

Understanding chinese medicine – the scourge of the rhino



Traditional Chinese Medicine pharmacist at work.

By Felix Patton

Last year, a huge rise in rhino poaching was recorded. In South Africa, 333 individuals were reportedly poached while in Kenya some 22 rhinos were killed. The reason? Increasing demand for rhino horn as an ingredient of Traditional Chinese Medicine.

Traditional Chinese Medicine (TCM) was designated a “strategic industry” by the Chinese government in 2005. The basis of TCM is generally misunderstood and this has led to the use of rhino horn, and other endangered species parts, being disparaged and compared unfavourably with modern Western drugs. A better understanding of what forms the beliefs of probably billions of people throughout China and Asia is essential.

TCM is based around the idea of health as ‘balance’. The general aim of therapy is to restore balance and prevent imbalances (health being balance and disease being imbalance).

Over the thousands of years that TCM has been practiced, diseases have manifested themselves in a multitude of clinical patterns. More than 2,000 clinical patterns have been observed, collated and recorded. They can indicate whether a disease is hot or cold in nature, located superficially or deep within the body, *yin or yang*, developing acutely or slowly and whether it is causing disharmony of the organ and acupuncture channel systems in the body.

Once the principle of a particular clinical pattern has been established, it is then possible to decide on a particular therapeutic method of dealing with it. There is a choice of eight therapeutic methods: diaphoretic, emetic, downward, dispersing, mediating,

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warming, clearing, and tonifying. When a therapeutic method is established, a therapeutic strategy (or materia medica formula) is assembled.

This materia medica formula is made up of objects or substances, which can be used to treat diseases. These "materials" include animal by-products, plants and minerals. They have been used in China for four millennia. Information about them has been compiled and published: the first known example being the Shen Nong Ben Cao, written around 1-2 BC.

Each material can have a balancing or harmonising effect on the body. The materials are believed to have different properties: hot, cold, warm, cool, ascending, floating, descending, sinking, moistening, drying, sweet, pungent, sour, salty, bitter, tonifying or sedating. They may also be associated with a particular organ's acupuncture channel.

Tiger bone, as a materia medica, is warm and pungent. It is associated with the liver and kidney organ systems while rhino horn is cold, salty and

sour and is associated with the liver and kidney organ meridian. (the path through which life energy known as qi is believed to flow)

Following the Opium Wars in the 1800s, ports in China were opened to Western medicine, which brought with it the culture of pharmaceuticals and drugs. Correspondingly, TCM underwent radical changes with 45 Western pharmaceutical products listed, including aspirin. In 1924, of the 54 Chinese-Western materials used, menthol concentrates, cod liver oil and coriander seeds were included.

As the medicine disperses into the body, it works to bring harmony from disharmony and balance from imbalance. In TCM, it is the complex manipulation of the varied motions of the ingredient or group of ingredients in a formula, which brings balance to a diseased clinical pattern. In general terms, the fundamental principle in restoring harmony or balance in TCM holds that "when the clinical pattern is hot, cool it; when cold, heat it; when

deficient, tonify it; when excessive, purge it; when dry, moisten it; and when damp, dry it".

It can be seen that it is not correct to suggest that modern medical practice is a direct substitute for TCM. TCM is part of a pluralistic medical system and is therefore not a direct alternative to Western pharmaceuticals-based healthcare. To the believer in TCM, tests conducted by the Swiss pharmaceutical firm Hoffmann-La Roche, which concluded that rhino horn had no effect on the human body whatsoever, or those carried out by Chinese scientists in Hong Kong, who found that rhino horn did have a cooling effect on fever in laboratory rats but only when used in massive doses, have no relevance.

Chinese medicine, practiced over centuries for health and longevity, has been used in the successful treatment of diseases. Chinese medicine emphasises the harmony and balance between mankind and the environment. The use of parts from endangered species, such as tigers and rhinos, has been banned in China (although they still appear in some textbooks) and this has led to much research into substitutes.

Buffalo horn was found to have similar constituents to rhino horn and, in clinical trials, acted similarly. Buffalo horn has been regulated since the 1995 edition of *The Pharmacopoeia of the People's Republic of China*. In a similar way, dog bone and pig bone have been found to be replacements for tiger bone.

The Chinese government introduced tough measures to control the possession and sale of products containing endangered plants and animals. Chinese environment and resource protection laws ban harming, killing and smuggling endangered species in and out of China. How seriously they are enforced is another matter.

TCM practitioners are concerned about the plight of the tiger and rhino as they recognise that they are part of the primary medical resource. Efforts that will enhance the continued survival of these species are supported as, in many ways, their survival is linked to the survival of the profession.

Despite the ban on the use of rhino horn in TCM prescriptions, the centuries-old belief in its curative and



A box of tablets with rhino horn in the prescription (febrifugal means to reduce fever).



TOP: Part of a page of a Chinese Medical Dictionary showing a drawing of a white rhino.
 BELOW: A Chinese medicinal syrup containing rhino horn.

restorative powers has not diminished and consumer demand remains. In an effort to prevent rhino becoming even scarcer in the wild, China has started to research rhino horn farming. After a proposal from the China Institute of Science and Technology Research in 2008, a rhino farm was opened in Hainan Province - the Sanya City Centre for the Propagation of the Rhinoceros - with a group of animals sourced from Africa. The Center was reportedly engaged in research related to rhino nutrition, disease, rearing and breeding. At least 141 white rhinos have been imported into China since 2000.

While the concept of farming rhinos is still being developed in China, the fear of a shortage of horn for medicines



in the wake of an outbreak of infectious disease has led to the recommendation that rhino horn should be stockpiled. This recommendation, based on the long growth cycle of rhino horn, was made in a report entitled 'Effectively Utilizing TCM in Unexpected Events' published in 2009.

These developments in China suggest that at some point there will be a call for trade in rhino horn to be legalised. However some conservationists argue that, should rhino horn farming develop, it is likely to make it easier for poached rhino horn to enter the market as it could be difficult to distinguish between legally and illegally produced horns.

Recent advances in DNA technology have resulted in the "fingerprinting" of rhino horn so that in future it should be possible to determine the exact source of a rhino horn. With large and valuable stockpiles of horn in several African countries, there is pressure building from some conservationists to allow legal, controlled sales, thereby releasing precious funds for rhino conservation. Others believe this would fuel demand for horn, resulting in even more rhinos being poached.

The use of rhino horn in TCM and how best to manage it has divided opinion – nothing new in the world of conservation! ●

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According to Traditional Chinese Medicine theory, rhinoceros horn has cooling properties, which remove heat from the blood. Pharmacological effects attributed to rhino horn in Traditional Chinese Medicine are:

Antipyretic – reducing or tending to reduce fever.

Cardiac stimulant – a pharmacologic agent that increases the action of the heart.

Vasodilatation – widening of blood vessels.

Hypo-hypertension – effect on blood pressure.

Increase in platelets – irregular, disc-shaped elements in the blood that assist in blood clotting.

Shortening of prothrombin time – The prothrombin time is commonly used as a method of monitoring the accuracy of blood thinning treatment (anticoagulation) with warfarin.

Antiepileptic – Agents that inhibit or control seizures associated with epilepsy.

Anticonvulsant – A medication used to control (prevent) seizures (convulsions) or stop an ongoing series of seizures. Traditionally used to treat meningitis, reduce fever and stroke.

There has been a dramatic increase in demand for rhinoceros horn in recent years, driven by a belief that its use may prevent cancer and that the ingestion of powdered rhinoceros horn will halt the progress of cancers among those already suffering from the disease. This belief is especially strong in Vietnam and China and spreading throughout parts of east Asia. As might be imagined, some people who have contracted cancer (or their relatives) are willing to pay almost anything if there is a chance of entering a state of remission.