

Editorial

This issue of **Davidsonia** (I apologize that it is regrettably late again) contains the next in the series of papers about the Garry oak ecosystem. The authors (Esson et al.) are graduate students in the UBC Botany Department and the results presented in this paper were collected during the annual UBC Botany Department graduate student field trip.

Participation in this field trip is compulsory for every graduate student, usually during their first year of study in the department. Periodically, either the teaching faculty or the students question the relevance of this brief field experience. The argument is that students who do not plan to work in the field can spend their time more profitably pursuing their laboratory research plans. A broader argument is that botany has changed and only those pursuing research in systematics and ecology need this field experience.

At the same time, the cries continue for more knowledge about the natural history of plants that can be used by those who work to address the effects of climate change and biodiversity loss due to urbanization or other human activities. The irony is that some of the needed information is already available but languishes in the thesis chapters that are deemed to be unsuitable for publication in the modern high-profile research journals. Fortunately some journals, such as *Rhodora*, *Madroño*, and **Davidsonia**, continue to publish scientific natural history with some of the reassurance about quality that comes from peer-review. In addition, much excellent natural history is increasingly available on internet web sites.

The political decision makers who are responsible for national policy on biodiversity loss or the botanical impacts of climate change expect scientific answers to be available on demand. There are fewer university researchers who are active in natural history than there were 20 or more years ago. One benefit is that the alarms over biodiversity loss have drawn many evolutionary biologists closer to the field. Those doing the undoubtedly important research to understand the genetic (and hence evolutionary) relationships among organisms seem to have an operating

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principle that high publication rate is a diagnostic sign of competence, and is to be rewarded by substantial research funding. Given the reality of limited research funding, the slower projects are poorly funded, indeed such slow-progressing scholars may be deemed unsuitable for a tenured position. The result is that long-term study on life-history or resolution of several physical forms in a single life history (larva-adult invertebrates; anamorph-teleomorph fungi) has become 'side project' research and even when the work is done, the necessary taxonomic expertise and herbarium facilities are limited or in some cases no longer available.

The question remains, "Where are we to find future generations of scientific naturalists?" As the biodiversity loss and climate change alarm bells ring louder, students will certainly see the need and the opportunity to strengthen and even reconstruct the foundation of natural history scholarship upon which we have relied up to now. How many species remain to be discovered, catalogued and systematically assessed? The estimates vary widely but the numbers are very large, particularly in non-vascular plant, microbial and invertebrate biology. Clearly, we must meet the need for competent expert observation and understanding of the principles of taxonomy, regardless of whose taxonomic philosophy one may prefer. But fieldwork requires substantial funding to cover travel costs to and from research sites; costs of personal living on site; and preparation of herbarium and museum material, data processing, and continuing costs associated with ensuring the research specimens are stored properly and space can expand to contain the vital new materials. The field station, usually funded from charitable trusts or endowments, has itself become an endangered institution, especially if funding has come from an institution's main budget allocation. Botanical gardens may already have picked up some of the natural history obligations, but those who are lucky enough to do research at these places have an increasing obligation to take a much more proactive role in leading the resurrection of scientific natural history. Many of my generation (students in the 1950s) link their decision to become field biologists directly to a well organized, albeit short, excursion to study plants in their natural setting.