# Diversity, Ecology, and Evolution News Summaries

## Introduction

This is an exercise aimed at honing your science literacy skills as a citizen. There are two reasons this assignment is part of our biology course. First, you’ve sign up for a course where two goals are for students (1) to demonstrate effective oral communication in a scientific context, and (2) to recognize science as a way of knowing our world. Secondly, while many of you will not enter careers as scientists, we live in a world full of science and technology that impacts our lives whether our careers are directly related to those fields or not. Thus, it’s important to practice interpreting scientific findings for all of us.

Scientific research is often published in technical, peer-reviewed, periodicals commonly called journals, and these primary sources of information are subsequently summarized and published as secondary sources in other, less technical outlets, such as newspapers, magazines, and online aggregators. Most of you have probably encountered news articles highlighting recent research---it’s such news articles that are the subject of this assignment. You will, however, be asked to find, briefly review, and cite the primary source.

For these periodic assignments, you’re asked to find, summarize, and develop an opinion on news articles in separate written submissions. Digital submissions of summaries will be required on D2L (Folio), as well as participation in in-class discussion.

## What to do

First and foremost: read this document. Second: ask questions! Come to my office hours, email me (not on the Folio email service---use your @georgiasouthern.edu email), and otherwise communicate your questions early, please!

For each summary there are several steps:

1. **Find a recent news article** highlighting a current research or issue ***related*** to Biological Diversity, Ecology, or Evolution (< 12 months old) in a *reliable* news source. While there are countless avenues of content, the article you choose should be from a reputable, edited periodical and should be a news item, rather than an opinion piece. Additionally, do not present on a definition or overview of an issue (e.g., something like [WebMD’s overview of HIV](https://www.webmd.com/hiv-aids/default.htm)) and avoid blogs. Use of these latter types of writing is permitted to familiarize yourself with the content and strengthen your opinion, and if you use them, cite them. A few quick examples are listed below but visit the campus libraries for more suggestions!
   1. Georgia Southern provides [free access to the New York Times](https://library.georgiasouthern.edu/2015/12/16/just-in-time-for-the-holidays-new-york-times-online-now-supports-mobile-apps/), which includes a sections on [Science](https://www.nytimes.com/section/science) and [Climate](https://www.nytimes.com/section/climate).
   2. [Scientific American](https://www.scientificamerican.com/) collaborates on the publication of your textbook, and it has sections on sustainability.
   3. [Science Daily](http://www.sciencedaily.com/) and [Science News](https://www.sciencenews.org/) publish press releases and short summaries of recent research, including categories related to biological diversity, ecology and evolution.
2. From the science news article you’ve chosen, which are generally secondary sources, **find the primary source**---that is, the journal article that originally reported the research. You will need to cite this source and may need to read and evaluate whether the conclusions drawn by the primary source’s author(s) were accurately reported in the news article.
3. **Compose a summary, opinion, and course-connection** of the science news item in your own words and submit it to the appropriate Folio dropbox as an MS Word-compatible file or PDF. The document should contain four major pieces:
   1. **A summary of the article and issue.** You should paraphrase the news item---do not copy or plagiarize, and if you’re struggling, ask *before* submissionas consequences for violations of student conduct are not based on intention. You may need to look up other sources to write an effective summary. Cite *all* sourcesin a consistent format.
   2. **A critical opinion of the article and issue.** Briefly evaluate any features of the article and study that you feel are and are not addressed sufficiently or you found particularly compelling. Describe whether the conclusions are accurately portrayed by the news article. To help form an opinion, I advise that you answer the following for yourself, but do **not** present on all of these, and use them to evaluate the research:
      1. What was the question(s) asked or hypothes(es) tested?
      2. What type of study is presented (e.g., a survey or observational study, or results from an experiment)?
      3. What were the subjects of the study (e.g., cells? Rats? humans?) and how many were there (i.e., sample size)?
      4. What variables were manipulated (the independent variables) and which were measured (the dependent variables)?
      5. How were these variables manipulated and measured?
      6. If any, what were the controls used?
      7. Do you think the conclusions of the primary and secondary sources are supported?
      8. How well does the secondary source portray the research presented in the primary source?
   3. **A direct connection to course content.** Specifically explain how the news item and research relates to recent content in our Principles of Biology II course. For example, perhaps we’ve just review phylogenetics and you’ve discovered [an article covering feather evolution](https://www.sciencedaily.com/releases/2018/12/181217125908.htm). What does this research mean for the common ancestor of modern birds and mammals? Does this change phylogenetic trees? Are there trees included in the article? In any case, this could be a difficult part, so I advise *asking* and visiting office hours if you’re struggling.
   4. **A list of citations.** You may use any format, just be consistent and **complete** so that it is easy for me and your peers to access your sources. Be sure to include in-text citations and **DO NOT use citation generators**!
      1. **Importantly, you should have at least two citations:**
         1. The first should be a citation of your chosen article, which are generally secondary sources. For example,
            1. Authors. Year. “Title.” *Periodical*. URL
            2. University of Bristol. 2018. “New discovery pushes origin of feathers back by 70 million years.” *Science Daily.* https://www.sciencedaily.com/releases/2018/12/181217125908.htm
         2. The second should be a citation of the *primary* research article.
            1. Authors. Year. “Title.” *Periodical* Volume (Issue): Pages.
            2. Zixiao Yang, Baoyu Jiang, Maria E. McNamara, Stuart L. Kearns, Michael Pittman, Thomas G. Kaye, Patrick J. Orr, Xing Xu, Michael J. Benton. 2019. “Pterosaur integumentary structures with complex feather-like branching.” *Nature Ecology & Evolution* 3 (1): 24-30.
4. **Bring a copy** of your summary and news item to class for in-class discussion. A prompt may be provided to help facilitate discussion. You may bring in a digital copy on your laptop or device.

## Some rules and suggestions

* The same article cannot be used more than once by the same individual. Additionally, as you will be discussing articles in teams, you should not use an article a team member has previously used.
* There are no make-ups.
* During discussion, you will be expected to explain the issue to your peers. Come prepared as they may have questions.

## How you’ll be evaluated

Grades for summaries and discussions will be assigned based on the following criteria (a rubric is also published on Folio):

* *An appropriate article was chosen.* You should present a news article that summarizes recent research results in biological diversity, ecology or evolution; that is, a secondary source based on a reporter’s interpretation of a primary source or a press release from the primary source’s institution. You should be certain the article and periodical are reputable sources of scientific content.
* *The article was accurately summarized.* Present in your own words---do not provide a verbatim reading of an article.
* *A clear and* ***supported, critical*** *opinion of the article was provided*. Support your opinion with examples.
* *A relationship between the article and course content was clearly articulated.*
* *Citations, including a news article and a primary source, are consistent and complete.*
* *Participation in during class discussion.*