

# Amanita Muscaria

Fly Agaric - Europe, Asia, Africa, Americas



## Introduction

*Amanita muscaria* or the Fly Agaric is not a well-known mushroom based on its scientific name or common name. Yet, the picture on the left, of this mushroom, will probably be familiar to the reader. In recent time, it is the mushroom that has been adopted as the "prototype" mushroom in western cultures. Its image can be seen in Christmas and greeting cards, children's stories, science fiction and fantasy illustrations, and in mushroom models. There has even been a great deal made of its connections with Christmas, but probably too much has been made of this connection and different interpretations of this theory is available. However, it is more than just a "pretty mushroom". It is a species that is thought to have had tremendous impact on some of today's cultures for at least four thousand years and has been thought by some to be at the root of the origin of some of today's religions. In 1968, Gordon Wasson put forth the concept that this mushroom was the "plant" that was referred to as **Soma**, in his now much cited "Soma, Divine Mushroom of Immortality". Wasson believed Soma was the mushroom that was utilized in religious ceremonies, over 4000 years ago, before the beginning of our Christian era, by the people who called themselves "**Aryans**". Wasson

also believed the hallucinogenic properties of the *A. muscaria* to be the cause of the "ecstasy" described in the **Rig Veda**, the holy book of the Hindu. In order to appreciate the story behind the legend of Soma, and the reasoning that Wasson used in selecting it as the Soma of the Rig Veda, I will first describe the mushroom and its development.

When young, the mushroom is entirely enclosed by a white **universal veil** and appears to be a large "white egg". This stage is very "unmushroomy" in its appearance. However, this stage is one of the defining characteristics of the genus *Amanita*. This shape is retained until the young mushroom, inside the "egg" begins to grow by expanding its cap and to elongate its stalk.

As the cap of the mushroom expand, the top of the universal veil will rupture, leaving behind the characteristic white speckled warts on the cap. The remainder of the universal veil will remain attached to the base of the stalk, forming a cup at its base. This cup is referred to as the **volva** or "**death cup**". When mature, the cap ranges from 5-25 cm across and is typically bright red in color and shiny

and viscous when moist. Although the characteristic white warts are usually present, they may be washed away after a heavy rain. The gills are white and are "free" from the stalk. The stalk is white, cylindrical and is easily separated from the cap, with a bulbous base and a volva that is typically fragmented into warts arranged in a concentric circle.

When fresh, the mushroom's flesh is white, and its taste and odor are indistinct. After drying the flesh darkens, becoming dark cream to pale brown, with an acrid, nauseating taste.

*Amanita muscaria* is typically a temperate species, but may occur in warmer latitudes, usually in the mountain areas. It is broadly distributed, and can be found throughout Europe, North and Central America, North Africa, Asia and Australia. It is frequently associated with Pine and Birch trees, and less frequently with Firs and Larches. The mushroom's association with the tree is a symbiotic one. Specifically, it is a **mycorrhiza** (literally fungus-root) relation where the *A. muscaria* is enhancing mineral uptake for the tree and in return it is receiving carbohydrates from the root of the tree. The relationship is also an obligate one such that if the host trees are absent, the *A. muscaria* will also not be present.

## The Aryan

The Aryans were a warrior and grain-growing people. They had a tribal religion with a hereditary priesthood, with a full compliment of gods, including Soma. Their homeland was somewhere in Central Asia. Approximately 4000 years ago, they split into three distinct groups. Two of these were the Indic and Iranian. The Indics settled into what is now Afghanistan and the Valley of the Indus. The other group settled in what is now Iran and became the Iranian People. Both groups, orally, passed on their religious knowledge, which was later written down and has been preserved to the present. Specifically, these religious works are the Rig Veda and the **Avesta**, of the Indian Hindus and Iranian **Zorasters**, respectively. In both religions there is reference to a plant, which is believed to have hallucinogenic properties and was used in religious ceremonies.

The Plant was referred to as Soma in the Rig Veda and **Haoma** in the Avesta. The descendants of these people would continue to carry out the ceremonies involving their sacred plant, but the knowledge as to the actual identity of their plant was lost, soon after leaving their original homeland, several millennia ago. However, the ceremonies would continue to be carried out, using non-psychoactive, substitute plants. Although western scholars generally agreed that Soma and Haoma are the same plant, there is strong disagreement as to the actual identity of this plant. Western scholars have proposed a number of species of plants, during the last two centuries. These included, Ephedra, rhubarb, opium chicory and hashish. For reasons too many to cover here, all of the above plants, and more, have been rejected as being Soma/Haoma. Before Wasson put forward the concept that the sacred plant was *A. muscaria*, the common assumption of scholars who attempted to determine its identity was that it was indeed a "plant".

In Wasson's search for the identity of the sacred plant, he concentrated most of his evidence on recent translations of the Rig Veda and made only occasional mention of the Avesta. Thus, the reason for the title of Gordon Wasson's 1968 opus: **Soma Divine Mushroom of Immortality**. It was here that Wasson would put forward, what would be at that time, a unique suggestion that Soma was a mushroom rather than a plant. Some of the clues that led Wasson to believe that Soma was a mushroom rather than a plant was that the Rig Veda described Soma as a small, leafless plant with a fleshy stalk. No reference was ever made about roots, flowers and seeds. Nor was there a description on propagating this plant. If Soma was indeed a plant, why would the Aryans not have brought it with them, when they

migrated and began cultivation once they had settled? The Aryans were, after all, known for their prowess as farmers and would have been able to grow Soma had it been a plant. The Rig Veda also specifically states that Soma can only be found growing in the mountains, which is where *A. muscaria* can only be found in the latitude of the Indus Valley. However, these mountains were not accessible to the Aryans. Although they had conquered the valley, the mountains would continue to be held by their enemies, probably the Dasyus.

Finally, a clue that was crucial in the determination of the identity of Soma was one of its the unique properties. That Soma could be consumed in two forms: 1 Consumed directly, by either eating the raw mushroom or drinking its juices or 2. Taken in the urine of the person who has ingested *A. muscaria*. Consumption of the latter was first rediscovered by a Swedish army officer, Filip Johann von Strahlenberg, while a captive of the Russians in Siberia. His observation of this event was published in 1730. This is the only "plant" that is capable of being passed through the digestive system and maintains its psychotropic properties. Wasson also believed that there is an apparent function in the urine drinking ceremony. In modern experience the *A. muscaria* causes nausea, when consumed, probably due to other toxins, which occur in this species. It is possible that passing Soma through the digestive tract eliminates the nausea causing metabolite. Usage of *A. muscaria*, in Siberia continued until the 16th and 17th Century when the Russians introduced alcohol.

There are a number of plants and mushrooms, other than Soma, that have been utilized in religious ceremonies. What sets Soma apart was that it was also considered a god. This is the only plant known to have been deified by man. Although not a main god, Soma was a tangible, visible entity, with a singular role. When ingested during the course of the religious ritual, a god comes down and manifesting himself to the Aryans. Only the priest apparently consumed Soma. The dried Soma was freshened with water and macerated with a stone pestle that brought forth a tawny yellow juice. Wasson described effects of Soma as "having astonishing psychic effects, comparable to those of the Mexican hallucinogenic mushrooms, comparable but different". Although Wasson interpreted the affects of Soma as producing a feeling of ecstasy, In the several times that he had consumed *A. muscaria*, the results were rather disappointing and were certainly not comparable to his experience with the *Psilocybe* mushroom that he consumed, in 1955, while in Mexico. He had tried eating the mushrooms raw, drank the juice and mixed it with milk, always on an empty stomach. However, on one occasion, in Japan, while with several other mycologists, Rokuya Imazeki toasted the cap of a mushroom on a fork over an open fire. After awaking from his sleep, he described his experience as "beyond all comparison" and that "this was nothing like the alcoholic state; it was infinitely better". Wasson never tried cooking *A. muscaria* and later believed that this was possibly the reason that he had not experience the results that he had expected. Nevertheless, there is a great deal of inconsistencies in the experiences of the people in the United States who have tried *A. muscaria* to achieve a "religious experience". Mostly, they seem to experience nausea. Few experienced hallucination and even then experienced the negative side affects.

### **Another Opinion**

Although Wasson has presented good evidence that *A. muscaria* is the Soma described in the Rig Veda, there are arguments to the contrary. In 1989, David Flattery and Martin Scharz's book, *The Botanical Identity of the Indo-*

Iranian Sacred Hallucinogen "Soma" and Its Legacy in Religion, Language and Middle Eastern Folklore, put forth a new candidate for Soma/Haoma. Unlike Wasson, Flattery and Scharz concentrated on the Iranian Avesta rather than the Indian Rig Veda to determine the identity of Soma/Haoma. They concluded that it was *Peganum harmala* (Harmel or Wild Rue), a weed that occurs locally and is well known for its hallucinogenic effects, even today.

### **Beyond Euroasia**

Wasson believed that the sacred plant of the Rig Veda and Avesta to be *A. muscaria*. However, he also believed that the impact of Soma/Haoma was not restricted to these two religions and was more wide spread.

The **Ling Chih** is an herb that has been known in China for two thousands years. It is a symbol of good fortune, good health, and longevity, even life with the immortals. It has always been regarded as indigenous to China. However, Wasson suggest that the idea came from India via "idea diffusion". Another words, the Chinese would "hear" of certain practices in India and would attempt to duplicate them. Before the discovery of the Ling Chih, "chih" was already used to refer to "mushroom" and had a long history in China by the time of the Chin Dynasty (B.C. 221-207) under the Emperor Shih-Huang, known as the "First Emperor" because it was he who unified all China for the first time and was the one who built the Chinese Wall. However, it was not until his reign that the concept of a supernatural mushroom with miraculous powers came about. Suddenly, there was talk about a wonder fungus, and people began searching for it, especially in the mountains, but were unable to find it. Prior to his reign no mention of such a fungus had been recorded. The emperor in his effort to find the mushroom ordered his magicians to find this mushroom. While they may have believed in this supernatural mushroom, and its supernatural properties, they were ignorant of its whereabouts and appearance. Finally, a sailing vessel was sent by the First Emperor to the Eastern Sea to find the mysterious fungus on islands off the coast and far away. Although there were many accounts of the voyage, the mushroom was not brought back.

Wasson believed that the report of this fungus sought by Shih-Hung was Soma and that it had reached the Emperor by sea route from India. Thus, the ideas of sending sailing vessels to the source of the information and the search for the mushroom in the mountains.

It would be another century, after the time of the First Emperor, in B.C. 109, before an actual fungus would be identified as the Ling Chih. This would take place during the Han Dynasty (B.C. 206 - A.D. 220), during the reign of Wu-ti. Under the Emperor Wu taxes were high and he was not popular. During the late summer, in an inner pavilion of the palace, a fungus was found that was described as a marvelous growth with nine paired "leaves". The Emperor Wu designated this fungus as the chih that was sought by Shi-huang and his magicians, but never found. He utilized the new found fungus as a public relation ploy to turn the people in his favor. With the discovery of the Ling Chih, he proclaimed amnesty of preservers, served beef and wine to a hundred families and composed an ode for the occasion, the earliest poem about a mushroom. Unlike Soma, the identity of Ling Chih is known; it is *Ganoderma lucidum*, which has now been represented in Oriental art - Chinese, Japanese, and Korean for centuries. Although this fungus has nothing to do with Soma, if not for Soma, Ling Chih would not exist today.

## The Origin of Christianity?

In 1970, John Allegro authored the controversial book, *The Mushroom and the Cross*. The main theme of the book alleges that Judaism and Christianity were based on a secret cult whose god was *Amanita muscaria*, but was represented in the person of Jesus, the Christ. He believed that the cult was very cryptic in its writings and made interpretations that are often difficult to follow and more difficult to verify since the interpretations were derived from ancient writings that few could read. The cult eventually died out, but Christianity and Judaism remained as religions.

One interpretation that Allegro made represented *A. muscaria* as being borne from "Mother Earth" after being impregnated by God with rain (=semen). The *A. muscaria* was interpreted as the Son of God (=Jesus). The Fresco at Abbaye de Plaincourault Mériigny, France (below) is perhaps the most cited evidence of the followers of Allegro that Christianity had its origin from psychotropic experiences after consuming *A. muscaria*. The fresco is interpreted as "The Temptation of Eve" and the "Tree of Knowledge" appears to be a tree that is producing *A. muscaria*. However, even before Allegro's book was published, this concept was first suggested at a session of the Societe Mycologique de France in 1910. Wasson, in his *Soma, Divine Mushroom of Immortality*, also noted how such an interpretation could be made, but in his communication with art historian, Erwin Panofsky, Panofsky wrote Wasson concerning this interpretation and dismissed it. Below is an excerpt from the letter:

*"...the plant in this fresco has nothing whatever to do with mushrooms...and the similarity with Amanita muscaria is purely fortuitous. The Plaincourault fresco is only one example -- and, since the style is provincial, a particularly deceptive one -- of a conventionalized tree type, prevalent in Romanesque and early Gothic art, which art historians actually refer to as a "mushroom tree" or in German, Pilzbaum. It comes about by the gradual schematization of the impressionistically rendered Italian pine tree in Roman and Early Christian painting, and there are hundreds of instances exemplifying this development -- unknown of course to mycologists...What the mycologists have overlooked is that the mediaeval artists hardly ever worked from nature but from classical prototypes which in the course of repeated copying became quite unrecognizable."*

Wasson agreed with the interpretation and used this explanation in his *Soma* book to dismiss the notion that *A. muscaria* was the tree of life, as most art historians have done.

by George Wong

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**PREPARATION:** The mushrooms were laid in the sun to dry and ground into as fine a powder as possible with a mortar and pestle. A shaman would measure out between 6-14 grams of dried mushrooms, depending on what vision-quest they were preparing for. Water was VERY carefully heated so that it would stay below the boiling point (190 degrees Fahrenheit.) Some simmering is fine, but the temperature is critical because boiling destroys the active component; muscimol. Stirring will quickly reduce the temperature if

powder was added, and the mixture would cook for 30-45 minutes or more. Then, the mushroom material was strained out, and the resulting liquid drank as it cooled. Often, the straining step was skipped to induce more visions.