**Test Questions Related to the**

**Backyard Pollinators Project and Lichens in Diverse Landscapes Project**

**Short answer:**

1. Define functional ecology.
2. Define mutualism.
3. What was one of the main objectives or hypotheses of the lichen lab (the broader collaborative project), and what are the three major forms of lichen?

**Multiple choice:**

Our plant-pollinator lab was part of a larger project that hypothesizes that:

A. yellow flowers will have more floral visitors than flowers of other colors

B. there will be fewer plant-pollinator interactions in more urban environments

C. beetles will eat more tubular flowers and pollinate more open flowers

D. bees and syrphid flies will be the most abundant pollinators

ANSWER: B

The interaction between a pollinator and the plant species it pollinates is an example of:

A. mutualism

B. commensalism

C. predation

D. symbiosis

ANSWER: A

Lichens are an example of:

A. mutualism

B. symbiosis

C. keystone species

D. both A & B

E. all of the above

ANSWER: D

Recall that lichens can be used as bioindicators because certain forms are more vulnerable to atmospheric pollution than others. Below is a graph of NEON data showing Lichen Index as a function of nitrate deposition (a component of acid rain). It appears that a higher Lichen Index is associated with lower nitrate deposition, but what statistical analysis would we do to assess this trend?

A. linear regression

B. one-way ANOVA

C. Shapiro-Wilk test

D. Kruskal-Wallis test

ANSWER: A

Recall our lichen data analysis lab. Did we find a significant association between lichen cover and/or type and air quality for our class data?

A. Yes, lichen cover was negatively correlated with air quality index

B. No, there was no significance relationship between lichen cover and air quality index

C. We could not do such as analysis with our class data.

ANSWER: C

This article entitled “[Bioassessing air pollution effects with epiphytic lichens in Raleigh, North Carolina, U.S.A](https://doi.org/10.1639/0007-2745-113.1.39)” can best be described as a:

A. literature review compiling previously collected data from 16 parks in the Raleigh area plus one natural area.

B. meta-analysis compiling previously collected data from 16 parks in the Raleigh area plus one natural area.

C. primary research article that conducted a manipulative experiment in which the scientist exposed some lichen communities to air pollution and others were kept as a control.

D. primary research article that conducted an observational study of lichen communities in Raleigh and Orange County.

ANSWER: D