Testing Symmorphosis

We have read and discussed a paper on symmorphosis by E.R. Weibel et al. (Proc Natl Acad Sci U S A **88**: 10357-10361, 1991).

With that paper as background, we now will look at the paper "Does peak inspiratory flow contribute to setting Vo2max? A test of symmorphosis" by S.L. Lindstedt et al. (Respiration Physiology **95**: 109-118, 1994).

Assignment 1

In this first assignment, we will try to develop a basic understanding of the paper.

Please read the paper and answer the following questions.

1. In your own words, what is symmorphosis? (1-2 sentences)

2. What is this paper's niche? That is, how does it go beyond previous research on symmorphosis? (2-3 sentences)

3. What hypothesis was tested by this study?  How would you portray this hypothesis on Figure 1 or a similar figure? (2-3 sentences)

4. BQMOC Figure 2. (about 1 sentence each for Background, Question, Method, Observation, and Conclusion)

5. BQMOC Figure 3.

6. BQMOC Figure 4.

7. Did this study support the hypothesis? Briefly explain. (about 2-3 sentences)

Assignment 2

Please do a peer review of the journal article by S.L. Lindstedt et al. (*Respiration Physiology***95**: 109-118, 1994). It will be modified from the usual review format in order to fit the goals of this class and in recognition of your limited respiratory physiology expertise.

Your review will have 3 sections, as follows.

1. HYPOTHESIS

Please write 200 to 400 words (1 to 2 nicely flowing paragraphs) that address the following questions.

* What is the central hypothesis of this study?  (Be as specific as possible. Use one or more direct quotes from the paper to assess whether it is defined clearly.)
* Is this hypothesis worth testing? (Is it important? Has it already been tested by numerous other studies?)
* How was this hypothesis tested in this study? (What was the experimental strategy?)

2. CLAIMS

Identify the 3 or 4 most important conclusions of this study, and write a paragraph (150 to 250 words) about each. How does each relate to the central hypothesis? What is the evidence on which each is based, and how strong is this evidence? Consider the appropriateness of the people chosen, the measurements made, and the data reported. What alternative or additional measurements might have strengthened the evidence further?

3. WRITING

The Results and Discussion sections both have stylistic limitations. The Results are not very BQMOC-y, for example, while the Discussion begins with an abrupt launch straight into the findings. Please list or annotate several specific writing-related limitations of either the Results OR the Discussion section. Then rewrite your chosen section so these limitations are addressed.