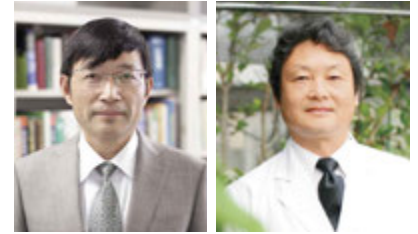


Department of Environmental Bioscience  
 Laboratory of Plant Conservation Science



Professor  
Guang-Xi WANG      Lecturer  
Shigeru YOKOUCHI

STAFF	Professor Guang-Xi WANG Conservation Plant Science	Lecturer Shigeru YOKOUCHI Taxonomy of Seed Plant
TEACHING	Environmental Stress Biology Advanced Plant Conservation Science (MC)	Plant Systematic and Morphology

Research

Focusing on plant species diversity and their environmental adaptabilities for conservation purposes

Aichi Prefecture, Japan, has a markedly diverse natural environment, with remote mountains, alluvial plains, wetlands and moors, rivers, lakes, marshes and coastal areas, which are home to many species of wild plants. Many of these species are now threatened with extinction due mainly to human activities. We see this varied environment with its plant species, as a precious and irreplaceable resource, the protection and conservation of which is our responsibility. Our laboratory explores the relationships between the diversity of wild plant species and environmental changes, focusing on threatened plant species, using taxonomical, ecological and genetic methods. Additionally, we also study plants in agricultural and urban ecosystems, scaled from plant genes, to individuals, populations, communities and ecosystems, in order to contribute to their conservation through promoting research of plant diversity.

Reproductive ecology of *Monochoria korsakowii*, an endangered species



Note the position of the white pistil and dark purple anther. This "mirror-image dimorphism" in the flowers of *Monochoria korsakowii* promotes outcrossing. It should have an effect on the spreading of a herbicide-resistant gene that has developed in this species in recent years.

Taxonomic study of the endangered species in *Camellia*.



Many of *Camellia* species native to Vietnam and Laos are now threatened with extinction. The phylogenetic and taxonomic studies are conducted in our laboratory.

Our scope of research

Research sites:

Arable land,  
urban areas,  
lawn, etc.

Research fields:

Taxonomy,  
physiological ecology  
and  
conservation botany

Species under research:

*Drosera peltata*, *Sagittaria aginshi*, *Sagittaria trifolia*, *Bidens frondosa*, *Monochoria vaginalis*, *Andropogon virginicus*, *Eriocaulon parvum*, etc.

Recent publications:

- Shito, Y., H. Usami, A. M. Iwakawa, S. Yokouchi, T. Takeshita and H. Saka. 2010. Time-dependent ethylene performance and its seasonal fluctuation in excised leaf discs of various plant species. Scientific Reports of the Faculty of Agriculture, Meijo University 46: 19-25.
- Furuhashi, K., Yokouchi, S., Saka, H. (2010) Establishment of *in vitro* culture system which permits to select parasitic ability deficient mutants in *Cuscuta campestris*, a holoparasitic flowering plant. Scientific Reports of the Faculty of Agriculture, Meijo University 46: 51-56.
- Kohara, H., X.-C. Wan, K. Akai and G.-X. Wang. 2011. Weed Monograph 7: *Monochoria korsakowii* Regel et Maack. Journal of Weed Science and Technology 56: 166-181.
- Liu, S., Y. Xue, X., Wang, B. Zhang, Y. Bi, M. Qiu, G.-X. Wang and P. Wu (2011) A dominant mutation in ARL2 causes impaired adventitious root development in rice. J. Plant Biol. 54, 227-236.
- Yoshino, N., G.-X. Wang, A. Uchino and T. Tominaga (2011) Hybridizations and genetic relationships among *Lindernia* species (Scrophulariaceae): *L. procumbens* and two subspecies of *L. dubia*. Aquatic Botany 94, 165-171.