In 1514, when Gonzalo Fernández de Oviedo y Valdés arrived in Darién, Panama, he began writing what became one of the first notices of edible fruits from the Americas.

His book had a chapter devoted to praise of the guanabaná. This fruit was also called anón by the indigenous Taíno people of Hispániola, and that name eventually became the genus *Annona*.

During the next 200 or so years, other species of *Annona* became known to Europeans. The anón was discovered by the British when physician Hans Sloane arrived in Jamaica in 1687 as personal physician to the Duke of Albemarle. Sloane’s *Catalogus plantarum*, published in 1696, included the fruit as the sour sop. Pond apple was introduced to Europeans in 1734 by Mark Catesby. Linnaeus gave both the names used today, with sour sop becoming *Annona muricata*, and pond apple as *Annona glabra*.

Since those discoveries, it has been found that *Annona* is widespread in the Americas, and that it includes several species
grown for their edible fruits. *Annona glabra* is not one of those grown for food. The fruits can be eaten, but most think they are not particularly tasty. According to one description, the fruit “has a strong smell, resembling ether, a special flavor, giving a hint of menthol.” Be suspicious of anything described as “special.”

In Florida we know the tree and its fruit as pond apple. Other English names also allude to a similarity with an apple, and supposedly to the animals that eat the fruits, e.g., alligator apple, monkey apple, and dog apple. That origin is dubious. The names more likely mean that people were distinguishing between cultivated and wild “apples.”

Pond apple is used by people throughout its range. The soft wood has been used in rafts, as floats on fishing lines, as corks for bottles, and to hone razors. Hence its names: corkwood in English and in Spanish, concho (cork) or arbol (o palo) del concho (cork tree). Some reserve the roots for making substitute corks. Amazonian Brazilians considered the wood good for carpentry, making boxes, and small products.

Other immediate and practical uses are also widespread. Since the seeds contain especially potent chemicals, they have been used to poison fish. However, people have been blinded by getting powder from seeds in their eyes. Similarly, seeds and leaves are insecticidal. Leaves placed in hen nests kill lice on the fowl. In some people, the bark causes dermatitis. However, pond apple’s greatest use is medicinal.

Medicinal traits are reflected in some common names the tree has in its range from southern Florida to Argentina. In Cuba and Hispaniola, it is the *palo bobo* (crazy tree), and in Brazil *araticum do brejo* (wizard’s *Annona*). Some of the other names have obvious meanings, and others do not: *hagá*, *catiguire*, *cayures* or *cayur* (Taíno?), *corazon cimarron* (wild heart), *guanabana cimarrona* (wild guanabana), *anonillo* (little anón), *mamin* (breast), *mamon de perro* (dog’s breast).

Seeds, bark, and leaves of pond apple and its relatives contain many chemicals, including reticuline, (-)-N-methyl-lactodaphnine, acetogenins, and apomorphine alkaloids. Each compound alone has marked impacts on human physiology, and together they provide a “Witches Brew.”
(sorry Shakespeare!) of poisons. Since medicines are synonymous with poisons, people have used and continue using Annona medicinally.

The acetogenins are especially potent because they inhibit the electron transport chain. In the wrong concentrations, that would inhibit oxygen availability in the body. No oxygen, no life. Theoretically, in smaller quantities, these chemicals are medicinal. Apomorphine alkaloids are largely emetics. So, if you think you have eaten something that is poisonous, you can “clean” the body with pond apple tea.

By far the most common use of pond apple is for lung and chest problems. Syrup from boiled ripe fruits is used for the coughing associated with tuberculosis. A diffusion of the leaves is drunk as a beverage, often with the morning meal (Curaçao and elsewhere). A stronger brew provides adults with medicine against abdominal cramps, colic, diarrhea, and dysentery. The tea is a vermifuge (especially against hookworms), and has been used against rheumatism (Brazil). Weaker draughts have been used for infant diarrhea. A decoction of fruit rind has been used for pulmonary problems in Yucatan. Leaves and flowers boiled together are used for liver trouble, especially jaundice, from Mexico to Argentina. However, in spite of the widespread usage, there is evidence that teas from annonas can cause symptoms resembling Parkinson’s disease. So, caution is in order.

In Florida, the pond apple ranges across the state from southern St. Lucie to Manatee counties, and south through the Keys. Elsewhere, A. glabra is a coastal mangrove tree; that is the reason for the name mangrove annona. From Florida, the trees range down the Atlantic coast of Mexico, Middle America and South America; and on the Pacific coast down to northern Peru. From the Americas, the species is disjunct to western Africa, where it is found in Senegal, Ghana, and southern Nigeria. Trees in Africa also have common names, however, translations were found for only the Yoruba ọfe (a swimming float). That name was carried by Africans taken as slaves to the Bahia region of eastern Brazil, where it is pronounced apa.

People also have carried the species to other parts of the world. Long ago, pond apple was introduced into Australia. Now, it has escaped there and become a pest in wetlands. So many thousands of acres of Australian wetlands are overrun by pond apple that those responsible for managing the wetlands are on the verge of despair. Pond apple, like American rabbits and prickly pears, has become a plague on that island. Yet, there may be hope for Australians. Some entrepreneurs think that the medicinal use may be turned to profit. They sell shampoos, soaps, and other bath items that sport labels proclaiming them to contain “pond apple” extracts.

The impact of these products on human vitality is ambiguous on the labels. However, the marketers use spin-doctor logic—since the products are natural, they must be healthy. The advertising agencies and consumers who accept the hype forget, or never knew, that strychnine, aflatoxin (from mold on peanuts; considered the most poisonous compound known), and hemlock (a la Socrates) are also perfectly “natural.” So are hurricanes, tornadoes, and earthquakes. Nature does not mean good for living organisms. But maybe the soap companies will save Australia from invading American alien pond apples.

**Useful References**


Illustration: Sargent, p. 328


**Photos by the author**

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**Pond Apple**

_**Annona glabra**_

Trees up to 10 m tall, usually shorter, often with buttressed trunks. Leaves 7-14 cm long, elliptic-lanceolate to oblong-elliptic or ovate, green above and below, usually acute at the apex. Flowers solitary, from about the middle of the internodes below the leaves, on drooping pedicels 1-2 cm long, sepals kidney-shaped to rounded, 4-5 mm long, the outer petals white, 2.5-3 cm long, the inner petals white outside, reddish to purplish within, stamens clustered in a smooth globose group, yellowish. Fruits resembling an apple, but with skin having angular patterns where the individual pistils are fused into a single berry-like aggregate, usually 12-14 cm long.

Annona belongs to the family ANNONACEAE, which has about 60 genera and 800 species. Florida’s single native is Annona glabra. The allied A. squamosa (sugar apple, sweet sop) has been reported from Florida, but apparently was based on plants persistent from cultivation. Another is A. muricata (sour sop). Those common names struck me as curious, until I learned that the "sops" are plants that have been used as food in liquid form. This word and idea are not nearly as foreign as they seem when we realize that they are related to soup and supper. All three are based on the Old English word supan, to swallow. Tropical Americans still use these and other fruits as sops, only Spanish speakers call them batidas.

Florida has several species of the allied genus Asimina (pawpaw or dog apple). While the pond apple grows in wetlands, the *Asimina* species grow in uplands. Anti-cancer chemicals have been isolated in *Asimina* and perhaps also occur in *Annona*.

**About the Author:** A member of FNPS since 1981, Dan promises to continue contributing articles, even though he recently moved to Arizona (he reports seeing two species of hummingbirds and dozens of butterfly species in his new backyard). Dan now works at the Arizona-Sonora Desert Museum in Tucson. Lucky Arizonians!
FIRST SAT. A.M., FEB-MAY
TNC Keys GreenSweep
Volunteer Workdays
Join volunteers with The Nature Conservancy (TNC) in the third annual GreenSweep season of eradicating invasive non-native plants in the Florida Keys. Saturday mornings. Dates and locations are:
Feb. 2 Cocoplum Beach
Mar. 2 Key West Botanical Gardens
April 6 Anne’s Beach
May 4 West Summerland Key
Wear long pants, long sleeves, and sturdy shoes.
Bring gloves, sunscreen, and tools. Water will be provided. For more info, contact Alison Higgins, TNC, 305-745-8402, ext. 111 or ahiggins@tnc.org.

MON., JAN. 14, 2002
Design With Natives:
2002 Landscape Awards
Program
APPLICATION DEADLINE
Application form printed in last issue of The Palmetto, also available online at www.fnps.org or call 561-462-0000.

TUES., JAN. 15, 2002
Call for Science Papers
DEADLINE
FNPS 2002 Conference science track. Submit abstract to Shirley Denton, sdenton@biologicalresearch.com. Details on page 4, lower left.

FRI., FEB. 15, 2002
Call for Research
Proposals DEADLINE
Annual FNPS Research Endowment Fund Awards. See details this page, upper right.

FRI., FEB. 15, 2002
EARLY REGISTRATION
DEADLINE: FNPS 2002
CONFERENCE
Brochures and registration forms (available online at www.fnps.org) have been mailed. Contact FNPS at (561) 462-0000 or conference@fnps.org for info.

SAT., FEB. 23, 2002
Winter Grape Fern Field Trip
The Longleaf Pine Chapter (Pensacola) is hosting a field trip to historic St. John’s Cemetery to see Florida’s largest known colony of the rare and unusual winter grape fern (Botrychium lunariae). Meet at Palatka Square Shopping Center parking lot, east side of Pensacola Blvd. (U.S. Hwy 29) about 1/2 mile south of junction with Nine Mile Rd. (Alt. U.S. Hwy 90) and 1.8 miles north of Interstate 10 junction. James R. Burkhalter will lead. Call Jack Jordan at (850) 484-5302 for more information. Great photo opportunity.

MON.-FRI., FEB. 25-MAR.1, 2002
National Invasive Weeds
Awareness Week

THURS.-SUN., MAR. 21-24, 2002
Native Plants in Native Places: Botanical Treasures off the Garden Path, 22nd Annual FNPS Conference
Hosted by our magnificent Magnolia Chapter FNPS, in Tallahassee, Florida. Early registration deadline February 15. Registration forms have been mailed. For registration info, contact FNPS at 561-462-0000 or conference@fnps.org, or visit www.fnps.org.

WED.-FRI., APR. 3-5, 2002
Fourth Annual Southeast Exotic Pest Plant Council Symposium

WED.-SUN., MAY 15-19, 2002
André Michaux International Symposium
Celebrate the life, works, and times of André Michaux, noted French explorer, collector, and botanist. Organized by Belmont Abbey College, Daniel Stowe Botanical Garden, and Gaston Day School. Site: Gaston County, North Carolina. For more info, contact Michael J. Baranski, Ph.D., Program Chair, Phone: 704-637-4442 or email: mbaranski@catawba.edu

SUN.-FRI., JUN 23-28, 2002
Third International Forest Canopy Conference
Sponsored by the Queensland, Australia government and the Smithsonian Institution and held at the Cairns International Hotel, Cairns, North Queensland, Australia. Combination of programs and field trips focused on canopy science and the need to influence national and international environmental and economic policies. First keynote speaker will be Dr. Stuart Pimm, FNPS 2001 conference keynote speaker. Visit this website for more information: www.premiers.qld.gov.au/about/science/canopyconference/

THURS.-SUN., MAY 9-12, 2003
23rd Annual FNPS Conference
Hosted by the charismatic Coccobola Chapter FNPS at the Holiday Inn, Fort Myers. For more info, contact Coccobola Chapter President Carolyn Lileton at hankmax@msn.com.

TO HAVE YOUR EVENTS LISTED, please contact the editor at 321-
951-2210 or send email to: commondonaldson@earthlink.net.
FNPS’ bimonthly newsletter, The Sabal Minor, also publishes an events calendar. Contact Gil Nelson, editor (see pg. 15, “FNPS Officers and Others,” for contact info).

CALL FOR PROPOSALS
Research Endowment Fund Awards

FEBRUARY 15, 2002 DEADLINE
The Florida Native Plant Society (FNPS) is now accepting proposals to fund research on Florida native plants.

INSTRUCTIONS: The proposal must contain the following:
1. Description of project (three page limit)
2. Budget (not to exceed $500)
3. Project time schedule (normally one year)

Awards will be made on the basis of the relevancy of the proposed research to the goals of FNPS. Preference will be given to members of FNPS, but this is not a requirement.

A report to the Awards Committee shall be made by the recipient at the termination of the awarded period. Presentation of a paper at the annual FNPS conference and/or contribution of an article to The Palmetto on the results of the research is encouraged. Applications must be received by February 15, 2002.

Awards will be announced at the 2002 FNPS Annual Conference (March 21-24, 2002) in Tallahassee (see calendar entries at left).

Mail proposal to:
Shirley R. Denton
Biological Research Associates
3910 US Hwy 301 N
Suite 180
Tampa FL 33619

Please address questions to Shirley Denton:
Phone: 813-664-4500
Fax: 813-664-0440
Email: sdenton@biologicalresearch.com
All research proposals are funded by the FNPS Endowment Fund, to which FNPS members make individual contributions.

Errata

The Pendent Pond Apple
The editor apologizes for publishing pond apple photos upside down in the most recent issue of The Palmetto (Vol. 21, #1), front and back cover, flower photos, and pg. 11. The bloom (and fruit) hang down, as shown above. The editor should have checked with the author as her husband suggested, instead of relying on one (also incorrect) photo in another reference. Photographers, please clearly mark the TOP of your slides, so that editors who are not botanists can easily determine the correct positioning. TOP means top of the image. Simple enough?