Critique Guide for Scientific Work

GENERAL

* importance and interest to Ecologists (or Evolutionary Biologists for this class)
* scientific soundness
* originality
* organization and clarity
* cohesiveness of argument
* degree to which conclusions are supported by the data
* length relative to the number of new ideas and information
* conciseness and writing style

SPECIFIC:

* Presentation ­ Does the paper tell a cohesive story? Is it a tightly reasoned
* Argument evident throughout the paper? Where does the paper wander from this argument? Do the title, abstract, key words, introduction and conclusions accurately and consistently reflect the major point(s) of the paper? Is the writing concise, easy to follow, interesting?
* Length ­ What portions of the paper should be expanded? condensed? combined? deleted? (PLEASE don't advise an overall shortening by X %. Be specific!)
* Methods ­ Are they appropriate? current? described clearly enough so that the work could be repeated by someone else?
* Data presentation ­ When results are stated in the text of the paper, can you easily verify them by examining tables and figures? Are any of the results counterintuitive? Are all tables and figure clearly labeled? well planned? too complex? necessary?
* Statistical design and analyses ­ Are they appropriate and correct? Can the reader readily discern which measurements or observations are independent of which other measurements or observations? Are replicates correctly identified? Are significance statements justified?
* Errors ­ Point out any errors in technique, fact, calculation, interpretation, or style.
* Citations ­ Are all (and only) pertinent references cited? Are they provide for all assertions of fact not supported by the article itself?
* Overlap ­ Does this paper report data or conclusions already published or in press? If so, please provide details.
* FAIRNESS and OBJECTIVITY ­ If the research reported in this paper is flawed, criticize the science, not the scientist. Harsh words in a review will cause the reader to doubt your objectivity; as a result, your criticism will be rejected, even if they are correct!
* Comments directed to the author should convince the author that:
  + you have read the entire paper carefully
  + your criticisms are objective and correct, are not merely differences of opinion, and are intended to help the author improve his or her paper, and
  + you are qualified to provide an expert opinion about the research reported in this paper
  + If you fail to win the author's respect and appreciation, your efforts will have been wasted.