



# The myth of the turtle

Correcting errors of perception in Chinese medicine

**By Wu Boping, Wu Ming**

Translated by Nina Huang Fan, Simon Davidson

The rapid development of a material culture in China, produced by the economic expansion of recent years, has led people to become more aware of their personal health. The consequences of this to the turtle, whose value as a medicinal remedy has been exaggerated to the point of fabrication, threaten to be catastrophic.

**T**O THE MISINFORMED patient, an ineffective turtle remedy serves only to delay the implementation of an appropriate medical treatment. Meanwhile, increased demand for this endangered species has caused its market value to sky-rocket. While some wealthy businessmen make huge profits, the population of turtles in the wild is brought ever closer to extinction.

China ranks number one in the world for turtle consumption, drawing questions and criticism from the international community and from within China itself. It is time to re-evaluate the role and efficacy of the turtle within Chinese medicine.

## Medicinal effect of shell and meat

According to traditional Chinese medicine, the variance between the indications for the hard-shelled turtle and the soft-shelled turtle is so minor that although we focus this discussion exclusively on the hard-shelled turtle it applies equally to both.

There is no consensus among ancient physicians with regard to turtle as a remedy. According to *Ming Yi Bie Lu* (Miscellaneous Records of Famous Physicians), a masterpiece of materia medica dating back to the late Han dynasty: “Thick, turtle meat soup contains great nourishment.” However, the *Ri Yong Ben Cao* (Household Materia Medica) by Wu Rui from the Yuan dynasty claims

turtle meat is “sour in taste, warm in property and slightly poisonous”. The very term “slightly poisonous” leads one to question its status as an exalted medicine.

The medicinal parts of the turtle are primarily the meat and shell. More than 70 ancient prescriptions call for the hard turtle shell (*Gui Ban*), but only about 10 of these are in common use today. Of the 3214 different Chinese medicines detailed in the 2010 edition of *Zhong Guo Guo Jia Yao Dian* (Chinese Pharmacopoeia), around 1000 remain in common use. Turtle is one remedy in this vast compendium, showing up in 10 commonly used prescriptions; essentially it is just one among many. Clearly, turtle has no special significance to traditional Chinese medicine, so from where comes this modern obsession with its use?

The *Ri Yong Ben Cao* (Household Materia Medica), which states that “hard-shelled turtle is slightly poisonous”, is a classic of TCM; the oldest surviving copy is housed in the Ryukoko University of Japan. There must be some foundation to its statement, but we need not dwell on the matter here, let’s instead look at the value of hard-shelled turtle as an aid to health.

Let’s begin with the shell. Its main action is to nourish yin while suppressing hyperactive yang. It reinforces the Kidney, strengthening the bone. It nourishes the Heart to calm the energy of the mind. At first glance, this is quite an impressive list, but it is important to remember that TCM achieves its results quite differently to Western allopathic medicine, which targets an isolated condition using an agent with a highly specific, singular function. Chinese medicine works with the whole system, using a broad range of agents with multiple functions in specific combination. The multi-functionality of TCM components is not limited to the hard-shelled turtle, of course. It is a quality shared across all traditional Chinese medicines. Just two examples are: *Shu Di Huang* (*Rehmanniae Radix Preparata*), which according to the *Ben Cao Cong Xin* (Thoroughly Revised Materia Medica) by Wu Yi-Luo from the Qing dynasty, can “nourish the Kidneys to replenish bone marrow, promote blood circulation, tonify Kidney yin to benefit all asthenic syndromes caused by Liver and Kidney yin deficiency”. *Shan Yao* (*Dioscoreae Rhizoma*),

a common food familiar to all, according to the *Ben Cao Zheng* (Rectification of the Materia Medica) by Zhang Jie-Bin from the Ming dynasty, can “invigorate the Spleen and moisten the Lungs, reinforce the Stomach and Kidneys, improve eyesight and hearing, assist the five internal organs, strengthen bones and muscles, and prolong life”.

Of course, this is not to deny turtle shell is an effective traditional Chinese medicine. It has its function and purpose, but its significance to the pharmacology as a whole needs to be kept in perspective.

The meat of the hard-shelled turtle is only very rarely used as a medicine, with a far narrower range of application. Only six ancient prescriptions call for turtle meat, and its modern applications are even fewer.

#### Powerful alternatives

As mentioned above, some 10 commonly used ancient prescriptions contain hard turtle shell, and six use the meat. Even in these prescriptions alternatives are readily available and easily found.

TCM uses a principle of herb formula composition consisting of an emperor, which treats the principle cause of the disease, and one or more minister, auxiliary and courier herbs to support the emperor’s primary function. *Zhen Gan Xi Feng Tang* (Sedate the Liver and Extinguish Wind Decoction) is a well-known decoction that uses hard turtle shell in an auxiliary role, not as the irreplaceable emperor. It works together with *Long Gu* (*Fossilia Ovis Mastodi*) and *Mu Li* (*Ostreae Concha*) to nourish yin and suppress hyperactive yang, thus settling the Liver wind. Replacing the turtle shell with *Shi Jue Ming* (*Halitidis Concha*) or *Ci Shi* (*Magnetitum*) successfully suppresses the hyperactive yang, while adding *Sheng Di* (*Rehmanniae Radix*) and *Huang Jing* (*Polygonati Rhizoma*) nourishes the yin. This new combination achieves the same result as the original prescription.

The *san rou huo* (meat broth containing three kinds of meat), recorded in Volume 4 of *Shou Qin Yang Lao* (Supporting Parents for Longevity), comprises 100g turtle meat, 150g mutton, and 150g Chinese river-deer meat. Its primary indication is for the treatment of postpartum insufficient lactation, yet there are many alternative nutritional remedies to treat this condition. One example is *Su Yong*

”

*Its significance to the pharmacology as a whole needs to be kept in perspective.*

■ Professor Wu Boping is a research scholar at the China Academy of Chinese Medical Sciences and a member of its Academic Committee.

Wu Ming is a professor at Zhejiang University and the Director of its Human Safety and Modern Wellbeing Research

“

It is unnecessary to pursue exotic ingredients for the sake of some absurd mysteriousness.

*Quan Tang* (Gushing Spring Decoction). It comprises 10g of *Wang Bu Liu Xing Zi* (*Vaccariae Semen*), three eggs and sugar. The *vaccaria* seeds are boiled in two bowls of water until the quantity reduces to one bowl. Any solid material is removed and the eggs broken into the decoction to be boiled. Sugar is added to taste and it is taken for breakfast or as a snack.

With such common and effective medicinal foodstuffs easily available, it is unnecessary to pursue exotic ingredients for the sake of some absurd mysteriousness.

In the same way that there are many alternatives for turtle in prescriptions, effective substitutes can be easily found for every clinical syndrome. A review of the medical volumes reveals hard turtle shell being applied in the following syndrome types. Under each we suggest alternatives:

#### *Yin deficiency with hyperactive yang*

*Gou Gu Ye* (*Ilicis cornutae Folium*, Chinese holly leaf), which nourishes yin to clear heat and tonify the Liver and Kidneys. It benefits any symptom caused by yin deficiency in the Lung and Kidneys, such as cough and hemoptysis, osteopyrexia and fever, as well as treating waist and knee pain.

*Zhi Zi* (*Gardeniae Fructus*) purges fire to relieve restlessness, reducing fever and promoting diuresis. It removes pathogenic heat from the blood and dissolves toxin in the body.

*Pu Gong Ying* (*Taraxaci Herba*) clears heat, reduces swelling and detoxifies.

Added to this list are *Shi Hu* (*Dendrobii Herba*), *Xi Yang Shen* (*Panacis quinquefolii Radix*), *Sha Shen* (*Glehniae/Adenophorae Radix*), *Jin Yin Hua* (*Lonicerae Flos*) and so on.

#### *Liver and Kidney deficiency*

*Chu Shi Zi* (*Broussonetiae Fructus*) tonifies the Kidneys and strengthens the muscles and bone, improves eyesight, and promotes diuresis. It is commonly used in the treatment of soreness and weakness of the waist and knees, erectile dysfunction and edema.

*Di Gu Pi* (*Lycii Cortex*) cools the blood and eliminates steaming bones, and clears the Lungs of fire. It is used for tidal fever caused by yin deficiency, steaming bones and night sweats, cough caused by Lung heat, hemop-

tysis and rhinorrhagia. *Gou Qi Zi* (*Lycii Fructus*) and *Nu Zhen Zi* (*Ligustri lucidi Fructus*) also assist with these conditions.

#### *Blood deficiency*

*Shu Di Huang* (*Rehmanniae Radix Preparata*) can enrich the blood and replenish vital essence and the marrow.

*Sheng Di Huang* (*Rehmanniae Radix*) has the effect of removing pathogenic heat from blood, nourishing yin and generating body fluid.

Other useful medicines include *He Shou Wu* (*Polygoni multiflori Radix*), *Dang Gui* (*Angelicae sinensis Radix*) and *Mai Men Dong* (*Ophiopogonis Radix*).

*Yin deficiency with blood heat, leading to injury to chong and ren channels*  
*Xuan Shen* (*Scrophulariae Radix*) removes pathogenic heat from the blood, purging fire, dissolving toxin and nourishing yin.

*Han Lian Cao* (*Eclipta prostrata*) has the effect of replenishing vital essence to strengthen the kidneys and cool the blood to stop bleeding. It is used in the treatment of all symptoms induced by yin deficiency of the Liver and Kidneys, as well as for various symptoms of bleeding caused by yin deficiency and blood heat.

The list continues with *Mu Dan Pi* (*Moutan Cortex*), *Chi Shao* (*Paeoniae Radix Rubra*), *Zi Cao* (*Arnebiae/Lithospermi Radix*) and *Ma Chi Xian* (*Portulacae Herba*).

#### *Misunderstanding the effect on yang*

It is a common misunderstanding that turtle can nourish yin and tonify yang. It is true that it has a certain effect with regard to yin, but its function with regard to yang is to suppress it when hyperactive, something quite different from tonifying the yang. Suppression refers to a “stabilising and adjusting of balance”, which is quite at odds with tonifying. Suppression of hyperactive yang has a long history of being misinterpreted and misunderstood. In no medical records, ancient or modern, is there an indication that turtle meat can tonify yang. Any notion that eating turtles has a tonifying effect on yang is a complete fallacy.

It is often heard in the media that deficient Kidneys need to be tonified, but of course not all deficiencies are alike. A Kidney yang

deficiency can produce sexual dysfunction, erectile dysfunction and premature ejaculation in men, and dysgenesis, enuresis and low libido in women. In this case the Kidneys need to be nourished to tonify the yang, but the use of turtle is contra-indicated due to its partially cold property. It is totally ineffective in tonifying yang; in many cases it can have quite the opposite effect.

### The longevity myth

Legend has it that turtles live for 10,000 years, and according to folklore the eating of them will bestow a similar longevity on the eater. This myth is a powerful motivator behind the custom of eating turtles even today. The scientific reality is, however, that the vast majority of turtles do not make it past 20 to 30 years. The common red-eared turtle, for example, rarely reaches 20 years, and many other species live only to 10. There is no scientific evidence to show that eating turtles will do anything to prolong one's life.

Were we to follow the same logic with everything we consume, we would have to conclude that our lives be perilously shortened by eating, say, chickens or ducks, considering the brevity of their time on this earth.

It is easy to understand how such logic would be adopted by ancient societies, underdeveloped and with few options to exercise control over their personal health and fortunes. Wishful thinking is a powerful motivator, but with today's knowledge and technology it serves no one to cling to comforting myths and fairytales. The time has come to put an end to such baseless misinformation.

Additionally, people in certain regions use turtle as a primary raw material for nutritional therapies and medicinal diets. While people with Kidney yin deficiency can derive some benefit from turtle, to focus on only one medicinal substance is ill-advised and contrary to the tenets of traditional Chinese medicine, which calls for a broad-based combination of foods. No single substance alone can achieve a satisfactory result.

Chinese herbs and food are derived from three basic categories: plant, animal and mineral. When one is used as a remedy or for medicinal purposes it is generally referred to as a medicine or a drug, while those used for purely nutritional purposes we think of sim-

ply as food. Some foods and condiments are used as both nutrition and medicine, such as *Shan Zha* (Crataegi Fructus), *He Tao* (Juglandis Semen) and *Gui Pi* (Cinnamomi Cortex). We refer to these as food-medicine. The Chinese Ministry of Health published a list of 84 such food-medicines in 2002.

Although turtle has an ability to nourish yin, many other foods do the same thing. Taking the humble black bean as an example, we find the *Shen Nong Ben Cao Jing* (Divine Husbandman's Classic of the Materia Medica), the oldest pharmacological text in existence, says that black beans nourish Kidney yin, activate blood circulation and promote diuresis. In the *Dian Nan Ben Cao* (South Yunan Materia Medica), dating back to the Ming dynasty, we find that the common apple has the effect of moistening the Lung to arrest cough and invigorating the Spleen to quell diarrhoea.

It is used for the treatment of Spleen yin deficiency and irritating dry cough caused by Lung heat. Honey, duck eggs, black fungus, white fungus, sesame seeds, wheat, barley, wolfberry fruit, tomato, lily, carrot, mulberry fruit and wild jujube can all be used to similar effect. These are common, easily obtainable foods, and a balanced diet, rich in variety is always preferable to a limited nutritional regimen.

It is easy to overlook the value in common, easily available gifts from nature, and easier still to exaggerate the value of that which is rare and hard to obtain. The efficacy of a remedy is the only criterion to consider when assessing its worth. One is not required to travel to the ends of the earth in search of exotic medicines. The doctors of Lu Xun's famous account, who needed a cricket and its first mating partner as a guiding medicine, were indulging their taste for the exotic to gain some specious notoriety.

Having discussed some common yin-nourishing foods, let's look at two food prescriptions involving hard shell turtle and the available alternatives.

### Food prescription alternatives

Original prescription: *Qian Shi Qi Long Gui Ling Tang* (Euryale seed, Wolfberry, Longan, Turtle and Wild Tuckahoe Decoction). This prescription has been disseminated extensively via the internet, gaining wide accep-

”

Were we to follow the same logic with everything we consume, we would have to conclude that our lives be perilously shortened by eating, say, chickens.

“

Some domestic commercial advertisements in China have been attributing all manner of magical properties to turtle products.

tance. It is recommended for eczema and carbuncle. Ingredients: *Tu Fu Ling* (*Smilacis glabrae* Rhizoma) 60g, *Qian Shi* (*Euryales Semen*) 50g, *Gou Qi Zi* (*Lycii Fructus*) 30g, *Long Yan Rou* (*Longan Arillus*) 50g, and one hard-shelled turtle.

*Tu Fu Ling* acts as a detoxifier and promotes diuresis; *Qian Shi* tonifies the Spleen to arrest diarrhea; *Gou Qi Zi* nourishes the Liver and Kidneys. These three herbs are neutral in nature and, in fact, the inclusion of turtle in the prescription has only minimal effect. Eczema and carbuncle are, for the most part, fevers, and traditional Chinese medicine is explicit about “expelling heat with cold herbs”. *Long Yan Rou* is warm in nature, therefore its use in the treatment of a fever condition is highly suspect. Clearly, broad based acceptance of this kind does not mean it is either accurate or an appropriate therapy.

Alternative prescription A: *Lu Dou Yi Ren Bai He Yin* (Green bean, Seed of Job's Tear and Lily Drink):

#### Lu Dou Yi Ren Bai He Yin

<b>Lu Dou</b>	30g	Green beans
<b>Yi Yi Ren</b>	15g	Coicis Semen
<b>Bai He</b>	30g	Lilii Bulbus
<b>Fu Ling</b>	15g	Poria
<b>Huai Shan Yao</b>	15g	Dioscoreae Rhizoma

Rock sugar as required.

To make the preparation put all ingredients except the rock sugar into a pot of water, bring to boil and cook until mushy, adding the sugar at the end.

Its effects are to nourish yin to clear heat, dispel damp and dissolve toxins, strengthening the Spleen and tonifying the Kidneys.

Alternative prescription B: *Ma Chi Xian Huo Cai Tang* (Purslane and Water Spinach Decoction):

#### Ma Chi Xian Huo Cai Tang

<b>Ma Chi Xian</b>	50g	Portulacae Herba
<b>Huo Cai</b>	30g	Water spinach

Prepare by washing the ingredients and boiling them in water until a soup is formed. Season to taste. Its effects are to clear heat, dispel damp and relieve itching.

Original prescription: *Chong Cao Sha Shen Dun Gui Rou* (Cordyceps, Glehnia Root, Turtle Meat Stew). Ingredients: *Dong Chong Xia Cao* (Cordyceps) 10g, *Sha Shen* (*Glehniae/Adenophorae Radix*) 60g, one turtle.

In this prescription, *Dong Chong Xia Cao* is the emperor ingredient. Its effect is to nourish the Kidneys to tonify yang, and nourish the Lungs to relieve cough. *Sha Shen* is the minister, playing a secondary role.

It nourishes yin to clear Lung heat, preventing phlegm formation and stopping cough. It tonifies the Stomach, promoting fluid. Turtle is an adjuvant and courier ingredient, playing only a mediating role.

Alternative prescription: *Run Fei Yin Er Tang* (Lung Moistening White Fungus Decoction):

#### Run Fei Yin Er Tang

<b>Yin Er</b>	400g	Tremella, white fungus, soaked
<b>Bi Qi</b>	100g	Eleocharitis Rhizoma (water chestnut)
<b>Tian Xing Ren</b>	10g	Armeniaca Semen Dulce (almond)
<b>Long Yan Rou</b>	30g	Longan arillus (longan fruit)

Appropriate amount of ginger, leek, white sugar, refined salt, peanut oil and rose wine.

Preparation: Peel and cut the *Bi Qi*. Add water and boil for two hours. Strain the broth for later use. Peel the sweet *Xing Ren* and submerge in boiling water for 10 minutes followed by rinsing in clear water to remove the bitter taste. Place in a bowl with 100ml of water for later use. Next, steam the longan fruit flesh together with the sweet *Xing Ren* for 50 minutes, then remove for later use. Put the *Yin Er* into boiling water for a few minutes, and transfer to a bowl of clear water. Add a small amount of peanut oil, leek, ginger, and refined salt. The mixture is boiled on a medium heat for three minutes and then drained. The *Yin Er* is now placed in the steamer, and the *Bi Qi* broth added, together with the rose wine and white sugar. Steam for a further 50 minutes. Finally, add the sweet *Xing Ren* and longan fruit flesh and steam together for 15 more minutes.

The effects of this prescription are to nourish yin and moisten the Lungs, reinforce the Kidneys to replenish essence, enrich the blood and moisten the intestine. Not only does this alternative remedy offer dramatic

physical benefits, but it also has a balanced and gentle regulating effect on the body. This is a significant advantage over the Cordyceps, Glehnia Root, Turtle Meat Stew.

### Out of the shadow of ignorance

Some domestic commercial advertisements in China have been attributing all manner of magical properties to turtle products, claiming they are a veritable panacea! These claims are highly exaggerated.

Not only are turtles devoid of magical healing power, but their incorrect use also has the potential to do real harm.

The *Ben Cao Jing Shu* (Annotated Classic of Materia Medica), composed by Miao Xi-Yong in the Ming dynasty, states that taking turtle is not advised for “pregnant women and patients with deficiency but without fever”. It means pregnant women as well as people with cold-damp in the Stomach cannot take turtle.

This is reason enough to say that a product like *Gui Ling Gao* (Turtle Tuckahoe Paste), a commonly available health care product made from hard turtle shell and *Tu Fu Ling* (*Smilacis Glabrae Rhizoma* – wild tuckahoe), should not be indiscriminately used. Due to its partially cold property, it is contraindicated in cases of Spleen and Stomach deficiency, loss of appetite and loose stool, whereas in pregnant woman, turtle shell could excite the uterus, leading to miscarriage.

In general, the potential for negative side effects is much less in the use of botanical herbal products than with the use of animal derived ingredients.

The words *Ben Cao* (materia medica) are attached to the following masterpieces of TCM: *Shen Nong Ben Cao Jing* (Divine Husbandman’s Classic of the Materia Medica), the oldest book of Chinese pharmacology; *Ben Cao Jing Ji Zhu* (Collection of Commentaries on the Classic of the Materia Medica) of the Wei, Jin, Southern and Northern dynasties; *Xin Xiu Ben Cao* (Newly Revised Materia Medica) of the Sui and Tang dynasties (also known as *Tang Ben Cao* (Tang Materia Medica); *Kai Bao Ben Cao* (Materia Medica of the Kai Bao Era) of the Song Dynasty; *Ben Cao Gang Mu* (Grand Materia Medica) of the Ming dynasty; and *Ben Cao Gang Mu Shi Yi* (Omissions from the Grand Materia Medica) of the Qing dynasty. Why

should this be so? The term *ben cao* translates to “medicines are primarily herb-based”.

Botanicals offer wide-ranging application with only minimal side effects. From its earliest days, Chinese medicine has been primarily herb-based, derived mainly from botanicals, thus Chinese pharmacology has always been known throughout history as *ben cao* (materia medica).

From the point of view of food safety, the majority of animals bred for meat undergo a wholly unnatural process. The use of chemical hormones to promote growth in the pursuit of efficiency and economic gain carries serious health risks for anyone eating the meat of these animals.

With regard to the consumption of animals in the wild, the Chinese Department of Health has issued repeated warnings on the risk of health problems due to pathogenic bacteria carried by these creatures.

Turtles are humble creatures of nature, who have acquired a reputation for magical healing properties they do not deserve.

Now is the time to set the record straight. In reality, the clinical application of turtles represents only a minuscule portion of the immense treasury of Chinese medicine. Yet, in recent years, the pursuit of the turtle for use in health products has expanded out of all proportion.

Health care products need to be selected rationally, according to specific needs for specific conditions.

To use a medicine as one might a fashion item or to flaunt one’s wealth will, at the very least, result in a waste of money, and potentially end up causing serious harm.

Today, TCM academia is subject to veiled criticisms from the international community concerning the detrimental impact on wild-life species, fearing its expansion may bring about ecological crises.

In the face of such concerns, it is critical that respected figures within the Chinese medicine community dispense their medicines appropriately, and with an eye to educating the public with correct information and guiding them away from myth and superstition.

In this, we fulfill our responsibility to both public health and the advancement of Chinese medicine.