

September 28th, 2017

Dear Symbiont Selection Committee,

I am writing to nominate Dr. S. K. Morgan Ernest for the General Symbiosis Award. Dr. Ernest is an Associate Professor at the University of Florida (*Dr. Ernest is also my partner*). She has been actively involved in openly sharing data in ecology, organismal traits, and life history for over a decade. She has consistently been at the cutting edge of data sharing in these disciplines.

As a graduate student and postdoc Dr. Ernest collected data on the life-history traits of over 1400 mammals species from thousands of published papers. She published the dataset in Ecological Archives as a Data Paper ([Ernest 2003](#); <http://esapubs.org/archive/ecol/E084/093/>). It was one of the first formally published data papers in life history. This data paper has since been cited over 120 times. Most of these citations are for reuse and this data has been reused in papers published in Science ([Lukas and Clutton-Brock 2013](#)), Nature ([Jones et al. 2014](#)), and PNAS ([Sibly and Brown 2007](#)) all of which have been cited over 100 times. A PDF of Sibly and Brown (2007) is included as an article representing excellent re-use of the data because the dataset is the main data source analyzed, it shows the power of the data for evaluating general theory in life history, and the importance of the work using the data is demonstrated by it being cited 125 times.

During this time Dr. Ernest also worked collaboratively to develop a database of body masses of almost 5000 species of mammals. This work was published as a data paper in Ecological Archives ([Smith et al. 2003](#); <http://esapubs.org/archive/ecol/E084/094/>) and has now been cited 326 times. It is actively reused including in papers published in Science ([Clauset and Erwin 2008](#), and PNAS ([Savage and West 2007](#), [Barnosky 2008](#), [Finarelli and Flynn 2009](#), [Jablonski and Finarelli 2009](#), [Silvestro et al. 2015](#)). Dr. Ernest recently returned to her efforts to develop large compilation databases of organismal and life-history traits, leading a group that compiled size and life-history information on 29 life-history parameters for over 20,000 species of birds, mammals, and reptiles ([Myhrvold et al. 2016](#); <http://esapubs.org/archive/ecol/E096/269/>). This dataset was published in Ecological Archives last year and has already been cited 18 times and reused in multiple papers including a major study of extinction risk in PNAS ([Ripple et al. 2017](#)). All of these Ecological Archives datasets underwent formal peer review for data structure and metadata, are published under open licenses (CC-BY or CC0) and provide excellent easy to work with data for research on traits and life history.

In addition to these widely used data compilations, Dr. Ernest has also published the data from the long-term study she runs studying how plant and mammal communities change through time. The Portal Project is one of most well known and intensive long-term studies in Ecology. It contains monthly data for over 40 years making it one of the most granular long-term studies of plants and animals. Dr. Ernest has been personally involved in the project for over 20 years and has been running the study for almost 15 years. Long-term ecological data is considered to be highly valuable and is particularly difficult to collect. This recently lead dozens of ecologists to argue that long-term data should be explicitly protected from data sharing requirements ([Mills et al. 2015](#)). In contrast to this anti-data sharing perspective Dr. Ernest made it a priority to make all of the data from the site openly available after she took over. She has published multiple data papers from the site, expanding the time-series with each new publication ([Ernest et al. 2009](#), [Ernest et al. 2016](#)). Recently she has taken these efforts a major step forward by posting newly collected data from the site online immediately following collection. Within 1-2 weeks of returning from monthly field work the data is entered and posted to her group's [GitHub repository](#). All the data is licensed CC0. All new data undergoes review via pull request before being merged. All corrections to the data are publicly tracked through pull requests and commit messages. In addition to exceptional data structure and excellent human readable metadata, the data is also distributed in a standards based machine readable metadata package. This dataset has been cited and reused dozens of times in research studying general patterns in the dynamics of ecological systems (e.g., [Dornelas et al. 2014](#), [Bagchi et al. 2017](#), [Gotelli et al. 2017](#)).

Dr. Ernest and her lab have also done exceptional work in making this long-term data widely reusable by the largest number of researchers and students. They are finishing development of the [portalr R package](#) which automates obtaining the most recent data and performing common (and often quite complicated) pre-processing steps that are needed for optimal use of the dataset. In addition, Dr. Ernest lead the development of the [Portal Project Teaching Database](#), a simplified version of the database designed for use in teaching computational and data analysis skills. This database is currently used in a number of university courses and is the core dataset for [Data Carpentry](#) workshops that are taught around the world. This dataset is also licensed CC0 and has been downloaded over 30,000 times in the last two and a half years. Finally, Dr. Ernest has been a vocal proponent of the value of data sharing, with a particular focus on the importance and feasibility of sharing long-term ecological data ([Ernest 2015](#), [Ernest 2016a](#), [Ernest 2016b](#)).

Finally, Dr. Ernest also lead the development of the only large compilation of data on mammalian ecology that includes data on over 600 species at over 1000 locations around the world ([Thibault et al. 2011](#); <http://esapubs.org/archive/ecol/E092/201/>). It was published as an

openly licensed data paper and it has also been regularly reused (e.g., [Locey and Lennon 2016](#) in PNAS, cited 103 times).

In summary, Dr. Ernest lead the way in data sharing in ecology and life-history before it was even something anyone discussed. She has continued her leadership in this field by pushing the boundaries of near real-time data sharing and producing tools to maximize the re-usability of the data she and her group produce. The data she has produced has been reused hundreds of time and regularly in highly impactful work. While I am certainly biased, I am confident in my assessment that her data sharing has had a major influence on science from the study of species traits, to life history theory, to the response of natural systems to climate change. I recommend her for this award without reservation.

Sincerely,



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