

## A NULL MODEL ANALYSIS DEBUNKS WIDELY-CITED EVIDENCE OF DISPERSAL LIMITATION AMONG FRESHWATER DIATOMS

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Are diatoms ubiquitously dispersed? Or, like larger organisms, do diatoms only disperse over limited geographic extents? Unequivocal answers to these questions remain elusive, primarily because direct measurements of diatom dispersal are scarce. In 2006, Telford et al. published a study in *Science* purporting to provide indirect evidence against the controversial “ubiquitous dispersal hypothesis”. Their article has garnered widespread attention: it has been cited almost 100 times (including articles published within *Diatom Research*), and citations continue to accumulate rapidly. Here, I use a traditional null model analysis – involving a randomization procedure with the original datasets – to first show that the patterns documented by Telford et al. were expected entirely by chance, and therefore do not constitute evidence of dispersal limitation. Then, drawing upon large calibration datasets from North America and Europe, in conjunction with null model analyses of pH tolerance, I provide preliminary evidence in support of the hypothesis that taxa adapted to the most common pH environments are the least dispersal-limited.