

Plight of Buchu Underscores the Need for International Herb Development

Diminished habitat, increased commercial demand, destructive wild harvesting practices, and growing genetic vulnerability to natural disaster all signal trouble for buchu (*Agathosma betulina* and *A. crenulata*), native South African medicinal plants important in traditional healing and, increasingly, for export to the world market.

Buchu is one of a number of threatened African plants targeted for development by Agribusiness in Sustainable Natural African Plant Products (A-SNAPP), a network created to foster the development and implementation of socially conscious and environmentally sustainable African natural products businesses. A-SNAPP, a collaborative project of the Herb Research Foundation (HRF), the Agricultural Research Council (ARC) of South Africa, and Dr. Jim Simon of Rutgers University, is funded by a grant from the United States Agency for International Development (USAID).

For centuries, South Africans have used buchu leaves to treat conditions such as kidney disease, stomach ailments, and rheumatism. Now, essential oil from buchu is in demand by Western food manufacturers (who use it as a flavor enhancer) and perfume formulators. Approximately one ton of wet material is needed to produce one kilogram of essential oil. Currently, there is little cultivated buchu available on the world market.

Buchu was once naturally abundant in the mountainous areas of the Western Cape, but the increase in demand has raised collection pressures on wild populations. While some buchu plants are in protected reserves, during harvest season poachers find the pros-



Buchu, *Barasoma betulina*.
Photo © 2000 Cobus Coetzee.

pect of US\$250 for a night's work difficult to resist. The situation is complicated by improper harvesting practices, in which collectors uproot and kill entire plants in the process of harvesting leaves. On September 1, FOX News drew attention to the threats facing buchu and other African medicinal plants in an online story entitled, "Poachers Plunder South Africa's Floral Treasures" <www.foxnews.com/science/090100/buchu.sml>. Cobus Coetzee, an ARC scientist, provided information for the article.

Because each wild population of buchu has unique genetic characteristics, the depletion of these populations represents a loss of genetic diversity. It also leaves the species more vulnerable to extinction through natural disasters, such as fire and competition from invasive plants. In some ways, cultivation efforts have exacerbated

this problem. As the demand for buchu grows, some growers have mixed seed from different populations indiscriminately, ultimately creating hybrids. Because the hybrids are likely to breed with native buchu plants, ARC scientists are concerned that wild populations may become genetically homogeneous. To illustrate the problem, they point out that oil from *A. betulina* is more valuable than *A. crenulata* in the Western market because it contains higher levels of the compound diosphenol. If the two species hybridize extensively, there will be no source for the higher-quality oil.

Working with A-SNAPP, African small farmers have planted more than five acres of buchu as a commercial crop, and are planning future test plots. A-SNAPP participants are careful to maintain the genetic integrity of the wild strains when sourcing and planting seeds. Successful cultivation will bring African farmers reliable income, provide a source of high-quality buchu oil to the international market, protect wild populations, and preserve this important traditional medicine for local people. All of these goals are in keeping with the mission of A-SNAPP.

Buchu's recent history provides a vivid illustration of the complex threats facing commercially valuable plants throughout the world – and the importance of sustainable development projects like A-SNAPP. Without cultivation efforts, buchu and plants under similar pressures could become extinct in the wild within decades, or become so scarce that they are unavailable for use by even local people. — *Nancy Hoegler, HRF* □

A-SNAPP Update Available Online



Readers interested in learning more about the Agribusiness in Sustainable Natural African Plant Products (A-SNAPP) project can find news online in *A-SNAPP Update* — a biweekly newsletter available at <www.herbs.org/

>. The newsletter features profiles of African herb companies and specific natural products, market research and news about regulatory issues, articles on A-SNAPP participants' success with specific plants, and other relevant topics. In the future, African A-SNAPP participants who do not have

Internet access will receive a print version of *A-SNAPP Update* after local print shops download them from the website. Upcoming issues will discuss new markets for African herbs, the international regulation of botanical medicine, and intellectual property rights for plant uses. — *Nancy Hoegler, HRF* □

Rob McCaleb Presents Audrey Harkness O'Connor Lecture at Cornell

In September, HRF President Rob McCaleb was honored by an invitation to present this year's Audrey Harkness O'Connor lecture at Cornell University. McCaleb's presentation was the 12th in a series sponsored annually by Cornell Plantations, a coalition representing the university's arboretum, botanical garden, and natural areas. The botanical lecture series commemorates the life and work of the late Audrey Harkness O'Connor, a horticulturist, writer, illustrator, and educator who dedicated her energy and talent to Cornell Plantations during a career that spanned more than 40 years.

According to a recent article in *Cornell Plantations Magazine*, for which she served as editor for 22 years, O'Connor "... was especially well known for her love of herbs and her equally strong love for educating people about them." O'Connor was instrumental in the development of Cornell's Robison York Herb Garden, which was later recognized by *Garden Design* magazine as one of the best herb gardens in America. She also assisted with the planning of the National Herb Garden at the National Arboretum in Washing-

ton, DC, and in 1980 was awarded the Helen deConway Little Medal of Honor by the Herb Society of America.

While at Cornell, McCaleb enjoyed an opportunity to explore the herb garden and other portions of Cornell Plantation's 3,000

herbs, it was fascinating to visit a repository of so many fine examples of the importance of herbal medicine in the past."

More than 200 members of the Cornell faculty and student body attended McCaleb's presentation, entitled "The Role of Herbs in Modern Health Care." McCaleb remarked, "There was a high level of interest in the evidence supporting the use of herbs, and good comments about the major debates in the botanical health care world today, especially the subject of herb-

drug interactions and product quality and consistency issues." Past lecturers in the Audrey Harkness O'Connor series have included Steven Foster, who presented "Herbal Folk Medicine to Modern Phytomedicine" in 1993, and Mark Plotkin, who spoke on "Rain Forest Conservation and the Search for New Jungle Medicine" in 1997. O'Connor requested that McCaleb be the invited speaker for the fall 2000 lecture shortly before her death in 1999.

— Evelyn Leigh, HRF □

**"Learn about herbs ...
then follow your own path."**

— Audrey Harkness O'Connor, 1914-1999

acres, which encompass the F.R. Newman Arboretum, numerous specialty gardens, campus trails, and 18 off-campus areas preserved for natural science studies. McCaleb was equally impressed with the collection of antique herbals, botanical illustration, and historical information at the Cornell University Library. "The library contains a wealth of information on the history of herbals and the major role they played in the development of publishing," said McCaleb. "From HRF's perspective, as the keeper of one of the world's most comprehensive collections of current scientific journal literature on

HRF Adopts Community Herb Garden

The Herb Research Foundation is fortunate to be located in beautiful Boulder, Colorado, where an abundance of parks, footpaths, and open space make the city a pleasant place to live and work. To help preserve this part of Boulder's unique character, staff members at HRF have adopted a small herb garden on county property near the downtown area, just minutes from the HRF office. The orphan garden was planted 15 years ago by the local Rocky Mountain Herbalist Coalition, but has received no regular care in at least 10 years. Many of the plants have done such an admirable job of hanging on (especially the yarrow and mints!) that HRF staff were inspired to rehabilitate and maintain the garden.

In addition to beautifying a local green space, the project will provide the public with a place to see, touch, taste, smell, and learn

HRF staff members make plans to rehabilitate the neglected garden.
Photo © 2000 Lyndee Berg.



about herbs — or just pass a sweetly scented afternoon. This fall, HRF volunteers will focus on tidying up the garden for winter. Spring plans include the addition of new plants, identifying signs, and educational dis-

plays. Along with popular medicinal, aromatic, and culinary herbs, the garden will feature native plants that are threatened by overharvest, with informational signs highlighting their plight. — Nancy Hoegler, HRF □