



Division of Comparative Physiology and Biochemistry, Society for Integrative and Comparative Biology

Editorial

Author(s): Theodore Garland Jr.

Source: *Physiological and Biochemical Zoology*, Vol. 87, No. 5 (September/October 2014), pp. 585-586

Published by: [The University of Chicago Press](#). Sponsored by the [Division of Comparative Physiology and Biochemistry, Society for Integrative and Comparative Biology](#)

Stable URL: <http://www.jstor.org/stable/10.1086/678458>

Accessed: 23/09/2014 13:02

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



The University of Chicago Press and Division of Comparative Physiology and Biochemistry, Society for Integrative and Comparative Biology are collaborating with JSTOR to digitize, preserve and extend access to *Physiological and Biochemical Zoology*.

Editorial

I am honored to assume the role of editor in chief of *Physiological and Biochemical Zoology* (PBZ), and I would not have been willing to do so without the support and commitment of our new coeditors, Mark A. Chappell, Timothy E. Higham, and Wendy Saltzman. Dr. Chappell represents what might be considered our traditional core: comparative, ecological, and evolutionary physiology. Dr. Higham is a specialist in biomechanics and functional morphology, and Dr. Saltzman is an expert in behavioral endocrinology. All represent areas in which we hope to grow during the coming years.

Expanded Areas of Biology to Be Considered

I generally refer to myself as an evolutionary physiologist: I am interested in how organisms work and also in how and why they have evolved to work in particular ways (see Garland and Carter 1994; Feder et al. 2000). Evolutionary physiology strives to be more than just a simple mixture of two fields. Rather, it is at its best when addressing what might be termed “emergent questions,” such as, How do the ways organisms work constrain or facilitate the ways in which they evolve?

For me, as for many others, physiology is scarcely separable from morphology, biochemistry, behavior, and so-called life-history traits, such as age at first reproduction, clutch size, and survivorship (Careau and Garland 2012). Further, populations of organisms evolve while integrative function across all levels of biological organization is necessarily maintained. Hence, it is logical for PBZ to include current research on morphology and behavior, much as it explicitly recognized biochemistry in the name change from PZ to PBZ. We also hope to attract cutting-edge articles in the areas of conservation physiology and elucidation of the molecular genetics of ecologically relevant traits.

Comparative biomechanics aims to understand how organisms work by combining aspects of biology, physics, functional morphology, and engineering. Although the focus can be on a single organ, organ system, or organism (issues generally pertaining to proximate causation; see below), biomechanics is continually expanding to incorporate many areas of behavior, ecology, and evolutionary biology and hence increasing its focus on the elucidation of ultimate causation. Biomechanics is instrumental in determining the consequences of phenotypic variation, in terms of both evolutionary transitions and ecological patterns. Thus, we invite contributions that address questions related to biomechanics in an ecological and/or evolutionary context.

Behavioral endocrinology is the study of the multidirectional interactions of hormones, behavior, and the nervous system. This field integrates levels of analysis ranging from molecular and cellular mechanisms, to organismal function, to, increasingly, evolutionary and ecological influences on, and implications of, hormone-behavior relationships. Although behavioral

endocrinology historically focused on a limited number of model systems studied under laboratory conditions, the scope has blossomed in recent decades and now encompasses a broad range of vertebrate and invertebrate species studied both in the lab and in the field. Thus, behavioral endocrinology fits squarely within the realm of PBZ and will be a key addition to the scope of the journal.

I remind readers that PBZ carries the subtitle “Ecological and Evolutionary Approaches” (Hicks 2002). As we continue to publish in comparative, ecological, and evolutionary physiology, morphology, and behavior, I hope to see an exciting mix of proximate mechanisms and ultimate causation (Mayr 1961; Dewsbury 1999; Bateson and Laland 2013; Nesse 2013) within each article that appears in PBZ. As always, a synthesis of “skin-in” and “skin-out” biology offers great potential for reciprocal illumination that can contribute to our understanding of the origin and maintenance of biological diversity (e.g., Autumn et al. 2002).

Expanded Categories of Manuscripts to Be Considered

Our editorial team has implemented several changes for PBZ. First, we will now consider new categories of articles, including Brief Communications, Comments on Published Papers, Education and Outreach, and Book Reviews, alongside the existing categories of Research Papers, Invited Perspectives, Reviews, Technical Comments, and occasional In Memoriam articles for distinguished scholars. All categories might not be represented in every issue of PBZ; rather, we will publish them as warranted, and we hope that this new flexibility for authors will offer new avenues for presenting their best and most timely findings.

Review articles will provide a thorough and balanced treatment of a given subject. I am concerned with the continuing trend for journals, even some review-oriented journals, to publish more and more narrowly focused reviews that are noncomprehensive. All too often, the narrowness of focus serves as an excuse for a lack of thorough scholarship. PBZ’s Review articles will begin at the beginning, cite the historical articles that first defined the area, continue across the years with important articles, and end with some perspective on the future of the area.

The editorial team will invite Review articles and will also entertain proposals from potential authors. Any such inquiry should be addressed to the editor in chief. All articles, including Reviews and Invited Perspectives, will undergo our usual rigorous double-blind peer review, and publication will be contingent on suitable revisions as requested by our expert referees, as well as final approval by our editors. If the editorial team and authors work together effectively, a rejection at a late stage of development will be a rare occurrence. Finally, we will continue to publish Special Collections, which can range from conference papers to

symposium summaries but always subject to the usual double-blind peer review and potentially involving a guest editor.

As scientists, we have an obligation to make our research results more accessible to the general public. In recognition of this, PBZ will now consider Education and Outreach manuscripts, to help investigators disseminate materials to a wider demographic group and to aid educators by providing resources and educational activities (e.g., Radojic and Garland 2014) that hope to inspire and motivate future scientists, whether they are currently in kindergarten or graduate school. Journals that serve these missions already exist (e.g., *Science Scope*, published by the National Science Teachers Association), but they are not widely read by practicing scientists. We believe that PBZ can play a valuable role in publicizing and encouraging educational efforts in the biological sciences.

Expanded Role for Coeditors, Associate Editors, and Editorial Board Members in Handling Manuscripts

Incoming manuscripts will be routed based on subject matter and study organism by the managing editor (Andrea Canfield) to the editor in chief (Garland) or one of the coeditors (Chappell, Higham, Saltzman) or associate editors, who will then suggest (1) return without review or (2) send out for peer review. Any manuscript suggested for option 1 would require a second opinion from the editor in chief, a coeditor, or an associate editor. This process will occur as rapidly as possible.

For manuscripts sent out for review, a handling editor will be assigned. This could be the editor in chief, a coeditor, or an associate editor. This will spread the workload among a greater number of individuals than at present. The managing editor and the handling editor will choose reviewers, seeking counsel as warranted. This process will be facilitated by the journal's online submission process. To assist in assigning manuscripts, authors will identify a suitable handling editor with whom they do not have a conflict of interest. This will be a requirement of manuscript submission. Under rare circumstances, we will allow authors to instead designate a member of the editorial board as handling editor, along with a written explanation as to why none of the available options is suitable. Author feedback through this mechanism may suggest the need for adding associate editors in particular areas. Editorial board members will identify potential referees, adjudicate on decisions when the referees' opinions diverge, and review manuscripts, especially when we have trouble getting timely responses from ad hoc reviewers.

The handling editor, who will remain anonymous, will make a recommendation after receiving a minimum of two referee reports. Recommendations for revision will be handled directly by the handling editor. Recommendations for rejection or acceptance will be routed to the editor in chief for final disposition. The buck stops with me, and all correspondence with authors will go out over my signature.

Responding to Reviews

Our expert referees, both ad hoc and those on our editorial board, return reports that endeavor to be constructive, thorough, and

straightforward. Authors should take these comments seriously, and any revision should be accompanied by a complete, itemized list of responses to each and every reviewer suggestion. In some rare cases, a reviewer comment might be due to a misunderstanding or misreading of the manuscript; in these instances, the author should better state his or her findings or better organize the article, as our reviewers are representative of our readership. In any case, responses to reviewer comments should explicitly state what has and has not been addressed by a change in the manuscript. Obviously, it is incumbent on authors to write and organize as clearly as possible.

The Future of PBZ

The look of PBZ has itself evolved, from a small-format, light-blue journal named *Physiological Zoology*, through the red-cover years, to the current cover featuring photographs from our skilled authors and board members, remaining a prestigious international publication throughout. As we move forward, we will be publishing more pages per year and we will be reducing times to decisions and publication. In the latter context, I want to thank those members of our editorial board who will be retiring and welcome new members who will continue their strong record of service to PBZ and to the scientific community in general. From early topics such as what constitutes the aggressive nature of crawfish to today's concerns with organismal development and adaptation in light of climate change, PBZ's articles have led the field. PBZ will be 90 years old in 2017, and it is with great humility that we take on the responsibility of shepherding the journal through its next 5 years.

Theodore Garland Jr.

University of California, Riverside

Literature Cited

- Autumn K., M.J. Ryan, and D.B. Wake. 2002. Integrating historical and mechanistic biology enhances the study of adaptation. *Q Rev Biol* 77:383–408.
- Bateson P. and K.N. Laland. 2013. Tinbergen's four questions: an appreciation and an update. *Trends Ecol Evol* 28:712–718.
- Careau V. and T. Garland Jr. 2012. Performance, personality, and energetics: correlation, causation, and mechanism. *Physiol Biochem Zool* 85:543–571.
- Dewsbury D.A. 1999. The proximate and the ultimate: past, present, and future. *Behav Processes* 46:189–199.
- Feder M.E., A.F. Bennett, and R.B. Huey. 2000. Evolutionary physiology. *Annu Rev Ecol Syst* 31:315–341.
- Garland T., Jr., and P.A. Carter. 1994. Evolutionary physiology. *Annu Rev Physiol* 56:579–621.
- Hicks J.W. 2002. Editorial. *Physiol Biochem Zool* 75:1–2.
- Mayr E. 1961. Cause and effect in biology. *Science* 134:1501–1506.
- Nesse R.M. 2013. Tinbergen's four questions, organized: a response to Bateson and Laland. *Trends Ecol Evol* 28:681–682.
- Radojic T. and T. Garland Jr. 2014. Born to run: experimental evolution of high voluntary exercise in mice. *Sci Scope* 37:3–12.