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The first two chapters give a comprehensive overview.

We hope this is enough for you to realize the power of this “immortality herb” and to also encourage you to incorporate jiaogulan into your daily health regimen.

On our website we have provided our recommended storefronts to not only purchase jiaogulan based products, but also the best versions available on the market.

Here is the link to our recommended sources.
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Yours sincerely,

The Jiaogulan.net Team

Chapter One

What is Jiaogulan?

Jiaogulan is a plant that grows wild in China as well as many other countries throughout Asia.¹ In China it has been used for many years as a medicinal and energizing tea in the regions where it grows. But, when the scientific/medical community discovered jiaogulan's illness-prevention capabilities as well as its therapeutic qualities, researchers (particularly in China and Japan), began enthusiastically uncovering its great potential. What they discovered was an herb very similar in quality to ginseng, and even in some ways superior.^{2,3} They found jiaogulan to function as both an adaptogenic herb⁴ and as an antioxidant herb⁵ containing many effective saponins named gypenosides, as well as trace minerals, amino acids, proteins, and vitamins.⁶

In China, jiaogulan is sometimes called "Southern Ginseng", since it grows in south central China and because of its similarity to ginseng in chemical composition and function. It is also praised as *xiancao*, "herb of immortality", due to its many health-giving qualities and anti-aging effects. The meaning of the name jiaogulan is "twisting-vine-orchid," being derived from the physical characteristics of the plant.

Jiaogulan the Adaptogen

Jiaogulan is one of the more powerful adaptogenic herbs known.⁷ As can be surmised from the word itself, an adaptogen is a substance that helps the body to "adapt" to particular stresses put upon it. The word adaptogen was first coined by

Russian scientist N.V. Lazarev in 1947, and in 1958 was further defined by his student, I.I. Brekhman, to describe a category of herbs that normalize bodily functions. He stated that an adaptogen “must be innocuous and cause minimal side effects in the physiological functions of an organism, it must have a non-specific action of immune enhancement, and has a normalizing action on various bodily functions, irrespective of the direction of the pathological state.”⁸ An adaptogen is therefore a substance which helps to bring about “homeostasis,” the natural equilibrium of the body’s internal processes. Jiaogulan has been shown to fulfill quite adequately all these criteria.^{9,10,11} According to medical understanding, the action that jiaogulan has on the body is two-fold. One, it directly nourishes the visceral functions (viscera is the general name for all the internal organs) by increasing blood supply to various internal organs, through enhanced cardiac output. And two, it affects the neuro-endocrine regulation to normalize the visceral functions that are adversely affected by various stressors (for example, jiaogulan’s adaptogenic effect stabilizes and normalizes the over-irritated brain and sympathetic nerves).

For the sake of analysis, we can divide stress into two types; one being the natural or normal stresses of life in the everyday world, like working hard to get ahead, recreational sports, poor eating habits, anxiety over loved ones, resistance to disease, etc., and the other being the unnatural or overly excessive stresses, like air or toxic chemical pollution, high levels of anxiety, poor personal habits and hygiene, competitive sport to an extreme, the abuse of drugs and alcohol, etc.

These stressors can have a destructive effect on the body. However, the ill effects of day to day normal stresses of life are easily counteracted by the person who leads a relatively balanced life of work, recreation, positive thinking, regular habits of eating and cleanliness, and so on. This person has an immune system that can fight exposure to germs or pathogens, as well as a general resistance strong enough to counteract the

normal stresses of life. Exposure to the excessive stressors, however, will gradually weaken a healthy person who does not take care to improve the balance in his/her life, or increase the supply of adaptogenic and anti-oxidant supplements which can help support the body's defenses. Without some form of adaptation to the onslaught of stress, the body's natural equilibrium will be adversely affected, and as a result, illness will likely develop, with the body aging faster than normal.

Adaptogenic herbs actually help our bodies to adapt and thereby counteract the effects of stress. They strengthen the defenses of the immune system, nourish the adrenal glands, and will not deplete the body's valuable reserves of energy, but will bolster them instead.¹²

Dr. Hans Seyle, M.D., a Canadian medical researcher and endocrinologist, after years of studying the effects of stress has concluded that:

“Adaptability is probably the most distinctive characteristic of life. In maintaining the independence and individuality of natural units, none of the great forces of inanimate matter are as successful as that alertness and adaptability to change which we designate as life—and the loss of which is death. Indeed there is perhaps a certain parallelism between the degree of aliveness and the extent of adaptability in every animal—in every man.”¹³

Even though psychological adjustment or adaptability to a given situation can ultimately be the solution to many stress-related maladies, the added support given by the adaptogens, both physically and mentally, can help the body to make that adjustment more easily. Not only can adaptogens help the body to withstand and counteract the influence of unnatural or excessive stresses by normalizing the disturbed neuro-endocrine regulation and visceral functions under stressful situations, thus recovering homeostasis, they can also enhance the general health and performance of *healthy* individuals,

through their regulating or supporting effects on a wide variety of bodily functions.^{14,15}

Aside from jiaogulan, there are numerous examples of adaptogenic herbs, such as Asian ginseng, American ginseng, Siberian ginseng, ashwaganda, astragalus, and schisandra. Although adaptogens generally function in the same way, and have a great many health-giving effects, they are not all the same.¹⁶ What needs to be looked at, in terms of jiaogulan, is the wide variety of therapeutic effects that scientists have demonstrated through their research; i.e., anti-oxidant protection, enhancing cardio-vascular function, blood pressure regulation, cholesterol reduction, positive influence on blood elements, strengthening immunity, etc. which will be discussed in detail in Chapter Three. In other words, getting these benefits by taking jiaogulan could eliminate the need for using a sometimes confusing array of supplements.

Jiaogulan-The “Immortality” Herb

Jiaogulan has been detected by scientific study to have at least eighty-two saponins.^{17,18} Saponins are the effective components of jiaogulan and ginseng. (Ginseng has been found to have at least twenty-eight saponins.¹⁹) These saponins are what accounts for jiaogulan’s regulatory effect on many bodily systems, e.g., blood pressure, the reproductive system, the immune system, nervous system, endocrine system, and mental functions. Jiaogulan is highly effective in calming the cerebrum and mental irritations by helping to balance and normalize the brain activity and the sympathetic and parasympathetic nervous systems. As a result, many ailments that are induced by stress might be avoided with its use. Jiaogulan has also been shown to enhance immunity and resistance to disease,^{20,21} as well as adaptability to physical and mental stress.²² Other health-supporting effects of jiaogulan are increased cardiac output, better oxygen utilization, faster recovery from exercise²³

(these effects make jiaogulan the ideal supplement for the high performance athlete as we will discuss later), regulation of cholesterol or lipid metabolism,²⁴ adjustment and maintenance of the proper balance of stability and excitability of the brain,²⁵ liver protection (in vitro),²⁶ improving appetite, etc.²⁷ Some of these effects are due to the antioxidant action of jiaogulan.

What are Antioxidants?

The key to understanding what antioxidants are is to understand what free radicals are, because the “oxidant” part of antioxidant refers to the oxidation caused by free radicals, in other words, anti-free radicals or anti-oxidation. Antioxidants are substances that disable, or scavenge, free radicals, which are very toxic; they also protect the cell membrane lipids from oxidation by free radicals, through other internal mechanisms. Free radicals are unstable oxygen molecules that are generated in the body as by-products of the natural process of the utilization of food and oxygen by the body for energy (metabolism). They are even more abundantly generated in the body when the unnatural stressors mentioned previously, such as air pollution, pesticides, smoking, etc. are present. The adversely affected oxygen molecule becomes reactive as a result of losing one of its two electrons during metabolism, thus making it incomplete until it can become whole again by “stealing” an electron from a healthy molecule in the body, simultaneously destroying that healthy cell in the process. These destroyed cells then start chain reactions which create more and more free radicals.

These nasty free radicals are the “bad guys” that cause the body to age, just like rust oxidizes (or erodes) metal or air oxidizes (or browns) an apple. The body maintains a natural system of protection against free radicals by producing its own antioxidants, like SOD (superoxide dismutase) and glutathione, two major antioxidants.²⁸ Under normal circum-

stances, any deleterious effects would be counteracted by these natural defenses. This would be all well and good, except when the body is overwhelmed by an enormous increase of these unwanted free radicals. This is where the real trouble begins.²⁹

Free radicals and the havoc they wreak

Previously we mentioned the excessive stressors that disturb our equilibrium to the point of causing illness. There are many influences that exert a destructive effect on us, such as, stress, industrial pollutants, smog, second-hand smoke, over-exposure to sunlight, and more. All these excesses increase the numbers of free radicals, and there is increasing evidence that the oxidative damage to various molecules caused by free radicals may cause such maladies as cancer, atherosclerosis, diabetes, liver disease, inflammation and arthritis, as well as acceleration of the aging process.³⁰ Under these circumstances we need more antioxidants than the body itself can supply. Fortunately, nature has provided many effective antioxidant sources, one of which is jiaogulan.

Jiaogulan the Antioxidant

There have been numerous research studies that demonstrate jiaogulan's potential as an antioxidant. Experimental and clinical studies have shown that jiaogulan strengthened the antioxidant defenses of the body by inducing synthesis of the antioxidant enzyme superoxide dismutase (SOD) and scavenging free radicals, thus being conducive to the prevention of carcinogenesis, (the production of cancer), prevention and treatment of stroke, heart attack, and various diseases such as atherosclerosis and liver disease.^{31,32,33,34,35} Jiaogulan's ability to induce the body's production of SOD is what makes it so valuable in the battle against free radicals. Especially since scien-

tists have noted that SOD when administered orally (exogenously) is disintegrated in the gastrointestinal tract. And even if some SOD molecules were absorbed by the intestinal wall, they would be rejected by the immune system. This apparently would nullify any value in taking an SOD supplement. And the importance of inducing endogenous (naturally produced by the body) SOD, grows more significant as we age. A Guiyang Medical College study showed that with the increase of age there was a proportionate decrease in the production of SOD.³⁶ Therefore, the stimulation of one's own endogenous SOD is what makes jiaogulan so effective for maintaining good health (and for faster recovery after sports or intense activity) especially as we age.

Demonstrations of the power of antioxidants are being shown time after time in clinical studies, not only with jiaogulan, but with antioxidants such as vitamins A, C, and E; vitamin A precursors, beta-carotene and lycopene; minerals like selenium; and herbs like ginkgo and ginseng.³⁷

When taking jiaogulan or other antioxidants to fight against the effects of free radicals, it would certainly be wise to reduce, or avoid the *causes* of excess production of free radicals. Would you continue to add fuel to a fire while you were trying to put it out?

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Chapter Two

The History of Jiaogulan

Traditional Uses

Although jiaogulan grows in many Asian countries, there does not seem to be any early historical documentation in existence other than in China. The earliest information available on jiaogulan dates back to the beginning of the Ming Dynasty (1368-1644 A.D.), when Zhu Xiao first described the plant and presented a sketch of it in the book *Materia Medica for Famine* in 1406 A.D.. But he recognized it only as a wild crafted plant used as food or a dietary supplement during famine, rather than as a medicinal herb.¹ Later, about 1578 A.D., the renowned herbalist Li Shi-Zhen also described jiaogulan in detail and with a sketch in his classical book *Compendium of Materia Medica*. He pointed out that this herb could be used to treat hematuria, edema and pain of the pharynx, heat and edema of the neck, tumors and trauma. This was the earliest record of jiaogulan's use as a drug, although at this time it was confused with an analogous herb, Wulianmei.² However, in the Qing dynasty (1644-1912 A.D.) Wu Qi-Jun in his book, *Textual Investigation of Herbal Plants*, cited the description and sketch from Zhu Xiao's book and added more information about its medicinal usage. He also clearly separated jiaogulan from its confusion with Wulianmei.³

Jiaogulan's traditional use has not been widespread in China. It was used as a folk herb in the local areas where it

grew wild. Jiaogulan grows mostly in the mountainous regions of southern China, far from the central part of China, an area which has long been known as the “ancient domain of China”. This central area of China is where the classical system that we call traditional Chinese medicine (TCM) evolved. For this reason, jiaogulan is not included in the standard pharmacopoeia of the TCM system, and therefore has not had as widespread use as TCM herbs. However, an experienced TCM practitioner in China has analyzed jiaogulan and described its qualities in terms of traditional Chinese medicine, as “sweet, slightly bitter, neutral, warm, enhancing ‘Yin’ and supporting ‘Yang’”, and suggested that “it would be used to increase the resistance to infection and for anti-inflammation.”

Modern Discovery

Jiaogulan has been used by the people in the mountainous regions of Southern China as an energizing agent. They would take it as a tea before work to increase endurance and strength, and after work to relieve fatigue. It has also been taken for general health and has been recognized as a rejuvenating elixir. People also used it for treating common colds and other infectious diseases. Hence, the local Chinese people called jiaogulan, xiancao the “Immortality Herb,” and described it thus: “Like ginseng but better than ginseng.” Another story states that in a village near Fanjing Mountain in Guizhou province, the inhabitants would drink jiaogulan tea instead of the more common green tea and as a result many people there were living to 100 years of age.

In 1972 the Research Group of Combined Traditional Chinese-Western Medicine of Qu Jing in Yunnan province did a study on the therapeutic effect of jiaogulan in 537 cases of chronic tracheo-bronchitis. This was the first report of medicinal usage of jiaogulan in modern Chinese medical literature.⁴

Jiaogulan has since been included in the more recent *Dictionary of Chinese Materia Medica*, where it describes the traditional uses for jiaogulan as a medicine. There it is indicated for anti-inflammation, detoxification, cough remedy, as an expectorant and as a chronic bronchitis remedy.⁵ Other traditional uses as a medicine have been anecdotally said to be for heart palpitation and for fatigue syndromes.

In Japan, jiaogulan is called *amachazuru*.⁶ “Amacha” means “sweet” in Japanese, referring to the sweet component prevalent in the plant, “cha” means tea, and “zuru” means “vine”. The name perfectly describes the jiaogulan plant, which grows as a climbing vine and produces a sweet tea from its leaves. Amachazuru has been recognized in Japan since the late 1970s, and its description and uses are included in the *Japanese Colour Encyclopedia of Medicinal Herbs*. Among other things, it is stated there: “Because of the sweet taste of the leaves, it has been used as a mountain vegetable”⁷, similar to its use during the Ming Dynasty mentioned previously.

Perhaps one of the more significant revelations about jiaogulan came about in Japan in the mid-1970s. Previously unknown as a medicinal herb, jiaogulan’s discovery in Japan came about like many of the world’s great discoveries—partially through the hard labor of a dedicated scientist, and partially by accident.

It all started like this: In the 1960s there was a trend amongst some research scientists to find an alternative sweetener to sugar. Although saccharin was in use for many years, they were still pursuing other sugar alternatives. In Japan, the government had prohibited the use of sodium cyclamate, a recently discovered artificial sweetener. Japanese researcher Dr. Masahiro Nagai, presently a professor of Pharmacognosy at Hoshi Pharmaceutical University, recalls:

I had been in the National Institute for Health (NIH) in the U.S. for two years, from 1969 to 1971, when

Dr. Osama Tanaka, a professor in the Dept. of Medicine of Hiroshima University, sent a request to me asking that I send a copy of a thesis on Stevia, which had been a subject of research in the NIH. He was interested in the plant for his study as a safe sweetening agent, which is not a sugar. When I went back to Japan, I decided to study the ingredients of another plant, called amachazuru, for possible use as a sugar alternative which, because of my background in Pharmacognosy, I knew to contain a sweet component.

Upon analyzing the sweet component, he stumbled upon the first discovery by the scientific world of chemical compounds contained in amachazuru that are identical to some of the compounds found in *Panax ginseng*, yet in a completely unrelated plant. He announced his findings at the twenty-third Meeting of the Japanese Society of Pharmacognosy in 1976, at Hiroshima.⁸ As it turned out, there was no further investigation of the herb for its sweetness.

At that time, another Japanese scientist, Dr. Tsunematsu Takemoto, whose specialty was herb medicine research, was seeking natural treatments for cancer and other ailments arising from stress, as well as a sugar alternative. His interest of study was in a Chinese fruit, botanical name *Momordica grosvenori*, a melon of the *Cucurbitaceae* (cucumber or gourd) family, known not only for its sweetness, but also for its medicinal uses. His interest in this fruit had been piqued because of its reputation as the “precious fruit of longevity” and as a popular Chinese medicine.⁹

After returning from an unsuccessful trip to Kenya in search of the *Momordica* fruit, he learned of the research being done with amachazuru, an herb in the same family as the fruit he was studying. According to Professor Nagai, “One year after my presentation of the study at the Pharmacognosy Society (1977-78), Prof. Takemoto and his research group saw my

reports on the study of amachazuru, and became very interested in studying it.” Since the compounds in amachazuru were found to be similar to those in *Panax ginseng*, and because it was growing wild in the fields and mountains, Dr. Takemoto thought that he had possibly found, in an apparently insignificant perennial weed, an inexpensive and readily available health panacea, right in his native country.¹⁰

Upon analyzing the amachazuru himself, Dr. Takemoto discovered that it contained four kinds of saponins exactly like those in *Panax ginseng* and seventeen other kinds of saponins very similar to those in *Panax ginseng*.¹¹ Over the next ten years he and his group of researchers identified and named eighty-two saponins from amachazuru, whereas *Panax ginseng* has been found to have up to 28 saponins.¹² Although these two plants are not related, they contain the same major components: saponins, a substance that has the unique quality of dissolving both in water and oil, and when mixed with water and shaken, will foam up. In *Panax ginseng* the saponins are called ginsenosides, in jiaogulan, or amachazuru, they are called gypenosides. (See Chapter 5 for a more detailed explanation of saponins)

Dr. Takemoto was very excited about this newly discovered herb and he embarked on a mission to gradually uncover all of its potential. Throughout the 1980s, Dr. Takemoto, along with his staff, performed studies which isolated and identified eighty-two saponins, which they simply numbered 1-82.¹³ In 1984 they performed three experiments that began to demonstrate amachazuru’s many health-supporting and medicinal qualities. They saw that amachazuru increased the activity and strength of mice in a swimming test, showing the herb’s ability to improve endurance.¹⁴ Another study on mice showed the herb’s effectiveness as a neoplasm or tumor inhibitor,¹⁵ and a third showed the herb’s ability (adaptogenic) to prevent the unpleasant side effects of dexamethasone (hormone treatment).¹⁶ These studies used mice as subjects; nevertheless

having been tested on mammals, they were a significant marker for the herb's possible effectiveness on humans. This was borne out by subsequent studies on humans. Jiaogulan would prove, in studies, to enhance endurance, inhibit tumors and help protect the cellular immunity in humans, as well as provide many other health-promoting benefits.

Although the Japanese findings were significant, they were only the beginning of the extensive research that would be done on amachazuru. Unfortunately, in 1989 the driving force behind the ground-breaking research, Dr. Takemoto, passed away. As a result, the energy to pursue the research significantly slowed in Japan.

However, interest in jiaogulan by Chinese researchers was growing rapidly, sparked by the results of a nationwide population census taken in the 1970s. The census revealed that, in small regions in the south central portion of China (some villages of Guangxi, Shicuan and other southern provinces), high rates of people per capita were living to 100 years of age. Cancer incidence was extremely low among the inhabitants as well. Scientists from the Chinese Academy of Medical Science in Beijing and other institutions began to research these regions and discovered that the people living there were regularly drinking a tea made from the herb jiaogulan.¹⁷

Because of the significant results of the census taken in China during the 1970's, and then the boom of scientific interest in jiaogulan (amachazuru) in Japan during the 1980s, many research studies on jiaogulan were undertaken in China, and they have been continuing up to the present. Various pharmacological and therapeutic effects of jiaogulan were investigated and proven by tests on animals and human beings. Tonics and recipes made of jiaogulan have been developed and are being used in Chinese medical institutions. Surveys of the resources of jiaogulan in various portions of China have been made and cultivation techniques investigated. Nearly 300 scientific papers on jiaogulan or its saponins have been published in

respected journals, and information about the herb has been formally collected and published in the modern *Dictionary of Chinese Materia Medica*.¹⁸ Jiaogulan has been recognized and accepted by ever-increasing numbers of Chinese people.

From the time of the Qin Dynasty (221 B.C.), the Emperors of ancient China would send various envoys overseas to search for the “elixir of life”, but their efforts were always fruitless. Perhaps, the “elixir” has been found by descendants of the Emperors, growing in their own homeland!

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