Undervalued Herbs

Use in Clinical Practice and Need for Validating Research

Eric Yarnell, ND, and Kathy Abascal BS, JD, RH (AHG)

Abstract

Many useful herbal treatments have no clinical research support because of the lack of funding for large research studies. Nonetheless, these remedies are widely used in practice. This article reviews the common uses of *Anemopsis californica* (yerba mansa) for treating various dental conditions and abscesses; use of an Eclectic formula, Neutralizing Cordial—that combines *Hydrastis canadensis* (goldenseal), *Cinnamomum* spp. (cinnamon), and *Rheum palmatum* (Turkey rhubarb) with spirit of *Mentha* x *piperata* (peppermint) essential oil and a simple sugar syrup—to address many digestive disorders, such as diarrhea, constipation, acid reflux, and bloating; use of *Ceanothus* spp. (red root) to treat persistent cases of laryngitis; and use of *Althaea officinalis* (marshmallow) root or *Malva* spp. (mallow) leaves to prevent strep throat.

Introduction

In health care, great value is accorded to "evidence-based medicine." We prefer our treatments to be based on results from large randomized, placebo-controlled, blinded, statistically relevant studies. Unfortunately, such studies are expensive to conduct and difficult to design. Pharmaceutical companies are used to bearing the expense of rounds of drug studies. These companies invest in studies with the long-term goal of eventually recouping their investments and making a profit when a patentable drug is ultimately approved. These companies also, however, argue that the approval system stymies research and needed new medications. Furthermore, despite these complex preapproval studies, evidence-based drug approvals are reversed with some frequency once the drugs are more widely used in clinical practice.*

The same evidence-based approach is applied to evaluate herbal treatments, and it is even less fruitful in that arena. There is little likelihood of a patent as a reward for the investment in a study† and, as a result, much less incentive for herbal manufacturers to fund expensive studies that will benefit their competition equally. The profit margins in pharmaceuticals and herbs are quite different, and it would take much longer to recoup an investment from sales of herbs. There simply is no likelihood of a "pot of gold at the end of the rainbow" to motivate investments in large, expensive studies of herbal remedies.

Moreover, there is a bias in the mainstream: Proponents of the current biomedical paradigm still do not believe that herbs work. This, in turn, creates a reluctance to provide institutional and private grants for research on the effectiveness of herbal remedies. When funds are allocated, they tend to go to mode-of-action research on herbs with a "study history." This is often done with the goal of discovering a patentable "silver bullet" to replace the whole herb rather than a clinical determination of whether the herb is as, or more, efficacious than conventional drugs. Thus, for example, there are a number of studies on the use of *Hypericum perforatum* (St. John's wort) for treating depression but few studies on other traditional uses of the plant or on other herbs that also are considered useful for treating depression.

Many herbs held in high regard by herbalists are not studied at all. Experienced practitioners of traditional botanical medicine are not included on the study teams, and, often, flaws in the methodology, dosing, and interpretation limit the value of the studies that are completed. Finally, in "evidence-based medicine," little-to-no value is placed on historical information. The fact that a plant has been used in many cultures for thousands of years is viewed as completely anecdotal and of no greater value than a statement from someone's Aunt Suzie that she has not had a single migraine since she began taking a particular herb.

*The government maintains websites to provide information on its recalls (see, e.g., www.fda.gov/Drugs/DrugSafety/DrugRecalls/default.htm).

†However, a surprising number of patents have been granted for Mother Nature's own inventions (see comments in Darshan S, Doreswamy P. Patented antiinflammatory plant drug development from traditional medicine. Phytother Res 2004;18:343–357).

Despite these obstacles, herbal research is expanding and new studies are published that frequently confirm some of the medicinal uses of plants in traditional medicine. Naturally, these studies are covered in alternative publications and cited in botanical textbooks. As a consequence, the researched herbs end up favored in practice over other treatments, not because such herbs have been proven to be better but because there is some "acceptable" evidence of usefulness that can be used to justify their therapeutic use.

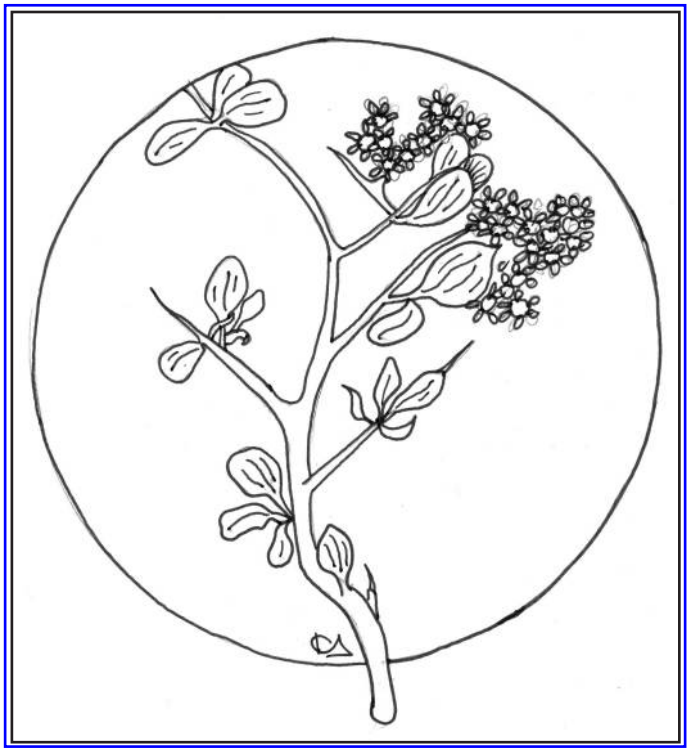
A significant portion of this herbal research is done abroad in South America, India, Russia, Africa, China, and elsewhere. Increasingly, these research studies are available in English. Increasingly, databases include the journals these articles are published in, even though these publications lack the status that mainstream medical journals have. This also influences our articles, texts, and clinical practices. We end up writing and reading about herbs grown and used in places that are far away from us. This, in turn, creates a demand for less-sustainable herbs and contributes to a loss of experience with, and connection to, herbs that have a long history of use in our own culture. We are not choosing these "foreign" remedies because we know that they are better than local remedies but rather because there is some clinical evidence of their effectiveness—evidence that is largely lacking for our indigenous plants.

We hope to rebalance this state of affairs somewhat. In our own practices, there are herbs and herbal combinations that we use frequently and that we set great store by. We have not, however, necessarily written a great deal about them, in large measure because there is often little research—and frequently no clinical research—to validate our clinical observations. These are herbs that we have seen work consistently and well in numerous cases rather than only in a few cases.

Included in our armamentarium are herbs such as *Eupatorium perfoliatum* (boneset), which is widely used to treat influenza. In the late 1800s, Eclectic physicians commented about boneset: "In every epidemic of influenza it has been used with great advantage."[1] Decades later and a continent away, a German physician commented that boneset was useful for preventing and treating influenza: "For obvious reasons it is difficult to get an objective assessment of the anti-infectious effect, but practical experience indicates that it exists."[2] There are still no clinical trials using this herb. Nonetheless, modern practitioners continue to swear by boneset as a highly effective remedy for dealing with influenza.

In addition, many of these herbs are highly useful in that gray area between self-resolving conditions and those requiring the intervention of an experienced practitioner. The herbs discussed here are inexpensive and suitable for supervised home use in conditions that are poised to become complex but that, equally, might, with appropriate treatment, resolve after no more than a brief telephone consult.

Herbs that reduce the need for expensive and more-complicated interventions deserve much more attention than they usually get—just as dietary changes to prevent cancer are far more useful than a treatment to cure cancer but are not as dramatic nor as provable. Practitioners will probably have to make these treatments available to their patients; many such treatments are not readily available to laypeople.



Ceanothus spp. (ceanothus or red root). Drawing © 2011 by Kathy Abascal BS, JD, RH (AHG).

Yerba Mansa

This perennial has a beautiful lead-white flower and likes to grow in places where water is abundant for a part of the year but where there are dry periods in the summer. *Anemopsis californica* (yerba mansa) prefers alkaline soil and does not thrive as well in the persistently wetter, more acidic soil of the Pacific Northwest, although the herb can be grown outside its native region with proper tending. As its Latin name suggests, this plant grows abundantly in California, primarily in Southern wetlands. The root is the main medicinal part. When the plant is mature, it has an earthy menthol-type fragrance and a strong earthy taste.

The premier use of yerba mansa is for treating abscesses and wounds that require continued drainage, such as tooth abscesses, dog bites, and other puncture wounds. Yerba mansa is preferred over many other antimicrobial herbs in these conditions because it is antimicrobial but, unlike many antimicrobial herbs, is not rich in tannins that will precipitate skin proteins, closing over a wound. Instead, this herb will open even wounds that have closed and allow drainage from an abscess.

In an economically challenged patient without dental insurance, a fresh plant tincture of yerba mansa applied topically with frequency has the ability to resolve a tooth abscess and save the patient's tooth. Moreover, the herb is numbing and makes the gum inflammation and the sting

Neutralizing Cordial*

Ingredient	Amount
Rheum palmatum (Turkey rhubarb) tincture	80 mL
Cinnamomum spp. (cinnamon) tincture	64 mL
Hydrastis canadensis (goldenseal) tincture	40 mL
Spirit of *Mentha* x *piperata* (peppermint)	8 mL
Potassium carbonate†	16 g
Simple syrup	250 mL
Diluted ethanol (50%)	500 mL

Dosing, based on Eclectic recommendations—Adults: 1 tbsp every ½ hour or 2 hours, depending on urgency

*Moore M. *Herb Formulas for Clinic and Home* Bisbee AZ: Southwest School of Botanical Medicine, 1998.

†*Note:* The presence of potassium carbonate, which is an antacid, may be inappropriate for patients with underlying hypo- or achlorhydria.

of the alcohol in the tincture tolerable as the abscess heals. Yerba mansa absolutely shines as a treatment for abscessed teeth, but it is equally helpful in almost any affliction that affects the gums and mucosa of the mouth. This herb should be recommended to promote healing and comfort after any dental procedure.

Yerba mansa is also a first choice component of any treatment for festering (or potentially festering) wounds. Dog bites in humans are a prime example, but any dirty puncture wound is a worthy candidate. A case in point involves an Alaska fisherman who returned home from a fishing trip with festering wounds on his fingers from a mishap with a fish filet knife—wounds that appeared to require medical treatment. At home, he immediately began applying yerba mansa topically. His wounds healed quickly, and he was able to avoid a long trip from his home to the nearest treatment center.

The herb is also a great veterinary aid. Dogs and cats have skin that sits loosely on their bodies. When one of these animals gets bitten, bacteria are often introduced into the animal's skin pocket but not into the underlying muscle where the blood supply (and ability to fight microbes) is better. This makes it easy for abscesses to form that often require placement of surgical drains and strong antibiotics. The immediate application of warm compresses of yerba mansa tincture usually will avert the need for surgery by promoting drainage. This treatment often works even if the animal's wound has closed over and noticeable swelling is present.

For example, a woman working with feral cats encountered one with a very large abscess on its neck. She could not apply compresses but was able to get close enough to the animal to squirt the tincture on the cat's wound. Within 2 days, the cat's wound opened, began draining, and then healed.

There is no clinical research on yerba mansa. The root contains methyleugenol and thymol, both of which are antimicrobial but there are otherwise little data on the plant, except that it has shown anticancer properties in vitro.[3–5]

Neutralizing Cordial

Most practitioners periodically see patients with mild but uncomfortable digestive issues. The Eclectic physicians also saw their fair share of these patients and, in response, developed a single herbal formula to address most of those issues elegantly. These physicians called their formula "neutralizing cordial" (see Neutralizing Cordial for ingredients.) As the name cordial connotes, the herbal mixture has a pleasant taste and will be accepted by children and adults who refuse bitter tasting concoctions. Neutralizing cordial is dosed as needed, liberally and frequently, until the patient's condition improves or worsens. The patient is instructed to come to the office for a more in-depth analysis and treatment at the first sign of worsening. In most cases, however, the cordial frequently averts unnecessary office visits by allaying discomfort while speeding the resolution of the underlying problem.

Neutralizing cordial is stellar for treating infectious diarrhea because this formula's astringent components slow the diarrhea while the antimicrobial herbal components act on the microbes triggering the diarrhea. So, unlike many over-the-counter antimotility drugs that completely stop diarrhea without being antimicrobial, the cordial does not promote the retention of pathogens the body is attempting to flush out.

Neutralizing cordial is a supplement that should be recommended to patients who are going on trips to locations where traveler's diarrhea may be an issue. For example, one of us brought a large amount of the formula on a group trip to the Peruvian Amazon. The people in the group who used the formula at the first sign of any intestinal discomfort avoided the digestive distress that others on the voyage experienced.

What makes neutralizing cordial so elegant is that, while it addresses diarrhea, the formula is equally useful for treating constipation. Practitioners attribute this effect to the cordial's sublaxative dose of *Rheum palmatum* (Turkey rhubarb).‡ As a result, neutralizing cordial can be a highly useful component for treating irritable bowel syndrome, in which constipation and diarrhea often alternate.

Ultimately, what makes neutralizing cordial an even more elegant formula is that it works as well on any mild digestive discomfort, such as burping, stomach pain, bloating, and flatulence. In the words of the Eclectic physicians: "[The formula] may be used in cases of obstinate constipation, acidity of stomach, dyspepsia, and as a laxative in pregnancy, and where piles [hemorrhoids] are present."[6] This cordial was considered a principal remedy for all forms of diarrhea, ranging from simple cases of diarrhea in children to dysentery.[6]

Several companies make a tincture of neutralizing cordial, and the product occasionally can be purchased at health food stores. However, it is such a fabulous remedy that it really should be part of any practitioner's pharmacy to be meted out in larger amounts for patients to keep on hand, especially patients with sensitive gastrointestinal (GI) tracts, elderly people,

‡Notes from private communications with Michael Moore. Bisbee, AZ, 1998.

and parents. Then, practitioners could advise patients that, if the remedy fails to resolve their discomfort quickly, they should immediately call for an appointment.

Red Root

Patients often call practitioners for advice on remedies for a sore throat, one that has often persisted for several weeks by the time help is requested. With some frequency, a subsequent examination reveals that a patient has developed strep throat. As in the case of yerba mansa for abscesses and neutralizing cordial for GI distress, the herb *Ceanothus* spp. (red root), is a remedy these patients should be using from the inception of the problem—in this case a sore throat—at the sign of even slight scratchiness. Instead of sucking on sugary cough drops, these patients could have been self-medicating with an herb that often prevents strep throat from developing and that definitely will help them overcome persistent but nonthreatening laryngitis.

Red root, alone or in an antibacterial herbal mixture (see Red Root Recommendation), is diluted in water, gargled, and swallowed at least once per hour during waking hours. We have repeatedly seen this remedy cure sore throats rapidly. It has, on a number of occasions, also proven to be an effective treatment for patients with strep throat who refuse to take prescribed antibiotics. Ultimately, red root is a useful herb for any condition when the patient's lymph glands of the throat are swollen or throat tissue is inflamed and uncomfortable.

The root is used medicinally and, while all of the many red root species are considered interchangeable, we have a distinct preference for *Ceanothus greggii*, a desert species with a root that has a luscious wintergreen fragrance. We also have a distinct preference for the fresh plant tincture made from roots smaller than a cigar in diameter, with red or pink streaks running through to the center of the root.

There is little-to-no research on red root. One study showed that the flowers of a number of Mexican species (*C. coeruleus, C. glabrata, C. parapsilosis*) produced antimicrobial activity against *Staphylococcus aureus* in vitro.[7] Another interesting study showed that the aqueous extract of red root did not produce any activity against various respiratory pathogens, while the alcoholic extract of the root was active against *S. aureus, Haemophilus influenza*, and *Streptococcus pneumoniae*,[8] as well as other oral pathogens.[9] There are two older studies on the alkaloids found in red root and their effect on blood coagulation that are not reviewed in this article.[10,11]

Red Root Recommendation

Although red root (*Ceanothus* spp.) works well for patients with laryngitis, the herb's action is enhanced by combining it with other herbs that produce antimicrobial and antiviral actions. Red root can be added successfully in equal parts to any such herbs. One of our favorites combines equal parts *Hyssopus officinalis* (hyssop, for its antiviral properties) and *Echinacea angustifolia* (echinacea, for its immunomodulating action).

Marshmallow and Mallow Species

Young children are not good garglers and sometimes adamantly refuse mouth-puckering tannin-rich tinctures such as red root. Unfortunately, some of children experience an episode of strep throat at an early age and, thereafter, are distinctly predisposed to repeat episodes. In such cases we recommend a preventative remedy of the cold infusion of one of the mallows—*Althaea officinalis* (marshmallow) and *Malva* spp. (mallow species).

The cold infusion is prepared (see Cold Infusion Information) and sipped in small doses over the day at the slightest hint of a cold, a scratchy throat, or an earache. We cannot prove that this remedy has prevented subsequent episodes of strep throat successfully but what we have seen in practice leads us to believe that mallow has the ability to do this.

Research does show that an ethanolic extract of the leaves/flowers of *Alcea rosea* (hollyhock leaf and flower) and *M. neglecta* were active in vitro against *Streptococcus pyogenes*.[12] We prefer a cold infusion because polysaccharides are more soluble in water than alcohol, and aqueous extracts from the roots of marshmallow are widely used for treatment of irritated mucosa to such an extent that researchers involved in one study blithely referred to practical experience with the plant as "clinical proven effects."[13] These scientists presumed that the benefit for patients with irritated mucosa resulted from the ability of its rhamnogalacturonan-type bioadhesive and mucilaginous polysaccharides to form a mucin-like layer on top of the irritated tissues. The researchers then went on to show that these polysaccharides also stimulate epithelial cells, supporting traditional views that the herb enhances the regeneration of irritated mucus membrane tissues.[13]

Other research shows that common mallow (*M. sylvestris*) has kidney-protective effects in rats.[14] Common mallow cream, applied topically, produced anti-inflammatory activity on rat skin similar to that of indomethacin cream.[15] The wa-

Cold Infusion Information

The official herb for treating colds, scratchy throats, or earaches is *Althaea officinalis* (marshmallow) root, but leaves from almost any mallow will work equally well. The goal of the treatment is to precipitate the complex polysaccharides found in these plants so they create a "false mucous" layer in the mouth and throat tissue. This allows the patient's own mucous membranes to recover from the viral attack while acting to prevent opportunistic bacteria such as *Streptococcus pyogenes* to penetrate while the mucous barrier is "out of commission."

Because of their polysaccharides, a hot infusion of mallows rapidly turns into an unappealing, gelatinous concoction that both children and adults often will reject. Instead, a cold infusion can be prepared, and the polysaccharides then can provide the needed gelatinous barrier in the throat when they are exposed to the body's temperature.

To prepare a pint of cold infusion, put 2–3 tbsp of ground herb in a cloth bag, and suspend the bag at the top of a pint jar filled with cold water. Let the preparation sit overnight. Remove the bag. Refrigerate the cold infusion for use during the day.

ter extract of common mallow produced no liver toxicity and exerted a positive effect on ulceration and inflammation, with relatively a neutral effect on lipemia and glycemia in rats.[16] In cats, polysaccharide compounds originating from the mallow *M. mauritania* produced antitussive effects lower than codeine but equal to or better than dropropizine.[17]

Finally, one South American clinical study was conducted with a throat spray that combined a tincture of mallow with lidocaine and tirocina (Thirotricin), 8-hydroxyquinoline. We were unable to locate a copy of this study that, but the researcher claimed a 100% success rate for the spray in an open study with 28 people.[18]

Conclusion

These herbs—all very safe and suitable for home use—play an important role in our practice. They are herbs that can be recommended safely to patients who are experiencing discomfort but whose conditions often will resolve without further intervention if the symptoms are dealt with. We strongly recommend that these herbs be included in any botanical dispensatory. ■

References

1. Felter MD. The Eclectic Materia Medica, Pharmacology, and Therapeutics. Sandy, OR: Eclectic Medical Publications, 1994.

2. Weiss RF. Weiss's Herbal Medicine, classic ed. New York: Thieme, 2001.

3. Acharya RN, Chaubal MG. Essential oil of *Anemopsis californica*. J Pharmaceut Sci 1968;57:1020–1022.

4. Koba K, Poutoli PW, Raynaud C, et al. Chemical composition and antimicrobial properties of different basil essential oils chemotypes from Togo. Bangladesh J Pharmacol 2009;4:1–8.

5. Kaminski CN, Ferrey SL, Lowrey T, et al. In vitro anticancer activity of *Anemopsis californica*. Oncol Lett 2010;1:711–715.

6. Felter HW, Lloyd JU. King's American Dispensatory. Sandy, OR: Eclectic Medical Publications, 1983.

7. Waksman De Torres N, Salazar-Aranda R, Pérez-López LA, et al. Antimicrobial and antioxidant activities of plants from northeast of Mexico. Evid Based Complement Alternat Med 2009;September 21:e-pub ahead of print.

8. Molina-Salinas GM, Pérez-López A, Becerril-Montes P, et al. Evaluation of the flora of Northern Mexico for in vitro antimicrobial and antituberculosis activity. J Ethnopharmacol 2007;109:435–441.

9. Li X-C, Cai L, Wu CD. Antimicrobial compounds from *Ceanothus americanus* against oral pathogens. Phytochemistry 1997;46:97–102.

10. Roscoe CW, Hall NA. A preliminary study of the alkaloidal principles of *Ceanothus americanus* and *Ceanothus velutinus*. J Am Pharmaceut Assoc 1960;49:108–112.

11. Lynch TA, Miya TS, Carr CJ. An investigation of the blood coagulating principles from *Ceanothus americanus*. J Am Pharmaceut Assoc 1958;47:816–819.

12. Seyyednejad SM, Koochak H, Darabpour E, Motamedi H. A survey on *Hibiscus rosa-sinensis*, *Alcea rosea* L. and *Malva neglecta* Wallr as antibacterial agents. Asian Pac J Tropical Med 2010;3:351–355.

13. Deters A, Zippel J, Hellenbrand N, et al. Aqueous extracts and polysaccharides from marshmallow roots (*Althea officinalis* L.): Cellular internalisation and stimulation of cell physiology of human epithelial cells in vitro. J Ethnopharmacol 2010;127:62–69.

14. Marouane W, Soussi A, Murat J-C, et al. The protective effect of *Malva sylvestris* on rat kidney damaged by vanadium. Lipids Health Dis 2011;10:65.

15. Chiclana CF, Enrique A, Consolini AE. Topical antiinflammatory activity of *Malva sylvestris* L. (Malvaceae) on carragenin-induced edema in rats. Latin Am J Pharm 2009;28:275–278.

16. Sleiman NH, Daher CF. *Malva sylvestris* water extract: A potential anti-inflamamtory and anti-ulcerogenic remedy. Planta Med 2009;75:9.

17. Nosalova G, Sutovska M, Mokry J, et al. Efficacy of herbal substances according to cough reflex. Minerva Biotechnologica 2005;17:141–152.

18. Lorenzi FLM. Evaluation of therapeutic efficacy and tolerability of Malvatricin Spray in mouth and throat diseases. Folha Medica 1996;112:63–66.

Eric Yarnell, ND, is chief medical officer of Northwest Naturopathic Urology, in Seattle, Washington, and is a faculty member at Bastyr University in Kenmore, Washington. **Kathy Abascal, BS, JD, RH (AHG),** is executive director of the Botanical Medicine Academy in Vashon, Washington.

To order reprints of this article, e-mail Karen Ballen at: Kballen@liebertpub.com or call (914) 740-2100.