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**PSYCHOTROPIC MYCOFLORA OF WASHINGTON,
IDAHO, OREGON, CALIFORNIA AND
BRITISH COLUMBIA**

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Classic ethnobotanical studies in Mexico (5, 6, 13) have stimulated modern interest in psychotropic fungi. In recent years, recreational use of psychoactive mushrooms has become popular in the United States and other countries (10, 11, 18). The Pacific Northwest abounds in psychotropic species of at least four genera, *Psilocybe*, *Panaeolus*, *Conocybe* and *Amanita* (1, 2, 3, 6, 7, 8, 9, 12, 17), and recreational use

of these mushrooms seems to be as widespread there as in any other area.

During the fall of 1975, Pollock, Boydston and Ott collected hallucinogenic mushrooms in Washington and British Columbia. Specimens of hallucinogenic mushrooms were also obtained from Oregon, Idaho and California. All of this material was deposited in the herbarium of Escuela Nacional de Ciencias Biológicas (ENCB) in Mexico City, and identified by Guzmán and Ott. Valuable specimens were obtained on loan from the herbaria of San Francisco State University (SFSU), the University of Washington (WTU) and Oregon State University (OSU). Psychoactive species studied are listed by state in TABLE 1. This paper is a preliminary communication. A world monograph of the genus *Psilocybe* is currently being prepared by Guzmán with the collaboration of Ott and Pollock.

Washington: Two of the most common hallucinogenic mushroom species, widely consumed throughout western Washington, are called Liberty Caps by recreational users. This vulgar name refers to both *Psilocybe semilanceata* and *P. pelliculosa* which are generally indistinguishable by macroscopic features. *Psilocybe semilanceata* has spores measuring $12-16 \times 7.5-8 \mu\text{m}$, while spores of *P. pelliculosa* measure $9-13 \times 5-7 \mu\text{m}$. *Psilocybe semilanceata* var. *microspora* Sing. described from Chile (14) is synonymous with *P. pelliculosa* based on examination of the type material. This synonymy is reported here for the first time. It is interesting to note that *P. semilanceata*, an hallucinogenic European species, was not reported from America by Singer and Smith (15) and not even considered to be an hallucinogenic fungus. *Psilocybe semilanceata* var. *caerulescens* Cooke is really synonymous with the typical variety, as Watling suggested (3). The presence of psilocybin in this species has been demonstrated (3, 7). *Psilocybe stuntzii* has been observed to be in widespread use in the Seattle and Olympia areas. The persistent annulus and bluing context are representative features of this interesting species. *Panaeolus subbalteatus* and *Amanita muscaria* (probably both var. *muscaria* and ssp. *flavivolvata*) are used as recreational drugs in various parts of Washington. *Amanita muscaria* is also used as a recreational drug in other states, but we have collected no specimens for microscopic study. *Psilocybe cyanescens* is rather common in Washington, and has lately begun to be used for its psychotropic effects. *Conocybe smithii* seems to be rare, and we have seen no evidence of its use. *Psilocybe angustispora* Smith (OTT 75-17, ENCB), a coprophilous species described from Washington (16), was also collected and studied but is not known to be hallucinogenic. *Psilo-*

TABLE I
MATERIAL STUDIED

A. Washington

1. *Amanita muscaria* (L. ex Fr.) Hooker ssp. *flavivolvata* Sing.-Pollock 76-1 (ENCB)
2. *Conocybe smithii* Watling-Ott 75-18 (ENCB)
3. *Panaeolus subballeatus* (Berk. & Br.) Sacc.-Ott 75-6 (ENCB)
4. *Psilocybe cyanescens* Wakefield-Ott 75-1, Ott/Pollock 75-2, Ott 75-4, Benedict/Brady 1962 (ENCB)
5. *Psilocybe pelliculosa* (Smith) Sing. & Smith-Gerrish 01, Ott 75-3, Ott 75-5, Ott 75-7, Ott 75-9, Ott 75-12, Ott 75-13 (ENCB), Stuntz 12194, Stuntz 12253 (WTU), Thiers 24014 (SFSU), Tylutki 4085 (ENCB)
6. *Psilocybe semilanceata* (Fr.) Kummer-Pollock 10/26/75, Haard 10/30/75, Haard 11/25/74 (ENCB)
7. *Psilocybe stuntzii* Guzmán & Ott-Ott 01, Ott 75-8, Ott 75-14, Ott 75-15, Pollock 10/26/75, Benedict/Brady 1962 (ENCB), Stuntz Aut 73 (WTU)

B. Idaho

1. *Psilocybe pelliculosa* (Smith) Sing. & Smith-KS 2465 (ENCB)

C. Oregon

1. *Panaeolus castaneifolius* (Murr.) Smith-RHO 205 (ENCB)
2. *Panaeolus foeniculii* (Pers. ex Fr.) Kühn.-Ott/Pollock 10/31/75 (ENCB)
3. *Panaeolus sphinctrinus* (Fr.) Quél.-Dunham 01 (ENCB)
4. *Panaeolus subballeatus* (Berk. & Br.) Sacc.-Ott/Pollock 10/31/75, RHO 183 (ENCB)
5. *Psilocybe baeocystis* Sing. & Smith-RHO 209 (ENCB)
6. *Psilocybe pelliculosa* (Smith) Sing. & Smith-Ott 75-19 (ENCB)
7. *Psilocybe semilanceata* (Fr.) Kummer-Weil 11/74, RHO 182, RHO 227 (ENCB)

D. California

1. *Panaeolus campanulatus* (L. ex Fr.) Quél. *sensu* Hora-Herning 11/75 (ENCB)
2. *Psilocybe baeocystis* Sing. & Smith-Thiers 24723 (SFSU)
3. *Psilocybe cyanescens* Wakefield-Vergeer 11/74 (ENCB), Thiers 26886, Thiers 32138 (SFSU)

E. British Columbia

1. *Psilocybe baeocystis* Sing. & Smith-Haard/Pollock 76-2 (ENCB)
 2. *Psilocybe pelliculosa* (Smith) Sing. & Smith-Haard/Pollock 10/28/75 (ENCB)
 3. *Psilocybe semilanceata* (Fr.) Kummer-Pollock 10/21/75 (ENCB)
 4. *Psilocybe strictipes* Sing. & Smith-Haard/Pollock 76-1 (ENCB)
 5. *Psilocybe stuntzii* Guzmán & Ott-Haard/Pollock 10/28/75 (ENCB)
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cybe semilanceata is here reported from Washington for the first time. One of the Washington samples of *P. pelliculosa* had earlier been identified by A. H. Smith as *P. silvatica* (Pk.) Sing. & Smith, a species not known from the western United States.

Idaho: Dried material obtained from Idaho was identified as *P. pelliculosa*. We do not know if this species is used recreationally anywhere in this state.

Oregon: Liberty Caps, *P. pelliculosa* and *P. semilanceata*, appear to be the most widely used hallucinogenic mushrooms in Oregon. It has

been suggested that *P. baeocystis* is commonly used in parts of Oregon (18), but this is doubtful as the identification was not made by a professional mycologist and no herbarium samples were deposited. We have not observed use of this species. *Panaeolus sphinctrinus*, in doses of up to 250 carpophores, is used as a recreational drug in Oregon. *Panaeolus foenisecii* and *P. castaneifolius* were also identified from Oregon, but were not observed in use. These *Panaeolus* species, along with various other members of the genus, are considered to be "latent psilocybian" (9, 12). We have spoken to users in Washington who have tried what appears to be *P. sphinctrinus* and found it to be devoid of hallucinogenic activity. *Panaeolus subbalteatus* has been described as "psilocybian" (9) and is widely used for recreation in Oregon. *Psilocybe semilanceata*, *Panaeolus sphinctrinus*, *P. foenisecii*, *P. subbalteatus*, and *P. castaneifolius* are here reported from Oregon for the first time. The latter species has only previously been cited three times from North America.

California: We have seen evidence of widespread recreational use of hallucinogenic mushrooms grown in vitro in California (and sold on the illicit market), but have only obtained one sample of wild mushrooms used as recreational drugs. Users in southern California ingest 40–50 carpophores of *Panaeolus campanulatus sensu* Hora for their psychoactive effects. This species has been reported as being inactive (9), but traces of psilocybin have recently been detected in Italian specimens (4). We obtained and studied other samples of psychoactive fungi from the herbarium of SFSU and from the collections of amateur mycologists. *Psilocybe cyanescens*, *P. baeocystis*, and *Panaeolus campanulatus* are here reported for the first time from California.

British Columbia: It appears that the most commonly used type of hallucinogenic mushroom in the Vancouver area is Liberty Caps—*Psilocybe pelliculosa* and *P. semilanceata*. The latter species has been identified from British Columbia by A. H. Smith (3). *P. pelliculosa*, *P. baeocystis* and *P. strictipes* are here reported for the first time from British Columbia. The latter two species may be used as recreational drugs in the Vancouver area, although we have seen no evidence of this. In Vancouver we also collected *Psilocybe stuntzii* but saw no evidence of its use as a recreational drug.

Although adverse reactions may occur after the deliberate or accidental ingestion of psychotropic mushrooms, true hallucinations are rare. Toxic side effects such as diarrhea and abdominal cramps sometimes occur, and are generally well managed with supportive therapy.

Atropine is contraindicated in the management of any mycetism resulting solely from psychoactive species. Field and laboratory studies strongly indicate that psychoactive mushroom use as it normally occurs does not constitute a drug abuse problem or a public health hazard.

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