

RHODIOLA ROSEA

*Russia's Best Kept Secret
To Health & Longevity*



**THE NATURAL WAY
TO IMPROVE YOUR
MENTAL & PHYSICAL
WELL-BEING**

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Notice: This book is intended as educational material and as a reference volume only, not as a medical manual. The information presented is designed to help you make informed decisions about your health. It is not a substitute for any treatment prescribed by your healthcare provider.

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INTRODUCTION

Millions of Americans this year alone will face a disruptive episode of stress, depression or both. All this suffering may be completely unnecessary thanks to one of Russia's best-kept secrets, **Siberian golden root- Rhodiola rosea**. For generations, certain civilizations such as, the Chinese, Egyptians, Indians and Russians have treasured herbal remedies for their healing properties. But in many countries, such as the United States, herbal remedies traditionally have been placed in the background making pharmaceuticals the primary form of treatment.

However the current over use of pharmaceuticals with known side effects has caused public alarm and created a need for safe and effective alternatives. At present, research studies have been published in reputable medical journals, such as The Journal of the American Medical Association, that lend confidence to herbal remedies as a complimentary role in treating disease. It's interesting to note that of all the herbs reviewed by the medical community today, Adaptogens, such as Siberian Rhodiola rosea, are of prime interest.

WHAT ARE ADAPTOGENS?

The classification of plants called "Adaptogens" have been used for centuries to help the body and brain cells "adapt" to and resist physical, chemical and environmental stress. They also help the body by normalizing the immune system and glucocorticoid hormone levels in a positive way, bringing them into balance. For thousands of years, people have used *Rhodiola rosea* to help their body deal with the effects of stress, but here in the United States, *Rhodiola rosea* is largely unknown, and yet quite possibly the most extraordinary adaptogen of all.

While ginseng has received all the attention as an adaptogen, the use of *Rhodiola rosea* by the Russians has shown this herb to go above and beyond ginseng. The scientific work on *Rhodiola rosea*'s active components in addressing heart disease, cancer, and performance (mental and physical) is impressive and places *Rhodiola rosea* as one of the most important herbs and greatest gifts bestowed upon us. It is believed that "adaptogens work by activating the basic and vital functions of the body to help it remain healthy under unfavorable conditions, making the body able to adapt.

Essentially, the ability for the body to adapt to unfavorable biological and psychological conditions provides an effective defense and means for survival. Research into adaptogens is on the increase, and many scientists are unraveling the benefits of these medicinal plants as profound contributors to our health and well being.

Rhodiola rosea is far more than just another adaptogen from Siberia, such as Siberian Ginseng, *Aralia* or *Schizandra*. Extracts of *Rhodiola Rosea* possess a truly extraordinary combination of health benefits, without damaging side effects. In fact *Rhodiola rosea* was found to be safer than Ginseng even at doses exceeding 20 times the normal dose.

Different species of *Rhodiola Rosea* (Golden Root)

Rhodiola rosea, also known as "golden root", is a member of the family Crassulaceae, plants indigenous to the polar arctic regions of eastern Siberia, growing at altitudes up to 18,000 feet above sea level. Its yellow flowers smell similar to attar of roses, hence the name "rosea".

There are more than 20 species of the *Rhodiola* genus in nature, however only *Rhodiola Rosea* has been proven to be helpful in reducing stress & depression. Other unique effects are found in weight management and adipose lipase activation.

What sets *Rhodiola Rosea* apart from other species in this family? Only true *Rhodiola rosea* contains rosavin, rosin, rosarin, salidroside, specific phenylpropanoids and terpenoids. Other *Rhodiola*'s may only contain salidroside. The most important compounds found in *Rhodiola rosea* that were scientifically and clinically proven active were; rosavin, rosin, rosarin and salidroside. Of the *Rhodiola*'s that contain some of the active phyto-nutrients, only Siberian *Rhodiola rosea* has been thoroughly tested. In fact, up until recently, it was considered a top Soviet military secret.

Rhodiola rosea plants have been discovered in other countries such as China, but to date *Rhodiola rosea* from that region lacks the evidence of its phyto-nutrients to bring about therapeutic results. In 1931, Russian botanist and nutritionist Dr. L. Utkin discovered that "Siberian *Rhodiola rosea*" increased sexual potency. In 1947, Russian scientist Prof. Lasarev reported that extracts from Siberian *Rhodiola rosea* increased the body's natural resistance to different environmental stresses and then in 1958, the prominent Soviet scientist, Dr. I. Brekhman, introduced the importance of Siberian adaptogens into everyday health.

Standardized, clinically potent Siberian *Rhodiola rosea* extract is a unique and exciting herbal extract that has risen to a level of well-earned consumer excitement that unfortunately is attracting cases of product adulteration, usually justified by misinformation. Apparently the increased popularity of clinically effective forms of *Rhodiola rosea* now make it a target for counterfeiting with innocuous and ineffective substitutes being sold to a public still too

naïve to protect itself from low quality alternatives that simply do not work. There are companies encapsulating and labeling a completely different *Rhodiola* and marketing it as Siberian *Rhodiola rosea*. Unfortunately, this sad tale is all too familiar to experienced innovators in the natural products industry.

Stress

Unlike early man, who dealt with stress periodically throughout the day, modern man (and woman's) experience with stress is more chronic in nature, far more insidious and devastating to the human system. Dr. Hans Selye, world renowned for his studies of stress on an organism, recognized the impact that long-term stress has on a person and conceived what is known as "The General Adaptation Syndrome" (GAS). Dr. Selye divided GAS into three phases:

- 1) Alarm phase - When some new stress factor strikes the body this causes a sudden release of internal stress-hormones - corticosteroids and catecholamines. If the stress is very intense it can damage the regulatory systems of the body permanently and immediately (for example in the case of exposure to high levels of nuclear radiation); but if one is lucky, or if the person takes adaptogens, then it is possible to smoothly progress further to the "adaptation phase".
- 2) Adaptation phase (Resistance phase) - If the stress factor continues (for example, in sports it might be heavy athletic training) our body learns to tolerate the stressful stimulus - "adapt" - and increase its resistance to the stress factor. The "adaptation phase" is usually a safe period. The longer we can stay in the "adaptation phase", the better.
- 3) Exhaustion phase appears, when the body fails to fight stress anymore and simply gives up. In this "exhaustion phase", disease symptoms rapidly appear and get worse.

Diseases associated with stress may appear in the first "alarm phase", but they mainly appear in the third "exhaustion phase" when the body cannot fight stress anymore. This third phase usually develops after a period of months or years. Everything

depends on the duration of the "adaptation phase". Sometimes the body may be fortunate and escape this third phase altogether, provided it could keep the stress under control. It is possible to do this by taking adaptogens; they can help you to stay in the "adaptation phase" for as long as possible.

There is hope however. Nature has bestowed upon us a collection of plants that can effectively combat stress and return to us our birthright: good health. Although eradicating stress from our life seems impossible, we can respond by diminishing its effects.

Agents who do this are called adaptogens, and in particular *Rhodiola Rosea*, which may be called nature's answer to stress.

Cortisol is a glucocorticoid that is crucial in the response to trauma, infection, exercise, anxiety, and dementia. High levels, however, may cause involution of the thymus, depression of the immune response, tissue damage, fat deposition and confusion. Cortisol is also sometimes called the "stress hormone", the hormone that is quite often out of balance (especially for women).

Rhodiola rosea has been used, with a tremendous amount of success, to lower the cortisol production. Thus rebalancing this hormone and keep the stress to a minimal. As the stress level is kept low, also the sugar cravings are either eliminated or also kept low.

Depression

The effects of excessive stress in modern life can lead to occasional and even chronic states of fatigue-related depression. There are many physiological mechanisms that occur in the body that may explain the causes of depression. Depression is a complex interplay of both physiological and psychological processes that ultimately culminate into feelings of sadness, indifference and irritability. Normal sleep patterns are disrupted, and the person's appetite and weight may vary considerably. They feel encumbered with fatigue and find it difficult to think clearly and concentrate. Often, feelings of shame or guilt and a preoccupation with death or dying occupy their thoughts.

Approximately 15% of the general population suffers from major depressive episodes, with the incidence increasing with age. Depression affects women twice as much as men, regardless of age. It is unfortunate fact that about 80% of all illness can be traced back to stress. Stress is a silent killer, with little resistance mounted against it. Unlike bacteria, viruses and even cancer, which our immune system can counteract and destroy, stress suppresses immunity and destroys our resistance to other forms of attack. This may be the key to how stress has been able to secure such a foothold in modern society; it kills by lowering resistance, and allowing other opportunistic and degenerative diseases to flourish. Stress slowly destroys our immune system!

As for the rest of us, bouts of occasional depression are normal and precipitate from something as superficial as a rainy day to the tragedy of losing a love one. Of course when the depression becomes persistent rather than episodic, therapy is an alternative.

The main targets of *Rhodiola rosea* are the stress-related molecules called neurotransmitters. These include serotonin, dopamine, epinephrine and nor epinephrine as well as other active molecules. Each neurotransmitter possesses its own unique properties. Although the amount of serotonin in the brain is relatively small, when compared to other parts of the body, its importance in brain function cannot be underestimated.

Serotonin is clearly implicated in the etiology of treatment for many disorders, particularly those of the central nervous system, including anxiety, depression, obsessive-compulsive disorder, schizophrenia, stroke, obesity, hypertension, vascular disorders, migraine and nausea. The functions of serotonin are numerous and appear to involve control of appetite, sleep, memory and learning, temperature regulation, mood, behavior (including sexual and hallucinogenic behavior), cardiovascular function, muscle contraction, endocrine regulation, and depression.

Substances that have antidepressant activity generally interfere with levels of neurotransmitters in the brain. Antidepressants increase the activity of these mediators either by inhibiting their re-uptake in the nerve endings, or by acting as an antagonist to the

two enzymes responsible for the catabolism of these amines, Monoamine oxidase (MAO) inhibitors and catechol-O-methyltransferase (COMT). MAO inhibitors are antidepressants, used efficient for treatment of atypical depression (vegetative symptoms, anxiety, and initial insomnia), panic disorders, and borderline personality disorders. Evidence suggests that Rhodiola rosea may help those, buried by feelings of depression, to climb out of their psychological hole.

Clinical studies on Rhodiola rosea were performed at leading Soviet universities and medial academies. Researchers concluded that Rhodiola rosea is much more powerful than other adaptogens, including Panax ginseng, Siberian ginseng, Schizandra and Aralia.

Researchers also found Rhodiola rosea, to be one of the best natural anti-depressant ever discovered. Much better than St. Johns Wort, Kava Kava and in many instances SAME. They compared patients taking these three different natural supplements with patients taking only Rhodiola rosea and found Rhodiola rosea to be superior overall in effects and quickness.

In another study, Rhodiola rosea was demonstrated in patients with pronounced depressive states of varied origins. 128 individuals, aged 17 to 55 years, were observed. After the administration of the Rhodiola preparation, a substantial decrease, or complete disappearance of the clinical manifestations of depression, was noted in 65% of the patients.

Depression is a consequence of insufficient serotonin levels, and scientists have found Rhodiola rosea enhances the level of serotonin in the brain.

Weight Management

Fat accumulated in adipose tissue is very stubborn to reduce. It is a very difficult task to force this unwanted fat out of the body. Stored fat is mobilized by the action of the enzyme lipase. However, this adipose lipase is a special type of enzyme, different from the pancreatic lipase in the intestines. It is known as hormone-sensitive lipase. Researchers have been searching for

natural substances that could specifically activate hormone-sensitive adipose lipase. This important property was discovered in *Rhodiola rosea*. Bulgarian researchers demonstrated that *Rhodiola rosea* stimulates the biosynthesis of the hormone epinephrine, nor epinephrine and adrenocorticotrophic hormone. Epinephrine, nor epinephrine and the hormone adrenocorticotrophic activate adenilate cyclase (cAMP) in adipose cells. The increased level of cAMP, in turn, activates hormone-sensitive lipase, which plays a key role in breaking down the fat stored in adipose tissue. These released fatty acids then are forced to circulate in the blood, eventually reacting in the mitochondria to produce energy.

Once fatty acids are released from fat tissue, it is important that the body uses them up as soon as possible, for example, by doing simple exercise. By doing this *Rhodiola rosea* helps release the excess fat from the adipose tissue and makes stored fatty acids available for immediate energy use.

Physical Performance

Russia's world-class athletes know well how their successes are tied up with the use of *Rhodiola rosea*. In fact, the majority of scientific research on *Rhodiola rosea* is geared toward enhancing physical and mental performance whether it is of an extreme or ordinary nature. Based on data obtained from observations on weightlifters, wrestlers, and gymnasts, extracts of *Rhodiola rosea* increased physical work capacity, decreased fatigue and improved the general mental and physical state of the subjects.

Using 112 athletes, researchers discovered that 89% of those supplementing with *Rhodiola rosea* showed a more rapid improvement in performance in sports such as track and field, swimming, speed skating and ski racing. Speed and strength qualities of the tested individuals improved in comparison to the control group. Researchers also revealed that out of those supplementing *Rhodiola rosea*, 69% displayed accelerated adaptation to climatic and social conditions and 86% demonstrated improved appetite. This study further solidified *Rhodiola*'s influence on the rehabilitative processes in professional athletes.

Based on these studies and the multitude that have been performed in Russia, scientists and trainers have recommended *Rhodiola rosea* in many areas of athletic performance for improving speed and strength abilities and for enhancing the recovery process. Many researchers have demonstrated *Rhodiola rosea*'s anabolic effects, including the capacity to increase body weight by improving the muscle-fat ratio, increasing hemoglobin and erythrocyte levels. Muscle proteins and glutamic acid are also enhanced when supplementing with *Rhodiola rosea*.

Glutamic acid is a derivative of glutamine, an amino acid found in muscle and participates in muscle metabolism by removing nitrogenous waste and acting as a substrate for glucose synthesis as well as the synthesis of other amino acids. Glutamic acid may preserve muscle mass since low levels of this amino acid are associated with decreased muscle mass.

Other compounds critical for muscular performance are creatine phosphate and adenosine triphosphate (ATP), both of which are the muscle's primary energy molecules. *Rhodiola rosea* has been shown to increase muscle ATP and creatine phosphate levels. In addition to using glucose for ATP production, the body mobilizes fatty acid stores during prolonged exercise. In fact, fatty acids play a greater role in supporting the energy demands of the body during long-term exercise than glucose alone.

Rhodiola rosea enhances performance and increases endurance. All these factors indicate that *Rhodiola rosea* promotes anabolism, the building of body tissues and muscle tissue. *Rhodiola rosea* will, by positively changing the protein balance in athletes, increase the mass of contractile muscle fibers as a result of increased workloads; *Rhodiola* increases strength.

Memory

Several studies have demonstrated *Rhodiola rosea*'s ability to enhance a person's ability for memorization and prolonged concentration. In a proofreading test, those taking *Rhodiola rosea* extract decreased the number of their mistakes by 88%, while

those in the control group, increased the number of their mistakes by 84%.

The process of memory formation is supported by the interactions between various neurotransmitters in the brain. The transmission of cholinergic (serotonin-activated neurons) during the learning process and the formation of memory are well known. Other neurotransmitters are also important in the brain. The roles of neurotransmitter systems are different depending on the learning process. Some researchers have found a moderate decrease of the neurotransmitter, nor epinephrine, improves the learning and memory processes.

Studies have shown that salidroside, (an extract of *Rhodiola rosea*), moderately lowers the amount of nor epinephrine, which plays a critical role in the stress response. The latter theory may explain how this herb influences intellectual capacity.

A.D.D. (Attention Deficit Disorder)

Rhodiola rosea has reportedly influenced learning and focusing in ADD patients. Studies have revealed that the process of learning and focusing is supported by interactions between various chemical transmitters in the brain. Among these are nor epinephrine (noradrenaline), which can improve learning and focusing when its levels are modulated. The active ingredients, salidroside & rosavin in *Rhodiola rosea*, have the ability to regulate nor epinephrine and dopamine. In one study, therapeutic effects were obtained with ADD patients exhibiting mental and physical fatigue, lack of concentration and hyperactivity.

The study showed a decrease in symptoms within three weeks with the results being so successful that the dosage was cut in half.

Heart Disease

Some 24 million Americans will be diagnosed with heart disease this year, with over 750,000 losing their lives because of it. Heart disease is the number one cause of death in the United States. The following are risk factors associated with heart disease.

- High blood pressure
- High cholesterol
- Cigarette smoking
- Obesity
- Lack of regular exercise
- Diabetes mellitus
- Genetic predisposition
- Male gender
- Stress

Stress has reared its ugly head and may play a greater role contributing to the statistics.

The American Heart Association connects anxiety, depression, emotional drain and conflict, with increased incidence of angina pectoris (acute pain in the chest resulting from a decreased blood supply to the heart). Scientists used 132 patients with coronary artery disease and found that emotional stress can trigger a decrease in the blood supply to the heart and that high level of mental stress more than doubles the risk of ischemia (reduced blood supply to the heart).

The fact that stress affects normal heart function may be more inconspicuous and insidious in healthy hearts than in diseased hearts, which trigger a pain response when stressed. Stress may play an important role influencing other factors correlated to heart disease, such as cholesterol, obesity, diabetes and hypertension. Catecholamines induce the release of lipids and glucose into the blood stream, raising cholesterol levels and exacerbating diabetes. Researchers have shown that animals infused with catecholamines almost immediately develop over-contracted cardiac muscle fibers, known as "contraction band lesions".

These lesions are the result of heart muscle contracting so severely that the actual fibers rupture, resulting in a microscopic band of dead cells. Not only does this section of heart muscle become dysfunctional, it also disrupts the natural and coordinated conduction of the impulse that travels through the heart muscle itself. When this conduction is disrupted and the heartbeats are out

of sequence, this is called arrhythmia. The corticosteroids released during the stress response are also depleting potassium. Potassium, the mineral needed to relax cardiac muscle, will be lost during stressful situations and may further irritate arrhythmic conditions.

Contraction band lesions, cardiac arrhythmias, and stress may explain why heart attacks are so prevalent in America: the greater the levels of stress hormones, the greater the amount of contraction band lesions, arrhythmias, and sudden cardiac death. Contraction band lesions are seen in 86% of sudden cardiac deaths. High levels of the stress hormones may precipitate a heart attack because of their ability to alter the normal conduction of heart impulses.

Rhodiola rosea prevents cardiac damage by decreasing the amount of catecholamines and corticosteroids released during the stress response and decreasing the "adrenaline burn" on the heart. Rhodiola rosea's normalizing effect on the adrenal glands may also normalize cholesterol, blood sugar, potassium levels and blood pressure thereby decreasing risk factors for heart disease.

Cancer

Cancers can be a genetic disease that starts in the cell and characterized by: cell growth not regulated by environmental factors and the cancerous cell's capacity to invade surrounding tissues. Age has the most significant impact on cancer incidence and mortality, which doubles every five years after the age of twenty-five. Different types of cancer also reach different peaks during various times of the life cycle. For example, cancer of the colon, prostate, and stomach reach a peak incidence between 60 and 80 years.

As cancer cells divide, they accumulate, forming a mass known as a tumor. The tumor cells hoard nutrients and compete with healthy tissue for space, eventually killing off normal cells. Malignant cells grow out of control, infiltrating the surrounding tissue even further. The tumor then becomes vascularized (produces its own networks for blood supply). A healthy blood supply allows cells to break away from the tumor, travel through the blood and establish a new

cancerous growth in another part of the body. This process is called "metastasis". Pain from cancer comes from tumor growth that applies pressure on nerves or blocks passageways, so that cellular and other secretions build up pressure.

Every day we breathe air, drink water, and eat food laden with pesticides and pollutants, which contribute to DNA mutagenicity. Free radicals, which we have heard so much about, also play a part in DNA mutagenicity. Free radicals are highly reactive molecules produced in the normal course of metabolism. Superoxide, hydrogen peroxide, and hydroxyl, a few of the many free radicals produced in the body, are also kept in check by the contrary forces of certain antioxidant enzymes - catalase, superoxide dismutase and glutathione peroxidase. Dietary antioxidants, including vitamins A, C, and E, also quench free radical damage. It is when free radical propagation outpaces antioxidant extinguishing that genetic damage may occur.

Psychoneuroimmunology, or the study of the relationship between emotions and the immune response, suggests that stress, although it does not directly cause cancer, may contribute to it by activating latent cancer cells or by suppressing the immune system as a whole.

The immune system is cancer's most formidable enemy. The process by which the immune system surveys for and destroys cancerous cells is analogous to the process of the body rejecting transplanted tissues. The body sees cancerous cells as non-self and mobilizes lymphocytes, macrophages and natural killer cells to destroy the offending party. Stress may suppress the activity of natural killer cells and other cells involved in cancer cell destruction. When the immune system is suppressed, cancer cells are able to proliferate and infiltrate.

Chronic stress in humans can also change the biochemical mechanisms in a cell, turning it to anaerobic metabolism instead of aerobic metabolism. For a cell to produce enough energy, oxygen must be present (aerobic respiration). When exposed to a stressful situation, the cell switches from aerobic respiration to anaerobic (without oxygen), even in the presence of adequate oxygen!

For many years, Soviet scientists studied *Rhodiola rosea*'s potent anticarcinogenic properties. The antioxidant properties of *Rhodiola rosea* have been extensively studied and shown to be enormously high when compared to other natural antioxidants. *Rhodiola rosea* may actively participate in not only preventing free radical and mutagen damage; it may also repair damage that has already occurred. Researchers have found that extracts of *Rhodiola rosea* are antimutagens due to their ability to raise the efficiency of DNA repair mechanisms.

Rhodiola rosea demonstrated a marked ability to prevent the growth and proliferation of cells, slowing down the progression, when used in proper concentration. *Rhodiola rosea*'s potential to combat cancer is promising and when used in combination with conventional therapies, may provide a greater therapeutic outcome without the associated side effects from chemotherapy.

Libido

Rhodiola rosea has been known as a powerful stimulant for centuries, and was a favored ingredient in many folk love potions. The legendary Ukrainian prince Danila Galitsky (XIII century), who had a considerable reputation for remarkable amorous feats, used to say that he took strength from the Golden Root, which is the folk name for *Rhodiola rosea*. The favorite use of the Golden Root was in the form of an alcoholic drink and taken (teaspoon) after each meal. Within 2-3 weeks both men and women will have remarkable results. Today, *Rhodiola rosea* has been approved as an official Ukrainian medical drug.

Rhodiola rosea's effectiveness against sexual dysfunction was put to the test when Russian scientists used the adaptogen in 35 men suffering from weak erections, premature ejaculation, or a combination of the two for 1 to 20 years. The patients also complained of increased irritability, excitability, poor sleep and sweatiness. For 3 months, the subjects supplemented their regular diet with 100-150mg. of *Rhodiola rosea*. A substantial improvement in sexual function commenced as a result of treatment in 26 patients. Also noted was a normalization of

prostate fluid and an increase in the content of 17 ketosteroids (indicator of male hormone production in the body).

Amenorrhea (absence of menstrual periods)

Rhodiola rosea is not gender biased. The effect of *Rhodiola rosea* on the functioning of sex glands served as another experiment in women suffering from amenorrhea.

There are two types of amenorrhea, primary and secondary. In primary amenorrhea, menstruation has never occurred at all. In most cases, this is simply due to the late onset of puberty. In some cases causes of primary amenorrhea include disorders of the uterus, ovaries, or pituitary gland. Secondary amenorrhea refers to women who have missed three or more periods after their regular menstrual cycle has been established. The most common cause of secondary amenorrhea is pregnancy, emotional stress, illness, certain medications and oral contraceptives. Excessive exercise can also alter patterns.

A study was done on forty women suffering from amenorrhea, (fourteen women between 19 and 25 years, twenty from 25 to 35 and six over 30.) For five months to five years or greater, these women suffered from either primary (7) or secondary amenorrhea (33). The patients were given 200mg. of *Rhodiola rosea* for two weeks. After the course of treatment, doctors found that in 25 of the women suffering from secondary amenorrhea, the menstrual cycle resumed. Pregnancy occurred in eleven out of the twenty-five women with a restored menstrual cycle.

Hearing

The influence of *Rhodiola rosea* on the function of the hearing organ was also studied. Nineteen healthy individuals working in an electromechanical production plant and three pilots at a Soviet airport were included in the study. Before the administration of *Rhodiola*, a decrease in bone and air conduction for speech tones was identified in all subjects. Air and bone conduction are measurements of hearing made through either earphones (air) or through a vibrator placed on the mastoid bone behind the ear

(bone). A lower conduction reading correlates to a decrease in auditory function (i.e., hearing).

Subjects received 100mg. of *Rhodiola rosea* twice daily for two weeks. During the test period, air and bone conduction for speech tones had increased by 10 to 40 decibels in all 22 subjects. Studies have shown that *Rhodiola rosea*'s ability to enhance serotonin levels in the brain creates a substantial influence on processes that increase the brain's reactivity to sensory stimulation.

Gum Disease

Rhodiola rosea has been used in dental practices for swabbing the gums of patients with pyorrhea, a gum disease characterized by the progression of gingivitis to the point that loss of supporting bone has begun. Pyorrhea is the primary reason for tooth loss in adults. A positive effect has been achieved from applying *Rhodiola rosea* dissolved in water, in combination with vitamin A (cod liver oil). After 4 to 7 days of treatment, gum hemorrhaging decreased, swelling diminished and normal coloring was seen.

Parkinson's Disease

Parkinson's disease is a degenerative condition of the brain that occurs in about one in 200 people over the age of 50. The disease causes weakness and stiffness of the muscles and interferes with speech, walking and the performance of daily tasks. Normal quantities of dopamine facilitate critical brain functions, while low levels can cause brain dysfunction.

Scientific results indicate that there is a connection between dopamine and two major Central Nervous System disorders; Schizophrenia and Parkinson's disease.

The basal ganglia help control body movements. They rely on the neurotransmitter dopamine, which is transported from the substantia nigra. In Parkinson's disease, degeneration of the substantia nigra means that the basal ganglia receive reduced amounts of dopamine. In the normal brain, the levels of dopamine and acetylcholine are evenly balanced. In Parkinson's disease, the

levels of dopamine are reduced while acetylcholine is abundant and overactive.

Administration of *Rhodiola rosea* increased the level of dopamine and reduced the level of acetylcholine in the brain and was shown to be effective in the treatment of Parkinsonism (pre-Parkinson conditions.)

Liver

Among its many functions, the liver is an important organ involved in metabolizing toxins and medications to less damaging substances. In trying to protect the body from harm, the liver may become toxic. *Rhodiola rosea* affords protection to the liver by preventing carbon tetrachloride intoxication. Carbon tetrachloride is a potent poison to the liver that could lead to chemically induced hepatitis. *Rhodiola rosea* also reduces the side effects associated with interferon.

Diabetes

Diabetes is a disorder of sugar metabolism due to the lack of insulin production or a loss in insulin's effectiveness. Without insulin, glucose cannot enter into cells and accumulates in the blood. As a result, blood sugar skyrockets. The body, in response, attempts to control the high levels. Then shuttles glucose off into alternative metabolic pathways or dumps excess sugar into the kidneys for excretion. The cells deprived of their primary energy molecule, signal to the brain that they are starving and so the brain initiates the hunger response. As a result of these processes, the person urinates excessively and consumes larger than normal amounts of fluids to overcome thirst.

They are constantly eating despite the fact they are losing weight. Diabetes leads to complications of the cardiovascular system, kidneys, nervous system and eyes. Diabetes is an insidious disease when combined with stress; it is like a ticking bomb waiting to go off.

Psychological stress worsens the symptoms in preexisting diabetes.

The effects of stress can be attributed to the stress response and the outpouring of hormones that work against insulin. Instead of storing glucose for future use, the body secretes stress hormones, which result in a surge of glucose into a circulatory system that is already burdened with excess sugar. Stress reputedly leads to progression of the disease by stimulating the destruction of beta cells.

Rhodiola rosea not only decreases the levels of stress hormones in the body, it also influences beta cell activity. Rhodiola rosea raises the blood insulin levels and decreases the level of glucagon (an insulin antagonist). It also increases liver glycogen, which is the main storage for blood sugar.

WARNING!

Remember, only TRUE Rhodiola rosea extract contains sufficient standardized levels of its unique active constituents: rosavin, rosin, and rosarin plus the phenylpropanoids and terpenoids specific to this species. Standardization insures the consumer of getting a product that works therapeutically. All other forms are nominal at best.

Some suppliers of so-called "standardized Rhodiola rosea" have standardized their products to 1% salidroside. Critical evaluation of the results from recent research clearly shows that the presence of salidroside and its aglycon p-tyrosol is NOT specific to the Rhodiola genus and not the source of Rhodiola's extensive clinical value.

Many Rhodiola species contain salidroside and p-tyrosol, but what is unique to standardized Rhodiola rosea extract is its full specter of pharmacologically active amounts of rosavin, rosin, and rosarin. Salidroside or p-tyrosol content alone should never be used as the objective standard for Rhodiola rosea evaluation.

What the Experts are saying about Rhodiola rosea

"Overall I see Rhodiola rosea (Rosavin) as a remarkable breakthrough which can help in delaying aging and reducing the effects of stress upon us which accumulate with aging. Furthermore, it improves mental functions, not just memory, but abstraction capacity, reaction time, and is an overall mental stimulant... It has been extremely well tolerated, even in patients in their nineties... I feel this is a time proven herbal supplement for this purpose."

Dr. Richard Brown, M.D.

True "Rhodiola rosea (Rosavin) provides the basis through which people can build up an energy reserve that can be tapped when the body needs it the most; during stress, periods of extreme physical tension, and while recovering from exercise and/or fatigue. "Rhodiola rosea" (Rosavin) also enhances the level of neurotransmitters in the brain."

Dr. Zakir Ramazanov, Ph.D., D.S. former Senior Scientist at the Russian Academy of Science

"My patients have experienced tremendous results in well-being in the areas of depression, motivation, focus and anxiety-all with the safe, natural adaptogen, Rosavin."

Joanne Williams, CNP

What others are saying about Rhodiola rosea

"I've never felt so good in all my life. I feel like a kid again. When I was 64 years old I was only able to swim a lap and a half in the pool and the YMCA. I started taking Rhodiola rosea (Rosavin) and in less than thirty days I was swimming for an hour. After three months I swam for 3 hours straight and was interviewed by CBS. One year later at 65 years old, I swam for 4 straight hours and was interviewed by ABC. This product is so good that I've decided to go for the Guinness book of world records. For me Rosavin made all the difference between a work out and a record."

Martin Reiser, Rh.P.

Orono, ME

TESTAMONIES

"Before I started taking Rhodiola rosea (Rosavin), I suffered from anxiety and depression. I thought I had plenty of energy, but I was getting extremely tired by the end of the day-with big energy slumps in the late afternoon.

Now I take Rosavin everyday. My anxiety and depression have lightened, and to my surprise, I do have more energy and seem to need less sleep than before. My physical stamina has always been high, but I believe it has improved as well."

Ellen

Irvington, N.Y.

"I've been taking Rosavin since Feb. 2001 at the request of an Osteopathic Doctor, I had been seeing at the time for Chronic Fatigue Syndrome. Although I still have fatigue and body pain, I find that I am significantly less depressed and better able to cope with my chronic symptoms since I started taking Rosavin. I have tried so many supplements and found little relief. Rosavin offered positive results with no side effects, which is no small feat considering my sensitivities."

Eileen

Valley Stream, N.Y.

"My workouts have never been better. Ever since I've been on Rhodiola rosea (Rosavin) my strength has increased across the board 100%. Cardio work has never been fun but now it's not so bad. I actually enjoy it. My mood throughout the day is very stable, as is my energy level."

Tom

Carlsbad, Ca.

"I began using Rosavin after observing one of my students losing significant weight without trying. A co-worker began using it saying it was the newest type of adaptogen of its kind on the market. After a few weeks I began to notice changes. I became more organized in my thoughts. That is the most significant

change I HAVE ENCOUNTERED. Additionally, I have anti-depressants that cause some decline in my libido. Since taking Rosavin, my sexual experiences have been increasingly enjoyable. It has changed my life."

Cheryl

Branford, Ct.

"I started to use Rosavin to boost my energy. I proved that it's working for me when I ran out. For a short time I felt lousy until I started again. Then I felt the difference. Now, I make sure I take it daily."

Chana

Brooklyn, N.Y.

"I suffered from severe fatigue for some time and had reached a point where I could barely function. My doctor recommended Rosavin, a supplement he is using with great success. Having tried other supplements in vain, my attitude was somewhat negative, but I thought, what do I have to lose! Much to my surprise it worked. Within a few days I saw a decided change for the better. I can't believe the difference in my energy level. I am now getting through the day comfortably. By the way I am a Parkinson's Patient."

Claire

Rego Park, N.Y.

"For the past several years, I had noticed my memory slowly slipping away. I pride myself on remembering what people say and where I have been. So when my short-term memory was slowly going, I panicked. My family doctor wanted me to be tested for Alzheimer's and to start taking medication. I spoke with my son who is a Naturopathic Doctor and he suggested an herb from Russia called Rhodiola rosea. I started taking this herb and my memory became sharper and clearer within 3 weeks. Now not only do I remember to take Rhodiola rosea (Rosavin), I also remember where I left it. I am very pleased and grateful that I was introduced to this wonderful Russian herb."

Al P.

Orlando, Fl.

"I am a gym rat that is I am always at the gym. I have tried so many products that claim to aide in body building and weight lifting. One day while I was working out at the gym, I spotted a guy leg pressing over 1000 pounds (by the way, he was 60 years old). I asked him what he was taking (supplements). He told me about a Russian herb that the Olympic weightlifters were using to supplement themselves. I have been taking Rhodiola rosea (Rosavin) for over 6 months and have noticed a remarkable change. First, I do not have any lactic acid buildup (no soreness) and my recovery time has sped up. And I have been able to increase my weights twice as fast as before."

Don

Albuquerque, N.M.

"I have been on several types of anti-depressants for anxiety and depression. The reactions to the medication are terrible. While reading a book called "The Secrets of Staying Young", I learned about an herb called Rhodiola rosea and the benefits of taking this great adaptogen. Well, let me tell you, I am now a believer of this remarkable herb. With permission from my doctor, he has taken me off the anti-depressants and has noticed a great improvement on my mental outlook on life."

Margaret

Sarasota, Fl.

"After coming home from an overseas trip I found that I had put on 15 pounds! Feeling bad about putting on the weight, I wanted to lose it fast. I knew I needed to exercise but lacked the energy when I got home from a long day at work. I've never been one for taking pills, but thought I'd try Rosavin to see if it would give me the boost I needed. I started with 200mg, 15-30 minutes before my walk. Not only did it give me the stamina I needed to exercise, but it also gave me a refreshing feeling that I needed mentally.

When I would go for my walks, I felt like I had just woken up from a nap, my thoughts where clear and that I had stamina needed to make it up the hills. After about one month, I was running three miles and after four months, I lost 20 pounds.

I take Rosavin before workouts and when I wake up with brain fog, I find Rosavin is very helpful in getting me focused and thinking clearly."

Gina

Fallbrook, Ca.

"As promised since Dr. Rogers advised my wife to start using Rosavin, she feels much better. The walking improved a lot. She started with two a day and increased to four a day. Rosavin is a very good product."

Jacob

Brooklyn, N.Y.

"I heard about Rosavin from my Psychopharmacologist. It improved my sex drive significantly. I can't believe the whole world isn't talking about it-if they only knew."

Louise

Woodstock, N.Y.

"I was taking two Prozac daily for a few years. When I began to take Rosavin about eight months ago, I was able to reduce my dose to only one a day. It has given me more get up and go power, and I am very grateful to be on less medication. Thank you very much for this product."

Lita

New York, N.Y.

"I am a counselor with the Center for Independent Living at Berkeley California. I am writing on behalf of one of my clients who currently is taking Rosavin. She has found this supplement to be of great value. Rosavin has been a useful treatment where many traditional remedies have failed."

Toni Lee Acevedo, MA

Center for Independent Living

Oakland, CA

NOTE: All the above testimonies are true and on file with AMERIDEN International.

In Conclusion

Rhodiola rosea of Russian origin is now slowly but surely becoming more widely accepted in Europe and the United States as a powerful anti-aging & anti-stress formula. In today's culture of hustling and bustling, with chaos coming from every direction, I do not think we can afford to ignore this natural medicine any longer. It is in our interest to take advantage of these powerful herbs if we want to survive the demands modern life imposes on us. One does not have to be a professor or scientist to research herbs and educate oneself on how they work. The motivation depends on how much one desires to improve one's quality of life. Thirty-five years of rigorous clinical studies have resulted in a proven bioactive nutraceutical for mood elevation, improved mental and sports performance and much, much more.

Resources

Rosavin 60 – 100mg capsules

Rosavin Plus 90 - 150mg capsules with Crystalloid electrolytes

ClearMind 60 – 275mg capsules/ Proprietary Blend of Rosavin,
Rhododendron caucasicum & Ribes nigrum

Syn-R-gy 60 – 600mg capsules/ Proprietary Blend of Rosavin
and four other Adaptogens

RosaFactor® (Bulk) Siberian Rhodiola rosea 3%

All available through AMERIDEN® International, LLC and their participating Distributors. Call Toll Free 1-888-405-3336

About the Authors

Dr. Zakir Ramazanov Ph.D., is owner of National Bio-Science Corporation, has authored more than 140 scientific articles on physiology & biochemistry. His achievements include Senior Scientist of Biochemistry at the Soviet Academy of Sciences, Professor of Plant Biochemistry at the University of Cordoba in Spain & Director of Science at the Institute of Marine Sciences in the Canary Islands. He has also coauthored two books on Rhodiola rosea & Rhododendron caucasicum.

Dr. Howard Peiper ND has coauthored several books including “The A.D.D. & A.D.H.D. Diet,” & “Cancer Control.” He is co-host of the award winning television show, Partners in Healing which features guests in the alternative healing field such as Harvey Diamond, Dr. John Upledger, Dr. Bernard Jensen, Gary Null and Dr. Marshall Mandell.

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