

## PERSPECTIVES

### In Memoriam: Richard (Rick) G. Harrison – Benefactor for Evolutionary Biologists

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Rick Harrison made many contributions to the field of evolutionary biology. Included among these were both conceptual and empirical offerings that were foundational for many workers in ecology and evolution, particularly those interested in the mechanisms that can drive the process of speciation. Sadly, Rick passed away on April 12<sup>th</sup>, 2016, but the impact of his work will not soon be lost for the people with whom he worked, or the field to which he dedicated so much of his time and energy. I believe that the impact of Rick Harrison's ideas and interactions on my own career might be used as a type for understanding how Rick was able, through his conceptualization and empirical tests of hypotheses, to affect the research programs of others. In particular, a series of Rick Harrison's publications were foundational in how my group went about our own studies in speciation and hybridization. Furthermore, my personal interactions with Rick, though few, were profoundly important in my development as a scientist and a person.

The first of Rick's published accounts that helped shape a great deal of our earlier work was his 1986 *Heredity* contribution, "Pattern and process in a narrow hybrid zone". Based on his own extensive hybrid zone analyses in crickets, as well as those of his student and friend Dan Howard (Howard, 1982), Rick reported what so many of us had missed – hybrid zones, like natural landscapes in general, were environmental mosaics that affected which genotypes occurred in which habitats. Their conceptualization of 'mosaic hybrid zones' gave many of us the impetus to test hypotheses of differential hybrid and parental fitness across habitats. Without such an elucidation, I believe that hybrid zone studies would still be mired in simple clinal models that, though useful in some respects, often hide the significant nuances associated with environmental selection.

The second publication to provide an incentive for our research program was Rick's 1990 review in the *Oxford Surveys in Evolutionary Biology*. "Hybrid zones:

Windows on evolutionary process” thus acted as a catalyst for our own attempts to describe the processes that led to the heterogeneity we detected in plant hybrid zones. We focused on testing for adaptive responses to habitat, with special reference to how we might detect the effects of selective constraints using molecular markers. A secondary benefit for our research program was that Rick’s careful synthesis of the literature in this review acted as a wonderful exemplar for our own attempts to do similar syntheses in both reviews and books.

The final publication of Rick Harrison’s I would like to highlight is probably my favorite of all. Appearing in *Evolution* in 2012, “The language of speciation” reflected beautifully Rick’s appreciation and understanding of the rich evolutionary literature, as well as his rapier wit. Indeed, I have quoted at length his argument of why we as students of evolutionary biology needed to be much more careful in inventing new terms for already well-established concepts. Thus, Rick threw a spotlight on our tendency to obfuscate matters through the creation of unnecessary jargon by stating, “...old definitions have been reconfigured and new terms have been introduced. In some instances, the introduction of new terminology has failed to recognize historical usage, leading to unnecessary ambiguity and redundancy.” With a deep sigh of embarrassment I reflected, “Even this author’s usage of the term ‘genetic exchange’ can be confusing. Originally introduced to encapsulate recombination and admixture between divergent lineages in its many forms (i.e., viral recombination, horizontal gene transfer, introgressive hybridization, and hybrid speciation...), the term often requires a qualifier in order for the meaning to be clear – e.g., “genetic exchange mediated by

introgressive hybridization (Arnold 2016).” Once again, Rick’s ability for identifying sloppy thinking and application was much needed by yours truly.

I would like to end this brief memorial to Rick Harrison by pointing to what I believe were his two greatest attributes: his passion as a mentor and encourager of those in his sphere of influence, and his obvious love for family. Admittedly, I have only secondary evidence for my conclusion that he was a great mentor and encourager, and extremely limited direct observations to infer his love of family, but I am going to risk correction by those who knew Rick much better than I and argue for the accuracy of my inferences. To support the first inference, I will point to the wealth of graduate students and post-doctoral fellows who spent time in Rick’s group who are now helping to shape the field of evolutionary biology and the North American academic environment in general. However, even I, though never a member of his lab group, was also provided an opportunity for mentoring. This came in the form of an invitation to participate in a symposium organized by Rick and featuring many of the foundational scientists studying speciation and hybrid zone evolution. Both during the symposium, and afterwards while interacting with him on a chapter for *Hybrid Zones and the Evolutionary Process* (Arnold and Bennett 1993), I was treated to a demonstration of how Rick mentored younger scientists. I cannot say that our interactions were easy, but the rigor displayed at each step of the process taught me valuable lessons that I am still applying.

My final comments are of a very personal nature, but because they involved a public demonstration by Rick, I hope they will not be considered untoward. The event to which I refer took place at a symposium gathering at which Rick and I were both in attendance. However, the occurrence that struck me deeply had nothing to do with the

science being discussed. Instead, it involved an interaction I witnessed from a distance between his wife and himself at the symposium mixer. I watched as Rick turned to discover his wife suddenly appearing at his side, and like a schoolboy who sees the girl of his dreams his face lit up with an all-embracing smile that seemed to suggest that, as far as he was concerned, she was the only person in the room. That is the most profound memory I have of Rick Harrison. And, as a husband of a wonderful wife, I am thankful for it.

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