

HERBAL CLIPPINGS

BERBERINE

Berberine is an alkaloid found in many herbs including goldenseal (*Hydrastis canadensis*) and the Chinese *huanglian*, or goldthread (*Coptis chinensis*), which traditional Chinese medicine uses as an antimicrobial to treat dysentery and infectious diarrhea. Research at the Chinese University of Hong Kong, Shatin, Hong Kong, China has found that berberine, and its derivatives (tetrahydroberberine and 8-oxoberberine), benefit the cardiovascular system. They help prevent irregular heartbeat and probably heart failure, so may be useful clinically. Berberine is also known to help heart muscle contractions and prolong ventricular heart activity. It also dilates blood vessels, probably through several different mechanisms, such as by blocking calcium channels.

Lau CW, et al. 2001. Cardiovascular actions of berberine. *Cardiovascular Drug Review* 19(3):234-44.

DANDY ANTIOXIDANT

Research at the University of British Columbia found that dandelion flowers (*Taraxacum officinale*) are strong antioxidants that inhibit cancer cells in the laboratory.

Hu, C, and DD Kitts. 2003. Antioxidant, prooxidant, and cytotoxic activities of solvent-fractionated dandelion flower extracts. *Journal of Agricultural Food Chemistry* 51(1):301-10.

GARLIC FOR INFECTION, NOT DRUG

Two studies from the National University of Health Sciences of Lombard, Illinois suggest that a skin cream containing allicin, the active ingredient in garlic (*Allium sativum*), may limit the spread of infections. Creams containing only 32ppm allicin killed all bacteria, even *Staphylococcus aureus* that was resistant to the drug methicillin, and *enterococci* that was vancomycin-resistant. Since up to 20% of garlic's compounds pass through the colon, doctors might eventually turn to it for an effective anti-bacterial.

However, garlic may not be for everyone. A study at the National Institute of Allergy and Infectious Diseases suggests that HIV-infected patients who take the protease inhibitor drug saquinavir (Fortovase) should avoid it. When 10 subjects who have HIV, but are otherwise healthy, took garlic capsules for over a month, the level of their HIV drug declined by half. Blood levels were still 35% below normal levels 10 days after the subjects stopped taking garlic. As a result of this study, garlic was portrayed in the media as a newly discovered health hazard, even though this particular drug is rarely used.

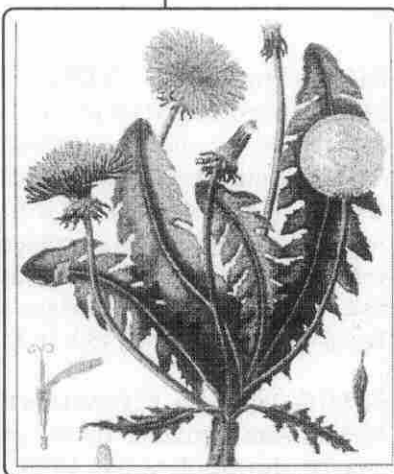
Prakash, J. 2002. Proceedings from the American Society of Microbiology's 41st Interscience Conference on Antimicrobial Agents and Chemotherapy, Chicago, IL; & Borek C. 2002. Garlic supplements and saquinavir. *Clinical Infectious Diseases* 35(3):343.

CATNIP REPELLANT

The intoxicating effect of the catnip's (*Nepeta cataria*) scent attracts cats, but it also repels insects. It is thought that the plant uses the oil to protect itself from insects. Iowa State University found that the compound nepetalactone in catnip's essential oil repelled more than half the mosquitoes in their study. A solution containing only 0.01% of oil proved more effective than DEET, the chemical in most insect repellents. The compound is also a sex pheromone to aphids. It is being used as a control with aphid parasites and to attract predators such as lacewings, which use closely related molecules to locate their prey. This is the first example of a commercial insect pheromone being developed from a plant resource, highlighting the potential offered by higher plants. The scent also repels cockroaches.

In studies at the Università di Messina in Italy, a diethyl ether extract of catnip was antimicrobial against fungi and gram-positive bacteria on 44 *Staphylococcus aureus* strains, some of which were resistant to the drug methicillin.

Birkett MA & JA Pickett. 2003. Aphid sex pheromones. *Phytochemistry* 62(5):651-6; & C.



Peterson, 2002. Behavioral activity of catnip, essential oil components to the German cockroach. *Journal of Economic Entomology* 95(2):377-80; & Nostro A, et al. 2001. The effect of Nc extract on adherence and enzyme production of Sas. *International Journal of Antimicrobial Agents* 18(6):583-5; & F. Saunders. 2001. When the cat's away, mosquitoes will play. *Discover*.

CATNIP IMMUNITY

A Turkish species of catnip (*Nepeta ucrainica*) is the compound verbascoside was analyzed at the Hacettepe University in Turkey for its effect on regulating the immune system. All doses increased activity. It also increased activity of leukocytes, white blood cells acting as scavengers that combat infection. High doses had the opposite effect, possibly suppressing the same activity. Akbay, L, et al. 2002. In vitro immunomodulatory activity of verbascoside from Nc. *Phytotherapy Research* 16(6):593-5



BLACK CURRANT

Black Currant seed oil stimulated immune function in a Tufts University, Boston, double-blind study with 29 people over the age of 65. In two months, the immune function of those who took black currant seed oil (4.5 gr. daily) had a 28% greater response. There was a dramatic drop in prostaglandin PGE-2, which promotes inflammation, interferes with the immune system's anti-infection T-cells, may contribute to atherosclerosis and arthritis, and declines as people age. Currant seed is one of the richest sources of gamma linolenic acid (GLA), which stimulates beneficial prostaglandins, and stearidonic acid, which is thought to inhibit PGE-2. There were no changes in the placebo group taking soy oil.

Wu, D. 1999. Effect of dietary supplementation with black currant seed oil on the immune response of healthy elderly subjects. *American Journal of Clinical Nutrition* 70(4):530-43.

VEGGIES FOR ULCERS

A diet rich in cruciferous vegetables such as broccoli, cabbage, and kale may prevent *H. pylori* infection, the bacterium now known to cause stomach ulcers. Studies at Baltimore's Johns Hopkins University School of Medicine and the National Center for Scientific Research in Paris found the compound sulforaphane restricted growth. It also blocked development of gastrointestinal tumors in mice. Gastric infection and cancer is common in developing regions. Researchers feel that eating more cruciferous vegetables could help protect against cancer in countries that have poor access to antibiotic drugs.

Fahey JW, et al. 2002. Sulforaphane inhibits extracellular, intracellular, and antibiotic-resistant strains of *H. pylori*. *Proceedings of National Academy of Science* 99(11):7610-7615.

BIRDS LIGHT UP

British and French researchers say male birds with the most colorful beaks have high levels of the carotenoids nutrients found in many fruits and vegetables that boost the immune system. The beaks of birds with stressed immune systems are not as bright. Nine out of ten female birds prefer males with colorful beaks, and as a result, the most nutrients in their system.

Blount JD, et al. 2003. Carotenoid modulation of immune function and sexual attractiveness in zebra finches. *Science* 4:300(5616):125-7.

CANNABIS AND YOUNG PEOPLE

A majority of young people in the US, UK, New Zealand, and Australia now use marijuana (*Cannabis sativa*) recreationally, with 60% using it by age 20 and 7% daily users. The rate of depression and anxiety, especially in young women, doubled with weekly use was associated with more than a fivefold increase when used daily in an Australia survey. A previous study found an increase in schizophrenia. It is thought that cannabis may trigger psychotic episodes in people who already have emotional problems, some of whom may be predisposed to use cannabis to "self medicate" due to these problems.

Patton, GC, et al. 2002. Cannabis use and mental health in young people. *British Medical Journal* 325 (7374) 1195-1198.

EPHEDRA: RISKY OR NOT?

The University of Michigan surveyed the risks of ephedra (*Ephedra sinica*) in producing hemorrhagic stroke. Out of over 700 stroke patients (ages 18 to 49) and 1,400 controls, only nineteen had used ephedrine products, and most of these contained other herbs. (16 took other sources of caffeine, such as guarana (*Paullinia cupana*). The odds of having a stroke were slightly higher, over 3.5-fold, with ephedrine (32 mg. or more daily) within three days before their stroke, but less had

no effect. The supplement industry generally recommends no more than 25 mg. ephedrine per serving (100 mg/day). The Ephedra Education Council said the study is inconsistent with placebo-controlled research that shows ephedrine is even safer when used according to recommendations. However, results were very limited since so few people used ephedrine and no association was indicated.

Morgenstern, L, et al. 2003. Use of Ephedra-containing products and risk for hemorrhagic stroke. *Neurology* 60(1):132-35.

Two recent double-blind placebo trials concluded that a combination of ephedrine, derived from ephedra, and caffeine does not cause noticeable heart or circulation problems in

healthy individuals. The commercial weight-loss supplement Xenadrine, containing both compounds, produced no significant changes in heart rate or valve function, blood pressure, left ventricular fraction, or any other aspects of cardiovascular physiology over a two-week period.

A daily supplement of ephedra (90mg. ephedrine) and kola nut (*Cola acuminata*) was given to 167 people (192mg. caffeine daily) in a six-month study by the New York Obesity Research Center at Columbia University in New York and St Luke's-Roosevelt Hospital.

The participants experienced body weight, fat, and LDL-cholesterol decrease while their HDL-cholesterol increased. Minor side effects were dry mouth, heartburn, and insomnia. There was also a slightly increased blood pressure and heart rate, and the supplement did not cause erratic heartbeat, nausea, chest pains, palpitations, or irritability.

Kalman D, et al. 2002. An acute clinical trial evaluating the cardiovascular effects of an herbal ephedra-caffeine weight loss product in healthy overweight adults. *International Journal of Obstetrics Related Metabolism Disorders* 26(5):593-604; & Boozer CN, et al. 2002. Herbal ephedra/caffeine for weight loss. *International Journal of Obstetrics Related Metabolism Disorders* 26(10):1363-6.

