

**NOTE ON THE ELECTRONIC VERSION
(3/26/09)**

The second edition of *Salvia Divinorum and Salvinorin A* was last updated in 2002. Because of this, information about the laws surrounding *Salvia divinorum* in this book should be considered out-of-date, as should information about vendors of *Salvia*-related products. For more current information on the legal situation surrounding this plant, see www.erowid.org/plants/salvia/salvia_law.shtml and/or www.sagewisdom.org/legalstatus.html. A web search will turn up numerous current vendors of *Salvia*-related products.

Dedicated to the memory of
D.M. TURNER
October 5, 1962 – January 24, 1997



...I saw a pulsating purplish light that changed to an insectlike shape, perhaps a bee or moth, and then changed to a pulsating sea anemone. It expanded into a desert full of prickly pear cacti, and remained so for several minutes...Suddenly, however, I was in a broad meadow with brightly colored flowers. I had just crossed a stream by way of a small wooden bridge. Next to me was something that seemed to be the skeleton of a giant model airplane made of rainbow-colored inner tubing. The sky was bright blue and I could see a woods in the distance. I found myself talking to a man in a shining white robe...

— LEANDER J. VALDÉS III
“*Salvia divinorum* and the
Unique Diterpene Hallucinogen,
Salvinorin (Divinorin) A”
(1994)

SALVIA DIVINORUM AND SALVINORIN A

*The Best of
The Entheogen Review
1992–2000
Second Edition*

ER MONOGRAPH SERIES, No. 2

David Aardvark, Editor



The Entheogen Review
POB 19820
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Project Editor: DAVID AARDVARK
Manuscript Editor: MELISSA IRWIN
Design & Layout: SOMA GRAPHICS

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A NOTE ON THE TEXT

Most of the information presented herein comes from the first nine years of *The Entheogen Review's* publication. During the first six years *ER* was published and edited by JIM DEKORNE; it is predominantly due to his efforts that it is possible for this work to be made available now. We've done our best to include everything that has ever appeared in past issues of *ER* related to *Salvia divinorum*. Some of this information is dated, but we feel that it is still interesting from a historical perspective. Some information is now known to be incorrect or incomplete, in which case we have provided additional annotations in the form of endnotes. As well, we have made minor editing changes to the original text in a few places, for the sake of accuracy, stylistic continuity, and clarity. Each entry's title has been retained, (noting the volume, number, and year that the entry appeared) for those who wish to reference the original. We've also included the small amount of material that has appeared in past *ERs* on *Coleus* species, due to their possible traditional use by the Mazatec. We have maintained the chronology of the entries' appearance within each chapter, so that the oldest information appears first, and the newest information appears last. Occasionally an entry doesn't fit neatly into any single chapter, due to multiple topics being covered, and we apologize for this.

Predominantly composed of contributions from intrepid psychonauts worldwide, this is a book born from modern experience. As such, we have not devoted much space to the traditional ethnography or history of *Salvia divinorum*. Those interested in learning more about these areas are directed to the numerous sources listed in the ANNOTATED BIBLIOGRAPHY.

THE EARLY YEARS



It's like a mirror with no frame: some don't see it at all; some do, but don't like what they see. It's like cat paws, soft cat paws pressing, or like a bunch of bird tongues lapping the mind. Or like tiny fingers, the way ivy fingers reach out to climb a wall...

— DALE PENDELL
Pharmako/Poeia
(1995)

COLEUS **(1/2: 1992)**

Salvia divinorum is, in the minds of the Mazatecs, only the most important of several plants, all Labiatae, that they regard as members of the same "family." *Salvia divinorum* is known as *la hembra*, "the female." *El macho*, or "the male," is *Coleus pumila*, of European origin. Then there is *el nene*, "the child," and *el ahijado*, "the godson," which are both forms of *Coleus Blumei*. Some Indians insist that these others are likewise psychotropic, but we have not tried them; others say these are merely medicinal (WASSON 1962).

The *curandero* also had several horticultural specimens of *Coleus* spp. growing near his house. Wasson has reported that the Mazatecs believe *Coleus* to be a medicinal or hallucinogenic herb closely related to *S. divinorum* (Wasson, 1962). However, Don Alejandro said the plants were not medicinal and his daughter had bought them at the market because they were pretty (VALDÉS *et al.* 1983).

(*Coleus blumei* and *C. pumila*) and all of their garden varieties have strong psychoactive qualities...About fifty of the brightly colored leaves are either chewed and swallowed, or crushed and steeped in water which is

later drunk...Like *Salvia divinorum*, coleus is a member of the mint family, so the psychoactive chemistry of the two plants is probably identical or at least similar (SUPERWEED 1970).

Since no one seemed to know about fresh *Coleus* and since nothing other than a JOHN MANN book I have claimed fresh *Coleus* worked like a mini-mushroom trip, I tried it. Bitter, very bitter. I bought a giant plant for four bucks (such a bargain), set some candles up, got my vision-request/purpose clear, ate 80 medium leaves and waited. Nothing. Five, ten minutes, nothing. Twenty, nothing. Forty, nothing. I ate a meal after an hour. I doubt that I ate too soon. I truly don't think it was working. Spread the word. — A.L., CA

At an entheogen conference in Hawai'i last August, I was unable to elicit any definitive response to a question about whether or not Coleus is a psychoactive plant. No one seemed to know, though there was a vague comment that one species was active while the other wasn't. There were huge Coleus plants growing everywhere on the grounds of the conference site, and I now regret not making the modest proposal that at least some of us try them out. In the wake of that lost opportunity, readers with hard data are encouraged to share it with us. — JIM DEKORNE

SALVIA DIVINORUM AND PLANT TEACHERS (1/2: 1992)

I've continued my studies into *Salvia divinorum*, except that sometimes I think that it is the *S. divinorum* that is investigating me. I can say that it is the plants that have consciousness—that are the source of consciousness, and that animals got consciousness from eating plants—say that and not really be metaphorical. It astounds me. — D.P., CA

SALVIA DIVINORUM (2/1: 1993)

For the past year or so I've been growing a *Salvia divinorum* plant—snipping the mature leaves when it was appropriate and freezing them until I had enough for a trip. Recently I took about 150 leaves¹ from the freezer, macerated them in a VITA MIX blender with water, strained the mash, and obtained about 24 oz of dark green liquid. This was enough for three of us to drink one cupful apiece. It was fairly bitter (but not totally awful), and produced no nausea. It is said that the experience is subtle and must be done in darkness and total silence—we did this. After 45 minutes of trying to discern whether or not I was “feeling anything,” I gave up. The effects (if any) were so subtle as to be indistinguishable from my own imagination. One of my companions reported some rather bizarre imagery, but she is a natural psychic anyway, and could get the same by just closing her eyes. My other friend didn't report anything more than I did. I've heard from more than one person that *S. divinorum* is a bonafide entheogen, but you can't prove it by me. I know that the psychoactive agent in the leaves is unstable², but I read somewhere that you can preserve it by freezing—either that is wrong or the lore about this plant is just another shuck. At least when you eat mushrooms you don't have to keep asking yourself if you feel anything! — P.O., AZ

There are probably any number of reasons why Salvia divinorum didn't work out for you and your friends. I too read in the ADAM GOTTLIEB/MARY JANE SUPERWEED books that the psychoactive properties of the leaves of S. divinorum as well as Coleus could be preserved by freezing. Without any first-hand experience to go on, I can't comment. Perhaps someone out there in the network can help us out on this one. (Incidentally, in the last issue I asked if anyone had proof that Coleus is an entheogen. To date I've received no answer to that question—which suggests that this is another of those irritating psychedelic myths.) — JIM DEKORNE

SALVIA DIVINORUM (2/3: 1993)

I recently heard TERENCE MCKENNA speak in New York (see page 193 for the Internet URL that has a transcription of this talk). He gave a different version of how to take *Salvia divinorum* than the ways I've heard about. It goes like this: take 13 leaves and remove the midribs, so that only the soft plant material remains. Roll this into a quid and place between the cheek and gums. Lie down for 15 minutes. remove quid. In five minutes more, lying in silent darkness, the effects begin. MCKENNA says that the effects last about 45 minutes, which is consistent with other people's reports.³

Since I have heard that anything from 13 to 70 leaves is one dose, and since plant and leaf size obviously differ, I have a question for readers of *The Entheogen Review*. Would someone out there who has experience with this plant please weigh a dose of fresh *Salvia divinorum* leaves and pass on that information?

I find it fascinating that the plant's active ingredient has yet to be discovered, and that only the fresh leaves are significantly psychoactive⁴. This suggests that it will be near impossible to make this plant illegal, and that whoever wants to experiment with it will have to care for and develop a relationship with the living plant—something that I believe is important. — L.M., NY

Here's the only published reference I have regarding a dosage weight of Salvia divinorum leaves:

S. divinorum may be prepared as an infusion from 20 (about 50 g) to 80 (about 200 g)⁵ or more pairs of fresh leaves to induce visions, and may be taken by the *curandero*, the patient (or apprentice) or both, depending on the situation. Only fresh foliage will serve for divination. At this dosage level, the *Salvia* is used to foretell the future, find the causes and cures of illnesses and

obtain answers to questions about friends, enemies and relatives (VALDÉS *et al.* 1983).

The Mazatecs are said to always measure their doses in pairs of leaves. MCKENNA'S recommendation of 13 ribless leaves is therefore surprising, although it should be noted that the number 13 has a religious numerological significance for the Mazatecs and probably other Mexican Indian tribes as well—it is also their recommended number of morning glory seeds to ingest, 'though a psychoactive dosage level for Westerners is in the 300-seed range. — JIM DEKORNE

As we go to press, this just in from this year's BOTANICAL PRESERVATION CORPS conference in Hawai'i:

DOING SALVIA DIVINORUM (2/3: 1993)

You don't ingest it. The active ingredient needs to be absorbed through the mouth. Take from 9–13 pairs of leaves and slowly chew them, forming a quid. Let it stay in the mouth slowly chewing for a long time. Precisely how long, I don't know. Contrary to reports, drying does not destroy the activity. It's just that if dried, you have to smoke it.⁶ It is then a slightly different experience. There is also a method of extracting the active principle that gives a product that is active in the microgram range, and is said to be "dangerous." — ANONYMOUS

SALVIA DIVINORUM (3/1: 1994)

I have had very good luck with PEACE SEEDS: A PLANETARY GENE POOL RESOURCE AND SERVICE, c/o Dr. ALAN KAPULER, 2385 SE Thomson St., Corvallis, OR 97333, catalog: 60 pgs, \$4.00) in terms of low prices, high quality, and fast service. I mention this because they have *Salvia divinorum*. It is definitely

a “shareware” plant, since it grows so fast and is so easy to clone. — ANONYMOUS, PA

NOTES

1) 150 leaves split between three people is 50 leaves each. The problem with dosing by counting the number of leaves, is that it doesn't take into account the size of these leaves. We've seen many plants with leaves that were 1 inch wide by 1.5 inches long; these smaller leaves tend to be on plants kept indoors as “house plants.” We've also seen a plant with some leaves that were 5 inches wide and over 15 inches long. Fresh or dried, the amount of material that people experiment with should be weighed; only when this is done can reasonable guesses be made as to “what went wrong” when someone doesn't experience any effects. It is also worth noting that—like with most drug-producing plants—the content of the active chemical salvinorin A is known to vary quite a bit; so even when one knows the weight of the material consumed, one can only guess at what range of salvinorin A might be available at this “dose.” The effects of *Salvia divinorum* leaves taken orally seem to be highly variable, but swallowed “doses” require a lot more material than when one chews the leaves and retains them in their mouth without swallowing. And smoking the dried leaves is the most efficient method of consuming plant material.

2) While it was originally postulated that the active chemicals of *Salvia divinorum* were possibly instable (HOFMANN 1964, 1980, 1990; DÍAZ 1977), this is not true. The primary active component of *S. divinorum*, salvinorin A, is considered to be quite stable (VALDÉS 1994; SIEBERT 1997).

3) A technique for chewing leaves that has worked for me, adapted from a method described in *Salvinorin: The Psychedelic Essence of Salvia Divinorum* by D.M. TURNER, follows:

Ten leaves averaging 3.4–4 inches wide and 9 inches long (and weighing 25–26 grams) have the midribs removed. These are rolled into two “cigars” of five leaves each. Laying in quiet darkness, the first cigar is placed in the mouth and held there, chewing it slowly with my front teeth. I do not swallow at all. After about 10 minutes I spit this out into a bowl, and start chewing the second cigar. Effects usually commence within about 5 minutes after beginning to chew the second cigar. I spit this cigar out after a 10 minute chew. The experience lasts about 45–60 minutes (from start to finish).

4) While it was originally reported that only fresh leaves are effective (VALDÉS *et al.* 1983), this is not the case. Dried leaves are now known to be effective—both through chewing and smoking.

5) VALDÉS' reported weight of fresh leaves used as a "dose" by the Mazatec in an infusion (40 leaves weighing about 50 grams, to 160 leaves weighing about 200 grams) is about $\frac{1}{2}$ of my own calculations for the weight of fresh leaves (10 leaves weighing about 25–26 grams). This suggests that perhaps the leaves traditionally used by the Mazatec are about $\frac{1}{2}$ the size of those used in the consumption technique described in NOTE 3 above.

6) As mentioned in NOTE 4, this is not the case. Dried *Salvia divinorum* leaves are also effective when chewed.

CONSUMPTION METHODS



Only the leaves are used, putting them in water. First the leaves are rubbed together in the hands, the water is not boiled, and they are used for very specific purposes. When the *curandero* goes to the forest in search of this plant, before cutting it he must kneel and pray to it. They are not witch-doctors; but the leaves are cut only when they are needed, after praying.

— ROBERT J. WEITLANER
“Curaciones Mazatecas”
(1949/1950)

SMOKING SALVIA (3/3: 1994)

I have been experimenting with smoking dried *Salvia divinorum* leaves and I can tell you that it is indeed a powerful entheogen. It seems to work along the lines of DMT in that you need to get a large initial intake or the high just plateaus without a flash. I have smoked an entire joint containing about $\frac{3}{4}$ a gram of material by myself, which didn't come close to the effects obtained by smoking two or three consecutive bong hits. “Spooky” is a good word to describe the first effects. Before I release my second bong hit I feel a pressure in my cheeks and start feeling a spinal shiver. Then I'm gone. Complete dislocation; if I'm with other people I sense their presence but have no idea who they are. I feel an emotion that is distinct and familiar yet indescribable; something like being very young and not privy to what's going on. Then I start to recognize my surroundings and I am in an energy field that seems to be pulsing from my brain; this field flows out of my body producing audible geometric patterns. At this point I can focus my attention, but the strange thing is that the energy wave seems to flow around my point of focus. The high rapidly falls off from there. Two to five minutes for what I've described, but I'm completely down within twenty minutes, with no appar-

ent residual effects. This is with dried leaves, so I think that salvinorin A could be a truly terrifying experience—or maybe that isn't the only active ingredient in *S. divinorum*. Other people I know have tried this method and all agree that diviner's mint is very potent. — R.N., WY

SMOKING SALVIA LEAF I **(4/3: 1995)**

I'm wondering what all the hoopla regarding smoking dried *Salvia divinorum* is about. I tried it on two separate occasions with a waterpipe in amounts exceeding those recommended in the WINTER 1994 *ER*. I only experienced a heavy relaxation, nothing approaching the entheogenic realm. Could it be that the diterpenes vary considerably in different plants?¹ — J.S., NM

SMOKING SALVIA LEAF II **(4/3: 1995)**

You do not have to get it all in a one-toke hit. Since there is no tolerance to this substance (in contrast to DMT and other tryptamines), taking multiple hits to “sneak up” on the effect is a good technique. I smoked about 10 to 15 bowlfuls of the whole dried leaf one afternoon, with an average of 10 to 15 minutes between each high. I got off fine each time, with the degree of the high solely dependent upon the amount I was able to inhale each time. I found that big hits are hard to get down, and it's hard to smoke more when you're already high from the previous toke. A safe way to ease into it is to smoke about 5 or 6 tokes per minute until you feel it, then quit. It takes about 10 seconds to peak, and is a very clean high without side-effects of any kind—not even residual stimulation or exhaustion. The high lasts about 5 minutes with lingering effects to 20 minutes—even shorter than smoked DMT. High doses can be spooky and weird. Entities abound with this stuff. Once

I sensed the presence of a woman in “another room” (in a near-by parallel dimension) and felt we’d already met on other trips, but I’d forgotten. These “others” usually seem to be humanoid—no gremlins yet! — ANONYMOUS, NM

SMOKING SALVIA LEAF III (4/3: 1994)

Each time I’ve experienced this plant, my respect for it increases. It feels like a presence, and is at the very least a “mythic” level of consciousness with numerous unfolding aspects. Before smoking it, I spend an hour reflecting on the content of my interior life during the proceeding weeks, laying it all out simply in terms of ideational/emotional structure and content. If I’ve dealt with it at all fully, then the experience seems to lead into another realm of the psyche entirely. I’ve felt its effects as a contact with the consciousness of “Mother Mary,” perhaps suggested by the literal meaning of *ska María Pastora*. [The Mazatec name for this plant: Mary “The Shepherdess.” — JIM DEKORNE] As a dream catalyst anointing me with the power of spontaneous, deeply mythic/symbolic fairytale narrative-weaving; as being born into a benignly blissful yet “tricksterish” level of contact with heavenly muses. All have been variations on a theme of seeking and finding paradise, of attaining the level of existence that appears as a code in every aspect of “normal reality”—the intelligence around and within us that we haven’t yet learned to integrate into our daily lives. In that sense, it seems much like a psilocybin trip, but without visuals, and the onset is so sudden that the ascent to heaven motif is much more prominent. Obviously, set and setting are as crucial with *Salvia divinorum* as any other entheogen. Curiously, I’m not moved to try it often; the time must feel right. When I’ve not prepared adequately before smoking, I’ve received strong but benevolent admonitions to change my ways, and felt badly—much like a kid who’s been chided. It has seemed to tell me to worship it, obey it, and that it would give me blessings. It enfolds me, gives me dreamy flights of ecstasy and

wonder. Importantly, my initial experiences didn't include this parental quality, and I'm sure that it reflects my psychic structure at this point in my life. — C.W., WV

SMOKING SALVIA LEAF IV **(4/3: 1995)**

We prepared a sacred space. We smudged the area with sage, cleansed it with water and charged it with incense. We made the space as dark as possible and lit one candle. We meditated on communicating with the plant and asked it to become an ally. We inhaled three deep lungfuls of dried *Salvia divinorum* leaf and held each one as long as comfortable. Then we laid down. Both of us first experienced a "stretching of physical reality." My impression was that the room grew very tall; "J" described it as "reality being taffy pulled." I saw a scene much like a DIEGO RIVERA painting of an adobe house and an adobe wall. This remained until I realized that the plant was showing me its home. I again asked the plant to be my ally, and was suddenly treated with an insight into an ongoing concern. When I shifted my focus to this, I immediately felt a number of additional insights and a great clarity of thought. There was no ego-loss, but the experience was wondrous and shamanic. "J's" experiences were similar but more "shamanic journey-like" in style. — M., IL

MORE ON TECHNIQUE **(4/3: 1995)**

I'm in agreement with DANIEL SIEBERT (see page 84)—*Salvia divinorum* is so potent that extracting the active ingredient is both unnecessary and asking for trouble. (I was drying the leaves in a dehydrator and noticed I was feeling weird just sitting near the thing!) I *do* think the plant can be useful, though its brevity of action and the difficulty controlling the experience are drawbacks. *S. divinorum* is much

like DMT in that regard. One way to get around its brevity is to use successive doses. I've taken 3–4 doses in a row, each while coming down from the last, and while it took more with successive doses and the effect was shorter, I was still able to get more meditation work done than I would have on a single larger dose. Another way to extend the experience is to chew the leaves and hold the juice in one's mouth—the experience produced lasts much longer than if the leaves are smoked. — HATTER

CHEWING VS. SMOKING I **(4/3: 1995)**

There is a big difference between chewing *Salvia divinorum* leaves and smoking them. Chewing lasts about an hour and is a richer experience because you can spend some time finding your way around—internally, that is. It's best to lay back and go with it. A curious note: I always get sexually aroused for the first 15 minutes or so after I come on. I look forward to hearing other people's experiences. — G.M., HI

CHEWING VS. SMOKING II **(4/3: 1995)**

Not fully satisfied with the effects of smoked *Salvia divinorum*, I tried chewing/sucking 6 leaves, then 8, with only weak results. Then I tried 18 large leaves; 14–18 cm long (minus stem length). These were rolled into two "cigars" and held in my mouth, chewing occasionally, sucking, and holding the juice about 3–5 minutes. I tried to wet the whole inner surface of my mouth for maximum absorption. The taste is very bitter. Then I swallowed and repeated the process until no more juice could be obtained and I spat out the empty "cigars." WOW! I doubt if I'll ever bother smoking *S. divinorum* again! The first ten minutes, nothing. Then suddenly the effects came on overwhelmingly within the

space of a minute. I tried to tell my wife about it, but couldn't speak; I was just too amazed and kept uttering, "Strong, so great!" This inability to speak became unaccountably amusing. I began to laugh uncontrollably and had to bury my face in the pillows, not wanting to wake the kids in the next room. (Sometimes when smoking I experienced this laughter also, but not with such intensity and duration—a full five minutes of non-stop, very powerful laughter.) Finally I got it under control and rolled over on my back in the darkened room. With closed eyes I was standing in strange buildings, similar to those fantasy paintings or ancient oriental palaces; the Alhambra or Grenada. A large, almost endless empty hall with beautiful arches and hundreds of columns; all in a strange, gloomy, blue-grey light with colors expressive of deep magic and majesty. Then I remembered someone's report of "becoming a plant" on *S. divinorum*. Instantly, I turned into a tree with bark like oak (many plateaus and valleys), yet somehow smooth and not rough like oak. This bark was a sense organ; I felt like a tree feels. (I know it sounds odd, but while it was happening I had no doubt that a tree feels that way.) Then I sensed the presence of something else, but couldn't get an image of it. This was accompanied by strong emotions that are impossible to describe. I became suddenly very attracted to my wife lying beside me—the effect changed from entheogenic to aphrodisiac. [Perhaps the two are not so far apart when you consider that Unity is the ultimate goal of each. — JIM DEKORNE] Next time I'll do it alone so I can go further into it undistracted. There is much to discover, and I really want to make contact with this entity. I've experienced most common entheogens (except DMT), and *S. divinorum* chewed/sucked is clearly my favorite. At the moment I can't imagine a bad trip on it, but this contradicts my experience; every strong entheogen can produce a bad trip, even *Cannabis*. I like the strong emotions that *S. divinorum* evokes and the fact that it only lasts an hour. I am not normally a suggestible person, so wonder if instantly "becoming a plant" when remembering another person's experience to that effect denotes heightened suggestibility under the influence², or if this

specific hallucination is immanent in *S. divinorum*. — B. SCHULDES, Germany

PALATABLE SALVIA CLONE (5/1: 1996)

In 1992, BRET BLOSSER brought back a distinctly different clone of *Salvia divinorum*, now marketed by ...OF THE JUNGLE³ as the “palatable” clone. Morphologically identical to the WASSON/HOFMANN clone, this one, while not entirely palatable, is less deeply bitter than the WASSON/HOFMANN clone. Specimens have been deposited in several California botanical gardens. Experimentally, I have found the palatable clone to be more effective, perhaps because when chewed I can keep it in my mouth longer. Here’s where it falls on my bitterness rating scale:

10. *Trichocereus pachanoi* (the foulest tasting thing I’ve ever put in my mouth)
9. *Salvia divinorum* (WASSON/HOFMANN clone)
8. *T. peruvianus* and *Calea zacatechichi*
- 7.5. *S. divinorum* (“palatable” clone)
7. *Lophophora williamsii*
6. Ayahuasca
5. (blank)
4. *Heimia salicifolia*
3. *Tabernaemontana sananho* (tsicta) extract

— J.F., CA

SALVIA INGESTION TECHNIQUES (5/1: 1996)

Regarding the *Salvia divinorum* data in the FALL 1995 ER— maybe there’s an analogy to nicotine gum. People who consume coffee and have an acidic mouth (I think it has chlorogenic acid) get almost no absorption of nicotine, and that was my experience when I used it to try and quit smok-

ing. So for better absorption of chewed *S. divinorum*, the trick might be to make the mouth have a pH of 9 and see what happens. It is also true that ethanol helps the carcinogens produced by tobacco be absorbed in the mouth more rapidly, so maybe using an alcohol-based mouthwash might be of some use as well.⁴ For smoking, it makes sense to ignite the *S. divinorum* at the lowest possible temperature using something like a tube furnace with a regulator. It might volatilize at a temperature lower than its boiling point and that would give the highest yield since thermal decomposition would be minimized. The best temperature would be around 200 degrees C, since there would be no smoke.⁵ That would be true for things like tobacco too, and other interesting things. — ANONYMOUS, PA

*These ideas are easy to test—rinse your mouth out with a baking soda solution before chewing/sucking Salvia divinorum and see what difference it makes. Or, make your own “basic” mouthwash out of baking soda and ethanol. See the vaporizer article in the WINTER 1995 ER to test out the smoking hypothesis.*⁶ — JIM DEKORNE

SALVIA DIVINORUM NOTES **(5/2: 1996)**

I smoked *Salvia divinorum* leaves in a bong and found myself feeling extremely detached. I'd taken a toke of *Cannabis* just prior too, and had just listened to a tape of the '60s group H.P. LOVECRAFT. It was spooky. I glowed inside. I exhaled, caught my breath and was feeling soft, leathery and reptilian. It lasted about five minutes. Now every time I hear the tape, I feel nostalgic about lizard skin. *S. divinorum* delivers an exceptional punch in the memory cortex with sight, sound, visceral, scent, and auditory components. I wonder what would extend the experience to ten minutes?⁷ I can't imagine wanting to do it longer than that—I might try to eat flies or something. —R.W.S.

SALVIA AND BAKING SODA **(5/2: 1996)**

An associate swears up and down that the best way to do cocaine is to place a pinch of baking soda under the tongue for about 15 minutes, rinse the mouth and apply cocaine. In five minutes it's supposed to be as intense as shooting up, but lasts longer because of the decreased rate of absorption. I wonder if *Salvia divinorum* wouldn't respond in a similar fashion to this method.⁸ I've heard that the "palatable" strain offered by ...OF THE JUNGLE is more potent—any reports to confirm this?⁹ — ANONYMOUS

SALVIA SAFETY **(5/2: 1996)**

Last year I bought some dried *Salvia divinorum* from ...OF THE JUNGLE and experienced some remarkable effects. It was unique in my experience and wishing to compare it with someone else's reaction, I gave some to my sister. She is a student of a very well-known teacher of shamanism. She also had some very interesting experiences and asked her teacher about this herb. He warned her that it was toxic to the liver and advised her not to try it again. I have not heard this before and researched everything available in print before trying it. HOFMANN and DÍAZ did chemical analyses¹⁰ and did not find a poisonous constituent and WASSON reports a ceremony conducted by an 85-year-old *curandera*. Any feedback on this issue? — R.R.

POWDERED SALVIA LEAVES **(5/3: 1996)**

Try powdering *Salvia divinorum* leaves before bonging them—the increased combustible surface makes all the difference. Last night I sent my test panel into hyperspace on 3–4 hits each. I understand why the Mazatec prefer using

it in darkness. We had a couple of candles going; when I closed my eyes I found myself in an apparent alternate reality. Plunging the room into darkness allowed me to experience this vision with my eyes open. This was the common experience of the panel. It's like finding a cave to explore. What will be in the cave? Will we meet creatures that live there? Or creatures that entered the cave from elsewhere? Can we find their entrance to the cave and enter their world? — M.H., VT

ORAL SALVIA RECIPE? (5/3: 1996)

One of *ER*'s faithful anonymous correspondents sent me a reprint of a talk by ANDREW WEIL in which he mentions that *Salvia divinorum* must be emulsified before it can be activated in the stomach. My correspondent made a connection between this and a cartoon in the latest LOOMPANICS catalog supplement describing how to emulsify *Cannabis* for internal use. Basically, you powder X amount of the botanical, add an equal amount of cooking oil, apply 4 or 5 fifteen-second bursts in a microwave oven, stir in an equal amount of lecithin granules, and repeat the microwave step. The resulting goop is supposed to be an orally active product. It's possible that *S. divinorum* may respond in the same way—it wouldn't hurt to add a little water to the mix to ensure complete emulsification.¹¹ Since the potent ingredient in *S. divinorum* is active in the microgram range, dosage could be tricky. — JIM DEKORNE

SALVIA LEAF REHYDRATION (5/4: 1996)

Dried *Salvia divinorum* leaves can be rehydrated and used orally as one would use fresh leaves. Simply place the amount of leaves you wish to use for a single trip into a bowl and pour just enough water (preferably purified wa

ter) over the leaves to cover them. Push the leaves under the water to remove air bubbles. Soak leaves from ten to fifteen minutes. Then drink the water and use the leaves as you would normally use fresh leaves. — D.D., CA

FEEDBACK ON OINTMENTS

(6/2: 1997)

I have tried ointments made with DMSO and I believe they do work...I tried *Salvia divinorum* with DMSO and got a similar experience to smoking...an initial extraction, which is then mixed with DMSO might work better...

I've noticed some gas as a DMSO side-effect and a little skin rash. I wonder what toxins it carries through the skin, especially since it is not an organic product.¹² — GREEN GIANT

I'm personally uncomfortable with this idea; salvininorin A is active in the microgram range and it would be very easy to overdose on this combination without some extremely accurate scales to measure dosage...the problem being that an ointment might prolong the experience for longer than sanity would be comfortable with. — JIM DEKORNE

VELADA WITH SALVIA DIVINORUM POTION (SKA PASTORA, PIPILTZINTZINTLI): Report on Trip to Sierra Mazateca, 18–22 June 1998 by JONATHAN OTT (8/3: 1999)

C.S. and I left Xalapa, Veracruz, at noon on Thursday 18 June, arriving to Tehuacán, Puebla *via* Orizaba, Veracruz, where we slept (my NEWTON 2000 and NIKON FE-2 + MICRONIKKOR 55 mm lens were stolen on the bus). The following day we bused to Huautla de Jiménez, Oaxaca,

arriving in the afternoon. We hired a truck to take us to San José Tenango and Llano de Árnica, but found B.B.'s contacts, the ANDRADE family, were on the lam as a result of a killing by one of the sons. Neither finding anything like halfway decent accommodations, we returned to Huautla, arriving about sunset. The following morning, Saturday 20 June, we spoke to two women in the market who sold accoutrements for shamanic rites, and the second referred us to her son, AGUSTÍN ANDRADE, who lived just below the marketplace, and was busy watching World Cup foot-ball. Through the kind assistance of his wife, BEATRÍZ, we were led further below, to the very outskirts of Huautla, in search of a *curandera*, whose entire family was absent. BEATRÍZ then introduced us to Doña HERMELINDA, a monolingual curandera of some 60 years, and her bilingual daughter PIEDAD, in her early twenties. We explained we were interested in *hierba pastora*, and Doña HERMELINDA quickly left the house with her *machete* to harvest some in the ravine below. She declined C.'s offer to accompany her to her garden. She returned in less than half an hour with a large quantity of fresh and beautiful leaves of *Salvia divinorum* EPLING & JÁTIVA (Labiatae). At first she thought we wished merely to take away the material, but we explained that we were in no hurry, and should wish to return later, in the desired event she could serve us with a healing ceremony. This was agreed upon, and when PIEDAD apprised us her mother would have the potion prepared for us upon our return, I explained we wished, if possible, to observe its preparation. PIEDAD assented and proffered the additional detail, that her mother would not herself ingest the potion. We returned, as agreed, at 7:30 pm, were served *café de olla* as we awaited the ceremony. I had brought a half-liter of *aguardiente* (sugar-cane moonshine) in a water-bottle as a gift, knowing this was once a standard aspect of payment for shamanic services in Huautla (WASSON & WASSON 1957A), but PIEDAD apparently mistook it for water, *agua bendita*, and laughed when I confirmed it was in fact *aguardiente*. Doña HERMELINDA at length took a large double-handful of leaves (plant tops, stems and all) and held them out for my inspection. She washed them

briefly by dipping them in water and then shaking them out. Then she put about a liter of water in a plastic bowl, dipped the leaves in, and began to mash bunches of them in her hands, repeatedly dipping them into the water, more or less completely breaking them up. She vigorously and thoroughly so processed the leaves during perhaps 20 minutes, standing beside her elevated hearth-table in the darkness of her hut, illuminated only by a pair of beeswax candles. When she had finished, she carefully put the stem residue, thoroughly wrung-out between her palms, atop a *Heliconia* leaf which had covered the leaves in the plastic bag she had brought back earlier from the ravine. The frothy, dark-green fluid was then passed through a kitchen strainer into two tall glasses, after Doña HERMELINDA had asked us whether we wished small or large glassfuls (naturally, we opted for the latter). The potion precisely filled the two 350–400 ml glasses, with no apparent residue. Doña HERMELINDA then set these beside me on a table, and proceeded to make another infusion/suspension with much less water and fewer than half the number of leaves, and a great deal less thoroughness than displayed previously. This resulted in only 200–250 ml of potion, which was strained into a small glass, which she then set before her. Apparently she too would take the potion! After a comment via her daughter that she wished to wait until some nearby commotion (supposedly because a beehive had overturned, and its owners were endeavoring to trap the bees) subsided, noting that the smell of *copál* (tree-resin incense, technically of *Bursera* sp., but in this case rather *ocote*, the cheaper and more common resin of *Pinus* sp.) was a dead giveaway, we waited a while, until Doña HERMELINDA gathered some of the last coals from the dying hearth-fire into a small clay bowl, liberally sprinkling *copál* atop them. She passed the three glasses through the sweet smoke rising from the censer set on the floor before the hearth, censured herself and us, then set the bowl on the earthen floor between the two of us, sitting as we were facing the hearth on small wooden chairs. After intoning a brief invocation, she indicated to us by signs that we should now ingest the potion, which we did, I downing it all in

one long draught, finding it only mildly bitter but hardly delectable. She herself drank most—but not all—of her portion, and later in the darkness I thought I heard her drink more. It took C. longer to finish her portion, perhaps ten minutes, and she was hurried along by PIEDAD'S asking whether she had finished, so the candles could be extinguished. As soon as C. had done so, we both drank some water to clear the taste a bit, and the candles were extinguished. We drank mint *ambrosia* at 9:40 pm, then sat in the darkness awaiting the effects. After some 15 minutes, I began to feel the potion, just as Doña HERMELINDA began to sing in Mazatec, a cadence and phrase-length more or less identical to what I knew from the recordings of MARÍA SABINA (WASSON & WASSON 1957B; WASSON *et al.* 1974). She sang continuously for just over two hours, with only a few pauses. From 1:40 am to 2:20 am when she asked through her daughter whether we were tired, she changed to singing a series of Catholic hymns which we didn't of course recognize, other than to note they were in Castillian. At the conclusion of each hymn, she intoned: "En nombre del Padre y del Espíritu Santo," curiously leaving out "del Hijo." She pronounced Santo "santoooh." During her Mazatec canticle, I could recognize the repeated ending "tso" to many phrases, which I knew to mean "so says it," it being the "voice" of *Salvia divinorum*, not known by any Mazatec name, but only as *la pastora* or *María pastora*. I also recognized repeated iterations of "*pastora*" in her canticle, along with apparent invocations of *María* (possibly with the same meaning), as well as of *San Pedro* (of singular importance in Mazatec folklore, and especially identified with green tobacco, which I haven't seen ingested nor smoked in a shamanic context, only used dry, as an ablution, rubbed on the hands and forearms); also, less frequently, *San Pablo*. One previous account (DÍAZ 1975) of ethnomedicinal use of *ska pastora* in Ayautla, Oaxaca, also quoted a portion of an invocation chanted by the *curandera*, Doña J., which included invoking *San Pedro* and *San Pablo*, as well as threefold repetition of "En el nombre del Padre, del Hijo, y del Espíritu Santo, la Santísima Trinidad." The rest of the canticle, which was softly but well sung, was

recondite to me. For me, the commencement and duration of the singing in Mazatec more or less precisely corresponded with my perception of the major effects, which were unfortunately very mild. I clearly felt the salvinorin A (major visionary principle of the leaves; OTT 1995a; VALDÉS 1994; VALDÉS *et al.* 1984) in my body, and had a decided augmentation of auditory perception, but no psychoptic effects *per se*. However, mild effects were still perceived until I slept, at about 1:00 am or 3:40 after ingestion. When I had answered that we were tired and the effects had diminished, the candle was again lit, and Doña HERMELINDA began to busy herself, preparing us a *metate* (woven reed-mat) in an adjoining hut, but we explained we'd rather return to our hotel, were quite capable of locomotion, shortly thereafter taking our leave. The following day, on the afternoon of Sunday, 21 June, we returned with a gift of a kilogram of rice, in hopes of questioning Doña HERMELINDA about the events of the previous night. Despite the language barrier, and the inconvenience of explaining our questions first to PIEDAD, who once laughed "¡Ay, mamá!" at the fact that Doña HERMELINDA discoursed at length on a topic apparently removed from her actual question, and given the equivocal nature of posing such direct questions on sensitive topics across a vast gulf of linguistic and cultural differences, we were nonetheless able to get some information. As to the fate of the *bagasso* (residue) of the infused *ska pastora*, we were told it was simply discarded, as opposed to being used as an offering. It had been reported (VALDÉS *et al.* 1983) that such leafen residue might be: "set aside to be discarded in an out of the way location where [it] wouldn't be defiled by people or animals." The *curandera* seemed to confirm that *la pastora*, as others have reported (VALDÉS *et al.* 1983), was the third in the trinity of Mazatec entheogens, preceded in order by the mushrooms (*Psilocybe* sp., especially *P. caerulescens* MURRILL, known in Náhuatl as *teonanácatl* or "wondrous mushroom" and in Mazatec as *di-shi-thó-ki-shó* or "sacred mushroom of landslides;" OTT & BIGWOOD 1978) and morning-glory seeds (*Turbina corymbosa* (L.) RAF., Convolvulaceae, known in Náhuatl as *ololiuhqui* or "round things"

and in Mazatec as *na-so-le-na* or “flower-her-mother,” and *Ipomœa violacea* L., Convolvulaceæ, called in Náhuatl *tliltliltzin* or “sacred black ones” and in Mazatec *naxru-le-natau* or “flower of the virgin,” in reference, not to the Catholic virgin as is widely supposed, but rather to the virgin who is appointed to grind and infuse the seeds, as well as the mushrooms or *ska pastora* leaves; REKO 1996; Wasson 1963). She told me that of the mighty mushrooms, it was the *di-shi-thó-ki-shó* which had primacy, and she seemed to hold *Psilocybe cubensis* (EARLE) SINGER (Mazatec *di-shi-thó-le-rra-ja*, “sacred mushroom of cow dung”) in lower regard than the indigenous species, as MARÍA SABINA also reported (WASSON & WASSON 1957A). Asked as to the preferences of her clients, she affirmed that the mushrooms were greatly preferred to *ska pastora*. C. had asked whether her perception were correct, that she had felt the song was at first directed toward me, then later toward her, and seemed to get confirmation of this. The general mood of the brief interview, prior to which we were again served *café de olla* followed by *sopa de pasta* and the delicious hand-made *tortillas* PIEDAD was making during the hour of our meal and while awaiting Doña HERMELINDA, who was entertaining relatives who had arrived with us from Oaxaca, was light and friendly, and Doña HERMELINDA was frankly delighted by our interest in her practice, and smiled broadly time and again. We left Huautla at 5:00 am the following morning, Monday, 22 June, and arrived in Xalapa 14 hours later, after an exhausting journey.

COMMENTARY

Of the six primary ethnographic reports we have of Mazatec ethnomedicinal use of *ska pastora* leaves, five refer to the preparation of aqueous infusions which were subsequently drunk, and two describe simply chewing the leaves. In the more commonly-reported case of the potions, three (DÍAZ 1975; VALDÉS *et al.* 1983; WEITLANER 1952) involved the curious technique we observed, of rubbing the leaves between the hands in water, which would appear to be the most archaic traditional method, also practiced

by the ancient highland Mesoamericans, inasmuch as BERNARDINO DE SAHAGÚN also described this method for preparing infusions of the related entheogen *Tagetes lucida* CAV., Compositæ, known as *yiauhтли* in Náhuatl (SAHAGÚN 1963), and still used as an entheogen by the Huichol (SIEGEL *et al.* 1977) and Mixe (LIPP 1991). Two reports (MIRANDA 1997; WASSON 1962) documented preparation of the potions by crushing the leaves on a *metate* (maize grinding-stone). The earlier of these, which led to the botanical identification of *ska pastora* (EPLING & JÁTIVA-M. 1962), cultivation and chemical study of same, culminating in the isolation of salvinorin A (ORTEGA *et al.* 1982; VALDÉS *et al.* 1984), not to forget the commercialization of the leaves in the United States, also described the practice in Ayautla simply of chewing the leaves, subsequently reported likewise from Llano de Árnica, where the leaves are piled atop each other in pairs, each having the superior surfaces of the leaves face-to-face, the whole then rolled into a cigar-like *taquito* for consumption (BLOSSER 1991–1993). The present report from Huautla de Jiménez constitutes the first ethnographic report of a shaman's singing a nocturnal *velada* following consumption of *ska pastora*, although this practice has been reported frequently in the case of the mushrooms (ESTRADA 1977; MIRANDA 1997; MUNN 1973; VAL, undated; WASSON & WASSON 1957A, 1957B; WASSON *et al.* 1974). It would seem that this present case involving the monolingual *curandera* Doña HERMELINDA, documents the most archaic and traditional form of the *ska pastora* healing rite among the Mazatecs, for whom this may nonetheless represent a post-Conquest innovation derived from the Náhuatl-speaking Mesoamericans, for whom the entheogen was known as *pipiltzintzintli* or “the most noble little prince” (OTT 1995; WASSON 1962). Rather than singing on the part of the shaman, other reports of Mazatec *ska pastora curanderismo* describe the *patient* speaking and telling the shaman the cause of the malady (WEITLANER 1952), or being exhorted to describe his visions to the shaman (VALDÉS *et al.* 1983). In one report (BLOSSER 1991–1993), quite in contrast to the expectation of the researcher, he was asked by the shaman to sing throughout the duration of the effects!

— JONATHAN OTT, Director of Applied Psychonautics,
PHARMACOPHILIA, V.O.F., Amsterdam, Nederland, 25 June 1998

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NOTES

1) Salvinorin A content is known to vary quite a bit. It is not currently known what factors will produce leaves with a high content, although there has been at least one subjective report that leaves harvested in the warmer months of the year are about twice as potent as those harvested in the winter (TURNER 1996). We have heard some subjective reports that leaves grown in Hawai'i are the most potent. If true, this may lend credence to the idea that warmer temperatures produce more salvinorin A. Although the average salvinorin A content is considered by some to be 2.5–3 mg per gram of dried leaf (SIEBERT 1997; VALDÉS in SIEBERT 1997; SAGE STUDENT 1998), we were informed of leaves harvested in México and sold by one specialty botanical company that seemed to have little or no effect on those who consumed them. However, we also recently heard of some Oaxacan leaves that, when extracted, contained a salvinorin A content of 3–4 mg per gram of dried leaf.

2) The idea that one's visions on *Salvia divinorum* might be shaped by their preconceptions of what will happen, or influenced by others, has been previously mentioned in the literature:

There is apparently an aspect of the *Salvia* intoxication that leaves the subject's mind in a receptive state. This was well documented in the second session when both subjects spoke out fairly continuously. Díaz began by describing plants and flowers. After he finished speaking Valdés began with a similar vision. When Díaz lamented his inability to see the religious figures described by the curandero, he apparently triggered off Valdés, who saw such imagery for the rest of the session and during the ride in the car. As Valdés described a castle, Díaz began to see one also (VALDÉS 1983).

3) In 1997 the ethnobotanical company ...OF THE JUNGLE split into two separate businesses: ALLIES (selling plants and seeds) and the BOTANICAL PRESERVATION CORPS (selling plant products/extracts, lab gear, and producing seminars such as the 1998 conference SKA PASTORA, LEAVES OF THE SHEPHERDESS: *SALVIA DIVINORUM* AND SALVINORIN A held in Oregon). Each new company's address is given in APPENDIX A.

4) The following has been suggested in *The Salvia Divinorum FAQ* (see page 192 for URL) as a way to "potentiate" chewed quids:

[Use] mouthwash! Do not add the mouthwash to the leaves. Instead, just before putting the quid in your mouth, rinse your entire mouth out thoroughly (for at least 30 seconds) with a mouthwash that contains both menthol and alcohol. Cool Mint Listerine® works well. This will noticeably increase the effect of chewed leaves. This effect makes pharmacological sense, as it is known that a mixture of alcohol, water, and menthol increases the permeability of mucous membranes to various drugs. Presumably it is increasing the rate of salvinorin absorption. It is possible that other ingredients in the mouthwash, such as eucalyptol may also be contributing to this effect. Another technique, which may be helpful, is to lightly brush the interior surfaces of the mouth with a toothbrush. This removes a layer of dead cells and consequently seems

to improve absorption. If you will also be using the mouthwash technique, it is probably best to do the brushing first (SAGE STUDENT 1998).

It certainly wouldn't hurt to try the above. Similar to what DEKORNE suggested, one could add baking soda to the mouthwash preparation. One could also use baking soda or a toothpaste containing baking soda when brushing the inside of one's mouth.

5) The suggestion to ignite the *Salvia divinorum* at the lowest possible temperature is not a good idea. It has been shown experientially that due to salvinin A's high melting point of around 240° C, a hot flame must be used if one wishes to achieve effects. One experienced psychonaut felt that, when vaporizing pure salvinin A, "The use of a micro-torch or 'jet flame' lighter is essential..." (TURNER 1996). And literature recently provided along with a potent *S. divinorum* extract that was available at an ENTHEOBOTANY conference in Uxmál México stated: "Since salvinin A vapor recondenses rapidly, it should be smoked in a pipe with a very short stem. A bong or waterpipe is not recommended. All of the material should be smoked in a single, rapid toke." (B.P.C. 1998). Nevertheless, people have had good success smoking dried *S. divinorum* leaf in a bong or waterpipe using a hot flame. While some of the salvinin A may condense on the sides of the bong or waterpipe, due to the large volume of smoke that these devices allow to be inhaled, one still gets a good "dose."

6) The vaporizer article that DEKORNE mentions (4/4: 1995, p. 2) describes plans for a pipe that uses an automobile cigarette lighter as the heating element, and it is said to work well only with "relatively pure crystalline materials." It might work okay with pure salvinin A, but if you have pure salvinin A you are probably better off heating it on a piece of aluminum foil and inhaling the vapors through a short glass straw. The article specifically mentions that this pipe doesn't work with dried *Salvia divinorum*, so we aren't quite sure why DEKORNE mentioned it. Back in 1995 there wasn't the glut of overpriced commercial vaporizers that are now available at "head shops" and through mail-order. BE FOREWARNED: most of these models operate using a modified soldering iron inside a big glass dome. They will not work well for *S. divinorum*. It would appear as though the salvinin A condenses rapidly on the inside of the dome, and not enough is inhaled to be effective. As well, most of these vaporizers are geared towards *Cannabis* use, and the heating element may not get hot enough to effectively vaporize salvinin A. The vaporizers that *have* been reported effective for use with dried *S. divinorum* leaves are those that use a paint stripper "heat gun" as the heat source. These get very hot, and people have reported that they work quite well—sometimes too well—for smoking dried *S. divinorum* leaves; we have heard of several people using this type of vaporizer who had experiences that were too intense, including one report of someone passing out. Measuring an accurate dose with these devices can be quite tricky, and they are not recommended.

7) The time-frame for effects of *Salvia divinorum* can be increased by chewing and retaining a quid rather than smoking it. As the effects come on

more gradually and last longer, people have found oral use to be more manageable.

8) Free-basing alkaloids (essentially what is being discussed here) makes them more lipid-soluble. “Crack” cocaine is formed when baking soda liberates cocaine as its free-base. When smoked, it produces rapid, intense effects. A point to remember, however, is that salvininorin A is not an alkaloid, it is a diterpenoid, and I am unclear about any reason that salvininorin A would be made more soluble through the addition of baking soda. But this does not mean that absorption might not be increased by some type of effect on the mucous membranes themselves, and it may be possible that making the mouth more basic somehow allows salvininorin A to absorb more quickly into the bloodstream through the buccal mucosa. I don’t know.

9) Tests performed on four of the BLOSSER “palatable” clones showed a range of 0.89 to 2.83 mg/g (average 1.73 mg/g), while tests of five WASSON/HOFMANN clones showed a range of 1.94 to 3.70 mg/g (average 2.69 mg/g) (GRUBER *et al.* 1999). This *very* limited data indicates that the BLOSSER “palatable” clones may be *less* potent, but due to the extremely small sample of plants tested it seems unwise to make this general assumption at this point—further testing of much larger numbers is required. As well, it is quite possible that environmental conditions may have more to do with salvininorin A content than genetics—further testing in this area is also needed. While early tests on material from different geographic environments showed little variation (VALDÉS 1994), more recent tests have shown that there was substantial variation in samples collected from different places (GRUBER *et al.* 1999).

10) HOFMANN apparently did not do any chemical analysis of *Salvia divinorum* (OTT 1993), and DÍAZ’ studies seemed to have focused on a search for the psychoactive component(s) in the plant, not liver toxins (which isn’t to imply that a psychoactive compound couldn’t be hepatotoxic). As the possible toxicity of *S. divinorum* remains unknown to modern science, it would seem as though the “well-known teacher of shamanism” that advised “R.R.’s” sister “not to try [*S. divinorum*] again” may have been operating out of a bias against entheogens, as opposed to having any real toxicity information. This isn’t to say that *S. divinorum* use is safe—it may not be. *S. divinorum* has been reported as containing loliolide, a chemical known to be a potent ant repellent (VALDÉS 1986). As well, furano diterpenoids from germander (*Teucrium chamaedrys*) are known to be hepatotoxic, and other terpenoids (such as thujone from *Artemisia absinthium*) have been implicated as being toxic. However, it seems likely that if one ingests the plant in the two primary non-traditional ways used by modern psychonauts, the low doses of salvininorin A that are ingested from smoking the dried leaves (a few hundred micrograms to a milligram) or chewing the leaves (perhaps five milligrams or so) wouldn’t pose much risk even if they were hepatotoxic. The Mazatec have used *S. divinorum* for hundreds of years—*eating* much larger doses—seemingly without any detriment to their health (although they may not use it as

often as some modern psychonauts do). It is worth pointing out that the *curandera* you refer to, CONSUELA GARCIA, was described by WASSON as “about 35 years old” (WASSON 1962), not 85, and by HOFMANN as “a woman of some forty years” (HOFMANN 1980). If the text of WASSON’S report that you read originated as a photocopy from ROSETTA, it is likely that due to the poor quality of the photocopy, you read the “3” as an “8.”

11) THC from *Cannabis* is not too soluble in water. Hence, when it is eaten, it must be dissolved in an oil or fat. Typically people who cook with *Cannabis* make “green butter” by heating their *Cannabis* in butter and then straining out the plant material by pouring the liquid butter through cheesecloth. Salvinorin A is also not too soluble in water, and I have seen a couple of reports on DANIEL SIEBERT’S *SALVIA DIVINORUM* E-MAILING LIST that stated that smaller doses of *S. divinorum* (“four leaves”) pan-fried in butter were psychoactive. However, there were also a number of reports of only “minor effects” or “no effects” from leaves prepared this way. To test out the idea that leaves cooked in oil *and* emulsified may be a more potent method of oral consumption, I performed the following experiment:

Ten fresh leaves (25 grams) were chopped up and put into a blender along with three tablespoons of vegetable oil and one tablespoon of liquid lecithin. The resulting oily paste (looking like pesto) was stored in the refrigerator for 48 hours until I had time to perform the experiment. At 12:00 pm I heated the mixture for one minute in a microwave, and then ate it. After about 20 minutes I appeared to notice a slight “warming” feeling throughout my body, and my head seemed a little cloudy. After 40 more minutes, no additional effects manifested. After 1.5 hours total, I determined that the first alert of “effects” was false. Since I would have undoubtedly gotten effects from the same amount of leaves chewed and retained as a quid, further experimentation with this method of ingestion strikes me as a waste of time and leaves.

12) DMSO has been used successfully with sublingual applications of pure salvinorin A (OTT 1995a). However, it may not be wise to use with ground leaves or crude “kitchen” extracts, as unwanted plant constituents might absorb into the bloodstream along with the salvinorin A. Nevertheless, we have heard of some successful experiments using a defatted extract with DMSO. Purity of the DMSO may also be a concern, and one should never use DMSO that isn’t pharmaceutical grade. This can generally be found sold at health food stores. DEKORNE’S concern about possible overdoses using transdermal application should not be dismissed, and more information on methods of weighing or “dosing” pure salvinorin A can be found in NOTE 2 on page 99.

HYPERSPATIAL MAPS



I had no notion that I was in México, that I was with my Mazatec friends, that I had eaten this plant, that—believe it or not—that I had ever had a body, or that I ever would have a body again.

— BRET BLOSSER
“*Salvia divinorum*”
(1994)

SALVIA DIVINORUM FEEDBACK **(3/4: 1994)**

I smoked a small amount of dried *Salvia divinorum* in a waterpipe—slightly more than one good hit, $\frac{1}{4}$ to $\frac{1}{2}$ of a teaspoon *maximum*, and in a moment I felt like the floor fell away from under me. In seconds, I was peaking on the equivalent of a several hundred mcg LSD trip, higher than I'd been in *years*. I spent the next half-hour sitting on the bed, holding onto my mind. Then I rapidly came down. This gives me some idea of what DMT must be like. *Definitely* something to approach with respect. Side-effects included heart-pounding as it came on (blood pressure elevation, probably), and several minutes of uncontrollable shivering as I came down. When they discover you don't even need to extract the active principle, they're sure to outlaw *S. divinorum*! It is not something I'd recommend for casual use. I can't see it (or DMT, for that matter) becoming popular—it's too overwhelming an experience. Still, the brevity of its action is appealing to someone as busy as I am—too busy to set aside a day to trip and a day to recover. And it's easy to grow (keep it humid, don't let it freeze), is very potent, and requires no extraction.
— B.D., CA

EXCERPTS FROM SEVERAL SALVIA TRIPS (3/4: 1994)

I have been turning all my friends on to smoked *Salvia divinorum* leaf. Some get off pretty good, others hardly at all. I am very sensitive to it, as I am with most things... Dream images of myself were leaving my body and floating around the room. I remember thinking that this is a very strange form of insanity. I should avoid doing this again for a while and allow myself time to reintegrate. This may be the most powerful thing I have ever encountered... *S. divinorum* seems to completely shatter and break away all internal barriers to other points of view; I appeared to be viewing my own reality of "self" from external multiple spatial vantage points, all simultaneously. It was like being in a house of mirrors, but the reflections were more profound than mere images—it was more like reflections of essence... An extract of the dried leaf seems like a waste of time and effort as it is already more powerful than I want it to be. Not more powerful than smoked DMT, but equal to it. The two are qualitatively different... I definitely felt the "fear of God" within myself today. — B. GREEN, NM

MORE BIZARRE SALVIA TRIPS (5:1 1995)

I crumbled two dried leaves of *Salvia divinorum* that were about 5 cm long (not including the stem) and 2 cm wide, and put them in a waterpipe. [Author does banishing, cleansing ritual, listens to meditation music for 20 minutes, then takes two large hits from the pipe. Within ten seconds his reality has altered profoundly.] I felt like and saw myself as a tree. Branches began growing out of my body, filling up the room, and I felt and saw my roots growing all over the floor and out beneath the door. I was totally caught off-guard by this, and stood up. At this point I could no longer remember if I had smoked anything, or if my mind had

just flipped on me. My room had turned into artwork from *Where the Wild Things Are*, a kid's book by MAURICE SENDAK. The room was a garden of geometric twines and leaves from my own body. What amazes me even more is that I experienced something that I have *never* experienced on any other journey; entities! They were small (hand-sized) creatures, and they were walking along my vines going about their business and laughing, or maybe just grinning from ear to ear. I was too overwhelmed to note more detail of what they were wearing, if anything, or to really even describe them much further. As strange as it may sound, one was pushing a wheelbarrow along one of the vines while smiling at me.

Then the visions passed away and I was back in my room, feeling a plus-1. My legs felt like limp spaghetti, and I was shaking. I suddenly remembered smoking the sacred herb and wrote down the following: "I feel like smoked bacon bits. More sudden and intense than LSD. So strange and alien, but it feels like I've been here before, and I'm comfortable with it. Strange!" In fact, it did feel as if the foreign garden landscape had been a place that I knew in some way. The intense effects lasted maybe 5 minutes. I don't remember the time because it didn't matter in comparison to the magnitude of the experience. [*Author had taken a hike in the woods earlier in the day and had been drawn to some oak trees. During the hike and throughout the day he drank a quart of HEINKE NATURAL PINEAPPLE DRINK, which contained mountain water, white grape juice, and pineapple concentrate. He speculates that perhaps the juice affected serotonin levels in his brain, since the potency of the experience was far greater than any previous Salvia divinorum trip. He closes the narrative with:*] Intuitively, I would like to check out the use of pineapple juice in conjunction with *S. divinorum* a bit more when the time is right. — ZEMEN, CA

RESPECT FOR THE GODDESS (5/2: 1996)

Among several indescribable, ineffable experiences with *ska Pastora* (*Salvia divinorum*), or as I like to call her, “diviner’s mint,” there is one that still stands out. We had smoked 4 or 5 bong hits of increasing size over a two-hour period along with some *Cannabis* and a couple of beers. The friends with me were both *santeros*, members of the Afro-Caribe religion known as *Santeria* or *Lucumi*—both familiar with what are considered spirit possessions. “R” had smoked *S. divinorum* with me once before, but “F” had no experience with any entheogens other than *Cannabis*. His first hit transformed him immediately. At first he said that his “spirit” was near, but soon said that it was the spirit of the plant, that the plant is a spirit and a female one at that. He then, in a very authoritative, transformed voice declared *S. divinorum*’s sacredness, that she must be treated with respect and reverence. “This is nothing casual.” And how I agree! My last hit enveloped me in the now-familiar vibration of *ska Pastora*—I lay back and dissolved, but soon had the sense of being elsewhere, in some other room, laid out on another couch with different people around me. In this parallel world I felt catatonic or cut off, unable to move or speak to the familiar strangers around me who were seemingly concerned about me. I felt like I knew what it’s like to be in a coma. I feared for my sanity, then remembered that I’d just smoked some diviner’s mint in a friend’s living room in another dimension. The impression was truly scary—I wasn’t sure which dimension was real, wasn’t sure if I could find my way back. So I opened my eyes to see my friends still there, and asked, totally serious, “Are you guys still there?” Getting (I thought) no response, I leapt to my feet, looking down at my legs to move them and test if I was still in my body. Well, I was still there (here) and sat back down trembling, and described the experience to my friends. I have smoked *S. divinorum* since, but not frequently as she really does demand respect and reverence. — K.K., NJ

“SYLVIA” DIVINORUM (5/2: 1996)

On a *Salvia divinorum* trip recently, one of my companions reported lapsing into a dreamy state and meeting a woman—who referred to herself as “Sylvia” *divinorum*! — M.H.

MORE SALVIA DIVINORUM LORE (5/4: 1996)

In 1993, when I sent my book *Psychedelic Shamanism* to the publisher, I included a few paragraphs about *Salvia divinorum*, saying in essence that my experiments with this plant had been inconclusive. Over a period of a year or so I continued to try to elicit an effect (any effect), via both ingestion and smoking, but never succeeded. Eventually, I came to believe that this was one of those substances (like Scotch broom or banana peels) that depends on a very active imagination for whatever experience you get out of it. (Some people can get high on anything!) Frankly, I thought the whole thing was a myth, though I always prudently prefaced that position with such caveats as, “In my opinion,” and “It seems to me...”

Then at the 1995 TELLURIDE MUSHROOM FESTIVAL, a friend insisted that I try *Salvia divinorum* at least one more time. Not wanting to be ungracious, I agreed; expecting the usual nothing. He filled a large tobacco pipe with dried *S. divinorum* leaves and told me to take three deep inhalations, lie down, and close my eyes. I did this and immediately forgot who I was and became “Awareness” itself, without any sense of personal identity—quicker than it takes to tell about!

This “not-me” was observing a strange, pastel-colored dimension bounded by a complex series of intricately-patterned walls. There was a sense of people present from

another era; perhaps religious pilgrims from CHAUCER'S England. "Awareness" felt totally at home in this dimension; it was very familiar—a place experienced millions of times before. After a while, "Awareness" became conscious of someone laughing, and slowly transformed back into my ego-consciousness. "I" opened my eyes to discover who was laughing; it felt highly inappropriate, and "I" was irritated by it. As soon as "my" eyes opened, the other dimension instantly disappeared, and "I" discovered that "I" was the person who was laughing! This autonomous laughter was laughing me, rather than otherwise, and it took considerable effort to finally control it. What was most bizarre was the fact that nothing was funny; indeed, the whole ambience, although not exactly "reverent," had a profound sense of the numinous about it. High weirdness indeed!

Since that amazing first experience, I have had several *Salvia divinorum* trips, each one equally bizarre. During one session, for example, I found myself standing on a perfectly flat, perfectly smooth, orange plain with black perspective lines stretching to the horizon. Standing like statues in long rows between each line was an infinity of identical black and white FELIX THE CATS! (Talk about surrealism!) Each experience has had the same uncanny feeling of familiarity about it, as well as the conviction that one is accessing a distinctly separate dimension of reality; *S. divinorum* is the most "dimensional" drug I've ever experienced.

It is just part of this plant's weird ambience that many people won't get off on *Salvia divinorum* the first (or even the tenth) time that they test it. Don't give up—it is well worth the effort to keep trying. Smoke the dried leaves in a large tobacco-sized pipe or bong; the smoke is not harsh and is easy to hold in the lungs. Take at least three deep inhalations, and lie back with eyes closed. The room must be dark and silent; any external input seems to prevent the experience from manifesting. Like DMT, smoked *S. divinorum* is usually a short trip; maybe ten or fifteen min

utes. If you can manage the bitter taste, another method is to chew and hold the leaves in your mouth for as long as possible. This can result in a trip lasting up to an hour. *S. divinorum* compares in weirdness to DMT, but is strangely subtle—a true paradox! (One needs to experience it to know what I mean by that.)

Most people report that *Salvia divinorum* evokes a female presence; a goddess, if you will. Although I've experienced this only a couple of times, I concur. There is a definite feminine force connected with this plant, and what is more, she demands respect! Although none of my experiences have been exactly terrifying (like smoked tryptamines can be), few people ingest *S. divinorum* very often, or for frivolous purposes. Salvinorin A (the pure extract) is challenging for anyone and should never be done without a sitter present to protect the smoker. Beware of overdoses!

Although this is one of the world's rarest plants (in nature it grows in only a tiny area of México—a few square miles), it is easily propagated via cuttings and many thousands of clones now exist world-wide. *Salvia divinorum* loves a moist, humid (though not hot) environment, and many people grow it in plastic tents, where the plants usually thrive. In my experience, the only drawback to this technique is that once acclimated to the tent, the plants don't easily transplant outside of it again. They wilt quickly and are difficult to take cuttings from. (This may be a function of the arid climate I live in and might not apply in other areas.)¹ I've achieved lush growth by opening a bottle of ordinary club soda inside the tent; as the CO₂ evaporates from the soda-water, the plants quickly eat it up. Carbon dioxide, as indoor *Cannabis* growers know, is an extremely potent "fertilizer." Leave the bottle inside the closed tent for at least 24 hours to ensure that the plants absorb all the CO₂.

I feel that we can learn a great deal from this plant, that it is potentially one of the most useful of the teaching medicines available to humankind. I'd like to hear from people

who have learned how to use *Salvia divinorum* ritually, since it is definitely associated with a goddess-entity. *S. divinorum* is the only plant medicine that I know of that is so consistent in this regard; I sense that she is just waiting for enough people to contact her so that she can impart some of her wisdom to a world that sorely needs it. — JIM DEKORNE

SALVIA AND SOLIPSISM (5/4: 1996)

Salvia divinorum has a very personal way of teaching. You could easily misunderstand it and think that she's a trickster when, in fact, with all her demonstrations of reality-destruction *S. divinorum* tries to bring you to the only conclusion left: reality doesn't exist! I start with half a teaspoon. At once I'm disintegrated, as I'm now used to. I had auditory hallucinations—nothing important; the voices of far away neighbors. I next go with a teaspoon; again reality, personality, everything explodes. I feel as if I am flying, feeling myself rolling up like a spiral. Subsequent doses bring the same explosion; how can I describe such an alteration of my usual perception? I'm perception and that's all. All of us are nothing more than perception itself. There is no such thing as an external world or reality. When I was back to ground-state, I thought about the horror I had of being the only real living being. I don't really believe in solipsism, but it's impossible for you to convince me of your reality—that you have a life independent from mine. Nevertheless, I have to dismiss this idea and jump to a new conclusion: I was real because I was smoking *S. divinorum*, because I was using an entheogen that gave me energy enough to acquire reality—which means that usually, we don't exist; we're just ghosts. When you develop spirituality, you start to acquire reality. — H.S., France

SALVIA AND THE GITA (6/1: 1997)

My initial experiences using *Salvia divinorum* orally were very dark in nature and uninviting. Strange, twisted imagery lashed out at me. For the first time, I actually felt the presence of a plant spirit (and a hostile one at that). For some reason the Shepherdess wouldn't allow me to pass into higher levels of perception. My goal was to commune with God and to completely face the true nature of reality. (I've been reluctant to completely accept reality as it is. I use entheogens to expose myself to the Truth, and each time I try to face it more and more.) I felt that maybe I wasn't approaching the Shepherdess with enough respect; perhaps if I was more respectful then she would use her strength to carry me to the Infinite. So I approached her with all the reverence and respect I could muster. And to put a little icing on the cake, I visualized huge multicolored, lotus-like flowers saturated with positive emotions and offered them to her. I did it as honestly as I could, and it didn't change a thing. She violently snatched the flowers out of my hands, and the trip remained dark and disturbing. I must have done something wrong.

My intent was pure, and my respect for the Shepherdess was not lacking. Two passages from the *Bhagavad Gita* came to mind:

Those who worship lesser gods, O Arjuna, they go unto them; My devotee comes unto Me. (VII:23)

Absorb thy mind in Me, become My devotee; resign all things to Me. Thou art dear to Me, so in truth do I promise thee: thou shalt attain Me. (XVIII:65)

My folly became clear. During my trips I was worrying too much about the vehicle (*Salvia divinorum*), when my attention should have been completely focused on my destination (God). I applied this approach to my next *S. divinorum* trip. I paid no attention to the Shepherdess and her

imagery. Without faltering, I focused my heart and mind completely on God. The results were amazing. The Shepherdess opened the channel with feminine grace, and the trip became an interaction between the universe and myself. I've applied this approach several times since and have achieved the same results. A good source for more details about this approach is the *Bhagavad Gita*. The clearest and most helpful translation and commentary on the *Gita* that I know of is the one by PARAMAHANSA YOGANANDA. It's available worldwide from the SELF REALIZATION FELLOWSHIP, 3880 San Rafael Avenue, Los Angeles, CA 90065-3298, USA. — D.D., CA

SALVIA AND MUSIC **(6/1: 1997)**

Some reflections on smoking *Salvia divinorum*: At times I forego the rule of silence, while keeping the idea of darkness. I have experimented with "trance" type music with and without headphones—quiet ambient tracks work well. I smoke while the music plays—the music changes as I'm carried along and/or out. A strong hit can lead to the total disappearance of the music, but it somehow seems to remain the vehicle you rode in on. On smaller hits the change in the music is phenomenal. Of course, this may not be for "purists" (whoever they are), but I promise it's potentially fascinating.

Another aspect of *Salvia divinorum* that repeats in my experience—and which I've yet to grow comfortable with—is mentioned by BRET BLOSSER on his excellent cassette for the B.P.C. (see page 200). This is a sense of no return. It seems I'm there for good. BLOSSER, who chewed fresh leaves with a Mazatecan shaman, felt that the shaman had "led" him to a dimension where he would permanently reside—that the world had been changed (for him) forever. Whereas BLOSSER felt comfortable with this idea (perhaps due to the presence of a shaman), I have yet to get over what seems a panic reaction. This leads me to search for my body. I get

up, or walk about or move my hand in front of my eyes to make sure I'm there! Perhaps (as TERENCE MCKENNA says) my "hind brain" needs some taming.

Concerning DEKORNE'S comment on "people present from another era" and HAWK'S sense of other shamans present, another aspect of my experiences with *Salvia divinorum* is this sense of presences (not visual). Whether they are fellow travelers, plant spirits, or dead souls, *etc.*, I certainly can't say yet (if ever). Other shamans? Not being one myself, it remains hard to say. I recall the first time I sensed presences. It was as if they (it? she?) were saying, "Okay, here you are. What? Show us something." HAWK'S "new kid on the block" description fits to a tee.

I have often felt compelled to open my eyes and locate myself in normal space/time, as if this were necessary to the work one can learn to do with *ska Pastora*—or maybe I'm just trying too hard to control it. (Or maybe that's the point!)

One more thing. Twice now on mushroom trips in total darkness while struggling through difficult emotional straits, I have sensed (not seen) the presence of a housekeeper (now ten-years dead) who took care of me when I was a child. She obviously comes to protect me and explains this, not with words, but with her powerful comforting presence. I feel I can call upon her for help any time I'm in trouble in dangerous dimensions. The second time I actually heard her name (first, middle, last) spoken loudly as soon as I sensed her presence.

How can I put this? I've never considered myself a great visualizer, so "presences" seem to always make themselves known through my thought processes and emotions, and this seems natural for me. — K.K., NJ

MORE SALVIA LORE **(6/1: 1997)**

I placed two 3-inch *Salvia divinorum* leaves in a microwave oven and dried them about three-quarters from fresh. Balled-up and smoked in a metal pipe, the experience was a mild pulsing—Ch'i perhaps. Four 3-inch leaves, dried to a crisp in the microwave oven, crumbled and smoked in a glass pipe... I became baffled. I lay the pipe down (not knowing what it was for) and started for the couch. Half-way there, everything started swirling with color and design. My whole body pulsed and flowed—ten times more than the first experience, with complete awareness. The visuals and “life-energy awareness” (or whatever it was) lasted about ten minutes, with a mild afterglow for some hours. All smiles—a “clean-as-a-whistle entheogen.” The third experiment using a glass bong was greater than the first trip, but not as intense as the second.

Salvia divinorum forces you to take cuttings or it will fall over because it grows so fast. With a 6-inch cutting, some plastic bags and duct tape (for a humidity tent), a little dirt and a lot of water, anyone with a little plant sense could be a daily smoker. (I don't know if that's safe, but I've never had any negative side-effects after nine months.) Is it true that salvinorin A breaks down in 24 hours? — ANONYMOUS, MN

In my experience, Salvia divinorum leaves keep their potency indefinitely, even without refrigeration. — JIM DEKORNE

SALVIA DIVINORUM **AND DIMENSIONAL COLLAPSE** **(6/2: 1997)**

I regard this article as an exceptionally fine portrayal of a series of experiments. It is always difficult to describe altered states of awareness, and this author does so admirably. — JIM DEKORNE

I became interested in *Salvia divinorum*: A) because it is legal, and: B) having read D.M. TURNER'S book *Salvinorin: The Psychedelic Essence of Salvia Divinorum*. My curiosity was stimulated further by conflicting reports on the Internet (and in TURNER'S book) as to the effectiveness of smoking the dried leaf. Here I share with you several of my own experiences smoking the dried leaf of *Salvia divinorum*, obtained via mail-order from the USA. I can confirm that this method of intake of the psychoactive component of the plant, salvinorin A, is effective and can induce anything from a mild buzz to an exceptionally bizarre, but mercifully short-lasting experience.

EXPERIMENT 1

Set and setting: Alone, TV on, relaxed, sitting upright in a well-lit room. I fully expected nothing to happen, according to my experiences with home-made ayahuasca! I decided to smoke the *Salvia divinorum* through a bong, but the small size of its bowl posed some problems. Thus, approx. 0.15 grams of crumbled leaf was divided into three piles, intended as three "hits." Each hit was loaded, flamed, inhaled, and coughed out in quick succession. Effects started to come on rapidly and it was only with difficulty that I was able to replace the bong on its shelf next to my chair.

What followed was about five minutes of strangeness that I can only describe in terms of the folding of space about me. It seemed as if space above my head, beneath my feet and about my midriff collapsed, so that I found myself in an "X-shaped" universe. My body warped in shape to conform with this new equipotential surface and when I tried to walk six paces to my kitchen door I had to waddle the distance, arms and legs akimbo, like some X-shaped cartoon character! There were no visual or auditory distortions at all and I retained a conscious awareness of the experience. A period of blissful immobility followed my return to my seat. It felt as if my body had been threaded with invisible fibres penetrating from without, and sus-

pending me as if in a three dimensional web. I distinctly felt a ribbon-shaped thread passing through my chin and up through my tongue, palate, brain, and out the top of my head. This soon wore off and was followed by half an hour of lassitude. The TV noise became very irritating at this time, but I could not be bothered to switch it off.

Verdict: An extremely novel experience, but not particularly uplifting or edifying at the time (insights tend to come later on reflection, as the experience itself is so short). Interesting weirdness, nonetheless.

EXPERIMENT 2

Set and setting: Alone, relaxed, sitting upright in a well-lit room. This time I thought I would smoke a smaller amount, as one single toke from a small hash pipe. Accordingly, approximately 0.05 grams were combusted and inhaled, without coughing. Effects were minimal, a “buzz” similar to that of nicotine for a first-time smoker, although less pleasant.

Verdict: Dose too low (a waste of time).

EXPERIMENT 3

Set and setting: Alone, relaxed, sitting upright in a well-lit room. I decided to see if I could extract salvinorin A from *Salvia divinorum* leaves and smoke it neat. Thus, 1 gram of crumbled leaves were soaked in pure ethanol and were magnetically stirred for 6 hours. After filtration, the ethanol was evaporated to give a small quantity of green goo, which I expected to contain ~ 1 mg salvinorin A. This goo was divided in two (to provide a dose of ~ 500 mcg) smeared on tobacco and smoked in two tokes from a hash pipe. No effect was detected above that of a mild nicotine rush.

Verdict: Salvinorin A is not soluble in ethanol.²

EXPERIMENT 4

Set and setting: With a friend, relaxed, sitting upright in a dim room. Having heard that *Salvia divinorum* leaves are sometimes rolled up into joints for “extra effects,” I decided to try this. Approximately 0.2 grams crumbled leaves were added to an amount of tobacco and hashish sufficient to fill a cone-shaped joint four inches long. This was then smoked in the usual way, shared between two people.

This admixture definitely altered the experience one would expect from smoking tobacco and *Cannabis* alone, but not in a positive way. The uplifting mental effects of the *Cannabis* were erased and the “stoning” effects intensified. What I had prepared here was a joint with almost narcotic qualities.

Verdict: Not an entheogenic experience. Obviously if *Salvia divinorum* is smoked too slowly (*i.e.* over minutes rather than seconds) it merely acts as a sedative. Not worth repeating.

EXPERIMENT 5

Set and setting: Alone, relaxed, sitting upright in a well-lit room. I had just been inspired to try a more adventurous dose by reading the latest excellent issue of *The Entheogen Review*. Thus, I attempted to prepare myself beforehand with some meditation.

It seemed to be that since *Salvia divinorum* must be smoked very rapidly for its effect, I was hampered by the small sizes of the bowls of my bong and hash pipe. Thus, I dug out of retirement my SHERLOCK HOLMES pipe—large enough perhaps for the most intrepid psychonaut! I originally intended to try 0.3 grams of crumbled leaves, but this didn’t fill the bowl. “What the Hell,” I said to myself, weighing out an additional 0.1 grams, for a total dose of 0.4 grams. [*The road to hell is paved with “what the hells!”* — JIM DEKORNE] My intent was to then smoke the stuff in two large

puffs, put down the pipe, and then activate my stopwatch in order to more properly time the experience. I never got to hit that stopwatch!

Instant annihilation! In a flash, my self-awareness vanished, sensory input ceased, all memory of who I was or what I had done was gone. Most chilling of all though, the third dimension collapsed to nothingness and what perception was left to me experienced a bizarre and frightening two-dimensional universe. I became an image plastered against a wall of whirling lights, feeling the weight of the collapsed dimension crushing me flat. Worse, the membrane I was confined to was being violently distorted. I could feel an incredible tension pulling my head and left arm one way and my pelvis and legs another, like I had been reduced to a drawing on a rubber sheet and then yanked and twisted out of shape. Some self-awareness started to leak back at this point, but it felt curiously sheared (the only word I can use to describe it) and profoundly confused. I still didn't know who I was but I became integrated enough to know what I was (I was a person, profoundly lost, and in desperate need to get back to where I came from). I could now see the room again, distantly through the membrane and realized that my top half was being pulled towards the front door and my bottom half towards the living room window. I panicked (the first time ever on an entheogenic drug) and made a supreme effort, by forcing myself to flow across the membrane, to get out of that door!

The next thing I knew, I was standing in the corridor outside my flat. Cool air flowed into my lungs and, with a couple of breaths, my identity and knowledge of what I had done to myself returned. I babbled some curses about my stupidity, thanked God that no neighbors had seen me, and turned back to my front door. It was closed and locked. How the hell I got through that door I have no idea. My keys were in my pocket and so some autonomic program within me must have unlocked the door and pulled it shut afterwards. Now my consciousness was back, I shakily

pulled out my keys and let myself back in. The third dimension was inflating again, but in an irregular way. I found myself staggering through a non-Euclidean space similar to that experienced in my first experiment. I tried to “walk off” the effects but knocked over a jar in the kitchen. This was not safe so I laid down on the floor and closed my eyes. There were fuzzy lights there, but I couldn’t concentrate on them. The next thing I knew, the phone rang. By the end of the call I was more-or-less back to baseline.

As to the after-effects: For about fifteen minutes after my “return” I felt severely shaken; but then for a couple of hours after that, remarkably calm and mildly euphoric.

Verdict: Salvinorin A is an incredibly powerful drug and if you smoke enough *Salvia divinorum* leaf, its power will blow you away. I can quite understand why D.M. TURNER says that even DMT aficionados, when given salvinorin A for the first time, can feel as though somebody has played a bad joke on them! On no other entheogen have I felt such amazing warping of space, or witnessed an entire dimension crushed out of existence! (Is this commonly reported?) It’s a good thing the experience is so short-lasting, as I found it exceedingly unnerving. For me, it is upon reflection that the experience has its benefits. On other psychedelics, I find that, even if one’s ego dissolves, a disembodied consciousness remains that can appreciate and gain insight from what happens, as it happens. This *S. divinorum* trip wiped even that clean for me. I shall be very cautious about trying such a dose again, as it would be very easy to injure oneself. The next time, I think, I shall fill ol’ SHERLOCK’S pipe just half full, with 0.2 grams and perhaps try potentiation with LSD, as described by TURNER. — M.F., England

SALVIA 2 (6/2: 1997)

Some readers wonder why I devote so much space to Salvia divinorum in ER—the reason is because this is possibly the most potent entheogenic plant on the planet, and amazingly enough, still unscheduled. Although many people claim to get no effect from smoking it, with enough persistence almost everyone experiences a reality so alien to normal consciousness that it demands serious investigation. We're dealing with the frontiers of human knowledge here: possibly the psychological equivalent of quantum physics. — JIM DEKORNE

I am most impressed with the “sheer brute strength” of *Salvia divinorum*. Initially, I smoked a pipeful after meditation in the evening with no appreciable effects other than some closed-eye visuals. Around 10:00 am the next day, I tried again with a waterpipe with a $\frac{3}{4}$ th-inch bowl tapering to the base. I filled it halfway with hand-crushed *S. divinorum* and cleared the pipe in one hit. The only effect was the feeling in my shoulders as if someone were trying to put their arms around me. The second inhalation, another half-bowful, knocked me into such a state of non-self and multiple realities that perhaps ten minutes passed before I was aware that there was a long-extinguished waterpipe on a table in a room of some kind of reality that I was possibly never leaving if I didn't move to my right as soon as possible! This importance of moving was my first thought within the space I was occupying, but I don't know if my self changed or if reality changed: that's how I best sum up the “dimensionality” of *S. divinorum*.

At this point I felt forced down toward the floor. I remember muttering: “Yes, yes, yes,” to someone or something on my right, impressing on me (with a force of about 4.5 on the SHULGIN scale!) the importance of moving. [*Author is aware that the SHULGIN scale only goes to 4!* — JIM DEKORNE] My reality at this point appeared to be in layers: like sheets of peeling wallpaper. On either side were gaps in the layers, and at some point the presence wanted to somehow

“fold” the reality where I was seated, thus the importance of moving! Looking to the right, all I could see was a scaled, reptilian surface—like horizontal stacks of scaled tentacles. I was barely able to move, and was sweating profusely. All the edges of objects in the room were rounded and scaled and there was a mistiness to everything although my eyes were open at 10:00 am in a sunny room! It seemed to please the presence that I was finally able to move to the next room. Where I’d been seated was now very “shimmery,” as if seen through a shower door. The area around me was pitch black (again, at 10:00 am)! Now it was communicated that I should return to the spot I’d been sitting in if I ever wished to return to everyday reality. I crawled back to the living room and began repeating the date out loud several times, a spur-of-the-moment centering technique based on the idea that if I knew what day it was, I could find my way back!

I hope everyone takes due care with *Salvia divinorum*—I would have been arrested had I smoked it in a public place. I can only imagine what shape humans would take in *S. divinorum*’s reality. The instinct to move about is a fascinating commonality in *S. divinorum* accounts. I wonder if others have had my experience that reality was folding—a pinch-point no one should get stuck in! Thank you for your work, so that such powerful experiences can be endured and shared. — J.L., IL

ORAL SALVIA (6/2: 1997)

The following insights on combining entheogens with spiritual practice are useful. The substance here consisted of only 4 large dried Salvia divinorum leaves that had been rehydrated for oral ingestion. The author, experienced in Vedic meditation, states that his sensitivity to entheogens has increased dramatically since he “became fanatical about [his] spiritual development.” He does not say if the leaves were swallowed or held in the mouth, but it was probably the latter, since this is more effective. — JIM DEKORNE

I slowly relaxed into the “pull,” being careful to keep my focus reverentially on God to avoid getting stuck in the subconscious realms (the dream-like lands of elves, aliens, and like phenomena) and to avoid being emotionally thrashed. I was led beyond involvement with the play of opposites. I saw a huge, concavely curved wall in flux between liquid and solid, composed of pockets of thought forms all neatly fitted together. My body and bedroom were a tiny part of this wall. As I opened my eyes the room came into existence via ripples of clear light emanating from the Self.

The ultimate black-hole demon, Fear, tried to drive me back into the lower states of consciousness, but I’d already transcended attachment to the dualities. Fear was a mere idea in my mind, having no independent power. As the experience ended, I had to fight off Pride, who came to claim the victory for ego. I offered the victory to its rightful owner: God. — D.D., CA

MORE SALVIA WEIRDNESS (6/2: 1997)

A reader describes a *Salvia divinorum* trip in which an infant girl sleeping in an adjoining room would awaken every time the substance was smoked. Ambience of these experiences suggested that definite “presences” were hovering nearby, and that the baby was picking up on their energy. — JIM DEKORNE

SALVIA “FLYPAPER” (6/4: 1997)

I am still trying to integrate my first encounter with *Salvia divinorum*, which was the most bizarre happening of my life. Has anyone experienced a huge “bionosphere” approximately 25 feet in diameter, like a big bubble that tries

to suck you into itself? I panicked big time; the gluey, magnetic pull (a greenish translucent force-field), which appeared to come from outside of myself, felt like trying to remove myself from flypaper. I became paranoid until I entered the center of the sphere. Whenever I tried to move away from the center in any direction, it immediately sucked me back. Good thing it only lasted a few minutes. I have lots of theories, but no conclusions! — R.M., DE

SALVIA DIVINORUM ENTITIES **(7/1: 1998)**

I just recently had the opportunity to try *Salvia divinorum*, and have found it to be the only entheogen that consistently propels me into entity-contact experiences after smoking.

FIRST ATTEMPT: Drank two quarts of kava drink (about a $\frac{1}{2}$ cup powdered *waka*-grade root). I decided that the relaxed state would be a good launchpad for the *Salvia divinorum*. I tried to smoke 1.75 grams of dried leaf in a gravity-type bong (bucket bong). The bong was too much trouble to operate smoothly enough to smoke the *S. divinorum* effectively, but I caught a glimpse of the experience.

Three entities, maybe more. One was a woman, and the others don't stand out as well. They said my name and then something like, "What are you doing here? You're not supposed to be here (now?)." Then they were like, "Oh well, let's just do it!" and they began pulling and stretching me into three sheets of color, side-by-side; red, orange, and yellow. There was a unique vibration as it came on, and during the experience.

SECOND ATTEMPT: Used a waterpipe, trying to consume and hold as much smoke as possible. There was no pins-and-needles feeling like the first time. I felt two helping hands, two separate human-like (African-American?) entities laid me down and helped lay the pipe and lighter down. They

knew me and my name. There were also these entities (not human?) made of color doing something together and pushing me away from the area—like I wasn't supposed to be there or see what I was seeing. They kept trying to convince me to not pay attention (I felt as if something important was going on and I was being made to sit back in the corner so I wouldn't see too much).

Second bowl: Immediately after coming out of the trance. I'm in a different world and body, not clear. There is a woman in the room with me who is talking, but I can't remember her words. The whole place just starts spinning (gyroscopically?); spinning and turning inside-out, always at 90 degree angles to each other.

Doors open into rooms into more doors into more rooms; insanity—pure madness!!!! Will I ever get back to where I was? The room is alive; things that are inanimate and flat take on life. Two dimensional life—DISNEY-like where a whole house is a living being made up of lots of separate living parts.

I came out of the trance still unsure where I was or who I was and flung my bedroom door open screaming out loud, "Is this it? Is this the real room?" I thought the whole place was going to turn inside-out again, but soon realized I was back in my usual mind-set and coming down very fast as one does from a good hit of smoked *Salvia divinorum*.
— N.E.

SALVIA SAUNA SANGHA **(7/3: 1998)**

I had a truly extraordinary encounter with *Salvia divinorum* and my sauna sangha—a group of four guys who meet once a month to sauna and probe the outer limits. We've done *S. divinorum* together pretty regularly, and appreciate it highly. But this time, something different happened. We were sucked into another reality together. Someplace

that isn't here, but is where we also live. I smoke it alone, and have tried this experience myself—but it was our common perception. I wish I could describe it better, but I don't know how. After we drifted back from that, one fellow wanted to check into it again. He took a hit on the bong and leaned into it, and I could see rings of energy pulsate out of his body. When they hit me, I was enveloped in a totally disorienting *S. divinorum* experience—which passed almost immediately, just in time for the next wave to hit. This went on for a couple of minutes. I had to cut loose of trying to get dressed, and just ride the energy for a while.

— THE STONE RANGER, TN

MORE SALVIA DIVINORUM (7/3: 1998)

Wow! In the past I have thought that *Salvia divinorum* was “fun but interesting.” Well, it is very interesting, but also very powerful. I smoked alone inside my home at night. I saw a whirlwind of cobras so incredible that it literally made me stop smoking for a second. I was afraid that it was going to wake up all of my neighborhood, and I'm sure that if I hadn't stopped that would have happened. I closed my eyes and the energy became two wheels of raw power, moving in opposite directions around me—even while I was locked in the most powerful position one can achieve—the lotus. I had to open my eyes and move a little bit to release energy. I closed my eyes again and fell gently into obscurity. I had the feeling that, while floating, I could try to reach friends; but I just couldn't think of what friend wouldn't have been disturbed by my apparition, whatever that would have been.

Two days later, I smoked with a friend outside in the mountains at night. The first attempt was deceiving; instead of bouncing on the walls back against me, the power diluted itself among the stars. But now I look at this as if the *Salvia divinorum* was preparing me for what was coming.

On the second try, everything broke into patterns—but not African, Tibetan, or Indian patterns. No, it was just sausages—sausages everywhere. Beyond these visual effects, suddenly and without any doubt I knew that I wasn't in the same universe. While laughing, I said to my friend, "I'm talking to you from another dimension. My voice comes to you from a different reality." It was so clear and so incredibly simple, that I was killing myself laughing. I was in another universe and I saw a very concrete frontier between my friend and I. As time passed, I slowly reintegrated my ordinary spatial and temporal coordinates.

On the third attempt the world exploded into... mice (why the hell sausages or mice... we've got a lot of dirt in our heads), but with eyes closed I saw that the mice, like laughs, were just flowery images that were keeping me from going deeper. I took deep breaths, concentrated on the energy, and I found myself in a *2001: A Space Odyssey* universe. Larger spheres were rotating (some of them were in contact), and between them there was eternity. I said to my friend, "It is obvious that, of course, I'm not here any more."

Salvia divinorum is very powerful. I don't know what would happen if the effects weren't so short. I mean, this state is completely unknown. We don't have the slightest idea how to move in it. Still, it was so simple. I had two choices: acting as if I didn't know what was happening, and ranting and raving, "What's that? What's that? What's happening to me?" or taking responsibility. And it was simple. I went to another dimension and it was so simple. In fact, the best definition I can give that some readers will understand is that I changed the place of my "point of collection."

A few questions: Are dried *Salvia divinorum* leaves potent when chewed? If yes, how much is needed, how long does the experience last, and does anyone have a clue as to how to act with it and use it shamanically? — S.H., France

It has been suggested that dried Salvia divinorum can be rehydrated with hot water, chewed, and kept in the cheeks in the same manner as fresh leaves are used (PENDELL 1995). This method has now been reported by numerous psychonauts as being effective. A good starting dose is probably 2–3 grams of dried leaf. As with fresh-chewed leaves, the experience should come on slower and last longer than smoked leaf—perhaps 1–2 hours.

— DAVID AARDVARK

EVEN MORE SALVIA DIVINORUM VISIONS (7/3: 1998)

Experiments with smoked *Salvia divinorum* have not yet produced any perceivable effects—but chewed leaves (two experiments with fresh leaves, and one with dried leaves soaked in a small amount of water) produced very strong effects that were easy to handle. All experiments were done in darkness with very little sound. *S. divinorum* seems to me to be revealing a sub/super/transcendent reality—a realm of experience that we all share, and which is concurrent with our moment-to-moment daily lives, but we normally remain completely unaware of it while in our waking state of ego-consciousness. Our normal waking state seems to completely dominate our awareness—tuning our inner and outer senses to one level or “bandwidth” of reality and preventing us from consciously experiencing these other levels of sub/super awareness that we are also continually unconsciously operating on (receiving, organizing, and transmitting information as we co-create and experience the collective dream). *S. divinorum* seems to give direct access to the larger “holographic reality.” We are our world and we are a resonant manifestation in the possible experiences of other consciousness’s worlds. From the reports I’ve read of other people’s smoked *S. divinorum* experiences (also see AUTUMNAL EQUINOX 1997 ER, “More Diminished Appetite for DMT,” p. 12) it sounds like the route of ingestion—smoking vs. chewing—may greatly

alter the experiences and relationship that one has with *S. divinorum*. And orally-activated DMT exploration sounds boundless. Going fast may produce a powerful rush, lots of weirdness, and take us far, but like our physical modes of quick travel, the automobile and the planes it also effectively prevents us from truly experiencing and exploring the territory in any more than a very superficial and shallow way. Since the entheogenic trip is almost always a round-trip, it is important to fully explore and learn from it, so that when we return to the world of the mundane we can bring back some of the treasures/insights we have gained, and use them to facilitate the process of self-transformation and creative conscious growth. — R.G., WA

REALITY FISHING (7/4: 1998)

There have been a few times when I smoked *Salvia divinorum* and was not sure (and still am not sure) that I really returned to the same reality I left from. Funny little details—like all the people I know being acquainted with an advertising cartoon called CHARLEY THE TUNA that I seem to have no recollection of whatsoever. — ANONYMOUS

NOTES

1) While a lot of people prefer growing their plants in a humidity tent, this approach frequently doesn't provide adequate air-circulation, and limits the size of the plant to the size of the humidity tent. Humidity can be provided to plants grown outside by using inexpensive Raindrip® misters with $\frac{1}{4}$ tubing attached to an electric timer set to go off in five-minute increments, six times per day (during daylight hours). As well, *Salvia divinorum* can become acclimated to many different environments. The trick to growing *S. divinorum* in drier environments is to acclimate them slowly. For more information on acclimation, see NOTE 3 on page 128 and NOTE 9 on page 129.

2) Salvinorin A is soluble in hot 100% ethanol (or denatured ethanol), and less-so in room-temperature 100% ethanol (or denatured ethanol). While it will eventually dissolve in room-temperature ethanol, this will take more than six hours (see pages 76–79).

EXTRACTION



When I remembered that I had tested the extract and that it must have been responsible for what I had just been through, I felt ecstatic. I was literally jumping for joy. I wanted to say “EUREKA!!!” I had stumbled upon the psychedelic essence of *Salvia divinorum*.

— DANIEL SIEBERT
“Salvinorin A—The Breakthrough”
(1993)

ISOLATION OF SALVINORIN (3/2: 1994)

Isolation of Salvinorin (1).—Dried, milled leaves (200 g) of *Salvia divinorum*, collected at Huautla, Oaxaca (Mexico) in November 1980, were extracted with boiling chloroform. Evaporation of the solvent gave a green residue (27 g) which was purified by chromatography on ‘Tonsil’ (200 g) with chloroform as eluant. Thirteen fractions of 50.0 ml were collected, the sixth and seventh of which contained compound (1) as ascertained by t.l.c. (45% ethyl acetate in hexane as developer; R_F 0.7). Crystallization from methanol yielded salvinorin (1) as colourless crystals, m.p. 238–240 C (ORTEGA *et al.* 1982).

SALVIA EXTRACTION (5/4: 1996)

I don’t know if you’re familiar with *Soft Secrets*¹ from Holland or not, but I recently read an article from this paper on *Salvia divinorum*, and I quote:

In the mean-time Californian ‘basement shamans’ have succeeded in producing—literally in the kitchen, using

standard kitchen implements and within an hour's time—a fairly pure 'Salvia oil' extracted from dried plant material.

This is the first I've heard of this. Do the folks over in Holland know more about what's going on in California than we do, or are the west coast shamans keeping this to themselves? C'mon guys, share the wealth; we're all in this together. What's up?² — ANONYMOUS

SALVIA EXTRACT (6/4: 1997)

On May 19, 1997, I ordered *Salvia divinorum* extract from BERT MARCO SCHULDES in Germany; four units for \$32.00 paid in advance with a postal money order. I have sent two letters regarding this order, but to date there has been no reply. Is he still in business? Is there any other source for the extract? — Mr. TOAD

I've received other queries about this source of Salvia divinorum extract. Some say that their order was eventually filled. The last letter I received from BERT (over a year ago) mentioned that he has been overwhelmed with S. divinorum orders, has rented some property to erect a greenhouse for growing it, and seems to be suffering from too much success too soon. I've been told that he has contacted S. divinorum growers in the USA for wholesale purchases to keep up with the demand. My own dealings with BERT have always been satisfactory. I have no more information than that. Can anyone add to this?³ Regarding the extract; the formula seems to be a proprietary secret. I have no idea how it is made. That would be very interesting information if we could get it. — JIM DEKORNE

SALVIA DIVINORUM QUESTIONS (7/4: 1998)

Any updates on the most efficient extraction of *Salvia divinorum*. What about sublingual or oral activity of such extracts? Any breakthroughs yet? Keep up the good work. Thanks. — LITTLE HAWK, OH

For the most efficient "kitchen" extraction of Salvia divinorum, we favor acetone or high-proof ethanol as the solvents of choice. Methylene chloride and chloroform work well too, but can be harder to acquire and are more toxic to work with. With most solvents in most situations, a good rule of thumb is to have the solvent layer be as deep as the layer of material being extracted. If you had 2" of powdered leaf in a jar, you would want to add enough solvent so that the material was covered by 2" of solvent. (An exception to this is noted below.)

Acetone extractions can be made at room-temperature and should be kept sealed and away from any source of flame, as acetone fumes are highly flammable. Powder your dried leaf in a coffee/spice grinder or blender. Let this powder soak in acetone for at least 24-hours, occasionally shaking the container. Denatured ethanol can also be used at room temperature, but works better if it is heated. Since alcohol fumes are also flammable, this should be done in a well-ventilated area away from flames and with a sparkless electric hot-plate. A low boil for at least an hour should do the trick ('though you may wish to re-extract the marc a second time with fresh solvent). If 190 proof grain alcohol is available (sold in some states under such brand names as EVERCLEAR and CLEAR SPRINGS), this can be used instead of denatured ethanol. It won't work as well, but it has the added advantage of not containing any toxic denaturants. It is worth mentioning that 190 proof alcohol is an azeotrope, i.e. a mixture that has a constant boiling point at a specified concentration, and therefore the alcohol and water will boil off in proportion to each other and you will not end up with a higher water content after boiling. Alcohol concentrations lower than 190 proof aren't recommended, as salvininorin A isn't very soluble in water. NOTE: If using room temperature alcohol, an excess of solvent should be

used (perhaps 50% more), and it should be allowed to soak for at least 24 hours, with occasional shaking.

As salvinorin A is insoluble in some non-polar solvents like hexane, this might be used to advantage to create a more concentrated extract. This could be done by first extracting the ground dried leaf material in boiling hexane for one hour. Some of the chlorophylls, tanins, fats, and other non-salvinorin A products contained in the leaf will migrate into the hexane and the salvinorin A should stay in the leaf. After the leaf has been re-dried, it can be extracted using one of the above-mentioned solvents, and you may end up with a more concentrated extract. We haven't tried this and don't know anyone who has, but it seems like an experiment worth performing.

After extraction with a solvent, the marc should be filtered out and the solvent should be allowed to completely evaporate (outdoors). This can be done by pouring the filtered solvent into a shallow glass baking dish. When the extract looks fairly dry, it should be heated at a low temperature on an electric hot-plate or placed in an oven at low temperature to drive off any residual solvent. If the extract smells like solvent, there are still traces left, which need to be removed. A good procedure to determine if there is any residual solvent in the extract is to put the extract into a sealed glass jar for several hours, and then hold the jar right next to your nose as you open the lid and immediately smell the contents. Any solvent vapors present will be easily detectable (SAGE STUDENT 1998).

Acetone obtained from a hardware store may contain impurities. The Salvia Divinorum FAQ (<http://salvia.lycaenum.org/faq.html>) suggests that the following procedure be used on these products to ascertain their suitability for extraction purposes:

To test for non-volatile impurities, evaporate a drop of the solvent on a very clean piece of clear glass. After the solvent is evaporated, hold the glass over a black surface and look for any white deposits on the glass, then hold it over a white surface and look for any dark deposits. Also pick up the glass and look through it to see if there is any oily residue. This is like checking one's

eyeglasses to see if they are clean. Any residual deposits on the glass indicate that the solvent leaves residue, *i.e.* that it is impure. If it leaves no residue or stain and no residual odor or taste it is unlikely that it will leave any impurities in your extract enhanced leaves, provided that it is thoroughly evaporated from them prior to use.

*Salvinorin A concentrations in dried leaf material tested have varied quite a bit; from 0.86 mg/g to 3.94 mg/g, with an average of 2.45 mg/g, and most samples tested fell between 2.3 mg/g and 2.9 mg/g (SIEBERT 1997; GRUBER et al. 1999). Current thinking is that salvinorin A content averages 2.5–3.0 mg per gram of dried leaf (SIEBERT 1997; VALDÉS in SIEBERT 1997). Since “kitchen” extraction of salvinorin A is likely to be incomplete, one could probably safely estimate (erring on the side of caution) that each gram extracted contains 2.5 mg of salvinorin A. With this information one should be able to get a rough estimate of the potency of their extract by weighing it after it has dried, and comparing this weight to the original dry weight of the leaves. For example, if using room-temperature acetone you extract 100 grams of leaf (theoretically producing an extract that contains 250 mg of salvinorin A), and end up with an extract that weighs 4 grams (room-temperature acetone will extract material from *Salvia divinorum* leaf at a fairly predictable rate of 4%), then each gram contains approximately 62 mg of salvinorin A. This means that one would get a 1 mg dose of salvinorin A with about 16 mgs of extract. We can’t see much reason to make an extract more potent than this, due to problems that most people will have weighing amounts of material under 10 mg.*

As far as the sublingual/oral activity of these extracts, not much experimentation has been reported. However, they are undoubtedly much more active sublingually than swallowed. Since the salvinorin A absorbs more slowly through the mucous membranes than when smoked, a higher dose will be needed—starting at a 5 mg salvinorin A content (and working upwards until the desired effects are achieved, which may occur closer to 10 mg salvinorin A content) seems reasonable. It has also been suggested that the addition of menthol may make the extract more efficiently absorbed sublingually. — DAVID AARDVARK

NOTES

1) The publication *Soft Secrets* was available in the 1990s in numerous Dutch coffee shops, and dealt predominantly with the *Cannabis* culture.

2) *Soft Secrets* appears to have been paraquoting an article by JONATHAN ORT that appeared first in the German periodical *Curare* 18 in 1995:

Finally, in the summer of 1993, these same 'basement shamans' succeeded in isolating a salvinorin A-enriched crude precipitate (which I verified shortly after to be roughly 50% pure) from organic solvent extracts of the dried leaves (the procedure was shown to me, and it involved the simplest possible kitchen chemistry, which could be executed in less than an hour)...

3) I too have heard from a few people who sent money to BERT MARCO SCHULDES to purchase his *Salvia divinorum* extract, who never received it. These orders total hundreds of dollars just from the few people that are *known* about who didn't receive their orders; who knows how many additional people also didn't get their orders? I placed an order in 1996, and *did* receive it. The literature that came with SCHULDES' extract mentioned that the extract didn't work for about 20% of the people who tried it. I was one of these people. I took the recommended dose and held it in my mouth for the recommended time (and then longer) with no effects. I then doubled the recommended dose and held it in my mouth for twice the recommended time (and then longer) with no effects. I then took four times the recommended dose, and held this in my mouth for about one hour; I eventually fell asleep with no effects worth mentioning. I know of two other people who bought (and received) this extract, and they too had no effects from it. Nevertheless, I *have* seen some positive reports about this extract on the Internet. I have heard that the extract is still available from ELIXIER in Germany (www.snafu.de/~elixier), but I would be hesitant to recommend that anyone order it from personal experience. As well, it is hard for me to encourage folks to support someone who doesn't respond to repeated letters of inquiry about unfilled or missing orders. (This comment does not apply to ELIXIER; I have no first- or second-hand knowledge of the quality of their products or services whatsoever.)

SALVINORIN A & MORE



Most people exposed to higher doses of the vaporized compound report immersion in bizarre, non-Euclidean dimensions or geometries, often described as curved, tubular or spherical; not a few find the experience to be terrifying; many note that the experience is unique, not comparable to other entheogens.

— JONATHAN OTT
“*Salvia divinorum* Epling et Játiva
(*Foglie della Pastora /
Leaves of the Shepherdess*)”
(1996)

SALVINORIN A **(3/2: 1994)**

Salvinorin A isolated from *Salvia divinorum* was used. After evaporation of the substance containing solvent on the inner surface of the glass pipe, smoking was possible during moderate heating with a flame and turning of the pipe. It seems that the amount of the substance was under 1 mg. Soon after the inhalation and holding the smoke some seconds, a slight increase of the heartbeat with no other physical symptoms occurred. After about two minutes¹ a feeling of deep peace without feelings of great euphoria or dysphoria developed. It was a little bit like a narcosis. I had no sense of time and estimated that the duration was much longer than in reality (only about ten minutes). I saw some color flashes particularly as synesthesia after closing the door. There were no aftereffects this day, but the next day I found some Liberty Caps in an old pasture in the woods and took only two fresh bodies. It was a relatively strong reaction compared with the amount taken, and equal to experiences with many more mushrooms. I think a possible correlation between the action of psilocybin and salvinorin A, even a day later, is very interesting.

— SEMI LANCEATA, Germany

SALVIA DIVINORUM & CANNABIS **(3/2: 1994)**

If you're into smoking something new, you might try extracting salvinorin A from *Salvia divinorum*. *S. divinorum* and *Cannabis* are amazingly synergistic. — Prof. BUZZ D. LUX, CA

I've received only second- and third-hand data on smoking salvinorin A, some of it pretty spooky. One person describes the room turning upside-down, then imploding. Rumor has it that salvinorin A is active in the microgram range, and there seems to be at least some consensus that it is too heavy a trip for most people. Before another mythology develops about this new substance, I hope someone will set the record straight. The Entheogen Review is intended specifically as a forum for such questions. — JIM DEKORNE

FEEDBACK ON SALVINORIN A **AND DATURA** **(3/3: 1994)**

I have heard about the *extreme* potency of the diterpene, salvinorin A, but I have no direct experience with the compound, other than through my chemical research and animal testing. I would, therefore, be very reluctant to make statements about it that could lead to potential misuse by self-experimenters who would put themselves or others in danger or hurt themselves with an overdose. There should be a paper coming out soon in the *Journal of Ethnopharmacology* (SIEBERT 1994) on human experiments with *Salvia divinorum* and salvinorin A, and I have had a paper accepted for publication by the *Journal of Psychoactive Drugs* (VALDÉS 1994).

On reading your interesting journal, I see many plants mentioned that I would consider to be more toxic than recreational, especially *Datura* species, which are extremely

dangerous and are nearly always very bad experiences for anyone that takes them. I would suggest that one of the two chaperones mentioned by the informant (in SPRING '94 issue) be an Emergency Medical Technician with an ambulance ready! Don ALEJANDRO (a Mazatecan shaman) taught me that the visionary experiences are much more important than the plants and drugs that produce them. He no longer needed to take the vision-inducing plants for his journeys. In fact, they are really not necessary for such experiences. I don't believe too strongly in the significance of visions and dreams, myself, but if I did I would probably use meditation or some other non-drug method to attain ecstasy, as I tend to look on natural hallucinogenic compounds to be plant defense mechanisms (poisons) that usually warn off potential predators without killing them. — LEANDER J. VALDÉS III, LA

*Dr. VALDÉS is one of the pioneer researchers into the ethnopharmacology of *Salvia divinorum*. (See the ANNOTATED BIBLIOGRAPHY for citations of his work.)* — JIM DEKORNE

SALVINORIN A: NOTES OF CAUTION (3/4: 1994)

Salvinorin A (*Salvia divinorum's* major active principle) is an extremely powerful consciousness-altering compound. In fact, it is the most potent naturally-occurring hallucinogen thus far isolated. But before would-be experimenters get too worked-up about it, it should be made clear that the effects are often extremely unnerving and there is a very real potential for physical danger with its use.

When the herb *Salvia divinorum* is consumed either by smoking the dried leaf or chewing the fresh leaves, the effects are usually (but not always) pleasant and interesting. This is because when it is used in this manner the amount of salvinorin A absorbed into the blood-stream is usually very small and, in the case of the chewed leaves, is absorbed gradually.

When vaporized and inhaled, the pure compound salvinorin A is active at 200 to 500 micrograms. [*Lest we forget our metric measurements, that's between $\frac{1}{5}$ and $\frac{1}{2}$ of one milligram!* — JIM DEKORNE] Since very few people have the costly equipment necessary to accurately weigh anything close to this small an amount², it is inevitable that people will try to visually estimate the dose. Unfortunately, there is little room for error before the effects become potentially dangerous. When the dose goes above 500 to 1000 mcg the effects can be very alarming. I have seen people get up and lunge around the room, falling over furniture, babbling incomprehensible nonsense, and knocking their heads into walls. Several people have tried to wander out of the house. When the experience is over, they have no memory of any of this. In fact, they usually remember very different events. To an outside observer, people in this condition have a blank look in their eyes as if no one is present (and perhaps no one is). It is also common for people to have a facial expression which is probably best described as being like that of a frightened animal. It appears that at these “larger” doses one completely loses awareness of, and control over, the physical body; for some reason part of the brain causes the body to get up and move about recklessly while the individual has no awareness of where their physical self is or what it is doing. It seems inevitable that one day some careless person will do too large a dose without a sitter and will wander out into traffic, or hurt themselves in some other way.

Because the dose is so small and insignificant looking, there is a tendency for people to think they need more than what they are told is a safe dose. Another problem is that the technique of vaporizing and inhaling the compound can be tricky. Salvinorin A has a relatively high boiling point and people often don't get it hot enough to remain a gas all the way into the lungs. Another problem is that so little is used that the vapor often disperses before it gets inhaled. Sometimes people just don't hold the vapor in their lungs long enough for thorough absorption. Sometimes people, after trying a dose in the recommended safe range, and

not getting an effect, assume that they need a larger dose, when in fact the problem is that they did not vaporize the material efficiently the first time. I have already seen more than one intelligent, careful, and experienced person accidentally do too large a dose because of this. Fortunately, they had sitters and managed to get through the experiences safely.

It is also important to understand that there have been no toxicological studies of salvinorin A in humans. It is true that the Mazatecs have used the plant for a very long time and don't seem to have problems with it, but when the pure compound is used it would be a simple matter to consume a dose hundreds of times greater than anything ever encountered by the Mazatecs.

Not only is salvinorin A chemically different from other hallucinogens (it is a diterpene, not an alkaloid), but its effects are quite different as well. Many people consider the effects less manageable and harder to work with than other entheogens. Most people who have had a full-blown experience with salvinorin A are reluctant to ever do it again. Anyone choosing to experiment with this compound should have an alert, clear-thinking sitter present to prevent them from injuring themselves or others.

Salvia divinorum as an herb can be used quite safely and many people claim that it has proved beneficial to them. Hopefully, there will not be a rush to isolate the pure compound, as it is almost inevitable that it will cause problems; people will get hurt, the compound and probably the plant will get negative attention, and it will become scheduled. We will just be adding one more potentially valuable plant ally to the list of species that are already feared and condemned in our society.

If you chose to pursue a relationship with this plant, please treat it with respect and care. If we can use the plant safely and responsibly, it will be able to grow and thrive freely into the future. — DANIEL J. SIEBERT

Note: DANIEL J. SIEBERT is the discoverer of the psychoactive effects of salvinorin A in humans and the author of "Salvia divinorum and Salvinorin A: new pharmacological findings," in the *Journal of Ethnopharmacology* 43 (1994) 53–56. The following quotations are from that paper:

Certain themes are common to many of the visions and sensations described. The following is a listing of some of the more common themes³:

- (1) Becoming objects (yellow plaid French fries, fresh paint, a drawer, a pant leg, a Ferris wheel, etc.).
- (2) Visions of various two dimensional surfaces, films and membranes.
- (3) Revisiting places from the past, especially childhood.
- (4) Loss of the body and/or identity.
- (5) Various sensations of motion, or being pulled or twisted by forces of some kind.
- (6) Uncontrollable hysterical laughter.
- (7) Overlapping realities. The perception that one is in several locations at once.

Some of the effects appear to parallel those of other hallucinogens (i.e. the depersonalization experienced with ketamine, the rapid onset of effects and short duration of smoked DMT). The volunteers who were experienced with other hallucinogens all agreed that despite some similarities, the content of the visions and the overall character of the experience is quite unique.

DISCUSSION AND CONCLUSIONS

When *S. divinorum* leaves are consumed, either by chewing the fresh leaves or by retaining the leaf juices in the mouth, enough of the highly active compound salvinorin A is absorbed through the oral mucosa and into the blood stream to produce a psychoactive effect. Swallowing of the herb is unnecessary and its effects

are increased by lengthening the amount of time that the herb remains in the mouth. When the leaf juices are quickly swallowed, minimizing contact with the oral mucosa, the only route of absorption is through the gastrointestinal system where salvinorin A is deactivated before entering the blood stream.⁴ When pure salvinorin A is encapsulated and swallowed it is inactive even at relatively large doses, but when absorbed through the oral mucosa⁵ or vaporized and inhaled is extremely active. It is likely that if salvinorin A were administered by injection, it would prove to be active in humans at even lower doses than described in this paper.

Salvinorin A is the first entheogenic diterpene reported and is active in humans at extraordinarily low doses. It does not appear to affect any of the receptor sites affected by other hallucinogens⁶. Further research into the methods of action and possible medicinal values of this and similar compounds may prove quite rewarding.

SALVINORIN A CHEMISTRY **(6/1: 1997)**

The principle active component is a drug called salvinorin A. It is a diterpene, lacking nitrogen. Almost all major psychoactive drugs contain at least one nitrogen atom. The compounds in kava kava (*Piper methysticum*) from the Pacific are non-nitrogenous, as is THC in marijuana, but there are no exceptions among the true psychedelics or hallucinogens. All of these are alkaloids, which, by definition, contain nitrogen. Salvinorin A has a completely different chemical structure. It is also completely insoluble in water (WEIL 1996).

PROPER DOSE OF SALVINORIN A **(6/4: 1997)**

I'm considering a salvinorin A experience. How many mcgs are considered a good starting point, bearing in mind that I would prefer an underdose as opposed to an overdose?
— PSILONAUT, SC

According to conventional wisdom, 200 to 500 micrograms (i.e., between $1/5$ to $1/2$ of a milligram) is enough for a full experience. DANIEL SIEBERT, the first human to bioassay salvinorin A, is said to have initially taken 2 mg⁷; a whopping overdose. Obviously, when dealing with amounts this small, one needs a scale capable of measuring in fractions of a milligram—not easy to come by unless you have access to a well-equipped laboratory. — JIM DEKORNE

**SALVIA DIVINORUM:
STRUCTURES, SOLUBILITY,
STORAGE & SYNTHESIS
(7/1: 1998)**

Does anyone have documentation on the chemistry of *Salvia divinorum*? I'm looking for structures, solubility information, storage and synthesis data. — COY DOG

STRUCTURE: The structure of salvinorin A is $C_{23}H_{28}O_8$ (ORTEGA et al. 1982). With regard to structure, the following comments made by Dr. ALEXANDER SHULGIN at the MIND STATES conference in November of 1997 should be taken into account:

The material in *Salvia divinorum* is not a diterpene. [This] is a misnomer. Terpenes are a very definite molecular repetitive structure; isoprene taken four times. That structure is not in [*Salvia divinorum*]. But it is 20 carbons, and diterpenes have 20 carbons, and it's often referred to as diterpenoid, which is a cop out...It is [in] a family of materials that are known in several—in fact, one was mentioned, the [*Salvia splendens*] was mentioned a moment ago in talking to TERENCE—there are fully six or eight *Salvia* or sage-like materials that have these 20-carbon compounds in them... different structures, different locations of esters, different locations of hydroxy groups (SHULGIN 1997).

After hearing Dr. SHULGIN's comments about "diterpene," we checked the primary literature and determined that it is possible that ORTEGA (who first worked out the structure of salvinorin

A) is responsible for hanging the misnomer “diterpene” onto salvinorin A—actually calling it a trans-neoclerodane diterpene—(ORTEGA et al. 1982), as a previous paper reporting the isolation of salviarin from *Salvia splendens* (SAVONA et al. 1978) referred to it as “diterpenoid” (i.e. not a diterpene but resembling a diterpene). The improper use of the term “diterpene” has now been repeated in much of the current literature on salvinorin A (OTT 1993, 1995a, 1996; SIEBERT 1994; VALDÉS 1994; PENDELL 1995; TURNER 1996; BEIFUSS 1997; GRUBER et al. 1999), including numerous issues of ER prior to 1998.

SOLUBILITY: *Salvinorin A* is soluble in alcohol (methanol and ethanol have been used, as has 90% aqueous methanol), as well as being soluble in ether or chloroform. However, OTT reported that “*salvinorin A* is not sufficiently soluble [in ethanol, for sublingual application],”⁸ and he found that acetone and DMSO were more effective vehicles for sublingual application of *salvinorin A* (OTT 1995). This suggests that acetone would be a better solvent than ethanol for use in kitchen extractions of *salvinorin A*. A previous ER correspondent didn’t have any luck with an extraction performed with pure ethanol (see page 59), However, it is likely that the procedure he followed was inefficient and we know of several people who have had success using ethanol. Also, we have had some success using 99% isopropyl alcohol. *Salvinorin A* is insoluble in some nonpolars like petroleum ether or hexane.

SYNTHESIS: We’ve been unable to find a “from scratch” synthesis published for *salvinorin A*; OTT states that there has been “none reported” (OTT 1996). Nevertheless, the structure has been elucidated using spectroscopy and x-ray crystallography. And, there has been a published synthesis using *salvinorin B* as the starting material (VALDÉS et al. 1984).

STORAGE: *Salvinorin A* has been reported to be fairly stable (VALDÉS 1994; SIEBERT 1997). Still, it would seem prudent to keep it tightly closed, away from heat and moisture. We are unaware if it is light-sensitive, but it can’t hurt to store it in an opaque container. We called SOLID PHASE SCIENCE (the products division of BIOSEARCH TECHNOLOGIES, INC.), as they offer

salvinorin A for research purposes. While SPS lists salvinorin A at the hefty price of \$50.00 per mg (S-1000-1) or \$400.00 per 10 mg (S-1000-10), they've been out-of-stock for months. When in stock, they store salvinorin A in their freezer, at minus 5° C.

SALVINORIN A JOURNEYS (7/4: 1998)

~1.00–1.25 mg salvinorin A. Ingested with tin foil/straw/lighter method. Immediate and strong effects. Mouth quickly dries, I have never had this experience with salvinorin A before. The taste is very apparent, and seems to permeate my whole system. I know I am in for it for sure—I turn off the light and lie down in bed.

Listening to STEVE ROACH'S "The Magnificent Void." The music has strong tidal effect on the direction that the experience flows towards, and can be seen as an overriding factor in the early part of the experiment.

There is a subtle interplay within sound structures and I observe that one of the most telling of conditions for salvinorin A is sonic. Sounds absolutely shape the experience for good or for distraction. If the sound structure impedes the flow, go without it. Nevertheless, a skilled guide could lead one deeply into trance with the correct vocalizations.

Sinking into revelry, my thoughts take on hues of purple and blues that border into green. Thoughts appear as a latticework, discretely patterned as if they were the finest hand-worked lace. Moving forward through the patterns, the loss of ego deepens but body sensation heightens, so there is no loss of somatic awareness. Calm, warm detachment; thoughts flow with incredible beauty and beingness.

Walking through cool undergrowth, pushing through various plant forms—purple, blue, and green, with myriads of eyes within leaves. All aware of presence—plant "be

ings" flow and merge through shared thought fields and dissolve.

Everything is tidal now—that which is aware, that which perceives and is perceived—all partaking of the essence of the eternal now. Joy and subtle pleasure is taken in each thought that is shared across the vastness of this hall of beings. Faces, faces everywhere, oscillating into a kaleidoscope of personages that flow and morph in and out of thought shapes into mandalic friezes; they dissolve into themselves again, regenerating over and over until passed through into the singing light.

Then the universe arches over, redolent with the smell of plant and animal life, vibrant with beauty and being. Experiences flow in infinite directions—twisting, turning, with the patina of consciousness etched into everything with infinite detail and depth. Everything, every being, held in consummate beauty; the essence of deity flowing through all simultaneously. Every thought is transparent and filled with bliss.

Slowly, across eons of time and bliss, the self reasserts itself surfacing after an hour and a half, a trailing wisp of the various thought forms it had been submerged in. Great peace and warmth pervades the system of being. Sleep slowly rises up and recaptures the self, again to submerge it into the salvinorin A flow that moves steadily through the depths of the soul and subconscious. The night is filled with various dream shapes. Morning comes as a pleasant surprise.

In hindsight one finds that you can get up out of bed, attend to any business with high clarity and return into the revelry of the salvinorin A space by laying down again and turning inward with the ally. While I have heard about this phenomena when using the leaves, this contradicts much that I have read regarding salvinorin A. Maybe at a higher dose immobility strikes.

Also, as mentioned before, sounds have a big influence on this experience. There is an interesting side to this: during the duration of the various experiences there has begun to be inexplicable knocking going on in our house. I actually got up to investigate, and walked through the house trying to find the locus of the noise. It is as if someone or something is vying for attention. There are other sounds also occurring that are yet indescribable but reoccur again and again. This is a phenomenon that no one has reported in my knowledge, it is as if one was opening up to presences that surround us which we normally don't recognize. I am beginning to feel that they anticipate and are eager for these forays, for some acknowledgment and communication.

As the familiarity with the territory grows, so does the ways I can express it. The psychic phenomena is interesting. I realized that I had been hearing these noises pretty much all along with the salvinorin A and occasionally with *Salvia divinorum* leaves. What can this portend? I will be moving up to 1.5 mg next.

I am beginning to get the sensation of mapping out this realm. For a while I didn't seem to get much past certain areas, and now these walls are crumbling. The "psychedelic nature" of this substance is phenomenally different than any of the other hosts that I have tried. It is noisy like the lysergamides, but in a bantering, gabby way instead of issuing large, almost solemn, profundities. The beginning is almost always hilarious—shapes, noises, bells, whistles—a veritable 'toontown of characters jumping out of the woodwork. Very irreverent! Then it moves on of course, but not before the entity amuses itself at your expense

~1.25–1.50 mg of salvinorin A. Very apparent taste immediately. Unlike previous salvinorin A experiments, this one seizes me before I can get the light off and my eyes covered with blindfold (new addition). My being is quickly hived into infinite parts, flailing all over the place in what

appears to be a very bizarre 1950s scenario filled with textures, smells, visuals of that time predominated by a female presence. The presence bears the most striking resemblance to DONNA REED or the archetypal “American Mother” and a myriad of other female expressions of that era. In fact there are infinite variations on this theme occurring in a fractualizing frenzy. This manifestation is very loquacious, wagging her finger into my infinite faces and making cryptically rude remarks! This strikes me as very hilarious, my whole being lights up with laughter. This quickly dissipates into another cascade of cartoon-like thoughts and emerging patterns. There seems to be very little of the usual cavern/tunnel effect, more of a restless roving over fields of thought and consciousness.

Feelings shift and change. This experience is incredibly strong. A mild panic rears its pointed little head in greeting, and then disappears when I relax more into it and allow the salvinorin A to take me where it wants. Then the salvinorin A state takes off at a gallop, it seems to be the most intense cartoonish psychedelic experience... feelings magnify into absolute grotesque parodies and psychic pratfalls. Constant, rapid shifting is going on, too quick to grasp.

The flailing finally dissipates about 15 minutes into the experience and my thoughts become more focused. It seems very playful at this time, taunting and teasing me deeper into its web, yet for some odd reason the loss of self is not so pronounced. There is a strong twisting sensation to the right, accompanied by a prickly sensation through my system. I take off the blindfold as it seems to be sinking deeply into my skull, my skin is literally swimming in warmth except for my feet, which are taking on an arctic feeling. I become aware of my flesh as being an entity unto itself, conscious unto its own being, holding its own wisdoms and somatic dreams. Visions of beauty and sensation roll over it. Every cell seems to have an eye, peering out and at itself replicated into infinity. Undulating currents of desire wash over it and through it, a deep

hunger for sensation and interplay.

Slowly, the cavern appears, but instead of going into it, it plays to my being as if it is an audience. Warm ambers, browns and traces of green predominate. Faces appear and reappear, twisting into wondrous shapes that have sparkling eyes of red and gold that flick away in an instance.

Over great lengths of time, the self reasserts itself. Feelings are very relaxed, tensions are gone. No great insights, it was too rapid for that, but a truly unique experience. As quickly as it came on, it is slower to leave. After an hour, I move about, with haloes of color encrusting every object and space throughout the house. The experience rides on me, I feel it still coursing throughout my being as I head off for sleep. I am amazed at the gifts this plant's substance offers up. Of all the plant entheogens, it is the most playful—almost, should I say, *dryadic* in nature? Something profound moves under her surface humor. A lustrous joy and knowledge is revealing itself as I venture further in her company.

~ 1.5–1.75 mg salvinorin A. Slight feeling of trepidation. This is a hallmark feeling for me, carrying meanings and thought that are complex, redundant of fear and discovery. Fear, as the dose level is working upward, discovery as something is about to be revealed. Music playing, LOREENA MCKENNITT'S "Dante's Prayer," just so appropriate at this nexus... Ingested the salvinorin A with slight modification, used a straw that was longer this time, about 3.5 inches instead of 2 inches. Sitting on the edge of the bed, watching the crystals melt and the salvinorin A slithers up the straw—even before I can taste it, everything slowwwsss down. This is strange, stronger than before, it has grabbed me before I am ready. Why am I so surprised? I reach over to turn the light off and my hand stretches like rubber. Warmth envelops me in a crescendo of light-blue and cream streams of luminous ribbon of light. After what seems a decade, my head feels the pillow reaching up and taking it gently.

As my head settles down, the top part divides and hives, again and again, it is hydra-like, whipping back and forth in a gale-force wind of consciousness, until it is medusa-like, every part of the head now snake-like, writhing with faster and faster force. Everything is cream and light-blue, cartoonish and gibberish, as each head sends back images and sensations into the central part of the being. It is a form of collective consciousness, yet I'm aware of myself and the room with my love lying beside me. At the same time it's a maelstrom, a hydra, a thousand-headed serpent-being under a huge sky, writhing in an ever quickening and slowing dance on a plane that stretches into infinity.

The music calls out, a familiarity to hold to. I wanted to let entirely go but it calls with such infinite sadness. My love's breathing echoes and resounds, voluminous and full of beauty. Pinioned between these two sonic anchors, the serpent heads slowly morph into each other until singularity occurs. Then, for a moment—utter peace. All of a sudden, an entity rockets into consciousness from behind, pulling all along with it and into it from the right side as it streaks past. All thoughts and self runs into it like mercury pooling, silvery and voluptuous with movement. Beingness flowed out as the observer-self watched with detachment... This being that has appeared takes on the appearance of a man in middle-age, bent on going somewhere quick. Had the beingness that moments before been hydra-like now attached to an astral traveller passing through a shared zone, a place where all of this plays out? Then, as quickly as it had come, the being looks back into me with deep detachment and departs, streaking away leaving trails of our shared momentary consciousness bubbling, to coalesce into moving pools of light.

The mind moves from thought to thought, like a sailing craft on a sea, tacking back and forth, into whirlpools and out again. All flows with such ease and warmth, in and out of different beings and states of consciousness. The universe is liquid and malleable, all life flows with a harmonious ringing—how would it be best expressed? A

sloshing sound? Liquid sounds take form everywhere and whip and pull consciousness into pools and depths, blending away personality and recreating beingness into myriad creatures and situations all going on simultaneously. All moves and reshapes into new and unique beings, momentary expressions of life form for beauty's sake and then submerge back into the oceans of consciousness. Evolution is played out over and over—not as predator and prey, but as co-players in a dance of delight and shared mutual joy and recognition.

Awareness flickers off and on, beingness strobes on and off. Day into night, into infinite play and dance. Consciousness winks out, then refocuses back over and over. Within the strobing, the salvinorin A exposing itself as it opens up and I see within it a flow, a river of *Salvia*-consciousness, and how it has established a strata within my being that is now ever-present. It is a flowing universe, river and sky-like, both liquid and cloud. As if I've opened up a trap door, just below everyday thoughts. Ever-present, exalting consciousness: teaching, playing and guiding. It is a love that flows into my being whether I allow it to or not. Her face is revealed: glowing, entrancing, singular.

I cannot recall how it all ended. I drifted into sleep during the night, but as I write this now today I feel the flow still. I think it has always been a part of me. Now I *know* that entheogenic flow we all become aware of—it has been with me most of my life. But this has distinct elements of something new. A different creature all together. It is present in the trees, in the land, in the sky, but also as part of shared awareness. It envelops and comes whispering up through consciousness like smoke. An is-ness, ever-present, an Acadian stream, behind thought seen in faces, shared since the beginning. It is the river within the soul—intertwined with all thought, conscious, loving and completely enveloping. A capricious being, who is only too happy to come along with you—as the guide, as a light, as the teacher to creatures of thought and desire. — GWYLLM

“DIVINORIN C,”
a New Neoclerodane Diterpenoid
From a Bioactive TLC Fraction
of *Salvia divinorum*
(9/3: 2000)

Lab notes from the desk of LEANDER J. VALDÉS III.
Adapted from an October 25, 2000 post to the
SALVIA DIVINORUM RESEARCH AND INFORMATION CENTER,
<http://salvia.lycaenum.org/divinorinc.html>

During our research on *Salvia divinorum*, salvinorin A was first isolated from a single pharmacologically-active preparative TLC band. Differences in potency between the purified diterpenoid compound and the original TLC fraction led us to surmise that the latter possibly contained other strongly bioactive compounds that co-chromatographed with salvinorin A during the separation. On changing solvent systems, we found that this “single” TLC band actually consisted of two diterpenoid compounds, with salvinorin A as the major component and a new one⁹, tentatively called “divinorin C,” as the minor one. Even though we estimated that divinorin C comprised only about 10% of the pharmacologically active TLC fraction (the rest being salvinorin A), the fraction was significantly more potent than an equivalent amount of salvinorin A alone. However, since the testing was done using mice, it cannot be stated unequivocally that the new compound is active in humans. The new terpenoid is a diacetate. There is an acetoxy function where salvinorin A has a ketone and a double bond between Carbon-3 and Carbon-4. The compound tended to decompose during the isolation procedure. The figure below gives the proton NMR assignments, including coupling constants. We also found both possible monoacetates (1-Ac, 2-OH & 1-OH and 2-AC) and the 1,2-diol during our work. There were only trace amounts of these and we were able to only do NMR studies of them. We also isolated a few more diterpenoid compounds that weren't well-characterized; perhaps 8–10 diterpenoids

could be characterized, but only salvinorin A, salvinorin B, and divinorin C occur in more than trace quantities. [Part of this material was presented at the 20TH ANNUAL MALTO MEETING in Monroe, LA, May 16–18, 1993. Involved in this research were: LEANDER J. VALDÉS III, HUI-MING CHANG, DAN VISGER, and MASATO KOREEDA.]

We've heard a few reports that the subjective effects of Salvia divinorum (whether chewed or smoked) in its whole form are different than the effects of pure salvinorin A. Until now, we figured that these reports of "differences" were based in set/setting, and/or perhaps psychosomatic. At about 10% of the fraction studied, if divinorin C is indeed found to be active in humans, it would be one of the most potent compounds known.

NOTES

1) Vaporized salvinorin A usually takes effect quite quickly—faster than two minutes.

2) One method to fairly accurately dose small amounts of material is to dissolve a weighable quantity of salvinorin A into a solvent known to work for salvinorin A. Acetone can be used for this, and it is easily available. Weigh the smallest amount of salvinorin A that your scale will accurately measure. As an example, let's say that your scale will weigh 10 mg (the minimum quantity that most lower-priced scales can accurately measure). Weigh 10 mg and put this into a small sealable glass jar. Let's say that you want to produce twenty 500 microgram doses from this. Using an eyedropper, put 20 drops of acetone into the jar and seal it. Work as rapidly as possible, as acetone evaporates quickly (in fact, due to this you may wish to put an additional one or two drops of acetone into the jar, or use chloroform as your solvent, as it evaporates slower). Swirl the liquid around until the salvinorin A is dissolved. Open the jar and rapidly suck all of the acetone into the eyedropper in one pull. Then drop 20 single drops spaced apart onto a glass baking dish. Each drop should evaporate quickly and the residue left-over should contain approximately 500 mics of salvinorin A, which can be scraped off individually for use when needed with a razor blade.

Or, if one wanted to, each drop could be placed onto a small pile (10 mg) of crushed dried leaf material and allowed to soak up and dry. This can be stored conveniently in 000 size gel-caps, until it is needed.

Generally speaking, analytic balances that accurately weigh down to the

microgram level can cost thousands of dollars, although there may be some less expensive models in the \$400.00 to \$600.00 range. One company that seems to have pretty good prices on a wide variety of scales can be found on the Internet at <http://www.balances.com>. (I have been told that some companies report the sale of such devices to the DEA.) However, people who like to build things may be able to construct their own scale for less than \$30.00. Plans for such a scale are written up in an article by SHAWN CARLSON for THE AMATEUR SCIENTIST column titled "Home-made Microgram Electrobalances" in the June 1996 issue of *Scientific American* 274(6): 90–91.

3) Other themes that we've heard of occurring frequently are the "tunnel motif" (where people are looking through a swirling tube into another reality), and the "female entity / *Salvia divinorum* spirit" contact. As well, No. 5 on SIEBERT'S list, the "various sensations of motion, or being pulled or twisted by forces of some kind" appears to be *very* common; so much so that "twist" has been proposed as a slang term for *S. divinorum*.

4) It is unlikely that the gastrointestinal system completely deactivates salvinatorin A. Indeed, the traditional Mazatec water-infusion would not produce any effects if this was the case. Based on the assumption that leaves contain an averages 2.5–3 mg of salvinatorin A per gram of dried leaf (SIEBERT 1997; VALDÉS in SIEBERT 1997; SAGE STUDENT 1998), and based on a dry leaf weight that is 85% less than the wet leaf weight, then the minimum dose taken orally by the Mazatecs (VALDÉS 1983) would contain about 18.75 mg to 22.50 mg of salvinatorin A, and the maximum dose would contain about 75 mg to 90 mg of salvinatorin A. Working with these figures, it is not surprising that the 10 mg of crystalline salvinatorin A that SIEBERT consumed orally had no noticeable effect (SIEBERT 1994). It has been theorized that "...*crystalline* salvinatorin A in capsules might not dissolve in gastric juices, thus explaining the inactivity of capsules with high amounts of the pure compound" (OTT 1995) (emphasis in the original). This is certainly possible, and it could be that the traditional method of preparation creates an "emulsion" that is more easily absorbed. However, even if this is the case, it may be that 10 mgs is simply *not* a "high amount" of salvinatorin A, when compared to the amount ingested traditionally, which on the low end would appear to be nearly twice this amount and on the high end up to nine times this amount.

5) JONATHAN OTT has mentioned that he found "sublingual application of salvinatorin A in acetone and in DMSO to be highly active, with a threshold for physical effects of 100 mcg, definite psychoactivity at 250–500 mcg and visionary activity above 1 mg" (OTT 1995a).

6) SIEBERT sent a sample of salvinatorin A to Dr. DAVID NICHOLS for a NOVA-SCREEN™ receptor site screening, and there was no significant inhibition (*i.e.* 50% or less) for the following sites:

Neurotransmitters: Adenosine, alpha 1, alpha 2, beta, dopamine 1, dopamine 2, GABAa, GABA_b, serotonin 1, serotonin 2, muscarinic 3, NMDA, kainate, quisqualate, glycine (stry sens.).

Regulatory sites: Benzodiazepine (centrl), glycine (stry insens.), PCP, MK-801.

Brain/gut peptides: angiotensin ty2, argvasopressin V1, bombesin, CCK central, CCK peripheral, substance P, substance K, NPY, neurotensin, somatostatin, VIP.

Growth factors and peptides: ANF1, EGF, NGF.

Ion channels: Calcium (type N), calcium (type T and L), chloride, potassium (low conduct).

Second messengers: Forskolin, phorbol ester, inositol triphosphate.

Monoamine oxidase inhibition: Monoamine oxidase A, monoamine oxidase B." (SIEBERT 1994).

As well, in 1998 SIEBERT sent a sample of salvinorin A to Dr. RAPHAEL MECHOULAM at the HEBRAIC UNIVERSITY, Israel, and he found no significant inhibition at the CB1 (anandamide) site where THC binds (SAGE STUDENT 1998). SIEBERT also sent a sample of salvinorin A to Dr. JACE CALLAWAY at KUOPIO UNIVERSITY, Finland, and he found no significant inhibition at the MK-801 site (SAGE STUDENT 1998). To date, salvinorin A's neurochemical method of action remains an enigma.

7) SIEBERT's initial salvinorin A dose was 2.6 mg of a crystalline fraction that was later shown to be 70–80% salvinorin A, which places his actual dose at 1.82–2.08 mg salvinorin A. This is still a very large dose.

8) OTT is incorrect about salvinorin A not being soluble-enough in ethanol for sublingual application. While it is true that salvinorin A will precipitate out of solution in cold ethanol (or low proof ethanol), salvinorin A in high-proof ethanol at room temperature can be used sublingually. (It may still precipitate out a bit, but it is soluble-enough that it is effective.) Ethanol is the main ingredient in DANIEL SIEBERT's commercially available tincture SAGE GODDESS EMERALD ESSENCE. SIEBERT states that it is prepared using unique new separation process he developed, which selectively extracts and concentrates a group of natural leaf components that enhance the solubility and absorption of the active principal, salvinorin A. The finished product is said to contain nothing but premium grade *Salvia divinorum*, grain alcohol and water. (Clearly this product only contains a trace amount of water.) Others have experimented with grain alcohol/salvinorin A combinations, and have found them to be quite effective sublingually. Home-made tinctures using crude extracts in ethanol have also been used sublingually with success.

9) To view a chemical sketch of "divinorin C," see the WINTER SOLSTICE 2000 issue of *The Entheogen Review*, page 141. (For technical reasons, we were unable to duplicate the image in a reduced format for inclusion in this book.)

COMBINATIONS



It was like a scene of two Gods battling in a mythological tale. At first it seemed that DMT, with its ability to manifest in spectacular forms displaying its might, power, and ferociousness, would tower up above the Salvia entity and overpower it. But the Salvia entity moves very fast, is extremely maneuverable, and has a silent, stealthy force that will not be denied.

— D.M. TURNER
*Salvinorin: The Psychedelic
Essence of Salvia Divinorum*
(1996)

SALVIA AYAHUASCA **(3/3: 1994)**

I did six grams of *Peganum harmala* seeds with 45 one-and-a-half to two-inch long half-dried *Salvia divinorum* leaves. I think that removing the midribs and allowing them to dry almost completely is the best method. Freezing adversely affects the leaves, turning them brown and deteriorating their potency. There are no real side-effects to the above combination¹ other than deep muscle jerks (which are not uncomfortable). This experience lasted eight hours as compared with two hours with the leaves alone and six hours in a previous *S. divinorum*/*P. harmala* experiment during which I was afraid to swallow the leaves². Chewing lemon along with the leaves has beneficial extraction properties³, and kills some of the taste as well. This is by far the worst tasting entheogen, 'though it's my favorite. I seem to be the only one who thinks that the taste of these plants is essential to the experience. — E.B., TX

HYPERVENTILATING ON SALVIA / LSD **(4/3: 1995)**

Upon reading that a large initial intake is critical to the level of the experience, I smoked *Salvia divinorum* in a bong. One inhalation led to minimal effects when used alone. Desirous of the full spectrum, I tried smoking it while fully in the midst of my usual 350–450 mcg dose of LSD. I inhaled deeply and then again. Sometime after the second inhalation, I completely lost awareness of anything. After several seconds (or minutes, I really don't know) awareness returned, though only remotely. There was a pain in my lungs and I began deep-breathing. I started to panic and thought I'd burned my lungs somehow. While still desperately puffing in and out, my perception imploded. Our vision resolves images from each eye into one image: in this case, my perception became impossibly skewed; my consciousness was imploding! Totally confused, I felt that I was being electrocuted and I began spinning and moving around to free myself from the "current." My face felt like it was also imploding and at one point it seemed like I could see its other side; my eyes were now facing each other! I was convinced that death was imminent. My girlfriend assured me that I appeared normal, which comforted me greatly. At this point I had no memory of smoking the *S. divinorum*—it took ten minutes before I remembered. I sat in total confusion, still convinced that death was certain. Slowly, the familiar LSD awareness returned, though for a long time my central vision bulged as in M.C. ESCHER'S *Balcony* and I felt that my mind had malfunctioned terribly. In retrospect, the phenomenon was much like a profound and relentless dizziness. I've smoked just *S. divinorum* twice since this experience and found that I need inhale only a minimal quantity (two small puffs) to stimulate a mild, short-acting recurrence of the phenomenon. —R.S.

PEGANUM HARMALA / SALVIA (4/3: 1995)

First, a *Peganum harmala* extract equivalent to 2 grams of seeds was smoked. After five minutes, a very small amount of *Salvia divinorum* was smoked. The combination provided a much longer experience in the *S. divinorum* dimension. It also seemed to smooth out the weirdness of the *S. divinorum* a bit, making it an even more pleasant experience. Definitely a potent combination. — TOAD

SALVIA, 2C-B, MUSHROOM COMBINATION (5/4: 1996)

Correspondent first describes an experience with a 2C-B and psilocybian mushroom combination.

...90 minutes later, it was decided that we would try adding some *Salvia divinorum* into the mix. I was hoping that the other substances in my system would act as a launching pad to propel me further into the *S. divinorum* dimension than I had been able to get previously on the leaves by themselves. Fortunately, I was correct. I loaded a large glass bong and proceeded to fill my lungs to capacity with smoke. As I closed my eyes and held it in, faint deep-blue tendril-like forms reached out to me through the blackness, beckoning me to go deeper. I almost heard a voice telling me to "come on in." I took another enormous inhalation, put the bong down, and lay back prostrate upon the floor. As I closed my eyes, I had an overwhelming physical and visual perception of floating like a feather down a profoundly deep fissure in the earth. There were deep bluish-grey stalactites on the walls of the hole. I could vaguely hear the conversation of my companions, and actually saw their words etched in white upon the walls as I floated down. When I reached bottom, I found myself in a strange city full of greenhouse-like structures containing botanical forms that I somehow knew were the spirits of

S. divinorum. The dominant color of the buildings was electric blue and yellow. There was a sense of being looked over and evaluated by a million eyes belonging to a singular entity that was the consciousness of *S. divinorum*. I felt as though I had finally passed some sort of inspection process and was being welcomed into its world. After about two or three minutes, the visions faded, and I opened my eyes and sat up. Subtle perceptual distortions of a uniquely clear nature persisted with open eyes for another hour or so. This was a highly unique, uniformly pleasant experience in my career of entheogenic exploration, and one that I hope to be allowed to repeat in the future! Thank you, *ska María Pastora!* — ANONYMOUS

SALVIA AND 5-MEO-DMT **(5/4: 1996)**

We combined *Salvia divinorum* with vaporized 5-MeO-DMT in hopes of improving the tryptamine experience. First, we took two or three consecutive bong-hits of *S. divinorum*, and immediately followed it with a 10 mg hit of vaporized 5-MeO-DMT. The result was very encouraging to say the least! The *S. divinorum* ally is definitely in the pilot's seat—directing and focusing the 5-MeO-DMT blast with laser-like precision. It generally makes the overwhelming power of 5-MeO-DMT a much more workable experience, and it's totally different than 5-MeO-DMT alone. I think the key to properly using 5-MeO-DMT is learning how to direct its power through the body, and I would say that combining it with *S. divinorum* is definitely a step in the right direction.

As I inhaled my third and final hit of *S. divinorum*, I could feel her familiar reverberation pulling me into her world. With my vaporizer cued and ready, I quickly inhaled 10 mg of 5-MeO-DMT before the *S. divinorum* had fully taken effect. With my exhalation of the 5-MeO-DMT, I fell completely into a trance. As I closed my eyes, I could see the space between spaces and feel the smiling faces. Nothing

quite like *S. divinorum*! I was tunneling between worlds, between dimensions, with the quickness and precision of a supraliminal mongoose. Suddenly, she went off like a rocket thrusting at warp speed—a thousand times the power at her command. My body spontaneously collapsed into a twisted posture and for a few minutes I transformed into something altogether different. I lost touch for a moment (1–2 minutes?), and then I noticed that I was growling and making noises on the floor. With my senses coming back to me, I realized that my fellow traveller was pulling me up into a sitting position. As we looked into each other's eyes, I was truly amazed at the clarity of my energetic perception—it was like never before...I could clearly see his aura and his life energy as it moved through the meridians of his body. This beautiful state continued for another 5–10 minutes, then gradually gave way to a pleasant electrified baseline. The Goddess was very pleased, and so was I.

For our next experiment we first vaporized 50 mg of *Peganum harmala* extract and then added the *Salvia divinorum*/5-MeO-DMT combinations in the previous experiment. The *P. harmala* slowed things down and added a much more conscious tone to the trip. It also extended the peak to 10–15 minutes, and made for a much fuller experience. In fact, I have found that *P. harmala* adds a wonderful richness to every entheogen I have tried it with. During this particular journey I felt as if I was being pushed through 1000 years of evolution in just 10 minutes. It was as if my electro-skeletal system was stretching to the point of rupture—shape shifting, transforming, metamorphosing into a new energetic skin. It hurt so good. The energy happened to be focused in the thoracic section of my spine. It is an area of my body that is chronically blocked as I have a deformed bone that causes an imbalance. This combination opened up my back more than anything I have ever experienced before and I have developed a deep respect for this power medicine.

Needless to say, I highly recommend this combination and I encourage other *ER* readers to try it. Personally, I do not enjoy 5-MeO-DMT much by itself, but when combined with other entheogens I find it to be a most excellent experience. I have also tried combining 5-MeO-DMT with LSD, psilocybian mushrooms, and MDMA, with good results. However, these entheogen combinations act more like launch pads, whereas *Salvia divinorum* seems to grab hold and actually direct the 5-MeO-DMT blast through my body. I look forward to further experiments with *S. divinorum* and my guess is that chewing the leaves in combination with a *Phalaris* grass based ayahuasca analogue might be spectacular. — TOAD

PEGANUM HARMALA POTENTIATION OF COLEUS (6/1: 1997)

Recipe: Four cups of fresh *Coleus* (species?) plants blended with two cups water. One quarter cup *Peganum harmala* seeds blended with five cups water.⁴

The *Coleus* was boiled for three hours in a two-gallon pot. Halfway through cooking, I strained and then saved the liquid and added fresh water to the vegetable matter. I followed the same process for the *Peganum harmala* seeds. I filtered the liquids through a coffee filter. The resulting liquid was dirt black in color and rather thick.

I had been contemplating this for months. Now it was time to meet the maker. If this mixture was psychoactive, I had no idea. My intention was to find a shamanic teacher. My setting was solo, in my darkened bedroom. I sat down, and stared at the goo. One hand held my chaser of MOUNTAIN DEW, the other, hopefully a psychedelic.

30 minutes after ingestion, I felt dizzy and sick. At two hours, crystal clear geometric carpets hung in my mind.

This went on for some time, becoming increasingly intense. Then faces of holy men appeared, one after another. One stayed and I was in disbelief. But I knew he was my teacher. We spoke not, but I was filled with such a blissful feeling that I started to cry. Then my teacher disappeared. The carpets went on for some time more. Then I drifted to sleep. I know that *Peganum harmala* extremely potentiates *Coleus*. I hope other shamanic explorers will try this combo. — D., AR.

DXM / 2C-B (6/2: 1997)

An account of the combination of 300 mgs of DXM and 20 mg 2C-B is first presented.

...I spent the rest of the trip in a lovely state that I can only describe in terms of post-coital glow on a cosmic scale accompanied by the lovely visuals that are characteristic of 2C-B. Near the end of the experience, I smoked some *Salvia divinorum*, and had the feeling of communing with the spirit of the plant. It felt great; very warm and comforting. *Ska María* definitely likes 2C-B, and she seems to like me too! I slept about four hours and awoke the next day feeling reborn and refreshed, enjoying a quite delightful afterglow that lasted the entire day. I highly recommend the combination of 2C-B and dissociatives [dextromethorphan and/or *S. divinorum*], and will most definitely be doing further exploration along these lines in the future when the opportunity presents itself. — ANONYMOUS

NOTES

1) *Peganum harmala* produces nausea and diarrhea in many people at doses lower than six grams. Swallowed *Salvia divinorum* has been said by traditional users to cause vomiting (WASSON 1962). While this psychonaut only noticed deep muscle jerks as a side-effect, it seems probable that others might not get off so easy with this combination.

2) I have no idea why this trip lasted for eight hours, nor any idea why the previous trip lasted six hours. Perhaps the length of the effects are based on how long the mild sedative effects of the *Peganum harmala* lasted? Since salvinorin A is not a monoamine, it seems odd that a MAO inhibitor would lengthen or potentiate a *Salvia divinorum* trip. Nevertheless, I have heard a few other scattered reports of this occurring as well ("though none that have lasted this long). An excellent report of an experiment performed with 4 grams of ground *P. harmala* and 2 dried grams of *S. divinorum* leaf titled "Salviahuasca Works!" was posted to DANIEL SIEBERT'S SALVIA DIVINORUM E-MAILING LIST on 9/21/98. This well-designed experiment left no doubt in the psychonaut's mind that *P. harmala* definitely interacted with the *S. divinorum*, and produced an experience that "was more intensely visual than the usual Salvia trip. Maybe three times as visual." This psychonaut noted that the effects from the *P. harmala* extended beyond the effects of the *S. divinorum*, and also noted no side-effects from the combination. I have no idea if the combination of *S. divinorum* and a MAOI is safe, but it should be noted that MAOIs are *not* safe to consume with many different drugs, including some stimulants, depressants, and some antidepressants (like SSRI such as Prozac).

3) First we've heard it suggested that if the mouth is more basic, the salvinorin A will be more easily absorbed (see pages 28–30 and NOTE 4 on pages 40–41 and NOTE 8 on page 42). Now it is claimed that a more acidic environment will help extract the salvinorin A? While acids are helpful when extracting alkaloids, it bears repeating that salvinorin A is a diterpenoid, not an alkaloid. Will chewing lemons along with the leaves help extraction/absorption of salvinorin A? I have no idea. Will it help kill the bitter taste? This seems likely to be true.

4) This much *Peganum harmala* by itself is a *huge* dose and may have been responsible for the effects reported. $\frac{1}{4}$ cup of these seeds weighs about 35 grams. High doses of *P. harmala* have been reported by some to be mildly visionary. The statement: "I know that *Peganum harmala* extremely potentiates *Coleus*," is hard to evaluate as no report of the same dose of *P. harmala* and *Coleus* by *themselves* was given as a comparison.

CULTIVATION



A freshly made cutting...when viewed on end, shows the ageless mystery symbol of the circle within a square. The circle inscribed in a square is an ancient Cabalist symbol for the spark of divinity residing within the material. A circle has long represented the divine and everlasting, while the square has symbolized the terrestrial and finite.

— SOCIEDAD PARA LA PRESERVACIÓN
DE LAS PLANTAS DEL MISTERIO
The Salvia Divinorum Grower's Guide
(1998)

GROWING AND USING SALVIA DIVINORUM (3/2: 1994)

The instructions I had for growing this plant said that they require high humidity, a rich soil with one-third builder's sand to mimic a stream bed, and 80% shade. Well, I got the soil right, put the plant in a window, and misted it up to twenty times a day. No matter how much I misted, the leaves would continue to dry up from the edges and fall off. New leaves would form and sometimes get quite large but would ultimately succumb to the same fate. When some of the branches started to dry I decided that the plant would need constant humidity to recover. I stuck four pieces of pvc pipe (wet wooden rods will attract fungus) at 12, 3, 6, and 9 o'clock in the pot and put a large dry-cleaning bag around the pipes, creating a humidity tent. The *Salvia divinorum* is well on the road to full recovery and has put on dozens of new leaves, a few branches, and is now flowering. They seem to love bright light as long as they are kept moist. I believe this plant should not be allowed to be in dry air for more than a day. When in a constantly humid environment, the leaves dry to a green color in less than 24 hours. When in a dry environment, they turn black from the edges, fall off and continue to dry and

turn black for up to a week. I doubt if these black leaves are psychoactive.¹ Recently my main *S. divinorum* began to fall over and droop down. I decided to give the plant an emergency pruning and cut off the four, four-inch branches containing twenty-five leaves averaging one and a half inches in length. I rolled them into a quid and put them into my mouth between cheek and gum. After about twenty minutes I began to notice pinks and blues on the TV screen. I left the leaves in my mouth for another thirty minutes, chewing occasionally. I felt a shift in consciousness before any euphoria. The inebriation lasted an hour, but lesser effects went on for several. I suggest drying and crushing the leaves before ingesting as they take up less space that way. — ELI X, TX

Following the above cultivation advice, I placed a plastic tent around some very sickly specimens of Salvia divinorum and vented a humidifier into it. Within a matter of days the plants began to perk up—this species really likes a humid environment. In fact, I now regard it as cruelty to plants not to raise them this way! — JIM DEKORNE

SALVIA PROPAGATION

(3/3: 1994)

Salvia divinorum cloning works best by air-layering cuttings. When branches start to droop over, bend them down. Make a cut in the stem, cover with rooting hormone, and prop it so the wound is kept open. Bury the part of the stem which is thus propped in dirt and keep moist until roots form.

Only a half dozen leaves are necessary if you don't swallow, but just masticate. This is because the active principle is only absorbed through the mouth, not the stomach.²
— R.S., CA

**EXCERPTS FROM
AN INTERNET POSTING
(3/4: 1994)**

Live *Salvia divinorum* plants have been seen by this author for sale in a plant shop right off the PIKE PLACE MARKET in Seattle...Growers (in other parts of the country) need to build a humidity tent...*S. divinorum* requires high humidity, and will shrivel and die without it.³ Just use a spray bottle to mist inside your tent three times a day or so...Place your (preferably peat) container in a dish of vermiculite, which is regularly sprayed—this helps to keep the environment humid...Dry the large leaves and smoke them...in a waterpipe (it uses the material more efficiently). After about six or seven puffs of the leaves, the normal user will stop in his/her tracks, and probably want to lie down and receive the mental information this plant has to offer. You will probably be taken down trains of thought independently of your own intellect...Make no mistake—this is hardly just another plant to get “wasted” with...Don’t profane the sacred by looking at this as some sort of easy high—it isn’t. — an105679@anon.penet.fi

**LETHAL SALVIA INSECTICIDE
(3/4: 1994)**

My *Salvia divinorum* had a bug problem, so I sprayed it with an organic pesticide made of pepper and lemon oils and within four days the entire plant turned black and died completely.⁴ — E.K., LA

**SALVIA BUSH
(4/3: 1995)**

My plant has been rapidly heading for the ceiling, causing me to extend its humidity tent. In an attempt to slow it down, I cut off the stem just above a leaf junction. Much to

my amazement, this turned it into a bush! Now, instead of a main stem, there are at least ten branches emerging at all levels of the main stem.⁵ — SOLARIS

HUMIDITY TRAY

(4/3: 1995)

Salvia divinorum is definitely a humidity-loving species; a humidity tent, or some other method of providing moisture is essential to its health. The following company sells a “humidity tray” that might be useful for growing *S. divinorum* outside of a tent: LIVING SCULPTURE BONSAI, POB 257, Princeton, NJ 08550, (800) 941-0888. — M.S., PA

SALVIA CULTIVATION QUESTION

(4/3: 1995)

Can *Salvia divinorum* be grown from seed, or only from cuttings? I have only seen live plants for sale, and these cannot be shipped to Canada. — M.C., Canada

*For all practical purposes, Salvia divinorum can only be grown from cuttings, which is usually easy to do if you maintain high humidity without high heat. There is some controversy about whether this species sets viable seed, but most opinion says that it doesn't. I've yet to hear of anyone actually growing one from seed, so if you have, let ER know about it.*⁶ — JIM DEKORNE

INACTIVE SALVIA STRAIN?

(4/3: 1995)

After numerous trials, I have yet to feel much of anything from this plant either from smoking or sucking the leaves. I wonder if there are sizable potency differences in different possible strains.⁷ It would be useful in future correspondence for readers to identify the source of their plant.

There also may be soil nutrient deficiencies involved, though I doubt my plant suffers from that problem. Does anyone else experience this? — J.L., MA

It is my understanding that virtually every Salvia divinorum plant in the U.S. is a clone of one specimen brought into the country by WASSON back in the fifties or sixties.⁸ In effect then, we are all growing the same plant! A less bitter variety has recently been made available however. Anyone have further data on this? — JIM DEKORNE

SOIL MIXTURE (5/1: 1996)

Here's a dirt recipe that I find works well for *Salvia divinorum*, *Psychotria viridis*, and others: 4 gal. peat moss, 4 gal. 1:1 vermiculite and perlite, $\frac{1}{3}$ gal. sand, $\frac{2}{3}$ cup fish powder, $\frac{3}{4}$ cup green sand, $\frac{2}{3}$ cup 1:1 hydrated lime and pelletized lime (low Mg), water. Green sand provides micronutrients; fish powder probably does also. These ingredients can be obtained from NITRON INDUSTRIES, POB 1447, Fayetteville, AR 72702, (501) 587-1777 (free mail-order catalog). Make sure that the lime is low in Mg. Some people say that high Mg concentrations can interfere with the absorption of other nutrients, though it is necessary in small amounts. I welcome comments on my dirt recipe—it's a lifelong learning process in the light. — SPIRITUAL EARTHMAN

GROWING SALVIA DIVINORUM IN A HUMIDITY TENT (6/2: 1997)

Salvia divinorum prefers a cool but humid environment, and many growers utilize plastic grow-tents. In dry climates such as New Mexico, tents are almost mandatory: *S. divinorum* will grow outside a tent here, but not nearly as fast or as well. Recently I opened my tent to tend the

plants but forgot to zip it up, then left for two days. When I returned the plants appeared totally dead; the leaves were wilted past the point of recovery. I harvested everything except the main stalks, hoping that they'd revive. So far, it looks like they will make it; a few new leaves are sprouting and the stalks still look healthy. The point of this is to emphasize that if you use a tent, the plant adapts to that environment and it is all but impossible to switch to a less humid environment later on.⁹ This makes it difficult to take cuttings and start them outside the tent; all attempts so far have failed. At least that's the way it's been for me. Has anyone else experienced this phenomenon? — JIM DEKORNE

SALVIA DIVINORUM PEST CONTROL (7/4: 1998)

I'm looking for more information on growing *Salvia divinorum*. My plant loved it when I finally put it in an enclosed glass case; the humidity increased, but so did the bugs. After a while, scale was rampant. I eat organic foods, so I'm naturally against spraying my plant with poisons. I'm looking for organic solutions to the scale problems. — BZRK, NY

Concise growing information is available in the Salvia Divinorum Grower's Guide (see review on page 138). The Guide recommends using a solution of 4 parts water, 1 part rubbing alcohol, and 1 part liquid castile soap to control scale infestations. The plants are completely drenched with this solution, which can be applied from a spray-bottle (SOCIEDAD PARA LA PRESERVACIÓN DE LAS PLANTAS DEL MISTERIO 1998). It strikes us that it would be best to rinse off the plants a few hours after applying this solution (although the Guide claims that leaving the solution on doesn't harm the plants). If several of these treatments don't get the problem under control, the scale may have to be removed manually, with one's fingernails.

Another solution is available from NATURE'S CONTROL, a company that specializes in "beneficial" predatory insects. Their What's Eating My Plants brochure states:

Black ladybugs will feed on scale when mealybugs run low. Scale control with natural predators has been variable, and we continue to search for improved controls. Many gardeners resort to spraying or dabbing alcohol, light oil, soapy sprays, or mixtures of the above for scale control. Test a small area for toxicity from any of these products first.

So it sounds as if black ladybugs aren't a sure-fire method of control, but they might help and probably couldn't hurt. NATURE'S CONTROL sells these for \$30.00 for 100 bugs. Call (541) 899-8318 for shipping and handling cost information. I have found NATURE'S CONTROL to have very good service. The brochure mentioned is 50¢, or free with any order. — DAVID AARDVARK

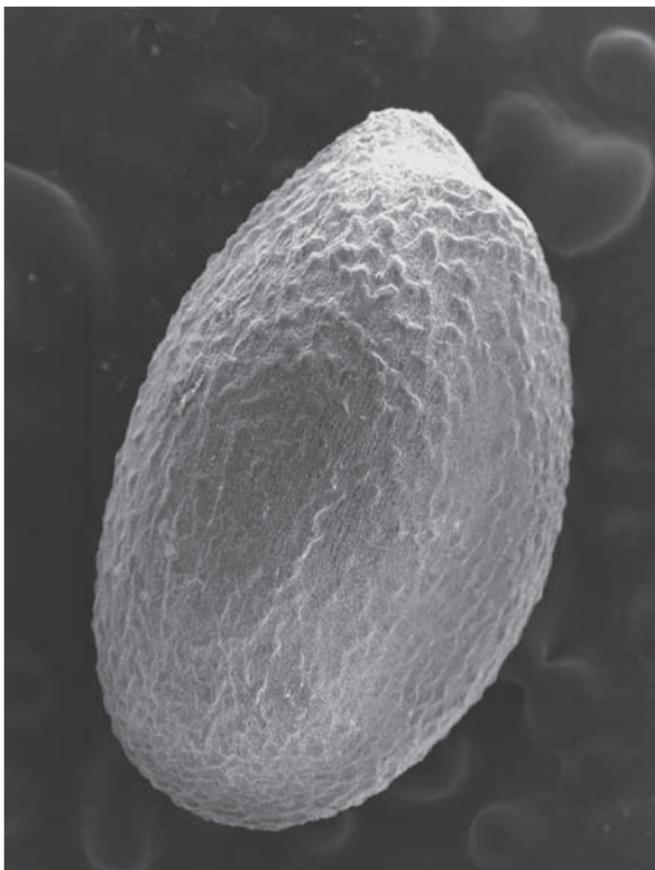
GROWING SALVIA DIVINORUM FROM SEED

by JON HANNA
(8/3: 1999)

When mature, *Salvia divinorum* seeds (technically mericarps or nutlets) are 1.8–2 mm long, 1(1.2) mm wide, somewhat pyriform, minutely tuberculate, and dark brown (REISFIELD 1993).

At one time it was believed that *Salvia divinorum* did not produce viable seed, and the only manner in which it could be reproduced was by cuttings (EMBODEN 1972; SCHULTES 1972; HEFFERN 1974; MAYER 1977; FOSTER 1984). While this belief is now known to be in error, it is true that *S. divinorum* only rarely sets seed. Those wishing to grow *S. divinorum* from seed face three obstacles: a low seed set, a low germination rate, and a low survival rate.

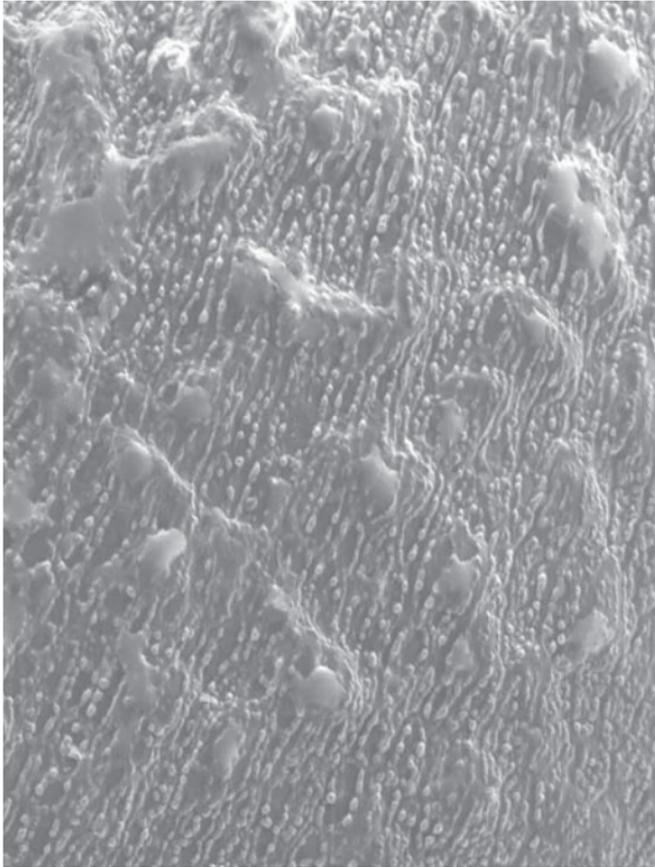
A 200 MICROMETER SHOT SHOWING AN ENTIRE *SALVIA DIVINORUM* SEED.
PHOTO BY MICHAEL DUNLAP, UNIVERSITY OF CALIFORNIA CHEMICAL ENGINEERING AND MATERIAL SCIENCE.



The first inkling that *Salvia divinorum* did indeed produce viable seed came from the 1973 book *Growing the Hallucinogens*, wherein the author stated that, "This salvia is generally grown from cuttings, but I know of one instance in which it was grown from seed" (GRUBBER 1973).

Then in 1980 while working on his Ph.D. dissertation, LEANDER J. VALDÉS III performed breeding experiments in which he cross-pollinated 14 *Salvia divinorum* flowers (using the "Cerro Quemado" clone and a "WASSON/HOFMANN" clone). 4 flowers were pollinated successfully, and 8 seeds were produced (not 4 as has mistakenly been stated; OTT

A 50 MICROMETER SECTION OF THE SURFACE OF A *SALVIA DIVINORUM* SEED.
PHOTO BY MICHAEL DUNLAP, UNIVERSITY OF CALIFORNIA CHEMICAL ENGINEERING AND MATERIAL SCIENCE.



1996). A photo of these 8 seeds was published in 1987, the first time that pictures of *S. divinorum* seeds had appeared in print (VALDÉS *et al.* 1987). These 8 seeds represent a 14.3% seed set, since each flower has the potential to produce 4 seeds. Unfortunately, these seeds were killed by overheating in a growth chamber, and their viability couldn't be ascertained (VALDÉS 1983).

AARON REISFIELD was the next person reported to attempt pollination experiments. Self-pollinated plants with 108 flowers produced 11 seeds—a 2.5% seed set, and his cross-pollination of 190 flowers produced 24 seeds—a 3.2% seed

set (REISFIELD 1993). Clearly it is difficult to get *Salvia divinorum* to produce seed. It has been noted that since the anthers and the pistils of a single flower appear to mature at different times (a way for a flower to prevent self-pollination), that this must be accounted for when hand-pollinating flowers; both the anther and the pistil must be ripe (VALDÉS 1999).¹⁰ This may be partially responsible for the substantially lower seed set that REISFIELD obtained when compared to VALDÉS (but it could also be argued that VALDÉS' sample was statistically small). REISFIELD was able to get a few of these seeds to germinate, and he described these seedlings growth as "vigorous" (REISFIELD 1993).

In January 1994 Daniel Siebert collected 70 seeds from "WASSON/HOFMANN" clones residing at the BOTANICAL DIMENSIONS' garden in Hawai'i. Hand-pollination had not been attempted on these plants, which means that the seeds were generated in conditions that might be considered as being similar to "the wild." Of 70 seeds, SIEBERT was able to get 12 or 13 to germinate (a 17.1% to 18.6% germination rate), and only 6 to survived to maturity. (Clones of these seed-grown plants are available for sale from SIEBERT'S web-based *Salvia divinorum* business.) Unlike REISFIELD'S seedlings growth, SIEBERT described his own seedlings as growing "very weakly," and he has commented that "[t]he seed raised clones seem a bit less vigorous than some of the Oaxacan material" (SIEBERT 1999a¹¹; SIEBERT 1999b¹²).

A SALVIA DIVINORUM SEEDLING ONE-AND-A-HALF MONTHS OLD EXHIBITING STUNTED GROWTH.



More recently in 1999, BRENT LINDBERG—a commercial *Salvia divinorum* farmer in Hawai'i (growing about 800 of the so-called “palatable” clone) collected 305 seeds from his plants. The plants that produced these seeds were growing in pots under 70% shade, with approximately 60 inches of rain per year. They first started to flower in November, and they were cut back at this time to promote better leaf growth, but by December there were so many in flower that LINDBERG decided to stop cutting them back. The seeds were first spotted in January, when LINDBERG was hand-pollinating flowers; LINDBERG does not think that his hand-pollination was responsible for any of these seeds (presumably since he saw them early-on in his attempts at



A HEALTHY THREE-MONTH OLD *SALVIA DIVINORUM* SEEDLING.

hand-pollination). Nevertheless, he did not notice any insects near the flowers, other than a few ants. The seeds were collected over a 2 month period; by February 13 LINDBERG had 162 seeds, and he harvested the rest after this. Only about 80% of the seed had reached maturity. Germination of 100 of these seeds was attempted, with 31 germinating (a 31% germination rate), and 10 surviving to maturity. The seeds were germinated in potting soil mixed with peat moss, and LINDBERG believes that those seedlings that died (when they just had their first small leaves) did so due to overly moist conditions (they dissolved from being too wet). The first seed germinated after 10 days, and the last seed took over 30 days to germinate. The surviving seedlings are growing with equal vigor, comparable to that of a cutting of the same size. As of August, these seedlings were 1–2 feet tall. They are kept outdoors in pots under 70% shade cloth (BEIFUSS 1999).

Several others were also sent seeds from LINDBERG'S harvest. In early April, SIEBERT attempted to germinate 20 of these seeds, of which 3 sprouted (a 15% germination rate), but only 2 survived. The first seed germinated at about 10 days, and the last at about 18 days. The 2 surviving seedlings are growing vigorously. The seeds were planted directly into commercial potting soil, about $1/8$ th inch deep. The 2 seedlings are kept in a semi-tropical greenhouse with moderate humidity and partial shade; by early August one plant was 12" tall and the other was 21" tall.

WILL BEIFUSS attempted to germinate 27 seeds, of which 9 sprouted (a 33.3% germination rate), and 3 survived. Germination was done between wet paper towels kept in a plastic tupperware-style container with the lid half off. Seeds took 6–10 days to germinate. At 3 months old, one of these seedlings was 9 inches tall and 13 inches wide at the base (leaf-tip to leaf-tip), and its growth has slowed considerably. BEIFUSS believes that this is due to this seed-grown plant having a more limited root system than a cutting of similar size would have. The remaining two seedlings (germinated at a later date) are a sickly yellow-green

and much less vigorous, having only grown to about 1 inch tall after one-and-a-half months. BEIFUSS does not think that these will pull through.¹³

After sacrificing one of the seeds sent to me to be photographed with a scanning electron microscope, I was left with 6 seeds to attempt germination on. I decide to see if gibberellic acid-3 (GA-3) would help my success rate with germination. (See *Seed Germination: Theory and Practice*, second edition by NORMAN C. DENO¹⁴ for more on the use of GA-3; this is an excellent book that I recommend to anyone who is trying to germinate difficult seeds.) On August 16, 1999 I attempted germination in paper towels using GA-3 and following the advice in the aforementioned book. In 8 days, 1 of these seeds germinated, and by 20 days a second seed germinated. The first germinated sprout seems to be growing well, albeit slowly; the second sprout hasn't yet pushed through the soil. Although additional seeds may still germinate, as it stands this is 33.3% germination rate.¹⁵ With such a small number of seeds, it is tough to say for certain whether or not the GA-3 treatment had any positive or negative effect on germination.

It has been proposed that the various collected plants brought into cultivation in the USA might all be genetically identical, and the similarly low seed set with self-pollinated plants and cross-pollinated plants might indicate that this is the case (REISFIELD 1993). It is certainly a *possibility* that all of these plants are monoclonal, and this question could easily be put to rest by performing genetic testing on the various plants now available.

All of the seed-grown plants currently in cultivation look identical to their parent plants except for one grown by SIEBERT, "Paradox" (aka DS03), which has leaves that are "ever so slightly mottled" (SIEBERT 1999a). It has been suggested that *Salvia divinorum* may be a hybrid (REISFIELD 1993), but no reasonable candidates for parent plants have been proposed. Due to the consistent similarity of all known seed-grown plants (excepting the very minor dif-

ference in the “Paradox” clone), it seems unlikely that *S. divinorum* is a hybrid. If the plant were a hybrid, the seed would be expected to produce extremely variable plants (VALDÉS 1999).

There are also the questions of whether or not the plant is a cultigen, whether or not it has been found in the wild, and whether or not it has set seed in its native habitat in México. Cultigens, by definition, require the intervention of human beings to thrive and reproduce. (For example, corn—a true cultigen—cannot survive without human intervention.) In the Sierra Mazateca, *Salvia divinorum* can clearly do quite well by itself (VALDÉS 1999). The Mazatec curandero Don ALEJANDRO VICENTE has stated that the plant does indeed grow wild in the fairly inaccessible highlands of the Sierra Mazateca, and he has also stated that these plants produce seed that can be planted to grow *S. divinorum* (VALDÉS 1987; VALDÉS 1994; VALDÉS 1999).

It seems unlikely that Don ALEJANDRO VICENTE would lie about where *Salvia divinorum* grows wild, and whether-or-not it produces seed. Nevertheless, no definitively “wild” stands of *S. divinorum* have been found to date, and no Mexican-grown plants have been observed by ethnobotanists to produce seed.

Salvia divinorum depends on a shorter photoperiod to produce flowers. In warmer climates, where the plants can be left outside during the late fall and early winter, plants will go to flower naturally. My own plants, grown in California, have flowered every year. Those who live in colder climates that necessitate indoor growing will have to shorten the amount of daily light that the plants receive, in order to induce flowering, should they wish to attempt hand-pollination.

Citations not mentioned in the Annotated Bibliography or Notes:

BEIFUSS, W. 1999 Personal communications.

MAYER, K.H. 1977 “*Salvia divinorum*: Ein Halluzinogen der Mazateken von Oaxaca, Mexiko,” *Ethnologie Americana* 14(2): 776–779.

NOTES

1) I am not aware of any studies comparing the potency of leaves that have dried naturally on the plant and fallen off to those that have been picked and dried.

2) See NOTE 1, page 17 and NOTE 4 page 100.

3) It simply isn't true that *Salvia divinorum* requires a high humidity environment to grow. We have seen healthy plants growing in a very dry hot California climate, in full sun. In the summer, these plants were regularly exposed to temperatures that exceeded 100 degrees. Due to the low humidity/high light, these plants had much smaller leaves than those grown in a high humidity and in the shade. The leaves were a much lighter green color, and tended to be thicker and "bumpier" than those grown in high humidity/shade. Overall the plants stayed much shorter and smaller than those grown in high humidity/shade.

Salvia divinorum must be very gradually adapted to the "harsher" environment described above, or it will wilt and die as many people have experienced. But once adapted to a low humidity environment, the plants show no sign of leaf-edge browning that is common when the plant is first placed in a lower humidity environment than it originated in.

It should be made clear that, while perfectly healthy plants can be grown in a low humidity/high light and hot environment, these conditions are *not* preferred for maximum growth. Plants will grow most rapidly and with the largest leaves if kept in high humidity and only *partial* sun. Shade cloth and misters can work wonders for those in a sunny, dry location who wish to maximize their plants' growth.

4) Whenever using insecticides—even organic ones—it is a good idea to test a small area of the plant prior to spraying the whole plant, to see if there is any negative reaction. If after a few days the plant seems fine in the area sprayed, then the whole plant can be treated. It is also probably a good idea to completely rinse off the plants with water a couple of hours after the insecticide has been applied, by which time we expect that most of the insects that *are* going to die will have expired.

5) This process of "pinching" a plant to produce more growing shoots is commonly used by *Cannabis* gardeners. As SOLARIS found, it can also a valuable process for use with *Salvia divinorum*. The only drawback that we have heard from one grower is that when the main stem is pinched, the two new stems that replace it aren't as strong as the one that was pruned. These weaker stems may break off sooner, when the plant becomes to tall to hold its own weight.

6) It is true that *Salvia divinorum* only rarely sets seed, and it is also true that those seeds which germination has been attempted on have proven to be of low viability. VALDÉS' pollination experiments produced some

seed, but these were killed when their growth chamber dried out due to overheating, and the viability could not be determined (VALDÉS 1983). REISFIELD'S pollination experiments produced 35 seeds (which represented a low 2.5–3% seed set), "several" of which germinated (REISFIELD 1993). SIEBERT planted 70 seeds that he harvested from plants grown in Hawai'i, of which 13 germinated and only 6 survived (SIEBERT 1998). SIEBERT'S plants are the only known seed-grown plants available for sale on rare occasions from his web site. I am hopeful that more people will hand-pollinate their *S. divinorum*, in an attempt to produce seed.

7) See NOTE 1, page 40 and NOTE 9, page 42.

8) It is likely that most people selling unlabeled clones of *Salvia divinorum* are selling the WASSON/HOFMANN clone, and it is also likely that this is the clone that most people are growing. However, many people are now growing the BLOSSER "palatable" clone. As well the six seed-grown plants that SIEBERT produced have been in the past (on rare occasions) available commercially from SIEBERT, along with additional distinct clones from Oaxacan collections including the "VALDÉS Cerro Quemado," "BRET BLOSSER #2," "KH96" (collected by KATHLEEN HARRISON in 1996), and the possibly seed-grown "JOHN CLOUD" and "Luna" clones.

9) As mentioned in NOTE 3 above, *Salvia divinorum* can be acclimated to a dry climate, and the preferred method of doing this is by gradually placing the plant for increasing lengths of time into the dry environment. However, a more drastic method of acclimation is to remove all leaves from the plant (except for those on any tiny sprouts at the nodes), and then place the plant directly into the dry environment. The new growth that sprouts should quickly adapt as it grows. It is likely that the plants DEKORNE describes having removed "everything but the main stalks" from would have been fine to immediately move into a low humidity environment.

10) Citations marked "VALDÉS 1999" were based on information obtained through personal communication with L.J. VALDÉS III.

11) Citations marked "SIEBERT 1999a" were based on information obtained from DANIEL SIEBERT'S "Clones of *Salvia divinorum*," posted at <http://salvia.lycaenum.org/clones.html> at the time this article was written.

12) Citations marked "SIEBERT 1999b" were based on information obtained through personal communication between WILL BEIFUSS and DANIEL SIEBERT.

13) WILL BEIFUSS lost all of his *Salvia divinorum*, including his seed-grown plants, due to neglect. The sole surviving plant is one of the two sickly slow-growing seedlings, that was rescued by JON HANNA, when BEIFUSS wanted to throw it out after deciding that it was "too depressing to look at any longer." After two years (growing indoors under a small fluorescent lamp), this plant has only reached about 10 inches in height, and HANNA is beginning to agree that it is a depressing site.

14) *Seed Germination: Theory and Practice*, second edition by NORMAN C. DENO is privately published and distributed by the author. It is available for \$20.00 postpaid (to anywhere in the world) from: NORMAN C. DENO, 139 Lenor Drive, State College, PA 16801, USA.

15) HANNA stated later that the seed that sprouted ended up dying shortly thereafter, and the second seed that germinated never pushed through the soil.

**REVIEWS, INTERVIEWS,
COMMENTARY & PRESS**



It's not that a substance exists that triggers its scheduling, nor is it that people are in fact using it—even large numbers of people, it's when this fact becomes *known* that the wheels of the anti-drug laws start to spin. So, in my opinion media attention on *any* currently legal entheogen is *always* bad.

— RICHARD GLEN BOIRE, Esq.
on *Salvia divinorum* in:
“Traps & Trajectories
of Entheogen Law”
(1997/1998)

BOOK REVIEW (5/4: 1996)

Salvinorin: The Psychedelic Essence of Salvia Divinorum by D.M. TURNER. 1996. PANTHER PRESS [1032 Irving Street, #514, San Francisco, CA 94122], ISBN 0-9642636-2-9 [Perfect-bound paperback, \$11.95 postpaid, foreign orders add \$3.00 S&H, CA residents add 72¢ tax]. 57 pp.; no index; 1 p. bibliography of 13 references, plus 2 additional sources of information.¹

This is the very first book-length monograph on the effects of *Salvia divinorum* (and its extract, salvinorin A), on human consciousness. As such, it is an instant classic. D.M. TURNER, author of *The Essential Psychedelic Guide* ², is (or certainly should be) well-known to most ER readers. Intrepid tripper, psychonaut, neo-shaman—whatever you want to call him, chances are that TURNER has already “been there and done that” in the realm of psychedelia.

Beginning with its discovery by western science in 1939, through its wider introduction to the world by R. GORDON WASSON in 1962, to its ultimate explosion on the psychedelic scene in June of 1993 via the work of DANIEL SIEBERT, TURNER documents the history of this magical herb up to

the present day. He goes on to describe methods of ingestion, gives appropriate warnings and follows it all up with many accounts of his own and other people's trips with this new substance. Some of these trips are combinations—a D.M. TURNER specialty; salvinorin A with LSD, salvinorin A with DMT, salvinorin A with 2C-B—you get the idea. Included is the original account of DANIEL SIEBERT'S pioneering trip on salvinorin A; as far as is known, the largest single dose of this substance ever ingested by a human—a whopping 2.6 milligrams! (Like LSD, salvinorin A is active in the microgram range, so 2.6 mg is a *very large* overdose.³ Read all about it here!)

After saying all that, what's left to say? If you are at all interested in *Salvia divinorum* you should own this very important book in the history of entheogens. — JIM DEKORNE

TERENCE MCKENNA SPEAKS... **(7/1: 1998)**

Transcribed from a video broadcast at the MIND STATES conference, November 23, 1997.

I know that whenever the tribe gathers, whenever the psychedelic community comes together in one place, the issue of our status with regard to the rest of society, and the issue of the status of these substances about which we care so much is discussed. Should we expend political, capital, and social energy to make these things legal? If we did, would many more people who don't today take these things feel free to explore them? Or, in a way, is this wish to legitimize our activities by having them brought in under the umbrella of legality... in a sense, it's a very unpsychedelic impulse. It is an effort to somehow make peace between cultural values; [the] constipated Christianity-driven Calvinistic and the untrammelled wild wilderness of the psychedelic experience. I admire the people

who have worked for medical marijuana, the chemists who have given expert testimony in an attempt to help out members of the community who have run afoul of the law, as they say. But I wonder, really, if the psychedelic agenda is to be satisfied by simply gaining legal legitimacy?

We have a very interesting plant now working its way into our midst—*Salvia divinorum*. *Salvia divinorum* is not illegal, it's easily grown throughout the civilized world, it does not have to be administered in some potentially damaging way—in other words, it doesn't have to be shot; it can be smoked, it can be chewed. And it is without question, extremely powerful and effective. It's amazing to me that this plant could appear in our midst, with these qualities, and be accepted with such lack of fanfare. In other words, this is truly big news. In a sense, Nature has stepped into the drug legalization issue—the psychedelic legalization issue—with a *deus ex machina*. I don't believe the establishment is interested in demonizing and criminalizing a new easily grown, widely available psychoactive plant. I don't think the establishment needs a new *Cannabis*... Late in the dialogue about psychedelics, who would have thought that [nearly sixty] years after the invention of LSD and the flurry of psychedelic excitement among the botanists of the '60s and the '70s, that not only an entirely new substance would be discovered, but a substance in a chemical category previously unsuspected of psychoactivity. So in a sense, this is a wild card in the deck, and if we—the psychedelic community—play it to our advantage, we can perhaps transcend the them/us dualism of [drug repression/drug advocacy]. Well, how is that to be done? The answer I think, is responsibly, with attention. Let us not generate emergency room entries and drug casualties based around *Salvia divinorum*—this is the raw material out of which our enemies will fashion our nemesis.

In the past, the psychedelic community has too often been influenced by those who, I think, didn't have its best interests in mind. And by that I mean people who saw psychedelics as somehow a fuel for the popularization of

a certain musical agenda, or a certain political agenda, or a certain commercial agenda. I think that if we insist that these things are to be taken—and taken seriously, and taken in shamanic settings—that at this point in the struggle over psychedelics, the establishment is so demoralized, spread so thin, so exhausted, that they will simply decide to leave this particular compound alone. And that will indicate, to me at least, the turning of the tide.

You know, with these new techniques of liquid CO₂ distillation of plant materials, nanogram quantities of material that was previously destroyed by high temperature extraction is being gotten out and characterized. And, as you might have predicted, the revelation is that alpha-salvinorin, the active ingredient in *Salvia [divinorum]* is very probably only one of an entirely new family of psychoactive drugs. What these drugs eventually will do in terms of the experience they elicit, we don't know. We may be looking at new tranquilizers, new stimulants, new psychedelics, potential memory-enhancing drugs, potential learning-enhancing drugs, we don't know. This is a cornucopia of new psychedelic possibilities.

At this point, the average man and woman on the street has never heard of *Salvia divinorum*. If the community acts responsibly, they will not hear about it for some time. This is an opportunity for us, for the first time in our lives to take, advocate, synthesize, extract, explore [and] do therapy with a psychoactive compound that is not illegal. We have not been in this position since 1967, that's more than the lifetime of many of you. So let's take this opportunity, and this plant, and attempt to use it as a model for bringing it and other potential psychedelics into ordinary human usage and put them to the purpose of reconnecting ourselves to the values of the earth, and reconnecting ourselves to each other.

SALVIA DIVINORUM GROWER'S GUIDE (7/2: 1998)

SOCIEDAD PARA LA PRESERVACIÓN DE LAS PLANTAS DEL MISTERIO, 1998. SPECTRAL MINDUSTRIES [POB 73401 (Dept. ER), Davis, CA 95617-3401], ISBN 1-890425-01-X [Perfect-bound paperback, \$11.95 plus \$3.00 S/H]. 64 pp.; no index; 1 p. bibliography of 12 sources, plus 1 p. of 'Sources and Supplies' featuring 4 entries and 1 p. of 'Other Good Information Resources' having 7 entries.

The *Salvia Divinorum Grower's Guide* is the first book devoted to the cultivation of this rare plant, and it is a good one. The book was written as a collaborative effort by several growers, so you get the benefit of many people's input and experience. If you have never grown *Salvia divinorum*, the book takes you through the whole process starting from the day you receive your cutting right through to harvesting and drying the leaves. In between you will learn about the optimum growing conditions for the plant, fertilizer requirements, pest and disease problems, hydroponic cultivation and much more. The book suffers from a lack of any photos or illustrations. Hopefully this will be corrected in a future edition. Unless you have done a lot of reading on the Internet, I highly recommend buying this book before trying to grow this enigmatic plant. — WILL BEIFUSS

SKA PASTORA IN OREGON A report on the first-ever *Salvia divinorum* conference held December 11–13, 1998 (7/4: 1998)

It seemed a bit odd to be one of 100+ people trekking through the winter snow of Oregon in the dark to attend the sold-out conference dedicated to *Salvia divinorum*, but that's where I found myself a few weeks ago. Upon arrival at BREITENBUSH HOT SPRINGS, I overheard a frantic

discussion between a couple of the resident-employees, who were already concerned about smoking by some of the conference guests. Not *Cannabis*, mind you, but cigarettes. And not indoors, but outdoors. Smokers were later told that they had to huddle in a specific local—a tiny open-sided shelter a stone’s throw from the main building. The folks at BREITENBUSH seemed to be overly concerned that their buildings would be set ablaze by a wandering spark or burning cigarette butt; never mind the fact that the buildings were soaking wet from the snow. You have to bring your own pillows and bedding to BREITENBUSH. As well, the cabins have no electrical outlets and you are encouraged to turn off lights at every opportunity. This made more sense when it was explained at the orientation that BREITENBUSH is “off the grid;” they generate their own electricity that can’t be squandered on things like washers & dryers, and the guests’ plug-in stereos or lap-top computers. The buildings are all heated by the naturally hot ground water, which is pumped through radiator pipes in each room. Consequently, it was quite warm in the buildings. Most everyone padded around in their socks while indoors, creating a casual, relaxed, and cozy atmosphere. The folks running the venue lightened up a bit with regard to smoking *Salvia divinorum* in the cabins—quite hospitable of them—’though cigarettes and *Cannabis* were still banned. Many people took advantage of the hot springs and the sauna. The food—vegetarian and vegan only—started out okay and went downhill; our last meal was bland rice and a noodle dish, and I had to wonder if the cook had ever heard of the concept of a “complete protein.”

After orientation, the speakers each introduced themselves. The conference attendees were asked (by a show of hands) how many people had never used *Salvia divinorum* or salvinorin A. Shockingly, about half of the group raised their hands! I was quite surprised that this many people would part with \$350.00 to attend a conference about a plant that they had no personal experience with. At this point an additional surprising bit of information was

learned: ANN SHULGIN had never actually tasted *Salvia divinorum* or salvinorin A, and although SASHA had eaten the leaves back in the '60s once and had no effects, he hadn't tried the plant in any form since then. Considering the short period of action that vaporized salvinorin A has, it seemed odd that the SHULGINS hadn't tested this out prior to the event. I asked SASHA if this was due to concerns of toxicity, and he replied that it wasn't; they simply hadn't gotten around to a bioassay due to more pressing trials of other compounds.

The other speakers introduced themselves, and it was learned that *Salvia divinorum* leaves and extracts—including pure salvinorin A—would be available from various attendees. Then SASHA took the floor and gave an animated presentation on the topic of clerodane and neoclerodane terpenes and terpenoids. He pointed out that the first clerodane structure was described incorrectly, and that this compound has not actually been found in nature. Hence, the terms clerodane (from the early literature) and neoclerodane (used now) both describe the same structure. Does the term neoclerodane diterpenoid accurately convey the chemical structure of salvinorin A? Some would say yes, others might say no.

Saturday morning after breakfast, JONATHAN OTT related the early history of *Salvia divinorum*/salvinorin A, and told of his recent trip to the Sierra Mazatec where he quickly-swallowed a “large” glass of leaf-juice and found it to be active, if only weakly so. He also mentioned that *S. divinorum* seems to cause his core body temperature to go up, and jested that perhaps those involved in auto-trephination might insert a thermometer whilst on *S. divinorum* to test their brain temperature. JONATHAN mentioned a number of other potentially active *Salvia* species, including *S. Argentia*, *S. carnosa*, *S. coccinea*, *S. gregii*, *S. miltiorrhiza*, *S. microphila*, *S. sclerea*, *S. splendens*, and *S. superba*. After JONATHAN'S talk, DANIEL SIEBERT spoke about more current studies, including the fact that he had tested fairly pure salvinorin B up to 4 mg (vaporized) and found it inactive.

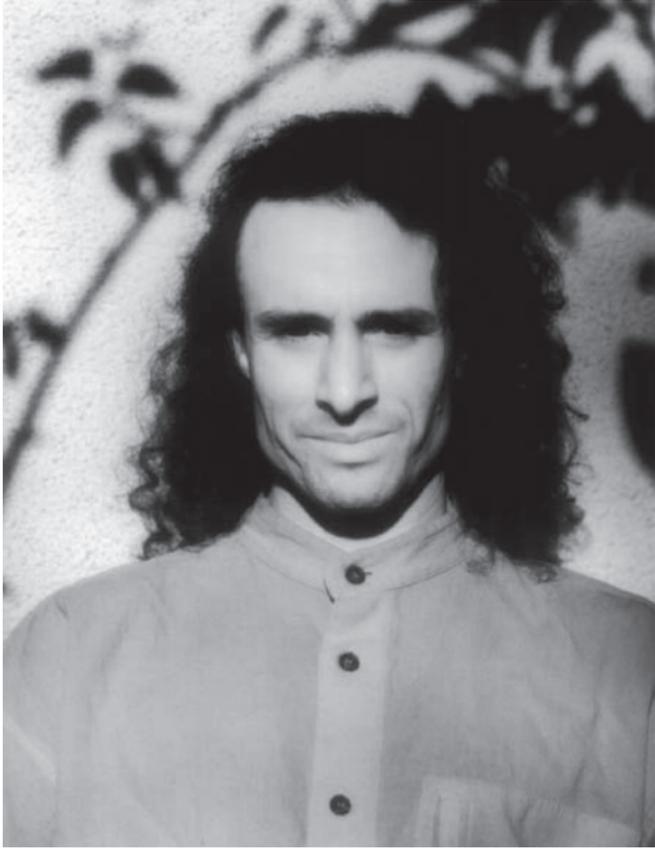
After lunch, BRET BLOSSER presented his experiences using *Salvia divinorum* with a Mazatec curandero. Although I had heard a similar talk in 1997 at the B.P.C. conference in Palenque, this time his talk benefitted greatly by the inclusion of a beautiful slide presentation that focused in part on his caving expeditions. After BRET concluded, DALE PENDELL waxed poetic on the teachings and experience that *S. divinorum* can provide, occasionally shifting chairs to “channel the ally.”

Following dinner, a panel discussion with DANIEL SIEBERT, STORM JECKER, and ANN SHULGIN related the importance of having a “sitter” present while experimenting with salvinorin A. DANIEL noted a variety of common themes that have been reported. STORM expounded on these by describing the experiences she had while sitting for several dozen people at the ENTHEOBOTANY seminar in Uxmál earlier this year. And ANN explained how the “contract” that she had used as a lay-therapist in her MDMA sessions should be appropriate for use with *Salvia divinorum*/salvinorin A sessions. ANN had more questions than answers on the topic at hand, and her curiosity as to whether or not this plant/compound could be used efficiently for psychotherapy kicked off a spirited group discussion, with the conference attendees sharing their experiences. One of the more interesting comments was made by STORM, who related the idea of focusing on a question or intention, just prior to and while smoking salvinorin A. This seemed to have an effect, in many people that STORM sat for, of “imprinting” the trip, and was seen to be quite helpful. STORM’s catch-phrase, “it is for divination, not recreation” was well-received by many in attendance.

Sunday morning’s talk was a cultivation forum with DANIEL SIEBERT and ROB MONTGOMERY, which I unfortunately missed. After this a discussion on the successes and failures of the conference was set into motion by some of the attendees. My own take? The conference was very enjoyable, even though there wasn’t a lot of new information presented. The main fun of these events is the meeting and convers

ing with other attendees. The biggest drawback of the conference (and of the 1997 B.P.C. seminar in México that I attended) is that there really isn't enough time to spend with the other conference attendees. If the official talks were blocked out for part of one day, attendees would have the opportunity to get together without worry of missing one or more of the talks. As I have commonly heard this complaint from others who have attended B.P.C./ENTHEOBOTANY events, I hope that the producers consider the idea of scheduling "free time" at future events. Nevertheless, the first *ska Pastora* conference was a great success, and highly enjoyable. — JON HANNA

PHOTO BY WILLIAM MACKENZIE-SMITH



DANIEL SIEBERT SPEAKS...
Interviewed by WILL BEIFUSS
(8/3: 1999)

Will: When did you first become interested in *Salvia divinorum*?

Daniel: It might be more fitting to ask, "When did *Salvia divinorum* first become interested in me?" I first came across a description of *Salvia divinorum* in 1973 in a little booklet entitled *Legal Highs*, which described the effects of *Salvia divinorum* as being similar to psilocybin, but shorter-

acting. This caught my attention immediately, since I was a young, "hip" teenager at the time, with a lot of curiosity about psychedelics, and the comparison to psilocybin was seductive. I probably would have tried it immediately if I could have gotten my hands on it, but back then *Salvia divinorum* was quite rare and very hard to obtain. THE CHURCH OF THE TREE OF LIFE owned a large plant and was offering rooted cuttings as a premium for donating \$100.00 or more to their CHURCH, but that was more money than I could possibly afford at the time. Nevertheless, I was interested enough that I wrote to the CHURCH for more information, but that was as far as it went. It was not until the early '80s that I came across the plant again. I was browsing through THE REDWOOD CITY SEED COMPANY'S catalog and noticed that they were offering *Salvia divinorum* plants. I think they were charging around \$25.00 at the time, and I ordered one. Unfortunately the plant died within a few days after I received it. About a year later, I attended a TERENCE MCKENNA lecture near Los Angeles. I noticed a man in the audience who was carrying a potted *Salvia divinorum* plant. I went over and introduced myself. He was surprised that I recognized his obscure little plant and he explained that he was having good success growing it. The plant he was carrying was a spare plant that he brought so that he could share it with others. He broke off a branch and gave it to me. By the time I got home the cutting was completely limp and looked hopeless, but I managed to revive it by putting it in a glass of water and misting it frequently. Eventually the plant rooted and I potted it up and put it in the small, eight-foot-tall greenhouse I owned at the time.

While the plant was growing I did some research. After asking around a bit, I found several people who had tried *Salvia divinorum*. They all seemed rather unimpressed by the effects (or lack of them) and seemed to feel that it was basically not worth the trouble. Many people were actually of the opinion that *Salvia divinorum* was inactive and attributed the reports of its alleged activity to the placebo effect. However, one person I spoke with was KAT

HARRISON. Although her own experiences with the plant had been underwhelming, she mentioned that her friend, the anthropologist BRET BLOSSER, had taken *Salvia divinorum* under the guidance of a Mazatec shaman and had a powerful visionary experience. Apparently he had been instructed to eat 13 pairs of leaves that had first been rolled into a cigar-shaped cylinder.

Within about a year the plant I had obtained was hitting the ceiling of my crowded little greenhouse and was suffering a serious infestation of scale insects. I decided to move the plant outside, hoping that I could deal with the scale problem more easily once the plant was outdoors. Almost immediately when I moved the pot, the plant leaned over and the main stem snapped off, right at the base of the plant—just a few inches above the soil. Trying to rescue the situation, I saved some cuttings from the fallen plant and I collected all the leaves that were free of insects. I wrapped the leaves in moist paper towels, then put them in a plastic bag in the refrigerator, hoping that they would stay fresh until I could find an opportunity to try them. At that time it was commonly believed that *Salvia divinorum* was only active when the leaves were consumed fresh. The dried leaves were thought to be completely inactive.

Finally, about a week later, I arranged to try the leaves with two friends. We had decided to try the leaves together outdoors on the patio at dusk, ingesting them in the same manner as BLOSSER. We each counted out our 26 leaves, rolled them into a nice cigar-shaped bundle and began to take bites. The more I ate the worse it tasted. It became increasingly difficult to swallow because of the strong bitterness, but somehow we all managed to finish our leaves. In about ten or fifteen minutes I seemed to notice a slight change in my vision. I could vaguely perceive a colored halo surrounding objects. I said, "I think I feel something." Then I stood up and walked a short distance. Moving felt a little odd. I was suddenly more aware of space and perspective. I was now certain that things were looking different. I remember saying, "I definitely feel something now."

One of my friends looked a little disappointed and said, "I don't feel anything." Then almost before he finished saying the word, "anything," he fell out of his chair. He was laughing hysterically. I don't think I have ever seen anyone laugh so hard, his body was convulsing with laughter. He seemed to be trying to say something, but it was incomprehensible because he couldn't stop laughing. His laughter was contagious and we all started laughing uncontrollably. After several minutes, he was finally able to speak. He asked, "Are you in it?" At the time, I was not sure what he meant by this question; later he explained that he was in an underground cavern. He was asking us if we were there too.

By this time, all three of us were experiencing the profound effects of the herb. There was something very natural and nurturing about it. I felt a deep sense of assurance and comfort, a feeling that everything was at peace and as it should be. I saw the cozy little homes of fairy-like nature spirits nestled in the hills all around me. I saw long-eyelashed elf-like entities that were strangely cartoonish in character. Interestingly, although we did not talk about it during the experience, all three of us later described seeing these long-eyelashed entities. After about an hour, the effects gradually began to subside, leaving us feeling relaxed, comfortable, and amazed. It was a truly wonderful experience. Ever since then, I have been passionately interested in this plant.

Will: *Salvia divinorum* has a reputation for producing very bizarre effects. Do you feel this plant can be used for spiritual/personal growth outside of its traditional use by Mazatec shaman?

Daniel: Absolutely. I think this is the main reason people are drawn to *Salvia divinorum*. It is like a trans-dimensional doorway that allows one to step outside of consensual reality, providing a unique opportunity to explore the nature of consciousness and the fundamental mysteries of existence. It can take one through death and birth. It can

transport one to another place and time. It can show you the creation and end of the entire universe. Experiences like these leave a lasting impression and are tremendously enriching. I believe that *Salvia divinorum* will also prove extremely valuable as a tool in psychotherapy, because it allows access to the deep inner reaches of the psyche. I have heard from many people whose lives have been positively transformed as a result the insights gained from their experiences with this herb.

There is an interesting double-blind experiment currently underway in Canada that is studying the effectiveness of *Salvia divinorum* as an aid to meditation. The study is headed by IAN SOUTAR and is being funded by MAPS. IAN has been involved with a group of Quakers who practice silent meditation. They have found that low, non-visionary doses of *Salvia divinorum* taken sublingually have the effect of freeing the mind of distracting thoughts and promoting a clearer, more focused state of mind that is ideal for their meditation practice. This study is interesting to me because it is exploring a whole new approach to working with *Salvia divinorum*.

Will: Tell me about the book you are currently writing.

Daniel: Yes, of course. I am very excited about the project. The book has grown much larger than I had originally conceived, and consequently is taking me much longer to complete than I had originally planned, but I feel that it will prove well worth the wait. The book is quite comprehensive and covers virtually all aspects of the subject: history, botany, horticulture, ethnobotany, chemistry, biochemistry, the phenomenology of its effects, preparation and safety, methods of use, the importance of ritual, *etc.* I am toying with the idea of publishing two or three sections of the book separately and prior to completing the entire work. One of these would be a book on the botany and horticulture of *Salvia divinorum* and another would be on the phenomenology of its effects.

Will: In researching the book, have you traveled to México?

Daniel: Yes, I spent some time in the Sierra Mazateca in the spring of 1999 conducting interviews, taking photographs, exploring *Salvia divinorum's* native habitat, and participating in traditional ceremonies with two well-respected shamans. The trip was quite magical, and fruitful. It greatly deepened my respect for this herb and my appreciation for the indigenous healers who work with it. I learned a great deal about *Salvia divinorum* from the Mazatec perspective and I will be sharing some of what I learned in my forthcoming books. It is an extraordinary region and I anticipate returning regularly to conduct further research and to visit my new friends there.

Will: Do the shamans you met in México know of *Salvia divinorum's* growing popularity worldwide? Did you mention this to them? If so, what do they think of this?

Daniel: The curanderos I spoke to seemed unaware that *ska María Pastora* was growing in popularity abroad. Most of the foreigners that come to their region are interested in the *hongitos* and, to a lesser extent, the morning glories. They do occasionally get people who are interested in *Salvia divinorum*, but they are very few and far between. They seemed genuinely surprised that I was so interested in learning about *Salvia divinorum*. Although it is becoming increasingly well-known in the world, it is still quite obscure compared to magic mushrooms. I think it will take awhile before the Mazatecs start seeing much *Salvia divinorum* tourism. I had an interesting conversation with a Doña JULIETA. I explained to her that most people experimenting with *Salvia divinorum* these days smoke the leaves. She was quite opposed to this practice and said that it was extremely disrespectful to use the plant in this way. She said that this was equivalent to burning your own children. Obviously she feels quite strongly about this. She made it very clear that when dealing with sacred plants, honor and respect are of paramount importance, and that *las hojas* should not be taken without observing the appro-

priate ritual diet and using them in a proper ceremonial context under the guidance of an experienced and reputable shaman such as herself.

I should mention here that there are now non-Mazatec entrepreneurs who are going into the region and purchasing *Salvia divinorum* leaves from less scrupulous Mazatecs for export. These export operations are removing hundreds of kilos of dried leaves from the region annually. Obviously the Mazatecs who are selling to these buyers are beginning to realize how popular their sacred herb is becoming abroad.

Will: What other research do you plan on conducting in México?

Daniel: Primarily, I am interested in spending more time with some of the Mazatec shamans who use *Salvia divinorum* so that I can develop a greater understanding of their use of this plant, and their particular perspective with regard to it. I think that it is very important that people who are experimenting with this herb have some knowledge about its traditional use. These shamans know a great deal about how to work with this plant in a meaningful way. They understand what can be accomplished with it and how to use it to achieve specific goals. As is true in many indigenous cultures around the world, shamanic sacred traditions are quickly disappearing. Few young Mazatecs are interested in learning these traditions. Much of this knowledge will be lost in the next 20–30 years as the current generation of elderly shamans die out. Very little information has been recorded regarding the Mazatec traditions surrounding *Salvia divinorum*. If this knowledge is to be preserved, the time to do it is now, before it disappears.

I am interested in determining whether or not some of the Mazatec's immediately contiguous neighbors, the Cuicatecs and Chinantecs, also utilize *Salvia divinorum*. I would also very much like to determine the identity of a

plant called "Yerba de la Virgen," which according to a 1952 paper by WEITLANER was used by the Otomí people in the somewhat distant region of Tulancingo, Hidalgo in the same manner as *Salvia divinorum*. It would be fascinating if this turned out to in fact be *Salvia divinorum*; but even if it is not, it would be quite interesting to discover its identity.

I am also planning to look into the genetic diversity of *Salvia divinorum*. This plant very rarely produces seed, and even on the infrequent occasions when seed has been obtained, their viability has been quite low. Because of this, the plant is virtually always propagated asexually from cuttings. Truly wild, genetically diverse, seed-producing populations of *Salvia divinorum* have never been observed by botanists. At first glance, many populations of *Salvia divinorum* appear wild, but one must realize that the Mazatecs deliberately choose to plant it in out-of-the-way locations. They believe that it should not be grown where it will be seen by passers-by, lest it lose its power. In a humid environment, such as the wooded ravines in the Mazatec Sierras, stem sections quickly root when they make contact with moist soil. Once planted in such a location, the plant spreads asexually on its own within the immediate environment, propagating itself from branches that break off or fall over. After many years the plants becomes completely naturalized in that location, appearing quite wild. It is certainly possible that truly wild populations of *Salvia divinorum* exist somewhere. However, as I said, such populations have never been observed by botanists, and the Mazatecs I spoke with assured me that it does not grow wild, but is always introduced to a location through human effort. Therefore, it appears that this plant is a cultigen with very limited genetic diversity. It may be that there are relatively few genetically different clones of *Salvia divinorum* growing in the entire region, and it is entirely possible that this species is predominately monoclonal. I would like to collect more live specimens from a wide variety of locations throughout the region so that we can see if they appear to be genetically identical or not. This could

be done using isozyme analysis or DNA fingerprinting techniques.

Will: You recently conducted an experiment to test the putative psychoactivity of another *Salvia*—*Salvia splendens*. How was the experiment set up and what were the results?

Daniel: The first published description of what we now refer to as salvinin A appeared in a 1982 paper by the Mexican phytochemist, ALFREDO ORTEGA. At that time it was simply called salvinin. In his paper, ORTEGA points out that salvinin is structurally similar to compounds that had previously been isolated from the common ornamental bedding plant, *Salvia splendens*. This caught my eye early on in the days of my work with *Salvia divinorum*, and I was curious to see if *Salvia splendens* might produce any interesting effects similar to that of *Salvia divinorum*. So I purchased several *Salvia splendens* plants from a local nursery and tried smoking the dried leaves. After smoking a huge amount, I did not notice any effects other than a slight headache. I then made an extract of the leaves using the same procedure that I had been using to extract salvinin A from *Salvia divinorum*. I experimented with this extract several times, using ever-increasing amounts, but was still unable to detect any effects. At this point I was convinced that *Salvia splendens* was inactive. Then a year or two later, I received e-mail from someone who claimed that he and a friend of his had tried *Salvia splendens* and found it to be active in very low doses. He sounded quite excited about his discovery and started posting messages on the Internet about it. He claimed that the leaves produced a sort of relaxing, anxiolytic, emotional-blunting effect. Obviously, these effects are not at all like *Salvia divinorum*. The effects he associated with *Salvia splendens* are rather like those of Valium®; it was not said to be a visionary herb by any stretch of the imagination. While I realize that such effects have their place, I personally do not find them very interesting. Nevertheless, this report intrigued me enough that I decided to try *Salvia splendens* again. Inter

estingly enough, when I did, I experienced exactly the kind of effects that he had described. However, for some reason, I was unable to experience these effects again on subsequent attempts, even though I tried using larger amounts of leaf. As this information was being posted in various places on the Internet, quite a few other people started experimenting with it. People's reports were mixed. Many people were reporting that they were experiencing sedative or anxiolytic effect, but others didn't seem to feel anything.

Because the reports were so inconsistent, I began to wonder if the "placebo effect" might be responsible for many of the effects people were experiencing, including my own. To investigate this, I decided to conduct an informal double-blind experiment using volunteers from the *SALVIA DIVINORUM* E-MAILING LIST. This is an e-mail discussion forum I founded a couple of years ago, which is dedicated to *Salvia divinorum* and other psychoactive Labiatae. I located a source for a large amount of *Salvia splendens* leaf. In order to determine if this material would be suitable for use in the experiment, I sent samples of the doses I intended to use for the study to three people who had already tried *Salvia splendens* several times and claimed to be able to distinguish its effects. Unanimously they concluded that this material was indeed active and thus should be quite suitable for the experiment. I then selected a placebo herb. I chose *Viola odorata* leaf, because it was the most similar herb in appearance and texture that I could come up with that did not have effects that were likely to be confused with those that were being associated with *Salvia splendens*. I then sent out coded packets containing pre-measured doses of *Salvia splendens* and the placebo herb to 61 volunteers. They were instructed to ingest the samples and then to report any effects experienced on a questionnaire that had been provided to them. People were allowed to choose between smoking the herb samples or ingesting them sublingually. Some people chose to do both. So I collected two sets of *data* based on method of ingestion.

The purpose of the experiment was to determine if people would be able to distinguish *Salvia splendens* from the inactive placebo herb. If *Salvia splendens* does produce a significant effect, this should show up in the *data* obtained from the questionnaires. Unfortunately, only 31 of the volunteers completed the experiment and returned the questionnaires, so the amount of information I had available to work with was relatively small. Nevertheless, I think that the results are meaningful. The results of the experiment showed that most people reported no effects from either herb. Of those that did report “*Salvia splendens*-type effects” (about 35%), the numbers were essentially equal for *Salvia splendens* and the placebo. This suggests that *Salvia splendens* is no more effective than the placebo in producing “*Salvia splendens*-type effects.” This is definitely the case for the specific materials and doses used in this particular study.

After sharing the results of this study publicly, I received quite a few surprisingly emotional reactions from people who insisted that *Salvia splendens* was indeed quite active and that my study must be flawed. I got the feeling that people felt I was attacking their integrity by suggesting that they were victims of the placebo effect. It is clear that this herb produces effects in many people when they *know* that they are taking it. The fact that many people are convinced of its effects is compelling. The problem is that the activity seems to disappear when people *don't know* what it is they are taking. The information available suggests that the effects people have been reporting are probably due to psychosomatic factors rather than a true pharmacological action of the herb; however, I don't mean to suggest that this small study in any way closes the book on the pharmacology of *Salvia splendens*. Further research may very well identify some sort of activity that was not observed in this particular experiment.

Will: Do you think *Salvia divinorum* will avoid being scheduled?

Daniel: I'd certainly like to think so. The nature of its effects are just too profoundly bizarre and ontologically challenging for it to ever become very popular. It is clearly not habit-forming, nor does it produce any form of dependence. If anything, it has the reverse effect. The majority of people who try *Salvia divinorum*, do so out of curiosity, but after one or two full-blown experiences decide that there are better things to do for fun. It will never become widely used or cause the kind of social problems that have resulted in other plants becoming illegal. But then again, the scheduling of drug plants is sometimes unpredictable and illogical. For example, it doesn't make sense that obscure and relatively benign plants like *Tabernanthe iboga* and *Catha edulis* are illegal, while other far more available, powerful, and clearly dangerous plants like the *Daturas* and other hallucinogenic nightshades remain quite legal.

It is very important that people who experiment with *Salvia divinorum* are properly educated about its effects so that they can use it intelligently, safely, and hopefully in a way that is personally valuable and meaningful.

People who provide this herb to others must accept the responsibility of educating prospective users. I am concerned about the fact that there are unscrupulous entrepreneurs who see this plant as nothing more than a way to make a fast buck and seem to care nothing about what happens to the people who use it. If these people begin exploitatively mass-marketing it as some sort of "great new high" to uneducated, unprepared consumers, problems could arise that would bring the plant some serious negative attention. *Salvia divinorum* is a precious and sacred plant. It would be very sad to see it criminalized.

Will: At the 1997 MIND STATES conference, TERENCE MCKENNA had this to say about *Salvia divinorum*: "I don't believe the establishment is interested in demonizing and criminalizing a new, easily grown, widely available psychoactive plant. I don't think the establishment needs a new *Cannabis*." Do you agree with this statement?

Daniel: Well, I think it is rather difficult to anticipate the interests of the establishment, but TERENCE is correct in the sense that it would be impossible to enforce a law that made *Salvia divinorum* illegal. It would be a tremendous waste of resources and would not accomplish anything positive. Unlike *Cannabis*, *Salvia divinorum* is both shade-loving and very inconspicuous looking. By planting it amongst other plants or beneath trees it can be grown almost invisibly. There are several ornamental *Salvia* species that look almost identical to *Salvia divinorum*, so identifying an illegal *Salvia* plant would be a major problem. It is a rapidly growing, easily propagated plant that can be harvested at any stage in its life cycle. It is very easy to grow indoors, since there is no need for expensive high-wattage lighting. If *Salvia divinorum* were made illegal, most people would just move their plants indoors. Unlike *Cannabis*, there would be no tell-tale odor or high electric bills to worry about.

Will: What is your preferred method of ingesting *Salvia divinorum*? Do you have a ritualized context that you take it in?

Daniel: Actually, I have several preferred methods of ingestion. I am fascinated by the extremely intense and often bizarre, but brief experiences that can be achieved by smoking, and I also enjoy the longer lasting, slowly unfolding type of experiences produced when the leaves are chewed using the quid method or when using a sublingually absorbed extract. When smoked, the full dose is delivered rapidly into the bloodstream. This method produces effects that begin very rapidly, producing almost no "alert." Peak effects are experienced in less than a minute. The peak state lasts for some 5–10 minutes, then subsides over another 20–30 minutes. When *Salvia divinorum* is ingested orally, salvinorin A is absorbed gradually into the blood stream. The effects build over 15–30 minutes, peak for 1–2 hours, then gradually diminish over an additional hour or two. Both kinds of experiences can be tremendously rewarding. Oral ingestion provides a more gradual entry into the experience, which makes it

easier to get one's bearings and to adjust to the changes of consciousness that are occurring. The greater duration of the effects provides more opportunity to explore and learn from the experience. However, sometimes the shorter duration of effects achieved by smoking is more desirable, because it requires less of a time commitment, and since the effects are so brief, one can risk diving in further, with the assurance that one will quickly return to the surface.

For smoking purposes, I definitely prefer to use a highly concentrated form of salvinorin A, rather than plain leaves. I see no virtue in inhaling the massive quantities of smoke that are necessary to reach a high level of effects when smoking the leaves in their natural state. In the past I worked with pure salvinorin A; however, I no longer use it in this form, because a single dose is so minute that the mechanics of handling it are problematic. What I usually use for smoking these days is a salvinorin A-fortified leaf-preparation that contains 1 mg salvinorin A that has been deposited on 25 mg *Salvia divinorum* leaf. This can be smoked easily in an ordinary pipe, and because it is so highly concentrated, one only needs to inhale a tiny wisp of smoke. When using the quid method, I prefer to use fresh leaves rather than dried ones. There is something very satisfying about consuming the leaves fresh off the plant, while they are still crisp, juicy, and full of vitality. I also enjoy using a sublingual extract. This produces the same type of experience as the quid method, but eliminates the cumbersome bulk and bitterness of the leaves.

I do incorporate various elements of ritual in my *Salvia divinorum* sessions. Rituals utilize external actions that function through symbolism and metaphor to influence inner experience. I use ritual to prepare the inner environment. Essentially, to help create the sort of mental "set" that is conducive for a positive and productive experience. I won't go into every type of ritual I use, but I will describe the one I use most often: defining sacred space. The way that I like to do this is to burn white sage or copal and then to use the fragrant smoke to describe a circle that en-

closes the area where the session will take place. This is a simple, but extraordinarily powerful act. It creates a container for the session and promotes a sense of inner preparedness and respect for what one is about to do. It formally acknowledges the beginning of the session and signals the time for increased commitment and focus.

Will: Thanks for taking the time to share some of your thoughts and experiences with us here at *The Entheogen Review*.

L.J. VALDÉS III ON R. GORDON WASSON (8/3: 1999)

Here's a letter to me from R. GORDON WASSON. As a grad student, I had written him telling him of my interest in studying the chemistry of *Salvia divinorum*. He mentions having sent a lot of leaves to SANDOZ, in Basle (*sic*). This was, of course, the laboratory where ALBERT HOFMANN worked. WASSON'S note, along with HOFMANN'S own statement, "Das Wirksame Prinzip dieser Zauberdroge, das anscheinend sehr labil ist, konnte bis jetzt noch nicht identifiziert werden" [The active principle of this magic drug/plant, which apparently is very labile, has still not yet been identified] (HOFMANN 1964), should indicate to the reader that he did more than just ingest an alcohol-preserved infusion of the leaves, as has been reported (OTT 1993; OTT 1995). I would guess that Dr. HOFMANN did some alkaloid screening along with his bioassay work. The screening would have been negative. He probably took too low a dose of the alcoholic preparation (which may have been somewhat stable; this would be easy enough to verify if we had his recipe). Also note that WASSON was not terribly impressed with the pharmacological effects of the plant (he must have been listening to MARÍA SABINA). He advised me to study *Cymbopetalum penduliflorum*.

R. GORDON WASSON
42, Long Ridge Road · DANBURY, Conn., 06810
TEL: (203) 748-0123
1 - July - 1978

Dear Mr Valdés:

I have your undated letter before me and it interests me.

Would work on S. divinorum ^{to work on it!} I doubt it. After identifying the plant almost twenty years ago, I sent a big quantity of leaves gathered in Huastla to Sandoz, in Bâle, Switzerland. They worked hard on them and found nothing, just nothing. They think the active principle was labile and had escaped in a matter of days or perhaps hours after picking. A number of us (including me) had tried the infusion of the leaves and we thought we experienced something, though much weaker than the Psilocybe species of mushrooms. Others have worked on the leaves also. I think the chemists in the University of Washington, perhaps elsewhere. I have heard of no positive results.

Why not concentrate on the Cymbopetalum penduliflorum? This was a famous plant among the Aztecs. Charles E. Dibble and Arthur J.O. Anderson of Sahagún finished their translation of the Nahuatl text in the '60's -- a stupendous task. In Book 11, Earthly Things, p 120 col 1, under the Aztec name Teonaoztli, the informant of Sahagún says the fruit of this plant 'makes one drunk as if it were mushrooms'. Were I younger, I would be tempted to read up about the botany of this tree and then go down to Mexico and gather the fruit in the field (also the flowers, leaves, roots, and bark) and bring it back and work on the material. Of course anyone who reads Dibble & Anderson's translation may remark on this fact: several of my friends have seen it. Work may be in progress already, though I know of none.

Sincerely yours,

R Gordon Wasson

As an aside on the stability of an alcohol-preserved infusion of *Salvia divinorum* there is an interesting trip report, apparently from Germany, posted a while back on the now defunct DISEMBODIED EYES web site, currently at the LYCAEUM (<http://diseyes.lycaenum.org/fresh/expssalv.htm>). I've shortened it a bit and corrected a couple of spelling errors:

...Some weeks later I got a small bottle with an alcoholic extract of salvia. It had a strange green colour and tasted bitter. It was a bit stronger, but still not strong enough. This time I definitely had an altered perception of my body but that gets clearer in the next story. ;)

Now some weeks ago I got a larger quantity of that green extract and this time I'm determined to find out what it really does. A month ago I had another trip. As I knew that salvia doesn't tolerate any interference I did it at night in the dark when nobody was at home, so I was sure there wouldn't be any sounds distracting me. The point is that salvia pulls you to another dimension (I'll try to explain that later) but at least at the dose level I ingested it was not strong enough to hold me there.

So I ingested about two teaspoons of the extract, knowing that it would take about fifteen minutes to capture me. It's really strange. Even if the dose is rather low I get the impression that something takes hold of me, sort of hypnotizing. Sometimes I opened my eyes or I moved involuntarily to scratch some itching part of my body than everything was way normal. But when I stopped that and let myself be mesmerized things got weird. My mind, the observer within or whatever you call it was rather unaffected, the things he observed changed, though. I don't really know what I felt...

My most recent salvia trip took place five days ago... This time I took about three teaspoons. I... lay down and kept my eyes open, trying to find out if this would stop the salvia. I felt that it was stronger than the last time, so strong that I actually forgot to close my eyes. When I did, the space around me folded and was gone; in a strange way I was able to feel my body even in that dimension. Sometimes I felt something unpleasant, don't know how to explain it, and when I thought about it I came to the conclusion that this strange something must be a representation of my left leg lying in an uncomfortable way...

— LEANDER J. VALDÉS III, 27 June 1999

P.S. I'd like to add here that *Zauberdroge* is really what hallucinogens or entheogens are all about. I've liked the word since I first read HOFMANN'S article. Too bad there's nothing like it in English. It was almost worth the year I put into Reading German for grad students...

SHEPHERDESS LEAVES NO STONE UNTURNED

December 9–12, 1999

by Dr. VIPIV
(8/4: 1999)

The 2nd annual *Ska Pastora*, LEAVES OF THE SHEPHERDESS: *Salvia divinorum* AND SALVINORIN-A conference again took place at BREITENBUSH HOT SPRINGS. The BOTANICAL PRESERVATION CORPS, who organized this event, deserve high credit for bringing together informative and entertaining presenters, as well as providing a regular gathering opportunity for the wider community interested in *Salvia divinorum*.

Things kicked off on Thursday night with a presentation by BRET BLOSSER entitled “*Pipiltzintzintli* in 17th & 18th century Mexico.” BRET discussed how ancient public documents referring to this substance—which had been in use in the geographical region where *Salvia divinorum* is now found—suggest that the two may be identical. However, certain pieces didn’t fit the *Salvia* profile, and BRET’s talk ended inconclusively. We adjourned until the next morning, going off into the snowy night in spontaneous groups to smoke, soak, or both.

After breakfast on Friday, we heard from KAT HARRISON on “Praying with Leaves: Contemporary Ritual Among the Mazatecos.” Having journeyed to Huautla, Oaxaca on several occasions over a period of years, KAT has an ongoing relationship with many of the people who are traditionally closest to this plant. She told a compelling tale of her own healing during a shamanic ceremony with *Salvia divinorum*. KAT had asked for help with a disturbing coronary ailment, and she also asked to see what her work was on “the road ahead.” In one visionary session (in the course of which she experienced being a plant herself, rooted at the edge of a forest) she was granted both requests by a compassionate female entity. She literally saw a “packet of pain” depart from a door in her heart, and has not expe-

rienced the problem since. She was then directed to look at the boundary of the garden patch where she stood rooted, and the dark forest beyond, and was told that her work would involve continuing to walk that boundary for the benefit of her larger community.

JONATHAN OTT spoke next, delivering a riveting big-picture discourse that began with NAFTA, gathered momentum with commentaries on the *coca* trade, and climaxed with characteristic denunciations of small-minded politicians murderous meddling with our sacred right to consume whatever poisons might please us.

RALPH METZNER addressed "*Salvia divinorum* and Shamanic Divination." He framed entheogens as valid tools of scientific inquiry, useful for extending perception in the same manner as microscopes or telescopes. He then presented four basic models of human/plant use, including the "Western-shamanic hybrid" approach that is gaining momentum in both North America and Europe. RALPH told of his initial experiences with *S. divinorum*, and it was interesting to hear him also say that he became a plant. He realized that plants are actually the more sensitive kingdom, not being encased in "bags of skin" like us. As part of the animal kingdom, we spend much of our time "working for the plants," and in turn we receive oxygen, nutrients, healing and enhanced consciousness. RALPH'S conclusion: "It's a really good deal!"

Excellent presentations were also given by conference returnees DANIEL SIEBERT, DALE PENDELL, and ROB MONTGOMERY.

The evenings were purposefully left as free time so that participants could seek out experiences of various kinds. I know of several groups that met and conducted rituals, using the quid method, smoking, or both. One night I participated with a group of 12 who consumed a newly-developed liquid (oral) extract that DANIEL had brought along. At the meadow pools, natural steam sauna or ring of hot

tubs, an ebb and flow of post-experienced Salvianauts congregated throughout the night to share and compare.

A sense of pioneer excitement pervaded this conference. Concerns were raised about recent trashy publicity of the plant, the “dark side” of shamanic work, and fears of scheduling. Yet the gathering ended on a high and affirming note, with the formation of a small working group, tentatively dubbed the “Shepherdess Leaf Council.” The group is charged with creating some voluntary guidelines for sale and use of *Salvia divinorum*, as well as a conduit for somehow giving back to the generous Mazatec culture which has provided the larger world with these precious glimpses of a new green realm.

We ended in a circle, with words of benediction by KAT. We asked to be guided in the good work with this magical plant, and that we may meet again next year with SALVIA DIVINORUM’S sacred freedoms still intact.

“Mysteries are not to be solved; the eye goes blind when it only wants to see why.” — RUMI

(Quote posted at the entrance to the conference room by a BREITENBUSH staffer.)

SALVIA IN THE NEWS (9/1: 2000)

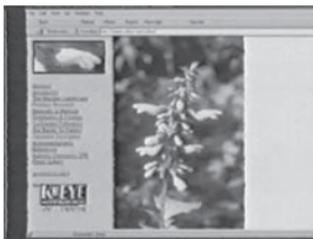
The following TV news story, “Mexican Mint” appeared on the 6:00 pm K-EYE CHANNEL 42 (CBS) in Austin, Texas on 3/17/00. According to the news clipping service TELECLIP, similar stories have been run on the TV news in at least 8 cities in the USA since January 2000. While it is no doubt true that greater attention has been brought to *Salvia divinorum* due to web site vendors, it seems likely that the recent aggressive mass-marketing of *S. divinorum* extracts via large circulation print publications such as *High Times* and *L.A. Weekly* (following a sensationalist article in



the mainstream pop culture magazine *Details*) have had more to do with shining a spotlight on this plant than the Internet has.



Cast of characters: MJ: MARK JOHNSON (news anchor), FR: FRANK RECCHIA (reporter), JK: Dr. JOHN KEPPLER (clinical director of the TEXAS COMMISSION ON ALCOHOL & DRUG ABUSE), AP: anonymous purchaser, K: kid on the street.



MJ: "It's a Mexican mint, available on the Internet but it's certainly no candy. Texas health officials warn parents that a plant called *Salvia divinorum* causes powerful hallucinations and Austin kids are buying it. And, get this, the mind-altering plant is perfectly legal. K-EYE's FRANK RECCHIA has this investigation"

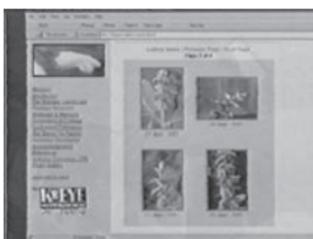


Picture of dried leaves in bag.



FR: "This is *Salvia divinorum*, or "SD," a powerful hallucinogen like LSD. It's making its way into Austin legally though Mexican-based Internet sites like this one."

Pictures of site showing flower and plant.



"The sites will sell you SD for \$39.95 an ounce. It's a Mexican plant in the mint family. Yes,

mint! The same exact type of ingredient in products like ALTOIDS.”

Holds up ALTOIDS box.

“But talk about curiously strong.”

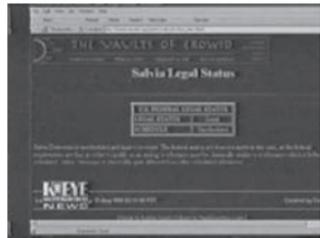
JK: “The experiences that people have, they’re describing, virtually impossible to drive a car or function whatsoever, for brief periods of time after the ingestion of this substance.”

FR: “The Austin man who bought this SD on the Internet described its effects but did not want us to show him.”

AP: “It basically makes you incoherent. And, it makes you see things, uh, like, uh, visions.”

FR: “Since these Internet sites first appeared in January, the clinical director of the TEXAS COMMISSION ON ALCOHOL & DRUG ABUSE reports two cases where Austin kids ordered the substance and had strong reactions.”

JK: “Walking around and appearing awake and alert but not responding to the parents, uh, as if they weren’t there or weren’t in the room.”



FR: "It is not illegal to sell SD because the DRUG ENFORCEMENT ADMINISTRATION does not list it as a controlled substance."

*Flash to two teens standing in front of the office
of the Texas Commission on Drug & Alcohol Abuse.*

FR: "These teens worry their little brothers might buy it."

K: "Kids are subject to peer pressure so they're going to try out this new drug, introduce their friends to it and it's all without their parents' knowledge."

FR: "The guy who bought this stuff describes it as 'legal LSD.'"

AP: "Uh, it's powerful stuff—real powerful"

FR: "An important word of caution here, even though the DRUG ENFORCEMENT ADMINISTRATION does not list *Salvia divinorum* as a controlled substance, the FOOD & DRUG ADMINISTRATION does list it as a poisonous substance. While it may not be illegal to buy it as a raw plant, the Feds say you could be prosecuted for using it to get high—in other words, by smoking it, snorting it, or eating it. And, MARK, you know some people even use this stuff to make tea!

MJ: "Gee, this sounds dangerous. Is there any sort of a move to make it a controlled substance?"

FR: "Well, the Feds say that's under review. You know, the problem is, MARK, this stuff is not even distantly related to any existing controlled substance so, as the Feds did with ecstasy, they'd have to come up with a whole new category of laws. And that could take some time. We'll just have to wait and see."

MJ: "Keep us posted, thank you."

FR: "Sure."

SALVIA & SALT TALKS II (9/2: 2000)

The Spring/Summer 2000 was a great issue and well worth the wait. Cover-to-cover it was a fine issue; a world standard. Thanks so much for answering my question on plant testing for alkaloids. It was a great answer and worth more than an entire subscription; I'm a lifetime subscriber if you like.

I caught the "Salvia in the News" story on-line (AOL), but wasn't able to copy it; glad you had the story. I'd like to suggest that the *Salvia*-interested community (users and retailers) strive to establish a U.S. Church for *Salvia divinorum*, with representatives from México as Church leaders; before the DEA goes to reschedule *Salvia divinorum*. The conferences are good, but an established Church with proper applications for tax-exempt status would be a base from which we could fight the potential scheduling. We might have a few years to buildup such a fund, if retailers go along.

Thanks also for answering my LSD dose/weight question.⁴ I've got some further comments. I took $1/4$ " paper and divided by 4 to make $1/16$ " squares (16 squares in $1/4$ "); they are very small and hard to cut with scissors. If current blotter weighs 5–6 mg for a $1/4$ " blotter size divided by 16, the blotter would weigh .375 mg or 375 micrograms (mics) and if the blotter could contain 100 mics of acid it would still be 3.75 times the weight of pure acid. Pure acid is the way to go, as you wrote a grain of salt averages 78.75 mcg (mics), I think that this is a manageable size for people to handle. A few grains could be placed on a piece of masking tape to handle/hold safely. Taking a look at an old *Lysergic World* #1 (50th Anniversary) they said 100 doses of blotter would weigh 1.4 grams. 1.4 divided by 100 equals 14 mg, about 3 times the weight of your estimate (5–6 mg).

Thanks for bringing up the discussion and your fine works. You are the tops. Take care. — ONEGREENDAY, MA

As far as a church surrounding the use of Salvia divinorum there already is such an Internet-based organization (<http://www.xenopharmacophilia.com/ee/skamaria.html>). They do not appear to have incorporated, filed for religious tax exempt status, or done anything with regard to having some sort of official government approval. However, even if such action is taken, it wouldn't automatically protect the practitioners of this religion, should Salvia divinorum or salvinatorin A become scheduled. In the past, attempts at arguing a religious defense to controlled substance offenses have been largely unsuccessful, and the fact that the RELIGIOUS FREEDOM RESTORATION ACT was struck down removed the strongest argument of recent times (BOIRE 1997).⁵ However, just this month the Guam Supreme Court dismissed Cannabis charges against a Rastafarian, based on religious grounds (GUAM v. GUERRERO, (September 8, 2000) 2000 Guam 26, No.CRA99-025). With Guam being an unincorporated territory of the USA, this case can now be cited in any religious defense made by entheogen users in the United States. Nevertheless, even people who should be protected for religious use (such as the founders of the PEYOTE FOUNDATION, who live in a state where such use is protected by law) are frequently hassled or imprisoned by misguided and illegal maneuvers doled out from overzealous and ignorant local law enforcement.

Your comment about the weight of blotter noted in Lysergic World inspired us to re-evaluate the figure we presented. 13 hits of street acid, from several difference sources and of different designs (yet all about 1/4" in size) weighed 78 mg on a scale that has a ± 2 mg accuracy. This puts the average "per dose" weight between 5.85 mg and 6.15 mg per hit (slightly higher than our earlier comment). Of course, the weight of blotter acid depends largely on the thickness of the paper that it is placed on and the size of the hit. We have no idea what sort of material was weighed by the folks who produced Lysergic World.

The person who weighed the salt for us in the first place, DANIEL SIEBERT, also had the following to say:

After reading your notes in the Spring/Summer 2000 issue of ER about the weight of salt crystals, I decided

to weigh another brand of salt. I used a type of sea salt from France. It is a bit coarser than the HAIN brand sea salt I weighed last time. I weighed 5 average size crystals and came up with an average weight of 700 mcg per crystal. Salt crystals are more or less cubiform, so one can assume that when the width of a crystal doubles, its mass would increase eight times ($2^3 = 8$). If the width is tripled, the mass would increase by twenty-seven times ($3^3 = 27$). I suspect that there is probably quite a lot of variation in the average crystal size of various brands of salt. Obviously, it would be reckless to estimate acid dosage by comparison to salt crystals.

The main problem here is that I suspect street vendors are unlikely to switch to dealing in pure powder, due to the real potential of overdose. — DAVID

NOTES

1) Due to the death of D.M. TURNER, this wonderful little book is no longer available in print. It can, however, be found on the Internet at: <http://squeaker.cat.net/~donut/scov.html>

2) This book is also out-of-print, but can be found on the Internet at: <http://www.geocities.com/HotSprings/Spa/4558>

3) See NOTE 7, page 101.

4) The original question, discussed in the Spring/Summer 2000 double-issue of *The Entheogen Review*, was related to the size of a "dose" of pure LSD, and whether or not such a dose could be "eyeballed." (The querist noted that the size of a dose might be the same size as "a grain of sand, poppy seed, or peyote seed." The point of using pure LSD instead of blotter acid was to avoid 5-year "mandatory minimum" sentences if one was caught with the illicit drug, due to the weight of the blotter being counted as part of the drug mixture.) As the topic of "eyeballed" measurements of microgram quantities of drugs can also apply to salvinorin A, I decided to leave this entry complete, rather than delete the LSD discussion. "Eyeballing" small doses may be a very bad idea, and the original response to this querist mentioned that the pure powder could be sold in the lowest measurable amount (perhaps 10 mg), and then dissolved in 20 drops of distilled water (assuming a 500 microgram dose), just prior to use. A similar approach, using hot grain alcohol instead of water, could be taken with salvinorin A (see NOTE 2, pages 99–100).

5) BOIRE, R.G. 1997. "Supreme Court Burns RFRA: Religious Defense To Entheogen Crimes In Ashes (*Boerne v. Flores*, 95-2074, June 25, 1997)," *The Entheogen Law Reporter* 15: 149–152. SPECTRAL INDUSTRIES.

APPENDIX A: SOURCES



Salvia divinorum...will be a great challenge for our community. If we move discreetly with it the dinosaur mind of the establishment may leave it alone. Right now its legal status means that for the first time since the middle '60s a powerful hallucinogen is present in society and is legal.

— TERENCE MCKENNA
Interviewed on ENTHEOGEN DOT
(1997)

In the first edition of this book, we provided information on various companies selling Salvia divinorum that was excerpted and adapted from the Salvia Divinorum Retailer's Guide by WILL BEIFUSS. Since that time, so many new businesses have joined the fray that there are now too many places offering S. divinorum and related products to list them all here. Below we have included companies that we know are reputable, that have been in business for a long time, that offer good prices or unique products, or that operate from a foreign country. There are many others offering S. divinorum these days; some of these businesses are quite good, and it is only for space concerns that they are not listed here. Other businesses are not as good, or may even be rip-offs. For a comprehensive review of both the good and the bad entheobotanical companies, we recommend purchasing the book Psychedelic Resource List by JON HANNA. Check out these companies' web pages, or obtain a current catalog from them, prior to placing an order. After a sensationalist article on Salvia divinorum appeared in Details magazine in 1999, prices for S. divinorum products shot through the roof, as web-vendors tried to make as much money possible from the increased publicity. Prices can fluctuate, and availability, ordering procedures, and shipping & handling charges are subject to change. Those companies that are noted to specifically have good prices in this list, have consistently kept their prices on the lower end, even when other businesses were raising theirs.

USA SOURCES FOR *SALVIA DIVINORUM*

ALLIES (Formerly ...OF THE JUNGLE)

POB 2422 (DEPT. ER)

Sebastopol, CA 95473

www.alliesonline.net

\$2.00 Catalog (Deductible from first order)

Offers plants of the BLOSSER "palatable" clone.

BASEMENT SHAMAN

POB 1165 (DEPT. ER)

Woodstock, IL 60098

(815) 337-3123

bshaman@interaccess.com

www.basementshaman.com

\$2.00 Catalog

Offers the BLOSSER "palatable" clone. These are nice-sized plants, much larger than some other companies sell (although more expensive too), and well-rooted. They also offer organically-grown dried leaves.

BOTANICAL PRESERVATION CORPS

(Formerly ...OF THE JUNGLE)

POB 1368 (DEPT. ER)

Sebastopol, CA 95473

\$2.00 Catalog

They used to offer dried leaves, but we did not see this listed in their current catalog. However, they do have some audio tapes that related to *Salvia divinorum*, and their catalog is an interesting and enjoyable read.

BOUNCING BEAR BOTANICALS
POB 1993 (DEPT. ER)
Lawrence, KS 66044
(316) 462-0550 Fax
orders@bouncingb.com
www.bouncingbearbotanicals.com
No Catalog

These guys offer both standardized (5X and 10X) and non-standardized (5X, 10X, 15X, and 20X) smoking extracts, as well as plain leaf. Their prices are quite good, and get better the more one buys. They also offer great prices on a small selection of entheogen-related books.

DANIEL SIEBERT'S SAGE WISDOM SALVIA SHOP
POB 6145 (DEPT. ER)
Malibu, CA 90264
daniel@sagewisdom.org
www.sagewisdom.org
No Catalog

Carries a number of different “qualities” of dried *Salvia divinorum* leaf, as well as standardized extracts that contain known amounts of salvinorin A (including two purities of extracted salvinorin A in crystalline form, sold only to legitimate scientific researchers). The most unique extract offered is an oral tincture called the SAGE GODDESS EMERALD EXTRACT; while this product doesn't seem to work for everyone who tries it, the majority of reports that I have read have been extremely positive. For many people this is their preferred method of consumption, although there are some folks that feel as though the ethanol component of the extract is much too harsh to hold in their mouths for the time required in order for the effects to be felt. This company also sells a number of books, T-shirts, and other *Salvia*-influenced products.

HERBAL-SHAMAN
POB 8892 (DEPT. ER)
Wichita, KS 67208
(316) 685-9199 Voice Mail
shaman@herbal-shaman.com
www.herbal-shaman.com

Offers dried leaves, organically grown in Hawai'i, and standardized 5X and 10X leaf-extracts. We've heard some complaints about the speed of their service, but never about the quality of their products.

HO-TI PRODUCTS
POB 847 (DEPT. ER)
Kailua-Kona, HI 96745
jillw@turquoise.net
www.ho-tinursery.com

Good prices on live unrooted cuttings of the *WASSON/HOFMANN* clone as well as small amounts of dried leaf.

JLF
POB 184 (DEPT. ER)
Elizabethtown, IN 47232
(812) 379-2508
cleak@tls.net
www.jlfcatalog.com
\$2.00 Catalog

Dried leaf at decent prices. In the past they sold stem material (likely very low in salvinorin A content). At one time they offered pure salvinorin A, but their price was so outrageous that it is hard to believe that they ever sold much. On Sept. 7th, 2001 JLF was raided by the FDA and DEA and on January 28, 2002, the owner was charged with 13 counts related to various presumed legal infractions. Nevertheless, the business was still in operation when this book went to press, and the outcome of this case was uncertain.

KAVA KAUAI
POB 1202 (DEPT. ER)
Kapaa, HI 96746
(800) 626-0883
(808) 821-1039 Credit Card Orders
kava@kavakauai.com
www.realkava.com
Free Catalog

Dried leaves, organically grown in Hawai'i, and a standardized 5X extract. Good prices too. This company constantly gets rave reviews about their products and service.

NATIVE HABITAT
POB 644023 (DEPT. ER)
Vero Beach, FL 32964
lee@nativehabitat.com
www.nativehabitat.com
\$1.00 Catalog, \$2.00 Foreign

Used to sell the WASSON/HOFMANN clone, although it wasn't listed as being available just before this book went to print. You might want to contact them and ask if they plan to carry *Salvia* in the future, as they generally had good prices on these plants (and they carry lots of other interesting non-*Salvia*-related plants as well). They do currently offer the *Salvia Divinorum Grower's Guide* at least. These guys have been around a long time, and I've never once heard a complaint.

OM-CHI HERBS
POB 5352 (DEPT. ER)
Eugene, OR 97405
(541) 744-5651
info@omchiherbs.com
www.omchiherbs.com

Dried leaves, both Oaxacan and grown in Hawai'i are available, at some of the best prices. Also offer a standardized 5X extract.

P.J.T. BOTANICALS
POB 49 (DEPT. ER)
Bridgewater, MA 02324-1630
(508) 697-9723
(508) 697-9724 Fax
pjtbotanicals@aol.com
www.pjtbotanicals.com
\$3.00 Catalog, \$5.00 Foreign

Sells a plant that is probably WASSON/HOFMANN clone at a good price.

PURE LAND ETHNOBOTANICALS
2701 University Avenue, PMB 463 (DEPT. ER)
Madison, WI 53705-3700
info@ethnobotanicals.com
www.ethnobotanicals.com
\$3.00 Catalog

Dried leaves, organically grown in Hawai'i or Oaxaca. Also sell standardized 5X and 10X extracts.

REDWOOD CITY SEED COMPANY

POB 361 (DEPT. ER)

Redwood City, CA 94064

(650) 325-7333

www.ecoseeds.com

www.batnet.com/rwc-seed

\$2.00 Catalog

Sells plants of the WASSON/HOFMANN clone. REDWOOD CITY SEED COMPANY is the one of the oldest purveyors of *Salvia divinorum*; they started selling cuttings in 1973!

THEATRUM BOTANICUM

POB 488 (DEPT. ER)

Laytonville, CA 95454

(707) 895-3886

thebot@pacific.net

www.greenstranger.com

\$2.00 Catalog

Great prices, great variety. They have strains of *Salvia divinorum* that no one else is selling. Their complete offerings include the WASSON/HOFMANN clone, the BLOSSER "palatable" clone, the LUNA clone, the CERRO QUEMADO clone, the JULIETA clone, the LA FUERZA clone, the OWENS clone, and the PARADOX clone. Highly recommended.

WELL-SWEEP HERB FARM

205 Mt. Bethel Road (DEPT. ER)

Port Murray, NJ 07865

(908) 852-5390

herbs@goes.com

www.wellsweep.com

\$2.00 Catalog

Sells a plant that is probably WASSON/HOFMANN clone, at a one of the best prices around. Alas, they don't ship live plants to AZ, CA, OR, and WA.

NATURE'S CONTROL
POB 35 (DEPT. ER)
Medford, OR 97501
(541) 245-6033
(800) 698-6250 Fax
info@naturescontrol.com
www.naturescontrol.com
50¢ Catalog

No *Salvia divinorum* here, but they do sell predator insects that can help control some of the pests that plague *Salvia* gardeners. *Encarsia formosa* (whitefly parasite), *Aphidoletes aphidimyza* (aphid predator), Black ladybugs (potential scale predator), and Yellow Sticky Traps (whitefly control).

FOREIGN SALVIA DIVINORUM SOURCES

AMAZING NATURE
POB 318 (DEPT. ER)
6500 AH Nijmegen
THE NETHERLANDS
++31 24 373-2747
info@amazing-nature.com
http://amazing-nature.com
Free Catalog

Sells dried leaves, standardized 5X, 10X, and 15X extracts, and recently added live tissue-cultured plants (shipped in tubes, to be hardened off by the customer) to their offerings. This company has been around since 1994, serving the worldwide market for entheobotanicals of all kinds.

ARCHAIC HERBS
POB 103
Bexleyheath, DA16 3YD
UNITED KINGDOM
info@archaicherbs.com
www.archaicherbs.com

Great prices on high-quality standardized *Salvia divinorum* extracts. They were in the process of relocating as this book went to print, and their site was closed. Hopefully they will be up-and-running again by the time you read this. extracts.

BOTANIC ART
Hoogstraat 116 (DEPT. ER)
3131 BP Vlaardingen
THE NETHERLANDS
+ 31 (0)10 460 19 58
Salvia@botanic-art.com
www.botanic-art.com

Sells plants that are probably the WASSON/HOFMANN clone, dried leaves, and standardized 5X, 10X, 15X, and 20X extracts.

CANNAPEE
Lukmaniergasse 15
Postfach 49 (DEPT. ER)
7002 Chur 2
SWITZERLAND
info@cannapee.ch
www.cannapee.ch/ethnoshop/

Sells dried leaf and extracts.

ETHNOGARDEN
POB 27048
BARRIE, ONTARIO
CANADA L4M 6K4
(705) 735-0540
ethnogarden@sympatico.ca
www.ethnogarden.com

Offers dried *Salvia divinorum* leaves, plus various extracts and tinctures, and pure salvinorin A to legitimate researchers.

KING BONG
POB 4042
Bournemouth, Dorset BH3 7YI
UNITED KINGDOM
info@kingbong.com
www.kingbong.com

Sells dried *Salvia divinorum* leaf and 5X, 10X, 15X, and 20X extracts.

MYSTIC UNION
POB 463 (DEPT. ER)
STATION ST-MICHEL
MOTREAL, QUEBEC
CANADA, H2A 3N1
omu@sympatico.ca
www3.sympatico.ca/omu
\$3.00 Catalog

Sells dried leaf.

SEVEN SUMMERS LTD.
7a St.Thomas Road (DEPT. ER)
Belvedere, Kent DA17 6AG
UNITED KINGDOM

Sells plants.

WESTERN BIOLOGICALS LTD.
POB 283 (DEPT. ER)
ALDERGROVE, BC V4W 2T8
CANADA
(604) 856-3339
western@prismnet.bc.ca
\$3.00 Catalog

Sells a plant that is probably the WASSON/HOFMANN clone.

APPENDIX B: THE INTERNET



...someone or something was laughing at me malevolently. It was a great cosmic joke at my expense. I had brought reality to an end, and that was it. I must say that I was quite amazed when reality began to come back.

— Dr. ANDREW WEIL
“Pharmacology of Consciousness:
A Narrative of Subjective Experience”
(1994)

This is a listing of information resources available on the Internet. While I have tried to present fairly comprehensive coverage, be aware that new sites frequently pop up and old sites sometimes move or vanish altogether. Some of the information at the sites listed appears at more than one URL. In many cases, this is likely due to “hoovering” (a process wherein someone will bulk up their own web site by stealing whole sections of someone else’s web site and reposting it at their site). It is also possible that in some cases the author(s) of the information have given permission for anyone who is inclined to repost their words at another site to do so. Unfortunately, it is frequently difficult to determine the original site that text(s) appeared at. Hence, I have listed all those URL where I happened to find the texts that are described. Be aware that information found on the Internet is quite frequently inaccurate, incomplete, unreferenced, or has errors that have been introduced due to re-keyboarding or faulty optical character recognition scans when one has pirated (usually) and posted journal articles to the web.

CACLE on *Salvia divinorum*

[www.cognitiveliberty.org/drug_policy/
salvia_defense_fund.htm](http://www.cognitiveliberty.org/drug_policy/salvia_defense_fund.htm)

www.cognitiveliberty.org/dll/salvia_rpt.html

THE CENTER FOR COGNITIVE LIBERTY & ETHICS (CCLE) established the *Salvia Divinorum* Defense Fund at the first URL listed. Unfortunately, due to lack of funding, this program has been discontinued. For the short time it was around, it hoped to: professionally monitor federal regulatory notices and congressional actions that may concern the plant; help offset printing, mailing, faxing, and telephone costs; demand a public hearing if the DEA does act with regard to the plant; coordinate and fly experts to Washington D.C. for the purpose of testifying before the DEA if a hearing is held; work to build a larger coalition of organizations, experts, and activists who object to any scheduling of *S. divinorum*; and maintain the *Salvia Divinorum* Monitor, a web site with the latest news on the plant's legal status and a place for reporters to obtain accurate information about the plant, including why it should not be outlawed. The second URL listed houses a PDF file of the CCLE publication *Salvia Divinorum and its Active Principle, Salvinorin A*, a report submitted to the DEA covering the plant's history, effects, medical use, and low abuse potential. The analysis concludes that *Salvia divinorum* is not an appropriate candidate for scheduling. The report was updated in October 2002, to take account of new scientific findings concerning the plant's medicinal properties.

Claude de Contrecoeur's Articles

www.dog.net.uk/claude

An index of articles by CLAUDE DE CONTRECOEUR, some of which relate to *Salvia divinorum*. Mainly speculations on the connection between the state produced by salvinorin A and the "dream state."

Daniel Siebert's "SageWise"
Salvia divinorum E-mailing List
www.sagewisdom.org/sagewise.html

A closed e-mail discussion group moderated by DANIEL SIEBERT dedicated to *Salvia divinorum*. Admission is by request only. Posts are infrequent.

Daniel Siebert's Salvia divinorum Site
www.sagewisdom.org

DANIEL SIEBERT was the first person to bioassay 70–80% pure salvinorin A (see "Salvinorin A—The Breakthrough" at this web site). SIEBERT is also one of the few people to have successfully grown *Salvia divinorum* from seed. Clones from his seed-grown plants are available for sale from this site. SIEBERT'S site is the most comprehensive currently on the Internet. It contains information on what's new in the world of *S. divinorum*; cultivation tips; notes of caution; a catalog of all known clones; harvesting, drying, and storage of the herb; some bizarre stories including the tale of how SIEBERT discovered the effects of refined salvinorin A; the medicinal effects of the plant; a source list for plants and plant-products; a map of *S. divinorum*'s native region; a bibliography of *S. divinorum* and salvinorin A; a photo of *Lagochilus inebrians*; thoughts on the purported activity of *S. splendens*; *The Salvia Divinorum FAQ*; *The Salvia Divinorum User's Guide*; the NOVASCREEN™ receptor selectivity report on salvinorin A; a CHIME® rendering of salvinorin A showing electron clouds; and numerous links to other sites related to *S. divinorum* and salvinorin A.

DEA on *Salvia divinorum*

www.deadiversion.usdoj.gov:80/drugs_concern/salvia_d/salvia_d.htm

The U.S. Drug Enforcement Administration's response to increasing mainstream press about *Salvia divinorum*. Initially, the DEA presented a number of inaccurate statements regarding the chemistry, pharmacology, and law surrounding the plant. A reasonable response to the inaccuracies posted by the DEA can be found in the "ASK EROWID" vaults at www.erowid.org/ask/ask.cgi?ID=2936. However, more recently the DEA has toned down their strange speculations, and posted the more accurate at the URL listed above.

Disembodied Eyes *Salvia divinorum* Site

<http://diseyes.lycaenum.org/salvia/salvia.htm>

Links to journal articles, a black & white JPG photo of *Salvia divinorum* in bloom, cultivation tips, harvesting information, and a few bioassay reports of *S. divinorum* alone and in conjunction with other entheogens.

Divinorum

www.lynnemusic.com/divinorum

"Psychedelic trance" music from a band called DIVINORUM, presumably inspired by *Salvia divinorum* voyages.

Heffter Research Institute, Inc.'s Salvinorin A Drawing

www.heffter.org

The HEFFTER RESEARCH INSTITUTE, INC. promotes scientific study of psychedelics. Their "graphics" link provides a rendering of the salvinorin A molecule. The INSTITUTE has a

pilot study proposed (projected cost is \$30,000.00). If funds can be raised, the study will: 1) Isolate sufficient quantities of salvinorin A to permit pharmacological studies; 2) Characterize the pharmacological properties of salvinorin A using both in vitro molecular pharmacological models (e.g. receptor binding assays), and whole animal behavioral models; 3) Isolate and pharmacologically characterize structurally similar compounds from one or more related *Salvia* species. "Completion of these three primary objectives will permit essential, baseline data to be collected on the mechanisms of action of these compounds, and thus will provide a basis for the design of additional studies with a more ambitious scope, such as preclinical studies in human subjects."

Hydroponic Cultivation of *Salvia divinorum*

www.erowid.org/entheogens/salvia/salvia_cult2.shtml

ALEX AVRIETTE presents concise information on how to grow *Salvia divinorum* hydroponically, and provides price information and sources for all supplies needed.

Knehnave's *Salvia divinorum* Site

www.xs4all.nl/~knehnave/salvia.htm

Brief cultivation information, along with a number of photos of *Salvia divinorum*, a list of suppliers, and the obligatory links section.

The Leaves of the Virgin

<http://diseyes.lycaem.org/fresh/virgin.htm>

An article by TEMICXOCH that provides a short history of *Salvia divinorum* and salvinorin A and describes bioassays with chewed leaves, smoked leaves, and a snuffed extract. This is the only written account of a snuffed salvinorin A extract that I am aware of, and it is worth reading.

**The Lycaeum Book Review of *Salvinorin:
The Psychedelic Essence of Salvia Divinorum***

[www.lycaeum.org/books/reviews/
review.13310.5173025504.shtml](http://www.lycaeum.org/books/reviews/review.13310.5173025504.shtml)

The LYCAEUM is the largest on-line repository of entheogenic information. This page has D.M. TURNER'S book on *Salvia divinorum*, glowingly reviewed by TREY.

The Lycaeum's *Salvia* "Taxonomy" Site

[http://leda.lycaeum.org/Taxonomy/
Salvia_divinorum.269.shtml](http://leda.lycaeum.org/Taxonomy/Salvia_divinorum.269.shtml)

Information, links, and numerous color photos of *Salvia divinorum* can be accessed from this URL.

The Lycaeum's *Salvia divinorum* Reports

[www.lycaeum.org/drugs/plants/salvia/salvia-
reports.html](http://www.lycaeum.org/drugs/plants/salvia/salvia-reports.html)

The LYCAEUM'S "*Salvia divinorum* Reports" area of their "Organic Substances" page. The few posts here look as though they are fairly old, and they contain a myriad of incorrect speculations about the chemistry and dosing procedures of *Salvia divinorum*. More up-to-date posts can be found in the LYCAEUM'S "*Salvia divinorum* Trip Reports" section.

The Lycaeum's *Salvia divinorum* Site

www.lycaeum.org/drugs/plants/salvia/index.html

The LYCAEUM'S site devoted to *Salvia divinorum*. Contains numerous psychonautical reports, a section on *S. splendens*, gardening tips, sources for plants and plant material, and a number of links to other sites related to *S. divinorum*.

The Lycaeum's Salvia divinorum Trip Reports

<http://leda.lycaelum.org/Trips/index.269.shtml>

Salvia divinorum trip reports from the LYCAEUM archives; over 70 entries when I last looked, which also included reports on *S. splendens*, *S. coccinea*, *S. superba*, *Coleus* species, and various combinations of *S. divinorum* with other entheogens, including ayahuasca, *Cannabis*, *Peganum harmala*, LSD, psilocybian mushrooms, and 2C-B.

Salvia D E-mailing Group

<http://groups.yahoo.com/group/SalviaD>

The main up-start list after DANIEL SIEBERT shut down his original "open" e-mailing to create the "closed" SAGEWISE list. Posts range the whole gamut, from insightful and informative to pedantic and inflammatory. Frequent humorous one-liner quips from LEANDER J. VALDÉS III keep things in perspective and break the tension that sometimes builds amongst contributors to this list. Heavy traffic.

***Salvia divinorum*: A Short Text Prepared for An Emergency Room Textbook**

www.lycaeum.org/drugs/plants/salvia/salvia-emergency.html

The author and source of this short publication are mysteriously missing, and it seems unlikely from the language used that this was actually prepared for an emergency room textbook. The text presents a brief (sometimes inaccurate) overview on *Salvia divinorum*'s use and effects, and ends by noting that: "A typical response is for the user, inspired by a view of reality unencumbered by societal acculturation, is (*sic*) to switch to more traditional spiritual practices, eventually abandoning use of the plant itself."

***The Salvia Divinorum* FAQ (Frequently Asked Questions)**

www.sagewisdom.org/faq.html

A general overview on the history and use of *Salvia divinorum* written by SAGE STUDENT.

***Salvia divinorum* IRC Chat Room**

www.lycaeum.org/chat

The LYCAEUM's chat room for discussing *Salvia divinorum* and salvinorin A in real-time. You don't need to be a member to use it. Server: irc.lycaeum.org, Port: 6667, Channel: #salvia - Discussion of *Salvia divinorum*. Those with AOL accounts may have trouble connecting.

***Salvia divinorum*:**
Sacred Healer of the Mazatec

www.herbal-shaman.com/business/frame.htm

The HERBAL-SHAMAN'S brief overview on the history and use of *Salvia divinorum*, with ample cultivation tips. Incorrectly terms the *S. divinorum*'s diterpenoid compounds as salinor^{um} A and salvinor^{um} B. If the link above doesn't get you straight in, search the plant archives.

The Salvia Divinorum User's Guide

www.sagewisdom.org/usersguide.html

Information on the various manners of using *Salvia divinorum* is presented for those new to the plant. The writing style is a little bit corny, but ample warnings are presented about the possible deep water that one might get into with careless use. Provides information on the COOL MINT LISTERINE® approach to oral *S. divinorum* use (see NOTE 4, page 33), as well as the "boosting" technique of smoking after chewing.

Terence McKenna: Live in New York

www.lycaem.org/drugs/other/mckenna/liveInNY.html

The transcript from a talk presented June 20, 1993 on THE MUSIC FAUCET, WFMU-FM, East Orange, NJ from THE FEZ, New York City. MCKENNA runs the usual gamut. There is a short mention of *Salvia divinorum* and an explanation of the "quid" method of chewing it (likely one of the first mentions of this method).

**USDA,ARS, National Genetic Resource
Program. Germplasm Resources
Information Network (GRIN)
On-line Database**

[www.ars-grin.gov/cgi-bin/npgs/html/
tax_search.pl?Salvia+divinorum](http://www.ars-grin.gov/cgi-bin/npgs/html/tax_search.pl?Salvia+divinorum)

Presents minimal information: Taxonomic Classification, Common names, Uses for Taxon, Species Range, and Species Citations.

Valdés' Photos of Don Alejandro

www.sagewisdom.org//valdesphotos.html

A couple of photos of the traditional preparation of *Salvia divinorum* leaves by the Mazatec *curandero* DON ALEJANDRO.

The Vaults of Erowid: *Salvia divinorum* Vault

www.erowid.com/entheogens/salvia/salvia.shtml

THE VAULTS OF EROWID provides information on numerous entheogens, and seems to make a good effort to make sure that this information is accurate (unlike many other Internet sites). This is their *Salvia divinorum* page, with information on possibly boosting *S. divinorum's* effects with MAOI, extraction procedures, SIEBERT'S note of caution (see page 78), links to papers by WASSON and VALDÉS, hydroponic cultivation and leaf harvesting techniques, numerous first-hand reports on *S. divinorum* and various combos with other entheogens, and a link to D.M. TURNER'S book as well as numerous other *S. divinorum*-related sites.

ANNOTATED BIBLIOGRAPHY



One of the children, a girl of about ten, under the guidance of María Sabina, had prepared for me the juice of five pairs of fresh leaves of *hojas de la Pastora*... The potion was said to be especially active when prepared by an innocent child. The cup with the expressed juice was likewise incensed and conjured by María Sabina and Don Aurelio, before it was delivered to me.

— ALBERT HOFMANN
LSD—My Problem Child
(1980)

ARTICLES, BOOKS, TAPES, AND VIDEOS RELATED TO *SALVIA DIVINORUM*

Some of the following references have been cited in this book. Many additional references have been provided as they may be of interest to those searching for further information on *Salvia divinorum* and salvinorin A. This listing predominantly covers items in the English language. For additional potentially relevant non-English texts, we refer the interested reader to the bibliography presented in the *Curare* and *Eleusis* articles mentioned in this bibliography (OTT 1995a; OTT 1996). For items published solely on the Internet, see APPENDIX B. A number of entries in this listing have been pirated onto the Internet; I have included a URL address at the end of the description for those books and article that are available on-line.

Items marked with a ▼ are available from MIND BOOKS, 321 South Main Street, #543 (Dept. ER), Sebastopol, CA 95472, (800) 829-8127, (707) 829-8127, www.promind.com, books@promind.com. Write or e-mail for a free catalog. Photocopies of some of the journal articles noted may be available from ROSETTA, POB 4611 (Dept. ER), Berkeley, CA 94704. Send \$2.00 for their current catalog.

AGUIRRE BELTRÁN, G. 1963. *Medicina y magia: el proceso de aculturación en la estructura colonial*. MÉXICO, INSTITUTO NACIONAL INDIGENISTA.

Spanish ethnobotanical text that presents the argument that *pipiltzintzintli* is another name for *ololiuhqui* (*Turbina corymbosa*).

▼ ALLEN, J.W. 1994. "Mazatec Magic" (side-bar in "Chasing the Ghost of María Sabina, Saint Mother of the Sacred Mushroom") *Psychedelic Illuminations* 6: 28.

A very brief overview of *Salvia divinorum* that states that the plant is "rich in essential oils." Also repeats WASSON'S comment that when *S. divinorum* "is not available for use in divination, the Mazatecs employ two different species of *Coleus* found in Oaxaca."

▼ ALLEN, J.W. 1997. *María Sabina, Saint Mother of the Sacred Mushrooms: Ethnomycological Journals Sacred Mushrooms Studies Vol. I*. PSILLY PUBLICATIONS/RAVER-BOOKS. : 24.

The expanded version of the paper noted above that appeared in *Psychedelic Illuminations*. The text addressing *Salvia divinorum* is nearly identical, with only few minor word changes.

▼ BEIFUSS, W. 1997. "Cultivating Diviner's Sage: A step by step guide to cultivation, propagation, and keeping your *Salvia* plants happy" *The Resonance Project* 1: 32–35, RESONANT MEDIA.

Provides information on cutting and transplanting, flowering, indoor lighting, humidity needs, pests, life-span and leaf preparation (for ingestion). BEIFUSS appears to be the first to explode the myth that *Salvia divinorum* must have

high humidity to grow, and he briefly explains how to acclimate the plants to a lower humidity environment. Also presented is a list of sellers of *S. divinorum* plants and leaves. This article can also be found on-line at: www.erowid.org/plants/salvia/salvia_cultivation1.shtml

B.P.C. 1998. "Salvinorin A" BOTANICAL PRESERVATION CORPS.

An information sheet that was provided with a *Salvia divinorum* extract purported to contain 600 mcgs of salvinorin A. Explained set and setting issues, and proper consumption methods.

BIOSEARCH TECHNOLOGIES, INC. 1996? "Salvinorin A: A Novel Neurochemical of Extraordinary Activity." BIOSEARCH TECHNOLOGIES, INC.

The information/price sheet for salvinorin A sold by BIOSEARCH TECHNOLOGIES, INC. "for research purposes only; not for drug use." A brief overview of the plant and its chemistry, listing the product codes: S-1000-1, 1 mg, \$50.00, and S-1000-10, 10 mg, \$400.00. As far as I know, this is the first place that pure salvinorin A has been made commercially available. However, they seem to be continually out-of-stock. BIOSEARCH TECHNOLOGIES, INC., 40 Mark Drive, San Rafael, CA 94903, USA, (415) 479-8710, (415) 479-1606 fax.

BLOSSER, B. 1994. "Salvia divinorum" BOTANICAL PRESERVATION CORPS (audio tape).

BRET BLOSSER's compelling tale of his experiences consuming *Salvia divinorum* with a Mazatec *curandero* in México.

BOIRE, R.G. 1997/1998. "Traps & Trajectories of Entheogen Law" *The Entheogen Law Reporter* 17: 172–182.

Interview of attorney RICHARD GLEN BOIRE wherein the future of the legal status of *Salvia divinorum* is discussed.

▼ **CAMPBELL, R. 1997. "Sage Wisdom" *The Resonance Project* 1: 27–31. RESONANT MEDIA.**

A little history, a little lore, but mainly information on ingestion techniques and the resultant effects. Includes a few "trip reports." This article can now be found on-line at: www.erowid.org/plants/salvia/references/other/1997_campbell_resproject_1.shtml

▼ **DEKORNE, J.B. 1994. *Psychedelic Shamanism: The Cultivation, Preparation and Shamanic Use of Psychotropic Plants*. LOOMPANICS UNLIMITED, INC.**

An overview of various visionary plants providing a theoretic framework that can be used to better understand the states of consciousness that these plants provide access to. CHAPTER 13 "The Minor Psychedelics" contains a limited amount of information on *Salvia divinorum*, some of which is out-of-date or incorrect. Also presents a very small amount of information on *Coleus* species.

DÍAZ, J.L. 1977. "Ethnopharmacology of Sacred Psychoactive Plants Used by the Indians of Mexico" *Annual Review of Pharmacology and Toxicology* 17: 647–675.

DÍAZ discusses the history of numerous sacred Mexican plants, including *Salvia divinorum*. He mentions WASSON'S proposed identification of *pipiltzintzintli* as *S. divinorum*. However, DÍAZ states that ANTONIO ALZATE'S candidate, *Cannabis indica*, is "the most compatible with the data of the Inquisition archives," even though he admits that it is sur

prising, “since it is generally agreed that *Cannabis* was introduced in the nineteenth century and that it was cultivated neither as a source of fiber nor of drug in Mexico before that time.” DÍAZ also argues that one of the two non-identified sacred plants known in Náhuatl as *poyomatlis* is likely *Theobroma cacao*. (*Poyomatli* was identified as *Salvia divinorum* in the English translation of *Primera Parte de los Problemas y Secretos Maravillosos de las Indias* by JUAN DE CARDENAS.) DÍAZ discusses the uses and cultural roles of the sacred Mexican plants, as well as their psychopharmacology, and places *S. divinorum* in his “Imagery-inducing Psychodysleptics” category (along with *Cannabis*, *Cecropia obtusifolia*, *Calea zacatechichi*, *Artemisia absinthium*, *Tagetes lucida*, *Leonorus sibiricus*, and some synthetic mescaline analogues).

DÍAZ, J.L. 1979. “Ethnopharmacology and taxonomy of Mexican psychodysleptic plants” *Journal of Psychedelic Drugs* 11: 71–101.

An elaboration on his 1977 paper. Presents a classification of sacred Mexican plants, including *Salvia divinorum*, based on psychopharmacology. Elaborates on the “psychodysleptics” category proposed by DELAY & DENIKER in 1961, breaking this into six smaller families: hallucinogens, trance-inducers, cognodysleptics, deliriant, neurotoxins, and narcotics. DÍAZ’ descriptions of each of these families is well written. He places *Salvia divinorum* into the “cognodysleptics” family, along with *Cannabis* and *Calea zacatechichi*. A more detailed argument for the identity of *pipiltzintzintli* as *Cannabis* is presented. DÍAZ notes that WASSON mentioned in a personal correspondence that he doubted his own proposal that *pipiltzintzintli* was *S. divinorum*. DÍAZ details the ritual preparation and traditional dosing procedures for the leaves, opines that the active component(s) in *S. divinorum* are greatly variable or instable, and redacts his early observation of alkaloids, saying that these “now appear to be of no pharmacological interest.” He also mentions that the active compounds are likely to be terpenes.

EMBODEN, W. 1972. *Narcotic Plants*. THE MACMILLAN COMPANY. Revised edition 1979.

An overview of drug-containing plants broken into the categories "hypnotica," "tobacco," "hallucinogens," "stimulants," and "inebriants." There is a brief mention of *Salvia divinorum* in the section on "Mexico and Central America." It is noted that CARL EPLING'S botanical description of *S. divinorum*'s flowers was incorrect, and correctly states that the calyx tube is violet (not bluish or blue, as has been frequently repeated by those noting a "correction") and that the flowers are white. However, EMBODEN adds to the misinformation about this plant's flowering, by stating that "the plant only flowers when the branches are about seven or more feet in length." *S. divinorum*'s flowering cycle is not dependant on the size of the plant, but rather on the light cycle it receives (and possibly—to some extent—on the temperature that the plant is grown in). I have had plants that were three feet tall produce flowers, and know of someone who's 1.5 foot tall plants flowered. EMBODEN also incorrectly states that *S. divinorum* flowers "do not set seed even when pollinated." EMBODEN notes that "Curanderas have chants appropriate to the use of *Salvia divinorum*, but they have another such ceremony when this sage is used with psychotomimetic mushrooms. These two incantations and ceremonies parallel each other. [Emphasis added.] This is the only place that I have seen a mention of the concurrent use of *S. divinorum* with psilocybian mushrooms by the traditional healers. EMBODEN states definitively that the Cuicatec and Chinotec Indians also use *S. divinorum* (along with the Mazatec), but no reference is given to substantiate this claim. Preparation and effects are related, and EMBODEN also mentions the purported use of *Coleus* species by the Mazatecs. This book contains a color photograph of *S. divinorum* in flower, which clearly shows that the flowers' calyx tubes are violet, and their corollas are white.

EPLING, C. & C.D. JÁVITA-M. 1962. "A new species of *Salvia* from Mexico" *Botanical Museum Leaflets Harvard University* 20: 75–76.

The original type description of *Salvia divinorum* wherein the error regarding the plant's flower color is introduced. EPLING & JÁVITA-M state that, "*Salvia divinorum* is allied to *S. cyanea*," and they also note that the specific name "which means 'of the seers,' refers to the curious use to which the plant is put by the Mazatec Indians..." On the web at <http://salvia.lycaeum.org/epling&jativa.html>.

ESTRADA, A. 1977. *Vida de María Sabina: La Sabia de los Hongos*. México D.F., México. (Translated into English by H. MUNN 1981.) *María Sabina: Her Life and Chants*. ROSS-ERIKSON.

This biography of MARÍA SABINA'S life kicks off with a retrospective essay by R. GORDON WASSON, and also contains transcriptions of two of her chants (one from 1956 and one from 1970). SABINA suffered many hardships throughout her life, yet seemed to keep a fairly good attitude. This book is an interesting read, and recommended for anyone interested in traditional Mazatec healing. The book focuses much more on the *saint children* (psilocybian mushrooms) and only a very short mention of the "Leaves of the Shepherdess" is made when a Bishop comes to SABINA during the season when the mushrooms don't grow. I have been told that there are substantial differences between the original text in Spanish, and the English translation. As I don't read Spanish, I can't comment too much on this, except to say that the Spanish edition does contain some photographs that don't appear in the English translation, and the English version contains a section of notes and commentaries by the translator that don't appear in the Spanish edition.

FOSTER, S. 1984. *Herbal Bounty! The Gentle Art of Herb Culture*. GIBBS M. SMITH. Revised edition 1993. *Herbal Renaissance: Growing, Using & Understanding Herbs in the Modern World*.

A general book on herbs, with a foreword by Dr. RICHARD EVANS SCHULTES. *Salvia divinorum* is discussed under the chapter "Sage of the Seers." Geographical, historical, ethnographic, and botanical information is presented. The first edition notes that while EPLING & JÁTIVA-M described the flowers as blue, and EMBODEN described them as white, that "Craig Dremmon (*sic*), proprietor of Redwood City Seed Company and a supplier of *S. Divinorum* cuttings, has brought plants into flower and reports them as light lavender. Apparently, the color is variable, but the plant rarely flowers." However, the second edition redacts these comments, and correctly states that the flowers are white. Interestingly, the text notes that "This is an exceedingly rare cultivated plant. A buyer usually has to join a waiting list before securing a plant." (While this may have been the case in 1984 when the first edition was produced, it certainly wasn't the case in 1993 when the second edition came out.) The author, after feeling no effects aside from "an upset stomach, a dry, acrid mouth, and a great respect for Mazatecs who can work their way through a hundred!" mentions that "Craig Dremmond (*sic*) suggests that plants cultivated outside of Oaxaca may not develop the active constituents, and I predict that *Salvia divinorum* will never become a popular subculture euphoric." Obviously, neither the first suggestion nor the second prediction held true.

▼ **GOTTLIEB, A. (Pseudonym of J. MANN) 1973/1992. *Legal Highs*. HIGH TIMES/LEVEL PRESS (20TH CENTURY ALCHEMIST). Second edition reprinted 1995 by RONIN PUBLISHING, INC.**

The first edition of this book didn't list an author, while later editions list ADAM GOTTLIEB. I do not consider this book a safe or reliable guide to the use of the 74 plants/drugs

that it mentions, as it does not provide nearly enough information, and much of the information provided is incorrect. It lists *Salvia divinorum* under "Pipiltzintzintli," and provides an address for THE CHURCH OF THE TREE OF LIFE (possibly no longer extant), where one can "purchase" a *S. divinorum* plant in exchange for a \$100.00 (or more) "donation." Back in the early 1970s *S. divinorum* was apparently rare enough that this outrageous price could be charged. The book includes a black & white photo of a *S. divinorum* plant next to two *Coleus* plants.

▼ GRUBBER, H. 1973/1991. *Growing the Hallucinogens*. HIGH TIMES/LEVEL PRESS (20TH CENTURY ALCHEMIST). Now published by RONIN PUBLISHING, INC.

This book provides very minimal cultivation information for 48 plants. Listed under "Pipiltzintzintli" *Salvia divinorum* is inaccurately described as "a woody perennial...flowers are blue or white on spikes." The author mentions that it is generally grown from cuttings, then states "but I know of on instance in which it was grown from seed." He then proceeds to say that "The seed should be germinated in the same way as coleus." His recommendation to plant a cutting in a "2-inch pot" after rooting in water can only be seen as a very temporary potting solution, as *S. divinorum* likes as much root space as possible.

GRUBER, J.W. 1996. *Quantification of Salvinorin A from Tissues of Salvia divinorum Epling & Játiva-M. Masters thesis*. PHILADELPHIA COLLEGE OF PHARMACY AND SCIENCE.

The thesis paper that formed the basis for the 1999 *Phytochemical Analysis* paper described next.

GRUBER, J.W. *et al.* 1999. "High Performance Liquid Chromatographic Quantification of Salvinorin A from Tissues of *Salvia divinorum* Epling & Játiva-M" *Phytochemical Analysis* 10(1): 22–25.

Presents "a reversed-phase high performance liquid chromatographic method for the determination of salvinorin A," and discusses the results produced by testing 20 different leaf samples taken from a variety of *Salvia divinorum* clones. Salvinorin A content ranged from 0.89 mg (per gram of dried leaf) to 3.70 mg/g. 1 stem sample was also tested, and shown to have a very low salvinorin A content. Tests performed on *S. concolor*, *Coleus blumei*, *S. blepharophylla*, *S. chiapensis*, *S. gregii* var. San Isidro, *S. leucantha*, *S. membranacea*, and *S. recurva* found no salvinorin A in these plants.

HEFFERN, R. 1974. *Secrets of the Mind Altering Plants of Mexico*. PYRAMID BOOKS.

This book covers numerous psychoactive plants, including a few *Coleus* species, *Lagochilus inebrians*, *Leonotis leonurus*, and *Salvia divinorum*. The proposed possible identity of *pipiltzintzintli* as *S. divinorum* is presented, and the word is thoughtfully dissected through etymology and sociological considerations. History of the use of *S. divinorum* by the Mazatecs, as well as its status as a rare and cultivated plant is noted, as is the idea that the plant may not be able to produce seed and that it is propagated by cuttings. A fairly simple line drawing of *hojas de (la) Pastora* is also shown.

HOFMANN, A. 1964. "Mexikanische Zauberdrogen und ihre Wirkstoffe" *Planta Medica* 12(3): 341–352.

An overview (in German) of the chemistry of a fewentheogenic Mexican plants, including a brief mention of *Salvia divinorum*. States that the plant grows in the moun

tains where the Mazatec live, that shaman use its leaves in place of the mushrooms or morning glory seeds, and notes the Mazatec and Spanish names for the plant. Mentions that the active chemical of the plant is “apparently very unstable,” and that the plant was only recently identified botanically.

HOFMANN, A. (Translation by J. OTT) 1980. *LSD: My Problem Child*. MCGRAW-HILL BOOK COMPANY. Originally published in 1979 as *LSD—Mein Sorgenkind*. Stuttgart. Translation reprinted in 1983 as *LSD: My Problem Child—Reflections on Sacred Drugs, Mysticism, and Science* by J.P. TARCHER, INC.

The story of ALBERT HOFMANN’S discovery of LSD-25. Contains a short piece titled “In Search of the Magic Plant ‘Ska María Pastora’ in the Mazatec Country,” which relates the trip that HOFMANN, his wife ANITA, and R. GORDON WASSON took to find *Salvia divinorum*, and describes how they were presented with plants from the Mazatec *curandera* NATIVIDAD ROSA. Also presented is the ceremony wherein GORDON and ANITA ate the plant’s leaves with the *curandera* CONSUELA GARCIA. As well, a different “mushroom” ceremony with MARÍA SABINA is related, wherein ALBERT took the juice of five pairs of fresh *S. divinorum* leaves instead of mushrooms. This chapter of the book can be found on the Internet at: <http://salvia.lycaeum.org/hofmann.html>

▼ **HOFMANN, A. 1990. “Ride through the Sierra Mazateca in search of the magic plant ‘Ska María Pastora’” in *The Sacred Mushrooms Seeker: Essays for R. Gordon Wasson*. Edited by T.J. RIEDLINGER, pp 115–127. DIOSCORIDES PRESS/TIMBER PRESS. Reprinted 1997. Now published by PARK STREET PRESS/INNER TRADITIONS.**

This is essentially the same chapter described above, which appeared in HOFMANN’S LSD book (with some minor rearrangements). Additionally, there is an “Addendum in

Tribute to Gordon," in which HOFMANN relates his thoughts about the importance of WASSON'S discoveries.

JOHNSON, J.B. 1939. "The elements of Mazatec witchcraft" *Göteborgs Etnografiska Museum Etnologiska Studier* 9: 119–149.

A discussion of various plants and methods of curing used by the Mazatec. Notes that illness may be caused by "soul loss," or sometimes by mountain or cave dwarfs. Brings up the "narcotic plants" used to locate lost objects, such as *teonanácatl*, *semilla de la Virgen* and *Hierba María*.

KOREEDA, M. et al. 1990. "The absolute stereochemistry of salvinorins" *Chemistry Letters* 1990: 2015–2018.

Confirmation of the chemical structures of salvinorin A and salvinorin B. You've gotta be a chemist to figure out this paper.

MANN, J. 1972. *The First Book of Sacraments of the Church of the Tree of Life*. TREE OF LIFE PRESS.

The CHURCH OF THE TREE OF LIFE attempted to declare those psychoactive plants that the U.S. government had not yet declared illegal as religious sacraments. Included in these was "Pipiltzintzintli" (*Salvia divinorum*). This CHURCH was likely the first organization in the USA to make *S. divinorum* commercially available in exchange for a \$100.00 (or more) "donation."

▼ MCKENNA, D.J. 1995. "Bitter brews and other abominations: The uses & abuses of some little-known hallucinogenic plants" *Integration: Zeitschrift für Geistbewegende Pflanzen und Kultur* 5: 99–104.

Short overviews of a variety of obscure entheogens. Under the heading "CNS active mints: forskolin; *Salvia divinorum* & divinorin; *Lagochilus inebrians* & lagochilin" we see that DENNIS MCKENNA appeared to prefer the name divinorin to salvinorin (though he was aware that "this compound was independently isolated by two sets of investigators"), and that he hadn't yet read DANIEL SIEBERT'S findings (published a year earlier) regarding the pharmacological activity of salvinorin A.

MCKENNA, D.J. 1996. "Plant hallucinogens: Springboards for psychotherapeutic drug discovery" *Behavioral Brain Research* 73: 109–115.

"...a brief historical overview of the role of natural products in the history and development of medicinal chemistry and experimental pharmacology, particularly with respect to the developments of psychopharmacology and the discovery of CNS-active agents." Quite a few entheogenic plants are discussed, including a mention of *Salvia divinorum*, and how the study of its primary active chemical, salvinorin A, may contribute to an understanding of a novel mechanism of action in the brain.

MERRIT, A.T. & S.V. LEY 1992. "Clerodane Diterpenoids" *Natural Product Reports: A journal of current developments in bio-organic chemistry*. THE ROYAL SOCIETY OF CHEMISTRY, England. : 243–287.

Hundreds of chemical structural drawings of clerodane diterpenoids including "salvinorin" and "divinorin B." Taxonomic relationships are presented, and brief comments on isolation and elucidation are made. (While the

“entheogen community” has now generally accepted the terms “salvinorin A” and “salvinorin B,” at least one chemical reference book, *Dictionary of Terpenoids Vol. 2: Di- and higher Terpenoids* by J.D. CONNOLLY & R.A. HILL (published by CHAPMAN & HALL in 1991), along with this current article, use ORTEGA’S original term *salvinorin* for “salvinorin A” and retain VALDÉS’ term *divinorin B* for “salvinorin B.”

ORTEGA, A. et al. 1982. “Salvinorin, a new trans-neoclerodane diterpene from *Salvia divinorum* (Labiatae)” *Journal of the Chemical Society Perkins Transactions I* 1982: 2505–2508.

The initial isolation of salvinorin, and confirmation of its structure with spectroscopic and x-ray crystallographic methods. Describes how the melting point was determined as well as the method of purification used.

▼ **OTT, J. 1993. *Pharmactheon: Entheogenic drugs, their plant sources and history*. NATURAL PRODUCTS CO. Second Edition Densified 1996.**

These days considered the standard reference on visionary plants and drugs, *Salvia divinorum* and salvinorin A are summed up as the sixth entry under “Sundry Visionary Compounds,” : 380–384.

OTT, J. 1995a. “Ethnopharmacognosy and Human Pharmacology of *Salvia divinorum* and Salvinorin A” *Curare* 18(1): 103–129.

Midway through 2001, JONATHAN OTT’S article in *Curare* remains the most comprehensive overview of the history and chemistry of *Salvia divinorum* and salvinorin A. A must-read for those interested in this enigmatic plant.

▼ OTT, J. 1995b. "Technical Notes" in E. VON BIBRA'S *Plant Intoxicants*. (Translated by H. SCHLEIFFER) First published in 1855 as *Die Narkotischen Genußmittel und der Mensch*, VERLAG VON WILHELM SCHMID, Germany. HEALING ARTS PRESS/INNER TRADITIONS INTERNATIONAL, INC. : 223–261.

Brief mention of the "...potent entheogenic effects [of] a novel terpenoid compound called salvinorin A..." found in *Salvia divinorum* is made in the Technical Notes for CHAPTER 17 on "Arsenic." Overall this is a very good older text on inebriating plants, made better by OTT's updates in this technical section.

▼ OTT, J. 1996. "*Salvia divinorum* Epling et Játiva (Foglie della Pastora/Leaves of the Shepherdess)" *Eleusis* 4: 31–39. Edited by G. SAMORINI.

An excellent condensation and update of "Ethnopharmacognosy and Human Pharmacology of *Salvia divinorum* and Salvinorin A," which appeared in *Curare* 18. This article is simultaneously presented in Italian and English. This presentation includes the text from AARON REISFIELD'S botanical description (an amendment of the original description, presenting the correct flower color), and a more detailed discussion of the purported "cultigen" status of the plant, as well as the plant's seed production and viability. Information is also reported regarding a NOVASCREEN™ bioreceptor procedure, which showed that salvinorin A didn't bind to the 42 known bioreceptors tested. Available on the Internet at: www.angelfire.com/sd/sdarchive/ott.html, and: <http://salvia.lycaenum.org/ott.html>.

PENDELL, D. 1994. "*Salvia divinorum*—a Poet's Perspective." BOTANICAL PRESERVATION CORPS (audio tape).

A talk presented prior to the publication of *Pharmaco/Poetia*, much of which consists of readings from the *Salvia divinorum* section of that book. PENDELL explodes the myth that

“dried leaves don’t work.” He discusses the concept of “plant allies,” and notes that “the bridge of smoke” and “the bridge of the leaves” have different effects and can be considered “two allies,” analogous to smoked DMT and orally-activated DMT in ayahuasca. PENDELL also presents information on how to run a group session with *S. divinorum*, and notes that 13 pairs of fresh leaves—one dose—weighs about 60–70 grams.

▼ PENDELL, D. 1995. *PharmakolPoeia: Plant Powers, Poisons, and Herbcraft*. MERCURY BOOKS.

One of my favorite books, which covers numerous entheogenic plants, providing a masterful blend of both concrete information and poetic musings. An excellent treatment of *Salvia divinorum* is covered in the EXISTENTIA chapter, pages 156–176. If you buy only one book in this recommended reading section, this is the one to get.

RÄTSCH, C. (Translated by J. BAKER) 1992. *The Dictionary of Sacred and Magical Plants*. Foreword by A. HOFMANN. PRISM PRESS. First published in 1988 as *Lexikon der Zauberpflanzen*. AKADEMISCHE VERLAGSANSTATT. : 153–154.

A large number of psychoactive plants are given brief overviews, which unfortunately in some cases distill speculative information by others and present it as fact. *Salvia divinorum*'s psychoactive effects are oddly attributed to both “Divinorin A and Divinorin B.” (It is highly unlikely that the small amount of salvinorin B found in *S. divinorum* contribute in any significant way to the plant's psychoactivity.)

RÄTSCH, C. 1998. *Enzyklopädie der psychoaktiven Pflanzen: Botanik, Ethnopharmakologie, und Anwendung.* Foreword by ALBERT HOFMANN. AT VERLAG.

There has never before been a book like this one, and it is destined to become a classic work in the field. Written in German, this glorious tome is filled with beautiful illustrations, and copious full-color photographs. This 941 page 8" x 10.5" book truly is an encyclopedia, covering hundreds of psychoactive plants. Four pages are dedicated to the botany, ethnopharmacology, and use of *Salvia divinorum*. A single small color photo of a non-flowering *S. divinorum* plant is presented, and chemical structure drawings for salvinorin A and salvinorin B are both presented. The history of the plant is discussed, the nature and duration of effects is provided, and DANIEL SIEBERT'S list of effects produced by pure salvinorin A (see page 87) is repeated.

REISFIELD, A.S. 1993. "The botany of *Salvia divinorum* (Labiatae)" *SIDA* 15: 349–366.

This article notes a number of specific locations where the author found stands of *Salvia divinorum* growing in Oaxaca, and comments on the growth parameters and conditions required for flowering and setting seed. Pollination experiments between the same clone and clones obtained from different regions showed a similarly low seed set (2.5% for the self-pollinations and 3% for the cross-pollinations).

Reprints of this article can be obtained, per availability, by sending a large SASE to the author at: AARON S. REISFIELD c/o SABIA, 605 Henderson Street, Austin, TX 78703, USA, futureheart@sabia.com. The article can also be found online at: www.sabia.com/salvia/index.html (and the on-line version contains over 80 color photos related to *Salvia divinorum*).

REVEREND MeO (Pseudonym for MICHAEL PINCHERA) 1997. "Subj: *Salvia Synergy*" *The Resonance Project* 2.15: 6–7. RESONANT MEDIA. (Originally from an e-mail dated September 14, 1997.)

A trip report that describes the combination of smoked *Salvia divinorum* leaves, lecithin, piracetam, DMAE, and *Heimia salicifolia*.

▼ RIEDLINGER, T.J. (Editor) 1990. *The Sacred Mushroom Seeker: Essays for R. Gordon Wasson*. DIOSCORIDES PRESS/TIMBER PRESS. Reprinted 1997. Now published by PARK STREET PRESS/INNER TRADITIONS INTERNATIONAL, INC.

An excellent collection of writings compiled in tribute to R. GORDON WASSON. Contains one chapter that touches on *Salvia divinorum*, A. HOFMANN'S "Ride Through the Sierra Mazateca in Search of the Magic Plant 'Ska María Pastora'" (described earlier), as well as a few additional mentions of the plant and a color photograph of a young girl preparing the leaves of *S. divinorum* in one traditional method, by crushing them on a *metate*.

▼ SANKAR, D.V.S. (Editor) 1975. *LSD—A Total Study*. PJD PUBLICATIONS LTD.

A large book on LSD with writings by H. ABRAMSON, R. BRADLEY, S. EAGLE, R. FISCHER, L. GOLDSTEIN, J.P. GREEN, A. HOFMANN, C. JOHNSON, S. KANG, J.R. SMYTHIES & P.N. WITT. Contains a couple of quick mentions of *Salvia divinorum* along with *Coleus pumilus*, *Lagochilus inebrians*, and *Nepeta cataria*. Also has the black & white taxonomic drawing of *S. divinorum* by I. BRADY.

SAVONA, G. *et al.* 1978. "Salviarin, a new diterpenoid from *Salvia splendens*" *Journal of the Chemical Society, Perkins Transactions* 1: 643–646

Presents the isolation of salviarin, a chemical found in *Salvia splendens* that is similar in structure to salvinorin A.

SCHLEIFFER, H. 1973. *Sacred Narcotic Plants of the New World Indians: An anthology of texts from the sixteenth century to date.* HAFNER PRESS.

Only a single mention of *Salvia divinorum* is made herein; a quote translated from *Primera Parte de los Problemas y Secretos Maravillosos de las Indias (First part of the Problems and Marvelous Secrets of the Indias)* by JUAN DE CARDENAS:

...There remains to be mentioned what has been learned in the Indias about the Peyote [*Lophophora Williamsii*], the Poyomate [*Salvia divinorum*], the holofquen [*Ololiuhqui-Rivea corymbosa*], and the Piciete [*Nicotiana rustica*]. Many, chiefly Indians, Negros, or stupid and ignorant people, affirm that the aforesaid herbs, when eaten, can summon the demon to appear. The demon then informs them about things to happen in the future.

The identification of *poyomate* as *Salvia divinorum* has not appeared in any other texts that we are aware of. It seems probable that HEDWIG SCHLEIFFER, who compiled this anthology, is the one who determined that *poyomate* represented *S. divinorum*. DÍAZ has reasonably proposed that at least one *poyomatli* corresponds to *Theobroma cacao* (DÍAZ 1977). And it was later postulated by DÍAZ that *Cymbopetalum penduliflorum* "could be related to or even be one of the *poyomatlis*..." (DÍAZ 1977). As well, it should be noted that Americans DIBBLE & ANDERSON, and WASSON, proposed that *Quararibea funebris* flowers may represent *poyomatli* (OTT 1993). Since SCHLEIFFER presents no argument relating why *poyomate* is *S. divinorum*, this identification seems suspect.

SCHULDES, B.M. 1995. "Effects of *Salvia divinorum*—Preliminary summary of a study conducted by B.M. Schuldes." BERT MARCO SCHULDES.

A privately printed two-page information sheet that was available for \$1.00 (postage cost), which described the effects of "Resorption of an alcoholic extract [of *Salvia divinorum*] by the mucous membrane of the mouth." Essentially presents information regarding the appropriate dosage of a "full extract" of *Salvia divinorum* that was at one time sold by BERT MARCO SCHULDES, and which now may be available from ELIXIER. See page 75 and NOTE 3 on page 79.

SCHULTES, R.E. 1967. "The Place of Ethnobotany in the Ethnopharmacologic Search for Psychotomimetic Drugs" *Ethnopharmacologic Search for Psychoactive Drugs* 1967. Edited by D.H. EFRON *et al.* : 37–57. (Public Health Service Publication No. 1645) U.S. GOVERNMENT PRINTING OFFICE. Reprinted in 1979 by RAVEN PRESS.

Within the context of a discussion relating the relevance of numerous visionary plants to ethnobotany, this article contains a brief mention of *Salvia divinorum* along with a nice taxonomic drawing by JOHN STANWELL-FLETCHER, and speculates that *S. divinorum* "might represent the ancient *pipiltzintzintli* of the Aztecs. Also mentions *Coleus pumila*, *C. blumei*, and *Lagochilus inebrians*.

SCHULTES, R.E. 1969. "Hallucinogens of Plant Origin" *Science*, 163: 245–254.

Various entheogenic plants are discussed, and accompanied by photos, chemical structures, and botanical line drawings. A brief history of *Salvia divinorum*'s use is presented, along with mentions of *Coleus* species and *Lagochilus inebrians*.

SCHULTES, R.E. 1970. "The Botanical and Chemical Distribution of Hallucinogens" *Annual Review of Plant Physiology*, 21: 571–598.

Brief overviews of numerous psychoactive plants including *Salvia divinorum*, *Coleus* species and *Lagochilus inebrians*.

▼ **SCHULTES, R.E. 1972. "An overview of hallucinogens in the Western Hemisphere" *Flesh of the Gods: The Ritual Use of Hallucinogens*. Edited by P.T. FURST, : 3–54.**

Another overview of many entheogenic plants by SCHULTES; *Salvia divinorum* is covered briefly under the heading of "Labiatae (Mint Family)." Includes a taxonomic drawing of *S. divinorum* by I. BRADY. Also later mentions *Coleus pumilus* and *C. blumei* in connection with *S. divinorum*.

SCHULTES, R.E. 1976. *Hallucinogenic Plants (A Golden Guide®)*, GOLDEN PRESS.

A small but very good introduction to visionary plants, with illustrations by ELMER W. SMITH. Page 137 contains an entry for "Hojas de la Pastora (*Salvia divinorum*)." SMITH's illustration incorrectly depicts the flower's corolla as being purple. Also has a shorter entry for *Coleus* species.

SCHULTES, R.E. & N.R. FARNEWORTH 1980. "Ethnomedical, botanical and phytochemical aspects of natural hallucinogens" *Botanical Museum Leaflets Harvard University* 28(2): 123–214.

A general discussion of various entheogenic plants, with a short entry on *Salvia divinorum* and *Coleus*. Similar to other articles by SCHULTES noted above.

▼ SCHULTES, R.E. & A. HOFMANN 1980. *The Botany and Chemistry of Hallucinogens*. Revised second edition. C. C. THOMAS. First edition in 1973.

Classic text on entheogens. Contains a section on *Salvia divinorum* with brief historical information. This appears to be an expanded version of the *S. divinorum* section of SCHULTES' 1972 "An overview of hallucinogens in the Western Hemisphere" that appeared in *Flesh of the Gods*. Speculates that *S. divinorum* might also be used by the Cuicatec and Chinotec Indians, as well as the Mazatec. Cites 1962 botanical description by EPLING & JÁTIVA-M. Includes a taxonomic drawing of *S. divinorum* by I. BRADY. The book also later briefly mentions *Coleus pumilus* and *C. blumei* in connection with *S. divinorum*, and also describes the use of *Lagochilus inebrians* in Turkestan.

▼ SCHULTES, R.E. & A. HOFMANN 1979. *Plants of the Gods: Origins of Hallucinogenic Use*. MCGRAW-HILL BOOK COMPANY. Reprinted in 1992 as *Plants of the Gods: Their Sacred, Healing and Hallucinogenic Powers* by HEALING ARTS PRESS/INNER TRADITIONS INTERNATIONAL, INC.

An excellent overview of visionary plants that has been printed in Spanish (1982), German (1980 and 1998), and French (1993). Contains a short listing for *Salvia divinorum* on page 55. This text incorrectly states that the flowers are "bluish," but the illustration depicts them more correctly as having white corollas tinged with blue (those plants that I have seen in flower have white corollas occasionally tinged with violet, not blue).

SCHULTES, R.E. & E.W. SMITH. 1980. *Plant Hallucinogens: Sacred Elements of Native Societies*. UNITED COMMUNICATIONS.

A color poster illustrated by ELMER W. SMITH (whose drawings also appeared in R.E. SCHULTES' *Hallucinogenic Plants*).

Though a different illustration than what appears in *Hallucinogenic Plants*, the *Salvia divinorum* flowers are incorrectly depicted on this poster as having blue corollas and blue calyxes (illustration No. 23).

SHERATT, A. 1998. (Interviewer). *Sacred Weeds: Salvia Divinorum*. TVF PRODUCTION FOR CHANNEL 4 (video tape).

One of four TV programs produced in England and dedicated to psychoactive plants from the "Notes From the Diary of Dr. Andrew Sherratt, Reader in European Prehistory, Oxford University." (The other three programs dealt with *Amanita muscaria*, *Hyoscyamus niger*, and *Nymphaea caerulea*.) Three "experts" on *Salvia divinorum* were interviewed: Dr. FRANCOISE BARBIRA-FREEDMAN, an anthropologist at CAMBRIDGE UNIVERSITY who had studied the use of *S. divinorum* among the Mazatec; Dr. TIM KENDALL, a consultant psychiatrist and director for the CENTER OF PSYCHOTHERAPEUTIC STUDIES; and Dr. JON ROBBINS, a pharmacologist from KINGS COLLEGE in London. DANIEL SIEBERT, who first reported on bioassays of salvinorin A, determining that it was the primary psychoactive component of *S. divinorum*, was also present as the "experienced" psychonautical volunteer. And SEAN THOMAS, a travel journalist from England, was present as the "unexperienced" psychonautical volunteer. The program presents brief information on the history and traditional use of *S. divinorum*, and emphasizes the plant's rarity. A recording of MARÍA SABINA chanting is played. Dr. ROBBINS states that salvinorin A "doesn't act on the outside of cells, like other hallucinogenic compounds," and that diterpenes "seem to act within cells." Two studies of SIEBERT and THOMAS are done; the first with leaves smoked from a waterpipe, and the second with fresh leaves chewed outdoors at night by a fire. In the first experiment, SIEBERT's blood pressure and body temperature is taken, and he is also hooked up to an EEG machine to look for REM brain-activity. There is a rise in blood pressure and a slight increase in pulse rate. However there is no unusual brain activity noted on the EEG. Before and after THOMAS smokes,

he is subjected to a coordination test, which he seems to do well-enough on in both cases. The next experiment, done outdoors, is less clinical, and general impressions of this are presented afterwards by SIEBERT and THOMAS. The whole group is gathered to discuss the plant and its potential. Unfortunately, aside from Dr. BARBIRA-FREEDMAN the "experts" assembled don't really know much about *S. divinorum*. Indeed, the well-presented explanation of the personal relevance of *S. divinorum's* mental action by SIEBERT is much more telling than the speculative ramblings of the doctors assembled. Overall this program was well produced and even-handed, but it would have been more informative if the individuals gathered had been more knowledgeable about the plant and its chemistry.

SHULGIN, A.T. 1997. "The Process of Discovery" (Talk presented on November 22 at the MIND STATES conference in Berkeley.) SOUND PHOTOSYNTHESIS (video tape).

Dr. SHULGIN mainly discusses research methods used when searching for new compounds that may be active. Uses the cactus *Lobivia grandifloris* (*Trichocereus grandifloris*) as an example. Makes a brief mention related to the chemical nomenclature of salvinorin A.

SIEBERT, D.J. 1994. "Salvia divinorum and salvinorin A: New Pharmacological Findings" *Journal of Ethnopharmacology* 43: 53-56.

The paper in which DANIEL SIEBERT relates the first human bioassay of salvinorin A, and discusses the potency of salvinorin A via various routes of ingestion. This paper is available on-line at DANIEL SIEBERT'S web site at <http://salvia.lycaenum.org/jep.html>, as well as being available at: www.angelfire.com/sd/sdarchive/new.html.

SIEBERT, D.J. 1997. "Siebert on Salvinorin content" SALVIA DIVINORUM E-MAILING LIST.

Post discussing the salvinorin A content of dried leaves, wherein SIEBERT comments that, "Valdes' estimate of 2.5–3.0 [mg/g] is right on the mark in that it agrees with both John Gruber's findings and my own."

SIEBERT, D.J. 1997. "RE: SALVIA: Drying Etc..." SALVIA DIVINORUM E-MAILING LIST (November 6).

Post which related that fresh *Salvia divinorum* leaves can be dried for 10–15 minutes in a 300° F oven without a loss in potency, and that salvinorin A "is pretty stable stuff."

SIEBERT, D.J. 1998. DANIEL SIEBERT'S SALVIA DIVINORUM SITE. <http://salvia.lycaenum.org> or www.sagewisdom.org

Some citations in the text of this book refer to information taken from this web page. For more information see the listing in APPENDIX B on page 187–188.

SIEBERT, D.J. 2005? *Divine Sage*. (Forthcoming in 2005?)

DANIEL SIEBERT'S work-in-progress, slated to cover virtually all aspects of the subject: History, Botany, Ethnobotany, Chemistry, Effects, Safety, Trip Reports, Ritual, Horticulture, Preparation, and more. Sure to be the most comprehensive book on *Salvia divinorum* ever produced. Periodically check SIEBERT'S web page for release-date information.

▼ **SOCIEDAD PARA LA PRESERVACIÓN DE LAS PLANTAS DEL MISTERIO 1998. *The Salvia Divinorum Grower's Guide*. SPECTRAL INDUSTRIES.**

See review on page 138.

▼ SUPERWEED, M.J. (Pseudonym of J. MANN) 1970. *Herbal Highs: A Guide to Natural & Legal Narcotics, Psychedelics & Stimulants*. STONE KINGDOM SYNDICATE/FLASH MAIL ORDER. Now published by RONIN PUBLISHING, INC.

A short guide to 33 "herbal highs." Contains a few fairly bad line drawings of various plants, including *Salvia divinorum* as "Pipiltzintzintli" Of the action of *S. divinorum*, it is said: "Visual hallucinations of dancing colors and elaborate designs may be experienced as well as telepathic and clairvoyant insights." Also makes the absurd assumption that "...until [*S. divinorum's*] chemistry is known it is impossible to pass legislation against it."

▼ SUPERWEED, M.J. (Pseudonym of J. MANN) 1983. *Home Grown Highs*. STONE KINGDOM SYNDICATE/FLASH MAIL ORDER. Now published by RONIN PUBLISHING, INC.

Has chapters on psilocybian mushrooms, mescaline-containing cacti, morning glory and baby Hawaiian woodrose seeds, and "Pipiltzintzintli (*Salvia divinorum*) and *Coleus*." Notes that while *S. divinorum* is rare, *Coleus pumila* and *C. blumei* are "readily available from nurseries and other stores as packaged seeds or full-grown potted house plants." This chapter mainly deals with cultivating *Coleus*, and discusses methods of pest control. The author has "found the stems to be as active as the leaves..." The author also states that his experiments with smoking and ingesting the dried leaves of *Coleus* produced "little or no effect." Brief information is presented on *Lagochilus inebrians*.

▼ TESCAROLLO, C. 1996. "Esperienze con pipiltzintzintli / Experiences with pipiltzintzintli" *Eleusis* 6: 40-41. Edited by G. SAMORINI.

A short overview of the doses and effects of *Salvia divinorum*. Presents precise information on active amounts of

dried leaf, both for smoking and for consuming orally. In Italian and English.

TURNER, D.M. 1996. *Salvinorin: The Psychedelic Essence of Salvia Divinorum*. PANTHER PRESS.

See review on page 134. While no longer in print, the text of this book is available on the Internet at: www.erowid.org/library/books_online/salvinorin/salvinorin.shtml

VALDÉS III, L.J.J. 1983. *The Pharmacognosy of Salvia divinorum Epling & Játiva-M: An Investigation of Ska María Pastora*. Thesis. UNIVERSITY OF MICHIGAN.

LEANDER JEROME JULIAN VALDÉS III's Ph.D. dissertation on *Salvia divinorum*, wherein he provides a brief history of the plant's traditional usage, reports the current state of knowledge regarding the plant's chemistry, describes his field work with Dr. JOSÉ LUIS DÍAZ and Mazatec curandero Don ALEJANDRO, presents his botanical studies, and relates his chemical and pharmacological investigations of "Divinorins A and B." Though some of the information presented has been later shown to be in error (such as speculations on the potency of "divinorin A"), this paper is a wealth of primary ethnographic information that any serious student of *S. divinorum* will want to read. Most of the information summarized in VALDÉS' various journal articles stems from this work.

VALDÉS III, L.J.J. 1986. "Loliolide from *Salvia divinorum*" *Journal of Natural Products* 49: 171.

A "brief report" noting the presence of loliolide in *Salvia divinorum*. The chemical structure is presented, and it is mentioned that loliolide is a "potent ant repellent." As well, the extraction and isolation procedure is described.

VALDÉS III, L.J.J. 1994. "Salvia divinorum and the unique diterpene hallucinogen, salvinorin (divinorin) A" *Journal of Psychoactive Drugs* 26: 277–283.

An overview of *Salvia divinorum's* use (including modern psychonautical exploration), chemistry, and effects. This article pulls together much of the same information that VALDÉS presented in other papers, but brings it up-to-date to reflect the fact that salvinorin A is known to be potent in the 200–500 microgram range (as opposed to a similar *milligram* range, which was earlier predicted by VALDÉS based on his rat studies). The statement is made that "TLC comparisons of extracts from leaves collected in Mexico compared to those harvested in Michigan and Louisiana showed that all were essentially identical as to salvinorin A content, so there appear to be no great geographical differences in plant chemistry" is made, which would appear to be contradicted by more recent studies (GRUBER *et al.* 1999). An abstract of this article is available on-line at: www.angelfire.com/sd/sdarchive/abstract2.html

VALDÉS III, L.J.J. *et al.* 1983. "Ethnopharmacology of Ska María Pastora (*Salvia divinorum*, Epling and Játiva-M)" *Journal of Ethnopharmacology* 7: 287–312.

Repeats much of the same ethnographic information that is contained in VALDÉS' 1983 Ph.D. dissertation. This journal article benefits from the inclusion of photographs (not presented in VALDÉS dissertation) of *Salvia divinorum* plants, plants being harvested, the preparation of the leaves, the ritual cleansing of the patient by the shaman, and the benediction of the *S. divinorum* infusion prior to its ingestion. Transcriptions of a ceremony are provided, as well as descriptions of the visions that the researchers VALDÉS and DÍAZ had under the influence of *ska María Pastora* and the guidance of *curandero* Don ALEJANDRO. Available on the Internet at: www.lycaeum.org/drugs/plants/salvia/valdez.html (Note that VALDÉS is misspelled with a "z" in the URL.) Also available at: www.dog.net.uk/claude/

ethdon.html, and: www.angelfire.com/sd/sdarchive/entheoarticle.html, and: <http://diseyes.lycaeum.org/fresh/dvnormum.htm> (Note that “divinorum” is missing both the “i”s.)

VALDÉS III, L.J.J. et al. 1984. “Divinorin A, a psychotropic terpenoid, and divinorin B from the hallucinogenic Mexican mint *Salvia divinorum*” *Journal of Organic Chemistry* 49: 4716–4720.

The second paper relating the chemistry of *Salvia divinorum*, which reported “divinorin A” and “divinorin B” (now referred to by many as salvinorin A and salvinorin B, due to ORTEGA’S earlier nomenclature).

VALDÉS III, L.J.J. et al. 1987. “Studies of *Salvia divinorum* (Lamiaceae), an hallucinogenic mint from the Sierra Mazateca in Oaxaca, Central Mexico” *Economic Botany* 41(2): 283–291.

Presents a minimum of ethnographic and chemical information on *Salvia divinorum*. The paper’s mainly relates data regarding the flower induction experiments. EMBODEN’S correction of the color of the flower’s corolla (white) and calyx (violet) is noted. The researchers also add that “Sometimes, just before opening, the tip of the corolla displayed a lavender tinge, which eventually disappeared.” However, the researcher’s take exception to EMBODEN’S statement that the plant only flowers when it’s “branches are over 7 ft long,” and present the fact that plants under their care that were “less than 0.5 m tall when they flowered.” As well, the researchers show that the statement that this plant “apparently never sets seed” made by numerous researchers is incorrect. Indeed, this paper is the first in print that I am aware of that shows a photograph of *S. divinorum* seeds that the researchers produced from their pollination experiments. (There is another photograph of *S. divinorum* seeds available on DANIEL SIEBERT’S web page; presumably

these are the seeds that SIEBERT collected in Hawai'i.) Unfortunately, the seeds produced from VALDÉS' pollination experiments were killed by overheating, and so their viability could not be ascertained. The flower-induction experiments conducted showed that day length was the predominant determiner of whether or not *S. divinorum* will flower.

VETANCURT, A. 1697–1698. *Teatro mexicano; descripción breve de los sucesos ejemplares, históricos y religiosos del Nuevo Mundo de las Indias.* First edition facsimile printed in 1971, PORRÚA, México.

A chronicle (in Spanish) of the Province of Santo Gospel of México that touches on the history and religious events of the Mexican Indians. It has been pointed out that Friar AGUSTIN DE VETANCURT mentions in this text that *ololiuhqui* (*Turbina corymbosa* seeds) is mixed with *pipiltzintzintli* (OTT 1996), and hence *T. corymbosa* couldn't be *pipiltzintzintli*, as has been suggested by others (AGUIRRE BELTRÁN 1963; DÍAZ 1979; VALDÉS *et al.* 1987).

WASSON, R.G. 1962. "A new Mexican psychotropic drug from the mint family" *Botanical Museum Leaflets Harvard University* 20: 77–84.

The first ethnographic paper describing *Salvia divinorum*, and the experiences R. GORDON WASSON had consuming the leaves. This article can be found on the Internet at: www.angelfire.com/sd/sdarchive/wasson.html, and: <http://diseyes.lycaenum.org/fresh/wasson.htm>, and: <http://salvia.lycaenum.org/wasson1.html>.

WASSON, R.G. 1963. "Notes on the present status of ololiuhqui and the other hallucinogens of Mexico" *Botanical Museum Leaflets Harvard University* 20: 161–193. Reprinted in *The Psychedelic Review*, Vol. 1, No. 8, 1964.

WASSON'S overview of *picietl* (*Nicotiana rustica* L.), *peyotl* (*Lophophora williamsii* (LEMAIRE) COULTER), *teonanácatl* (psilocybian mushrooms), *pipiltzintzintli* (*Salvia divinorum* EPLING et JÁTIVA-M), *ololiuhqui* (*Rivea corymbosa* (L.) HALLIER fil.), and *tliltliltzin* (*Ipomoea violacea* L.). WASSON proposes that *S. divinorum* be tentatively considered as the unidentified Aztec divinatory herb called *pipiltzintzintli*. This article contains a photo of a young girl preparing *S. divinorum* leaves on a *metate* as well as a photo of IRMGARD WEITLANER JOHNSON holding a flowering cutting of *S. divinorum*. This article can be found on the Internet at: <http://pages.prodigy.com/GBonline/liquix.htm>, and: www.angelfire.com/sd/sdarchive/notes.html, and an excerpt that contains *some* of the article's information on *S. divinorum* can be found at: <http://diseyes.lycaenum.org/fresh/pipil.htm>.

WEIL, A.T. 1996. "Pharmacology of Consciousness: A Narrative of Subjective Experience" in *Toward a Science of Consciousness: the first Tucson discussions and debates*. MIT PRESS. Edited by S.R. HAMEROFF, A.W. KASZNIAK, & A.C. SCOTT.

Transcript of a talk given by Dr. ANDREW WEIL in 1994 at the UNIVERSITY OF ARIZONA, which touches on THC, set & setting, ayahuasca, *Bufo alvarius* venom and 5-MeO-DMT, and *Salvia divinorum*/salvinorin A. A bit is presented on *S. divinorum*'s history, ethnography (quoting VALDÉS) and chemistry. During the "Question & Answer" period WEIL relates his own experience with salvinorin A.

WEITLANER, R.J. 1949/1950. "Curacions mazatecas" Mexico Instituto Nacional de Antropologia e Historia. Anales 4: 279–285.

A discussion of various Mazatec healing treatments (in Spanish) that brings up the use of the *Yerba de María*, which is likely *Salvia divinorum*.

ZUBKE, A. 1997. "Salvia divinorum: Lieferant des stärksten aus dem Pflanzenreich bekannten Psychedelikums" HanfBlatt: Das Magazin für Hanf-kulture 4(36): 15–19.

The first comprehensive article on *Salvia divinorum* to appear in a mainstream magazine, written by ACHIM ZUBKE. The text (in German) explains the chemistry of *S. divinorum*, where the plant comes from, how it is used (chewing, smoking, and an alcohol-based extract), and presents a hint at what to expect from the experience, as well as one short "trip report." Also includes a side-bar on *Coleus*, presenting the opinion that while it is "a feast for the eyes, the same cannot be said for the palate: it tastes dreadful, and in addition is not psychoactive eaten fresh or when dried and smoked." Six beautiful color photographs, taken by CHRISTIAN RÄTSCH, of *S. divinorum* (one depicting JONATHAN OTT examining plants) and one photo of *Coleus* accompany this article.

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