

## **Ancient Knowledge and History of the use of Kanna (*Sceletium Tortuosum*)**

We do not really know how far back in time the knowledge and usage of Kanna extends, as our first written records begin only in 1662. It is likely however that its use by the *San* (Bushmen) and *Khoikhoi* (Hottentots) of Southern Africa extends way back into the ancient pre-history of the continent.

The *San* were predominantly hunter-gatherers and *Khoikhoi* developed a pastoral tradition over time. These ancient tribes are the true aboriginal people of Southern Africa. Sometimes collectively referred to as the *Khoisan*, they came into relationship with Kanna in the general regions of Namaqualand (in the westerly part of Southern Africa) and Kannaland in the south central part of the South Africa known as the *Klein Karoo*.

As traditional cultures, deeply in touch with the landscape and the plants of their biome, the *Khoisan* invariably came into relationship with Kanna, perhaps through investigating it as a food source, and clearly recognised its medicinal and magical value. And this knowledge has been held sacred and handed down through countless generations until the present day.

Very telling is that the *Khoisan* word for the great Eland (*Taurotragus oryx* Pallas), one of the largest antelope in the world, and a creature considered a power animal of deepest magical significance, is “Kanna”, the same word they use for *Sceletium tortuosum*.

Lewis Williams has drawn attention to the symbolic significance of the Eland in *San* thought as the “*trance animal par excellence*”. It is a predominant and widely recurring feature of *San* rock art in Southern Africa. Quite apart from its practical importance as one of the major objects of the hunt, the Eland was symbolically associated with fertility, marriage, rainmaking, divination, trance, dance and healing – its relationship with *Sceletium* thus being very intimate.

## Earliest Colonial Discoveries

The earliest illustration of a *Sceletium* plant is a painting in the journal of Cape of Good Hope Governor Simon van der Stel's expedition to Namaqualand in 1685. There are only two surviving copies of the painting, originally made by the apothecary Hendrik Claudius who accompanied this expedition, one in a collection at the library of Trinity College, Dublin and one in a volume of water colors known as the *Codex Witsenii* at the South African Museum in Cape Town. These paintings show the typical *Sceletium* flower as well as the characteristic skeletonised leaves from which the genus name *Sceletium* is derived.



The information accompanying the illustration has been translated from the original Dutch as “*This plant is found with the Namaquas and then only on some of their mountains. It is gathered in October and is called Kanna. It is held by them and surrounding tribes in as great esteem as the Betel or Areca with the Indians. They chew its stem as well as its roots, mostly all day, and become intoxicated by it, so that on account of this effect and its fragrance and hearty taste one can judge and expect some profit from its cultivation*”.

In 1662, the *Namaquas* (a cultural group within the *Khoikhoi*) gave Kanna and sheep to the Dutch in exchange for gifts, and the Commander of the Cape of Good Hope, Jan van Riebeeck, regarded Kanna as similar to Ginseng. There is also documentation of trade in *Sceletium* from the Castle in Cape Town. Kolben noted in 1738 that Kanna was the “*greatest Chearer of the Spirits, and the noblest Restorative in the World*” and also compared it with the European Mandragora. In 1924, Lewin noted that under the name Kanna or Channa, Kolben was referring to a plant whose root was used by the Hottentots as a means of enjoyment, which they “*chewed, kept in their mouth for some time, thus becoming excited and intoxicated*”.

In another report, in 1773, Carl Peter Thunberg, the respected Swedish botanist and physician, describes a similar preparation method as Van der Stel did, that “*The Hottentots come far and near to fetch this shrub with the root, leaves and all, which they beat together, and afterwards twist them up like pig-tail tobacco; after which they let the mass ferment and keep it by them for chewing, especially when they are thirsty. If chewed immediately after fermentation, it intoxicates*”.

Thunberg himself identified the plant as *Sceletium emarcidum*, a close relative of *Sceletium tortuosum*. His editor noted that the name Kanna probably referred to several *Sceletium* species, amongst which was *Sceletium tortuosum*.

Thunberg, who had also been a student of the famous botanist Linnaeus, made two journeys to the Eastern Cape between 1772 and 1774. According to him, local Hottentots used the name *kon* to signify a quid of *Sceletium*. It was seen as a valuable substance and local inhabitants transported it over great distances to trade it for cattle and commodities.

Thunberg was also the first person to report the smoking of Kanna. In reference to the *San* he writes that “*These people chew Canna and afterwards smoke it*”. In 1789 traveller Paterson noted Kanna being part of a smoking mixture including other herbs: “*They make use of it both in chewing and in smoaking; when mixed with Dacka is very intoxicating, and which appeared to be of that species of hemp which is used in the East Indies by the name of Bang*”.

Following the above, and given the recognised synergy and potentiation that occurs between *Dagga* (*Cannabis sativa* L.) and *Kougoed*, it seems clear that these two herbs would have been smoked together on occasion by the *Khoisan*.

## Later Traditional Use

The Afrikaans vernacular name *Kougoed*, derived from *kou* (to chew) and *goed* (stuff) was first recorded for *Sceletium tortuosum* in about 1830. *Kauwgoed* was reported to be the leaves of a species of *Sceletium*. Pappe included *Mesembryanthemum tortuosum* (*Sceletium tortuosum*) in his *Florae Capensis Medicae Prodromus*. This book was a commentary accompanying a “*choice collection of Cape medical drugs sent by Messrs S.H. Scheuble & Co. to the Great London Exhibition of 1851*”. According to Pappe, “*This native of the Karoo appears to possess narcotic properties. The Hottentots, who know it as Kauwgoed, are in the habit of chewing it and become intoxicated, while the farmers use it in the form of a decoction or tincture, as a good sedative*”.

According to Meiring in 1898, *Sceletium tortuosum* was reportedly widely used for its soporific effect on young children, including quieting them when suffering from “acidity”. One to two drops of the fresh juice from green plants was given to a child, who would enjoy a deep, quiet rest for a few hours. In 1914, Hartwich and Zwicky concluded their scientific communication on *Sceletium* by stating that “*the indigenous people undoubtedly used the plant more for enjoyment than as a medicine*”.

In 1962, Watt and Breyer-Brandwijk stated that Kanna had been chewed for the relief of toothache and abdominal pains, and is used by *Nama* people (related to the *Khoikhoi*) for the relief of pain and hunger, while *Nama* mothers have been reported to chew the roots and spit the resulting saliva into their baby’s mouths. *San* mothers are reported to have used *Sceletium anatomicum* (*Sceletium emarcidum*) in the same way.

Watt and Breyer-Brandwijk also cited the observations of a mining engineer who stated that “*The Nama peoples had a universal addiction to the use of Kougoed which produces visions and led to a serious degree of moral degeneration particularly with regard to veracity and sex*”. We take this as a most positive historical affirmation of what has been observed with regard to *Sceletium*’s excellent pro-sexual properties!

Palmer, in 1966, reported that the juice of *Sceletium strictum* was used for teething in babies, and that *Sceletium anatomicum* had once been the most popular member of the genus for the *Khoikhoi*. Rood, in 1994, includes the Afrikaans name *tandtrekbos* under the entry for *Sceletium anatomicum*, which is translated as “tooth-pulling bush” and quotes a report that if enough plant is eaten it can anaesthetize the lower jaw so that teeth can be pulled painlessly. He also states that “*the juice of the leaves of Sceletium anatomicum mixed with a little milk is given to babies as a sleeping remedy, while chewing the leaves has a calming action, and is an excellent remedy for stomach problems*”.

In 1898, Meiring was the first to isolate an alkaloid from *Sceletium tortuosum*. It was called mesembrine by Hartwich and Zwicky a couple of years later. Meiring tested the substance on frogs and guinea pigs and noted a ‘rapid physiological response’ in the frogs.

## Twentieth Century Developments

In 1914 the German pharmacist, analytical chemist and botanist, H.W.R. Marloth wrote a dissertation on Kanna in which he grouped different alkaloids of the plant under the term “mesembrin”. Current research gives a better overview of the range of alkaloids in *Sceletium tortuosum*, although its exact composition continues to be progressively uncovered.

The work of Zwicky in 1914, isolated several alkaloids including mesembrine and mesembrenine. It is believed that plant material of *Sceletium tortuosum* and *Sceletium expansum* was sent by Dr. Marloth in South Africa to Prof. C. Hartwich in Zurich. The material was requested for E. Zwicky, a student of Prof. Hartwich who produced a dissertation called “Über Channa” in 1914.

In 1928 Laidler observed Kanna’s use in dancing rituals. He writes of Kanna being “*chewed and retained it in the mouth for a while, when their spirits would rise, eyes brighten and faces take on a jovial air, and they would commence to dance*”. However, he adds that “*if indulged in excess, it robbed them of their senses and they became intoxicated*”. In 1960 Jacobsen reported that *Sceletium tortuosum* was being prepared as a tea and as a snuff instead of as chewing material.

In 1967 Popelak and Lettenbauer assembled all the research on the *Sceletium* alkaloids in their book chapter dedicated to mesembrine alkaloids. In this comprehensive publication they elaborate on the isolation and synthesis of mesembrine, mesembrenine (=mesembrenone) and mesembrinol (=mesembranol). Jeffs and co-workers, based at Duke University in North Carolina, USA, worked extensively on the isolation and structural elucidation of *Sceletium* alkaloids and reported several novel structures between 1969 and 1982.