



Herbal Properties & Actions

Main Actions

- anti-parasitic
- kills lice
- expels worms
- insecticide
- larvacide
- bitter
- stimulates digestion
- stimulates bile
- reduces fever

Other Actions

- anti-inflammatory
- anti-leukemic
- anti-cancerous
- anti-tumor
- antiviral
- astringent
- blood cleanser
- laxative
- sedative
- increases saliva
- tonic

Standard Dosage

wood & bark

Infusion

1 cup 2–3 times daily
with meals

Tablets/Capsules

1 g 2–3 times daily

Cold maceration

1 cup 2–3 times daily
with meals

Amargo

Family: Simaroubaceae

Genus: *Quassia*

Species: *amara*

Common Names: Amargo, bitter ash, bitterholz, bitterwood, bois amer, bois de quassia, crucete, quassia, cuassia, fliegenholz, guabo, hombre grande, jamaica bark, kashshing, maraubá, marupá, palo muneco, pau amarelo, quassia amarga, quassiawood, ruda, simaruba, simarubabaum, quassiaholz, quassia de cayenne, quassie, quina, simaba, surinam wood

Parts Used: Wood, leaves

Amargo is a small tropical tree, growing only 2–6 m in height. It is indigenous to Brazil, Peru, Venezuela, Suriname, Colombia, Argentina, and Guayana. It has beautiful red flowers and fruit that turns red as it matures. Known botanically as *Quassia amara*, it is marketed and used interchangeably with another tree species, *Picrasma excelsa*. Sharing the common name of quassia (and many of *Quassia amara*'s constituents and uses), *P. excelsa* is much taller (up to 25 m in height) and occurs farther north in the tropics of Jamaica, the Caribbean, the Lesser Antilles, and northern Venezuela. In herbal medicine in the U.S. and Europe, very little distinction is made between the two species of trees; they are used identically and just called quassia. The name amargo means "bitter" in Spanish and describes its very bitter taste.

Tribal & Herbal Medicine Uses

In the Amazon rainforest, amargo is used much in the same manner as quinine bark: for malaria and fevers, and as a bitter digestive aid. It grows at lower elevations (where quinine does not) and contains many of the same antimalarial phytochemicals as quinine. In addition, it is used as an insecticide and tonic, and for hepatitis. Brazilian Indians use the leaves in a bath for measles as well as in a mouthwash used after tooth extractions; Indians in Suriname use the bark for fever and parasites. Throughout South America, amargo is a tribal remedy for debility, digestion problems, fever, liver problems, parasites, malaria, snakebite, and back spasms.

In current Brazilian herbal medicine systems, amargo is considered a tonic, digestion promoter, blood cleanser, insecticidal, and mild laxative; it is recommended for diarrhea, intestinal worms, dysentery, dyspepsia, excessive mucus, worm-expeller, intestinal gas, stomachache, anemia, and liver and gastrointestinal disorders. In Peru amargo is employed as a bitter digestive, worm-expeller, to stimulate digestion and gastric secretions, and fever reducer that traditionally is used for edema, tuberculosis, and to expel kidney and gallbladder stones. In Mexico the wood is used for liver and gallbladder diseases, and to expel intestinal parasites. In Nicaragua amargo also is used to expel worms and intestinal parasites as well as for malaria and anemia. Throughout South

America, the bitter principles of amargo are used to stimulate the appetite and secretion of digestive juices, as well as to expel worms and intestinal parasites.

Amargo is widely used for all kinds of parasites, worms and lice—both internally and externally

In herbal medicine in the U.S. and Europe amargo is employed as a bitter tonic for stomach, gallbladder, and digestive problems (by increasing the flow of bile, digestive juices, and saliva); as a laxative; and as a amebicide, insecticide, and to expel intestinal worms. It often is found as a component in various herbal drugs sold in Europe which promote digestive, gallbladder, and liver functions. In Britain, a water extract of the wood also is used topically against scabies, fleas, lice, and other skin parasites. U.S. herbalist David Hoffman recommends it as an excellent remedy for dyspeptic conditions, to stimulate production of saliva and digestive juices, and to increase the appetite (as well as for lice infestations and threadworms). He also notes, "It may safely be used in all cases of lack of appetite such as anorexia nervosa and digestive sluggishness."

Plant Chemicals

Chemicals in amargo make it 50 times more bitter than quinine!

Amargo bark contains many active constituents and phytochemicals, including indole alkaloids, triterpenes, and bitter principles reported to be 50 times more bitter than quinine.² While amargo contains many of the same types of antimalarial chemicals as quinine bark, it also contains another chemical called *quassin*. The large amount of quassin in the bark and wood gives amargo a bitterness rating of 40,000.³ The bark also contains the phytochemicals quassamarin and simalikalactone D. Quassamarin has demonstrated antileukemic and antitumorous properties in various studies,⁴⁻⁶ while simalikalactone D has been documented to have antimalarial,^{7,8} antiviral,⁹ antitumor,⁸ and anti-cancer activities.¹⁰ Other quassinoids have demonstrated anti-amebic actions *in vivo* and *in vitro*.

Main Plant Chemicals: Beta-carbolines, beta-sitostenone, beta-sitosterol, dehydroquassins, gallic acid, gentisic acid, hydroxyquassins, isoparain, isoparaines, isoquassins, malic acid, methylcanthins, methoxycanthins, methoxycantins, nigakilactone A, neoquassins, nor-neoquassin, parain, paraines, quassialactol, quassamarin, quassins, quassinol, quassol, simalikalactone D

Biological Activities & Clinical Research

99% effective for head lice.

Several early clinical studies performed on amargo verified its traditional use as a natural insecticide—documenting it to be an effective treatment for head lice infestation in humans.¹¹⁻¹⁴ One of these studies reported a 99% effectiveness in 454 patients with only two topical treatments one week apart.¹² In a 1991 double-blind placebo trial on 148 children with head lice, those treated with an amargo bark extract reported fewer numbers of new cases—demonstrating a preventative activity against lice.¹³ In addition, an amargo water extract is reported to work quite well

Animal studies confirm amargo's traditional uses for parasites and ulcers

against aphids in the garden,¹⁴ and researchers in India discovered its larvicidal activity against several types of insects including mosquitoes.¹⁵ Since amargo has long been used for malaria in South America, researchers studied this biological effect as well. One study showed strong *in vivo* antimalarial activity in mice.¹⁶

Amargo was reported to have antiviral activity when scientists at Texas Christian University demonstrated in 1996 that a water extract was active *in vitro* against cells infected with HIV.¹⁷ A 1978 *in vivo* study reported that amargo wood and/or sap extracts (as well as the isolated chemical quassamarin) inhibited the growth of leukemia in mice.⁵ Most recently (in 2002), amargo clearly demonstrated anti-ulcerous actions in mice—inhibiting the formation of gastric ulcers (induced by stress and various chemical means) when the mice were treated with an extract of the wood.¹⁸ Prior to this study, a U.S. patent was awarded on the quassinoid phytochemicals in amargo, finding them to have “remarkable anti-ulcer effects with low toxicities.”¹⁹ In another *in vivo* study, amargo was reported to have pain-relieving, muscle-relaxant, and sedative effects in rats and mice.²⁰

Current Practical Uses

Amargo is still heavily relied upon as a natural remedy in South America for parasites of all kinds. It is slowly catching on here in North American herbal medicine practices for parasites and head lice, but it is predominately used here as a bitter digestive aid and remedy for digestive disorders. Amargo wood is on the FDA's GRAS list (generally regarded as safe). The wood and its main bitter chemical, quassin, also are approved as food additives—and are employed in beverages and baked goods for their bitter taste. Toxicity studies performed on rats and mice reported no toxicity in oral dosages up to 5 g per kg of body weight.¹⁸

Traditional Remedy: The traditional remedy as a digestive aid is 1/2 teaspoon of wood powder infused in one cup of boiling water; this is taken 10–15 minutes before or with meals. Alternatively, 1g in tablets or capsules can be taken 2-3 times daily on an empty stomach for an internal parasite cleanse. Another remedy calls for 2 teaspoons of wood powder or chips to be soaked in 1 cup of cold water overnight (a cold maceration). This is drunk for internal parasites, gallstones and digestive disorders. This maceration can also be used topically for skin/hair parasites or as a bug-spray—especially for aphids on plants and fleas on the dog. For head lice or fleas, prepare a cold maceration (allowing it to macerate/soak for 24 hours). Strain and pour through the hair or apply directly to the skin. It can be washed off in an hour (or simply left on the dog). For lice, repeat every three days for 3 applications, and; for fleas, apply once monthly. Also, a small handful of amargo wood chips can be placed in backyard ponds/fountains (or a few chips in bird baths) to kill mosquito larvae without harming fish or birds.

Contraindications:

- Amargo should not be used during pregnancy.
- Amargo has been documented to have an antifertility effect in three studies with male rats. Men undergoing fertility treatment, or those wishing to have children probably should avoid using amargo.
- Large amounts of amargo can irritate the mucous membrane of the stomach and can lead to nausea and vomiting.

Drug Interactions: None reported, however; amargo may interfere with male fertility drugs

Worldwide Ethnomedical Uses

Country	Uses
Brazil	Anemia, anorexia, aperitif, blennorrhagia, bitter, colic, debility, dentistry, diarrhea, digestive, diuretic, dysentery, dyspepsia, fever, flatulence, gallbladder, gallstones, gastrointestinal disorders, gonorrhea, hepatic colic, insecticide, kidney stones, liver, malaria, measles, stomachic, tonic
Costa Rica	Diabetes, diarrhea, fever, worms
Europe	Bitter, choleric, chologogue, fleas, gallbladder, lice, liver, parasites, scabies, stomachic, threadworms
Guatemala	Constipation, diabetes, high blood pressure, nervousness
Mexico	Dyspepsia, gallbladder, intestinal parasites, liver, stomachic, tonic, vermicide
Nicaragua	Anemia, astringent, bites, intestinal parasites, malaria, stings, tonic, worms
Panama	Hepatitis, hyperglycemia, fever, liver, malaria, snakebite
Peru	Anthelmintic, digestive, depurative, febrifuge, gallstones, hepatitis, hydropsy, insecticide, kidney stones, scrofula, stomachic, tonic, vermifuge
South America	Anorexia, anthelmintic, aperitif, aphidicide, bitter, debility, depurative, digestive, dyspepsia, carcinoma, cirrhosis, fever, fleas, hepatitis, hyperglycemia, indigestion, insecticide, laxative, leukemia, lice, malaria, parasites, pediculicide, scabies, snakebite, spasms, stomachic, tonic, vermifuge, worms
Turkey	Astringent, diarrhea, digestive, diuretic, dysentery, fever, malaria, tonic

Country	Uses
U.S.A.	Alcoholism, anorexia, anthelmintic, antispasmodic, ascarides, atonic dyspepsia, bitter, choleric, convalescence, debility, digestive, fever, gallbladder, lice, narcotic, purgative, sialagogue, stomachic, tonic, vermicide, worms
Venezuela	Diuretic, dysentery, fever, laxative, tonic, vermifuge
Elsewhere	Amoeba, antibiotic, antipyretic, aperitif, bitter, cancer, carcinoma, digestive, epithelioma, fever, insecticide, liver, malaria, narcotic, piscicide, snakebite, stomachic, stimulant, tonic, vermifuge



Amargo and Anteaters?

Leslie's Amazon Amargo Tale

During one of my visits to an Indian tribe in the Amazon, I became extremely itchy within about an hour of hitting the village. A quick perusal of myself and my hosts revealed a severe lice and flea infestation of the whole village (and my person!). They kept many jungle animals as pets which roamed freely throughout the village who were the probable cause of the problem. I had noticed a stand of amargo trees when hiking into the village that morning and it was the first thing I thought of in my hour of need. With some helping hands, several got to work digging a large pit in the soft sand on the riverbank while others chopped up an entire amargo tree with machetes. I lined the pit with the waterproof rain tarp I use to cover my hammock at night, filled it with river water and tossed in the amargo wood chips. The next day (after a night of scratching – but hey, at least it didn't rain) everyone took turns bathing in the make-shift amargo hot-tub. I insisted all the pets take turns too—cats, dogs, monkeys, coatis (looks a bit like a raccoon), parrots, pigs, and sloths—even a giant anteater who we saved for last; he was huge and smelly! I still get a chuckle remembering those soggy forlorn animals and the chaos of chasing them all down and getting them into the pit. It took four of us to wrestle the anteater in; however, he certainly had no problem exiting (rather quickly without any help). But it worked like a charm. I was itch-free and bug-free for the remainder of my visit. My not-so-itchy Indian friends were grateful too, despite a few bruises, bite-marks and scratches from several less-than-appreciative soggy pets. That anteater just wasn't amused at all.