue (Mie University), Yudai Kitagami (Mie University)

P195 Climate change escalates the prevalence of antibiotic resistance genes in Salmonella globally

＊Zhen-Chao Zhou (State Key Laboratory of Regional and Urban Ecology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, ESC)

P196 Deer carcasses enhance the decomposition by soil microbial communities in evergreen forests

＊Atsushi Takaki (Graduate School of Environmental Sciences, Hokkaido University, ESJ), Chisato Terada (Faculty of Humanities and Human Sciences, Hokkaido University), Masahiro Nakamura (Tomakomai Experimental Forest, Field Science Center for Northern Biosphere, Hokkaido University)

P197 Microbial community responses to non-additive effects in mixed-species litter decomposition

＊Takeaki Yonezu (Graduate School of Bioagricultural Sciences, Nagoya University, ESJ), Kozue Sawada (Graduate School of Bioagricultural Sciences, Nagoya University), jun Murase (Graduate School of Bioagricultural Sciences, Nagoya University), Kanaho Masegi (Graduate School of Bioagricultural Sciences, Nagoya University),
Yosuke Matsuda (Graduate School of Bioresources, Mie University/Graduate School of Environmental Studies, Nagoya University), Yasuhiro Hirano (Graduate School of Environmental Studies, Nagoya University), Nagamitsu Maie (Kitasato University School of Veterinary Medicine), Toko Tanikawa (Graduate School of Bioagricultural Sciences, Nagoya University)

P198 Interspecific comparison of substrate mineralization in incubation experiments using artificial soil

＊Kanade Fujiwara (Tohoku University Graduate School of Agriculture, ESJ), Tomoyuki Makino (Tohoku University Graduate School of Agriculture), Toru Hamamoto (Tohoku University Graduate School of Agriculture)

P199 Effects of long-term removal of understory vegetation on litter decomposition : the role of soil fauna in *Quercus crispula* and *Larix kaempferi* forests

＊Tsutomu Enoki (Kyushu University, ESJ), Takuo Hishi (Fukuoka University)

P200 Effects of litter inputs on N2O emissions from a tropical rainforest in southwest China

＊Yiping Zhang (Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, ESC), Jinbo Gao (Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences), Wenjun Zhou (Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences)

P201 A resin-based approach for $\delta^{15}N$ and $\delta^{18}O$ analysis of nitrite in low-nitrite freshwater systems

＊Mengqi Jiang (Center for Ecological Research, Kyoto University, ESJ), Keisuke Koba (Center for Ecological Research, Kyoto University)

P202 Maximized microbial protein production with hydrogen oxidizing bacteria for simultaneous CO2 fixation and Nr recovery

＊Wen Wang (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, ESC), Yongguan Zhu (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences)

P203 Role of Contour-Felled Logs as a Post-Thinning Treatment on Organic Matter Decomposition in a Cypress Plantation.

＊KALOLAINE KATA (Kyushu University), Takuo Hishi (Fukuoka University), Ayumi Katayama (Kyushu University)

P204 Carbon sequestration potential and effects on nitrogen dynamics of biochar applied to forest soils

＊Hiroki Mitsumori (Waseda University, ESJ), Tomoki Tarumi (Waseda University), Mitsutoshi Tomotsune (Tamagawa University), Shinpei Yoshitake (Waseda University)

P205 Soil sulfur accumulation under the influence of domestic and transboundary air pollution

＊Ayumi Shiode (Nagoya University), Hiroyuki Sase (Asia Center for Air Pollution Research), Michiru Yamashita (Hyogo Prefectural Institute of Technology), Masayuki Morohashi (Asia Center for Air Pollution Research), Hiroki Yotsuyanagi (Asia Center for Air Pollution Research/Niigata Prefectural Government), Akifumi Sugiyama (Kyoto University), Shiho Yabusaki (Research Institute for Humanity and Nature), Akihiro Imaya (Forestry and Forest Products Research Institute), Toko Tanikawa (Nagoya University)

P206 Phosphorus fertility regulates microbial carbon use efficiency and SOM decomposition in non-allophanic Andosols.

＊Wako Koizumi (Graduate School of Agricultural Science, Tohoku University, ESJ), Timothy J Clough (Faculty of Agriculture and Life Sciences, Lincoln University), Soichi Kojima (Graduate School of Agricultural Science, Tohoku University), Tomoyuki Makino (Graduate School of Agricultural Science, Tohoku University), Soh Sugihara (Graduate School of Agricultural Science, Tokyo University of Agriculture and Technology), Ryosuke Tajima (Graduate School of Agricultural Science, Tohoku University), Yoshitaka Uchida (Research Faculty of Agriculture, Hokkaido University), Toru Hamamoto (Graduate School of Agricultural Science, Tohoku University)

Yayoi Auditorium Lobby

animal reproduction, behavior

P207 Medaka begin courtship and spawning behavior from midnight: behavioral observations in natural and semi-natural environments

＊Yuki Kondo (Laboratory of Animal Sociology, Department of Biology, Graduate School of Science, Osaka Metropolitan University, ESJ), Kotori Okamoto (Laboratory of Animal Sociology, Department of Biology and Geosciences, Graduate School of Science, Osaka City University), Ryotaro Kobayashi (Laboratory of Animal Sociology, Department of Biology, Graduate School of Science, Osaka Metropolitan University), Yuya Kobayashi (Laboratory of Animal Sociology, Department of Biology, Graduate School of Science, Osaka Metropolitan University), Yasunori Koya (Department of Biology, Faculty of Education, Gifu University), Satoshi Awata (Laboratory of Animal Sociology, Department of Biology, Graduate School of Science, Osaka Metropolitan University/Laboratory of Animal Sociology, Department of Biology and Geosciences, Graduate School of Science, Osaka City University)

P208 Dietary Soybean Isoflavones improves ewe reproductive performance, immunity, and antioxidant defense capabilities by modulating rumen microbiome across different reproductive stages

＊Ting Jiao (College of Grassland Science, Gansu Agricultural University/Provincial R&D Institute of Ruminants in Gansu, ESC)

P209 Elucidating the reproductive ecology of the genus *Onychodactylus* using environmental DNA

＊Min-Woo Park (Interdisciplinary Program in Earth Environmental System Science & Engineereing, Kangwon National University, ESK), Hahyun Nam (Interdisciplinary Program in Earth Environmental System Science & Engineereing, Kangwon National University), Jaejin Park (Department of Science Education), Jongsun Kim (Department of Science Education), Narae Joo (Interdisciplinary Program in Earth Environmental System Science & Engineereing, Kangwon National University), Jiho Park (Department of Science Education), Jaebeom Jeong (Interdisciplinary Program in Earth Environmental System Science & Engineereing, Kangwon National University), Daesik Park (Interdisciplinary Program in Earth Environmental System Science & Engineereing, Kangwon National University/Department of Science Education)

P210 How Kentish plovers respond to chick vocalizations: A decision-making analysis using Bayesian Network and Random Forest models

＊Dong-Yun Lee (Department of Biological Sciences, College of Natural Sciences, Chonnam National University, ESK), Woo-Yuel Kim (Honam National Institute of Biological Resources), Ju-Hyun Lee (Department of Biological Sciences, College of Natural Sciences, Chonnam National University), Seung-Jun Oh (Department of Biological Sciences, College of Natural Sciences, Chonnam National University), Soo-Yeon Lee (Department of Biological Sciences, College of Natural Sciences, Chonnam National University), Ha-Cheol Sung (Research Center of Ecomimetics, Institute of Sustainable Ecological Environment, Chonnam National University)

P211 Parasites on parasites on parasites: First Report of Phoresy of Two Cuckoo-Specific Ectoparasites

＊Seongho Yun (Department of Biology and KyungHee University/Bird Research SaeZiP, ESK), Jin-Won Lee (Department of Biology and KyungHee University/Bird Research SaeZiP)

P212 Using olfactometers to test dung beetle diel activity and olfactory response

＊SUK YOUNG HONG (Seoul National University, ESK), Minwoo Oh (National Institute of Ecology), Eun Ju Lee (Seoul National University)

P213 Effects of temperature on the symbiont acquisition by the host insect, *Riptortus pedestris* (Hemiptera: Alydidae), from soil environments

＊Joo-Young Kim (Department of Life Sciences, Gachon University), Jung-Wook Kho (Department of Life Sciences, Gachon University), Doo-Hyung Lee (Department of Life Sciences, Gachon University)