Organ Specific Guide

Rainforest plants & formulas for specific organs and their issues and problems

By Organ / System

Adrenal	**Blood (Cholesterol, lipids, sugar)**
Adrenal Support	Artichoke extract
Chuchuhuasi extract	Blood Support
Jatoba extract	Pancreas Support
Maca capsules	Detox Support
Brain/Central Nervous System	**Cardiovascular**
CNS Support	Heart Support
Calm Support	Brazilian Peppertree extract
Mood Support	**Digestion/Elimination**
Amazon Vitality	Amazon Bitters
Gallbladder/Liver	Bowel Support
Artichoke extract	Carqueja extract
Carqueja extract	Digestion Support
Chanca Piedra extract	Guacatonga capsules
Gallbladder Support	Sangre de Grado
Liver Support	**Kidney / Urinary**
Immune System	Chanca piedra extract & capsules
Cat's Claw capsules	Kidney Support
Anamu capsules	KDY-CL
Immune Support	Urinary Support
Amazon Vitality	**Musculoskeletal**
Reproductive Tract	Athletic Support
Menstrual Support	Joint-Muscle Support
Prostate Support	Chuchuhuasi extract
Maca capsules	**Respiratory Tract**
	Lung Support
	Sinus Support

AMAZON ADRENAL SUPPORT

Description: A combination of 7 plants which have been traditionally used to support adrenal function.
Traditional uses by organ or system: Adrenal: To balance, maintain, support and cool adrenal function without overt stimulation.
Ingredients: A proprietary blend of chuchuhuasi (Maytenus krukovii), erva tostão (Boerhaavia diffusa), tayuya (Cayaponia tayuya), maca (Lepidium meyenii), jatoba (Hymenaea courbaril), espinheira santa (Maytenus ilicifolia), and suma (Pfaffia paniculata).
Suggested Use: Take 2 capsules 2-3 times daily.
Contraindications: None reported.
Drug Interactions: None known.
Other Practitioner Observations and Possible Precautions: This formula may increase energy levels in some individuals. Take last dosage prior to 4 pm if disturbances in sleep occurs.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Chuchuhuasi is traditionally used as a muscle relaxant, aphrodisiac, and analgesic; for adrenal support, as an immune stimulant, and for menstrual balance and regulation. In Peruvian herbal medicine systems, chuchuhuasi is used to treat osteoarthritis, rheumatoid arthritis, bronchitis, diarrhea, hemorrhoids, adren-al disorders, menstrual irregularities, and pain. Research has reported that chuchuhuasi has aldose reductase inhibitor, analgesic, anticancerous, anti-inflammatory, antioxidant, antitumorous, immune stim-ulant, and protein kinase C inhibitor actions.
- Erva tostão contains novel alkaloids which have been documented with immunomodulating effects. In one study, the alkaloid extract evidenced a dramatic effect in reducing an elevation of cortisol levels under stressful conditions. Simultaneously, the alkaloids (and a whole root extract) also prevented a drop in immune system performance indicating an adaptogenic immune modulation activity, which might sug-gest it could be helpful in preventing adrenal exhaustion.
- Tayuya contains a cucurbitacin chemical (cucurbitacin R) which has been studied extensively in Russia. There it is cited as a powerful adaptogen, preventing stress-induced alterations in the body, as well as supporting adrenal function. It was found to have an effect on the production of corticosteroids and the biosynthesis of eicosanoids in the adrenal cortex, isolated adrenocortical cells, blood plasma, and leuko-cytes under stress and stress-free conditions *in vitro* and *in vivo*. Researchers reported it stimulated the adrenal cortex to adapt organisms to stress by moderately increasing corticosteroid secretion and pro-tected the defense system from becoming hyperactive.
- Maca is a rich source of amino acids which are the building blocks needed to naturally support the endocrine system and adrenals.
- Jatoba is highly regarded in Brazil as an energy tonic and traditionally used to combat adrenal fatigue. It does not contain any caffeine, xanthenes, or other overt stimulants to over-tax the adrenals.
- Espinheira santa is traditionally used to support adrenal, kidney, and digestive functions, as well as, for ulcers, as an antacid, laxative, colic remedy, detoxifier, and as an adjunctive therapy for cancer. Inde-pendent research indicates that espinheira santa has antacid, antinociceptive, anti-inflammatory, anti-ulcerogenic, antileukemic, and antitumorous actions.
- Suma is used in North American herbal medicine as an adaptogenic and regenerative tonic regulating many systems of the body, for adrenal exhaustion and chronic fatigue, as an immunostimulant; and as a natural remedy for impotence, arthritis, anemia, diabetes, cancer, tumors, mononucleosis, high blood pressure, PMS, menopause, hormonal disorders, and many types of stress.

AMAZON ATHLETIC SUPPORT

Description: A synergistic formula of 8 rainforest botanicals traditionally used in South America to support lean muscle growth, support muscle and joint fitness, and for faster recovery after exercising.
Traditional uses by organ or system: Musculoskeletal: For lean muscle building, muscle repair, and general athletic performance.
Ingredients: A proprietary blend of maca (Lepidium meyenii), suma (Pfaffia paniculata), muira puama (Ptychopetalum olacoides), sarsaparilla (Smilax officinalis), chuchuhuasi (Maytenus krukovii), tayuya (Cayaponia tayuya), yerba mate (Ilex paraguayensis), and iporuru (Alchornea castaneifolia).
Suggested Use: Take 2-3 capsules 3 times daily.
Contraindications:
- Not to be used during pregnancy or while breast-feeding.
- Do not use in estrogen-positive cancers.
- Do not use in conjunction with MAO-inhibitor medications.

Drug Interactions: May interact with MAO-inhibitors.
Other Practitioner Observations and Possible Precautions: Yerba mate contains naturally occurring caffeine. Those sensitive to or allergic to caffeine should not use this formula.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Maca has demonstrated fertility and libido enhancing actions in laboratory tests. It may well be that maca's beneficial effects for sexual function and fertility can be explained simply by its high concentration of proteins and vital nutrients. Dried maca root contains about 10% protein—mostly derived from amino acids. Amino acids (the building blocks of proteins) are required in the diet to drive many cellular functions in the body—including natural hormone production.
- Suma has been called "the Russian secret," as it has been taken by Russian Olympic athletes for many years and has been reported to increase muscle-building and endurance without the side effects associated with steroids. This action is attributed to an anabolic-type phytochemical called beta-ecdysterone and three novel ecdysteroid glycosides that are found in high amounts in suma. Researchers reported in 2003 that mice fed suma for 30 days had higher levels of the sex hormones estradiol-17beta, progesterone and testosterone than controls.
- Muira puama has evidenced in various laboratory studies to have adaptogenic, analgesic, anti-fatigue, antioxidant, antiulcerous, aphrodisiac, CNS-tonic, hypotensive, memory enhancement, nervine, neurasthenic, and neuroprotective activities.
- Sarsaparilla is a rich source of phytosterols. It contains the plant steroids sarsasapogenin, smilagenin, sitosterol, stigmasterol, and pollinastanol; and the saponins sarsasaponin, smilasaponin, sarsaparilloside, and sitosterol glucoside, among others. The majority of sarsaparilla's pharmacological properties and actions have been attributed to these steroids and saponins.
- Chuchuhuasi is regarded as an overall energy tonic and adrenal-builder. It is widely used in South America for muscle and joint aches and pains. In laboratory research chuchuhuasi has evidenced anti-inflammatory, analgesic, antioxidant, and immune stimulant actions.
- Tayuya contains a chemical called cucurbitacin R which has been studied extensively in Russia. There it is cited as a powerful adaptogen, preventing stress-induced alterations in the body. Other research indicates that tayuya has anti-inflammatory, antioxidant and analgesic actions.
- Yerba mate, which is a source of natural caffeine, has shown in laboratory research to have anti-inflammatory, antioxidant, antispasmodic, bile stimulant, stimulant, thermogenic and vasodilator actions.
- Iporuru has shown anti-inflammatory, antifungal, antitumor, antiviral, and COX-inhibitor actions in laboratory studies over the years.

AMAZON BITTERS EXTRACT

Description: People have long known about the benefits of digestive bitters to aid in digestive function and to increase digestive juices and bile production. This Amazon formula combines the rainforest's most bitter plants into one dynamic formula.
Traditional uses by organ or system: Digestive Tract: To aid digestive function by increasing gastric secretions and bile production.
Ingredients: A proprietary blend of simarouba (Simarouba amara), quinine (Cinchona officinalis), carqueja (Baccharis genistelloides), amargo (Quassia amara), and artichoke (Cynara scolymus) extracted in distilled water and 40% ethanol.
Suggested Use: Take 30 drops (1 ml) directly by mouth 15 to 30 minutes before each meal.
Contraindications: Not to be used during pregnancy or while breast-feeding.
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions: None.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Simarouba shares some of the same bitter quassinoid chemicals as quinine and amargo. These bitter chemicals explain simarouba's long standing traditional uses as a digestive stimulant and for many types of digestive complaints.
- Quinine bark is still harvested today to make bitter tonic waters. Nearly half of the world harvest of quinine bark is directed to the food industry for the production of quinine water, tonic water, and as an FDA-approved bitter food additive. In traditional medicine systems around the world, quinine has been used for centuries as a digestive stimulant, a bitter tonic and appetite stimulant, and for a wide range of digestive complaints.
- Carqueja is described in Brazilian herbal medicine systems as having the therapeutic properties of a tonic, bitter, febrifuge, and stomachic, with cited uses for dyspepsia, gastroenteritis, liver diseases, diarrhea and ileocecal valve disorders. In laboratory studies, carqueja has evidenced antiulcerous, antacid, stomachic, gastrotonic, hepatotonic, and antihepatotoxic actions. Carqueja's antacid, antiulcer, and hypotensive properties were documented in two Brazilian animal studies in 1992. Its antiulcer and analgesic properties were reported in a 1991 clinical study that showed that carqueja reduced gastric secretions and had an analgesic effect in rats with *H. pylori* ulcers. That study concluded that carqueja "may relieve gastrointestinal disorders by reducing acid secretion and gastrointestinal hyperactivity." A later study, in 2000, confirmed its antiulcerogenic effect when a water extract of carqueja administered to rats protected them from alcohol-induced ulcers.
- Amargo bark contains many active constituents including bitter principles reported to be 50 times more bitter than quinine. 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. In herbal medicine systems in South America, amargo is employed as a bitter digestive aid to stimulate gastric and other digestive secretions as well as for dyspepsia, fevers, tuberculosis, kidney stones and gallstones. In research in 2002, amargo was shown to have antiulcerous actions in mice, inhibiting the formation of gastric ulcers (induced by stress and various chemical means).
- Artichoke is popular for its pleasant bitter taste, which is attributed mostly to a plant chemical called cynarin found in the green parts of the plant. Cynarin is considered one of artichoke's main biologically active chemicals. It occurs in the highest concentration in the leaves of the plant, which is why leaf extracts are most commonly employed in herbal medicine. Cynarin and/or artichoke has been documented by research to have antihepatotoxic, antioxidant, chologogue, choleretic, hepatoprotective, hepatotonic, and hypocholesterolemic actions.

AMAZON BLOOD SUPPORT

Description: A combination of rainforest medicinal plants which have been traditionally used to support healthy blood cholesterol parameters.
Traditional uses by organ or system: Endocrine: To balance and maintain healthy blood cholesterol levels and for hypercholesterolemia.
Ingredients: A proprietary blend of artichoke (Cynara scolymus), bitter melon (Momordica charantia), yerba mate (Ilex paraguayensis), suma (Pfaffia paniculata), vassourinha (Scoparia dulcis), pata de vaca (Bauhinia forficata), and sarsaparilla (Smilax officinalis).
Suggested Use: Take 2-3 capsules twice daily.
Contraindications:

- Several of these ingredients contain plant saponins and/or phytosterols which may have an estrogenic effect. As such this formula is contraindicated in women with hormone-positive cancers.
- This formula contains yerba mate which contains naturally-occurring caffeine. Those allergic to or sensitive to caffeine should not use this formula.

Drug Interactions: May potentiate anti-cholesterol drugs.
Other Practitioner Observations and Possible Precautions:

- Those taking statin or cholesterol-lowering drugs need to be more closely monitored on this formula as medications may need adjusting.
- Two ingredients in the formula have a mild hypoglycemic effect. Those with hypoglycemia should be monitored more closely for this possible effect.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- A double-blind, randomized, placebo-controlled study was published in 2000 on artichoke leaf extract. For six weeks, 143 patients with high cholesterol were given artichoke; at the end of the test, results showed a decrease of 10%-15% in total cholesterol, low density lipoprotein (LDL), and ratio of LDL to HDL cholesterol. Scientists now report that the cholesterol-lowering effect of artichoke can be attributed to chemicals other than just cynarin, including several newly discovered ones.
- To date, close to 100 *in vivo* studies have demonstrated the hypoglycemic and anticholesterolemic effects of bitter melon. This plant has shown the ability to enhance cells' uptake of glucose, to promote insulin release, and to potentiate the effect of insulin. In other *in vivo* studies, bitter melon has been shown to reduce total cholesterol. In one study, elevated cholesterol and triglyceride levels in diabetic rats were returned to normal after 10 weeks of treatment.
- Yerba mate has significant antioxidant activity, demonstrated in numerous studies. An infusion of the leaf has been demonstrated to inhibit lipid peroxidation—particularly LDL oxidation. Another *in vitro* study has shown yerba mate to inhibit the formation of advanced glycation end products (AGEs), with an effect comparable to that of two pharmaceutical AGE-inhibitor drugs.
- Suma root has a very high saponin content (up to 11%). In phytochemistry, plant saponins are well known to have a wide spectrum of activities including lowering blood cholesterol, inhibiting cancer cell growth, and acting as antifungal and antibacterial agents. Phytochemists report that saponins can act by binding with bile acids and cholesterol. It is thought that these chemicals "clean" or purge these fatty compounds from the body (thus lowering blood cholesterol levels).
- Vassourinha contains several active constituents which are documented with anticholesterolemic, hypotensive and hypoglycemic effects.
- In 2004, a research group reported that pata de vaca lowered blood sugar in rats and also reduced triglycerides, total cholesterol and HDL-cholesterol levels in diabetic rats stating, "These results suggest the validity of the clinical use of *B. forficata* [pata de vaca] in the treatment of *Diabetes mellitus* type II."
- The majority of sarsaparilla's pharmacological properties and actions have been attributed to novel and known steroids and saponins. The saponins have been reported to facilitate the body's absorption of other drugs and phytochemicals, which accounts for its history of use in herbal formulas as an agent for bioavailability and to enhance the power and effect of other herbs.

AMAZON BOWEL SUPPORT

Description: A synergistic formula of 7 rainforest botanicals traditionally used in South America for bowel function.
Traditional uses by organ or system: Digestive/Elimination: For colitis, Crohn's, leaky gut, irritable bowel syndrome, ulcerative colitis, chronic constipation, and diverticulitis.
Ingredients: A proprietary blend of cat's claw (Uncaria tomentosa), macela (Achyrocline satureoides), boldo (Peumus boldus), simarouba (Simarouba amara), jurubeba (Solanum paniculatum), tayuya (Cayaponia tayuya), and anamu (Petiveria alliacea).
Suggested Use: Take 2-3 capsules three times daily on an empty stomach.
Contraindications:
- Not to be used during pregnancy or while breast-feeding.
- This product should not be used with medications intended to suppress the immune system.

Drug Interactions: May potentiate blood thinning medications such as coumadin. May reduce the effect of immune suppressants.
Other Practitioner Observations and Possible Precautions:
- Several plants in this formula contain a low concentration of coumarin which has an anticoagulant effect. People with blood disorders such as hemophilia should be monitored more closely.
- Cat's claw and jurubeba have been documented to have an antifertility effect. Those seeking to become pregnant or those undergoing treatment for infertility should not use this formula.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Cat's claw has been traditionally used as a bowel cleanser and anti-inflammatory for Crohn's, colitis, diverticulitis, irritable bowel syndrome (IBS), and other bowel problems; as well as for stomach ulcers and ulcerative colitis and as an ulcer preventative, stomach and bowel protector.
- Macela has been reported in several animal studies with mice and rats, to possess analgesic, anti-inflammatory, and smooth-muscle (gastrointestinal) relaxant properties internally without toxicity, in addition to anti-inflammatory and analgesic actions externally. This may explain why macela has long been used effectively for many types of pain, gastrointestinal difficulties, menstrual cramps, and asthma.
- Boldo's main active chemical, boldine, has shown in animal studies to provide anti-inflammatory and antispasmodic action, as well as the ability to protect against colon damage and inflammation in induced colitis and colon inflammation. A recent human study demonstrated that boldo relaxes smooth muscle tissue and prolongs intestinal transit.
- The Merck Institute reported that simarouba was 91.8% effective against intestinal amebas in humans in a 1944 study and, in 1962, other researchers found that simarouba showed active anti-amebic activities in humans. In the 1990s scientists again documented simarouba's ability to kill the most common dysentery-causing organism, *Entamoeba histolytica*, as well as two diarrhea-causing bacteria, *Salmonella* and *Shigella*.
- Jurubeba has been reported with antiulcer activity. In animal studies it was reported to inhibit gastric acid secretion induced by stress and various chemical agents, as well as prevented gastric lesions from developing. Additionally it was reported to inhibit gastric acid secretion in mice with the ulcer-causing bacteria *H. pylori*. Researchers summarized: "Collectively, the results validate folk use of *Solanum paniculatum* plant to treat gastric disorders."
- Tayuya is traditionally used by natural health practitioners in the United States for irritable bowel syndrome, dyspepsia and sluggish digestion, neuralgia, sciatica, gout, headaches, and rheumatism.
- Anamu has been documented in various studies over the years with antimicrobial, analgesic, anti-inflammatory, antiprotozoal, and immune stimulant actions.

AMAZON BRAIN SUPPORT

Description: A synergistic formula of rainforest botanicals traditionally used in South America to support memory and brain function.
Traditional uses by organ or system: Brain/CNS: For memory loss, dementia, and Alzheimer's.
Ingredients: A proprietary blend of samambaia (Polypodium decumanum), calaguala (Polypodium leucotomos), tamamuri (Brosimum acutifolium), catuaba (Erythroxylum catuaba), muira puama (Ptychopetalum olacoides), cat's claw (Uncaria tomentosa), suma (Pfaffia paniculata), guaraná (Paullinia cupana), nettle (Urtica dioica), and sarsaparilla (Smilax officinalis).
Suggested Use: Take 2 capsules 2-3 times daily.
Contraindications: Not to be used during pregnancy or while breast-feeding.
Drug Interactions: None known.
Other Practitioner Observations and Possible Precautions: None.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Samambaia and calaguala are closely related *Polypodium* ferns which have demonstrated neuroprotective actions. In 1997, a U.S. patent was filed on a samambaia extract capable of treating brain disorders such as Alzheimer's disease and dementia. The patent and several *in vivo* clinical studies indicate samambaia protects against brain cell degeneration, promotes repair of damaged brain cells, and has a protective effect to brain cells. In a double-blind placebo human trial in 2000, researchers reported patients with senile dementia improved cognitive performance, increased the blood supply to the brain, and also increased the electrical impulses in the brain. A calaguala patented product called *anapsos* is now used in Spain and Europe for the treatment of Alzheimer's and dementia.
- Tamamuri has been documented as a PKC inhibitor. Too much PKC enzyme is involved in a wide variety of disease processes including brain tumors and brain disorders, cancer, cardiovascular disease, arthritis, and autoimmune disorders.
- Catuaba is traditionally used in Brazil as a nervine and to enhance memory. In a 2005 study catuaba was reported to provide dopaminergic-mediated antidepressant actions.
- Muira puama is the subject of eight animal and human studies which reports memory enhancement, learning enhancement, antidepressant, nervine, and neuroprotective actions.
- Cat's claw contains amyloid-inhibiting compounds which are the subject of three U.S. patents. Amyloid plaque in brain cells is implicated in Alzheimer's disease. In addition, another study with mice indicated that cat's claw memory enhancement action was linked to actions noted on 5-HT2 receptors.
- Suma is the subject of two animal studies (in 2004 and 2000) which reported that it promoted an increase in both learning and memory in aged mice treated.
- Guaraná is the subject of 6 human and animal studies concerning memory enhancement and cognitive performance. In a 2007 double-blind, placebo-controlled, multi-dose human evaluation study, guaraná improved secondary memory performance and increased alert and content mood ratings. Lower doses (75 mg) produced more positive cognitive effects than higher doses.
- Nettle was found to be an effective antioxidant and possible antiapoptotic supplement promoting brain cell survival in a rat study reported in 2005.
- Sarsaparilla, and several of its chemical constituents, were reported to provide protection of amyloid beta protein-induced neurotoxicity in several recent studies in rats. One of sarsparilla's main sapogenin chemicals, sarsasapogenin, was reported to improve memory by elevating the low muscarinic acetylcholine receptor density in brains of memory-deficit rats. This chemical, as well as others in sarsaparilla, are the subject of a 2004 U.S. patent which claim they are effective in the treatment of Alzheimer's disease.

AMAZON CALM SUPPORT

Description: A synergistic formula of rainforest botanicals traditionally used in South America for their nervine, sedative and calming properties.
Traditional uses by organ or system: Brain/CNS: For stress, anxiety, and disturbed sleep patterns.
Ingredients: A proprietary blend of mulungu (Erythrina mulungu), manacá (Brunfelsia uniflora), piri-piri (Cyperus articulatus), graviola (Annona muricata), catuaba (Erythroxylum catuaba), iporuru (Alchornea castaneifolia), ubos (Spondias mombin), passionflower (Passiflora incarnata), chamomile (Matricaria chamomilla), and muira puama (Ptychopetalum olacoides).
Suggested Use: Take 2-3 capsules twice daily or every 4-6 hours as needed.
Contraindications:
- Not to be used during pregnancy or while breast-feeding.
- Several plants in this formula have been documented to reduce blood pressure in animal studies. Individuals with low blood pressure should be monitored for this possible effect.

Drug Interactions: May potentiate hypotensive, MAO-inhibitor, sedatives and anxiolytic medications.
Other Practitioner Observations and Possible Precautions:
- Manacá contains naturally occuring salicylate. Those allergic to or sensitive to aspirin and salicylates should avoid this formula. It also contains coumarins which have a blood thinning effect. Those with a blood disorder such as hemophilia, should be monitored more closely while taking this formula.
- In some individuals this formula may cause drowsiness. If this interferes with daily work, the dosage should be reduced.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.).)

- Mulungu has demonstrated in 4 recent rat studies to possess effective anxiolytic actions and in another study it demonstrated sedative and CNS-depressant actions. In a 2006 study, mulungu was reported to increase memory and learning. In one of the studies on anxiolytic actions, the researchers reported that mulungu had an effect similar to the commonly-prescribed anti-anxiety drug diazepam. Brazilian researchers reported in two 2007 animal studies that the anxiolytic action of mulungu could be atttributed to two erythravine chemicals found in the plant. In an earlier study, they suggested that these alkaloids may alter GABAergic neurotransmission. GABA (gamma-amino butyric acid) acts as a neurotransmitter in the brain; abnormalities with its function is implicated in diseases including epilepsy, anxiety, and depression.
- Manacá has been reported to act as a central nervous system depressant in animal studies.
- Piri-piri has been reported in animal studies to mediate many of the brain chemical reactions which are present in epilepsy. Other animal research documents the plant with anti-epileptic, anticonvulsant and sedative actions.
- Graviola has shown in animal studies to have antidepressant and sedative actions. One study reported an increase in dopamine, norepinephrine, and monomine oxidase activity, as well as a inhibition of serotonin release in stress-induced rats.
- Catuaba has demonstrated anti-stress and antidepressant actions in both *in vivo* and *in vitro* testing by inhibiting the uptake and increasing the release of serotonin and dopamine.
- Iporuru has been reported in several animal studies with analgesic, and anti-inflammatory actions.
- Ubos, in lab studies with rats and mice, was reported to be a more potent anxiolytic than diazepam. In other *in vivo* tests, ubos has been reported to be anticonvulsant, sedative, and antidopaminergic.
- Passionflower contains naturally occurring serotonin as well as a chemical called maltol which has documented sedative effects and which might explain the natural calming properties of passionflower.
- For years researchers attributed the sedative effect of chamomile to the flavonoids, but it has recently been demonstrated through numerous trials that other constituents also contribute substantially to the total sedative action of chamomile.
- Muira puama has been documented with anxiogenic, memory enhancement, antifatigue, antistress, and neuroprotective actions in recent animal and human studies.

AMAZON CNS SUPPORT

Description: A synergistic formula of 6 rainforest botanicals traditionally used in South America as analgesics, to support the central nervous system, and to mediate pain processing pathways.
Traditional uses by organ or system: Brain/CNS: For pain related to the central nervous system, migraines, nerve injuries, sciatica, and neuropathy.
Ingredients: A proprietary blend of pau d'arco (Tabebuia impetiginosa), tayuya (Cayaponia tayuya), manacá (Brunfelsia uniflorus), mulungu (Erythrina mulungu), amor seco (Desmodium adscendens), and iporuru (Alchornea castaneifolia).
Suggested Use: Take 2-3 capsules every 4-6 hours as needed.
Contraindications:
- Not to be used during pregnancy or while breast-feeding.
- Manacá has documented anticoagulant activity. People with blood disorders such as hemophilia, should be monitored closely for this possible effect.
- May potentiate anticoagulants, MAO-inhibitors and antihypertensive medications.

Other Practitioner Observations and Possible Precautions:
- Manacá contains salicylate. Those with an allergy or sensitivity to salicylates or aspirin may be sensitive to this formula.
- This formula may cause drowsiness at higher dosages. If this occurs, reduce the amount used.
- Plants in this formula may reduce blood pressure. Those with low blood pressure should be monitored more closely for this effect.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.).)

- Pau d'arco has demonstrated analgesic, antinociceptive and antiedematogenic actions in animal studies. An aqueous extract, administered orally to mice, reduced the nociception produced by acetic acid by 63.7%. The aqueous extract (200 and 400 mg/kg, p.o.) reduced formalin effects at the second phase of the experiment by 49.3% and 53.7%, respectively.
- Novel cucurbitacins have been discovered in tayuya and named cayaponosides (24 distinct cayaponosides have been discovered thus far). These phytochemicals have been documented to have antioxidant, anti-inflammatory and analgesic properties. Two animal studies, performed in the early 1990s, verified that tayuya provided analgesic and anti-inflammatory actions. One study documented that a root infusion given intragastrically to mice had an analgesic action. Another research group prepared the root in a methanol extract and reported anti-inflammatory actions when administered orally to mice.
- Manacá contains a significant amount of scopoletin, a well known plant chemical with analgesic actions. In a 1991 clinical study with mice, manacá demonstrated analgesic and anti-inflammatory effects. An earlier (1977) study reported that manacá evidenced marked anti-inflammatory actions in rats—as well as central nervous system depressant and antipyretic actions.
- Mulungu is documented with 20 isoquinoline alkaloids, many of which have demonstrated analgesic, anti-inflammatory, cardioactive, narcotic, and sedative activities. The traditional use of mulungu as a nervine for anxiety and stress has been validated by researchers in a recent (2002) study, where it was shown to alter anxiety-related responses. The researchers reported that mulungu had an effect similar to the commonly-prescribed anti-anxiety drug diazepam.
- Amor seco has been documented in animal studies to have analgesic actions as well as anticonvulsant, anti-inflammatory, antispasmodic, and anti-anaphylactic actions.
- Several animal studies confirm iporuru's analgesic, anti-inflammatory and COX-inhibition actions. In Peruvian herbal medicine systems it is a popular herbal remedy for arthritic and rheumatic aches and pains.

AMAZON DETOX SUPPORT

Description: A synergistic formula of rainforest botanicals traditionally used in South America for detoxification of the blood and filtering organs.
Traditional uses by organ or system: Metabolism/Endocrine: For blood and organ detoxification.
Ingredients: A proprietary blend of sarsaparilla (Smilax officinalis), cat's claw (Uncaria tomentosa), artichoke (Cynara scolymus), boldo (Peumus boldus), nettle (Urtica dioica), carqueja (Baccharis genistelloides), and amor seco (Desmodium adscendens).
Suggested Use: Take 2 capsules 3 times daily.
Contraindications: Not to be used during pregnancy or while breast-feeding.
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions:
- Several plants in this formula may affect the absorption of pharmaceutical drugs and/or speed their clearance through the liver, thereby reducing their half-life and/or pharmacological effect.
- Drinking plenty of water (at least 8 glasses a day) is helpful during detoxification programs.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Sarsaponin, one of sarsaparilla's main steroids, was found to bind to endotoxins in the blood stream and gut and to remove them. This endotoxin-binding action is probably why sarsaparilla has been used for centuries as a "blood purifier." Sarsaparilla also has demonstrated hepatoprotective effects in rats, with researchers concluding that it is able to prevent immune-mediated liver injury. Improvement of appetite and digestion has been noted with sarsaparilla, as well as its diuretic actions in humans. The root has been reported to have stimulatory activity on the kidneys in humans and, in chronic nephritis, it was shown to increase the urinary excretion of uric acid. European physicians considered sarsaparilla root a tonic, blood purifier, diuretic, and sweat promoter. A *Smilax* root from Mexico was introduced into European medicine in 1536, where it developed a strong following as a cure for syphilis and rheumatism.
- Cat's claw has long been used to cleanse and detox the bowel and colon. Dr. Brent Davis, D.C. has written several articles on cat's claw and refers to it as the "opener of the way" for its ability to cleanse the entire intestinal tract and its effectiveness in treating stomach and bowel disorders.
- Artichoke, with it's documented chologogue and choleretic actions, is used by practitioners to detox and cleanse the liver and gallbladder. In all herbal medicine systems where it is employed, artichoke is used to increase bile production in the liver, increase the flow of bile from the gallbladder, and to increase the contractive power of the bile duct. These bile actions are beneficial in many digestive, gallbladder, and liver disorders. Artichoke is also often used to mobilize fatty stores in the liver and detoxify it, and as a natural aid to lower cholesterol.
- Boldo, and it's main chemical constituent, boldine, has shown to protect the liver, to stimulate the production of bile in the liver, as well as to stimulate digestion, increase the secretion of gastric juices and stimulate the production of bile and its secretion from the gallbladder in various *in vivo* and *in vitro* tests.
- Nettle is used in herbal medicine systems to nutritionally support and detoxify the kidneys and liver.
- Carqueja has demonstrated antihepatotoxic and gastroprotective actions in animal studies. Almost every book published in Brazil on herbal medicine includes carqueja, since it has shown to be so effective for liver and digestive disorders as well as a good depurative and febrifuge. Other popular uses for carqueja in Brazilian herbal medicine today are to treat malaria, diabetes, stomach ulcers, sore throat and tonsillitis, angina, anemia, diarrhea, indigestion, hydropsy, urinary inflammation, kidney disorders, intestinal worms, leprosy, and poor blood circulation.
- Amor seco is quite popular in herbal medicine throughout South and Central America. In Peruvian herbal medicine today, a leaf tea is used as a blood cleanser and to detoxify the body from environmental toxins and chemicals.

AMAZON DIGESTION SUPPORT

Description: A synergistic formula of rainforest plants traditionally used in South America as natural antacids, to support digestive functions, and for stomach ulcers.
Traditional uses by organ or system: Digestive Tract: For digestive disorders (gastric ulcers, *Helicobacter pylori* ulcers, gastroenteritis, acid reflux, and ileocecal valve disorders), and to nutritionally support digestive functions.
Ingredients: A proprietary blend of picão preto (Bidens pilosa), boldo (Peumus boldus), carqueja (Baccharis genistelloides), jurubeba (Solanum paniculatum), espinheira santa (Maytenus ilicifolia), guacatonga (Casearia sylvestris) and gervâo (Stachytarpheta jamaicensis).
Suggested Use: Take 2-3 capsules (depending on body weight) with each meal.
Contraindications:

- Not to be used during pregnancy, while breast-feeding or while seeking to become pregnant.
- Several plants in this formula have documented anticoagulant activity or contain naturally-occurring coumarin. This formula is contraindication for persons with bleeding disorders.
- Several plants in this formula may reduce blood pressure. Those with hypotension should be monitored more closely for this possible effect.

Drug Interactions: May potentiate anticoagulant and antihypertensive medications.
Other Practitioner Observations and Possible Precautions: Several ingredients in this formula have demonstrated antacid actions in animal studies and this formula should not be used by persons with low stomach acid.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Picão preto has shown in rat studies to protect against chemical- and bacteria-induced gastric lesions and ulcers and, also, to reduce gastric acid secretion. The activity noted in these studies was higher than that shown by two prescription anti-ulcer drugs used as controls.
- Boldo has demonstrated in various studies over the years to protect the liver, to stimulate the production of bile in the liver, as well as to stimulate digestion, increase the secretion of gastric juices and stimulate the production of bile and its secretion from the gallbladder.
- Carqueja's antacid, antiulcer, and hypotensive properties were documented in two Brazilian animal studies in 1992. Its antiulcer and analgesic properties were reported in a 1991 clinical study that showed that carqueja reduced gastric secretions and had an analgesic effect in rats with *Helicobacter pylori* ulcers. That study concluded that carqueja "may relieve gastrointestinal disorders by reducing acid secretion and gastrointestinal hyperactivity." A later study, in 2000, confirmed its antiulcerogenic effect when a water extract of carqueja administered to rats protected them from alcohol-induced ulcers.
- Jurubeba has been reported with antiulcer activity. In animal studies it was reported to inhibit gastric acid secretion induced by stress and various chemical agents, as well as prevented gastric lesions from developing. Additionally it was reported to inhibit gastric acid secretion in mice with the ulcer-causing bacteria *H. pylori*. Researchers summarized, "Collectively, the results validate folk use of *Solanum paniculatum* plant to treat gastric disorders."
- Espinheira santa's antiulcerous abilities were demonstrated in a 1991 study which showed that a simple hot water extract was as effective as two of the leading antiulcer drugs, ranitidine (Zantac®) and cimetidine (Tagamet®). In 1997 a Japanese research group filed a patent on the biologically active antiulcer compounds found in espinheira santa as a new antiulcer drug.
- Guacatonga's antacid and antiulcerogenic actions have been reported in several animal studies. One study reported it prevented lab-induced acute gastric mucosal injury equivalent to the antiulcer drug cimetidine (Tagamet®).
- Gervâo has demonstrated in animal studies to possess antacid, antiulcer, and laxative effects. One study reported that it increased intestinal motility, protected against ulcers from various chemical agents, and inhibited gastric secretion.

AMAZON GALLBLADDER SUPPORT

Description: A synergistic formula of 7 rainforest plants traditionally used in South America to support gallbladder function.
Traditional uses by organ or system: Gallbladder/Liver: As a chologogue, choleretic, and choliokinetic; for sluggish gallbladder function, gallbladder sludge and stones, to enhance gallbladder secretions and bile, and to detoxify the gallbladder.
Ingredients: A proprietary blend of artichoke (Cynara scolymus), chanca piedra (Phyllanthus niruri), boldo (Peumus boldus), carqueja (Baccharis genistelloides), erva tostão (Boerhaavia diffusa), condurango (Marsdenia cundurango), gervâo (Stachytarpheta jamaicensis), and jurubeba (Solanum paniculatum).
Suggested Use: Take 3 capsules twice daily.
Contraindications: Not to be used during pregnancy, while breast-feeding or while seeking to become pregnant.
Drug Interactions: May potentiate antihypertensive, cholesterol and diabetic medications.
Other Practitioner Observations and Possible Precautions:
- Several of the plants in this formula are documented with antihepatotoxic actions which may speed the clearance of drugs metabolized in the liver; thereby reducing their pharmacological effect or half-life.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Artichoke was studied in a 1999 clinical investigation focusing on gallbladder function. It "showed the efficacy and safety of artichoke extracts (*Cynara scolymus* L.) in the treatment of hepatobiliary dysfunction and digestive complaints, such as sensation of fullness, loss of appetite, nausea and abdominal pain."
- Chanca piedra's antilithic actions, reported in 7 different studies (animals, humans and *in vitro)*, has validated its long history of use for kidney stones. It is also used in herbal medicine for gallstones and, while no research has been performed that specifically validates this use, one study does indicate that chanca piedra has an effect on gallbladder processes. In a 2002 study, Indian researchers reported that chanca piedra increased bile acid secretion in the gallbladder and significantly lowered blood cholesterol levels in rats.
- Boldo, and its main active chemical, boldine, has demonstrated in various studies over the years to stimulate the production of bile and its secretion from the gallbladder, protect the liver, to stimulate the production of bile in the liver, as well as to stimulate digestion, and increase the secretion of gastric juices.
- Carqueja is traditionally used for gallstones, liver ailments, diabetes, allergies, gout, intestinal gas and bloating, and venereal diseases. Herbalists and natural health practitioners in the United States report that carqueja helps strengthen digestive, ileocecal valve, stomach, and liver functions; removes obstructions in the gallbladder and liver; fortifies and cleanses the blood; expels intestinal worms; and is helpful for poor digestion, liver disorders, and anemia.
- Erva tostão is traditionally used in Brazilian herbal medicine for gallbladder pain and stones, to stimulate the emptying of the gallbladder, as a diuretic, for all types of liver disorders (including jaundice and hepatitis), and for urinary tract disorders, renal disorders, kidney stones, cystitis, and nephritis.
- Condurango has long been used for a variety of digestive and stomach problems in South America where it is used to aid digestion, increase bile in the gallbladder, liver and pancreas, increase digestive juices, relieve nausea and vomiting, to relieve stomach pain and cramps, and for gastric ulcers.
- Gervâo is employed mainly today by Brazilian herbalists and practitioners for chronic liver and gallbladder problems; as a stomach tonic; to stimulate the function of the gastrointestinal tract; and for dyspepsia, allergies, asthma, and fevers.
- Jurubeba is listed as an official drug in the *Brazilian Pharmacopoeia* as a specific for anemia and liver disorders. Jurubeba has long been used in Brazilian herbal medicine systems for liver and digestive disorders, including gallstones.

AMAZON HEART SUPPORT

Description: A synergistic formula of rainforest botanicals traditionally used in South America for the heart.
Traditional uses by organ or system: Cardiovascular: For hypertension.
Ingredients: A proprietary blend of Brazilian peppertree (Schinus molle), abuta (Cissampelos pareira), chanca piedra (Phyllanthus niruri), picão preto (Bidens pilosa), erva tostão (Boerhaavia diffusa), mulungu (Erythrina mulungu), graviola (Annona muricata), and mutamba (Guazuma ulmifolia).
Suggested Use: Take 2-3 capsules twice daily (depending on body weight).
Contraindications:

- Not to be used during pregnancy or while breast-feeding.
- Plants in this formula have been documented to reduce blood pressure. It is contraindication in people with low blood pressure.

Drug Interactions: May enhance the effect of diuretic, ACE-inhibitor, antihypertensive, and cardiac depressant medications.
Other Practitioner Observations and Possible Precautions:

- Several plants in this formula have various actions on heart function, including reducing heart rate and having a cardiac depressant effect. Those with bradycardia, or those on medications to depress heart function and heart rate should be monitored more closely.
- Several plants in this formula have a hypoglycemic effect. Individuals with hypoglycemia should monitor their blood sugar levels when taking this formula.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Brazilian peppertree is traditionally used in South America for hypertension, arrhythmia, and as a cardiotonic. In laboratory studies with rats and dogs Brazilian peppertree was shown to evidence a hypotensive effect.
- Abuta has been reported with hypotensive actions in animal studies over the years. Abuta contains several cardioactive alkaloids including tetrandrine and berberine, which have shown in research to have a hypotensive effect through numerous pathways and mechanisms of action.
- Chanca piedra's hypotensive effects were first reported in a dog study in 1952 (in which a diuretic effect was noted also). The hypotensive effects were attributed to a specific phytochemical in chanca piedra called geraniin in a 1988 study. In 1995 Indian researchers gave human subjects with high blood pressure a chanca piedra leaf powder in capsules. They reported a significant reduction in systolic blood pressure, and a significant increase in urine volume and sodium excretion in all subjects.
- Picão preto was documented to prevent hypertension in rats fed a high-fructose diet, and to lower the resulting (elevated) blood pressure and triglyceride levels. In hypertensive rats (including high dietary salt-induced hypertension), picão preto significantly lowered blood pressure—without having an effect on heart rate and urine volume. A leaf extract was also shown to have smooth-muscle relaxant activity on the heart.
- In clinical studies with animals, erva tostão demonstrated smooth muscle and skeletal muscle stimulant activities in frogs and guinea pigs; anti-inflammatory actions in rats; and hypotensive actions in dogs as well as *in vitro* hypotensive actions.
- Mulungu's hypotensive and heart-regulatory activities were studied and attributed to its alkaloids.
- Graviola has demonstrated hypotensive, vasodilator, and cardiodepressant activities in various animal studies over the years.
- In the first study published on mutamba which used various animals (rats, rabbits, guinea pigs, cats and insects), researchers reported that it lowered heart rate and blood pressure, relaxed smooth muscles and stimulated the uterus.

AMAZON IMMUNE SUPPORT

Description: A synergistic formula of 7 rainforest plants traditionally used in South America to support immune function.
Traditional uses by organ or system: Immune/Lymphatic System: As an immunostimulant to enhance immune functions and immune cell production (T-cell, B-cell, NK-cell, and phagocytosis).
Ingredients: A proprietary blend of cat's claw (Uncaria tomentosa), anamu (Petiveria alliacea), mullaca (Physalis angulata), fedegoso (Cassia occidentalis), sarsaparilla (Smilax officinalis), samambaia (Polypodium decumanum), and macela (Achyrocline satureoides).
Suggested Use: Take 2-3 capsules twice daily.
Contraindications:
- Not to be used during pregnancy, while breast-feeding or while seeking to become pregnant.
- Do not use before or following any organ or bone marrow transplant or skin graft due to its immunotimulant properties.

Drug Interactions: Will reduce the effect of immunosuppressive drugs. May potentiate ACE-inhibitors and antihypertensive medications.
Other Practitioner Observations and Possible Precautions:
- Several plants in this formula may reduce blood pressure. Those with hypotension, or those on medications to reduce blood pressure should be monitored more closely for this possible effect.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Cat's claw has been the subject of much research on its documented and patented immunostimulant actions. Many of these studies published from the late 1970s to early 1990s indicated that the whole oxindole alkaloid fraction (which included both POA and TOA alkaloids), whole vine bark and/or root bark extracts (which included all alkaloids), or six individually-tested oxindole alkaloids, when used in relatively small amounts, increased immune function by up to 50%. These study results were substantiated by Canadian researchers at the University of Ottawa (1999) and by Peruvian researchers (1998), both working with the whole vine extract (which included both TOA and POA alkaloids).
- Anamu has been found in both *in vivo* and *in vitro* studies to be an immunostimulant. In a 1993 study with mice, a water extract stimulated lymphocytes and Interleukin II cell production. In the same year, another study with mice demonstrated that an anamu extract increased natural killer cell activity by 100% and stimulated the production of even more types of immune cells (Interferon, Interleukin II, and Interleukin IV). Additional research from 1997 to 2001 further substantiated anamu's immunostimulant actions in humans and animals.
- Mullaca has been the subject of recent clinical research (which is still ongoing), based on the preliminary studies showing that it is an effective immune stimulant, is toxic to numerous types of cancer and leukemia cells, and that it has antimicrobial properties.
- Fedegoso has been reported to have significant immunostimulant activity by increasing humoral immunity and bone marrow immune cells in mice, and protecting them from chemically-induced immunosuppression.
- Flavonoids in sarsaparilla have been documented to have immune modulation and hepatoprotective activities. A U.S. patent was awarded in 2003 describing these flavonoids to be effective in treating autoimmune diseases and inflammatory reactions through their immunomodulating effects.
- Samambaia has been clinically documented with immunomodulatory effects. It has shown to moderate proinflammatory cytokines responsible for inflammation processes as well as some of the specific immune modulating effects needed to treat the imbalances in the immune system that are peculiar to psoriasis.
- Macela was reported to have a strong immunostimulant actions (increasing phagocytosis and immune cell activity) in humans and mice by researchers in Germany in the mid-1980s.

AMAZON JOINT-MUSCLE SUPPORT

Description: A powerful formula of rainforest botanicals which have been used indigenously in the rainforest and South America for joints and muscles.
Traditional uses by organ or system: Musculoskeletal: For arthritis, muscle and joint injuries, and muscle and joint pain and inflammation.
Ingredients: A proprietary blend of cat's claw (Uncaria tomentosa), chuchuhuasi (Maytenus krukovii), amor seco (Desmodium adscendens), tayuya (Cayaponia tayuya), picão preto (Bidens pilosa), iporuru (Alchornea castaneifolia), sarsaparilla (Smilax officinalis) and guaco (Mikania guaco).
Suggested Use: Take 2-3 capsules (depending on body weight) every 4-6 hours or as needed.
Contraindications:
- Not to be used during pregnancy or while breast-feeding.
- Several plants in this formula contain coumarin which has an anticoagulant effect. Individuals with bleeding disorders, such as hemophilia, should be not use this formula.
- This product should not be used with medications intended to suppress the immune system.

Drug Interactions: May potentiate anticoagulants such as coumadin. May reduce the effect of immune suppressive medications. May potentiate antihypertensive medications.
Other Practitioner Observations and Possible Precautions:
- Picão preto contains a small amount of naturally occurring caffeine. Those individuals sensitive or allergic to caffeine should avoid this formula.
- Cat's claw has been documented to have an antifertility effect. Those seeking to become pregnant or those undergoing treatment for infertility should probably avoid the use of this formula.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Cat's claw contains antioxidant chemicals (tannins, catechins and procyanidins) as well as plant sterols (beta-sitosterol, stigmasterol, and campesterol) which account for some of the plant's tested anti-inflammatory properties. In addition, new and novel plant chemicals called quinovic acid glycosides were documented to be the most potent anti-inflammatory constituents of the plant. Human and animal studies indicate that cat's claw (and, especially, its glycosides) can inhibit inflammation from 46% up to 89% in various *in vivo* and *in vitro* tests.
- Chuchuhuasi evidenced anti-inflammatory and analgesic activities in various studies with mice. One research group reported that these activities were at least partially linked to triterpenes and antioxidant chemicals isolated in the trunk bark. Another research group isolated another group of novel alkaloids in chuchuhuasi that may be responsible for its effectiveness in treating arthritis and rheumatism. A U.S. pharmaceutical company studying chuchuhuasi's anti-inflammatory and anti-arthritic properties determined that these alkaloids can effectively inhibit enzyme production of protein kinase C.
- Amor seco has been documented with antispasmodic and muscle relaxant actions in human and animal studies. It has also evidenced analgesic actions in animal testing.
- Tayuya contains novel cucurbitacins chemicals with documented antioxidant, anti-inflammatory and analgesic properties.
- Picão preto has shown in laboratory studies to mediate proinflammatory cytokines, inhibit prostaglandin-synthesis and inhibit cyclooxygenase (COX).
- Iporuru was also able to inhibit COX-1 prostaglandin synthesis in laboratory studies. In other animal studies iporuru provided a marked anti-inflammatory effect against chemical-induced inflammation.
- Sarsaparilla's pharmacological properties and actions have been attributed to the steroids and saponins found in the plant. The saponins have been reported to facilitate the body's absorption of other drugs and phytochemicals, which accounts for its history of use in herbal formulas as an agent for bioavailability and to enhance the power and effect of other herbs.
- Guaco has demonstrated analgesic and antispasmodic actions in animal studies, which has been attributed, in part, to the coumarin content of the plant (which can be as high as 10%).

AMAZON KDY-CL EXTRACT

Description: A botanical formula which combines 4 plants used in South America for cleansing and detoxing the kidneys and urinary tract system. A new and proprietary extraction method is used to concentrate and preserve the active ingredients found in these rainforest plants. Concentration and extraction methods provide the equivalent of 500 milligrams of plants per milliliter of extract.
Traditional uses by organ or system: Kidneys/Urinary Tract: For kidney and urinary tract detoxification and cleansing, incontinence, and nutritional support during dialysis and other kidney stress or disease.
Ingredients: A proprietary blend of chanca piedra (Phyllanthus niruri), jatoba (Hymenaea courbaril), anamu (Petiveria alliacea), and amor seco (Desmodium adscendens) extracted in distilled water and 40% glycerine.
Suggested Use: For detoxification, take 5 ml (1 teaspoon) twice daily for 10 days. For nutritional support during times of kidney stress, take 60 drops (2 ml) three times daily.
Contraindications: Not to be used during pregnancy or while breast-feeding.
Drug Interactions: May potentiate antihypertensive and diuretic medications.
Other Practitioner Observations and Possible Precautions:

- Several plants in this formula have been documented to reduce blood pressure in animal studies. Individuals with low blood pressure should be monitored for this possible effect.
- Several plants in this formula have diuretic activity. Chronic long-term use of any diuretic can cause electrolyte and mineral imbalances which should be monitored.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Chanca piedra is traditionally used for many purposes in herbal medicine systems and in laboratory and clinical research over the years the plant has demonstrated diuretic, antilithic, hepatoprotective, analgesic, hypotensive, antispasmodic, antiviral, antibacterial, and antimutagenic activities. In human studies, researchers reported that chanca piedra promoted the elimination of stones and produced a significant increase in urine output as well as sodium and creatine excretion. In *in vitro* and animal studies, researchers indicated that chanca piedra had the ability to block the formation of calcium oxalate crystals and prevent kidney stone formation. In addition, chanca piedra demonstrated *in vitro* antibacterial actions against *Staphylococcus, Micrococcus*, and *Pasteurella* bacteria as well as *in vivo* and *in vitro* antiviral and antimalarial properties, which validates other traditional uses.
- Jatoba contains terpene and phenolic chemicals which are responsible for protecting the tree from fungi in the rainforest. In fact, the jatoba tree is one of the few trees in the rainforest that sports a completely clean trunk bark, without any of the usual mold and fungus found on many other trees in this wet and humid environment. These antifungal terpenes and phenolics have been documented in several studies over the years and the antifungal activity of jatoba is attributed to these chemicals. Other laboratory studies have been performed on jatoba since the early 1970s which have shown that it has antimicrobial, molluscicidal, and antibacterial activities, including *in vitro* actions against such organisms as *E. coli, Psuedomonas, Staphylococcus* and *Bacillus*.
- Anamu has demonstrated broad-spectrum antimicrobial properties against numerous strains of bacteria, viruses, fungi, and yeast in laboratory research over the years. In a 2002 study, anamu inhibited the replication of the bovine diarrhea virus. Another research group documented anamu's antimicrobial properties *in vitro* against *E. coli, Staphylococcus, Pseudomonas*, and *Shigella*. A German group documented good activity against several bacteria, *Mycobacterium tuberculosis*, several strains of fungi, and *Candida*. Anamu's antifungal properties were documented in 1991, and again by a separate research group in 2001. Its antimicrobial activity was further demonstrated by researchers in 1998 reporting anamu's activity *in vitro* and *in vivo* against several strains of protozoa, bacteria, and fungi.
- Amor seco contains a chemical called dehydrosoyasaponin which was cited as being "the most potent known potassium (maxi-K) channel opener." This action is thought to contribute to its antispasmodic action in the urinary tract and upper respiratory tract.

AMAZON KIDNEY SUPPORT

Description: A synergistic formula of powerful rainforest plants traditionally used in South America for kidney stones.
Traditional uses by organ or system: Kidneys/Urinary Tract: For kidney stones and gout.
Ingredients: A proprietary blend of chanca piedra (Phyllanthus niruri), boldo (Peumus boldus), erva tostão (Boerhaavia diffusa), cipó cabeludo (Mikania hirsutissima), and abuta (Cissampelos pareira).
Suggested Use: Take 2 capsules 3 times daily.
Contraindications: Not to be used during pregnancy or while breast-feeding.
Drug Interactions: May potentiate diabetic, heart, anticoagulant and diuretic medications.
Other Practitioner Observations and Possible Precautions:

- Several plants in this formula have been documented to reduce blood pressure and/or have a mild cardiac depressant effect in animal studies. Individuals with low blood pressure should be monitored for this possible effect.
- Several plants in this formula contain coumarin which thins the blood. Those individuals with blood disorders, such as hemophilia, should be monitored closely for this possible effect.
- Several plants in this formula have diuretic activity. Chronic long-term use of any diuretic can cause electrolyte and mineral imbalances which should be monitored.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Chanca piedra has been documented in human and animal studies to have the ability to block the formation of calcium oxalate crystals as well as provide a direct antilithic action. Three new studies were published in 2006 on chanca piedra's beneficial uses for kidney stones and gout. In a long-term randomized study with 150 human patients with a history of kidney stones, researchers confirmed the plant's ability to prevent reoccuring stone formations in humans and reported: "Regular self-administration of *P. niruri* [chanca piedra] after extra-corporeal shock wave lithotripsy for renal stones results in an increased stone-free rate that appears statistically significant for lower caliceal location." A 2006 animal study confirmed the plant's use for gout reporting that it: "significantly reversed the plasma uric acid level of hyperuricemic animals to its normal level in a dose-dependent manner, comparable to that of allopurinol, benzbromarone and probenecid which are used clinically for the treatment of hyperuricemia and gout." Another 2006 study with rats indicated that chanca piedra:"may have a therapeutic potential, since it was able to modify the shape and texture of calculi to a smoother and probably more fragile form, which could contribute to elimination and/or dissolution of calculi." In an earlier 2002 rat study, researchers reported that chanca piedra strongly inhibited the growth and number of stones formed over a control group. In 2003, scientists again confirmed *in vitro* that chanca piedra could help prevent the formation of kidney stones. Previously (in the mid-1980s), the antispasmodic activity of chanca piedra was reported. This led researchers to surmise that "smooth muscle relaxation within the urinary or biliary tract probably facilitates the expulsion of kidney or bladder calculi." Researchers had already reported chanca piedra's antispasmodic properties and smooth muscle relaxant properties (including a uterine relaxant effect) in several earlier studies.
- Boldo, and/or its main chemical boldine, has shown in various studies over the years to possess diuretic, febrifuge, and anti-inflammatory properties as well as the ability to reduce excess uric acid.
- Erva tostão is traditionally used in Brazilian herbal medicine as a diuretic, for urinary tract disorders, renal disorders, kidney stones, cystitis, and nephritis.
- Cipó cabeludo is widely used in traditional herbal medicine systems in Brazil as a powerful diuretic. Its main documented uses there are for kidney stones, to help lower uric acid levels, and for gout, urinary tract infections, cystitis, and urethritis.
- Abuta and many of its main active constituents have been documented by scientists to have significant antispasmodic, muscle relaxant and analgesic properties. It is traditionally used in Peruvian herbal medicine systems for kidney stones.

AMAZON LIVER SUPPORT

Description: A synergistic formula of rainforest plants traditionally used in South America to support liver function.
Traditional uses by organ or system: Liver: As a hepatotonic, hepatoprotective and antihepatotoxic; for steatosis, hepatitis, fatty liver, cirrhosis, and other liver diseases and conditions.
Ingredients: A proprietary blend of picão preto (Bidens pilosa), carqueja (Baccharis genistelloides), erva tostão (Boerhaavia diffusa), chanca piedra (Phyllanthus niruri), boldo (Peumus boldus), gervâo (Stachytarpheta jamaicensis), fedegoso (Cassia occidentalis), and artichoke (Cynara scolymus).
Suggested Use: Take 3 capsules twice daily.
Contraindications: Not to be used during pregnancy or while breast-feeding.
Drug Interactions: None reported, however it may potentiate antihypertensive medications.
Other Practitioner Observations and Possible Precautions:

- Several ingredients in this formula have been documented with antihepatotoxic effects in animal studies. This may speed the clearance of some drugs metabolized in the liver (decrease the half-life), thereby reducing the pharmacological effect (and/or side effects) of certain drugs required to be metabolized in the liver.
- Several plants in this formula have been documented to reduce blood pressure in animal studies. Individuals with low blood pressure should be monitored for this possible effect.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Picão preto was shown in laboratory studies with animals to have a hepatoprotective action against introduced toxins known to cause liver injury.
- Carqueja's hepatoprotective properties were confirmed in a clinical study when a crude flavonoid fraction of carqueja as well as a crude leaf/stem extract dose-dependently increased the survival rate to 100% in mice administered lethal dosages of phalloidin (a liver toxin) as compared to only a 24% survival rate in the control group. While these scientists indicated that the single flavonoid, hispidulin, evidenced the highest hepatoprotective effect (it increased survival to 80%), the crude extract and the whole flavonoid fraction provided a stronger hepatoprotective and antihepatotoxic effect than the single flavonoid.
- Erva tostão's long standing traditional use for liver disorders has been validated in three separate studies. These indicated that the plant provided beneficial effects in animals by protecting the liver from numerous introduced toxins and even repairing chemical-induced liver and kidney damage.
- One *in vitro* study and five *in vivo* studies (with rats and mice) document that extracts of chanca piedra effectively protect against liver damage from various chemical liver toxins. Two human studies reported chanca piedra's hepatoprotective and antihepatotoxic actions in children with hepatitis and jaundice. Indian researchers reported that chanca piedra was an effective single drug in the treatment of jaundice in children, and British researchers reported that children treated with a chanca piedra extract for acute hepatitis had liver function return to normal within five days. In a 2006 study with rats, researchers reported that chanca piedra "protects liver tissues against oxidative damage and somehow helps stimulating repair mechanism present in liver. It could be used as an effective hepatoprotector against CCl(4) induced liver damage."
- Boldo was shown in laboratory studies with animals to have a hepatoprotective action against introduced toxins known to cause liver injury.
- Gervâo contains the chemical hispidulin which has been documented with hepatoprotective and antihepatotoxic actions in several studies.
- Fedegoso has demonstrated in animal and human studies to have the ability to protect the liver from various introduced chemical toxins, normalize liver enzymes and processes, and repair liver damage.
- Artichoke has evidenced antihepatotoxic and hepatoprotective effects in animal and human studies. A 1987 study that focused on the effects of rat liver cells subjected to harmful chemical agents found both cynarin and caffeic acids (artichoke's main active chemicals) to have significant protective effects.

AMAZON LUNG SUPPORT

Description: A botanical formula which combines rainforest plants used by herbal practitioners in South America for the lungs and respiratory system.
Traditional uses by organ or system: Respiratory Tract: As a bronchodilator and antitussive; for asthma, bronchitis, COPD, emphysema, pulmonary sarcoidosis, and upper respiratory infections.
Ingredients: A proprietary blend of amor seco (Desmodium adscendens), embauba (Cecropia peltata), avenca (Adiantum capillus-veneris), mullaca (Physalis angulata), jatoba (Hymenaea courbaril), mutamba (Guazuma ulmifolia), and samambaia (Polypodium decumanum).
Suggested Use: Take 2 capsules 2-3 times daily.
Contraindications:
- Not to be used during pregnancy or while breast-feeding.
- This formula should not be used in combination with digitalis.
- Those with cardiac disorders should be monitored more closely when taking this formula.

Drug Interactions: May potentiate digitalis, ACE-inhibitor, hypoglycemic, and hypotensive drugs.
Other Practitioner Observations and Possible Precautions:
- Several plants in this formula have been documented to reduce blood pressure in animal studies. Individuals with low blood pressure should be monitored for this possible effect.
- Several plants in this formula have shown a hypoglycemic effect in animal studies. Those with hypoglycemia should monitor their blood sugar levels for this possible effect.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Amor seco is traditionally used in South America for its clinically documented anti-anaphylactic, anti-asthmatic, antihistamine, and bronchodilator properties in numerous types of upper respiratory conditions. Its benefits for asthma has been reported in both human and animal clinical studies. A clinical observational study on humans showed that 1 to 2 teaspoons of dried amor seco leaf powder daily (in three dosages) produced improvement and remission in most asthma patients treated. In an effort to understand the anti-asthmatic properties of this effective natural remedy, scientists conducted various animal studies to determine how it worked. In ten different studies, researchers found that amor seco interfered with the production of many of the chemicals normally produced during an asthma attack: spasmogens that cause contractions in the lung; histamine that triggers the allergic response; and chemicals called leukotrienes that are known to stimulate bronchoconstriction and increase mucus production in the airway—all key features of asthma.
- Embauba is widely used in herbal medicine systems in Latin America and Cuba for asthma and upper respiratory conditions. Scientists have verified its analgesic, antispasmodic and antimicrobial actions.
- Avenca is traditionally used in Brazilian herbal medicine as a expectorant for bronchitis, coughs and other respiratory problems. Scientists have reported avenca's antibacterial and antiviral actions in several *in vitro* tests.
- Mullaca is traditionally used in South American herbal medicine for asthma. In laboratory research it has demonstrated antibacterial, antispasmodic and immunostimulant activity.
- Jatoba is traditionally used for coughs, bronchitis, and other upper respiratory problems in Brazilian herbal medicine. In laboratory tests over the years it has demonstrated *in vitro* antifungal, antimold, antiyeast, molluscicidal, and antibacterial activities.
- Mutamba is a favorite natural remedy among Central and South American health practitioners and the indigenous peoples of the Amazon. It is often turned to first for upper respiratory infections as it can quiet coughs, reduce fever, and has documented antiviral and antibacterial actions.
- Samambaia is considered a depurative, diaphoretic, and expectorant in Brazilian herbal medicine systems; it is widely used for coughs, bronchitis, colds and flu, and other upper respiratory problems. Research over the years have reported anti-inflammatory, antidysenteric, antimutagenic, antioxidant, antipsoriatic, immunomodulator, antitumor, and neuroprotective actions in various *in vitro* and *in vivo* studies.

AMAZON LYMPH SUPPORT

Description: A synergistic formula of rainforest botanicals traditionally used in South America to support the lymphatic system and the lymph glands.
Traditional uses by organ or system: Immune/Lymphatic System: To nutritionally support the lymphatic system, promote lymphatic cleansing and detoxing, and to promote the movement of lymphatic fluid.
Ingredients: A proprietary blend of manacá (Brunfelsia uniflora), bellaco caspi (Himatanthus sucuuba), sarsaparilla (Smilax officinalis), bobinsana (Calliandra angustifolia), suma (Pfaffia paniculata), canchalagua (Schkuhria pinnata), and tamamuri (Brosimum acutifolium).
Suggested Use: Take 2 capsules 2-3 times daily or as directed by a health professional.
Contraindications: Not to be used in estrogen-positive cancers or while pregnant.
Drug Interactions: None known.
Other Practitioner Observations and Possible Precautions: None.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Manacá is used in South American herbal medicine to stimulate the lymphatic system. It has long been used for syphilis, earning the name vegetable mercury (mercury was once used to treat syphilis many years ago). In South American medicine systems today, manacá is considered to be an abortive, a lymph and blood cleanser, a topical anesthetic, diuretic, emmenagogue, laxative, and sudorific. Active constituents include two alkaloids, manaceine and manacine, as well as scopoletin and aesculetin (types of coumarin chemicals). Manaceine and manacine are thought to be responsible for stimulating the lymphatic system, while aesculetin has demonstrated pain-relieving, liver detoxification, and anti-inflammatory activities in laboratory tests. Scopoletin is a well-known phytochemical that has demonstrated analgesic, anti-inflammatory, antibacterial, antitumor, cancer-preventive, antifungal, and antispasmodic activity in many different laboratory experiments. It occurs in significant amounts in manacá.
- Bellaco caspi is considered in Brazilian herbal medicine to be analgesic, anti-inflammatory, antitumoral, antifungal, anthelmintic, emmenagogue, emollient, febrifuge, purgative, tonic, vermifuge, and vulnerary. Practitioners and herbalists in Brazil recommend it for lymphatic gland diseases and inflammation (including lymphatic cancers) and many types of female disorders. Research over the years has documented that bellaco capsi has analgesic, antibacterial, antifungal, anti-yeast, antiulcerogenic, cicatrizant, cytotoxic (cancer cell lines), smooth muscle relaxant, and vulnerary actions.
- Sarsaparilla has long been regarded in herbal medicine systems throughout the world as an effective depurative blood and lymph cleanser. It is even employed in cases of elephatitis and leprosy in South America. Sarsaponin, one of sarsaparilla's main steriods, was found to bind to endotoxins in blood and lymph fluid and remove them in one early laboratory study. It has also been reported with immunomodulator and hepatoprotective actions in other animal studies.
- Bobinsana is considered in Peruvian herbal medicine systems to be a depurative and lymphatic stimulant. Laboratory research reports that it has COX-1 inhibitor actions.
- Suma is used in Europe to restore nerve and glandular functions, to balance the endocrine system, to strengthen the immune system, to neutralize toxins, and as a general restorative tonic after illness. Laboratory research confirms suma's analgesic, anti-inflammatory, antitumorous, anticancerous, anti-leukemic, antimutagenic, and immunomodulator actions.
- Canchalagua's main use in Peruvian herbal medicine is as a blood cleanser. Laboratory research over the years has reported it has depurative, diuretic, capillary tonic, anti-inflammatory, antitussive, digestive, stomachic, and vulnerary actions.
- Tamamuri is considered an analgesic, anti-inflammatory, blood cleanser, aphrodisiac and tonic in Peruvian herbal medicine. Scientists have reported anti-inflammatory, antitumor, cytotoxic, PKA-inhibitor, and PKC-inhibitor actions in several animal and laboratory studies over the years.

AMAZON MENOPAUSE SUPPORT

Description: A botanical formula which combines 8 plants used in traditional herbal medicine systems in South America for women during menopause.
Traditional uses by organ or system: Hormonal/Reproductive: For symptoms associated with menopause.
Ingredients: A proprietary blend of maca (Lepidium meyenii), suma (Pfaffia paniculata), cumaseba (Swartzia polyphylla), espinheira santa (Maytenus ilicifolia), black cohosh (Cimicifuga racemosa), chuchuhuasi (Maytenus krukovii), sarsaparilla (Smilax officinalis), muira puama (Ptychopetalum olacoides), damiana (Turnera aphrodisiaca), and passionflower (Passiflora incarnata).
Suggested Use: Take 2-3 capsules twice daily or as needed.
Contraindications:
- Not to be used during pregnancy or while breast-feeding.
- Not to be used by women with estrogen-positive cancers.

Drug Interactions: None reported, however it may potentiate hypotensive medications.
Other Practitioner Observations and Possible Precautions: None.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Maca is widely touted for hormonal balancing, endocrine and thyroid function enhancement, and even immune system enhancement. These claims are likely related to maca's amino acid and nutrient content. The endocrine system drives many functions in the body, including the production of many types of hormones. Although hormones are chemically diverse, they are constructed simply from amino acids and cholesterol. If given sufficient levels of starting materials (natural amino acids), the body may use them as needed to construct hormones which keep the body in balance.
- Suma has a long history of traditional use for menopausal symptoms. The plant is a rich source of phytosterols including sitosterol, stigmasterol, and beta-ecdysterone which are believed to encourage hormone production. Researchers reported in 2003 that mice fed suma for 30 days had higher levels of the sex hormones, estradiol-17beta, progesterone and testosterone, than controls.
- Cumaseba is rich is flavonoids and isoflavones. It contains a significant amount of an isoflavone chemical called biochanin A which has been well studied and documented (over 150 studies published to date). Biochanin A is a phytoestrogen which is found in other plants like red clover.
- Espinheira santa has been reported with estrogenic actions. One study indicated that it interfered in fertilization and implantation in non-pregnant rats. A study in 2002 confirmed these results, again stating that a leaf extract had estrogenic actions, which suggested the anti-fertility effect may be the interference of uterine receptivity to the embryo, but did not induce abortions or have any embyrotoxic effects.
- Black cohosh has shown in laboratory research that it can bind to estrogen receptors in rat uteri and pituitary glands. Another study showed it inhibited LH secretion but did not bind to estrogen receptors; but a chemical fraction did inhibit LH after a single acute injection; with single injections of estradiol showing a similar activity profile.
- Chuchuhuasi is considered in Peruvian herbal medicine to be a tonic, adpatogenic, muscle relaxant, antispasmodic, aphrodisiac, analgesic, and anti-inflammatory. It is used for menopausal symptoms, menstrual balance and regulation, adrenal support, and as an overall tonic and immunostimulant.
- Sarsaparilla is a rich source of phytosterols. It contains the plant steroids sarsasapogenin, smilagenin, sitosterol, stigmasterol, and pollinastanol. Some of the most recent research focuses on neuroprotective and memory enhancement actions of several of these phytosterols.
- Muira puama is traditionally used in South America for menopausal symptoms and one study published in 2000 with menopausal women validates this traditional use.
- Damiana has a long history of traditional use for depression, anxiety, sexual inadequacy, fatigue and menstrual irregularities.
- Passionflower has a long history in herbal medicine for its calming and nervine properties and western research has validated these uses in various studies over the years.

AMAZON MENSTRUAL SUPPORT

Description: A synergistic formula of rainforest botanicals used by herbal practitioners in South America for women during menstruation.
Traditional uses by organ or system: Hormonal/Reproductive: As an emmenagogue, analgesic, antispasmodic, and antihemorrhagic for menstrual cramps, fibroids, endometriosis, menorrhagia, metrorrhagia, amenorrhea, water retention and PMS.
Ingredients: A proprietary blend of abuta (Cissampelos pareira), cumaseba (Swartzia polyphylla), tayuya (Cayaponia tayuya), bellaco caspi (Himatanthus sucuuba), iporuru (Alchornea castaneifolia), erva tostão (Boerhaavia diffusa), culen (Otholobium glandulosum), chuchuhuasi (Maytenus krukovii), cramp bark (Viburnum opulus), and ubos (Spondias mombin).
Suggested Use: Take 2-3 capsules twice daily or as needed.
Contraindications: Not to be used during pregnancy or while breast-feeding.
Drug Interactions: May potentiate cardiac depressant medications.
Other Practitioner Observations and Possible Precautions:
- Erva tostão was reported with cardiac depressant activity in animal studies. Those with a history of heart failure or those on cardiac depressant medications should be monitored for this possible effect.
- Some women report that this formula significantly reduces menstrual flow.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Abuta is commonly referred to as the “midwives' herb” throughout South America because of its long history of traditional use for all types of women's ailments. It is used in tropical countries to prevent a threatened miscarriage and to stop uterine hemorrhages after childbirth. Researchers report that abuta demonstrated anti-inflammatory, smooth muscle relaxant, antispasmodic, antitumor, and uterine relaxant actions in various laboratory animals.
- Cumaseba is rich is flavonoids and isoflavones. It contains a significant amount of a phytoestrogen chemical called biochanin A which has been well studied and documented (over 150 studies published to date). This tree bark is used in Peru for pain, inflammation, and cramps.
- Tayuya contains novel cucurbitacins chemicals with documented antioxidant, anti-inflammatory and analgesic properties.
- Brazilian researchers confirmed in 2000 that bellaco capsi evidenced significant anti-inflammatory and analagesic actions in laboratory animals (which also confirmed earlier anti-inflammatory research in 1978). In Peru, this tree bark is used for menstrual disorders, for pain, and as an emmenagogue.
- Iporuru is a well known analgesic remedy in Peruvian herbal medicine systems. Preliminary research has confirmed analgesic and anti-inflammatory actions *in vitro* and in animals.
- Erva tostão is considered an emmenagogue in herbal medicine systems around the world and employed for a variety of menstrual disorders. Laboratory studies indicate it has analgesic, anti-inflammatory, antihemorrhagic, antispasmodic, and diuretic actions. In two studies with monkeys, erva tostão was reported to reduce bleeding and uterine hemorrhaging commonly associated with wearing contraceptive IUDs. These researchers also reported that erva tostão may be beneficial for menorrhagia as it reduced the duration of menstrual flow in their animal test subjects.
- Culen is used in Bolivia as an emmenagogue to balance menstrual cycles and for various female complaints.
- Chuchuhuasi has been traditionally used in Peru as a muscle relaxant, aphrodisiac, and analgesic; for adrenal support, as an immune stimulant, and for menstrual balance and regulation. Laboratory tests indicates it has analgesic and anti-inflammatory actions.
- Cramp bark is a long used and popular medicinal herb in North America which is widely used for menstrual cramps and pain. Cramp bark's sedating and relaxing actions are thought to be specific to the reproductive system. It also has an astringent actions; useful in cases of excessive menstrual bleeding.
- Ubos is traditonally used as a menstrual regulator and for menstrual pain, cramps and irregularity, vaginal infections and yeast infections.

AMAZON MOOD SUPPORT

Description: A botanical formula which combines 7 plants used by herbal practitioners in South America for mood elevation.
Traditional uses by organ or system: Brain/CNS: For depression and mood disorders.
Ingredients: A proprietary blend of mulungu (Erythrina mulungu), graviola (Annona muricata), tayuya (Cayaponia tayuya), damiana (Turnera diffusa), passionflower (Passiflora incarnata), chamomile (Matricaria chamomilla), and muira puama (Ptychopetalum olacoides).
Suggested Use: Take 2-3 capsules twice daily or as needed.
Contraindications: Not to be used during pregnancy or while breast-feeding.
Drug Interactions: May potentiate hypotensive, MAO-inhibitor, and anxiolytic medications.
Other Practitioner Observations and Possible Precautions:

- In some individuals this formula may cause drowsiness. If this interferes with daily work the dosage should be reduced.
- Several plants in this formula have been documented to reduce blood pressure. Individuals with low blood pressure should be monitored for this possible effect.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Mulungu has demonstrated in 4 recent rat studies to possess effective anxiolytic actions and in another study it demonstrated sedative and CNS-depressant actions. In a 2006 study, mulungu was reported to increase memory and learning. In one of the studies on anxiolytic actions, the researchers reported that mulungu had an effect similar to the commonly-prescribed anti-anxiety drug, diazepam. Brazilian researchers reported in two 2007 animal studies that the anxiolytic action of mulungu could be atttributed to two erythravine chemicals found in the plant. In an earlier study, they suggested that these alkaloids may alter GABAergic neurotransmission. GABA (gamma-amino butyric acid) acts as a neurotransmitter in the brain; abnormalities with its function is implicated in diseases including epilepsy, anxiety, and depression.
- Graviola was reported to possess antidepressant effects in a 1997 animal study. One study with rats reported an increase in dopamine, norepinephrine, and monoamine oxidase activity, as well as a inhibition of serotonin release in stress-induced rats.
- Tayuya is traditionally used in herbal medicine systems in North and South America for athletic training and recovery (to help remove lactic acid accumulation), to reduce swelling, and to relieve emotional fatigue and depression.
- Damiana is included in the *British Herbal Pharmacopoeia* which cites indications for the use of damiana for "anxiety neurosis with a predominant sexual factor, depression, nervous dyspepsia, atonic constipation, and coital inadequacy."
- Passionflower contains naturally occurring serotonin as well as a chemical called maltol which has documented sedative effects and which might explain the natural calming properties of passionflower.
- For years researchers attributed the sedative effect of chamomile to the flavonoids, but it has recently been demonstrated through numerous trials that other constituents also contribute substantially to the total sedative action of chamomile.
- Muira puama has shown in laboratory experiments to have adaptogenic, antifatigue, antistress, and beneficial effects on the central nervous system. Several animal studies from 2004 to 2007 report that muira puama has anxiolytic actions as well as the ability to enhance memory and learning. A specially-prepared extract of muira puama has been patented for its ability to "relieve physical and mental fatigue" and for "ameliorating a weakened constitution."

AMAZON MUSCLE-EZ TOPICAL

Description: A synergistic combination of rainforest plants that are traditionally used in South America for external muscle and/or joint stiffness, soreness, and pain. The plants in this formula have been documented with anti-inflammatory and/or analgesic actions in published research.
Traditional uses by organ or system: Musculoskeletal: For arthritis and rheumatism, and for muscle and joint injuries, pain and inflammation.
Ingredients: A proprietary blend of bellaco caspi (Himatanthus sucuuba), tamamuri (Brosimum acutifolium), ubos (Spondias mombin), cumaseba (Swartzia polyphylla), bobinsana (Calliandra angustifolia), manacá (Brunfelsia uniflora), ajos sacha (Mansoa alliacea), and an aromatherapy essential oil blend, extracted in distilled water and alcohol. These plants are non-irradiated and non-fumigated. They have been sustainably wild-harvested in South America where they have grown naturally without any pesticides, fertilizers, or other chemicals.
Suggested Use: For topical use only. Spray directly onto skin as desired and massage into skin gently.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Bellaco caspi evidenced significant anti-inflammatory and analgesic actions in laboratory animals in a Brazilian study in 2000 which confirmed earlier anti-inflammatory research performed in 1978. Researchers reported that bellaco caspi could exert anti-inflammatory effects even in the acute phase of the inflammatory process and attributed these effects to the cinnamate chemicals found in the bark.
- Tamamuri is a well-respected remedy for rheumatism and arthritis throughout the Amazon and in traditional medicine systems in South America. In 2003, Brazilian researchers reported that crude extracts of tamamuri bark reduced inflammation induced by various means in laboratory rats. Other researchers have reported that two chemicals in tamamuri (mururin A and B) have the ability to inhibit PKC. PKC is one of the chemicals that the body uses to actually produce inflammation.
- Ubos bark is considered analgesic and antispasmodic; it is used for arthritis, rheumatism, muscle and joint pain, injuries and inflammation in South American herbal medicine. Ubos contains an analgesic chemical called caryophyllene. A crude bark extract of ubos was reported with anti-inflammatory actions in an animal study with rats which might be explained by another study which reported that ubos demonstrated COX-inhibitor actions *in vitro*.
- Cumaseba contains several novel phytochemicals which have been reported in laboratory studies to inhibit Protein Kinase C (PKC). PKC inhibitors have attracted a great deal of scientific interest worldwide, as there is evidence that too much PKC enzyme is involved in a wide variety of disease processes including arthritis, asthma, brain tumors, cancer, and cardiovascular disease.
- Bobinsana is considered to be anti-rheumatic, tonic, stimulant, and depurative in South American herbal medicine systems. Researchers in Sweden reported that bobinsana evidenced anti-inflammatory actions and attributed this action to the plant's ability to inhibit COX-1 prostaglandin biosynthesis.
- Manacá is a significant source of two chemicals called aesculetin and scopoletin. These chemicals have demonstrated analgesic, anti-inflammatory, and antispasmodic activities in many different laboratory experiments over the years. Several animal studies do confirm some of manacá's traditional uses—especially for pain and inflammation. In a 1991 clinical study with mice, manacá demonstrated analgesic and anti-inflammatory effects. An earlier (1977) study reported that manacá evidenced marked anti-inflammatory actions in rats—as well as CNS depressant and febrifuge actions. Other extracts administered to rats showed anti-inflammatory actions.
- Ajos sacha is traditionally used in the Amazon for pain and inflammation. Researchers confirmed its long standing use for arthritis and rheumatism when they reported that the plant was capable of inhibiting COX, (in addition to reducing edema) in a 1997 study with rats.

AMAZON PANCREAS SUPPORT

Description: A synergistic formula of 6 rainforest botanicals traditionally used by herbal practitioners in South America for diabetes.
Traditional uses by organ or system: Endocrine: To balance and maintain healthy blood sugar levels.
Ingredients: A proprietary blend of pedra hume caá (Myrcia salicifolia), pata de vaca (Bauhinia forficata), chanca piedra (Phyllanthus niruri), stevia (Stevia rebaudiana), bitter melon (Momordica charantia), and neem (Azadirachta indica).
Suggested Use: Take 2-3 capsules twice daily.
Contraindications:
- Not to be used during pregnancy or while breast-feeding.
- This formula contains plants which have demonstrated hypoglycemic actions in animals and/or humans. Diabetics need to be monitored carefully as antidiabetic medications may need adjustments.
- Those with hypoglycemia should not take this formula.

Drug Interactions: May potentiate antidiabetic medications and insulin. May potentiate hypotensive, diuretic and hypocholesterolemic medications.
Other Practitioner Observations and Possible Precautions:
- Several plants in this formula have been documented to reduce blood pressure in animal studies. Individuals with low blood pressure should be monitored for this possible effect.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Pedra hume caá (called “vegetable insulin” in Brazil) has been documented with hypoglycemic activity since 1929. Two clinical studies published in the 1990s again demonstrated its hypoglycemic activity and confirmed its traditional use for diabetes. In a 1990 double-blind placebo clinical study with normal and Type II diabetic patients, pedra hume caá (3 g powdered leaf daily) demonstrated the ability to lower plasma insulin levels in the diabetic group. In a 1993 study, 250 mg/kg of a leaf extract demonstrated the ability to reduce appetite and thirst, and to reduce urine volume, urinary excretion of glucose and urea in diabetic rats. The extract also inhibited the intestinal absorption of glucose. This study concluded that "aqueous extracts of *Myrcia* have a beneficial effect on the diabetic state, mainly by improving metabolic parameters of glucose homeostasis." In a 1998 study pedra huma caá demonstrated potent inhibitory activities on aldose reductase and alphaglucosidase.
- Pata de vaca has been demonstrating hypoglycemic and antidiabetic actions in various animal and human studies since the 1930's. In 2004, a research group reported that pata de vaca again lowered blood sugar in rats and also reduced triglycerides, total cholesterol and HDL-cholesterol levels in diabetic rats stating, “These results suggest the validity of the clinical use of *B. forficata* in the treatment of *Diabetes mellitus* type II.”
- In human studies with chanca piedra, researchers reported that blood sugar levels were reduced significantly in diabetic subjects studied. Two other studies with rabbits and rats document the hypoglycemic effect of chanca piedra in diabetic animals. Yet another study documented chanca piedra with aldose reductase inhibition (ARI) properties.
- Scientists tested the hypoglycemic effects of the individual glycoside chemicals in stevia and attributed the effect on glucose production to the glycosides steviol, isosteviol, and glucosilsteviol.
- To date, close to 100 *in vivo* studies have demonstrated the hypoglycemic and antidiabetic effects of bitter melon. This plant has shown the ability to enhance cells' uptake of glucose, to promote insulin release, and to potentiate the effect of insulin.
- Four clinical studies from 1996 to 2000 document the antihyperglycemic effect of neem. The data suggests that neem could be of benefit in *Diabetes mellitus* by controlling blood sugar or may also be helpful in preventing or delaying the onset of the disease.

AMAZON PROSTATE SUPPORT

Description: A synergistic formula of rainforest plants traditionally used in South America to support prostate function.
Traditional uses by organ or system: Reproductive/Hormonal: For prostate pain, prostatitis, benign prostatic hyperplasia, prostate infections, and enlarged prostate.
Ingredients: A proprietary blend of nettle (Urtica dioica), jatoba (Hymenaea courbaril), mutamba (Guazuma ulmifolia), graviola (Annona muricata), Brazilian peppertree (Schinus molle), vassourinha (Scoparia dulcis) cipó cabeludo (Mikania hirsutissima), pau d'arco (Tabebuia impetiginosa), and anamu (Petiveria alliacea).
Suggested Use: Take 2-3 capsules twice daily.
Contraindications: None reported.
Drug Interactions: None reported
Other Practitioner Observations and Possible Precautions:

- Several plants in this formula have demonstrated antimicrobial activity in laboratory tests. Supplementing with probiotics and digestive enzymes is advisable if this formula is used for longer than 30 days.
- Cipó cabeludo contains coumarin which has anticoagulant activity. Those with blood disorders, such as hemophilia, should be monitored more closely for this possible effect.
- Several plants in this formula have been documented to reduce blood pressure in animal studies. Individuals with low blood pressure should be monitored for this possible effect.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- In more than 20 clinical studies thus far, nettle root (and nettle combined with other herbs) has demonstrated an improvement of clinical symptoms in BPH and prostatitis. While nettle's benefit for prostatitis is most probably related to its documented anti-inflammatory properties, its effect on BPH is quite different—it works on a hormonal level. In clinical research, nettle has demonstrated the ability to stop the conversion of testosterone to dihydrotestosterone (by inhibiting an enzyme required for the conversion), as well as to directly bind to sex-hormone-binding-globulin (SHBG) itself—thereby preventing SHBG from binding to other hormones. Other research also reveals that nettles can prevent SHBG that has already bound to a hormone from attaching to the receptor sites on the prostate, as well as to decrease the production of estrogens (estradiol and estrone) by inhibiting an enzyme required for their production.
- Jatoba has demonstrated antifungal, antiyeast, molluscicidal, and antibacterial activities in laboratory studies over the years.
- Mutamba contains a chemical called kaurenoic acid which has been documented with antibacterial and antifungal properties in many studies over the years.
- Graviola has also been documented with broad spectrum antimicrobial actions in laboratory tests, although it is much better known for its antitumor acetogenin chemicals.
- Brazilian peppertree has demonstrated potent antimicrobial properties in laboratory tests. It has also displayed good-to-very strong *in vitro* antifungal actions against numerous fungi, as well as *Candida*.
- Vassourinha has shown in various studies to have analgesic, anti-inflammatory, antitumorous, antibacterial, anticancerous, and antifungal actions.
- Cipó cabeludo is traditionally used in Brazilian herbal medicine systems for prostate problems.
- Pau d'arco has demonstrated broad spectrum actions against a number of disease-causing microorganisms including bacteria, fungi, and yeast. It is also reported with antitumor and anticancer properties.
- Anamu has demonstrated broad-spectrum antimicrobial properties against numerous strains of bacteria, viruses, mycoplasma, fungi, and yeast in laboratory research over the years.

AMAZON SINUS SUPPORT

Description: A botanical formula which combines the plants used by herbal practitioners in South America for the sinuses and allergies. This product is available in capsules for adults as well as a non-alcohol liquid extract for children who cannot swallow capsules.
Traditional uses by organ or system: Respiratory System: As an antihistamine; for allergies, hayfever, allergic reactions, sinus infections, mold infections, and food allergies.
Ingredients: A proprietary blend of nettle (Urtica dioica), carqueja (Baccharis genistelloides), gervâo (Stachytarpheta jamaicensis), picão preto (Bidens pilosa), yerba mate (Ilex paraguayensis), jatoba (Hymenaea courbaril), pau d'arco (Tabebuia impetiginosa), and guaco (Mikania guaco). The extract contains distilled water and vegetable glycerine.
Suggested Use: Capsules: Take 2-3 capsules every 4-6 hours as needed. Liquid Extract: For children, take 10 drops for every 25 pounds of body weight every 4-6 hours.
Contraindications: None reported.
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions:
- Yerba mate contains naturally occurring caffeine. Those sensitive to or allergic to caffeine should avoid this formula.
- Gervâo contains a small quantity of salicylic acid. Those allergic to aspirin or salicylic acid should not take this formula.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Nettle leaf has shown in human studies to be beneficial for allergies and rhinitis. In one study with 69 patients, nettle extract rated higher than placebo: 58% reported it relieved most all their symptoms and 48% stated it was more effective than other over-the-counter medications. It was still being confirmed as a beneficial treatment for rhinitis 10 years later when researchers then suggested the same sort of inflammatory immune cell suppression was responsible for the documented effects.
- Carqueja is traditionally used in Brazil as a natural antacid and antihistamine. It has been documented thru research to possess analgesic, antacid, anti-inflammatory, antiulcerous, antihepatotoxic, antiviral, gastrotonic, hepatoprotective, hepatotonic, and hypotensive actions.
- Gervâo contains a chemical called hispidulin which has been reported by scientists to have anti-asthmatic, bronchodilator, antihistamine, and antispasmodic actions.
- Much of picão preto's antimicrobial actions have been attributed to a group of chemicals called polyacetylenes which have shown strong *in vitro* activity against numerous human and animal viruses, bacteria, fungi, and molds in very small amounts. In a 2006 published study the antihistamine action of picão preto was attributed to the neolignan glucoside chemicals found in the plant.
- Yerba mate is traditionally used in the United States for allergies and hay fever. Dr. James Balch, M.D. recommends yerba mate for allergies, hay fever, arthritis, headache, hemorrhoids, fluid retention, obesity, fatigue, stress, and constipation.
- Jatoba contains copalic acid, delta-cadinene, caryophyllene and alpha-humulene which have shown to exhibit significant anti-inflammatory, antibacterial, antifungal and antitumor activities in laboratory research.
- Pau d'arco is traditionally used throughout the Amazon for allergies, anemia, respiratory problems, colds, cough, flu, fungal infections, fever, arthritis, rheumatism, and cancer. Researchers around the world have documented pau d'arco's antimicrobial actions against various bacteria, yeast, mold and fungi.
- Guaco has been documented with anti-anaphylactic, anti-inflammatory, antihistamine, bronchodilator, cough suppressant, and expectorant actions in various research over the years. It is well known in Brazilian herbal medicine systems and used for all types of upper respiratory conditions including allergies.

AMAZON STOMACH-EZ

Description: A non-alcohol botanical extract formula which combines the plants traditionally used in South America for stomach problems.
Traditional uses by organ or system: Digestive/Elimination: For nausea, vomiting, stomachaches, and queasy or nervous stomachs.
Ingredients: A proprietary blend of ayapana (Ayapana triplinervis), condurango (Marsdenia cundurango), canchalgua (Schkuhria pinnata), matico (Piper aduncum), piri-piri (Cyperus articulatus), and culen (Otholobium gladulosum) extracted in distilled water and vegetable glycerine.
Suggested Use: Take 60 drops (2 ml) as needed or desired.
Contraindications: Not to be used during pregnancy or while breast-feeding.
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions: Even though morning sickness is common in pregancy, the plants is this formula do not have enough research to confirm their safety of use by pregnant women.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Ayapana is traditionally used in Brazilian herbal medicine for queasy stomachs, indigestion, diarrhea, fever, headaches, insomnia, nausea and vomiting, and stomach ulcers. Scientists over the years have reported that ayapana possesses analgesic, antibacterial, anticoagulant, antifungal, antiparasitic, anthelminitic, CNS depressant, and sedative actions in various animal and laboratory studies.
- In Brazilian herbal medicine condurango is used for appetite loss, dyspepsia, gastralgia, gastritis, neuralgia, stomachaches, stomach cancer, stomach ulcers, and rheumatism. Its use as a digestive aid was studied and validated in the mid-1980s when scientists reported that it increased various digestive enzymes and juices in the stomach. Other research suggests that condurango is antibacterial, anti-inflammatory, anti-leukemic, antioxidant, and antitumorous.
- Canchalagua is often relied on in Peruvian herbal medicine systems to ease nausea and stomachaches, and as a general digestive aid. Scientists have reported that canchalagua has antibacterial, antifungal, anti-inflammatory, antimalarial, antispasmodic, and anti-yeast actions.
- Matico is traditionally used by Indians of the Peruvian Amazon for gastritis, vomiting, fever, inflammation, diarrhea, menstrual colic, internal infections and as a postpartum tonic. Despite any scientific validation, matico still remains a main-stay in herbal medicine practices in South America for many types of digestive problems and it is quite well known and well respected for those types of conditions. In laboratory research the plant has been reported with antibacterial, anticandidal, antifungal, antileishmaniasis, antiyeast, antiviral, and cytotoxic properties.
- Piri-piri has a long history of use in herbal medicine systems in South America as a common remedy for nausea, vomiting, stomachaches, and intestinal gas throughout the continent. Piri-piri has been documented with anti-epileptic and anticonvulsant actions, as well as sedative actions in animal studies. It was also reported with antioxidant actions, antibacterial actions against *Staphylococcus* and *Pseudomonas*, and anti-yeast actions against *Candida*. It passed a preliminary screening test to predict antitumor actions in other research.
- In South American herbal medicine systems culen is traditionally used for enteritis, digestive disorders, and stomachaches, among other things. It was introduced into the United States in the late 1800s. It appeared in several early pharmaceutical texts and journals in the 1890s where it was reported with anthelmintic, tonic and vulnerary actions and recommended for anorexia, debility, diarrhea, dyspepsia, fatigue, intestinal worms, and wounds. In research over the years culen has been documented with antibacterial, antifungal, antihyperlipemic, anti-inflammatory, antimutagenic, antioxidant, antipsoriatic, antitumorous, antiviral, cytotoxic, febrifuge, and hepatoprotective actions.

AMAZON THROAT-EZ

Description: A soothing glycerine extract formula which combines the plants traditionally used in South America for coughing and sore throats. This formula is suitable for both children and adults.
Traditional uses by organ or system: Respiratory Tract: As an antitussive and expectorant for coughs, sore throats, tonsilitis, and bronchitis.
Ingredients: A proprietary blend of embauba (Cecropia peltata), guaco (Mikania guaco), culen (Otholobium glandulosum), amor seco (Desmodium adscendens), bellaco caspi (Himatanthus sucuuba), ayapana (Ayapana triplinervis), matico (Piper aduncum), and canchalagua (Schkuhria pinnata) extracted in distilled water, vegetable glycerine, and honey.
Suggested Use: For adults: Take 60 drops (2 ml) every 3 - 4 hours as needed. For children, take 10 drops for every 25 pounds of body weight every 4-6 hours.
Contraindications:
- Not to be used during pregnancy or while breast-feeding.
- This formula is contraindicated for hemophiliacs or those with bleeding disorders.

Drug Interactions: Guaco contains a large amount of natural coumarin. As such, it may enhance or increase the effect of coumadin (blood thinning) drugs.
Other Practitioner Observations and Possible Precautions: None.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Embauba is traditionally used in Brazilian herbal medicine for all types of respiratory complaints such as asthma, bronchitis, coughs, whooping cough, and pneumonia. Animal studies (with mice, rats, and guinea pigs) have shown that embauba has analgesic, anti-inflammatory, and antispasmodic activities which may explain, in part, its widespread traditional use in respiratory disorders.
- Guaco is well known in Brazil as a natural cough remedy. In 1870, a Brazilian herbal drug called *Opodeldo de Guaco* was made from guaco that was considered a "Saint's remedy" to treat bronchitis, coughs and rheumatism. In clinical studies guaco has demonstrated bronchodilator, cough suppressant, expectorant, antihistamine, anti-anaphylactic, and anti-inflammatory actions in animals and humans. It was also shown active against *Mutans streptococci* in another study.
- Culen is traditionally used in Chile as a bronchodilator and in Brazil it is traditionally used for asthma. In research over the years culen has been documented with antibacterial, antifungal, antihyperlipemic, anti-inflammatory, antimutagenic, antioxidant, antipsoriatic, antitumorous, antiviral, cytotoxic, febrifuge, and hepatoprotective actions.
- In ten different studies, researchers found that amor seco interfered with the production of many of the chemicals normally produced during an asthma attack: spasmogens that cause contractions in the lung; histamines; as well as and leukotrienes that are known to stimulate bronchoconstriction and increase mucus production in the airway. Amor seco has also been shown to activate potassium maxi-K channels which play an important role in regulating the tone of airway smooth muscle and the release of constrictive substances in the lungs. One of amor seco's chemicals, dehydrosoyasaponin I, was cited as being "the most potent known potassium (maxi-K) channel opener."
- Bellaco caspi is traditionally used in Peru to relieve pain, inflammation, and fever. Scientists have confirmed its analgesic, antibacterial, smooth muscle relaxant, and vulnerary actions in research.
- Ayapana is traditionally used in Brazilian herbal medicine for coughs and sore throats. Scientists over the years have reported that ayapana possesses analgesic, antibacterial, anticoagulant, antifungal, antiparasitic, anthelminitic, CNS depressant, and sedative action in various animal and laboratory studies.
- Matico is traditionally used for various upper respiratory conditions such as bronchitis, pulmonary hemorrhages, pleurisy, pneumonia, colds and flu, tonsilitis, and sore throats. *In vitro* research reports the broad-spectrum antimicrobial actions of matico.
- Canchalagua is traditionally used in Argentina and Peru for coughing and upper respiratory infections. Scientists have reported that canchalagua has antibacterial, antifungal, anti-inflammatory, antimalarial, antispasmodic, and anti-yeast actions.

AMAZON URINARY SUPPORT

Description: A synergistic formula of 7 rainforest plants traditionally used in South America to cleanse and detoxify the urinary tract system.
Traditional uses by organ or system: Kidney/Urinary Tract: For urinary tract infections, cystitis, and urethritis.
Ingredients: A proprietary blend of chanca piedra (Phyllanthus niruri), anamu (Petiveria alliacea), jatoba (Hymenaea courbaril), Brazilian peppertree (Schinus molle), pau d'arco (Tabebuia impetiginosa), erva tostão (Boerhaavia diffusa), and guaco (Mikania guaco).
Suggested Use: Take 2-3 capsules 3 times daily (depending on body weight).
Contraindications: Not to be used during pregnancy or while breast-feeding.
Drug Interactions: May potentiate anticoagulants and antihypertensive drugs.
Other Practitioner Observations and Possible Precautions:

- Several plants in this formula have been documented to reduce blood pressure in animal studies. Individuals with low blood pressure should be monitored for this possible effect.
- Several ingredients in the formula have demonstrated antimicrobial activities in laboratory studies. Adding probiotics to the diet may be beneficial if this formula is used for longer than 30 days.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Chanca piedra has demonstrated diuretic, antilithic, hepatoprotective, analgesic, hypotensive, antispasmodic, antiviral, antibacterial, and antimutagenic activities in laboratory research over the years. In human studies, researchers reported that chanca piedra promoted the elimination of stones and produced a significant increase in urine output as well as sodium and creatine excretion. In addition, chanca piedra demonstrated *in vitro* antibacterial actions against *Staphylococcus, Micrococcus*, and *Pasteurella* bacteria as well as *in vivo* and *in vitro* antiviral and antimalarial properties.
- Anamu has demonstrated broad-spectrum antimicrobial properties against numerous strains of bacteria, viruses, mycoplasma, fungi, and yeast in laboratory research over the years.
- Jatoba contains terpene and phenolic chemicals which are responsible for protecting the tree from fungi in the rainforest. Other laboratory studies have been performed on jatoba since the early 1970s which have shown that it has antimicrobial, molluscicidal, and antibacterial activities, including *in vitro* actions against such organisms as *E. coli, Psuedomonas, Staphylococcus* and *Bacillus*.
- Brazilian peppertree has demonstrated potent antimicrobial properties in laboratory tests. It has also displayed good-to-very strong *in vitro* antifungal actions against numerous fungi, as well as *Candida*.
- Pau d'arco has demonstrated broad-spectrum actions against a number of disease-causing microorganisms. Antimicrobial properties of many of pau d'arco's active phytochemicals were demonstrated in several clinical studies, in which they exhibited strong *in vitro* activity against bacteria, fungi, and yeast.
- Erva tostão has long been used in traditional medicine systems as a diuretic for many types of kidney and urinary disorders. This action has been studied and validated by scientists in several studies. Researchers showed that low dosages (10–300 mg per kg of body weight) produced strong diuretic effects, while higher dosages (more than 300 mg/kg) produced the opposite effect—reducing urine output. Later research verified these diuretic and antidiuretic properties, as well as the beneficial kidney and renal effects of erva tostão in animals and humans.
- Guaco has been documented with *in vitro* antibacterial, antiprotozoal, and antiyeast actions in laboratory studies.

AJOS SACHA CAPSULES

Description: Ajos sacha is an evergreen tropical shrubby vine that is native to the Amazon rainforest. Its Spanish name, *ajos sacha*, means "false garlic" and refers to the strong garlic smell and flavor of the leaves when crushed. Ajos sacha contains some of the same active plant chemicals found in regular garlic.This plant is referred to by two botanical names: *Mansoa alliacea* and *Adenocalymma alliaceum*.
Traditional uses by organ or system: Musculoskeletal: For arthritis and rheumatism, as a general analgesic (muscles, joints, body aches), and for general inflammation (external and internal).
Ingredients: 100% pure ajos sacha leaves *(Mansoa alliacea)*.
Suggested Use: Take 2 capsules 2-3 times daily or as needed.
Contraindications: None reported.
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions: None.

Synopsis of research: (Please the online **Tropical Plant Database for Ajos Sacha** for all cited research.)

In Peru and Brazil, ajos sacha is considered analgesic, anti-inflammatory, and antirheumatic and widely used for arthritis, rheumatism, body aches and pain, and muscle aches, injuries and pain.

In research published in 1980, a water extract of ajos sacha leaves was reported to have an antioxidant effect which was attributed to the anthocyanin compounds found in the plant. Researchers confirmed ajos sacha's long standing use for arthritis and rheumatism when they reported that the plant was capable of inhibiting COX and well as reduced ear edema in a study with rats in 1997.

Other research has reported that ajos sacha can lower cholesterol much like garlic does. It has also been reported with antimicrobial actions against fungi, plant viruses, and bacteria, which may help explain its other long standing uses for colds, flu, pneumonia and other upper respiratory infections.

Anti-inflammatory Actions:
Dunstan, C. A., et al. "Evaluation of some Samoan and Peruvian medicinal plants by prostaglandin biosynthesis and rat ear oedema assays." *J. Ethnopharmacol*. 1997; 57: 35-56.
Antioxidant Actions:
Scogin, R. "Anthocyanins of the *Bignoniaceae*." *Biochem. Syst. Ecol.* 1980; 273-276.
Desmarchelier, C., et al. "Total reactive antioxidant potential (TRAP) and total antioxidant reactivity (TAR) of medicinal plants used in Southwest Amazona (Bolivia and Peru)." *Int. J. Pharmacog.* 1997; 35(4): 288-296.
Cholesterol-Lowering Actions:
Yeh, Y. Y., et al. "Cholesterol-lowering effect of garlic extracts and organosulfur compounds: human and animal studies." *J. Nutr.* 2001 Mar; 131(3s): 989S-993S.
Srinivasan, M. R., et al., "Hypocholesterolemic efficacy of garlic-smelling flower *Adenocalymma alliaceum* Miers. in experimental rats." *Indian J. Exp. Biol.* 1995; 33(1): 64-66.
Antimicrobial Actions:
Rana, B. K., et al. "Antifungal activity of an aqueous extract of leaves of garlic creeper (*Adenocaymma alliaceum* Miers.)." *Pharmaceutical Biol.* 1999; 37(1): 13-16.
Singh, U. P., et al. "A rapid method for detecting fungi-toxic substances." *World Journal of Microbiology and Biotechnology.* 1996; 12(3): 301-302.
Khurana, S., et al. "Effect of plant extracts on the activity of three papaya viruses." *J. Gen. Appl. Microbiol.* 1970; 16: 225-230.
Ushamalini, C., et al. "Management of charcoal rot of cowpea using biocontrol agents and plant products." *Indian Phytopathol.* 1997; 50(4): 504-507.
Canapaty, S., et al. "Composition of leaf oil from *Adenocalymma alliaceum* and its antimicrobial activity." *Indian Perfumer*. 2004; 48(3): 323-329.
Rao, A. M., et al. "Antimicrobial activity of the leaf extract of *Adenocalymma alliaceum*." *Indian Drugs.* 1985: 22(7): 364-365.

ANAMU CAPSULES

Description: Many biologically active compounds have been discovered in anamu, including flavonoids, triterpenes, steroids, and sulfur compounds. Anamu contains a specific sulfur compound named dibenzyl trisulfide which has been documented with anticancerous actions. Anamu also contains the phytochemicals astilbin, benzaldehyde, and coumarin, all three of which have been documented with antitumorous and/or anticancerous properties as well.
Traditional uses by organ or system: Immune/Lymphatic System: For immune disorders (to stimulate immune function and immune cell production) and for cancer and leukemia.
Ingredients: 100% pure anamu whole herb (Petiveria alliacea).
Suggested Use: Take 2 capsules 2-3 times daily.
Contraindications:
- Methanol extracts of anamu were reported to cause uterine contractions in animals studies, therefore, it is contraindicated in pregnancy.

Drug Interactions: None published. However, due to anamu's natural coumarin content, it is conceivable that it may potentiate the effects of coumadin (Warfarin®).
Other Practitioner Observations and Possible Precautions:
- Anamu contains a low concentration of coumarin, which has a blood thinning effect. People with blood disorders such as hemophilia should be monitored more closely for this possible effect.
- This plant has been shown to have hypoglycemic effects in mice. People with hypoglycemia should be monitored more closely for this possible effect.

Synopsis of research: (Please the online **Tropical Plant Database for Anamu** for all cited research.)

Anamu has been found in both *in vivo* and *in vitro* studies to be an immunostimulant. In a 1993 study with mice, a water extract stimulated immune cell production (lymphocytes and Interleukin II). In the same year, another study with mice demonstrated that anamu increased natural killer cell activity by 100% and stimulated the production of even more types of immune cells (Interferon, Interleukin II, and Interleukin 4). Additional research from 1997 to 2001 further substantiated anamu's immunostimulant actions in humans and animals. In one study they reported: “Based on these findings we suggest that *P. alliacea* [anamu] up-regulates anti-bacterial immune response by enhancing both Th1 function and the activity of NK cells.”

Additional research published on anamu (and its plant chemicals) reveals that it has antileukemic, antitumorous, and anticancerous activities against several types of cancer cells. In an *in vitro* study by Italian researchers in 1990, water extracts and ethanol extracts of anamu retarded the growth of leukemia cells and several other strains of cancerous tumor cells. Three years later, they reported anamu was directly cytotoxic to leukemia and lymphoma cancer cells but only inhibited the growth of breast cancer cells. A study published in 2002 documented an *in vitro* toxic effect against a liver cancer cell line; another *in vitro* study in 2001 reported that anamu retarded the growth of brain cancer cells.

Other research suggests anamu's traditional use as a remedy for arthritis and rheumatism has been validated by documenting analgesic, antinociceptive, and anti-inflammatory properties. One research group in Sweden reported that anamu possesses COX-1 inhibitory actions. Another research group in Brazil documented significant anti-inflammatory effects in rats using various models, and researchers in 2002 noted a significant analgesic effect in rats. The analgesic and anti-inflammatory effects were even verified when an ethanol extract was applied topically in rats, again validating traditional uses.

Many *in vitro* laboratory studies document that anamu shows broad-spectrum antimicrobial properties against numerous strains of bacteria, mycobacteria, mycoplasma, viruses, fungi, and yeast.

ARTICHOKE EXTRACT

Description: Raintree Nutrition's concentrated artichoke extract uses new and proprietary extraction methods to concentrate and preserve the active ingredients found in this wonderful plant. Concentration and extraction methods provide the equivalent of 500 mg of artichoke leaves per milliliter of extract.
Traditional uses by organ or system: Gallbladder/Liver: For gallstones, as a gallbladder bile stimulant, as a liver bile stimulant and to support liver function. **Metabolism/Endocrine:** For high cholesterol.
Ingredients: Artichoke leaf (Cynara scolymus) extracted in distilled water, 40% vegetable glycerine and 10% ethanol.
Suggested Use: Take 60 drops (2 ml) two or more times daily or as desired.
Contraindications: None reported.
Drug Interactions: May potentiate anti-cholesterol drugs.
Other Practitioner Observations and Possible Precautions:

- Artichoke has demonstrated antihepatotoxic effects in animal studies. This effect may speed the clearance of certain drugs required to be metabolized in the liver.
- Artichoke has been documented to lower cholesterol in animal and human studies. Those taking drugs to lower their cholesterol may need to adjust their dosages accordingly.

Synopsis of research: (Please the online **Tropical Plant Database for Artichoke** for all cited research.)

Endocrine/ Blood Cholesterol:

In the 1970s, European scientists first documented artichoke and its main active chemical, cynarin, with the ability to lower cholesterol in humans. Over the years, other researchers have continued to document artichoke's or cynarin's effect in this area. One of the more recent studies, published in 2000, was a double-blind, randomized, placebo-controlled study that used an artichoke leaf extract that was standardized to its cynarin content. For six weeks, 143 patients with high cholesterol were given the extract; at the end of the test, results showed a decrease of 10%-15% in total cholesterol, low density lipoprotein (LDL), and ratio of LDL to high-density lipoprotein (HDL) cholesterol. Scientists now report that the cholesterol-lowering effect of artichoke can be attributed to chemicals other than just cynarin, including several newly discovered ones.

Liver/Gallbladder:

The antihepatotoxic and hepatoprotective properties of artichoke first came to the attention of researchers in 1966 (in a study that supported its effect on liver regeneration in rats). A 1987 study that focused on the effects of rat liver cells subjected to harmful chemical agents found both cynarin and caffeic acids (both in artichoke) to have significant hepatoprotective effects. The most recently documented finding, in 2002, noted that an artichoke leaf extract reversed damage done by hepatotoxic chemicals in rat liver cells and, in doing so, enhanced bile production.

A portion of artichoke's liver protective properties is thought to be attributed to its documented antioxidant actions. A 2002 study focused on the antioxidant effects of artichoke extract in cultured blood vessel cells and reported that the extract demonstrated "marked protective properties against oxidative stress induced by inflammatory mediators . . ." Artichoke's antioxidant properties were also confirmed in an earlier (2000) study that focused on human white blood cells under various induced oxidative stress.

A 1999 clinical investigation focused on gallbladder function. It "showed the efficacy and safety of artichoke extracts (Cynara scolymus L.) in the treatment of hepatobiliary dysfunction and digestive complaints, such as sensation of fullness, loss of appetite, nausea and abdominal pain." A 2000 human study with IBS patients reported that 96% rated artichoke leaf extract as better than, or at least equal to, previous therapies administered for their IBS symptoms.

AYAPANA EXTRACT

Description: Ayapana is an ornamental erect perennial herb with aromatic leaves that grows 20 to 30 cm high. Ayapana is native to South America and can be found in the Amazon region of Brazil, Ecuador, Peru, and the three Guyan as. Ayapana has three different Latin names (*Ayapana triplinervis*, *Eupatorium ayapana*, and *E. triplinerve*) but all three names refer to the same plant. Raintree's ayapana concentrated extract uses proprietary extraction methods to concentrate and preserve the active ingredients found in this rainforest plant. Concentration methods provide the equivalent of 500 milligrams of ayapana per milliliter of extract. Made with vegetable glycerine and purified water, it contains no alcohol.
Traditional uses by organ or system: Digestion/Elimination: As a stomachic for digestive problems (nausea, vomiting, stomachaches).
Ingredients: 100% pure ayapana leaves (Ayapana triplinervis) extracted in distilled water and vegetable glycerine.
Suggested Use: Take 60 drops (2 ml) 2-3 times daily or as needed.
Contraindications: Ayapana leaves contain naturally occurring coumarins. Coumarin has an anti-coagulant and blood thinning effect and is a precursor to coumadin drugs. Those with bleeding disorders should not take this product and those taking blood thinner medications should be monitored more closely for this possible effect.
Drug Interactions: Ayapana may enhance or increase the effect of blood-thinning medications.
Other Practitioner Observations and Possible Precautions: None.

Synopsis of research: (Please the online **Tropical Plant Database for Ayapana** for all cited research.)

In Brazilian herbal medicine systems ayapana is used for queasy stomachs, indigestion, diarrhea, nausea and vomiting, stomach ulcers, fever, headaches, and insomnia. Ayapana was first written about in the United States in the *American Journal of Pharmacy* in 1887 which noted: "The leaves are recommended against indigestion, pectoral complaints and in cholera, and were used for similar purposes in Europe in the early part of the present century." Ayapana leaves are also official in the *French Pharmacopoeia*.

Ayapana is a rich source of naturally occurring coumarin chemicals. Two of ayapana's coumarin chemicals are called *ayapanin* and *ayapin* which were first discovered in the late 1930's. These chemicals were reported to have pronounced blood-thinning or anticoagulant actions in four early studies.

In a laboratory study in 1998, a methanol extract of the dried leaves of ayapana did not evidence any antibacterial activity but did show a weak antifungal activity by researchers in Mauritius. Other researchers in India working with a pet ether extract of the leaves also reported marginal or no results against various strains of bacteria and fungi. An ethanol extract of the entire plant (harvested in Surinam) was reported to be active against *Bacillus subtilis* at 50 mg/ml but inactive against other bacterial, yeast and fungal strains tested. Researchers in India reported a weak activity against several fungal strains with the leaf essential oil.

The essential oil of the flowers has yielded much better antimicrobial results than the plant itself. In 1979, researchers in India reported a strong activity against 10 strains of fungi *in vitro* using the essential oil of ayapana flowers. In 1993, the essential oil from the flowers of ayapana was reported to possess antibacterial (against staph, cholera, pneumonia, and shigella), as well as antiparasitic (*Ascaris*), and anthelminitic (*Taenia*) actions by researchers in India. In an early animal study, the flower essential oil injected into mice was reported to have CNS depressant, analgesic, and sedative effects (as well as an *in vitro* antibacterial effect).

BELLACO CASPI EXTRACT

Description: Bellaco caspi is a tropical rainforest tree growing 8-16 meters in height with a tall, narrow, pyramidal crown. The bark and the latex of bellaco caspi tree has a long history of use among the Indians in the Amazon. Raintree's bellaco caspi concentrated extract uses new and proprietary extraction methods to concentrate and preserve the active ingredients found in this rainforest plant. Concentration methods provide the equivalent of 500 milligrams of bark and resin per milliliter of extract.
Traditional uses by organ or system: Immune/Lymphatic System: For lymphatic cleansing, inflammation, and infections. **Reproductive/Hormonal System:** For endometriosis, uterine fibroid tumors, menstrual irregularities and pain, ovarian cysts, and ovarian inflammation.
Ingredients: 100% pure bellaco caspi bark and resin (Himatanthus sucuuba) extracted in distilled water and ethanol.
Suggested Use: Take 60 drops (2 ml) 2-3 times daily or as needed.
Contraindications: None reported.
Drug Interactions: None reported.

Synopsis of research: (Please the online **Tropical Plant Database for Bellaco caspi** for all cited research.)

In Brazilian herbal medicine, bellaco caspi is considered analgesic, anti-inflammatory, antitumoral, antifungal, anthelmintic, aphrodisiac, emmenagogue, febrifuge, purgative, tonic, vermifuge, and vulnerary. Practitioners and herbalists in Brazil recommend it for lymphatic gland diseases and inflammation; female disorders such as endometriosis, uterine fibroid tumors, menstrual irregularities and pain, ovarian cysts and ovarian inflammation; cancerous tumors and skin cancers; digestion problems such as indigestion, stomachaches, bowel inflammation and gastric ulcers; general pain and inflammation (arthritis, rheumatism, and fractures); coughs, fevers, headaches, asthma and other lung disorders, and various skin issues such as wounds, ulcers, and rashes. Bellaco caspi is found in *The Dispensatory of the United States of America* which was published in 1918 and asserted febrifuge, anthelmintic and emmenagogue actions to the tree bark.

A review of some of the chemicals found in bellaco caspi might explain some of the many traditional uses of this tropical rainforest tree. An antitumor iridoid compound and two depsides showing inhibitory activity of monoamine oxidase B (MAO-B) have been isolated from bellaco caspi bark. In addition, two iridoid chemicals called *plumericin* and *isoplumericin* have been found in the tree bark and the latex. These two chemicals have been reported with cytotoxic, anticancerous, antifungal, and antibacterial actions in laboratory research.

In 2005, Brazilian researchers verified bellaco caspi's traditional use for stomach ulcers and digestion problems. They reported that an extract of the bark significantly protected rats from lab-induced ulcers and reduced gastric hypersecretion through several novel mechanisms of actions. The tree's long standing use for healing wounds was verified by Peruvian researchers in an animal study published in 1997. Brazilian researchers confirmed in 2000 that the latex evidenced significant anti-inflammatory and analgesic actions in laboratory animals which confirmed earlier anti-inflammatory research performed in 1978. They reported that bellaco caspi could exert anti-inflammatory effects even in the acute phase of the inflammatory process and attributed these effects to the cinnamate chemicals found in the latex and bark.

In 2001, researchers in the United States reported that the bark of bellaco caspi was significantly cytotoxic *in vitro* to 5 different human cancer cell lines. They related this anticancerous action to the iridoids and triterpenoids in the tree bark. It also passed a brine shrimp assay which predicts anti-tumor activity in 2003.

Toxicity studies in laboratory animals indicate that the use of bellaco caspi at traditional dosages is non-toxic. Even when a bark extract was given to pregnant rats, there were no toxic, abortive, or birth defects reported.

BOBINSANA EXTRACT

Description: Bobinsana is a shrubby tree that grows 4 to 6 meters high that is usually found alongside rivers and streams in the Amazon Basin. It is native to South America and can be found in the Amazon regions of Peru, Ecuador, Colombia, Brazil and Bolivia. Raintree's bobinsana concentrated extract uses new and proprietary extraction methods to concentrate and preserve the active ingredients found in this rainforest plant. Concentration methods provide the equivalent of 500 milligrams of bark per milliliter of extract.
Traditional uses by organ or system: Musculoskeletal: For arthritis and rheumatism.
Ingredients: 100% pure bobinsana bark (Calliandra angustifolia).
Suggested Use: Take 60 drops (2 ml) 2-3 times daily or as needed. This extract can also be used externally by applying to the skin twice daily and letting dry completely.
Contraindications: None reported.
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions: Bobinsana is traditionally used as a contraceptive in Peru. While there is no research to confirm this possible action, those seeking to get pregnant should probably avoid this plant.

Synopsis of research: (Please the online **Tropical Plant Database for Bobinsana** for all cited research.)

Thus far, only one laboratory study has been published on bobinsana. Researchers in Sweden evaluated the anti-inflammatory action of a ethanol extract of the tree's bark. While they reported that it was inactive with a topical application on rat's ears, they did report that the extract inhibited COX-1 prostaglandin biosynthesis. COX-inhibitors are a class of pharmaceutical drugs for arthritis and this documented action may help explain why bobinsana has such a long-standing reputation for arthritis and rheumatism in South American herbal medicine.

Bobinsana is not very well known as an herbal remedy in the United States. There are only a handful of bobinsana products to choose from in the U.S. natural products market. In Peru today, bobinsana is a well respected remedy for joint, bone, and muscle pain in arthritis and rheumatism. It is also a popular local remedy for uterine cancer.

BRAZILIAN PEPPERTREE EXTRACT

Description: Raintree Nutrition's concentrated Brazilian peppertree extract uses new and proprietary extraction methods to concentrate and preserve the active ingredients found in this rainforest tree. Concentration and extraction methods provide the equivalent of 500 mg of Brazilian peppertree bark per milliliter of extract.
Traditional uses by organ or system: Cardiovascular: As a cardiotonic, for arrhythmia and mild hypertension.
Ingredients: 100% pure Brazilian peppertree bark (Schinus molle) extracted in distilled water and 40% ethanol.
Suggested Use: Take 60 drops (2 ml) 2-3 times daily or as needed.
Contraindications: This plant has been documented with uterine stimulant and uterine antispasmodic actions in animal studies and should therefore not be used in pregnancy.
Drug Interactions: None reported; however, this plant has been documented with hypotensive actions in animal studies. In light of such, it is conceivable that the use of this plant may potentiate antihypertensive drugs.
Other Practitioner Observations and Possible Precautions:
- Brazilian peppertree has demonstrated significant antimicrobial actions in laboratory studies. Supplementing the diet with probiotics and digestive enzymes is advisable if this products is used for longer than 30 days.
- For hypertension, Amazon Heart Support is better indicated than Brazilian peppertree alone.

Synopsis of research: (Please the online **Tropical Plant Database for Brazilian Peppertree** for all cited research.)

In Brazilian herbal medicine systems today, Brazilian peppertree is employed for heart problems (hypertension and arrhythmia), infections of all sorts, menstrual disorders with excessive bleeding, tumors, and general inflammation.

Over the years, several research groups have conducted animal studies on Brazilian peppertree that have substantiated some of its many traditional uses in herbal medicine. In one study Brazilian peppertree was shown to lower blood pressure in dogs and rats, as well as to stimulate uterine activity in guinea pigs and rabbits. It has also demonstrated analgesic activity in mice and antispasmodic properties in rats and guinea pigs. In one human study, Brazilian peppertree was used to treat 100 patients with chronic cervicitis and vaginitis effectively. In 1995 and 1996, other researchers documented the anti-inflammatory properties of the plant once again.

In laboratory tests, all parts of the tree have demonstrated potent antimicrobial properties. It displayed good-to-very strong *in vitro* antifungal actions against numerous fungi, as well as *Candida*. One research group indicated that the antifungal action was more effective than the antifungal drug Multifungin.® It has also demonstrated *in vitro* antibacterial activity against numerous bacterial strains (which probably explains why it is an herbal remedy for so many infectious conditions in its native countries). In 1996, a U.S. patent was awarded for an essential oil preparation of Brazilian peppertree as a topical bactericidal medicine used against *Pseudomonas* and *Staphylococcus* for humans and animals, and as an ear, nose, and/or throat preparation against bacteria. Another patent was awarded in 1997 for a similar preparation used as a topical antibacterial wound cleanser. In much earlier *in vitro* tests, Brazilian peppertree demonstrated antiviral actions against several plant viruses.

In addition to these documented antimicrobial properties, Brazilian peppertree passed an anticancer plant screening program in 1976 by demonstrating antitumorous actions. More recently, in 2002, researchers in Argentina documented that it was toxic *in vitro* against a human liver cancer cell line.

CAIGUA CAPSULES

Description: Caigua is a slender tropical vine that is indigenous to South America. It grows up to 40 feet in length with long tendrils for climbing. Caigua produces cucumber-like fruits that are known to contain flavonoid glycosides (including four novel ones never reported before) that have shown an antioxidant effect in laboratory research. In addition, the fruits have yielded nine triterpenoid saponins, among them six new natural compounds never seen before.
Traditional uses by organ or system: Metabolism/Endocrine: For high cholesterol.
Ingredients: 100% pure caigua fruit powder (Cyclanthera pedata).
Suggested Use: Take 2 capsules 3 times daily.
Contraindications: None reported.
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions: None.

Synopsis of research: (Please the online **Tropical Plant Database for Caigua** for all cited research.)

Research conducted in Peru has reported that caigua can lower cholesterol levels in humans. A double-blind placebo study with 60 patients over one year reported that 82% of the patients lowered their LDL cholesterol by an average of 18.3% by reducing HDL by 23% and raising HDL-levels by 42%. Patients were given either a placebo, or four or six 300 mg capsules daily of dehydrated fruit juice. Another study with 29 patients reported similar results in 10 days with total cholesterol dropping by 21.1% (HDL decreased by 63.55% and triglycerides by 36.37%). These subjects were given 100 cc daily of fruit juice (the equivalent of about 6 fresh fruits). Another study with 17 patients reported an average drop in cholesterol of 21.51% after 21 days taking two (300 mg dehydrated fruit juice) capsules daily (LDL decreased by 22.57% and triglycerides by 16.33%). In a 12-week study with postmenopausal women taking six (300 mg) capsules of caigua dehydrated fruit juice, they reported women lowered LDL cholesterol by 33% and increased HDL by 33%. There were no drug interactions, contraindications or side effects reported in any of the studies.

CALAGUALA EXTRACT

Description: Raintree Nutrition's calaguala extract combine two species of rainforest ferns (*Polypodium leucotomos* and *Polypodium decumanum*). These plants are known locally as kallawalla, calaguala, and samambaia in Latin and South American countries. They are a rich source of lipids and fatty acids and the therapeutic activity of the plants are attributed to these groups of chemicals. Within its lipids are a group of chemicals called sulphoquinovosyldiacylglycerols, (including those named calaguline or anapsos) which have been documented and patented as part of the plant's "active" chemicals.
Traditional uses by organ or system: Brain/CNS: For Alzheimer's disease, dementia, and memory problems.
Ingredients: 100% pure calaguala rhizome (Polypodium leucotomos) and samambaia rhizome and leaf (Polypodium decumanum) extracted in distilled water and vegetable glycerine.
Suggested Use: Take 60 drops (2 ml) three times daily.
Contraindications: Reports indicate that samambaia may enhance the effects of the heart drug, digitalis. It is therefore contraindicated in combination with digitalis, and persons with any heart condition should be monitored more closely for possible effects.
Drug Interactions: May potentiate the effects of digitalis and/or other digitalis-type prescription heart drugs.

Synopsis of research: (Please the online **Tropical Plant Database for Calaguala** for all cited research.)

In 1997, a U.S. patent was filed on a samambaia leaf and rhizome extract capable of treating brain disorders such as Alzheimer's disease and dementia. The patent and several *in vivo* clinical studies indicate samambaia protects against brain cell degeneration, promotes repair of damaged brain cells, and has a protective effect to brain cells. This was discovered when psoriasis patients in Europe taking calaguala (who also had Alzheimer's) reported an improvement in their Alzheimer's symptoms. This led the drug manufacturer to fund clinical trials on its use for brain disorders. In a double-blind placebo human trial (in 2000), researchers reported that a dosage of 360 mg per day of calaguala given to patients with senile dementia improved cognitive performance, increased the blood supply to the brain, and also increased the electrical impulses in the brain. The results were better with Alzheimer's patients and those with mild dementia than those with severe dementia and extensive brain cell degeneration. Calaguala (now called *anapsos*) is used in Spain and Europe for the treatment of Alzheimer's and dementia.

Anti-Alzheimer's & Brain Cell Protection Actions:

Alvarez, X. A., et al. "Double-blind, randomized, placebo-controlled pilot study with anapsos in senile dementia: effects on cognition, brain bioelectrical activity and cerebral hemodynamics." *Methods Find. Exp. Clin. Pharmacol.* 2000; 22(7): 585–94.

Cacabelos, R., et al. "A pharmacogenomic approach to Alzheimer's disease." *Acta Neurol. Scand. Suppl.* 2000; 176: 12–19.

Alvarez, X. A., et al. "Anapsos improves learning and memory in rats with Beta-Amyloid (1-28) deposits in the hippocampus" *Progress in Alzheimer's and Parkinson's Diseases*, Ed. Fisher, A., Yoshida, M. and Hannin, I., Plenum Press, New York, 1998; pp. 699-703

Nikolov, R. "Alzheimer's disease therapy - an update." *Drug News Perspect.* 1998 May; 11(4): 248-55.

Alvarez, X. A., et al. "Anapsos reverses interleukin-1 beta overexpression and behavioral deficits in nbM-lesioned rats." *Methods Find. Exp. Clin. Pharmacol.* 1997; 19(5): 299–309.

Fernandez-Novoa, L., et al. "Effects of Anapsos on the activity of the enzyme Cu-Zn-superoxide dismutase in an animal model of neuronal degeneration." *Methods Find. Exp. Clin. Pharmacol. 1997*; 19(2): 99–106.

Quintanilla A. E., et al. "Pharmaceutical composition of activity in the treatment of cognitive and/or neuroimmune dysfunctions." U.S. patent no. 5,601,829; 1997.

CARQUEJA EXTRACT

Description: Carqueja is rather like the South American version of milk thistle. It contains up to 20% flavonoids, including quercetin, luteolin, nepetin, apigenin, and hispidulin. The flavonoids are considered carqueja's main active constituents. Raintree Nutrition's concentrated carqueja extract uses new and proprietary extraction methods to concentrate and preserve the active ingredients found in this rainforest plant. Concentration and extraction methods provide the equivalent of 500 mg of carqueja whole herb per milliliter of extract.

Traditional uses by organ or system: Digestion/Elimination: For digestive disorders (gastric ulcers, *Helicobacter pylori* ulcers, gastroenteritis, acid reflux, and ileocecal valve disorders) and as a natural antacid. **Liver/Gallbladder:** To tone, balance, and strengthen liver function (also to eliminate liver flukes, increase liver bile and to remove toxins from the liver), and for gallbladder disorders (stones, pain, lack of bile, sluggish action, toxin build-up).

Ingredients: Carqueja whole herb (Baccharis genistelloides) extracted in distilled water and 40% ethanol.

Suggested Use: Take 60 drops (2 ml) 2 or more times daily.

Contraindications:

- Not to be used during pregnancy as carqueja has demonstrated uterine stimulant and abortive effects in rats.
- Carqueja has been documented with mild hypotensive effects in animal studies. Persons with hypotension should be monitored more closely for this possible effect.
- Carqueja has been documented to lower blood glucose levels in human and animal studies. As such, it is contraindicated in persons with hypoglycemia.

Drug Interactions: None reported; however, it may potentiate diabetic and antihypertensive drugs.

Other Practitioner Observations and Possible Precautions:

- Carqueja has demonstrated antihepatotoxic effects in animal studies. As such, it may speed the clearance of some drugs metabolized in the liver, thereby reducing the pharmacological effect (and/or side effects) of certain drugs required to be metabolized in the liver.

Synopsis of research: (Please the online **Tropical Plant Database for Carqueja** for all cited research.)

Digestion/Elimination:

Carqueja's antacid, antiulcer, and hypotensive properties were documented in two Brazilian animal studies in 1992. Its antiulcer and analgesic properties were reported in a 1991 clinical study that showed that carqueja reduced gastric secretions and had an analgesic effect in rats with *Helicobacter pylori* ulcers. That study concluded that carqueja "may relieve gastrointestinal disorders by reducing acid secretion and gastrointestinal hyperactivity." A later study, in 2000, confirmed its antiulcerogenic effect when a water extract of carqueja administered to rats protected them from alcohol-induced ulcers. Other researchers documented carqueja's analgesic effects. This same research group in Spain also reported a strong anti-inflammatory effect—a 70%-90% inhibition—when mice were treated with the carqueja extract prior to being treated with various chemicals that induced inflammation.

Liver/Gallbladder:

Carqueja's hepatoprotective properties were confirmed in a clinical study when a crude flavonoid fraction of carqueja as well as a crude leaf/stem extract dose-dependently increased the survival rate to 100% in mice administered lethal dosages of phalloidin (a liver toxin) as compared to only a 24% survival rate in the control group. While these scientists indicated that the single flavonoid hispidulin evidenced the highest hepatoprotective effect of the flavonoids tested (it increased survival to 80%), the crude extract and the whole flavonoid fraction provided a stronger hepatoprotective and antihepatotoxic effect than the single flavonoid. This led them to think that other constituents in the crude extract, besides the flavonoids, had hepatoprotective and antihepatotoxic effects and/or there were interactions between the flavonoids and other plant chemicals that potentiated the flavonoids' effects.

CAT'S CLAW CAPSULES

Description: Some of the active ingredients documented and researched in cat's claw are 6 oxindole alkaloids. These alkaloids have been documented worldwide by independent research and patented to boost immune function. Raintree's cat's claw capsules are 100% pure dried, ground, alkaloid-rich inner bark of cat's claw—rich in these naturally occurring alkaloids. We use no binders or fillers. Based on independent assays, Raintree's cat's claw capsules has the highest alkaloid content of any standard inner bark capsules available. Because of our commitment to quality, Raintree's alkaloid content has always assayed in a range of 1.2% to 1.58%.

Traditional uses by organ or system: Immune/Lymphatic System: As an immune stimulant and an adjunctive therapy for cancer (to reduce side effects of chemotherapy and protect cells).

Ingredients: 100% pure cat's claw inner vine bark (Uncaria tomentosa).

Suggested Use: Take 2 capsules twice daily.

Contraindications:

- Cat's claw has been clinically documented with immunostimulant effects and is contraindicated before or following any organ or bone marrow transplant or skin graft.
- Cat's claw has been documented with antifertility properties and is contraindicated in persons seeking to get pregnant (this effect however has not been proven to be sufficient to be used as a contraceptive and should not be relied on for such).

Drug Interactions: None reported.

Other Practitioner Observations and Possible Precautions: Cat's claw requires sufficient stomach acid to help break down the tannins and alkaloids during digestion and to aid in absorption. Avoid taking capsules at the same time as antacids.

Synopsis of research: (Please the online **Tropical Plant Database for Cat's Claw** for all cited research.)

Studies on cat's claw began in the early 1970s when Klaus Keplinger organized the first definitive work on cat's claw. Keplinger's work in the 1970s and 1980s led to several extracts of cat's claw being sold in Austria and Germany as herbal drugs, as well as the filing of four U.S. patents describing extraction procedures for the immune-stimulating oxindole alkaloids. These novel oxindole alkaloids fueled worldwide interest in the medicinal properties of this valuable vine of the rainforest. Other independent researchers in Spain, France, Japan, Germany, and Peru followed Keplinger,confirming his research on the immunostimulating alkaloids in the vine and root. Many of these studies published from the late 1970s to early 1990s indicated that the whole oxindole alkaloid fraction (which included both POA and TOA alkaloids), whole vine bark and/or root bark extracts (which included all alkaloids), when used in relatively small amounts, increased immune function by up to 50%. These study results were substantiated by Canadian researchers at the University of Ottawa (1999) and by Peruvian researchers (1998), both working with the whole vine extract (which included both TOA and POA alkaloids).

Proprietary extracts of cat's claw have been manufactured since 1999, and clinical studies, funded by the manufacturers of these extracts, have been published showing that these cat's claw products continue to provide the same immune stimulating benefits as has been documented for almost 20 years. But then facts concerning cat's claw's benefits became confusing, as often happens with market-driven research. A manufacturer of a cat's claw extract funded a test tube study about these immune stimulating alkaloids. The research indicated that cat's claw produces "good alkaloids" and "bad alkaloids" and coined the "good ones" pentacyclic (POA) alkaloids and the "bad ones" tetracyclic (TOA) alkaloids. Their research and marketing attempts to suggest that one set of "bad alkaloids" counteracts the immune benefits of the "good alkaloids." This research has not been confirmed by independent researchers—that is, those who are not selling cat's claw or being paid by companies selling cat's claw. This research has also not been confirmed in humans or animals. This market-driven research would seek to discount or disprove all the definitive, independent research done over the last three decades in Japan, Peru, Germany, Spain, and the United States (including the four U.S. patents filed by these same researchers). Indeed, some of the "new research" refuted the marketer's original (and independently confirmed) findings.

CHÁ DE BUGRE CAPSULES

Description: Chá de bugre products are highly commercialized as a weight loss aid in Brazil where tea bags, fluid extracts and tinctures of chá de bugre are commonly seen in pharmacies, stores, and even in the beach-front eateries and refreshment stands along Rio de Janeiro's beaches. It has long been a popular weight loss product which has been marketed as a diuretic, appetite suppressant, and believed to help prevent or reduce fatty deposits and cellulite.
Traditional uses by organ or system: Metabolism/Endocrine: For fat metabolism and weight loss, for cellulite, and as an appetite suppressant and mild diuretic.
Ingredients: 100% pure chá de bugre leaves (Cordia salicifolia).
Suggested Use: Take 2 capsules 2-3 times daily or as desired.
Contraindications: None reported.
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions: None.

Synopsis of documentation: (Please the online **Tropical Plant Database for Cha de bugre** for all cited documentation.)

Dr. C.L. Cruz in his book, *Dictionary of the Plants Used in Brazil*, recommends chá de bugre as an excellent diuretic and weight loss aid as well as a good general heart tonic which can help stimulate circulation. It is also used in Brazil and Haiti as a tea to help relieve coughs, regulate renal function, reduce uric acid and externally to heal wounds.

Since chá de bugre is a commonly sold and popular natural product already, very little clinical research or interest has been shown to study the plant in Brazil. A Japanese university however has discovered some new uses for chá de bugre. In 1990, they demonstrated that a leaf extract reduced herpes virus penetration by 99% when they pre-treated cells with chá de bugre. In 1994, they demonstrated that the herpes virus yield was reduced by 33% with as little as 0.25 mcg/ml and also discovered that it had toxic activity against cancer cells (demonstrating a 40% inhibition) utilizing an extract of the branches and leaves. Then in 1997, research with rabbits and guinea pigs validated the traditional use of the plant as a heart tonic when they reported cardiotonic and increased cardiovascular actions using a leaf extract.

One certainly sees less cellulite on Rio's beaches than most American beaches, however, this phenomenon is not attributed to just chá de bugre. Most practitioners know that weight loss is a simple formula of the quantity of calories consumed versus the number of calories burned thru activity and exercise. Brazilians, on average, lead a much more physically active lifestyle than the average American. Chá de bugre is not a magic bullet for weight loss. It simply helps or encourages people to consume fewer calories. It is a great appetite suppressant—but rather than cutting off appetite all together (then causing intense hunger when it wears off at the wrong time) it gives one a sense of being full and satiated after eating only a few bites of food. This seems to promote much smaller meals, more often, which is what many practitioners believe is better for sustained weight loss and keeping the metabolism more active throughout the day. Chá de bugre works best if taken 30 minutes to one hour prior to a meal.

CHANCA PIEDRA CAPSULES or EXTRACT

Description: Chanca piedra means "Stone Breaker" throughout South America and the Amazon where it is commonly employed for kidney stones and gallstones.
Traditional uses by organ or system: Gallbladder/Liver: For gallstones, and as a hepatotonic, hepatoprotector, and antihepatotoxic to tone, balance, strengthen, detoxify, and protect the liver and to balance liver enzymes. **Kidney/Urinary Tract:** For kidney stones and gout, to tone, balance, strengthen, detoxify and protect the kidneys and to reduce uric acid and increase urination.
Ingredients: 100% pure chanca piedra whole herb (Phyllanthus niruri). The extract is made with distilled water and 40% vegetable glycerine.
Suggested Use: Capsules: Take 2-3 capsules twice daily. Extract: Take 60 drops two or more times daily.
Contraindications: Not to be used during pregnancy or while breast-feeding.
Drug Interactions: None reported; however, it may potentiate antihypertensive and diuretic drugs.
Other Practitioner Observations and Possible Precautions:

- Chanca piedra has been documented with female antifertility effects in one mouse study (the effect was reversed 45 days after cessation of dosing). While this effect has not been documented in humans, the use of the plant is probably contraindicated in women seeking pregnancy or taking fertility drugs.
- This plant has demonstrated hypoglycemic activity. Individuals with hypoglycemia or diabetes should be monitored more closely for this possible effect.

Synopsis of research: (Please the online **Tropical Plant Database for Chanca Piedra** for all cited research.)

Kidney/Urinary Tract:

Chanca piedra has been documented in human and animal studies to have the ability to block the formation of calcium oxalate crystals as well as provide a direct antilithic action. Three new studies were published in 2006 on chanca piedra's beneficial uses for kidney stones and gout. In a long-term randomized study with 150 human patients with a history of kidney stones, researchers confirmed the plant's ability to prevent reoccurring stone formation in humans and reported: "Regular self-administration of *P. niruri* [chanca piedra] after extra-corporeal shock wave lithotripsy for renal stones results in an increased stone-free rate that appears statistically significant for lower caliceal location." A 2006 animal study confirmed the plant's use for gout reporting that it: "significantly reversed the plasma uric acid level of hyperuricemic animals to its normal level in a dose-dependent manner, comparable to that of allopurinol, benzbromarone and probenecid which are used clinically for the treatment of hyperuricemia and gout. Another 2006 study with rats indicated that chanca piedra: "may have a therapeutic potential, since it was able to modify the shape and texture of calculi to a smoother and probably more fragile form, which could contribute to elimination and/or dissolution of calculi." In an earlier 2002 rat study, researchers reported that chanca piedra strongly inhibited the growth and number of stones formed over the control group. In 2003, scientists again confirmed *in vitro* that chanca piedra could help prevent the formation of kidney stones. Previously (in the mid-1980s) the antispasmodic activity of chanca piedra was reported. This led researchers to surmise that "smooth muscle relaxation within the urinary or biliary tract probably facilitates the expulsion of kidney or bladder calculi." Researchers had already reported chanca piedra's antispasmodic properties and smooth muscle relaxant properties in several earlier studies.

Gallbladder/Liver:

The hepatoprotective activity of chanca piedra have been confirmed in one *in vitro* study and four *in vivo* studies (with rats and mice). Researchers reported that chanca piedra protected rats from liver damage induced by alcohol, and normalized a "fatty liver." In addition, two human studies reported chanca piedra's hepatoprotective and antihepatotoxic actions in children with hepatitis and jaundice. Indian researchers reported that chanca piedra was an effective single drug in the treatment of jaundice in children, and British researchers reported that children treated with a chanca piedra extract for acute hepatitis had liver function return to normal within five days. Researchers in China also reported liver protective actions when chanca piedra was given to adults with chronic hepatitis. A 2000 study even documented that chanca piedra increased the life span of mice with liver cancer from thirty-three weeks (control group without treatment) to fifty-two weeks.

CHUCHUHUASI EXTRACT

Description: Indigenous people of the Amazon rainforest have been using the bark of chuchuhuasi medicinally for centuries; it's name means "trembling back" which describes its long history of use for back pain. Raintree Nutrition's chuchuhuasi concentrated extract uses new and proprietary extraction methods to concentrate and preserve the active ingredients found in this amazing rainforest plant. It is rich in active and beneficial phytochemicals which occur naturally in this plant. The extraction methods used provides the equivalent of approximately 500 mg of chuchuhuasi bark per milliliter of extract—resulting in a highly potent concentrated extract.
Traditional uses by organ or system: Adrenal: To cool, balance and support adrenal function.
Musculoskeletal: As an analgesic, a muscle relaxant, and an anti-inflammatory for arthritis, rheumatism, and back pain.
Ingredients: 100% pure chuchuhuasi bark (Maytenus krukovii) extracted in distilled water and 40% ethanol.

Suggested Use: Take 60 drops (2 ml) 2-3 times daily or as needed.
Contraindications: Not to be used during pregnancy or while breast-feeding.
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions: None reported.

Synopsis of research: (Please the online **Tropical Plant Database for Chuchuhuasi** for all cited research.)

In the Peruvian Amazon, chuchuhuasi is traditionally used as a muscle relaxant, aphrodisiac, and analgesic, for adrenal support, as an immune stimulant, and for menstrual balance and regulation. In Peruvian herbal medicine systems, chuchuhuasi alcohol extracts are used to treat osteoarthritis, rheumatoid arthritis, bronchitis, diarrhea, hemorrhoids, adrenal disorders and menstrual irregularities and pain.

Chuchuhuasi's long history of use has fueled much clinical interest in the research community. In the 1960s, an American pharmaceutical company discovered potent immune-stimulating properties of a leaf extract and a bark extract, documenting that it increased phagocytosis in mice. Researchers reported that alcohol extracts of the bark evidenced anti-inflammatory and analgesic activities in various studies with mice, which validated chuchuhuasi's traditional uses for arthritic pain. Its anti-inflammatory action again was reported in the 1980s by an Italian research group. They reported that this activity (in addition to radiation protectant and antitumor properties) were at least partially linked to triterpenes and antioxidant chemicals isolated in the trunk bark. Research published in 2006 reportes that crude chuchuhuasi extracts evidenced potent antioxidant and antimutagenic actions.

In 1993, a Japanese research group isolated another group of novel alkaloids in chuchuhuasi that may be responsible for its effectiveness in treating arthritis and rheumatism. In the United States, a pharmaceutical company studying chuchuhuasi's anti-inflammatory and anti-arthritic properties determined that these alkaloids can effectively inhibit enzyme production of protein kinase C (PKC). PKC-inhibitors have attracted much interest worldwide, as there is evidence that too much PKC enzyme is involved in a wide variety of disease processes (including arthritis, asthma, brain tumors, cancer, and cardiovascular disease). A Spanish research team found more new phytochemicals in 1998, one of which was cited as having activity against aldose reductase. (This enzyme is implicated in nerve damage in diabetic patients.)

CUMASEBA EXTRACT

Description: Cumaseba is a tropical rainforest tree that grows up to 15 meters high. It can be found in lower elevations throughout the Amazon basin area in Brazil, Peru, Colombia, Venezuela and the three Guianas (Guyana, French Guiana, & Suiname)
Traditional uses by organ or system: Musculoskeletal: For rheumatism and arthritis, for fractures and dislocations, and for other painful and/or inflamed joint, muscle and/or bone conditions.
Ingredients: 100% pure cumaseba bark (Swartzia polyphylla) extracted in distilled water and ethanol.
Suggested Use: Take 60 drops (2 ml) 2-3 times daily or as needed.
Contraindications: None reported.
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions: None.

Synopsis of research: (Please the online **Tropical Plant Database for Cumaseba** for all cited research.)

In the Amazon, the bark and/or wood of the cumaseba tree is employed for rheumatism, to speed the healing of bone fractures and dislocations, and as a postpartum tonic. Indian tribes in the Amazon believe that the tree bark gives strength and prevents laziness and use it to strengthen the body during illness and to speed healing.

University researchers in the United States discovered two novel isoflavanone chemicals in cumaseba and reported in two studies in 1996 and 1995 that these chemicals, as well as the crude bark extract, was able to inhibit Protein Kinase C (PKC). PKC inhibitors have attracted a great deal of scientific interest worldwide, as there is evidence that too much PKC enzyme is involved in a wide variety of disease processes including arthritis, asthma, brain tumors, cancer, cardiovascular disease and other inflammatory processes.

A Brazilian research group screening plants against cancer reported that cumaseba bark was toxic to colon and lung cancer cell lines *in vitro* but the action was not very strong. Other scientists have confirmed through *in vitro* testing that cumaseba is a good antimicrobial. It has been reported to kill *Mycobacterium tuberculosis*, including several antibiotic-resistant strains, the stomach bacteria linked to ulcers and stomach cancer, *H. pylori*, several types of mouth bacteria that cause cavities and gingivitis, and other Gram-positive strains of bacteria. Cumaseba has also been documented to have actions against fungus and *Candida*. Most of these researchers have attributed the antimicrobial actions of cumaseba to its iso-flavone chemicals.

Cumaseba is rich in flavonoids and isoflavones. It contains a significant amount of an isoflavone chemical called biochanin A which has been well studied and documented (over 150 studies published to date). Biochanin A has been documented with Selective Estrogen Receptor Modulator (SERM) actions, the ability to lower PSA levels in prostate cancer cells, cancer-preventative actions, and direct anti-tumor and cytotoxic actions against colon, breast, and prostate cancer cell lines.

GUACATONGA CAPSULES

Description: Some of the active ingredients documented, researched, and verified in guacatonga are a group of clerodane diterpenes. These phytochemicals are being researched and patented for their active biological properties and potential uses, including as a natural antacid.
Traditional uses by organ or system: Digestion/Elimination: As a natural antacid and for stomach disorders (ulcers, acid reflux, indigestion, dyspepsia, stomachache).
Ingredients: Pure 100% guacatonga leaves (Casearia sylvestris).
Suggested Use: Take 3 capsules 2-3 times daily.
Contraindications: Not to be used during pregnancy or while breast-feeding.
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions: None reported.

Synopsis of research: (Please the online **Tropical Plant Database for Guacatonga** for all cited research.)

Guacatonga has a long history of use in Brazilian herbal medicine, documented in early folk medicine books as an antiseptic and wound healer for skin diseases (in 1939), as a topical analgesic (in 1941), and as an anti-ulcer drug (in 1958). It is currently used in Brazilian herbal medicine systems as a blood purifier, anti-inflammatory, and antiviral to treat rheumatism, syphilis, herpes, stomach and skin ulcers, edema, fevers of all kinds, diarrhea, and as a topical analgesic.

Most of the research on the chemicals and activities of guacatonga has been performed by Brazilian research groups over the years. The first published toxicity study with rats indicated no toxicity with an ethanol extract of the leaves at 1840 mg per kg. This research group, at the University of Sao Paulo, studied the antiulcer properties of the plant (based on its long history of use as an effective herbal remedy for ulcers). They published two studies confirming these benefits. The first study, with rats (in 1990), showed that a crude leaf extract reduced the volume of gastric secretion by 42%, but had little effect on pH. The extract also prevented lab-induced acute gastric mucosal injury which was equivalent to the antiulcer drug cimetidine (Tagamet®). Ten years later they published a second rat study, documenting that a crude leaf extract protected the stomach lining without changing gastric pH and sped healing of acetic acid-induced chronic ulcers and *H. pylori* ulcers.

Another Brazilian researcher documented that a bark-and-leaf infusion demonstrated analgesic and mild anti-inflammatory properties in mice. A university researcher followed up on the anti-inflammatory research, publishing in her dissertation that an extract of the leaves was as effective against inflammation in mice as the NSAID drugs Prioxicam® and Meloxicam®. Leaf extracts have also been shown by two research groups to be active against common food-poisoning bacteria strains, *Bacillus cerus* and *B. subtilis*, but inactive against such other common bacteria as *Staphylococcus, Streptoccoccus*, and *E. coli*.

The chemical makeup of guacatonga is quite complex. Scientists discovered that the leaves and twigs of the plant contain a phytochemical called *lapachol*. This is the well known and studied anticancerous and antifungal compound from which another rainforest plant, pau d'arco (*Tabebuia impetiginosa)*, gained much renown. While other researchers have been studying the anticancerous and antitumorous properties of guacatonga, a completely different set of phytochemicals has fueled their interest. These compounds, called *clerodane diterpenes*, are found abundantly in guacatonga and some have been patented as antisarcomic agents. Clerodane diterpenes have been documented with a wide range of biological activities ranging from insect antifeedants, to antitumorous, anticancerous, and antibiotic agents, to HIV replication inhibitors. Some of the clerodane diterpenes documented in guacatonga are novel chemicals which scientists have named *casearins* (A thru S). Other chemicals in guacatonga include caprionic acid, casearia clerodane I thru VI, casearvestrin A thru C, hesperitin, lapachol, and vicenin.

JATOBA EXTRACT

Description: Jatoba is used throughout the Amazon rainforest for a quick boost of natural energy without any caffeine or other harmful stimulants. Raintree Nutrition's jatoba concentrated extract uses new and proprietary extraction methods to concentrate and preserve the active ingredients found in this amazing Brazilian plant. It is rich in active and beneficial phytochemicals which occur naturally in this plant. The extraction method used provides the equivalent of approximately 500 mg of jatoba bark per milliliter of extract—resulting in a highly potent concentrated extract.
Traditional uses by organ or system: Adrenal: To support adrenal function without overt stimulation, and as a natural non-caffeine stimulant and energy tonic.
Ingredients: 100% pure jatoba bark (Hymenaea courbaril) extracted in distilled water and 40% ethanol.
Suggested Use: Take 60 drops (2 ml) two or more times daily.
Contraindications: None.
Other Practitioner Observations and Possible Precautions: Jatoba can provide a significant energy lift to some people. Take prior to 4 pm to avoid possible sleep disturbances.

Synopsis of research: (Please the online **Tropical Plant Database for Jatoba** for all cited research.)

Dr. Donna Schwontkowski, D.C. reports: "This tonic and energizer is used by lumberjacks in the Brazilian rainforests to help them feel strong and vigorous, keep a good appetite, and stay productive. The tea is effective in respiratory ailments such as chronic cough, asthma, lung weakness, laryngitis, and bronchitis. It works well as a decongestant and has anti-fungal properties. Other uses of jatoba include the treatment of hemorrhage, bursitis, bladder infections, yeast and fungal infections, cystitis, arthritis, and prostatitis."
Herbs of the Amazon: Traditional and Common Uses, Dr. Donna Schwontkowski, 1993. Science Student BrainTrust Publishing.

Brazilian herbalist, Antonio Bernardes, reports: “Jatobá tea is a natural tonic for the organism. According to Dr. J. Monteiro Silva, whoever drinks jatobá tea feels ". . .strong and vigorous, with a good appetite, always ready to work." Lumberjacks who work in the forests of Brazil generally take a jar of jatobá tea or extract with them to drink during the day: it gives them energy. Besides being an energizer and tonic, jatobá has also given very good results in cases of acute and chronic cystitis and prostatitis.”
A Pocket Book of Brazilian Herbs, Antonio Bernardes. 1984. Editora e Arta Ltda.

Synopsis of Research: (Please see the online Tropical Plant Database for all cited research.)

Jatoba contains terpene and phenolic chemicals which are responsible for protecting the tree from fungi in the rainforest. In fact, the jatoba tree is one of the few trees in the rainforest that sports a completely clean trunk bark, without any of the usual mold and fungus found on many other trees in this wet and humid environment. These antifungal terpenes and phenolics have been documented in several studies over the years and the antifungal activity of jatoba is attributed to these chemicals. In addition to its antifungal properties, jatoba also has been documented to have anti-yeast activity against a wide range of organisms including *Candida*. Other clinical studies have been performed on jatoba since the early 1970s which have shown that it has antimicrobial, molluscicidal, and antibacterial activities, including *in vitro* actions against such organisms as *E. coli, Pseudomonas, Staphylococcus* and *Bacillus*.

MACA CAPSULES

Description: Maca is growing in world popularity due to its energizing, fertility-enhancing, nutritious, and tonic effects. Raintree's maca capsules are sold in bottles of 100 capsules with 500 milligrams per capsule of pure ground Maca root, rich in active and beneficial phytochemicals which occur naturally in this plant. We use no binders or fillers so the capsules are 100% pure finely milled maca powder. Raintree's maca has been organically grown in the Andes Mountains of Peru.
Traditional uses by organ or system: Adrenal: To nurtritionally support adrenal and endocrine function. **Reproductive/Hormonal:** To reduce fertility problems (both male and female), and to balance and support female hormones.
Ingredients: 100% pure maca root (Lepidium meyenii).
Suggested Use: Take 4 capsules twice daily or as desired.
Contraindications: None reported.
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions: None reported.

Synopsis of research: (Please the online **Tropical Plant Database for Maca** for all cited research.)

Maca's fertility-enhancing properties were reported as early as 1961, when researchers discovered that it increased fertility in rats. Marketing and resulting sales of maca for sexual function has been fueled by clinical research since. The majority of this research, however, has been performed or funded by two main marketers of maca products in the U.S. and abroad. Also suspect to the independent scientific community are studies that "measure libido enhancement"—these are known to be highly subjective. Study protocols can also be easily orchestrated to provide desired outcomes and results; therefore, many trained industry and medical professionals note this brand of (product-sponsored) research with mild interest at best.

The first study reporting maca's effect on sexual function was published in 2000 (and performed by a marketer of maca) and described the beneficial effects of using maca in impotent mice and rats. Another, published a year later, indicated similar effects in male rats. Studies in 2001 reported a beneficial effect on male sperm production in rats and improvement of sperm count and motility in nine healthy adult men. In 2002 a study reported improved sexual performance in inexperienced male rats; another "self-perception on sexual desire" test in healthy men reported aphrodisiac or libido enhancement effects. In several of the rat and mice studies, the animals were administered up to 4 g per kg of body weight of a "concentrated maca extract" to achieve the reported results. This would (approximately) equate to a 300 g (10 oz.) dose for an average (170 lb.) man. None of these studies, however, indicated a possible mechanism of action, or related these observed effects to constituents or chemicals contained in maca root.

The benefits and anecdotal reports touting maca for hormonal balancing, endocrine and thyroid function enhancement, and even immune system enhancement are likely related to maca's amino acid and nutrient content. The endocrine system drives many functions in the body, including the production of many types of hormones (which, in turn, regulate many other bodily processes). Although hormones are chemically diverse, they are constructed simply from amino acids and cholesterol. If given sufficient levels of starting materials (natural amino acids), the body may use them as needed to construct hormones which keep the body in balance. Where diet and nutrition are poor (a common problem in the Andes, home to so few green, leafy vegetables), maca is a vital part of the diet—providing the necessary nutrients to keep the body healthy and functioning efficiently. The marketing claim made that maca actually increases testosterone, estrogen or sex hormones has been clinically disproved. In a 2003 double-blind placebo human trial, men taking a maca root extract (1.5 to 3 g daily) evidenced no changes in any reproductive hormonal level tested, including testosterone (which actually showed a slight decrease).

MATICO EXTRACT

Description: Matico is a tropical, evergreen, shrubby tree that grows to the height of 6 to 7 meters. It is native to most all of tropical South America as well as Southern Mexico, the Caribbean, and much of tropical Latin America. Raintree Nutrition's matico concentrated extract uses new and proprietary extraction methods to concentrate and preserve the active ingredients found in this amazing rainforest plant. It is rich in active and beneficial phytochemicals which occur naturally in this plant.
Traditional uses by organ or system: Digestion/Elimination: For digestive problems (vomiting, nausea, stomachaches, dyspepsia), and as a carminative and stomachic to expel intestinal gas and aid digestion.
Ingredients: 100% pure matico leaves (Piper aduncum) extracted in distilled water and vegetable glycerine.
Suggested Use: Take 60 drops (2 ml) 2-3 times daily or as needed.
Contraindications: None reported.
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions: None.

Synopsis of research: (Please the online **Tropical Plant Database for Matico** for all cited research.)

In herbal medicine systems in South America, matico is widely used as a remedy for all types of digestive disorders such as stomachaches, vomiting, dyspepsia, diarrhea, gastric ulcers, intestinal gas and even stomach cancer. It is also considered an excellent genitourinary tonic and used for kidney stones, urinary tract infections, cystitis, urethritis, leucorrhea, vaginitis, and various venereal diseases such as gonorrhea and trichomonas. In addition, it is also employed for various upper respiratory conditions such as bronchitis, pulmonary hemorrhages, pleurisy, pneumonia, colds and flu, and tonsilitis and sore throats.

Matico contains many active chemicals including flavonoids, sequiterpenes, monoterpenes, heterocycles, phenylpropanoids, alkaloids, and benzenoids. A group of chemicals called chromenes have been found in the leaves which have evidenced toxic effects to cancer cells and bacteria. Other chemicals, including a group of bezenoid chemicals, have also demonstrated antibacterial and cytotoxic actions as well.

Matico has demonstrated broad spectrum antimicrobial actions which may help to explain its long history of use for various infections and infectious diseases. In various laboratory studies over the years, matico leaves and the essential oil from the leaves or fruits have demonstrated antibacterial actions against various Gram-positive and Gram-negative bacteria. It has also been reported with actions against fungi and yeast. In addition, researchers in France reported matico had antiviral actions against polio virus.

While very little research has been conducted on matico specifically to validate its many traditional uses, its documented antibacterial and antiviral actions do support its use for various upper respiratory infections, urinary tract infections, sexually transmitted diseases, as well as an antiseptic and disinfectant for wounds. Despite any scientific validation, it still remains a mainstay in herbal medicine practices in South America for many types of digestive problems and it is quite well known and well respected for those types of conditions.

MYCO EXTRACT or CAPSULES

2 Fluid Ounces / 60 ml or 120 Capsules / 650 mg

Description: Over 100 documented species of mycoplasma bacteria have been recorded to cause various diseases in humans, animals, and plants. *Mycoplasma pneumonia*, as well as at least 7 other mycoplasma species, have now been linked as a direct cause or significant co-factor to many autoimmune diseases including, rheumatoid arthritis, Alzheimer's, multiple sclerosis, fibromyalgia, chronic fatigue, diabetes, Crohn's Disease, ALS, nongonoccal urethritis, asthma, and lupus, just to name a few. In 1997, the National Center for Infectious Diseases, Centers for Disease Control and Prevention's journal, *Emerging Infectious Diseases*, published the article, "Mycoplasmas: Sophisticated, Reemerging, and Burdened by Their Notoriety" which stated: " Recently, mycoplasmas have been linked as a cofactor to AIDS pathogenesis and to malignant transformation, chromosomal aberrations, the Gulf War Syndrome, and other unex-plained and complex illnesses, including chronic fatigue syndrome, Crohn's disease, and various arthritides." For more information on the link between mycoplasmas and autoimmune diseases, please see the Raintree website at http://www.rain-tree.com/myco.htm.

Traditional uses by organ or system: Immune/Lymphatic System: For autoimmune disorders (fibromyalgia, CFS, rheumatoid arthritis, etc.).

Ingredients: A proprietary blend of mullaca (Physalis angulata), Brazilian peppertree (Schinus molle), anamu (Petiveria alliacea), clavillia (Mirabilis jalapa), macela (Achyrocline satureoides), fedegoso (Cassia occidentalis), picão preto (Bidens pilosa), and uva ursi (Arctostaphylos uva ursi). The extract is prepared with distilled water and 40% ethanol.

Suggested Use: Capsules: Take 3 capsules twice daily. Extract: Take 60 drops (2 ml) 2-3 times daily.

Contraindications: None known.

Drug Interactions: None known.

Other Practitioner Observations and Possible Precautions:

- Several plants in this formula have been documented to reduce blood pressure in animal studies. Individuals with low blood pressure should be monitored for this effect.
- All of the plants in this formula have demonstrated antimicrobial effects in laboratory studies. Supplementing the diet with probiotics and digestive enzymes is advisable if this formula is used for longer than 30 days.
- Herxheimer reactions are common with this product. Increasing fluid intake is advised.
- For autoimmune disorders with an suspected underlying mycoplasmal infection, this formula is often combined with Amazon A-F capsules and Immune Support (2 capsules of each formula 2-3 times daily) for a cycle of two or three months.

Synopsis of research: (Please the online **Tropical Plant Database** for all cited research.)

- Mullaca has demonstrated broad-spectrum antibacterial and antimycobacterial actions in laboratory tests against *Mycobacterium intracellulare, M. malmoense, M. avium, M. kansasi,* and *M. tuberculosis*.
- Brazilian peppertree has demonstrated very strong antibacterial actions against numerous bacteria.
- Anamu has demonstrated antimicrobial properties *in vitro* against numerous pathogens, including *Escherichia coli, Staphylococcus, Pseudomonas, Shigella*, and *Mycobacterium tuberculosis*.
- Clavillia contains patented Mirabilis antiviral proteins (MAPs) which have shown specific antiviral, antibacterial, and antifungal actions in laboratory research.
- Macela has demonstrated in laboratory studies antiviral, antibacterial, antimycoplasmal, and immunostimulant actions.
- Fedegoso has demonstrated antibacterial actions against *E. coli, Salmonella, Bacillus, Pseudomonas, and Staphylococcus* in laboratory tests.
- Picão preto's antimicrobial activity against *Klebsiella pneumonia, Bacillus, Neisseria gonorrhea, Pseudomonas, Staphylococcus*, and *Salmonella* have been reported through *in vitro* testing. It was also reported to have antimycobacterial activity towards *Mycobacterium tuberculosis* and *M. smegmatis*.
- Uva ursi has been documented in laboratory research with antimycoplasmal actions against *Ureaplasma urealyticum* and *Mycoplasma hominis*.

PIRI-PIRI EXTRACT

Description: Piri-piri is a type of reed-like tropical grass called a "sedge-grass." It can attain the height of 6 feet and grows in damp, marshy and flooded areas along the rivers and streams (where it can help control soil erosion) in the Amazon basin. It grows in clumps from dividing rhizomes which are about 2 cm long and 1.5 cm in diameter.
Traditional Uses by organ or system: Brain/CNS: As a sedative, anticonvulsant, and anti-epileptic for nervous disorders and epilepsy. **Digestion/Elimination:** For nausea, vomiting, stomachaches, diarrhea, and intestinal gas.
Ingredients: 100% pure piri-piri rhizome (Cyperus articulatus) extracted in distilled water and vegetable glycerine.
Suggested Use: Take 60 drops (2 ml) 2-3 times daily or as needed.
Contraindications: This plant has been traditionally used as a contraceptive aid. While no clinical studies exist to support this traditional use, women seeking to get pregnant should probably avoid the use of this plant.
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions: None.

Synopsis of research: (Please the online **Tropical Plant Database for Piri-piri** for all cited research.)

Piri-piri also has a long history of use in herbal medicine systems in South America. It is a very common remedy to treat nausea, vomiting, stomachaches, and intestinal gas throughout the continent. In Peru, piri-piri is considered as an abortifacient, anticonvulsant, anti-epileptic, antivenin, carminative, contraceptive, hemostat, nervine, stomachic, tonic and vulnerary. It is used for diarrhea, dysentery, digestive disorders and intestinal infections, intestinal worms, epilepsy, to stop bleeding (internally and externally) and to heal wounds. In Africa, piri-piri is used for malaria, toothaches, headaches, diarrhea, indigestion and coughs. Piri-piri has also been around for quite a few years in the United States. In the late 1800s and early 1900s a fluid extract of the rhizome was prepared and sold as a herbal drug (called "adrue") for the treatment of nausea, vomiting (including morning sickness), digestive disorders and intestinal gas.

Most of the recent scientific research on piri-piri has focused on its traditional uses to treat epilepsy and convulsions. Researchers in Africa have published six animal and *in vitro* studies from 2002 through 2004 which suggest that piri-piri can mediate many of the brain chemical reactions which are present in epilepsy and report that the rhizome has anti-epileptic actions in animals.

Other laboratory research with animals reports that piri-piri also has anticonvulsant actions, as well as sedative actions. Piri-piri was also reported with antioxidant actions, antibacterial actions against *Staphylococcus* and *Pseudomonas*, and anti-yeast actions against *Candida*. It passed a preliminary screening test to predict antitumor actions in other research.

SANGRE DE GRADO EXTRACT

Description: A pure natural resin extracted from the Sangre de Grado tree which is also called “Dragon's Blood.” It has been independently documented with antimicrobial, gastroprotective, antiulcerogenic, and wound healing properties.
Traditional uses by organ or system: Digestion/Elimination: For stomach ulcers, ulcerative colitis, dysentery, IBS, Crohn's, and chronic diarrhea.
Ingredients: 100% pure sangre de grado resin (Croton lechleri).
Suggested Use: Take 15 drops in water or juice 1-2 times daily.
Contraindications: Not to be used during pregnancy or while breast-feeding.
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions:
- This reddish-brown resin will permanently stain clothing and other things it touches.
- This product is best used in combination with Amazon Digestion Support and/or Amazon Bowel Support.

Synopsis of research: (Please the online **Tropical Plant Database for Sangre de grado** for all cited research.)

The traditional use of sangre de grado was verified by clinical research in a 2000 study designed to evaluate its gastrointestinal effects. Researchers concluded that: "Sangre de grado is a potent, cost-effective treatment for gastrointestinal ulcers and distress via antimicrobial, anti-inflammatory, and sensory afferent-dependent actions." In 2002, researchers reported that sangre de grado evidenced an *in vitro* effect against stomach cancer, *H. pylori* bacteria and colon cancer cells as well. Dr. James E. Williams, O.M.D., sums up sangre de grado's many uses, stating, "There is a wide range of potential applications for sangre de grado, including as a broad-spectrum anti-diarrheal agent from causes such as side effects of drugs, chemotherapy or radiation treatment, microbial infections of the intestine, traveler's diarrhea, and viral-induced diarrhea as in AIDS. It may also have other uses in gastrointestinal disorders such as irritable bowel syndrome and ulcerative diseases. Its cytotoxic effects make it a possible antitumor agent and its cicatrizant properties provide wound-healing potential. In addition, the antimicrobial and anti-inflammatory effects of sangre de grado make it a useful compound in the clinical treatment of chronic viral diseases and as a natural antibacterial agent."

The antiviral and anti-diarrheal properties of sangre de grado have come to the attention of the pharmaceutical industry over the last 10 years. A U.S.-based pharmaceutical company has filed patents on three pharmaceutical preparations that contain sangre de grado's novel chemicals (a group of plant flavonoids they've named SP-303), extracted from the bark and resin of sangre de grado. Their patented drugs include an oral product for the treatment of persistent diarrhea (currently sold OTC), an oral product for the treatment of respiratory viral infections, and a topical antiviral product for the treatment of herpes.

SIMAROUBA EXTRACT

Description: The main active group of chemicals in simarouba are called quassinoids. The antiprotozoal and antimalarial properties of these chemicals have been documented for many years. Several of the quassinoids found in simarouba (such as ailanthinone, glaucarubinone, and holacanthone) are considered the plant's main therapeutic constituents and are the ones documented to be antiprotozal, anti-amebic, antimalarial, and even toxic to cancer and leukemia cells. Raintree's simarouba extract uses proprietary extraction methods which provide the equivalent of 500 mg simarouba bark per milliliter of extract.
Traditional uses by organ or system: Digestion/Elimination: For dysentery and diarrhea, and as a bitter digestive aid to increase digestive juices and bile.
Ingredients: Pure 100% simarouba bark (Simarouba amara) extracted in distilled water and ethanol.
Suggested Use: Take 60 drops 2-3 times daily or as needed.
Contraindications: None reported
Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions: Reported side effects at high dosages (approx. 5 times the suggested use) include increased perspiration and urination, nausea, and/or vomiting.

Synopsis of research: (Please the online **Tropical Plant Database for Simarouba** for all cited research.)

The leaves and bark of Simarouba have long been used as a natural medicine in the tropics. Simarouba was first imported into France from Guyana in 1713 as a remedy for dysentery. When France suffered a dysentery epidemic from 1718 to 1725, simarouba bark was one of the few effective treatments. French explorers "discovered" this effective remedy when they found that the indigenous Indian tribes in the Guyana rainforest used simarouba bark as an effective treatment for malaria and dysentery—much as they still do today. Other indigenous tribes throughout the South American rainforest use simarouba bark for fevers, malaria, and dysentery, as a hemostatic agent to stop bleeding, and as a tonic.

After a 200-year documented history of use for dysentery, simarouba's use for amebic dysentery was validated by conventional doctors in 1918. A military hospital in England demonstrated that the bark tea was an effective treatment for amebic dysentery in humans. The Merck Institute reported that simarouba was 91.8% effective against intestinal amebas in humans in a 1944 study and, in 1962, other researchers found that simarouba showed active anti-amebic activities in humans. In the 1990s scientists again documented simarouba's ability to kill the most common dysentery-causing organism, *Entamoeba histoly-tica*, as well as two diarrhea-causing bacteria, *Salmonella* and *Shigella*.

TAMAMURI EXTRACT

Description: Tamamuri is a large canopy tree of the Amazon rainforest that grows 15 to 25 meters high. It is found throughout the lower elevations of the Amazon basin, usually growing alongside streams and rivers. The bark of this rainforest tree has a long history of use among the Indians and local people in the Amazon.
Traditional uses by organ or system: Musculoskeletal: As an anti-inflammatory and analgesic; for arthritis, rheumatism and rheumatoid arthritis, as well as for general pain and inflammation (i.e.: muscle pain, injuries, headaches, etc.).
Ingredients: 100% pure tamamuri bark (Brosimum acutifolium) extracted in distilled water and ethanol.
Suggested Use: Take 60 drops (2 ml) 2-3 times daily or as needed.
Contraindications: None known.
Drug Interactions: None known.
Other Practitioner Observations and Possible Precautions: None.

Synopsis of research: (Please the online **Tropical Plant Database for Tamamuri** for all cited research.)

Tamamuri is a very common and well-respected remedy for rheumatism and arthritis throughout the Amazon and in traditional medicine systems in South America. In herbal medicine systems in Peru, tamamuri is considered an analgesic, anti-inflammatory, depurative, aphrodisiac and tonic. It is used for arthritis and rheumatism (including rheumatoid arthritis), muscle pain and injuries, for intestinal worms, anemia, vertigo and loss of balance, to help regulate the nervous system, as a general tonic for debility, for fungal and yeast infections, gastric ulcers and gastrointestinal disorders, as well as for syphilis.

Tamamuri bark contains flavans, flavanoids, lignans, phenylpropanoids, benezoids, and steroids. Many of these chemicals are novel ones never before seen by scientists, including 6 chemicals they've named acutifolins and 13 chemicals they've named brosimacutins.

Tamamuri's long-standing use for arthritis and rheumatism has been the subject of research by Western scientists. In 2003, Brazilian researchers reported that crude extracts of tamamuri bark reduced inflammation induced by various means in laboratory rats. Other researchers have reported that two chemicals in tamamuri (mururin A and B) have the ability to inhibit protein kinase C (PKC) and protein kinase A (PKA). PKC is involved with various conditions and is one of the chemicals that the body uses to actually produce inflammation. People with autoimmune disorders, arthritis, and rheumatoid arthritis usually have elevated PKC levels, and PKC inhibitors are a new class of drugs under research for these types of conditions.

In addition to autoimmune disorders and arthritis, PKC, as well as PKA, is also thought to play a role in cancer and tumor cell growth. Tamamuri's ability to inhibit PKC and PKA might be the reason behind its documented actions against cancer cells. Researchers have reported that a crude extract of tamamuri bark was cytotoxic to human colon and lung cancer cell lines *in vitro* as well as toxic to a leukemia cell line (including a drug-resistant leukemic cell line). However, one of these research groups attributed the cytotoxic action, not to the PKC-inhibitor mururin chemicals, but to the newly discovered brosimacutin chemicals. They have yet to report the mechanism by which these new chemicals can kill cancer cells.

Toxicity studies with rats conducted in Brazil indicate that tamamuri is non-toxic and without any demonstrable negative side effects.

UBOS EXTRACT

Description: Ubos is native to the lowland moist forests of the Amazon in Peru, Brazil, Venezuela, Bolivia, Colombia, and the three Guianas. The tree grows quite rapidly and is sometimes planted as living fence posts as well as for shade and for its fruits and medicinal uses.
Traditional uses by organ or system: Musculoskeletal: As an anti-inflammatory, muscle-relaxant and antispasmodic for arthritis, muscle and joint injuries, and as an analgesic for various types of internal and external pains.
Ingredients: 100% pure ubos bark (Spondias mombin) extracted in distilled water and ethanol.
Suggested Use: Take 60 drops (2 ml) 2-3 times daily or as needed.
Contraindications:

- Ubos bark is traditionally used as a contraceptive. While no animal or human studies support this traditional use, women seeking to become pregnant should probably avoid use of this plant.
- One animal study reports uterine stimulant actions. As such, it is not advisable to use this plant during pregnancy.

Drug Interactions: None reported.
Other Practitioner Observations and Possible Precautions: None.

Synopsis of research: (Please the online **Tropical Plant Database for Ubos** for all cited research.)

Ubos bark is traditionally used in South and Latin America as an analgesic and antispasmodic for arthritis, rheumatism, muscle and joint pain, injuries and inflammation. The bark also contains a great deal of astringent tannins and is usually prepared in decoctions for diarrhea and dysentery, blenorrhagia, hemorrhoids, and for internal and external wounds and bleeding. It is also used for tonsilitis, laryngitis, malaria, fever, erysipelas, bladder and kidney stones, snakebite, and intestinal ulcers, and for all types of wounds, rashes, psoriasis, dermatitis, leishmaniasis, leprosy, and other skin problems.

Ubos bark contains tannins, saponins, flavonoids, sterols, quinones, and antioxidant chemicals. It also contains a well known chemical with analgesic actions called caryophyllene.

Ubos bark was reported with anti-inflammatory actions in an animal study with rats in 1996 by researchers in Spain. In 2000, university researchers in the United States reported that ubos had the ability to inhibit COX *in vitro* (an enzyme involved in the creation of inflammation in the body). The bark has also been reported with antibacterial actions in test tube studies and was able inhibit human rotovirus by 82% *in vitro* which might explain its long standing use for diarrhea. In other *in vitro* testing researchers reported that ubos bark had strong antifungal and anticandidal actions.