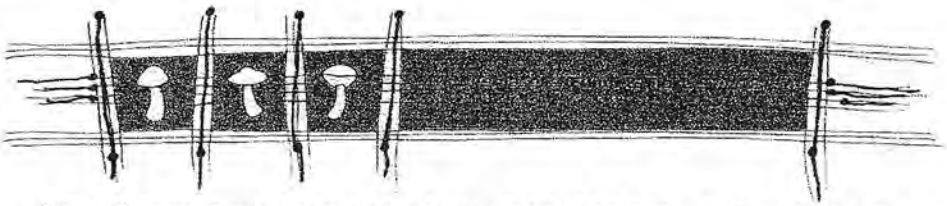
INTERNATIONAL MUSHROOM DYE-GEST

A newsletter of the International Mushroom Dye Institute
Issue#5 Spring / Summer 2003

According to Meinhardt Moser's theory (see Erik Sundström's article inside) the *Dermocybe* sp. may have originally spread from Australia to other parts of the world when the continents broke apart 70 million years ago... Now, in July of the year 2003, we are reconnecting those ancient continents by returning to celebrate the original source of these little dynamos of brilliant red dye :

11th International Fungi & Fibre Symposium in Western Australia

July 12 – July 18, 2003



From the very beginnings in Mendocino, CA in 1980, the Symposia attendees (many in search of the magnificent red pigment produced by that *Dermocybe* species) have travelled back and forth several times in the Northern Hemsiphere, from the North American Continent to the European continent, , and now, in 2003, many of us will reunite in the Southern Hemisphere for the first time! WOW!!!

These Symposia continue to satisfy our innate impulse to share, to exchange ideas, to educate, celebrate and reunite with friends through our common interest of color and science, fibre and fungi. Perhaps it was best said by Miriam Rice herself in 1985, in her dedication to the lovely little Swedish mushroom dye book, "*Skapa av Svampfärgat garn*":

A SALUTE TO TEXTILE ARTISTS

Your similarity of impuse intrigues me.
Your commonality of vision and uncommon expression moves me. The pictorial, symbolic and simple abstract designs independently achieved, together give a wealth, warmth and humanity to these works done with Mushroom dyes – surely a bright gift from the Earth!

"Skapa av Svampfargat garn", by Carla & Erik Sundström, & Miriam Rice , ICA bokförlag Västerås, Sweden 1985

A Brief History of International Fungi & Fiber Symposia

1980 - 1st International Mushroom Dyes Textile Show
"Fungi and Fibers", Mendocino, CA. USA

1982 - "2nd National Mushroom Dye Fungi & Fibers Show"
Mendocino, CA, USA

1983 - 2nd International Fungi & Fiber Symposium
Stockholm, SWEDEN

1985 - 3rd International Fungui & Fiber Symposium
Søro, DENMARK

1988 - 4th International Fungi & Fiber Symposium
Mendocino, CA, USA

1990 - 5th International Fungi & Fiber Symposium
Voss, NORWAY

1993 - 6th International Fungi & Fiber Symposium
Edinburgh, SCOTLAND

1995 - 7th International Fungi & Fiber Symposium
Härnösand, SWEDEN

1997 - 8th International Fungi & Fiber Symposium
Saranac Lake , New York, USA

1999 - 9th International Fungus/Fiber Symposium
Hønefoss, NORWAY
("International Federation of Fungi & Fibre" was organized at the 9th International Symposium

2001 - 10th International Fungus/Fiber Symposium
Rovaniemi, FINLAND

2003 - to Denmark, WESTERN AUSTRALIA for the 11th International Fungus/Fiber Symposium!

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Caution Advised

Chrome hazards are lurking in the mordant potassium dichromate.

Have you ever poured your old, used motor oil into a gopher hole? Do you bury plastic or styrofoam in your backyard? Do you dump toxic metals into the environment? Do you even CARE about our Mother Earth? You might have answered YES to a couple of these questions and that would be one too many!
Simply stated: Some of our mushroom friends are dumping toxic metals into the environment.

For millennia, dyers and weavers have searched and experimented with plants, minerals and other colored materials for ways to impart the color to their work. The bright red-orange color of potassium dichromate has proven to work well. The name chromium comes from the Greek word for color, *chroma*.

The characteristic oxidation states of the metal (+2, +3 or +6) yield several different colors: blue to violet to green to orange. The change in oxidation state leads to confusion over the proper name but dyers are interested in only one of the compounds, potassium dichromate because of its color stability. It's a salt of Chromic Acid and has the chemical formula of $K_2Cr_2O_7$. It's also known as Hexavalent chromium ("chromium VI"), Cr(VI), Cr+6, Dichromic Acid, Dipotassium Salt, Potassium Bichromate and Dipotassium Dichromate.

Medically, it is well known to irritate the skin and mucous membranes. Direct contact may cause skin irritation, sensitization or dermatitis. Prolonged contact can cause external ulcers, known as "Chrome Sores". Chrome sores most commonly occur at breaks in the skin, nailroots, creases over knuckles, finger webs, backs of hands, and on forearms. Massive overexposure could lead to toxic quantities being absorbed through the skin causing systemic poisoning which leads to kidney or liver damage. Initial poisoning by potassium dichromate may cause vomiting, pain in the stomach, and a metallic taste. Circulatory collapse may follow with weak and rapid pulse, shallow respiration, and clammy skin. Early deaths are generally associated with shock. Late deaths are usually due to renal or hepatic failure. Chrome(VI) can kill humans and is known to cause cancer.

Mild inhalation of the dust may irritate the respiratory tract and can be a major problem for mushroom dyers. Symptoms include coughing, shortness of breath, sore throat and a runny nose. If sufficient amounts are inhaled and absorbed, symptoms may resemble those caused by acute ingestion. Ingestion may cause gastroenteritis (inflammation of the lining membrane of the stomach and intestines) with abdominal pain, nausea, vomiting and diarrhea.

This may result in systemic effects, which can occur anywhere in the body, and may include ringing of the ears, dizziness, elevated blood pressure, blurred vision, tremors and problems with the kidneys and liver. Dyers would most likely never be poisoned by inhaling the small misty droplets from a boiling dye pot and ingestion is out of the question. They are at risk when removing a tablespoon full of the powder from the container and adding it to the dye pot. Inhalation of dichromate dusts can cause ulceration and perforation of the nasal septum, irritation of the eyes and respiratory tract problems. This can be minimized with education, such as holding your breath while using an open container of the crystals and boiling the dye pot in a well ventilated area.

The other REAL problems with using potassium dichromate are skin contact and disposal of the left over water. Contact with breaks in the skin cause ulcerations, known as chrome sores. They were common during the industrial revolution, before the focus on safety in the work place. *Wool that has been dyed with a mordant containing chrome will have some chrome in the fibers of the wool, so it is prudent to avoid wearing the clothing.* That would be analogous to wearing a chrome plated bumper from a '57 Chevy! Shinny chrome plated jewelry for children (or anyone) is against the law! Wool dyed with chrome as a mordant would be suitable for wall hangings and pieces of art, but not clothing, especially for children and pregnant women. NEVER make a child's hat or sweater with chromated wool!

Dr. Gale was able to produce cleft palates in 85% of the hamster fetuses he tested with a dose of 7.5 mg/kg of chromium. That is about 75 times the exposure limit allowed by US Federal Safety Authorities. For Cr+6, the

lethal dose is 50 mg/kg of body weight for humans. For a typical adult female weighing 132 pounds (60 kg), the fatal dose would be 3.00 grams. Most jars contain 500 grams! A 60 kg crafts dyer would only need 0.0064 g to exceed the federal guidelines.

AVOID DIRECT CONTACT WITH THIS MATERIAL. Do not eat, drink or smoke in areas where potassium dichromate is being used.

The last problem involves disposal of the spent dye bath water. the water contains chromium VI and will reside in the soil for over a decade before binding or filtering out. Eventually it changes chemically into chromic oxide, Cr_2O_3, and becomes a safer mineral with minimal heath risks.

A Google search for "hazards of potassium dichromate" returned over 1250 web sites. Could ALL OF THEM possibly be wrong? Play it safe, for your health, your children, your caring neighbors and the future generations. Avoid using potassium dichromate as a mordant, don't dump the water into the sewer and feel good about helping to save Mother Earth.

Darvin DeShazer
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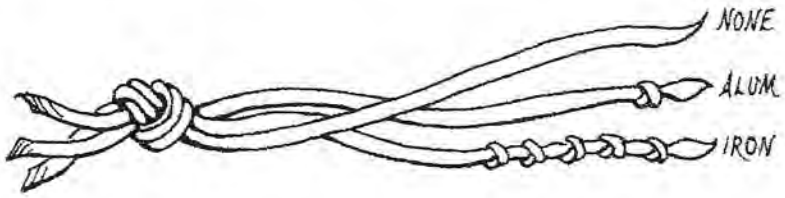
Darvin holds teaching credentials in Chemistry and Biology and is the Chairman of the Science Department at St. Vincent High School in Petaluma, California. He founded the Sonoma County Mycological Association (SOMA), serves as the club Science Advisor and has published several articles on fungi, including the identity of the odor in Hydnellum suaveolens. He assists hospitals and veterinarians with mushroom identification and is a consultant for the Bay Area Poison Control Center and the Univ. of California Agricultural Extension Service.
http://www.SOMAmushrooms.org



About Mordants – Then and Now...

For many years now, due to growing awareness of the toxic nature of some of the mordants we have used in the past (tin, chrome, and copper), our experimentation has shifted to the use of only ALUM and IRON mordants for dyeing. This choice is for our own safety as well as a contribution towards a less polluted biosphere. Results recorded for more than a decade, now show little need for dependence on toxic mordants in order to achieve the broad diversity of a full color spectrum including the bright reds, yellows, blues and purples. Please join us in this effort!

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A search for fungal dyes with year-round potential.... by Megan Romberg ©May 2003

At Dorothy Beebee's suggestion, I thought I'd share my particular interest in fungal dyes with the rest of you, hoping you'll find it interesting as well. When I began graduate school two years ago I had little knowledge of fungi and none whatsoever of fungal dyeing. I have been a knitter, though, practically since I can remember, and dabbled in plant dyes, so when my major professor mentioned that mushrooms could be used for dyeing fibers, I was intrigued. Two years later I am addicted and obsessed with mushroom dyeing, and the idea of dyeing with other fungi. I am also impatient, and although I love the excitement of wandering in the woods and finding an unexpected dye mushroom, I also like the idea of being able to dye with fungi on a year-round basis. To this end, I have some research in mind...

As a student in Plant Pathology I am exposed to mycology on a daily basis, and mostly fungi of the non-mushroom kind. I began to look for any work done using pigments produced by "filamentous", culturable fungi to dye textiles. To date, I have only come across one study, by Debra Hobson, et al., wherein the fungus *Curvularia lunata* was grown, a pigment extracted from the fungal mycelia and this pigment used as a dye. This work was done in 1996 and I know of nothing similar since. I was fascinated as well by R. Raisanen's dissertation research: extracting the pigments of *Dermocybe sanguinea* and using them to dye wool and polyamide fibers.

There are numerous fungi that can be grown in a laboratory setting which make pigments. In some cases, the structure of these pigments is known, and they can also be used in identifying the fungi, especially those of particular groups. I have two main areas of interest that I'd like to research at the moment: 1) to see if any of the filamentous, culturable fungi known to produce pigments, especially anthraquinones, can be used for textile dyeing, and 2) to research the fungus *Pisolithus* in more detail.

For the first area of research, I am currently growing various *Fusarium* species on potato dextrose agar. *Fusarium* is famous for its production of pigments in various solid agar media. I tried growing the fungus in a potato dextrose broth, but have not seen the same pigment formation as on the solid agar. I plan on trying to dye wool with a crude extract of the mycelium of these fungi, and would also like to try to extract the pigments for dye experimentation. If anyone knows of others who have done or are doing this sort of work I would love to learn who they are and what they've done.

The second area of research will be more detailed. A recent paper in the journal New Phytologist (Martin et al., 2002) suggests that the genus *Pisolithus*, long thought to comprise only one species, actually contains numerous species. The different *Pisolithus* species appear to have different host ranges, and I wonder if they don't have different dye properties as well. *Pisolithus* does produce a water-soluble pigment when grown in potato dextrose broth. I would like to collect a number of *Pisolithus* fruiting bodies from different hosts in North America, compare their DNA to determine how different or alike they are, and then also compare the dyeing ability of pigments they produce in broth. To this end I wonder if I might not be able to request assistance from the rest of the mushroom dye community. I know how thrilling it is to find a *Pisolithus* fruiting body, since they produce such a great, strong, abundant dye, and I am loathe to ask anyone to part with any of this bounty. However, if you do find any (especially young) fruiting bodies and are willing to part with some of the tissue (about 1-2 ounces/ 30-60 grams) I would be enormously grateful. I am willing to reimburse the shipping costs to anyone willing to help. I would need to know when the fruiting body was collected, and under what tree/bush/shrub host, and I would definitely want to know who collected the mushroom, so I could give you credit. My email is mkromberg@ucdavis.edu, and my address 2828 Grinnel Drive, Davis, CA 95616. Feel free to contact me with questions, comments, etc. I look forward to more interchange with the rest of the IMDI in the future, and I can't wait to see some of you in Australia!

References:

Raisanen, R.; Nousiainen, P.; Hynninen, P.H. 2001. Emodin and Dermocybin Natural Anthraquinones as Mordant Dyes for Wool and Polyamide. *Textile Res. J.* 71(11), 1016-1022.

Hobson, D.K.; Edwards, R.L.; Wales, D.S. 1997. Cynodontin: a Secondary Metabolite and Dyestuff Intermediate. *J. Chem. Tech. Biotech.* 70: 343-348.

Martin, F.; Diez, J.; Dell, B; Delaruelle, C. 2002. Phylogeography of the ectomycorrhizal Pisolithus species as inferred from nuclear ribosomal DNA ITS sequences. *New Phytologist.* 153(2): 345-357.

(Megan Romberg is pursuing her Ph.D. in plant pathology at the University of California at Davis, CA., and was also awarded a 2003 collegiate scholarship by the Sonoma County Mycological Association for her work on exploring cultivable fungi that can be used as dyes.)

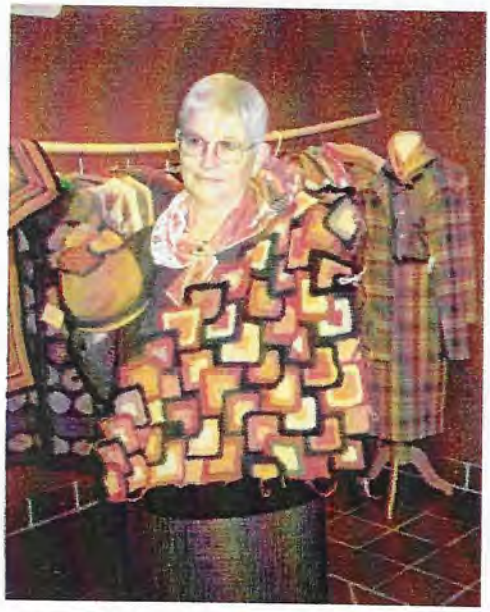
News from Norway:

Last year the Norwegian mushroom dyers (FFS) celebrated their 10th Anniversary. The exhibition at Asker Museum from September 1, 2002, It was a great success!

20 dyers contributed to the exhibition with tapestries, felted items, knitted sweaters, coats, caps, socks, dolls and teddy bears. Silk scarves, silk shirts in different colours. Many people visited and some was very surprised at and impressed to see what lovely colors fungi can give to wool and silk.

Liv Lindgren in mushroom dyed velvet...

The knitted teddy was made by Enid Skårdalsmo, (yarn was dyed with *Cortinarius* sp.) the doll's costume (dyed with *Hapalopilus nidulans*) was made by Anna Elise Torkelson.



The cap (being held) was made by Margrethe Steenberg and was dyed with *Serpula lacrymans*. It is true!

We made a CD with pictures to document what Norwegian mushroom dyers have made during the 10 years of **(Forum for soppfargere)**. Of course we didn't get photos of everything but still a lot of tapestries, woven and knitted items, etc. I'll bring copies to Australia and perhaps be able to show some of it.

I'm glad to hear that you'll be there so we can meet again - good friends of a long time. This year it will be 18years since I attended my first IFFS in Denmark (Europe) and 15 years since my first visit to the States and to California. I enjoyed the stay in Mendocino very much - we were only four Norwegians attending that Symposium. This year, we'll be 12 persons coming from Norway (some of the dyers are bringing their husbands)- Jørn & Brit Jørgensen, Gry & Kåre Rørhus, Ruth Solem & Johs. Bjørgo, Betsy Samuelsen, Ruth Gjermundsen, Gunn Stabbetorp, Trine Parmer, Gro Gulden and myself. I'm sure you remember most of the names from earlier symposia. And there will be 8 persons coming from Denmark and about 6 from Sweden and some from Finland as well!

Anna-Elise Torkelson

A colorful Note from Maggie Rogers... (USA)

By the bye, I was crawling around in one of the older texts (Lilly, Virgil Greene and Horace L. Barnett, PHYSIOLOGY OF THE FUNGI. McGraw Hill, 1951) and found a very brief entry in the chapter on "Metabolic products," p. 293-4, under "Pigments".

"In the fungi, some pigments accumulate in the mycelium and spores, while others diffuse into the culture medium. The pigments produced by a fungus are in part determined by genetic factors and in part by the environment. Mycelium, fruit bodies, and spores may be pigmented, or in some species the pigments is confined to the spores.

"Among the fleshy fungi, brown is one of the most common colors of fruit bodies., with yellow, orange, and red being somewhat less common. Often a number of pigments are obviously present. Few fungi are green. Yet, *Chlorosplenium aeruginosum* produces a green pigment, sylindein (Wolf and Wolf, 1947...gotta go look that up!) which stains the wood in which it grows. Bluestain fungi (*Ceratostomella* species) excrete blue pigments into wood. Some species of *Boletus* produce a blue or blueish-green pigment when bruised or wounded. *Tricholoma personatum* and *Laccaria amythestina* are among the mushrooms producing purple or violet pigments. It is said that the red-orange pigment of the fruit bodies of *Echinodontium tinctorium*, the Indian paint fungus, was used by the Indians as make-up. Few of the larger fruit bodies of the fungi are entirely black, although this is a common color for perithecia, pycnidia, and spores.

"Among the nutritional factors which modify the production of pigments by fungi in culture, the mico essential elements, the carbon and nitrogen sources, the initial pH of the medium, and the temperature are important. Perhaps the first of these factors to be studied was the effect of iron, copper, zinc, and other micro elements upon the spore color of *Aspergillus niger*. Copper seems to play an outstanding role in the production of dark spores by this fungus (Mulder, 1939), but low concentrations of other micro essential elements also affect spore color of this fungus. The influence of iron, copper and zinc on the pigmentation of mycelium and spores, and the production of soluble pigments by certain species was studied by Metz (1930). ...

"Many of the water-soluble pigments produced by fungi are indicators. *P. phoeniceum* and *P. rubrum* (*I presume from a previous omitted paragraph they mean Penicillium*) produce such an indicator pigment, phoenicine. The color changes of this indicator are from yellow to red in the pH range of 1.8 to 3.4 and from red to violet in the range 5.4 to 6.4. As much as 2 gr. of this pigment is produced by *P. rubrum* pr liter of medium (Curtin et al., 1940)."

I doubt that any of the dyers are keen on producing molds and other laboratory cultivations, but was interested in the comments. I'm no chemist, so cannot speak to the importance of the above, nor is it clear whether all of the pigments referred to are actually dyes.
But for what it's worth!
Cheers,
Maggie (*au contraire*...see article by Megan Romberg in this issue!)

We will hold our **Mushroom Foray and Dye Workshop** August 2 and 3rd this year. Everyone is welcome.....just contact Carol Lee for particulars. http://angelfire.com/wy/academy Hope to see you all in August. Bring mushrooms! Check out my new book **FLEECEWEAVING**, and the new NATURAL DYE VIDEO, **WHAT'S IN THE POT!** www.geocities.com/sheepshedstudio

To Dermocybe or not to Dermocybe....letters from underground.....

Dorothy –
'Got some sad news for you: *Cortinarius phoeniceus* has been changed to: *Cortinarius purpureus* (...ucky name for this mushroom) Vol. 5 of the Swiss* books just came out and it is only on the Cortinaraceae.
Darv DeShazer, USA

Dear Katie
....And I've read that in the latest work on Cortinarius from Sweden,** Dermocybe is being eliminated as a Genus, and is simply reduced to a "section" under Cortinarius!!!! OY! I just have to label everything in pencil from now on....subject to change by the Mycological "THEM".....
Dorothy, USA

Dear Dorothy,
Don't worry about the "Cortinarius/Dermocybe thing", because in Australia, they are definitely called Dermocybe. In fact one of our truffle-like fungi has had its name changed from Cortinarius to Dermocybe. It all depends which taxonomic divisions you follow. 'They' are always changing the names, so I would advise you to carry on as normal. I guess these names will have to be explained during the Symposium, so as not to cause general confusion.
Katie Syme, Australia

Well, if Meinhardt Moser said that the Dermocybe species originated in Australia (see notes from E. Sundström), that's good enough for me... Maybe in it's continental drifting, Dermocybe evolved into Cortinarius on the European soil.....
Editor,

*Breitenbach J. and F. Kranzlin, editors. 2000. Fungi of Switzerland Vol 5. Mycologia, Luzern.338p.

** Brandrud, Tor Erik and Hakan Lindström, Hans Marklund, Jacques Melot and Siw Muskos.1990-1998. Cortinarius: Flora Photographica Volume 1-4. Cortinarius HB, Matförs, Sweden.386p.

Three pieces of news - from Erik Sundström in Sweden

1) The famous German mycologist **Meinhard Moser** died late 2002. He was author of the most comprehensive German fungus flora, the part dealing with the gilled fungi. He was known for research about the Dermocybe group, where the species and their relations were analyzed by paper chromatography of their pigments. His conclusion was that they originally developed on southern continents like Australia, Tasmania and New Zealand and spread to other parts of the world when the Gondwana continent broke up 70 million years ago.

2) Riikka Räisänen has written a thesis about the pigments of *Dermocybe sanguinea* and their use for textile dyeing. It shows how much the color can be modified by pH and mordant variation. It is more of a chemical report than a practical dyer's handbook. E-mail riraisan@mappi.helsinki.fi

*(See Rikka's article in **IMDI Dye-Gest #4**, Fall/Winter 2002)*

3) The **University of Goa** in India has started work on possible uses of fungal pigments in the Indian handicraft. Involved are Dr.Nandkumar Kamat at their fungus research unit, E-mail santeri@goatelecom.com and a graduate student Usha Rani , E-mail usharaniks2003@yahoo.com

This letter from Dr. Kamat came to the International Mushroom Dye Institute came to me in February 2003 and I forwarded it both to Erik and Megan Romberg . *(Editor)*

"Colourful mushrooms have always fascinated me...
we would be grateful to receive your literature on chemical aspects of the mushroom dyes. I have worked on the mushrooms of Goa, for my doctorate in Microbiology, in this beautiful tourist state on India's west coast and we maintain a fungus culture collection at Goa university despite funding and space constraints. dyeing with mushroom pigments could be one promising area to provide jobs. To the poor people without employment opportunities in rural parts of my state this knowledge of the use of dyes would come handy. We have several colourful basidiomycetes here springing with rains. But there are not enough mushroom crops to sustain a mushroom dye business. So, it would be valuable to receive information from IMDI, about the extraction and application of the mushroom dyes, their chemical nature etc. and whether we could get dyes from pure cultures. We have abundant crops of Pisolithus tinctorius here during monsoon and I found that it gives a bright golden yellow pigment. "

-with best wishes
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One of our IMDI members, **Megan Romberg,** is also interested in the same process of extracting dyes from mycelia, (see Megan's article in this issue) and so I put one in touch with the other, hoping for a meaningful connection...

And indeed came a response from Dr. Kamat which I received on March 26, 2003...

"Yes, I received some information from Dr. Sundström and Ms. Megan indeed was like an angel to bless me with reprints of some useful research papers which might have cost her a small fortune in postage. We have successfully applied on small scale dyes extracted with alkali from Pisolithus and Ganoderma. Ganoderma fruitbodies give a beautiful brown shade." We are working on several other basidiomycetes and waiting for the tropical monsoon to get a good crop for further experimentation which may begin in July."

This idea is certainly near and dear to the heart of Miriam Rice, that champion of self-sustainability and the art of recycling, as demonstrated by her wonderful idea of turning left-over mushroom dye materials into mushroom paper! She continually speaks about the possibilities of cottage industries of mushroom dyers and paper-makers evolving world-wide! Maybe this is just a beginning. Hope springs eternal....

LETTERS TO THE EDITOR

***To Carol Lee and the Board of the IMDI**: (Letter received January 21, 2003)*

As a retired City Manager who has been responsible for the operation of sewage treatment plants in several states I found your comments in your article *Using Mordants* in the most recent issue of the *International Mushroom Dye-Gest* appalling and irresponsible.

1. Chromium is a hazardous waste by law of the United States and the state of Colorado.
2. Potassium Dichromate is a hazardous waste by law.
3. The City Code of the City of Golden, Colorado, as published on the Internet, makes it clear that any discharge of this type is prohibited and unlawful. See Section 13.13.040. "...No User (this means you) shall contribute or cause to be contributed directly or indirectly, any....liquids, solids or gases which are, or may be injurious in any...way to the MWWS or to any person...(or) any wastewater which may cause a hazard to human life or create a nuisance..."
4. Every state and City operating a sewage treatment plant in the United States has a similar regulation.
5. You may disparage and laugh at Material Safety Data Sheets, but I assure you that every sewage treatment plant operator or employee who must deal daily with the chemicals you and others so casually flush down your toilets or drain from your sink take them very seriously indeed. I suggest that you read the relevant MSDS again and this time do so this time with serious purpose and intent, reflecting on what you may be exposing others to.
6. Even if you are so foolish to continue to use any mordant containing chromium or tin you have no right to expose others to these substances by disposing of them in any way other than as required by law.
7. You can pretend that you "know" that there is no hazardous chemical left after using the mordant but unless you have the liquid tested every time you don't know. The law is not written in "inches on the way to the moon", it says "...**any substance** sufficient either alone or by interaction... to be **injurious...to any person**...or create a nuisance..."

Lastly, I think that the Board of Directors of the IMDI should be chagrined that they let your uninformed diatribe be published in their otherwise excellent newsletter. It was appropriate to offer another more responsible view in the adjoining column.

Jim Swayne

Carol Lee responds:

***C.L.** - You know absolutely nothing about me, the way I run my business, the way I treat and teach mordanting.*

J.S. - You are right. My complaint is not about you personally but your article, and the implication that it is safe to pour mordant solutions, not proven to be exhausted, down the drain, .

***C.L.** - To answer your points.....#5. If you read the Material Safety Sheets, and I do and I did, you will find that most relate to large quantities of hazardous wastes.*

J.S. - I believe that you are wrong about this with respect to Potassium Dichromate, even small amounts are hazardous and regulated with respect to disposal and safe use.

***C. L.** - #7. If you use a proper amount, chemical to fiber, the leftover liquid will be left containing only minute amounts of the chemical. I rarely throw it away, the chemicals being fairly expensive, but use the bath over and over, refreshing it before using by adding a much smaller amount of chemical for the same amount of fiber.*

J. S. - You are correct, but I continue to object to the implication that the sewage system is a valid way to dispose of hazardous waste. I hope, but don't believe, that everyone who reads your article will be as careful as you are, partly because you imply that there is little or nothing to worry about. If the tone of the article was less aggressive and focused on how to properly use and dispose of the more dangerous solutions I would be less concerned.

***C. L.** - My article.....called by you an "uninformed diatribe".....did have one error in it. My Sister did not say that "it is safest to pour your used mordant bath down the drain into the sewer system".*

J. S. That is good to know.

***C. L.** - This "down the drain" statement was given to me by an environmentalist/scientist from the west coast. In the small amounts that we use, it would never show up in the systems or cause any harm, according to her.*

J.S. - As I am sure you know, I disagree, at least with respect to Potassium Dichromate. Erik's comments make the case pretty well for adverse effects on the environment and life forms even in small quantities, and I read the law to prohibit this practice. I also maintain that it is not appropriate to expose other people to undisclosed hazards, even if you are willing to risk the exposure yourself. Clearly lots of noxious material goes down the sewer system including household chemicals, motor oil from oil changes, waste from Meth labs, and other truly dangerous stuff. You are correct to point out that the quantities from home dyeng are almost never going to be a large problem, but I think you go too far when you appear to state that it is not a problem at all. We all have a tendency to overstate our positions and I do this as well, particularly when I am upset. It is part of the human condition. I hope I can persuade you, as an influential person, to take a different approach when you discuss the use and disposal of the more dangerous mordants. They are legal to buy and use and I support your right to use them appropriately. I do hope you will give more thought to recommending disposal of potentially hazardous waste in an approved container and at a hazardous waste site. Most cities have hazardous waste disposal facilities and in our state at least, they accept this waste with no charge as a way to encourage proper disposal.

C. L. - *As for being uninformed.....I challenge that statement.*

J. S. - I was wrong to say that. You do view the information we both have looked at in an entirely different way. It seems to me that you put your pleasure in the results you get from using a dangerous chemical ahead of the potential effect on others, just as I did in a long ago time when I smoked cigars as a passenger on airplanes. That was wrong then and I now appreciate those who pointed it out to me, even though I was offended at the time.

C.L. - *And I do like to hear Erik speak. He has an opposing view. And I respect that also.*

J.S. - I hope you can find a way to teach others to respect his and other similar views and to thoughtfully take them into consideration rather than rejecting them completely. Thanks for taking the time to share your thoughts more fully. I will take your comments on my tone and word choice to heart and be try to be more thoughtful and less judgmental in future. Jim

(These letters were reprinted with the permission of Carol Lee and Jim Swayne. – Editor)

Please send us articles and letters to the Editor

...about what YOU are doing, Upcoming Events, or if you have comments or responses to any of the articles in this newsletter! Send to: dbeebee@sonic.net *As the IMDI continues to compile the history of Mushroom Dyes and the past Fungi & Fibre Symposia, we really need YOUR input!*

The FINAL DEADLINE FOR THE Fall / Winter 2003 issue of the IMDI Newsletter is Sept 15th , 2003.

The IMDI also has a page on the new Mushroom Dye web-site, www.sonic.net/dbeebee/ and we welcome your contributions, comments and corrections! Thank you.

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After the first year of membership, renewals will be based on the calendar year with payment due on January 1st. Future issues of the International Mushroom Dye Gest will be sent only to IMDI members. Please join us and renew your membership!