

Symbiosis Paper | due April 17, 2017

To some biologists symbiosis is a persistent mutualistic relationship (as with microbacteria in the gut of termites that break down cellulose while getting a nice cozy place to live). Others, and I'm more in this boat, take **symbiosis** to simply be a persistent relationship between organisms and could be **commensalistic**, **mutualistic**, or **parasitic**. For example, there would be symbiosis between robins and buckthorn even though this verges on parasitism, where the robin spreads the seeds while receiving little to no nutrition from the cathartic berries. Some relationships are **obligate**, meaning both species depend on the other for survival (classic example being lichen, symbiosis between and fungus and one or more species of algae), while others **facultative** (a cowbird will preferentially parasitize - lay their eggs in - the nests of yellow warblers; when yellow warblers aren't around they simply switch to another species, like eastern phoebes).

For this assignment you will have the opportunity to explore a deep connection between two (or more species) that coexist in a symbiotic relationship. Choose a Vermont animal and do some preliminary research on its life history. Find a plant with which it has a particularly close relationship (e.g. moose and striped maple, spotted-winged flies and goldenrod, beavers and aspen, etc).

You should include here a short-write up on the life history of the two species involved. But the bulk of your paper (2-3 pages size 11 font, 1.5 line spacing) should focus on the relationship between the two species. Describe the relationship. Does one benefit more than the other? What adaptations does one species have to deal with the other and visa-versa? Is this a commensalistic, mutualistic, parasitic relationship (be sure to defend your answer). Look big picture too.

For this assignment cite at least two peer-reviewed scientific articles to support your paper (Google Scholar is a great place to locate these). For citation style please see http://cbe.wisc.edu/assets/docs/pdf/biolearn/TeachingTools/Radish/citing_literature.pdf