

THE PLANT HUNTERS

ABOUT THE AUTHOR

In the 1970s, author Anita Silvey used to visit the **Arnold Arboretum** in the middle of Boston, Massachusetts, with her two dogs, Lady and Merlin. Some years later, when she read *The Orchid Thief* by Susan Orleans, she came across a passage about “plant hunters.” She wondered what a “plant hunter” was. To find the answer, she went back to the Arnold Arboretum and visited the library there. That visit led to the writing of *The Plant Hunters*.



Ms. Silvey is highly respected in the children’s book world as an author (*100 Best Books for Children*; *500 Great Books for Teens*; *The Essential Guide to Children’s Books and Their Creators*; *Everything I Need to Know I Learned from a Children’s Book*; *Help Wanted*; *Henry Knox: Bookseller, Soldier, Patriot*; *I’ll Pass for Your Comrade: Women Soldiers in the Civil War*), a book editor, a book publisher, a book reviewer, a teacher, and as an advocate of children’s literature. As a result of her distinguished work on behalf of children and books, she has received many honors including lifetime achievement awards from The Educational Paperback Association and The Association of Educational Publishers.

- ❖ Teachers can find out more about **Anita Silvey** on her website and by watching a **video interview** of Anita Silvey with Reading Rockets.

PRE-READING

As students read and study *The Plant Hunters: True Stories of Their Daring Adventures to the Far Corners of the Earth*, ask them to keep a **SCIENTIFIC JOURNAL** in which they answer some or all of the following questions and complete some or all of the following activities. An arts-and-crafts tie-in might be to have students collect pictures of plants, plant hunters, adventurers, etc., to decorate the covers of their journals.



This project could also be done digitally. Students could create journals on Google Docs where the teacher and their fellow students could read their work. Have students begin by creating avatars of themselves as scientists or botanists or adventurers. Try this **free avatar creation site** often used by educators. This site, sponsored by the New York Zoos and Aquariums, has a nature theme and does not require setting up an account.

- ❖ It’s always advisable for educators to investigate and try out a website before actually using it in the classroom to make sure that it is appropriate to his or her needs and audience.



“one cannot
pluck a daisy
without
troubling
a star”
- Leopold



Examples of pre-reading activities:

1. Based on its title (*Plant Hunters: True Stories of Their Daring Adventures to the Far Corners of the Earth*) and its cover, what do you think the book will be about?
2. *Plant Hunters* looks at the science of **BOTANY**. What do you think this word might mean? Look for other forms of the word “botany” as you read. Record them in your Scientific Journal, along with the page number on which you found them.
 - botamania..... p. 5, 69
 - botanical..... p. 5, 7, 23, 60
 - botanic..... p. 21, 53, 54, 66
 - botanist..... p. 19, 23, 32, 33, 37, 39, 43, 55
 - botany..... p. 4, 19, 41, 69

For a Language Arts tie-in, have students study the origin of these words.

- botan..... this root word is from the Latin “botanicus” and the Greek “botane” meaning “plant” or “herb”
- mania..... this root word is from the Latin “mania” meaning “madness” or “mental derangement”
- The suffix “ic” means “having the qualities of something.”
- The suffix “al” means “of” or “pertaining to.”
- The suffix “ist” means “a person involved in a certain subject.”
- The suffix “y” means “of,” “from,” or “characterized by.”

Teachers may also wish to have a discussion with students about what a “plant” is (a living organism that does not have the power to move on its own and produces its own food through photosynthesis).

3. Define the word **ADVENTURER**. Give examples of individuals, past and present, whom you would consider to be, or to have been, “adventurers” (aviator Amelia Mary Earhart, for example). Think about these people. List some qualities that you think an adventurer might have. Which of these qualities do you think you possess? Do you consider yourself an adventurer?
4. Language Arts tie-in: following is a list of **WORDS** that you will come across as you read *The Plant Hunters*. What do you think these words might mean? As you begin reading, look for these words in the text. Read the sentence the word is used in and the sentences around it. Based on the **CONTEXT** in which the word is used, what do you think it means? Finally, when you are done reading, look the word up in the dictionary. Create a table in your Scientific Journal, similar to the one on the next page and record your answers there:

arrived
at sunset
mud
thunderstorm



WORD LIST

List the word.	Page No.	Provide your best pre-reading definition.	Define the word in context as you read it.	After reading, use the dictionary definition.
Use the word in a sentence:				
Use the word in a sentence:				
Use the word in a sentence:				
Use the word in a sentence:				
Use the word in a sentence:				
Use the word in a sentence:				

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VOCABULARY WORD WALL

Here is a list of some possible vocabulary words. Teachers may wish to limit this list or to ask students to look for a limited number of these words in their reading. Perhaps the words could be divided up among class members. Students could also record other words that they don't know on the above table.

The class could then create a **WORD WALL** with all of the new words they have discovered and learned. An arts-and-crafts tie-in might be to give each student a piece of colorful paper on which to artistically represent their word and its meaning. These "tiles" could be used to create a Word Wall in the classroom.

Have students create word clouds with these vocabulary words using the Web 2.0 tools found at **Wordle** or **Tagxedo**. With Tagxedo students can create word clouds in the shapes of various plants.

- | | | |
|-----------------------|--------------------------|------------------------|
| p. 3 – intrepid | p. 23, 63 – elusive | p. 46 – dubious |
| p. 3 – dispatched | p. 26 – rendered | p. 46 – enraged |
| p. 5 – mutiny | p. 26 – harbored | p. 46 – infernal |
| p. 5 – excursions | p. 27 – plummeted | p. 46 – exasperated |
| p. 7 – plumage | p. 29 – merely | p. 46 – lunatic |
| p. 12 – venomous | p. 29 – intriguing | p. 47 – remote |
| p. 12 – avail | p. 29 – endured | p. 47 – volatile |
| p. 12, 23 – daunting | p. 31 – myriad | p. 48 – linger |
| p. 12 – expelled | p. 31, 46 – inhospitable | p. 52 – espionage |
| p. 14 – booty | p. 32, 47, 69 – exotic | p. 55 – pilfering |
| p. 15 – voracity | p. 34 – convoy | p. 56, 69 – intriguing |
| p. 15 – infallibility | p. 34 – extravaganza | p. 56 – retaliated |
| p. 15 – lethal | p. 34 – inquisitive | p. 60 – heists |
| p. 16 – escapades | p. 34 – insomniacs | p. 60 – monitored |
| p. 17 – pursuit | p. 37 – stoic | p. 60 – collaboration |
| p. 17 – placid | p. 37 – lassitude | p. 62 – leprosy |
| p. 17 – stamina | p. 39 – germinate | p. 63 – elusive |
| p. 17 – perseverance | p. 39 – flimsy | p. 63 – arduous |
| p. 17 – temperament | p. 39 – ensure | p. 64 – stalking |
| p. 17 – flourished | p. 39 – quest | p. 65 – biodiversity |
| p. 17 – isolation | p. 40 – ferment | p. 65 – pathology |
| p. 22 – immortality | p. 41 – consignment | p. 66 – emerge |
| p. 22 – imprint | p. 41 – jettisoned | p. 66 – bioterrorism |
| p. 22 – devote | p. 44 – trudging | p. 69 – enthrall |
| p. 23 – deter | p. 45 – lethal | p. 69 – exotic |

Capybara



KALAPOOLA

WHILE READING

1. Plant hunters faced many **CHALLENGES** as they searched the world for plants. Make a list of these challenges in your Scientific Journal.
2. Look for all of the ways in which plant hunters **BENEFITED** the world through their work. Record them in your Scientific Journal as you find them. Discuss these benefits with your classmates
3. Silvey identifies many **SCIENTIFIC INSTRUMENTS** that the plant hunters relied on to help them do their jobs. Make a list of these instruments and the page numbers that you found them on in your Scientific Journal. Choose (teacher chooses a number) of those instruments to explore. Either look them up in an encyclopedia (either a hard copy encyclopedia or an online encyclopedia) or interview an individual who uses these instruments in his or her occupation. Find out about the instrument's purpose, how it is used, what it looks like, etc. Either draw the instrument, or find a photograph of the instrument to include in your journal.

Citing Sources

It is always important to cite the source of the information that you gather in order to give credit to the person who originated this information. Give the following information about the source(s) you use to complete this part of the assignment:

1. Date you found the information: _____
2. Person who wrote the information (author) or person you interviewed: _____
3. Date that the information was published: _____
4. Name of the book or website where you got the information: _____
5. If the source is an online source, give the URL of the place where you got the information: _____
6. What makes this source a credible source? How do you know that the information is accurate? _____

❖ *Teachers, this would be an excellent opportunity to talk about formal website evaluation and source citation. Check out www.radcab.com for excellent educational information on the evaluation of online resources. There are many excellent free source citation tools for educators found online such as www.citationmachine.net.*



Incredible
heat

difficult
to breathe

Scientific Instruments

Following is a list of scientific instruments found in *The Plant Hunters* that you may wish to have students explore:

- microscopep. 6
- telescope.....p. 6, p. 34
- thermometerp. 6
- barometerp. 6, p. 34
- rain gaugep. 6
- quadrantsp. 6
- sextantsp. 6, p. 34
- Leyden jarp. 6
- magnetic needlep. 6
- galvanometerp. 7
- pendulump. 7
- vasculump. 32, 33
- portable plant pressp. 32
- chronometerp. 34
- compassp. 34
- camerap. 37
- Wardian casep. 41, 42, 55

Questioning

Good scientists are always asking **QUESTIONS** and searching for answers. Keep a list of questions that you have as you read *The Plant Hunters* to discuss when you are done reading the book.

POST-READING

1. Go on your own plant hunting **ADVENTURE**. Visit an arboretum, nature center, park, or public garden. Choose a plant found at this place. Create a page in your Scientific Journal on this plant in which you:
 - draw a map of exactly where you found the plant
 - describe the area in which you found the plant (amount of sunshine, soil conditions, etc.)
 - give the common name of the plant
 - give the scientific name of the plant and look up the origin of that name (what is the root word of that name and what does that root word mean?)

Cape
Disappointment



"hornitos"

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- give the species and genus of the plant

Example: dog rose (common name of the plant)

Rosa canina (scientific name of the plant)

Rosa (genus – general family name of the plant)

canina (species – unique name of the plant)

- give a physical description of the plant
- draw or photograph the plant
- research where the plant originally came from
- research where the plant can currently be found
- list the uses of the plant
- draw the seed for this plant
- draw the plant when it is in flower
- give some fun facts about the plant

❖ *Teachers should discuss safety measures with students before embarking on this adventure. Students should be instructed not to eat plants, or touch plants and then put their fingers in their mouth or their eyes. Students should wash their hands after working with plants. Students should not pick plants unless they have been given permission to do so. It is illegal to pick some plants and wildflowers. Finally, remind students that insects may be around plants (for example, some students may have bee sting allergies).*

2. Social Studies tie-in. Choose and study an **ADVENTURER** like Baron Alexander von Humboldt, David Douglas, or Joseph Dalton Hooker.

❖ *At this point, teachers could assign each student an adventurer found in the book to explore further.*

- Put up a large map in the classroom. Have students put a pin with their adventurer's name on it on the spot where that adventurer came from. Tie a string to the pin and connect it with another pin to the place(s) that plant hunter explored.
- This project could also be done digitally. Sites like www.mapwing.com allow educators to create a virtual map like the one described above for free. Teachers and students can also insert text and photos, as well as interact online about the project. Check out [this sample of a Coral Reef project](#) done by students.
- Discuss with your classmates why most plant hunters were men (pp. 17-19). Learn more about a female plant hunter like Alice Eastwood and Ynes Mexia .
- Did these plant hunters possess the qualities that you identified in your pre-reading activities? Explain.



Rosa
canina

Bugs
↓
industrious

3. What might some of the **COSTS** of plant hunting be? For instance, in the early 1800s, a plant named “Purple Loosestrife” was brought to the United States from Europe to be used as an ornamental plant in gardens and to be used in medicines. This plant is now considered an **INVASIVE SPECIES** because it has invaded wetland areas where it thrives and chokes out many native wetland plants. Clearly, not all plants brought to other locations from their native habitat have had a positive impact. At nature.org, **INVASIVE SPECIES** are described: “Invasive species damage the lands and waters that native plants and animals need to survive. They hurt economies and threaten human well-being. The estimated damage from invasive species worldwide totals more than \$1.4 trillion – five percent of the global economy.” What are some other examples of **INVASIVE SPECIES**? Discuss the costs of plant hunting with your classmates. **Create a flow chart** as you discuss the benefits and consequences of plant hunting. Make a copy of this flow chart to keep in your Scientific Journal.
4. At times, when plant hunters identified a new plant, they named the plant after themselves so that they, in a sense, would be immortal. For instance, the Mimosa Mexica is named after adventurer Ynes Mexia. Do we all have a need to leave something lasting of ourselves behind? What are some ways in which people leave a lasting legacy of themselves? In what way would you like to be remembered?
5. **COEVOLUTION** is when two species depend on one another and evolve together as a result. Genetic changes actually take place as a result of this dependency. Did you know that Charles Darwin could predict which insects, birds, and animals evolved for a particular plant just from looking at the plant itself? He called these interactions between species **MUTUAL INTERACTIONS**. Choose a plant and imagine what type of insect, bird, or animal might depend on this plant and vice versa.
6. Compare and contrast plant hunters of the past to contemporary plant hunters. What challenges did early plant hunters have that they may not have now? How might some of these challenges be overcome today? Explain.
7. What is a **SEED BANK**? There are nearly 1,500 seed banks around the world. The oldest seed bank in the world is the **Vavilov Institute of Plant Industry** in St. Petersburg, Russia. The most famous seed bank is the **Svalbard Global Seed Vault** in Norway. The **Berry Botanic Garden** in Portland, Oregon is one example of a seed bank in the United States. What makes seed banks necessary?
8. Consider how the world might be different today if it were not for the contributions of the plant hunters. Record your ideas in your Scientific Journal and discuss them with your classmates. Why is it important for plant hunters to continue their adventures into the future?

never
felt more
ill than
today
15,000 "

