Homework one: **2020 Week one: Review of important terms and principles.**

**Due at 1:30, Jan.15. You are highly encouraged to bring in a copy of your homework that you can edit.**

1. Discuss the differences between the definition of evolution used by Darwin and that used by Evo 101.

2. Most evolutionary texts simply define natural selection as differential reproduction. a. Does this differ from the way Darwin saw natural selection? Defend your answer with quotes from the talks origin site. b. How does Evo 101 define natural selection? .

3. On artificial selection:

a.Restate the definition of artificial selection.

b. How does Andy Ellington use artificial selection to produce useful molecules?

c. Compare and contrast artificial and natural selection.

d. Would you consider insecticide resistance and antibiotic resistance, examples of artificial selection?

4. Is sexual selection the same as natural selection?

Sexual selection, was proposed by Darwin in his second thesis, The Descent of Man, and Selection in Relation to Sex.

"*...My conviction of the power of sexual selection remains unshaken..." (C. Darwin, 1874, Preface) "We learn that the advantages which favored males derived from conquering other males in battle or courtship, and thus leaving a numerous progeny (male-male competition) are in the long run greater than those derived from rather more perfect adaptations to their conditions of life.*

*We shall further see, and it could never have been anticipated, that the power to charm the female (female choice) has sometimes been more important than the power to conquer other males in battle*" (Darwin, 1871, pg. 583)

Review the material on sexual selection and sneaky males on Evo 101.

a. How do sneaky males “compete” for females? b. Would adaptations that improve the function of reproductive organs be considered sexual selection?