Identify 3-5 of the most important theories that have been proposed to explain patterns in life history strategies*. For each:
1. State the essential postulates, including the assumptions on which the theory is based and the generalizations that emerge if they are true. Include 1 or 2 figures if appropriate.
2. Characterize the domain of the theory by describing the types of organisms and/or systems to which it does and does not potentially apply.
3. Evaluate our confidence in the theory by summarizing the evidence and critiquing the logic;
4. Name the key investigators, their study systems, and 1-2 seminal papers.

* We suggest pithy responses of 1-2 pages per theory.

Outline a potential research project*, with a system other than your own, that would contribute to the development of life history theory**. Do this by:
1. Clearly articulating the general theoretical question that would be under investigation.
2. Identifying and rationalizing the specific study system, including major hypothesis(es).
3. Summarizing methods and research protocol.
4. Provide graphs and summary statements describing at least two different possible results that would indicate different answers to the general theoretical question.
5. Identify and contrast the possible broad conclusions that would result from the study, and make a case for the general significance of the proposed research.

* We suggest that your description of the proposed research project be about 2 pages with figures. Citations and methodological details need not be extensive.

**The proposed research should be of a scope that could be realistically funded (e.g., 3-5 year NSF grant) or realistically conducted with less intensive support over a longer time frame.