

# CENTELLA ASIATICA HERB OF THE TIGERS

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Modern pharmaceutical science is convinced that in-depth study of the practical medical customs of certain "primitive" communities still present on the planet, carried out using modern and scientific criteria, may give results which are nothing less than astonishing. The study of ethno-medicine has given science drugs such as *strophanthin*, *curare* and *vincristine* and will certainly reserve sensational surprises for us in the future, however it is undeniable that the principle of the overall concept of medicine as a subject took the form of a science precisely with the development of the first civilisations. The most representative from this point of view was the Indian civilisation: a clear example of a medical-practical culture, also closely linked to solid religious principles, which has prehistoric origins and which is in part still transmitted orally by certain persons defined as "living manuscripts", but which nevertheless was gathered together in a series of written tracts which date back to six centuries before Christ. This culture is represented by the "Veda", a Sanskrit word which means "science", and which indicates the body of written testimony of Indian doctrine, considered eternal and of divine origin. In this

collection there is also the *Ayurveda*, the science of "long life", given to the Indians directly by the creator *Brahama*, who sets out the "secret of freeing oneself from diseases which cause much damage to living creatures" through the use of remedies made with plants. These "secrets" were also put into writing in the so-called "treatise of *Atharvaveda*". This is a sort of medical treatise in which the concepts of medicine are inspired by magic and religion, mixed with the empirical use of drugs. Indeed the plants used in Ayurvedic medicine, alongside a real therapeutic effect, are almost always attributed with magical power linked to figure of some divinity. For this reason many of them are considered sacred. For example, the so-called *Matrikel*, or coconut is sacred, considered the tree of the Goddess of culture, who is sacred for Indians. The legend tells of a prince of the island of Ceylon who, having contracted an incurable illness, saw a celestial vision in a dream which led him to walk at midday in search of a legendary tree which would cure him. The prince found a marvellous tree growing on the shores of the ocean, picked the fruit and drank the juice which it contained, after which he was completely cured.

Since then – it is said – the plant has been cultivated everywhere and is held in great esteem as a divine symbol. A special variety of fig, the *Ficus racemosa* L., under which the throne of Prince Siddharta is said to have been placed, was also sacred. Finally, liquorice was also sacred, its juice being sprinkled on the statue of Buddha on the eight day of the eighth month of the year. All this was an indication of how important these plants were from the medicinal point of view, on condition that strict religious ceremony was observed during their administration. Nevertheless the criteria for the choice of remedies was also linked to the most elementary concepts of empirical medicine, based on, for example, the observation of the behaviour of animals, and thus Sanskrit brought to light the properties of many medicinal plants used in popular medicine since ancient times. The therapeutic intervention was also of an empirical nature and counted above all on the emetic, purgative or sternutatory effect of certain drugs: naturally the archaic concept of disease prevailed, considered a sort of demon which took possession of the body, a demon which in some way must be forced to "leave" the

body either by vomiting, drastic evacuation or sneezing. The conviction that sneezing could drive out demons, namely disease, from the body is an ancient Indian belief which was then transmitted to the West, where sneezing retained this significance within customs and uses, as may be noted in the expression "Bless you!". For this reason sternutatory powders, above all in the Middle Ages were held in great esteem, and among these above all pepper. Pepper was initially used above all as a "sacred remedy" of Ayurvedic medicine, until it became – due to its well-known culinary advantages – one of the spices most greatly prized commercially. The choice of medication often also followed the criteria of "sympathy", determined by the similarity of the colour or shape of certain plants with a particular pathological state, such as for example euphorbia, known among other things as the holy plant of the serpent Goddess, (*Manara Davi*), which was used as an expectorant precisely due to the similarity of bronchial secretions with the abundant lactiferous juice of the euphorbia. Animism, pantheism and superstition thus remain the fundamentals of *Ayurvedic* medicine, but the extraordinary devotion to nature of the Indian people has meant that their manuscripts of therapeutic practice contained an infinite number of medicinal remedies which undoubtedly also influenced western medicine. There is no doubt that Hypocrites, Dioscorides and also Pliny were aware of Indian medicinal plants and it is equally true that these were taken seriously into account by the Islamic scien-

tific and medical world; we know indeed how these two worlds, the Greek-Roman and Islamic societies, were decisive for the development of medicine in Europe. Once example is the by now famous *Centella Asiatica* which is today the source of one of the most useful drugs (*asiatic acid*) in the treatment of venous disorders. Indeed, the people of Malaysia have always known about a medicinal plant known as the "herb of the tigers" which has the characteristic of forming a damp grassy carpet on which, according to local legend, tigers used to rub themselves to "medicate" their wounds. The plant was widely used in popular Indian medicine as a cicatrizant and was known with the Sanskrit name *Manduka-parni* as an ancient remedy for leprosy. This naturally aroused the curiosity of colonialists, to the extent that two Dutch botanists working in the colonies, Heindrick A. van Rheede and Eberhard Rumph, also brought the plant to the attention of the West. This was the now famous *Centella Asiatica*, its name perhaps deriving from the verb "to sip" which refers figuratively to the continuous "sipping" which it effectuates in the marshes in which it lives; the scientific name adopted particularly in the 17<sup>th</sup> century was however *Hydrocotyle* (*hydro* = water, *kotyle* = bowl), referring to the peltate shape of its leaves which filled easily with water, resembling a bowl. *Centella* became officially renowned as a medicine when, in the 19<sup>th</sup> century a doctor on the island of Reunion, in the Indian Ocean, followed the example of empirical local medicine and successfully treated the leprosy that he himself had con-

tracted during the frequent contact with sufferers whom he was treating. Since then, above all thanks to colonial doctors, *Centella* continued to be successfully experimented with also for the more frequent illnesses of the skin, such as leprosy, lupus and scrofula. At the same time the first attempts began to isolate the active principles responsible for the therapeutic effect, but it was not until the middle of the 20<sup>th</sup> century that the definitive chemical configuration of the *asiaticosides* contained in the plant was fully understood. This discovery gave rise to a long process of research and experimentation which has only confirmed the important role of *Centella* in empirical Indian medicine. Its leaves indeed have a high level of *saponin triterpene*, better identified as *asiaticoside*, *asiatic acid* and *madecassic acid*, which have been the object of numerous pharmaceutical studies. These drugs act on the connective tissue where the production of collagen is regulated, when this is disturbed, through the formation of two fundamental amino acids, alanine and proline. The physical-chemical state of the fundamental substance being normalised, *Centella* has a *specific application in venous insufficiency*, slowing down its evolution and preventing dystrophic complications due to disordered venous circulation. Thus it can be understood how therapeutic treatment with preparations using *Centella Asiatica* contribute considerably towards *diminishing venous stasis and preventing the complications of varicose veins*.