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A SPECIAL ISSUE OF FRESHWATER MOLLUSK BIOLOGY AND CONSERVATION PROCEEDINGS OF THE 2018 FRESHWATER MOLLUSK HEALTH AND DISEASE WORKSHOP A FORWARD TO THE SPECIAL ISSUE

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As the planet faces the loss of native freshwater mollusk diversity and declines of biomass, the conservation community's attention has shifted from the initial triage of preservation to a search for clearer mechanisms of these declines. In some water bodies, the loss of the mollusk fauna is linked to acute anthropogenic impacts (e.g., chemical spills), habitat destruction, and invasive species, but in many streams clear causation has remained elusive. Therefore, the topic for the 2018 Freshwater Mollusk Conservation Society Biennial Workshop, held in La Crosse, Wisconsin, from March 13 to 15, 2018, was freshwater mollusk health and disease.

Assessing the health of these organisms is difficult because the environment they inhabit is a challenging workplace for humans, there are few established benchmarks for physiological normalcy ("health") for the group, much less for individual species, and financial and personnel resources for research and monitoring are scarce. The goal of the workshop was to increase awareness of, and encourage expanded research on, freshwater mollusk health and the potential role of disease by (1) identifying knowledge gaps in assessing mollusk health, (2) providing information on health assessment and diagnostic tools for mollusks, (3) aligning sampling and relocation protocols with those for health and disease assessment, and (4) promoting interdisciplinary cooperation and communication to advance knowledge of freshwater mollusk health. Most presentations focused on bivalves, and coverage of freshwater gastropods was scant; the workshop program included only two presentations pertinent to gastropods, and, of the eight articles in this special issue, only one pertains to gastropod health or disease. Gastropod health and disease deserves increased attention.

The workshop represented a conversation among colleagues across organizations and continents, and this special issue features eight articles that encompass the topics discussed at the workshop. Waller and Cope provide an overview of the state of mussel health assessment and steps for advancing knowledge, which sets the stage for a review of enigmatic mussel declines and a new paradigm for investigation of their causes by Wendell Haag. Wengström et al. provide a perspective on die-offs of *Margaritifera* in Sweden. Andrew McElwain reviews the potential role of parasites and disease in mussel health, while Leis et al. and Goldberg et al. report survey results of the mussel microbiota and virome, respectively. Ciparis et al. evaluate condition indices for assessment of ion exposure, while Wolf et al. present the outcome of the disease risk assessment workshop session. Several presentations from the workshop are not represented by articles in this special issue, but we thank each presenter for their valuable contribution to the workshop and to the state of our knowledge on freshwater mollusk health. The workshop program is available at https://molluskconservation.org/EVENTS/2018Workshop/FMCS_2018%20program_finalREV.pdf.

Editor's Note: We thank Dr. Diane Waller for serving as Guest Editor for several of the articles in this special issue.