Disentangling drought-responsive traits with focus on Arabidopsis

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CURRICULUM VITAE

Ajaree Thonglim was born on January 14th, 1993, in Nakhon Pathom, Thailand. She completed her 4-year bachelor's degree in biology with First-class honors in 2015 at Kasetsart University, Thailand. During her undergraduate course, she studied the morphological and anatomical features of the leaves of various species of the genus *Cycas* L. and used these traits to build a species identification key. Driven by her fascination with plant anatomy and functional traits, she pursued a master's degree in Botany at Kasetsart University, investigating the anatomical adaptation of mangrove species in the genus *Rhizophora* (Rhizophoraceae), and she successfully completed her MSc degree in 2018. Throughout her bachelor's and master's studies, she actively shared her research findings at scientific meetings, particularly those organized by the Botanical Society of Thailand. During her university education, a scholarship from the Development and Promotion of Science and Technology Talents Project (DPST) was awarded to her, jointly administered by the Ministry of Science and Technology, the Ministry of Education, and The Institute for the Promotion of Teaching Science and Technology (IPST). Later in 2018, she received another scholarship from the same funding agency. This scholarship granted her the opportunity to pursue her PhD at Leiden University and Naturalis Biodiversity Center in the Netherlands under the supervision of Dr. Frederic Lens and Prof. Dr. Erik Smets. Her PhD project was focused on drought-responsive strategies in different genotypes of *Arabidopsis thaliana*, with a small focus on *Solanum lycopersicum*.

During her PhD, she had the opportunity to regularly visit the laboratory of Dr. Sylvain Delzon at the University of Bordeaux, France, where she conducted water transport measurements on stems under special laboratory conditions that simulate drought stress. She also collaborated

with Dr. Giovanni Bortolami at Naturalis Biodiversity Center on a project involving root pressure and used advanced X-ray scanning technology at the University of Ghent, Belgium, to examine the impact of root pressure on drought recovery in tomato plants. She actively participated in international scientific meetings and adapted to the challenges posed by the COVID-19 pandemic by presenting her research online. Her PhD research resulted in two peer-reviewed SCI papers published as first author, with another manuscript in preparation for publication. The findings of her research are compiled in this thesis, showcasing her dedication and contributions to the scientific community.

List of publications

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Thonglim A., Bortolami G., Delzon S., Larter M., Offringa R., Karami O., Rahimi A., Keurentjes J. J., Smets E., Balazadeh S., Lens F. 2022. Disentangling drought tolerance in six *Arabidopsis* genotypes with contrasting stem lignification. The 2022 International Youth Forum for Wood Anatomy and the 9th IAWA-China Group Annual Meeting, Guangzhou, China, 9-12 December 2022. (Oral presentation)