

## HERBAL ADAPTOGENS

Fitting into the Modern Age  
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### I.I. Brekhman—A Russian Holistic Medical Doctor

In 1988, I had the good fortune to meet with Dr. Brekhman MD during his first trip to the United States to attend an international conference on ginseng. The meeting was held in a place where adaptation might be somewhat of a challenge, especially for a person coming from Vladivostok (in the remote far east of Russia)—Las Vegas.

I came directly from the airport and found the meeting was being held in a noisy, glittering casino. As I entered, rows of flashing and whirring slot machines were being hopefully, and somewhat vacantly caressed. I was directed to the conference rooms and walked down the hall, stopping for a moment in a small variety shop along the way. The man in line ahead of me was wearing a suit and had a camera suspended casually around his neck. I looked at him curiously, for although he said nothing, he seemed somehow out of place and looked a bit bewildered. He also looked very kind and had a presence about him that provoked the thought that perhaps he was the person I was looking for. Ten minutes later, as I found my way to the room we were to meet in, I learned that my suspicions were correct—the man at the shop was indeed I.I. Brekhman. I knew him previously only by his international reputation and his many articles on eleuthero and adaptogens. I had also read his unusual and interesting work, *"Man and Biologically Active Substances,"* in which he details how pollution and modern stresses can affect our immune systems and general health and how natural substances, such as ginseng and eleuthero can help us survive and maintain health. The work, published in 1980, was well ahead of its time. His emphasis in the book is resoundingly, "Study the science and art of health, not disease!" Brekhman's work for the last 40 years has been to clearly show that because most of us are in a state somewhere between health and disease, we need a group of nature's gifts called adaptogens, which work by helping us move towards true health and to stay there.

Although his English was not very fluent, I could not help but notice how warm and open he was in the interview and that he had a good sense of humor. He also seemed very energetic and vigorous.

Brekhman talked about medicine and herbs in Russia—and about adaptogens. He told me that many medical doctors prescribe herbs in their practice, especially in the

outlying districts. He began to study eleuthero because the Russian people have strongly accepted the concept that a natural remedy can help bolster one's innate resistance to disease and help prevent stress from taking such a devastating toll on our nervous, hormonal, and immune systems. *Panax ginseng* is very popular, but it is scarce and mostly too expensive for people to take on a daily basis. So he began to test other members of the ginseng family in his research center, The Far-East Scientific Center. He soon discovered that eleuthero had even stronger adaptogenic qualities than did *Panax*. Since this beginning, in 1959, thousands of tests have been done on eleuthero and other herbal adaptogens. Literally hundreds of thousands of people have taken these natural strengtheners, which have shown remarkable effectiveness for preventing a variety of ailments, increasing stamina and sports performance and helping us adapt to changing conditions in our environment.

## ADAPTOGENS

Herbs and other natural remedies that help us adapt to our environment, whether a modern chemical environment or simply an environment in rapid change, are being called *adaptogens*.

In the broadest sense, *anything* that helps us facilitate adaptation to changing environmental conditions may be labeled an adaptogen, even such modern conveniences as air conditioning or indoor lighting. In an herbal or holistic sense, a more appropriate scope might include natural remedies that help us to more quickly and smoothly fit into our changing environment—perhaps in a measure, they help us adjust to "future shock."

The word "adaptogen" was coined by a Russian scientist, N.V. Lazarev, in 1947. In his view, an adaptogen has to fulfill three criteria:

1. The substance or therapy must be innocuous and cause minimal disorders in the physiological functions of an organism
2. Show a nonspecific action (i.e., it should increase resistance to adverse influences by a wide range of physical, chemical, and biochemical factors)
3. Exert a normalizing action irrespective of the direction of the pathologic state

Although Lazarev's original work on adaptogens was carried out with a chemical substance, dibazole, subsequent work by his renowned student, I.I. Brekhman focused on ginseng (*Panax ginseng*) and later, eleuthero or Siberian ginseng (*Eleutherococcus senticosus*).

Besides herbs, other adaptogens are recognized for their normalizing and general strengthening effects, for instance saunas and cold water (when properly applied) and all forms of exercise, and as Norman Cousins has so eloquently put forth, laughing.

Today, more than ever, we need these kinds of substances. Recently, the papers are replete with reports that cancer is on the rise, despite billions of dollars spent every year to find a cancer cure. It is well-known that our environment is changing rapidly—our ozone shield is weakening, allowing more damaging radiation to enter, the temperature of the planet may be rising, and city-dwellers, (and increasingly, country-dwellers), are constantly bombarded with heavy metals, pesticides, herbicides, and many other chemicals that are completely foreign to our biochemistry.

In China, adaptogens are considered "superior medicines," because they do not place an additional stress of their own on the body. Adaptogens contain steroid-like compounds that have been identified and specifically tested, and although we may have developed an evolutionary need for them, no "daily minimum requirement" has thus far been set. Scientists have isolated vitamins and minerals and determined our need for them to maintain optimal health, but are these substances all that plants have to offer? Adaptogenic plants contain a wide array of interesting substances besides iron and vitamin B12 that might play an important role in maintaining optimum health and helping us to adapt. On the contrary, does the lack of these adaptogenic substances in our modern diet play a role in the increase in stress-related and immune-based chronic illness that is increasingly common today?

## ADAPTATION

Although we can change our environment virtually at will, with air-conditioning, lighting, isolation from noise, and other stimuli with buildings, there may be a danger in this. As we progressively depend on technology to adapt the environment to our needs, we may lose our ability to adapt to changing conditions in the world. The results of this narrowing ability to adapt, brought about by our own cunning, may be our undoing, for the universe is constantly changing. Too, the more we insulate ourselves from environmental change, the more we isolate ourselves from that which gives us life.

Rene Dubos, the humanistic scientist and a special guiding light for me, said: *"This state of adaptedness gives a false sense of security because it does not have a lasting value and does not prepare for the future."*

Therefore, it seems that the best course for survival is for us to increase our adaptability to our environment, not the other way around. In other words, instead of leaning on air conditioning to adapt to hot weather, it may be best to strengthen

ourselves and cultivate flexibility—both of mind and body, and this is where the adaptogens can be of great importance.

The Russian scientist, G.M. Barenboim said it well:

*"For the first time in the history of human civilization the biological potentialities of the human body have failed to meet the requirements imposed on it by the epoch. One witnesses an unusual 'epidemic' of fatigue aggravated by the powerful action of man-made, external chemical and physical environmental factors. Like the drugs that saved the world from numerous bacterial and viral epidemics that cost millions of lives in the past, the adaptogens are needed to help man withstand the diverse stresses of today."*

### BENEFITS OF ADAPTOGENS

The adaptogens have been shown to act in certain ways to protect and strengthen people in a variety of life situations against stress. Generally, these include the following:

1. Support adrenal function, counteract weakening effects of stress
2. Enable the cells of our body to have access to more energy
3. Help the cells eliminate toxic metabolic by-products
4. Provide an anabolic effect, used by body-builders
5. Help the body utilize oxygen more efficiently
6. Speed up the proper regulation of our bio-rhythms

Medical practitioners, embracing single-mindedly the allopathic model, often have a great deal of trouble imagining that one remedy can exhibit all the different benefits of an herbal adaptogen. This concept is not unknown to western medicine, however. The medical terms "roborant", "tonic," and "alterative" partly described the adaptogenic phenomenon. According to *Dorland's Medical Dictionary*, a roborant is [a substance or therapy] that "confers strength." A tonic is considered "a class of medicinal preparations believed to have the power of restoring normal tone to tissue." Whereas an alterative was considered to "Reestablish healthy functions of the system....A medicine that produces a favorable change in the processes of nutrition and repair." Until about 50 years ago, medicines in these categories were commonly prescribed by doctors. Eleuthero and other adaptogens fulfill at least some of the functions of these 3 categories and can be seen to be especially close to an "alterative." Bitters, such as gentian, and strengthening foods for the convalescent, such as oatmeal and yams, were often prescribed for their strengthening qualities.

Today, stress is being acknowledged as possibly the major factor in chronic disease. It is not by chance that three of the best-selling drugs in America are for stress-related ailments: Tagamet for ulcers, Inderal for hypertension, and Xanax for anxiety.

As medicine has gotten more mechanistic, the subtleties have been replaced by machines that detect minute changes in body functions, even biochemical reactions. Perhaps in a few years, we will come full-circle. The new high-tech information may well provide a basis for a recognition of when an adaptogen or alterative, tonic or roborant is appropriate—even before pathology is present.

Some herbalists place many herbs into the class of adaptogens, even immune-strengtheners, such as echinacea or bitter herbs, like golden seal. The Russians, who first defined the concept of adaptogens have identified several herbs that I will call primary adaptogens, because they were the first herbs to be studied as adaptogens. They are eleuthero (*Eleutherococcus senticosus*), schizandra (*Schizandra chinensis*) and ling zhi (*Ganoderma lucidum*). Secondary adaptogens are ones that have some normalizing activity, especially on immune function, the nervous system and the hormonal system, but have not been studied extensively for their adaptogenic qualities or may not include an adrenal supportive effect. These include ashwaganda (*Withania somniferum*), gotu kola (*Centella asiatica*), wild oats (*Avena sativa*), astragalus or huang chi (*Astragalus membranaceus*), fo-ti or ho shou wu (*Polygonum multiflorum*), burdock (*Arctium lappa*), and suma (*Pfaffia paniculata*). There are probably others that fall into this category, but these are the ones that are best-known and are currently being promoted and discussed in American herbal trade.

## **Primary Herbal Adaptogens and How to Use Them Effectively**

### **Eleuthero (*Eleutherococcus senticosus*)**

There are three ways to evaluate the effectiveness and safety of an herbal remedy. First, by its history of use. How many centuries has it been consistently used for specific conditions—has it been used in different cultures, and has it been considered safe—are there any reports of side-effects? Second, the modern clinical scientific research can provide information on how an herb affects our biochemistry, what body systems are most affected, what some of the active constituents are, and how the extracts can be standardized for consistent results, and if there is any subtle toxicity that may have been overlooked. Third, modern clinical work with the herb today, for today's special modern conditions—how effective is it, what types of people are best suited for this herb, and how is it best used?

In the case of eleuthero, these 3 criteria have been well-covered. The plant has been known in China for thousands of years. Unlike many herbal extracts, a tremendous amount of work has been done with eleuthero to determine its effect on humans. Although laboratory work with the extract is suggestive, defining some of the ways in which it works on an organism biochemically, even with the identified "active constituents," which are steroids, called eleutherosides, the study of eleuthero and adaptogens is still in its early stages.

Unlike many modern phytomedicines (plant-based medicines), eleuthero is one of the rare herbal medicines that has been extensively studied by way of oral doses with human volunteers. Its adaptogenic and other protective and strengthening properties have been extensively studied with human volunteers—thousands of them. The well-known American pharmacognosist (person who studies drug plants), Norman Farnsworth, has coordinated the collection and translation of many of the original Russian studies on eleuthero. He published much of this material in his excellent review on the botany, chemistry, pharmacology and clinical experiences with the plant *Economic and Medicinal Plant Research*, vol. 1, published by Academic Press in Orlando, FL. In this review, Farnsworth and his co-workers make the statement that "It is our belief that research in the area of adaptogens has only just begun."

While many of the studies, all performed in Russia, on people working in factories and other industry, were not performed double-blind (preferred by the medical profession and government regulators today), they offer interesting insights into how adaptogens work on large populations of everyday working people, and what benefits they might offer. The studies are too numerous to mention but a few here, but the studies quoted in the following chart, many done in the 1960s and early 1970s off a good cross-section.

The following studies were performed on thousands of people in a variety of normal daily working situations, and the results were recorded. In most cases there was no difference in effects noted between men and women taking the extract.

#### STUDIES WITH NORMAL VOLUNTEERS

- \*The number and speed of radiogram receptions for radiotelegraphic operators were increased with eleuthero daily doses of 1 and 1/2 droppersful (60 drops) of a liquid extract over a one-month period.
- \*Skiers taking a single dose of eleuthero extract (3 droppersful) before a race increased their resistance to harmful effects of cold and increased physical endurance, especially when a skier was not fully trained.
- \*Workers in a publishing house who had jobs involving physical labor showed enhanced cardiovascular output, ability to work, improved appetite, without hypertension.

However, the extract was not recommended for people with blood pressure over 180/90 mm Hg.

- \*Proofreaders were more effective in their work after taking 1 1/2 droppersful of eleuthero extract daily for 30 days. (Two studies).
- \*Sailors who took eleuthero extract showed improved work capability and normalization of body functions under conditions of elevated temperatures while on long sea voyages.
- \*One thousand factory workers (in a city of the polar region) who took 3 droppers of eleuthero extract daily showed an overall 50% reduction in general sickness and 40% reduction in the number of lost work days.
- \*Brekhman studied drivers of heavy trucks who took eleuthero extract in tea for 6 years. The total number of sick people from influenza dropped dramatically over these years, from 41.8 per 100 workers to 2.7. The number of days per year lost because of influenza dropped from 286 per 100 workers to 11.
- \*Other studies showing that eleuthero could dramatically reduce the number of sick days due to influenza among thousands of different workers are reported.
- \*Further studies show that eleuthero extract, when taken on a regular basis, can improve visual acuity, color perception and hearing acuity, increase efficiency in people who had jobs requiring attention and nervous tension, and improve physical and mental working capacity under unfavorable climatic condition (too hot, too cold, high altitude).

#### SICK VOLUNTEERS

- \*Forty-five volunteers with heart disease showed enhanced feelings of well-being, fewer chest pains, reduced blood pressure and cholesterol levels and improved ECG readings after 6 to 8 courses (25 days each) of eleuthero extract (1 to 1 1/2 droppersful 3 times daily before meals).
- \*In a second study on 65 patients with cardiovascular disease, with the same dose as above, improvements were noted by some after the first course (25-35 days).
- \*Several studies involving patients with diabetes showed that eleuthero extract is effective in lowering serum glucose levels in some cases.
- \*People with both hypotension and hypertension showed normalization of blood pressure after courses of eleuthero extract. Several other studies support these findings.
- \*Fifty-eight people with psychological imbalances having symptoms such as extreme exhaustion, irritability, insomnia, decreased work capacity, and a general state of anxiety showed improvement after two droppersful of eleuthero extract a.m. and

p.m. for four weeks. The patients felt that sound sleep and an increase in their sense of well-being were the most important benefits.

\*Five more studies with nearly 160 neurotic patients showed that eleuthero extract (as little as 1 dropperful a day) can be of benefit (as indicated above). Some of the studies lasted for ten years.

Overall, the studies with human volunteers have helped clarify the broad-spectrum of activity for eleuthero extract. To summarize, the major physiological effects that have been demonstrated by Russian scientists include a strong antitoxic effect (against environmental toxins), a protective effect against radiation, a normalizing effect against hypothermia, blood-sugar regulating effect, liver-protective effect, an enhancement of the liver's ability to break down and rid the body of drugs, an increase in the body's ability to resist infection, and adrenal supportive activity. Most important is eleuthero's positive influence on work capacity and endurance (anti-fatigue effect), increasing the ability of the cells throughout our body to utilize phosphorus-containing energy molecules and deal with lactic acid and other by-products of metabolism (the sore muscles from a heavy workout results from lactic acid buildup). This effect is especially important for athletes, both professional and "weekend" sports enthusiasts alike. For infertile men, eleuthero has shown the ability to increase semen output and reproductive capability.

#### *Specific Benefits:*

Eleuthero is the best-studied of the adaptogens. With over 35 years of intense clinical and practical research behind it, eleuthero is taken by millions of Russians daily. It is used by the Russian olympic team, especially weight-lifters and runners. The extract was used by cosmonauts to adapt to the radically-different conditions in outer space. Among others, mountain climbers, sailors and factory workers all use eleuthero regularly to increase adaptability, reduce sick days and promote increased endurance. I have taken eleuthero extract once for a 9-month period and several shorter periods in the last 10 years and have noticed a decided increase in endurance and performance.

#### *Form and dose:*

The original research used a liquid extract or "tincture" (contains about 35% ethanol). Based on this research, I recommend three basic dose levels. For people wanting to increase performance in sports activity or on the job and at school, take one dropperful of the liquid extract upon rising in a little water or tea and again in the evening about an hour after dinner. For long-term maintenance, where there is not too much stress or one

is not in a training program, take one dropperful just after rising. For times of extra stress, dramatic changes (such as changes in jobs or living situations), take 3 droppersful of the liquid, either 2 in the morning and one in the evening, or one morning noon and night. Every 10 days, take a break from the eleuthero for 2 days. Repeat this cycles for up to 9 months or longer, as needed.

### **Schisandra berries (*Schisandra chinensis*)**

In the American horticultural trade, schisandra is called magnolia vine, and indeed, botanically, it is closely related to the familiar magnolia tree. The small red fruits, called something like wu wei zi in China, means five flavors fruit. Biting into the fruits, one perceives all five flavors, one after another: sour, salty, bitter, sweet and acrid, which is one reason the herb was traditionally considered to be balancing to body systems. The herb is often combined with eleuthero in adaptogenic formulas and has been extensively studied in this form, both in Sweden and Russia. It is often included in commercial anti-stress, weight-loss, and sports formulas in this country and has been an important ingredient of strengthening formulas in traditional Chinese formulas since antiquity.

Modern science has supported this use, and especially has clarified schisandra's liver-protecting and strengthening capabilities. The liver is a vital "adaptogenic" organ, because it helps regulate blood sugar and hormone levels and is the main detoxifying organ of our body. Schisandra can be taken as a tea, added to eleuthero, a little licorice and ginger, or purchased in a wide variety of commercial preparations, such as tinctures and powdered extracts in tablet form.

### **Ling Chi, Ling Zhi, Reishi (*Ganoderma lucidum*)**

Reishi is one of the most revered of the adaptogens—there are stories of people in Japan traveling for hundreds of miles on foot to pick them, hoping to cure their cancer or other incurable disease. The list of benefits observed in laboratory and clinic experiments reads like a panacea wish-list. Reishi has shown a wide range of adaptogenic properties, including blood sugar regulation, immune support, anti-cancer properties, ability to oxygenate the blood efficiently, speeded regeneration of the liver, a sedative, calming effect, free-radical protective effect, radiation protective effect, reduces sensitivity to allergens, anti-hypertensive, and cholesterol lowering. In China, reishi is often added to herbal medicine combinations that lower serum cholesterol and normalize blood pressure. In one well-designed Japanese study, 53 patients with hypertension were given 1.44 gms of the concentrate for 6 months. Blood pressure

dropped from 156/103 to 137/93 in the group with genetically-based or essential hypertension.

My own experience with this medicinal mushroom indicates that it can be of immediate value for strengthening people who are recovering from chronic illness, especially where there is general weakness. Also for “calming the spirit,” for anxiety, nervousness, and insomnia. Children seem to respond quickly, in my experience. The following soup, modeled after a traditional formula has shown excellent results if taken for a week or two, up to 6 months.

### Wei Chi (Protective Vitality) Soup

Simmer 1 ounce of reishi, 1 ounce shiitake, and 1/2 ounce astragalus (optional) for 30 minutes in 6 quarts of water. Add 1/4 cup of organic barley and a variety of sliced or chopped organic vegetables (celery, beets, carrots, etc.). Simmer for another 30 minutes, adding a quarter cup of sea vegetables (nori, wakame) or to taste. For people who cannot digest solid food well, or are very weak, drink 1 cup of the broth morning, afternoon, and evening. If tolerated, the vegetables and barley can also be eaten; however, the herbs are generally too fibrous to be palatable—just push them aside, as their "essence" has already infused into the broth.

## Secondary Adaptogens

### **Ashwaganda (*Withania somnifera*)**

The ancient sanskrit name for this herb is ashwagandha, and it is mentioned in the medical literature of antiquity as an important medicine. The plant is a member of the usually narcotic Solanaceae or nightshade family. However, other safe members include the potato, tomato, and eggplant.

All parts of the plant are used by people in India. The berries have the ability to coagulate milk and the twigs are used to clean the teeth, but it is the roots that are considered tonic, adaptogenic, and strengthening.

The small shrub is widely cultivated in India and is immensely popular in traditional ayurvedic medicine and in folk medicine. Traditionally, the roots are recommended for indigestion, heart disease, arthritis, lumbar pain, convalescence, to lower fevers, and as a general strengthening medicine for children. Current work in the clinic and laboratory has shown it to have a strong tumor-inhibiting activity in humans, as well as a marked anti-inflammatory effect, which supports its traditional use in arthritis. The extract proved

to be without side effects when compared to hydrocortisone, another, synthetic drug often prescribed for arthritis.

Ashwaganda can be used as a whole herb, in tea, twice daily, or purchased in a variety of commercial products. The tea is made one part of the root (by weight) to 10 parts water (by volume), simmered for one-half hour. The usual dose is one-half to one ounce of the tea. Ashwaganda is considered an adaptogen and strengthening herb by many modern herbalists.

### **Fo-ti or Ho Shou Wu (*Polygonum multiflorum*)**

Traditional herbalists in China consider this member of the buckwheat family one of the best adaptogen and longevity herbs. I could hardly wait to try this seemingly miraculous herb, after reading about it in a translation of the *Pen Ts'ao*, which was written by an herbal scholar in 1578. The herbalist, Li Shih-chen, compiled the uses and history of a phenomenal one thousand eight hundred and ninety-two natural drugs, including many herbs. The root of fo-ti is said to take on magical powers when it is old and has several interesting names applied to it, depending on its age. For instance, at fifty years it is fist-size, and called "mountain slave." If it is taken for a year, it "will preserve the black color of the hair and moustache." A hundred-year-old root is as large as a bowl, when it is called "hill-brother." If it is taken for a year, "a cheerful countenance will be preserved." A hundred and fifty year old root is the size of a basin, and if taken for one year, "the teeth will fall out and come afresh." At two-hundred years, it is called "hill father." If it is taken for one year, "the countenance will become like that of a youth, and the gait will equal that of a running horse." And so forth. I've started growing ho shou wu in my garden, but so far it is only two years old. My hair is still showing gray hairs, but I have hopes...

### **Suma (*Pfaffia paniculata*)**

A South American herb, suma has been used for generations as a heal-all. It was called "para todo", for everything, because of its wide range of applications. Modern research suggests that it may be an effective adaptogen. It is prescribed in Brazilian hospitals for cancer and diabetes, taken in tea form, two or three cups daily.

### **Gotu-kola (*Centella asiatica*)**

Although gotu-kola looks nothing like parsley or angelica, like them, it is a member of the Umbelliferae, or parsley family. It is a common weedy plants throughout Asia, often growing in drainage ditches. It likes a wet, rich soil and is a common orchard weed in Hawaii. I grow the plant in pots on my back porch, so I always have a supply of the tasty, kidney-shaped leaves. The legends say that if one eats a leaf a day, life will be full

and rich and be extended to 1,000 years! I don't expect to be around in my present form for this long, but if gotu kola adds a few healthy years, well, so much the better. I enjoy the taste and the ritual. Ayurveda, the ancient East Indian system of medicine, recognizes Centella as an important brain and nervous system restorative. Modern science has shown it to have adaptogenic properties and strong wound healing capabilities. Few human studies confirm its adaptogenic effects or nervous system-supporting effects in humans. It is used in many cosmetic preparations as a kind of a skin adaptogen, helping sensitive hide adapt to stresses such as sunburn and other trauma.

If you want to try gotu kola, make sure to either purchase the fresh liquid tincture or extract, or grow it yourself. When dried, it loses its properties rapidly, and most of the commercial dried gotu kola is worthless, in my experience.

### ***Astragalus (Astragalus membranaceus)***

One of the gems of Traditional Chinese medicine, this root from a member of the pea family is often stir-fried in honey to make it sweeter and enhance its tonic properties. It is considered an important deep immune strengthener (powerfully enhancing and drawing together our immune resources). As a “Qi tonic” in traditional Chinese medicine, it has proven adaptogenic and normalizing activity on nerves, hormones, and immunity. Thousands of years as a superior herbal medicine and many years of laboratory tests (some at the University of Texas Medical School) have shown astragalus to be a super star of adaptogenic and immune-strengthening herbs. I first learned of astragalus during my first visit to an acupuncturist and Chinese herbalist. The doctor's name was Dr. Yau, which made me a bit uncomfortable at the thought of his needling technique, but he proved to have a very gentle hand. Dr. Yau prescribed astragalus for me, as I was feeling stressed and fatigued after 2 years of pre-medical classes, including organic chemistry. His assistant, Rebecca, told me that in China, people have the highest regard for astragalus, or huang chi, and commonly take it by itself as a tea during times of illness, to speed recovery. Since then, I have designed many formulas with this remarkable herb, with excellent results, and have begun growing the plants from seed in my herb garden. Its beautiful, delicate yellow pea-like flowers are a delight, and making a personal relationship with this ancient medicine has enabled me to established a very healing relationship with astraglaus.

### ***Burdock (Arctium lappa)***

Burdock is a close relative to such modern herbal illuminaries as echinacea, dandelion, and feverfew, but of late does not seem to share much of the spotlight. Burdock root, greens, and seeds were known to the ancient Greeks as healing

remedies, and in western herbalism they were important foods and medicines throughout the middle ages. Burdock's nutritional content of vitamins and minerals is high, but more interesting yet is its rich complement of active medicinal compounds. Modern research has isolated chemical constituents that have proven to be anti-bacterial and anti-fungal, and most importantly, tumor-protective and desmutagenic. Desmutagens are substances that inactivate mutagens (cancer-causing agents) by reacting with them and "taking them out of action." These mutagens include pesticides, natural chemicals from plants, and compounds that are created from foods (such as meats) by cooking. These potential cancer-causing compounds are now abundant in our food, water, and air; many of them are already stored in our fat tissues.

Aveline Kushi, extols the adaptogenic properties of burdock in her book "*Complete Guide to Macrobiotic Cooking*," Ms. Kushi mentions that gobo is eaten all year, but is especially warming for the winter months. She says that it has a "very strong energy." In her book recipes can be found for the root, prepared with other vegetables such as carrots and green beans. Tofu is often added to provide further nutrients. The tender gobo roots are common in supermarkets and natural foods markets in many parts of the country and can be prepared by boiling, sauteeing, or deep-frying. I enjoy thinly-sliced gobo roots stir-fried in olive oil or sesame oil with garlic, greens (such as kale), red peppers, and tofu. The crisp, firm roots can also be added to soups of all kinds.

#### Wild Oats (*Avena sativa*)

A common grass throughout many parts of the world. Most herbalists feel that wild oat tincture or liquid or powdered extract is effective for helping to eliminate unwanted addictions. Several studies suggest that it may reduce craving for nicotine in people who are trying to quit smoking—a very beneficial effect for today, as the social mood and tolerance for cigarette smokers is rapidly evaporating. Wild oats is also recommended as a nerve restorative, when there is trauma or nerve weakness. It should be taken for a long period of time to be effective (at least one dropper of the liquid, or one tablet of the concentrated extract two to three times daily).

#### Final comments:

It is certain that nature herself is our most powerful ally in our quest for health. Synthetic medicines have some usefulness, especially for acute, life-threatening situations, but for most minor everyday ailments such as colds and flu and chronic illness, herbal and other natural medicines are much less likely to place an additional stress on us—at the very time when we are allowing nature's healing vitality to do its work. Adaptogens, especially can be considered among nature's most valuable gifts,

helping us to be more in harmony with our environment and live in perfect balance—the true meaning of health.