

Wu Wei Zi (Fructus Schisandrae Chinensis)

五味子

Pinyin Name: *Wu Wei Zi*

Literal Name: “five-flavored seed”

Alternate Chinese Names: *Bei Wu Wei*, *Wu Mei Zi*, *Bei Wu Wei Zi*

Original Source: *Shen Nong Ben Cao Jing* (Divine Husbandman’s Classic of the Materia Medica) in the second century

English Name: schisandra, Chinese magnolia vine fruit, orange magnolia vine fruit

Botanical Name: *Schisandra chinensis* Baill. (*Bei Wu Wei Zi*); *Schisandra sphenanthera* Rehd. et Wils. (*Nan Wu Wei Zi*)

Pharmaceutical Name: Fructus Schisandrae Chinensis

Properties: sour, warm

Channels Entered: Kidney, Lung, Heart



CHINESE THERAPEUTIC ACTIONS

1. Contains the Leakage of Lung Qi, Arrests Cough, Nourishes the Kidney

Chronic cough, dyspnea or asthma: Chronic dry cough may cause yin and qi deficiencies of the Lung and Kidney. Manifestations include dry cough, loss of voice, shortness of breath, labored respiration, fatigue, weakness, and a lusterless complexion. *Wu Wei Zi* (Fructus Schisandrae Chinensis) enters the Lung to stop leakage of Lung qi and enters the Kidney to nourish the Kidney and help it grasp qi.

- Chronic consumptive cough: combine *Wu Wei Zi* with *Bai He* (Bulbus Lilii), *Sheng Di Huang* (Radix Rehmanniae), *Shan Zhu Yu* (Fructus Corni), *Zi Wan* (Radix Asteris), and *Pi Pa Ye* (Folium Eriobotryae).
- Asthma: combine it with *Ren Shen* (Radix Ginseng) and *Ge Jie* (Gecko).
- Cough due to wind-cold: a small quantity of *Wu Wei Zi* is used with *Ma Huang* (Herba Ephedrae) and *Xi Xin* (Herba Asari). **Exemplar Formula:** *Xiao Qing Long Tang* (Minor Bluegreen Dragon Decoction).

2. Generates Body Fluids, Inhibits Sweating

Spontaneous sweating: When Lung qi and *wei* (defensive) qi are unable to control the pores, body fluids leak out and spontaneous sweating occurs at any time of the day.

- Spontaneous sweating: combine *Wu Wei Zi* with *Huang Qi* (Radix Astragali), *Fu Xiao Mai* (Semen Tritici Aestivi Levis), *Ma Huang Gen* (Radix Ephedrae) and *Suan Zao Ren* (Semen Zizyphi Spinosae).
- Spontaneous and night sweating with qi deficiency: add this herb to *Ren Shen* (Radix Ginseng) and *Mai Men*

Dong (Radix Ophiopogonis) **Exemplar Formula:** *Sheng Mai San* (Generate the Pulse Powder).

Night sweating: Yang qi rises to circulate in the *wei* (defensive) and *qi* (energy) levels during the day, and returns to the *ying* (nutritive) and *xue* (blood) levels at night. If deficient yin or *jing* cannot keep the yang in check, yang will push yin or *jing* outwards (in the form of sweating) when yang returns to the *ying* and *xue* levels at night. In other words, night sweats represent loss of body fluids paradoxically caused by yin or *jing* deficiency.

- Night sweats: combine *Wu Wei Zi* with *Mai Men Dong* (Radix Ophiopogonis), *Sheng Di Huang* (Radix Rehmanniae), *Xuan Shen* (Radix Scrophulariae), *Shan Zhu Yu* (Fructus Corni), *Long Gu* (Os Draconis), *Mu Li* (Concha Ostreae), *Huang Bai* (Cortex Phellodendri) and *Wu Mei* (Fructus Mume).

Thirst: Excessive loss of body fluids causes thirst, as do Liver and Kidney yin deficiencies. *Wu Wei Zi* can be used effectively with yin tonics to retain body fluids. *Wu Wei Zi* is commonly used in *xiao ke* (wasting and thirsting) syndrome when the patient has extreme thirst.

- Thirst: combine *Wu Wei Zi* with *Mai Men Dong* (Radix Ophiopogonis), *Shi Hu* (Herba Dendrobii), *Sheng Di Huang* (Radix Rehmanniae), *Xuan Shen* (Radix Scrophulariae) and *Wu Mei* (Fructus Mume).
- Thirst in *xiao ke* disorders: add this herb to *Shu Di Huang* (Radix Rehmanniae Preparata), *Shan Yao* (Rhizoma Dioscoreae), *Tian Hua Fen* (Radix Trichosanthis), *Shi Gao* (Gypsum Fibrosum) and *Zhi Mu* (Radix Anemarrhenae).

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3. Binds Kidney *Jing* (Essence), Stops Diarrhea and Spermatorrhea

Chronic diarrhea: Chronic diarrhea or dysentery causes Spleen yang deficiency, *jing* deficiency and Large Intestine qi deficiency. This type of diarrhea is usually watery, may contain undigested food, and usually occurs in the early morning.

- Chronic diarrhea (especially in the early morning): combine *Wu Wei Zi* with *Bu Gu Zhi* (Fructus Psoraleae), *Wu Zhu Yu* (Fructus Evodiae), *Rou Dou Kou* (Semen Myristicae), *Shan Yao* (Rhizoma Dioscoreae), *Bai Zhu* (Rhizoma Atractylodis Macrocephalae) and *Ren Shen* (Radix Ginseng). **Exemplar Formula:** *Si Shen Wan* (Four-Miracle Pill).

Spermatorrhea, nocturnal emissions: Inability of the Kidney to retain *jing* (essence) because of deficiency.

- Spermatorrhea: combine *Wu Wei Zi* with *Sang Piao Xiao* (Ootheca Mantidis), *Jin Ying Zi* (Fructus Rosae Laevigatae) and *Shan Zhu Yu* (Fructus Corni).
- Nocturnal emissions: add this herb to *Long Gu* (Os Draconis), *Mu Li* (Concha Ostreae), *Sheng Di Huang* (Radix Rehmanniae), *Shan Zhu Yu* (Fructus Corni), *Jin Ying Zi* (Fructus Rosae Laevigatae), and *Mu Dan Pi* (Cortex Moutan).

Polyuria or urinary incontinence: This type of excessive urination is caused by inability of Kidney qi to retain urine. It is usually light in color and is not accompanied by burning pain.

- Polyuria: combine *Wu Wei Zi* with *Wu Yao* (Radix Linderae Strychnifolia), *Yi Zhi Ren* (Fructus Alpiniae Oxyphyllae), *Shan Zhu Yu* (Fructus Corni), *Shan Yao* (Rhizoma Dioscoreae) and *Dang Shen* (Radix Codonopsis).
- Enuresis or urinary incontinence: add this herb to *Sang Piao Xiao* (Ootheca Mantidis), *Shu Di Huang* (Radix Rehmanniae Preparata), *Shan Zhu Yu* (Fructus Corni), *Shan Yao* (Rhizoma Dioscoreae), *Yi Zhi Ren* (Fructus Alpiniae Oxyphyllae), *Fu Pen Zi* (Fructus Rubi), *Ji Nei Jin* (Endothelium Corneum Gigeriae Galli) and *Xu Duan* (Radix Dipsaci).

4. Tranquilizes the Heart, Calms the *Shen* (Spirit)

Yin and blood deficiencies: Common symptoms of inability of blood to nourish *shen* include: palpitations, anxiety, insomnia and dream-disturbed sleep. *Wu Wei Zi* is often combined with tonic herbs to nourish the Heart and calm the *shen*.

- Insomnia caused by Heart and Kidney yin and blood deficiencies: combine *Wu Wei Zi* with *Bai Zi Ren* (Semen Platycladi), *Yuan Zhi* (Radix Polygalae), *Fu Shen* (Poria

Paradicis), *Long Chi* (Dens Draconis), *Zhen Zhu Mu* (Concha Margaritiferae), *Long Yan Rou* (Arillus Longan) and *Dang Shen* (Radix Codonopsis). **Exemplar Formula:** *Tian Wang Bu Xin Dan* (Emperor of Heaven's Special Pill to Tonify the Heart).

DOSAGE

2 to 6 grams in decoction, 1 to 3 grams in powder.

- Unprocessed *Wu Wei Zi* more strongly promotes generation of body fluids and stops perspiration. It is commonly used to treat spontaneous perspiration, night perspiration, and thirst due to loss of body fluids.
- Steaming with vinegar increases the sour taste and enhances the astringent function of this herb. It treats cough, wheezing, spermatorrhea, and chronic diarrhea.
- Steaming *Wu Wei Zi* with grain-based liquor increases the effect of tonifying the Kidney and consolidating *jing* (essence). This preparation treats spermatorrhea and nocturnal emissions.

CAUTIONS / CONTRAINDICATIONS

- Use of *Wu Wei Zi* is contraindicated in excess conditions such as heat, damp-phlegm, Liver fire, wind-heat or rashes that have not cleared.
- It is also contraindicated in the initial stages of common colds, cough, rashes or any exterior condition, as *Wu Wei Zi* may trap pathogenic factors inside the body.
- Two rare incidences of adverse reactions associated with *Wu Wei Zi* have been reported. In case one, following the ingestion of an herbal decoction including *Wu Wei Zi*, the patient reported palpitations, shortness of breath, chest congestion, increased heart rate and pre-ventricular contraction.¹ In case two, the patient reported respiratory suppression following the ingestion of an herbal decoction including *Wu Wei Zi*.²

CHEMICAL COMPOSITION

Deoxyschisandrin, kadsuranin, schisanhenol, schisanhenol acetate, gomisin, schisandrin, isoschisandrin, schisandrol, angeloylgomisin, tiggoylgomisin, benzoylgomisin, rubschisandrin, epigomisin, schisantherin, andeloylgomisin, tigloylgomisin, binankadsurin, angeloylbinankadsurin, isobutyrolylbinankadsurin, benzoylbinankadsurin, rubschisantherin.³

PHARMACOLOGICAL EFFECTS

- **CNS stimulant:** *Wu Wei Zi* stimulates the central nervous system. It increases mental alertness, improves work efficiency, and quickens reflexes.⁴
- **Hepatoprotective:** Administration of *Wu Wei Zi* is associated with marked hepatoprotective effect against various types of drugs and/or chemical-induced toxicity.⁵ In

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one study, a preparation of *Wu Wei Zi* significantly lowered liver enzymes in mice with elevated SGPT levels caused by intraperitoneal injection of 0.1% carbon tetrachloride. In a follow-up study with rats, mice and rabbits, administration of schisandrol (dosages equivalent to 2.5 and 10.0 g/kg of dried herb) demonstrated marked preventative and treatment effects for carbon tetrachloride-induced liver damage. The mechanisms of hepatoprotective function of *Wu Wei Zi* are attributed to alteration of liver cell-membrane permeability to prevent the entry of toxic substances, and increased blood flow to the liver and increased regeneration of liver cells.^{6,7}

- **Gastrointestinal:** Deoxyschizandrin inhibits secretion of gastric acid in rats, and has shown beneficial effects in treatment of gastric ulcers. The effective dose of deoxyschizandrin is 50 to 100 mg/kg.⁸
- **Cardiovascular:** *Wu Wei Zi* appears to have a regulating effect on the cardiovascular system. While it may decrease blood pressure in normal subjects, it may increase blood pressure in those with weakened constitutions. Laboratory studies indicate *Wu Wei Zi* has vasodilating and cardiogenic effects.⁹
- **Respiratory:** Both water and alcohol extracts of *Wu Wei Zi* stimulate the lungs to increase the rate and depth of respiration. They have also been shown to reverse respiratory depression associated with morphine.¹⁰
- **Reproductive:** Administration of *Wu Wei Zi* powder at a dosage of 1 g/kg for 30 days in mice is associated with a stimulating effect on reproductive organs. The study reported an increase in weight of the testicles in males and an increase in ovulation in females.¹¹
- **Immunostimulant:** Administration of *Wu Wei Zi* is associated with stimulation of non-specific immunity.¹²
- **Antibiotic:** Alcohol extract of *Wu Wei Zi* has an inhibitory effect *in vitro* against *Staphylococcus aureus*, *Bacillus anthracis*, *Salmonella typhi*, *Bacillus dysenteriae*, *Diplococcus pneumoniae*, *Vibrio cholerae*, and *Pseudomonas aeruginosa*.¹³

CLINICAL STUDIES AND RESEARCH

- **Dysentery:** Children with dysentery were successfully treated with various *Wu Wei Zi* preparations, including 0.25 to 0.5 gram of dried herb, 30 to 40 drops of tincture, or 0.5 gram of extract.¹⁴
- **Meniere's Syndrome:** In one study, 20 patients were given 4 to 5 doses of an herbal formula with marked effectiveness. The herbal formula contained *Wu Wei Zi*, *Suan Zao Ren* (Semen Zizyphi Spinosa), *Dang Gui* (Radix Angelicae Sinensis), *Long Yan Rou* (Arillus Longan) and other herbs.¹⁵
- **Hepatitis:** An herbal formula was used with a 97% rate of effectiveness (33 out of 34 patients) in treatment of chronic hepatitis. The herbal formula contained *Wu Wei Zi*, *Ling Zhi* (Ganoderma), *Dan Shen* (Radix Salviae Miltiorrhizae) and *Chai Hu* (Radix Bupleuri). Patients were advised to take the herbs 30 minutes after meals for 30 days per course of treatment, for a total of three courses.¹⁶

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- **Asthma:** Patients with severe asthma were treated with an herbal formula for 7 months to 2 years, with good results. Out of 50 patients, the study reported complete recovery in 1 case, stability in 47 cases, and no response in 2 cases. The herbal formula contained 30 to 50 grams of *Wu Wei Zi*, 9 to 12 grams of *Di Long* (Pheretima), and 30 to 80 grams of *Yu Xing Cao* (Herba Houttuyniae). Patients were advised to first soak the herbs in water for 2 to 4 hours, then cook the herbs for 15 to 20 minutes, and take the decoction twice daily, at 4 and 8 pm.¹⁷
- **Prolonged labor:** According to one report, 72 out of 80 women experiencing prolonged labor were treated with good results using 20 to 25 drops of 70% *Wu Wei Zi* tincture every hour for 3 hours. The mechanism of action is attributed to the uterine stimulant effect of the herb.¹⁸

TOXICOLOGY

In one study, 70 mice were given a 15 g/kg bolus dose of *Wu Wei Zi*. Observation over the next 72 hours showed no change in appetite, no abnormal behavior, and no fatalities. However, the LD₅₀ for oral ingestion of essential oil of *Wu Wei Zi* is 8.75 +/- 2.41 g/kg in mice.¹⁹

HERB-DRUG INTERACTION

- **Cycloheximide:** *Wu Wei Zi* has been found to significantly counteract cycloheximide-induced amnesia in rats. The beneficial effect of the herb is amplified by treatment with serotonergic receptor antagonists, but reduced by serotonergic receptor agonists as well as GABA(A) and cholinergic receptor antagonists.²⁰

AUTHORS' COMMENTS

Wu Wei Zi and *Wu Bei Zi* (Galla Chinensis) both stop sweating, diarrhea and spermatorrhea. *Wu Wei Zi* tonifies the Kidney and generates body fluids, nourishes the Heart and calms the *shen* (spirit), while *Wu Bei Zi* cools deficiency heat and stops bleeding.

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