



Ethnobotanical Leaflets



Salvia divinorum, Herb of Mary, the Shepherdess

By Sean Whitcomb

Salvia divinorum Epling & J. Tiva-M. is a member of the mint family (or Lamiaceae) native to the mountains of Oaxaca, Mexico. It is used by the Mazatec Indians of the region, in a manner similar to psilocybian mushrooms and lysergic acid-containing morning glory seeds, as a ritual entheogen (hallucinogen) and divinatory aid. It is propagated vegetatively by the Mazatecs, and no wild specimens of the plant have been observed by researchers. The diterpene salvinorin A is the chemical responsible for the visionary effects of this species. The plant now enjoys limited use among "basement shamans" in the North as an entheogen similar to LSD and psilocybian mushrooms, and is sometimes cultivated for this reason.

Description

A collection of *Salvia divinorum* suitable for identification was originally made by Wasson and Hofmann in 1962 and described by Epling and J. Tiva-M. as a new species (Epling and J. Tiva-M. 1962). The description was later amended by Reisfield. The plant is a perennial herb with trailing stems that grow from 0.5 to 1.5 m tall and have a square shape characteristic of mints. The flowers are white, turning blue with age, and borne on racemes (Reisfield 1993). It was originally described by Schultes as having all blue flowers, due to the fact that the calyces are blue (Ott 1996). Nutlets are rare among greenhouse cultivated plants, and have never been observed in the wild (Reisfield 1993).

The cloud forests and tropical evergreen forests of the Sierra Mazateca mountain range provide the ideal conditions for *S. divinorum* growth. It lives in dark, humid areas at an elevation of between 300 and 1800 m. Propagation is vegetative, through rooting at the nodes of the long trailing stems (Reisfield 1993).

The evolutionary origins of *S. divinorum* are unclear. The plant was once thought to exist only in cultivation. However, one Mazatec shaman has indicated that the plant grows wild in the Sierra Mazateca highlands, and "wild" stands (possibly escaped cultivars) have been observed by field researchers (Valds 1994). It has been suggested that *S. divinorum* is a hybrid, but support for this

assertion is lacking (Reisfield 1993).

Mazatec Use

The Mazatec Indians of mountainous Oaxaca know *S. divinorum* by several names. Most of the names illustrate the relationship between the plant and the Virgin Mary, such as *ska Maria Pastora* (the herb of Mary, the Shepherdess), *hojas de Maria* (leaves of Mary), and *yerba Maria* (herb of Mary). The plant is believed to be an incarnation of the Virgin Mary, and is treated with great respect (Valds et al. 1983). The names are clearly influenced by Catholic iconography, but the Biblical Mary was not a shepherdess and the sheep is a post-conquest introduction, so this linguistic connection is rather puzzling (Epling and J. Tiva-M. 1962).

The plant is used as a substitute for psilocybian mushrooms (*Psilocybe* spp.) when the fungi are not available (Wasson 1962), and as the first step in shamanic initiation. When one wishes to become a healer, one must master *ska Maria* to "become acquainted with the 'way to Heaven.'" Then, the apprentice must learn to use morning glory (*Rivea corymbosa*) seeds, and finally, mushrooms, the most powerful of the Mazatec entheogens (Valds et al. 1983).

Ska Maria is used by healers to discover the "cause" of a patient's illness, to divine the future, and to answer important questions. It is also given to patients as a direct cure for illnesses such as diarrhea, headache, and rheumatism (Valds et al. 1983).

The first reference to *S. divinorum* use in modern literature was probably made J.B. Johnson in 1939. He mentioned the existence of an infusion of a plant called *hierba Maria*. Dr. Blas Pablo Reko also noted its use in 1945, in a work on entheogenic mushrooms. He noted the use of a plant called "divination leaf" by the Cuicatecs and Mazatecs, which was probably *S. divinorum*. Use of the plant in a divining ritual was later described by Robert Weitlaner (Wasson 1962).

Effects

Wasson participated in a *ska Maria* ritual on July 12, 1961, the first non-Mazatec ever to do so. The fresh leaves of the plant were counted out in pairs and nibbled by the participants. Wasson was unable to chew them because of the extremely bitter taste, so 34 pairs were squeezed and the juice diluted with water and drunk. This procedure is often used for toothless people, with the leaves sometimes being ground on a metate, or grinding board. The effects of the plant--"dancing colors in elaborate, three dimensional designs"--were similar to the initial effects of mushrooms, but were "less sweeping, and lasted a shorter time." (Wasson 1962).

A more detailed description of a *ska Maria* ritual was given by Valds in 1983. Valds was given a "beginner's dose" of an infusion made from 20 pairs, while the other two participants each received 50 pairs. In keeping with Mazatec tradition, two people abstained to watch over the others. The curandero, or shaman, blessed the preparations with an oration addressed to "The Holy Trinity, Saint Peter, the

Virgin Mary, and other Saints." The session lasted about an hour and was characterized by visions of kaleidoscopic shapes, colors, landscapes, and columns of smoke. In a later, less formal, ritual, Valds ingested an infusion of 50 pairs and experienced stronger visions, which were more "realistic" and lasted more than 2.5 hours.

In addition to the visual changes produced by *S. divinorum*, Valds noted physical sensations such as a feeling of flight, dizziness, slurred speech, and decreased heart rate. Despite these sensations, the participants' "minds seemed to be in a state of acute awareness." He concluded that despite claims of the plant's mild effects, an intense long-lasting experience can be achieved in the proper setting (Valds 1983).

Chemistry

Albert Hofmann, the chemist who invented LSD, attempted to isolate the active principles of *S. divinorum*, but was unsuccessful. He assumed that the chemicals were unstable. Later work by Diaz was also unsuccessful. The active compound was eventually isolated by Valds and colleagues and named divinorin A(1). A related inactive compound named divinorin B(2) was also isolated. Before this work was published, it was reported that Ortega, Blount, and Marchand had earlier isolated the same chemical, but with no report of pharmacological activity, and had named it salvinorin A. For this reason, divinorins A and B are now known as salvinorins A and B (Valds 1994).

Salvinorin A is a furanolactone neoclerodane diterpene, the first in this class of compounds to exhibit hallucinogenic activity. All of the other major hallucinogens are alkaloids. Salvinorin A was first thought to be active only at relatively high doses. However, it is now known that it can induce intense hallucinations by smoking 200 to 500 mcg. This makes it the most potent naturally occurring hallucinogen isolated so far (Valds 1994).

Non-Mazatec Use

S. divinorum and its active compound salvinorin A are now used by many non-Mazatecs. The dried leaves are often smoked, a use originally unknown to the Indians. Ott first encountered this use in Mexico City. He determined that five or six puffs of the smoke from the dried leaves will produce a mild experience similar to ingestion of fresh leaves, which lasts 1-2 hours. He has also found that swallowing the fresh leaves or their juice is unnecessary. A quid made up of as few as six fresh leaves may be held in the mouth, producing a visionary experience that lasts over an hour (Ott 1993).

There is now a market for both dried leaves and whole plants, which remain legal and are relatively easy to obtain. Several varieties are available through specialty greenhouses, including clones of the plants originally brought back by Wasson and Hofmann and a "palatable" clone that is less bitter (Valds 1994).

Ska Maria is attractive to entheogen users for several reasons. It is still legal, which makes it much safer to use than other illicit drugs. The effects come on quickly and subside in a short period of time, making

its use more convenient than longer-lasting entheogens such as LSD. The effects seem to be more controllable and easier to willfully terminate than other more powerful drugs. It is also fairly easy to grow, making it available virtually anytime for very little money. Salvinorin A can also be isolated with ease by anyone possessing a little knowledge of chemistry. These reasons have caused some to be concerned that *S. divinorum* and salvinorin A have the potential to become "drugs of abuse" (Valds 1994).

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