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Education

2006.9–2010.7, Bachelor student. Hunan University of Science and Technology – Bioengineering

2010.9–2014.1, Master research, with Prof. Caihong Dong. Institute of Microbiology, Chinese Academy of Sciences – Fungi molecular physiology

2014.10–Present, PhD candidate with Prof. P.W. Crous. CBS Fungal Biodiversity Centre, KNAW & Utrecht University, the Netherlands – Systematics and evolution of *Botryosphaeriales*

Research experiences

Master projects

1, I worked with Prof Caihong Dong to explore how light regulates the growth of *Cordyceps militaris*. Photoreceptor wc1 was reported to be responsible for sensing light. Therefore, we constructed several wc1 mutants. Compared with wild type, those mutants could not form fruit body. Production of carotenoid and cordycepin, two important effective components, were decreased dramatically. Morphologically, the mutants were similar to degenerated strains in continuous cultivation, which is a serious problem in mushroom industry. Further transcriptional analysis indicated that wc1 might switch the vegetative growth state to primordia differentiation by suppressing the expression of related genes.

2, At the same time, I took part in a project to identify fungi community of different cultivated *Vitis* species. I was responsible for sample collecting and isolation.

PhD research

1, Systematics and evolution of *Botryosphaeriales*

In the first year of my PhD, I work on the taxonomy of *Botryosphaeriales*, a group of important plant and human pathogens. Different gene combinations were clarified to the define boundary of family, genus and species. New families, genera and species were found.

Skills

wet-lab

Molecular biology

Nucleic acid electrophoresis, DNA/RNA extractions and quantification, PCR, Sanger sequencing, RT-PCR, primer design, gene knock-out, molecular cloning

Biochemical analysis

carotenoid extraction, thin layer chromatography, silica gel column chromatography, HPLC

Microbiology

sample collection, single spore isolation, culturing, preservation, phase contrast microscopy, fluorescence microscopy

Computer and statistical skill

t-tests, ANOVA, Fasttree, RaxML, Bayesian, Paup, Clustal, Mafft, T-coffee, NCBI, Adobe Illustrator, Photoshop and Endnote

Publications

1, **T. Yang**, M.M Guo, H.J. Yang, S.P. Guo, C.H. Dong, 2016. The blue-light receptor CmWC-1 mediates fruit body development and secondary metabolism in *Cordyceps militaris*. ***Applied Microbiology and Biotechnology 100(2): 743–755.***

2, **T. Yang**, C.H. Dong, 2014. Photo morphogenesis and photo response of the blue-light receptor gene Cmwc-1 in different

strains of *Cordyceps militaris*. ***FEMS Microbiology Letters 352(2):190–197.***

3, **T. Yang**, J.D. Sun, T.T. Lian, W.Z. Wang , C.H. Dong, 2013. Process optimization for extraction of carotenoids from *Cordyceps militaris*, an edible and medicinal fungus. ***International Journal of Medicinal Mushrooms 16(2): 125–35.***

4, **T. Yang**, W.P. Xiong, C.H. Dong, 2013. Cloning and analysis of the Oswc-1 gene encoding a putative blue light photoreceptor from *Ophiocordyceps sinensis*. ***Mycoscience 55(4): 241–245.***

5, C.H. Dong, **T. Yang**, T.T. Lian, 2014. A comparative study of the antimicrobial, antioxidant, and cytotoxic activities of methanol extracts from fruitbodies and fermented mycelia of caterpillar medicinal mushroom *Cordyceps militaris* (Ascomycetes). ***International Journal of Medicinal Mushrooms 16(5): 485–495.***

6, T.T. Lian, C.H. Dong, **T. Yang**, J.D. Sun, 2014.Three Types of geranylgeranyl diphosphate synthases from the medicinal caterpillar fungus, *Cordyceps militaris* (Ascomycetes). ***International Journal of Medicinal Mushrooms16(2):115–24.***

7, T.T. Lian, **T. Yang**, J.D. Sun, S.P. Guo, H.J. Yang, C.H. Dong, 2014. Variations of SSU rDNA group I Introns in different isolates of *Cordyceps militaris* and the loss of an intron during cross-mating. ***The Journal of Microbiology 52(8): 659–66.***

8, T.T. Lian, **T. Yang**, G.J. Liu, J.D. Sun, C.H. Dong, 2014. Reliable reference gene selection for *Cordyceps militaris* gene expression studies under different developmental stages and media. ***FEMS Microbiology Letter 356(1): 97–104.***

9, Novel species, genus and family in *Botryosphaeriales*, 2016. In preparition.

Patent

C.H. Dong, **T. Yang**, 2012. Synthetic medium for *Sparassis crispa*. Chinese patent application number: 201210370266.6.

Presentations

1, **Mycology Society of China Annual Meeting, 2012.**
Photoresponses of the edible and medicinal fungi *Cordyceps militaris*.
2, **Medical Fungi Conference of China, 2013.**
Photoresponse of *Cordyceps militaris* and its mechanism.

Language skills

English: Good at reading, speaking and writing
Chinese: native

Scholarships/ Awards

1, 2006–2007, Outstanding student leaders
2, 2009, National English Contest for College Students C, the first prize
3, 2009, National Scholarship for Encouragement