A NOTE ON ETHNO-MYCO-MEDICINES FROM CENTRAL INDIA

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Introduction
The large central Indian state of Madhya Pradesh has a rich flora, due to its variable climatic conditions. Forests cover nearly 33% of its area (22% of India’s total forests). They are the real home of the tribal peoples who make up 23% of the population, and they constitute an ethnobotanical treasure house. Large numbers of shrubs and herbs are found in the understorey, many yielding ingredients used as food or medicines or for other needs of life (Ram Prasad et al. 1990). Fruit bodies of higher fungi have been reported as common on the forest floor in the rainy season (Tiwari, 1988), but no attention has previously been paid to their use in ethnomedicine.

An early report of the use of higher fungi in medicine was by Berkeley (1860) who recorded *Calvatia gigantea* and *C. caelata* (now *Langemannia* g. and *C. utriformis*) used in burn and surgical cases for their anaesthetic properties similar to chloroform. Swanton (1916) mentioned use of the capillitium of *Calvatia* spp. by villagers in West Sussex, England to staunch bleeding. Morse (1933) noted the reported use of another gasteromycete *Podaxis pistillaris* in S. Africa and Afghanistan to cure cancerous sores. Youngken (1948) reported that *Formitopsis officinalis* (now *Laricifomes* o.) contains agaricin and was used as an antiperspirant. Gilbertson (1980) lists various former medical uses of this same polypore. The possibilities of using higher fungi occurring in India for medicinal purposes have been explored in papers by Ohri (1969, 1971) and recently by Rai et al. (1990), Rai (1991), Rai & Rai (1992) and Vaidya & Rabba (1993).

Materials and Methods
Extensive surveys were made among two primitive forest tribes, the Baiga and the Bharia. Local ‘Vaidya’ or ‘Guniya’ (medicine men) accompanied the surveys to assist in collecting the medicinally important fungi. They also helped to obtain details of the other ingredients used in medicines, their modes of application, dosages etc. The fungi collected were examined microscopically and identified with the help of all available expertise and literature.

Observations
The following species were found to be in medicinal use:

1. *Agaricus* sp.
   Cap 7-9 cm diam with prominent dark brown scales, black at disc. Stipe white with prominent complex ring, 8-10 cm/5-6 mm, base slightly bulbous and often yellowish. On decaying wood of *Shorea robusta*. Used only by the Baiga of Amarkantak, who hang sun-dried fruit-bodies round the neck as a remedy for goitres.

2. *Astraeus hygrometricus* (Pers.) Morgan
   Well known rayed gasteromycete, common in sandy soil near the forest and in open grasslands. Both tribes use the spore mass mixed 1:1 with mustard seed oil (*Brassica campestris*) as an ointment for burn cases, applied 4-5 times a day.

   Puff-ball common in open grassland. Used by the Baiga to staunch the bleeding of cuts and to assist in wound healing.

4. *Calvatia cyathiformis* (Bose) Morgan
   Large puff-ball common here in open sandy grassland and on the forest floor. The spore mass is used by both tribes for wound healing and to check pus formation.

5. *Cyathus stercoreus* (Schw.) de Toni
   Small bird’s-nest fungus, occurring on the ground in dung heaps and among dead branches. Used by the Baiga for soothing eye disorders (pain, redness, conjunctivitis). The peridioles are ground up with water, filtered through cotton, and used as eye-drops, two drops twice a day.

   A second bird’s-nest fungus, found especially on decaying branches of *Dendrocalamus strictus*. Used by the Bharia in the same way that the Baiga use *S. stercoreus*.

7. *Microporus xanthopus* (Fr.) Kuntze
   Common tropical polypore. The Baiga use it as a remedy against fever and vomiting, ground up with the gum of *Pterocarpum marsupium*, one teaspoonful with a glass of water, three times a day. The Bharia grind it with water and filter it to provide drops for the relief of earache, four drops three times a day.

8. *Phallus rubicundus* (Bosc.) Fr.
   Common in the leaf litter of *Dendrocalamus strictus* forest. Used by both tribes against ‘Motizhara’ (typhoid). The fungus is ground...
up and mixed with old sugar-cake. One full teaspoonful three times a day. The Baiga use the same treatment also for labour pain.

9. *Termitomyces microcarpus* (Berk. & Br.) Heim

A small species of the genus (cap 2-4cm diam.) growing in termite-enriched soil. Used by the Baiga in cases of partial paralysis. A preparation is made by grinding up sun-dried fruit-bodies, leaves of *Oscium* sp., black pepper and salt. This is taken either as a powder or in pea-sized tablets, three times a day with a glass of cow’s milk, for three months. The Bharia boil this fungus and give a tablespoonful of the extract twice a day before meals as a tonic to patients suffering from weakness after long sickness.


Given by both tribes post-natally to women whose lactation rate is low. The fungus is ground to a fine powder, mixed 1:1 with old sugar-cake, and formed into pea-sized tablets. These are taken twice a day before meals for five days with a glass of cow’s milk.

In summary three species were found to be used in the same way by both tribes. Three other species were used by both tribes, but for different purposes. Each tribe made eye-drops from *Cyanthus*, but used different species to do so. Two other species were used only by the Baiga.

### SUMMARY TABLE INCLUDING LOCAL NAMES FOR THE FUNGI USED

<table>
<thead>
<tr>
<th>Species</th>
<th>Users</th>
<th>Local Name</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <em>Agaricus</em> sp.</td>
<td>Baiga</td>
<td>Gobari Pihiri</td>
<td>for goitres</td>
</tr>
<tr>
<td>2. <em>Astraeus hygrometricus</em></td>
<td>Baiga</td>
<td>Savan Putpura</td>
<td>for burns</td>
</tr>
<tr>
<td></td>
<td>Bharia</td>
<td>Putu</td>
<td>for burns</td>
</tr>
<tr>
<td>3. <em>Bovista pusilla</em></td>
<td>Baiga</td>
<td>Phusphush</td>
<td>to staunch bleeding</td>
</tr>
<tr>
<td>4. <em>Calvatia cyathiformis</em></td>
<td>both</td>
<td>Dharti Phool*</td>
<td>for healing wounds</td>
</tr>
<tr>
<td>5. <em>Cyathus stercoraceus</em></td>
<td>Baiga</td>
<td>Nirghunti</td>
<td>for sore eyes</td>
</tr>
<tr>
<td>6. <em>Cyathus limbatis</em></td>
<td>Bharia</td>
<td>Kulhari</td>
<td>for sore eyes</td>
</tr>
<tr>
<td>7. <em>Microporus xanthopus</em></td>
<td>both</td>
<td>Saja Pihiri</td>
<td>for fever (Baiga)</td>
</tr>
<tr>
<td></td>
<td>both</td>
<td>Jhiri Pihiri</td>
<td>for typhoid</td>
</tr>
<tr>
<td>8. <em>Phallus rubicundus</em></td>
<td>both</td>
<td>Bhorooan Pihiri</td>
<td>for labour pain (Baiga)</td>
</tr>
<tr>
<td>9. <em>Termitom. microcarpus</em></td>
<td>Baiga</td>
<td>Doda</td>
<td>for partial paralysis</td>
</tr>
<tr>
<td></td>
<td>Bharia</td>
<td>Phoot Dooth</td>
<td>tonic for weakness</td>
</tr>
</tbody>
</table>

* The tribal medicine men use a different name ‘Gaena’ for this fungus.

### Acknowledgement

Financial assistance from the Council of Scientific and Industrial Research, New Delhi in the form of a Senior Research Fellowship to the first author is thankfully acknowledged. The authors thank Dr R N Tripathi, Principal, Govt. Autonomous Science College, Jabalpur, for providing various facilities during this study.

### REFERENCES

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