

25.ii.2020

International Association for Plant Taxonomy – Research Grant.

It is a pleasure to recommend Yingtong (Amanda) Wu for an I.A.P.T. research grant. I have known Amanda since her arrival here, and she attends various seminars in which I am involved, comes out on field trips (all largely voluntary on her part), etc. She has been very active in the Biology Department, both leading and contributing effectively to discussions, indeed, I am always impressed when I watch her “in action” in such situations. She clearly has a remarkably broad understanding of evolutionary biology and has no trouble in articulating her ideas – but always in a pleasant and unflappable way.

I have been following the development of Amanda’s thesis work, and find it very interesting indeed. Oaks are a major component of temperate and subtropical vegetation throughout the northern hemisphere, but until quite recently our understanding of their relationships was in a mess. Added the fact that they are long-lived plants, we still know rather little about details of their ecology and evolution. However, over the last few years it has been encouraging to see that changes are on the way, although we still have to grapple with the consequences of widespread and sometimes very ancient hybridization. With that knowledge, we can better understand their evolution and their conservation, not to mention such things as the fascinating behavior of their seed predators/dispersers. Amanda is focusing on *Quercus acerifolia*, a rare and threatened red oak species from the Arkansas Ozarks, and two of its immediate relatives. For this particular proposal she aims to get material for morphometric analyses and also for molecular studies. In these latter she will use RAD-seq to test for the functions of genes that differ between the species, and also to test for the existence of gene islands. She is also dealing with the problem of understanding the ecology of this species by carrying out various manipulative germination experiments and following the growth of the seedlings, as well as studying saplings and adults in the wild. Thus in a relatively short Ph. D. thesis she should be able to get a good general understanding of the life cycle of the species and integrate this with what we know of those of its relatives, and she should be able to make sensible suggestions to further its conservation. She should also get a handle on what makes species in this part of *Quercus*, and if she can confirm the existence of gene islands, this will have very significant consequences for how we think about evolution and species.

Amanda’s thesis promises to yield important and interesting ideas almost no matter what the results turn out to be. I look forward to seeing her career as an evolutionary biologist develop, and I do hope that you can award her an IAPT research fellowship. It will certainly be put to good use.

Peter Stevens

(Professor of Biology Emeritus, Department of Biology, University of Missouri St Louis).