



## Sizzling Summer Nature Books to Read Outdoors Edition 2: Moth Madness

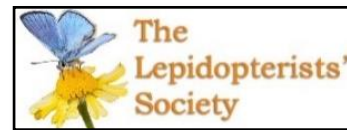
### **The slide you don't want your child to experience...**

Summer learning loss, or setback, is often referred to by educators as the “summer slide.” The terminology is used for the loss of academic achievement many students experience during the summer months when they are not attending school. Although researchers have continued to debate how to quantify the deficits and how to manage all the variables that mix into the equation, everyone seems to agree that summer reading benefits all children.

So, there has never been a better time for families to explore the topic of moths! Frequently misunderstood, undervalued as pollinators, and suffering from an identity crisis ... “Is it a moth or a butterfly?”, [The Lepidopterists' Society](#) has an informative Q&A on their homepage to help settle this confusion.

### **Moth: An Evolution Story**

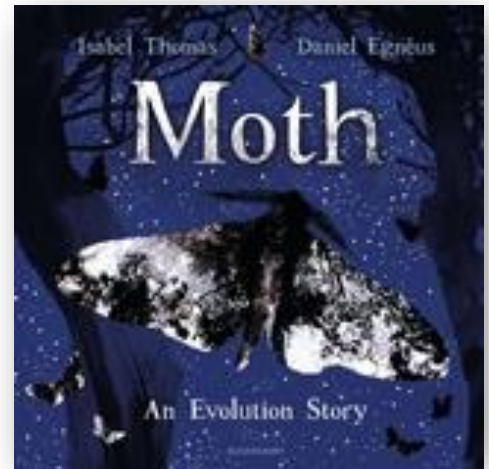
By Isabel Thomas and Illustrated by Daniel Egnéus



A perfect summer reading book, Moth has received acclaim from the National Science Teachers Association, New York Public Library, Chicago Public Library, and won the American Association for the Advancement of Science/Subaru Excellence in Science Books Award. The AAAS/Subaru SB&F Prize for Excellence in Science Books celebrates outstanding science writing and illustration for children and young adults.

As reported by the NSTA, this true story of the peppered moth introduces young children to the mechanism of natural selection with a beautifully illustrated and easy-to-understand approach.

Powerful and visually spectacular, Moth is the remarkable evolution story that captures the struggle of animal survival against the background of an evolving human world in a unique and atmospheric introduction to Darwin's theory of Natural Selection.



The text is woven with deep images and intriguing language:

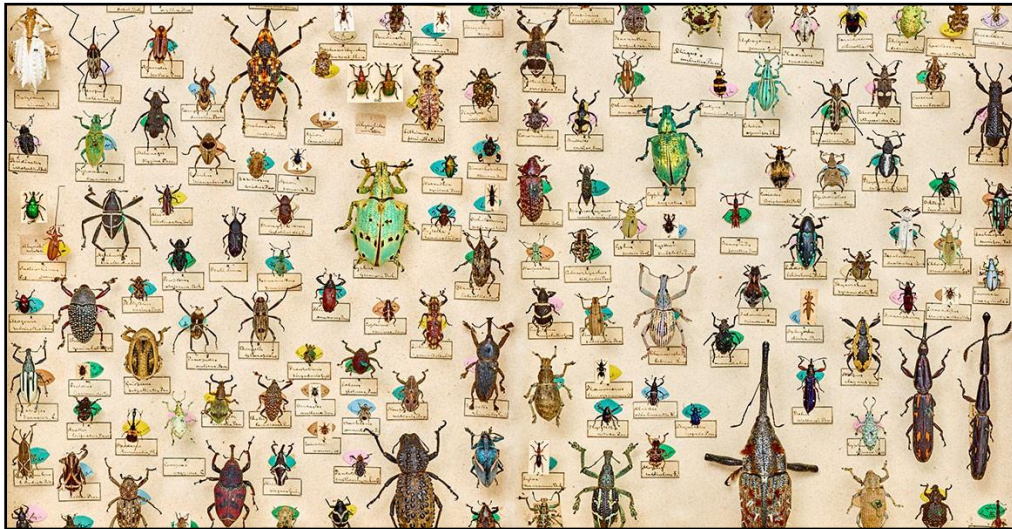
*“This is a story of light and dark...”*

*“Against a lush backdrop of lichen-covered trees, the peppered moth lies hidden. Until the world begins to change...”*

To hear the author read the story, [click here](#).

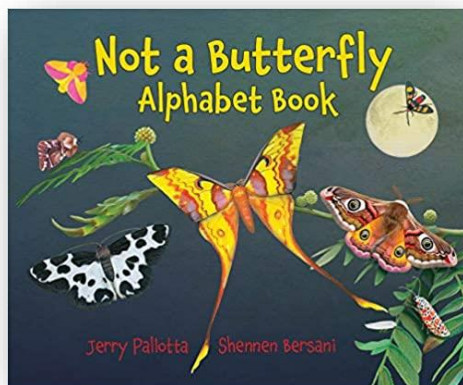
**Questions to prompt discussion about this book:**

- Can you define natural selection and provide examples that are not found in the book, Moth?



[The National History Museum in London has created an article that explains natural selection.](#)

- How has climate change impacted the health of animals? Is this impact always direct? Explain.
- How does this relate to the “survival of the fittest?”



**✚ Not a Butterfly Alphabet Book**

by Jerry Pallotta and Illustrated by Shennen Bersani

This is another NSTA selection and according to them, this beautiful collection and resource of the moth world will certainly make every butterfly jealous!

They go on to say, “Meet dozens of moths—and a few bonus creatures—with engaging text and a laugh-out-loud narrative, from A (Atlas Moth) to G (Green Lips Moth—no kissing allowed!) to J (Jersey Tiger Moth, whose underwings are a completely different color than their

upper wings, not to be confused with their underwear) to Z (Zigzag Moth). Readers of all ages will be entertained and learning.”

To hear the author (quickly) read the book aloud, [click here](#).



### Are ABC books just for toddlers or children learning their letters?

In this case, the answer is no. While the Not a Butterfly Book progresses in ABC configuration, each page reveals information pertaining to facts such as habitat, energy sources, physical descriptors, host plants, and range. This nature - study content, has lots of opportunities for additional research and questions. For example:

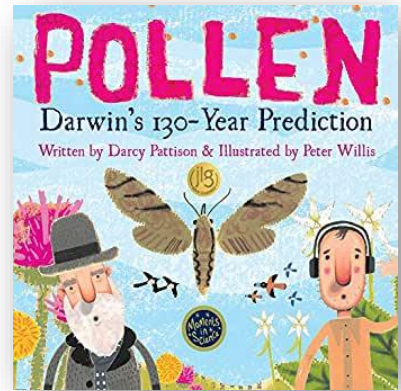
- Do all moths get energy in the same manner? Do they all “eat”?
- What is their life expectancy? Does it vary?
- Is there a place in the world where no moths exist?
- Which do you think is a greater number, the number of moth species or butterfly species? Using a graph, demonstrate the number of moth species vs. butterfly species.

The best questions come from the students themselves. If Not A Butterfly Book were used in a classroom, I would imagine that children, working in brainstorming groups, would develop a deep set of questions and answers just from what is provided on these ABC pages, not to mention the Language Arts activities to find: alliteration, rhymes, action words, and more.

### How long does it take for science to find an answer to a problem and how the moth was the answer!

Initially, you may not bridge the book, Pollen: Darwin’s 130-Year Prediction by Darcy Pattison to an article dedicated to moths, but there is a direct connection.

As a Junior Library Guild selection, a Eureka! Non-Fiction Honor Book by the California Reading Association and a 2020 NSTA Outstanding Science Trade Book, Pollen addresses the “Big Question”, How long does it take for science to find an answer to a problem? In this case, the answer is a 130 years span: the moment between Darwin’s first prediction to the endpoint where the answer was documented by other scientists well after his death. And, yes, it involved a moth!



The story begins on January 25, 1862, when Charles Darwin received a box of orchids and one of the flowers, a Madagascar star orchid, fascinated him because of its 11.5” nectary, the structure in the flower responsible for nectar. He wondered if insects were able to pollinate the orchid, and if so, what they looked like.

His prediction was that there must be a furtive giant moth with an 11.5” proboscis, a straw-like tongue, but he had no proof. Darwin died without ever seeing the moth, which was eventually cataloged by entomologists in 1903. But still, no one had actually observed and documented the moth pollinating the orchid until 1992. Lutz Thilo Wasserthal, Ph.D. traveled to Madagascar and captured the first photo of the moth pollinating the flower, as Darwin had predicted 130 years before.

In today’s society, we are accustomed to immediate gratification. We appear not to be patient people because there are so many advancements that save us time. Within minutes, we can get drive-through



food instead of spending the day preparing a favorite dinner, we can select from hundreds of TV channels instead of savoring a book and get instantaneous answers by yelling across the room to a device. Often, science classrooms are also settings where children follow recipe-style labs designed for success and voila, by the end of the period, they have the correct conclusion. On the other hand, research takes time, and those naturalists and ecologists dedicated to unveiling the truth can't dictate a time table because the real clocks are embedded within the species. Therefore, Pollen is an important book. It provides an example of the methodology involved in scientific testing, persistent research, and decades of failed attempts to get at an answer that ended with a... moth!

Some experts are also frustrated by the time it takes to get their research published, as discussed in [this article from Nature.com](#)

### Duke Farms Connection

Understanding the diversity of native moths and their importance in the ecosystem, Duke Farms has offered numerous classes for children, adults, and families to learn more about them. Although experts often use a sodium vapor light to attract moths, anyone can go outside on a summer evening with any type of light to get a close-up look at the variety of colors, shapes, and sizes that contribute to a "moth showcase". As darkness falls, your observations begin!



Located on the [Duke Farms Distance Learning Portal](#), you may also like to investigate this creative moth resource which follows the work of Duke Farms educator and artist, Meghan Martin, as she demonstrated the progress on her newest work entitled, [Moths in Moonlit Meadows](#).



Throughout the project, participants:

- Were introduced to 14 native species of moths while learning fun facts about their features
- Developed a keener sense of the biodiversity exhibited in healthy meadows
- Discovered the important role moths play in our environment.



**Remember, books are even better when read outside!**



As the summer weeks lie ahead, place a Moth Night on your family calendar. Strap on some headlamps, find the flashlights, grab a blanket, and sit under the stars to read a few great moth books before observing some moths in your own backyard or green space. But be careful... they might be joining you on your blanket to hear the stories!