



***Echinacea angustifolia* D.C.** Blacksamson echinacea

Indians had a number of natural remedies, some of which are mentioned by Lewis, in several cases with the associated recipe. Medicinal plants also presented the opportunity for cultural exchanges between the Indians and the Lewis and Clark Expedition.

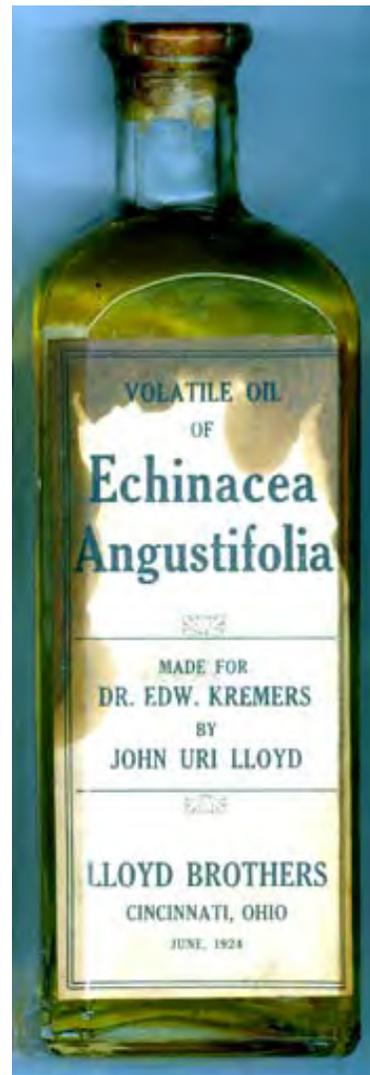


Echinacea angustifolia, a plant then new to science, was first handed to Clark by the English trader Hughes Heney as a root to cure rattle snake bite (Clark journal, December 16, 1804 and February 28, 1805). Together with two other species of *Echinacea*, *E. pallida* and *E. purpurea*, *E. angustifolia* was a versatile medicinal plant used by all Indians of the Great Plains to treat a wide range of ailments, from venomous bites and

Echinacea angustifolia
Curtis Botanical Magazine
Pl. 5281 - Photo Smithsonian
Institution

stings, to infectious or inflammatory conditions such as cold and flu, toothaches, cough, sore eyes, and rheumatism. While the root was often used raw or dried, a tea was also made from the root and leaves to relieve pain (Foster 1991; Kindscher 1989). Probably not aware of the plant's full range of applications, Lewis refers to information from an Arikara chief saying that the root treated sore throat (Lewis journal, Winter 1804).

Quickly adopted by traders and early settlers, *Echinacea spp.* remained as the most popular American herbal drug through the mid- 20th century. It reached the pharmacy market as early as the 1870's thanks to a self-taught physician from Nebraska, Dr. H.C.F. Meyer, who sold it as a tincture. Meyer sent samples of the root, insisting on its "cure all" virtues, to Dr. John King and John Uri Lloyd (1849-1936), owner of the Lloyd Brothers pharmaceutical firm of Cincinnati. Both were associated with the Eclectics, a movement that favored the use, scientific study, and commercial production of medicinal plants. In the 1880s, Lloyd started manufacturing Echinacea tinctures and hydro-alcoholic concentrates on a large scale. Equally favored by other physicians, *Echinacea spp.* was listed in the United States Pharmacopeia and National Formulary (USP-NF) - an official publication that gives the composition, description, method of preparation, and dosage for drugs - until the late 1940s (Flannery 2000; Foster 1985).



Echinacea bottle
Lloyd Library and Museum: Image
courtesy of the Lloyd Library and
Museum, Collection #6, Lloyd
Brothers Pharmacists Papers, box 6

Lewis wanted to test *Echinacea's* therapeutic virtues. In the spring of 1805, among a batch of other specimens, he sent to Jefferson a “*Specimen of a plant, with a parcel of its roots highly prized by the natives as an efficacious remedy in cases of the bite of the rattle Snake or Mad Dog*” (Lewis journal April 3, 1805). In an attached letter, he summoned up the information given by the English trader about the plant’s practical uses, and asked Jefferson “*that experiments may be made by some skillful person under the direction of the philosophical society of Philadelphia*” (Lewis, March 5, 1805 in Jackson 1978:220).

Lewis’ genuine interest in identifying plants with potential medicinal uses reflects the high esteem East Coast Americans had for Native American cures. Scientists like Benjamin Smith Barton, Lewis’ mentor in botanical science, and Dr. Benjamin Rush, a noted doctor who advised the Expedition on medical matters, believed that North American Indians had discovered precious curative plants unknown to European medicine (Gilman 2003:267). This appreciation for Indian medicine makes sense in the light of the poor state of European medicine at the turn of the 19th century and the role played by natural medications and folk remedies. Lewis’ well-stocked medicine



Echinacea purpurea
Curtis Botanical Magazine
Pl.5281 - Photo Smithsonian
Institution

chest contained such plant derivatives as quinine, jalap, rhubarb, and ipecac (Gilman 2003:264). His own mother, Lucy, was an herbal practitioner in Virginia and may have passed her knowledge on to her son.

To treat their men during the expedition, Lewis and Clark used both the medicinal plants they already knew and Indian remedies they had discovered. Lewis was not alone in his respect for herbal remedies. Clark once applied a Nez Perce poultice of cous root and wild ginger to stop an infection (Clark journal, June 27, 1806). He also cured bad back pain with repeated steam baths (Lewis journal, May 24, 1806). While doing so, he would sometimes reinterpret Indian cures his own way.

In the expedition's journals, Indians demonstrate an equal interest in the explorers' medicine. Clark, who regularly acted as physician during the expedition, dispensed his medicines to Indians. In the spring of 1806 at Camp Chopunnish, he took care of various conditions, "*So far as our skill and Store of Medicine would enable us*" (Clark journal, May 11, 1806), in exchange for gifts of food and other necessities. Eyewash was in great demand, but the Indians were also willing to try new cures to relieve wounds or pains as Sgt. Ordway recalled on April 28, 1806:

"in the afternoon an number of Indians came to our officers who were diseased the lame and many with Sore eyes and lame legs & arms &C. our officers dressd. their wounds, washed their eyes & gave them meddicine and told them how to apply it &C. the chief called all his people and told them of the meddicine &C. which was a great wonder among them & they were much pleased &C." (Ordway journal, April 28, 1806, in Moulton 2002, vol.9:299)

Other plants with medicinal virtues

Lewis collected and mentioned other plants with medicinal virtues. Some of them are in the Lewis Herbarium, such as *Pediomelum argophyllum* (Pursh) J.Grimes, silverleaf Indian breadroot, used to treat inflamed eyes; *Juniperus horizontalis* Moench, creeping juniper, used to make tea to produce sweat; *Hydrastis canadensis* L., goldenseal, used as a remedy for an illness called 'soar eyes'. Click on these links to access the plant pages in the "Lewis and Clark as Naturalists" website.



Juniperus horizontalis, Walcott's
North American Wild Flowers, 1925
Photo Smithsonian Institution

Bibliography

Flannery, Michael A. 2000 . From Rudbeckia to Echinacea - The Emergence of the Purple Cornflower in Modern Therapeutics. In *HerbalGram The Journal of the American Botanical Council*, Issue: 51 pp.28-33

Foster, Steven. ed. 1985 . *Echinacea exalted! The Botany, Culture, History and Medicinal Uses of the Purple Cornflowers*. Ozark Beneficial Plant project. New Life Farm Inc: Brixey, Missouri.

Gilman, Carolyn . 2003 . *Lewis and Clark: Across the Divide*. Smithsonian Books, Washington and London & Missouri Historical Society, St Louis. Chapter Eight: Curing and Plants

Jackson, Donald Dean. ed. 1978 . *Letters of the Lewis and Clark Expedition with related documents – 1783-1854*. University of Illinois Press, vol.1.

Kindscher Kelly. 1989 . Ethnobotany of Purple Cornflower (*Echinacea angustifolia*, *Asteraceae*) and other *Echinacea* species, in *Economic Botany* vol. 43, pp.498-407

Lloyd John Uri. 1884-87 . *Drugs and medicines of North America*, Cincinnati, J. U. Lloyd and C. G. Lloyd. 2 volumes.

Moulton Gary E. ed. 2002 . *The Definitive Journals of Lewis and Clark By Meriwether Lewis and William Clark*. University of Nebraska Press, Lincoln. set of 13 volumes.
The Journals of John Ordway and Charles Floyd, vol. 9

Paton, Bruce C. M.D. 2001 . *Lewis and Clark, Doctors in the Wilderness*. Fulcrum Publishing, Golden Colorado.

Thwaites, Reuben Gold. 1959 . *Original Journals of Lewis and Clark expedition 1804-1806*. Antiquarian Press LTD, New-York. 7 volumes.
First Published in 1905

Walcott, Mary Morris. 1925 . *North American Wild Flowers*. Smithsonian Institution, Washington DC.

Note: Otherwise mentioned, the quotes from Lewis and Clark's journals are from Thwaites 1959.

Internet Resources

The Llyod Library and Museum website, www.lloydlibrary.org, features articles on John Uri Llyod and on the Llyod Brothers Pharmacists Inc. (1870-1939)

Michael Flannery's article cited above is also available as an electronic resource at:
www.herbalgram.org/iherb/herbalgram/articleview.asp?a=2317

The text of the University of Nebraska edition of the Lewis and Clark journals edited by Gary Moulton is available at "*The Journals of the Lewis and Clark Expedition Online Edition*" -
<http://lewisandclarkjournals.unl.edu/>

Dominique Harre Rogers
Edited by Rusty Russell