

Grand Challenges



Fig. 1 Five “Grand Challenges” in organismal biology, identified by the Executive Committee of the SICB and described by Schwenk, Padilla, Bakken, and Full in this issue. The beetle represents organismal biology and emphasizes the centrality of this discipline to the five grand challenges facing modern biologists.

It is useful to periodically pause and take stock of a particular discipline in order to assimilate developing trends; identify the major challenges still to be met in arriving at a coherent, comprehensive body of theory; and devise techniques for using that body of knowledge to address societal needs. At the annual meeting of the Society for Integrative and Comparative Biology (SICB), held at Boston in January 2009, attention was called to the need for providing a comprehensive statement of the ‘grand challenges’ facing the field of organismal biology. The following paper by Schwenk, Padilla, Bakken, and Full is the first in a series designed to highlight the centrality of organisms and organismal biology to the life sciences. Five grand challenges facing

biologists in this discipline were identified (Fig. 1). Meeting these challenges will require concerted effort and support, now and in the future.

This initial paper will be followed by one in each issue of volume 49 (2009) and perhaps also extending into future volumes. These papers are not intended to encapsulate an official policy for SICB, but rather are heuristic contributions by various experts in the field, offered in the hope of stimulating thinking about the most important topics in organismal biology and guiding future research into the most fruitful avenues.

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