Yiqiang Wen

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EDUCATION

China Agricultural University Beijing, China
Bachelor of Agriculture in Aquaculture Expected June 2025
Overall GPA: 3.64/4.0 (91/100)
Core Curriculum: Biochemistry Cell & Molecular Biology Genetics Histology Botany Embryology Microbiology Zoology Physiology Organic chemistry

Institute of Botany, Chinese Academy of Sciences (IB-CAS) July 2022 – Dec. 2023
State Key Laboratory of Systematic and Evolutionary Botany
Joint-Training Program, Supervisor: Wenli Chen (Associate Researcher)

RESEARCH PROJECTS

Plant Cell Surface Receptor Function Research
***University of Toronto**, Mitacs scholarship, Supervisor: Adam Mott (Assistant Professor)* July 2024 – Present
Research methods: Genome editing / Genotyping / PCR / Plant cultivation / Stomata image processing

- Introduction: Mott lab focuses on Plant Cell Receptor (LRR-RLKs) Evolution and Function.
- Screened BRR (broad-range resistance genes)-knockout mutants for abnormal responses to pathogen signals and other stresses, using classical methods in addition to high-throughput screening and network analysis, in order to identify the immune function of BRRs.
- Participated in this research project through a scholarship jointly funded by China Scholarship Council and Mitacs.

Phylogenetic and Systematic Research about Needle Grasses (Poaceae: Pooideae: Stipeae)
***Chinese Academy of Sciences**, Supervisor: Wenli Chen (Associate Researcher)* Oct. 2023 – Present
Research methods: DNA extraction, amplification, and sequencing / Phylogeny tree / Scanning electron microscopy (SEM) / Chromosome slide-making technique / Principal component analysis(PCA) / academic writing

- Introduction: This research is based on analysis of chloroplast genome, ITS, Cytogenetics (chromosome), and lemma micromorphology.
- Investigate the systematic and evolutionary relationships within the needle grass tribe of the Poaceae family through both fieldwork and laboratory research, and conduct taxonomic revisions.

Eco-Friendly Protein Source: Black Soldier Fly Larvae as a Fishmeal Substitute
***China Agricultural University**, Supervisor: Songjian Nan (Associate Professor)* Oct. 2022 – June.2024

- Researched the growth characteristics of black soldier fly larvae in mixed substrate of bran and tofu residue.
- Designed and executed feeding trials to assess the growth and health metrics of crucian carp, collecting data on relevant biological parameters.
- Performed data analysis to determine the maximum tolerated and optimal replacement ratios of black soldier fly larvae meal for fishmeal in crucian carp farming.
- Utilized SPSS for data analysis, Prism for graphing, and Visual Basics for coding a data automation tool.

Construction and Mining of Poaceae Species Diversity Database
***Chinese Academy of Sciences**, Supervisor: Wenli Chen (Associate Researcher)* July 2022 – June 2023

- Conducted over 40 plot surveys of Poaceae plants, collecting biodiversity data such as C3/C4 photosynthetic pathway, DNA sequence, and chromosome ploidy for Poaceae species diversity database.
- Utilized ArcGIS 10.2 to simulate and calculate environmental variables for each geographical grid.
- Utilized SPSS and R Vegan package to model collected data on biomass, soil moisture, and other ecological variables to identify relations and patterns within dataset.

FIELD EXPEDITION

Multi-Factor Investigation of Heilongjiang Grassland

ChineseAcademy of Sciences, *Supervisor: Wenli Chen (Associate Researcher)* July 2022 – Aug. 2022

- Participated in a **36-day** field expedition in Heilongjiang, China, across over **3000 kilometers**, conducting herbaceous plant investigation in **41 grassland sample areas**.
- Supplied direct data support for grassland restoration and monitoring of grass-animal balance, and provided the scientific basis for the sustainable development of ecological grassland husbandry in China.
- Performed plant identification, plant density and biomass measurements, and collected samples and data of over **1000 plant species**.

INTERNSHIPS

Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences Aug.2023 – Dec.2023

Supervisor: Wenjun Li (Associate Researcher)

- Investigated effects of phycocyanin on both pulmonary and gut microbiota in a pulmonary fibrosis model.
- Conducted literature review on the bioactivities of phycocyanobilin derived from Spirulina.
- Designed two experiments for extraction and preparation of phycocyanobilin.

Institute of Botany, Chinese Academy of Sciences (IB-CAS) Apr. 2022 – June 2022

Supervisor: Wenli Chen (Associate Researcher)

- Responsible for sorting and cataloging plant specimens for the National Herbarium (PE) at IB-CAS.

PUBLICATIONS & PATENTS

Haoyang Zhang, **Yiqiang Wen**, Junpeng Qu, Songjian Nan. Study on the growth characteristics of the larva of the Black soldier fly in the mixed substrate of bran and bean curd residue. Hubei Agricultural Science. 2024, 63 (7): 129-133, 153.

Yiqiang Wen, Haoyang Zhang, Junyang Li, Songjian Nan.02322532515.3: The invention relates to an intelligent assembled larval breeding device of the Hermetia illucens 2023.9.18. Chinese Patent.

Haoyang Zhang, **Yiqiang Wen**, Junyang Li, Songjian Nan 202322532458.9: The invention relates to an intelligent welfare physiological monitoring chicken coop. 2023.9.18. Chinese Patent.

CONFERENCES ATTENDED & SUMMER PROGRAMS

The 5th Sino-German Block Seminar of IRTG AMAIZE-P, *University of Hohenheim, Germany*	2023
Summer School: Plant Development and Molecular Biology, *Peking University, China*	2023

HONORS & AWARDS

Merit Student, *China Agricultural University*	2024
Literary and Sports Merit Scholarship, *China Agricultural University*	2024
Third Prize in Biochemistry Laboratory Skills, *Biochemistry Innovation & Entrepreneurship Competition*	2023
Second Prize (Top 10%) Academic Scholarship, *China Agricultural University*	2023
Excellent Student Leader, *China Agricultural University*	2022

TECHNICAL SKILLS

Experimental Skills:	bacteria/cell cultivation / plant cultivation / chromosome slide-making technique DNA extraction, amplification, and sequencing / q-PCR / genome editing / genotyping / phylogenetic analyses / phylogeny tree protein purification / gel electrophoresis / centrifugation scanning electron microscopy / fluorescence microscopy
Computer Skills:	SPSS / Solidworks (CAD Modeling) / Visual Basics / Photoshop / webpage building