CRUDE PLANT DRUGS

This is a very interesting group of materials (Table XX) that pose some difficult problems. In most instances neither the animal nor the human pharmacology of the crude drugs has been well characterized. Many of them are used in religious rites by primitive peoples. Their effects can in several cases be attributed to the most potent drug that they are known to contain.

*Anhalonium lewini* (S 242) or peyote contains mescaline and is used in sacramental fashion in the rites of the Native American Church. Even though peyote causes more nausea and vomiting than mescaline or LSD, a small illegal traffic in it has developed which is entirely unrelated to its religious use. It is a hallucinogen and has at least moderate potential for producing dependence. *Psilocybe mexicana* (S 248) is a small mushroom found in Mexico, which contains psilocybine and psilocin. It is used in religious and therapeutic rituals by Mexican Indians. It is hallucinogenic and illicit use and traffic in the mushroom has occurred. Like peyote, it must be judged to have definite dependence potential.

The bark, seeds and pods of several trees, *Anadenanthera peregrina* (S 241), *Mimosa hostilis* and *Virola calophylla*, are ground and used as snuff by Indians in South America and the Caribbean Islands. These materials contain principally dimethyltryptamine and congeners of dimethyltryptamine. No illicit traffic in these materials has yet occurred but they must be regarded as having some dependence potential if available.

Less is known about *Banisteropsis caapi* (S 244), *Amanita muscaria* (S 243) and *Tabernanthe iboga* (S 249) but all have been described as being hallucinogenic. No rating of dependence potential can be made.

*Myristica fragrans* (S 246) or nutmeg, is sometimes used as an intoxicant, but nutmeg seems to be only weakly hallucinogenic (if at all). Rather, nutmeg seems to cause primarily an unpleasant kind of drunkenness. The spice is abused most frequently by prisoners since it is relatively easy to obtain. Its abuse potential, in view of its great availability, must be rated as quite low. *Piper methysticum* (S 247) or *kava*, is used ritualistically by Polynesians in the South Pacific. The intoxication has not been well characterized but appears to be mild. Its dependence potential is low.

The seeds of the morning-glories, *Rivea corymbosa* and *Ipomea violacea* (S 250), contain compounds that are congeners of LSD but that are not truly hallucinogenic. *Amanita muscaria* (S 247) or *kava*, is used ritualistically by Polynesians in the South Pacific. The intoxication has not been well characterized but appears to be mild. Its dependence potential is low.

Many other varieties of morning-glory contain varying amounts of these drugs. The seeds are used ritualistically by Mexican Indians. Eating morning-glory seeds became popular for a time in the USA but the practice has spontaneously died out because of the low activity and unpleasant side-effects. The dependence potential of morning-glory seeds is regarded as being very low.

*Datura stramonium* (S 245) contains belladonna alkaloids and belongs to the group of anticholinergic hallucinogens. *Datura* has no or very low dependence potential because of the unpleasantness of its effects. It is sometimes used to adulterate Cannabis.

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405. Deulofeu, V. (1967) pp. 393-402 in ref. 318 (Chemical compounds isolated from Banisteriopsis and related species)
409. Hofman, A. R. et al. (1958) Experientia (Basel), 14, 107 (Psilocybin, ein psychotroper Wirkstoff aus dem mexikanischen Rauschpilz, Psilocybe Mexicana Heim)
<table>
<thead>
<tr>
<th>Scientific name of plant</th>
<th>Type of plant</th>
<th>Parts of plants used</th>
<th>Names commonly used</th>
<th>Active ingredients</th>
<th>Dangers of abuse</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S 240</strong> <em>Catha edulis</em></td>
<td>Shrub</td>
<td>Fresh leaves</td>
<td>Khat</td>
<td>(+)-nor-pseudo-ephedrine (cathine)</td>
<td>Stimulation</td>
<td>318, 408, 426, 427, 434</td>
</tr>
<tr>
<td><strong>S 241</strong> <em>Anadenanthera peregrina</em> (Syn. <em>Piptadenia peregrina</em>) Various varieties of above <em>Mimosa hostilis</em> <em>Virola calophylla</em></td>
<td>Tree</td>
<td>Bark, seeds, seed pods</td>
<td>Cohoba, paricá, Epéna</td>
<td>Bufotenine (5-OH-DMT); Dimethyltryptamine; Dimethyltryptamine N-oxide; Bufotenine (5-OH-DMT) N-oxide; 5-methoxydimethyltryptamine</td>
<td>Psychoses</td>
<td>318, 401, 411, 420, 425, 426, 430</td>
</tr>
<tr>
<td><strong>S 242</strong> <em>Anhalonium lewini</em> (Syn. <em>Lophophora williamsii</em>)</td>
<td>Cactus</td>
<td>Dried &quot;buttons&quot;</td>
<td>Peyote, peyotl</td>
<td>Mescaline</td>
<td>Psychoses</td>
<td>318, 375, 402, 414</td>
</tr>
<tr>
<td><strong>S 243</strong> <em>Amanita muscaria</em></td>
<td>Mushroom</td>
<td>Entire mushroom</td>
<td>Fly agaric, panx</td>
<td>Muscarine; Muscimole; Ibotenic acid</td>
<td>Poorly characterized</td>
<td>318, 403, 406, 429, 431, 432</td>
</tr>
<tr>
<td><strong>S 244</strong> <em>Banisteropsis caapi</em></td>
<td>Vine</td>
<td>Lower part</td>
<td>Ayahuasca, caapi, yagé</td>
<td>Various harmine and harmaline alkaloids</td>
<td>Psychoses</td>
<td>318, 338, 404, 411, 413</td>
</tr>
<tr>
<td><strong>S 245</strong> <em>Datura stramonium</em></td>
<td>Herbaceous weed</td>
<td>Leaves</td>
<td>Asthmador, loco weed</td>
<td>Belladonna (atropine) alkaloids</td>
<td>Psychoses</td>
<td>318, 407, 418</td>
</tr>
<tr>
<td><strong>S 246</strong> <em>Myristica fragrans</em></td>
<td>Tree</td>
<td>Kernel of seed, outside of seed shells (arillus)</td>
<td>Nutmeg, mace</td>
<td>Many terpines and aromatic compounds; Myristicin, etc.</td>
<td>Poorly characterized</td>
<td>318, 416, 419, 422, 423, 426, 428, 433, 435</td>
</tr>
<tr>
<td><strong>S 247</strong> <em>Piper methysticum</em></td>
<td>Perennial shrub</td>
<td>Powdered roots of plants</td>
<td>Kava, kava-kava, kawa, cava</td>
<td>Contains many 5,6-dihydro-a-pyrones</td>
<td>Poorly characterized</td>
<td>318, 413, 410, 412 415, 417</td>
</tr>
<tr>
<td><strong>S 248</strong> <em>Psilocybe mexicana</em></td>
<td>Mushroom</td>
<td>Entire mushroom</td>
<td>—</td>
<td>Psilocybine; psilocin</td>
<td>Psychoses</td>
<td>318, 404</td>
</tr>
<tr>
<td><strong>S 249</strong> <em>Tabernanthe iboga</em></td>
<td>Shrub</td>
<td>Roots</td>
<td>—</td>
<td>Ibogaine</td>
<td>Poorly characterized in man</td>
<td>318, 405, 421</td>
</tr>
<tr>
<td><strong>S 250</strong> <em>Rivea corymbosa</em> <em>Ipomea violacea</em> Many other varieties</td>
<td>Climbing flowering vines, morning-glories</td>
<td>Seeds</td>
<td>Olooliqui; olooliqui</td>
<td>Various indoles such as D-lysergic acid amide, isolysergic amide, ergine, etc.</td>
<td>Sedation; Psychoses?</td>
<td>318, 332, 407, 419, 424</td>
</tr>
</tbody>
</table>
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