THE BLACK VAULT

(15-2)

Extraction of Hallucinogenic Principle from Psilocybe cacrulescens

Two extractions were performed; one using absolute ethanol and the second using 30% aqueous ethanol.

1. Absolute ethanol: 100 g. of dried mushrooms from the [illegible] Wasson collection were macerated under 300 ml. of abs. ethanol in a Waring blendor. The suspension was then stirred for 12 hr. at room temperature and filtered. This extraction was twice repeated. The first extract was yellow, the others very pale. The residue from these extracts was a white solid, with small amount of yellow oil. The oil was removed by washing with n-pentane; the pentane solution gave 960 mg. of dark brown foul-smelling oil. The semi-solid residue, after defatting, was very hygroscopic, and only partially soluble in ethanol, weight 950 mg. Two samples of this gummy solid were taken orally, first 105 mg. and some hours later, 400 mg. Only a very questionable, floating effect was noticed. A 140 mg. sample of the pentane soluble material was placed in a gelatin capsule and taken, this also gave essentially no effect.

It was then decided to continue the extraction with warm [illegible] the chopped material was stirred with warm alcohol but inadvertently was allowed to go dry, and the temperature rose to about 60°. The material was then extracted once with 50 % alcohol; this extract was inactive.

It should be noted that during all of the treatment with absolute ethanol, the chopped mushroom tissue remained quite granular, and dried very rapidly.

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2. Extraction with 80% Ethanol: Since it was clear that absolute ethanol was ineffective in penetrating the tissue, 80% ethanol was tried. In this experiment, an effort was made to exhaust the mushroom tissue as quickly as possible. 50 g. of the dried mushrooms were macerated under 250 ml. of 80% ethanol in a Waring blendor. The resulting mixture was a pasty mass; no supernatant layer seperted. After one-half hour, with intermittent agitation in the blendor (temp. 35 - 40°), the mass was pressed on a suction filter under a rubber dam. The filtrate was a dark amber, and slightly fluorescent. This extraction in the blendor was repeated three times; the fourth extract was very pale yellow. No further color was extracted with water. The pooled extracts were evaporated in vacuum below room temp. almost to dryness. A dark amber syrup and brown oil were present. Water and a little ethanol were added and the mixture was defatted with n-pentane. The remaining ethanol was then removed; the final volume was 81 ml. Thirty ml. of this solution (corresponding to 20 g. of dried mushrooms) was taken orally. A full-blown effect, lasting about six hours, was experienced. The visual patterns were perhaps somewhat less vivid; the subjective, emotional reaction was perhaps intensified.in comparison to the experience with the dried mushrooms. Also intensified was the effect on breathing, which was noted to a lesser extent with the dried mushrooms. Breathing was exceedingly labored, and at one point I was gasping so hard that I nearly lost consciousness. It should be noted that a full effect was experienced with 10 g. of dried mushrooms; I would judge that the effect from this extract of 20 g. of mushrooms was definitely greater. Thus the extraction appears to have been quite effective.

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A 10 ml. aliquot of the remaining aqueous solution was dried down *in vacuo* to give 1.05 g. of foam. The pentane solution gave 1.222 g. of brown oil. It is apparent that a much more exhaustive extraction was realized. The total solids in the aqueous phase (total were 8.52 g., or 17 % of the dry weight.

It may be assumed that ~~there~~ a definitely positive response would have been experienced with half of the 3.2 g. of solids ingested. This can be translated into a figure of roughly 30 mg/kg., which might be taken as a rough base line for dosage for an extract prepared as described.