

BIOLOGY 440: Outline for Critical Review.

- Use *Trends in Ecology & Evolution* as a guide for both format and scope of a critical review.
- **Outline should be 2 pages, double-spaced, 12-pt font.**
- **Provide a provisional/working title** (e.g. *Is there conflicting evidence for the Cambrian Explosion from the paleontological and fossil record?*).
- Make sure to clearly **provide a broad segue into your essay** (i.e. anchoring your critical review within the broad panoply of evolutionary biology), **summarize background that is relevant to your paper**, and **state what the major issues that you are addressing are**. For example, if you were tackling “secondary reinforcement”. You might suggest something to the effect that:
 - despite decades of work the remain several key important issues in our understanding of mechanisms of speciation.
 - broad agreement that many speciation events begin with range fragmentation.
 - theory & empirical evidence for reproductive character displacement and reinforcement only in last decade.
 - outstanding issues still with how selection against hybrids in a contact zone can spread outward into each parental species.
 - few unequivocal empirical examples.
 - My review will discuss: i. the new developments that might surmount theoretical objections to reinforcement, ii. the evidence that must be forthcoming to unequivocally diagnose secondary reinforcement, and iii. the empirical evidence pro and con its existence and frequency.
- **Use subheadings** to provide an overview of essay structure.

For example from a recent article in TREE.

Phillip Endicott, Simon Y.W. Ho, Mait Metspalu and Chris Stringer. 2009. Evaluating the mitochondrial timescale of human evolution *Trends in Ecology and Evolution* 24: 515-521.

Article Outline Subheadings

Estimates of the timescale of human evolution

Date estimates from mitochondrial DNA

Implications of different rates for interpretations of human evolution

Concluding remarks

References

- Under each subheading **use bulleted, point form prose** to indicate major points that you wish to cover.
- **Provide the citation for your key paper**, and if you have come upon others that you would like to use, list these as well (not counted in the 2 page, double-spaced total).
- At this point **you do not have to have all 10 (minimum) literature citations** in place but can include those that you do have in case we can make a few other suggestions.
- **Due date and time:** Monday 29th October 2018 4:00 pm.