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Fall 9-1-2008

### BMED 324.01: Medicinal Plants

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**TENTATIVE SCHEDULE - FALL 2008**  
**MEDICINAL PLANTS**  
**BMED 324 (Tu and Th 8:00 to 9:30 AM; SB 336)**

Instructor: Rustem S. Medora, Ph.D. (SB #325)  
**OFFICE HOURS: After Class – Appointments Preferred**  
**e-mail: rustem.medora@umontana.edu**

Text: *"Tyler's Herbs of Choice: The Therapeutic Use of Phytomedicinals"* (1999)  
Optional Texts: *"Fundamentals of Pharmacognosy & Phytotherapy"* by Heinrich, M., Barnes, J. et al. (2004)

Books on Reserve:

1. Mills & Bone *"Principles & Practice of Phytotherapy"* (2000)
2. Micozzi *"Physicians Guide to Alternative Medicine"* (1999)
3. Ksir, Hart & Ray *"Drugs, Society & Human Behavior"* (2006)
4. Russo *"Handbook of Psychotropic Herbs"* (2001)
6. Lewis and Lewis *"Medicinal Botany"* (2003)
7. Dewick's *"Medicinal Natural Products..."* (2002)
8. Schulz, Volker et al. *"Rational Phytotherapy: A Physicians Guide"* (2004)
9. Foster & Johnson *"Desk Reference to Nature's Medicine"* (2006)

<u>DATE</u>	<u>LECTURE/SUBJECT</u>	<u>DATE</u>	<u>LECTURE/SUBJECT</u>
Tue 8/26	History/Terminology	Tue 10/21	Plant Drugs/Urogenital System
Wed 8/27	<i>Homework, Study Chap 4 Ref #3</i>		<b>Report II Due</b>
Thur 8/28	Harvesting & Processing	Thur 10/23	<b>EXAM II</b>
Mon 9/1	<i>Homework, Study Chap 5 Ref. #3</i>		<b>Afternoon field trip to Garden City</b>
Tue 9/2	<b>Dr. Sherrill Brown (Library Research)</b>		<b>Fungi</b>
Thur 9/4	Putting a Drug on the Market	Tue 10/28	Flavors & Spices
Fri 9/5	<b>Field Trip - Trout Lake, WA</b>	Thur 10/30	Flavors & Spices cont'd
Tue 9/9	Ethnobotany & Biodiversity		<b>Outline of Term Paper Due</b>
Thur 9/11	Review of the Nervous System (NS)	Thur 11/6	<b>Functional Foods, Dr. Blackely Brown</b>
Tue 9/16	Plants That Affect the Autonomic & Somatic NS	Thur 11/13	<b>Immunomodulation by Natural Products, Dr. David Shepherd</b>
	<b>Outline - Report I Due</b>	Tue 11/18	<b>Herbal Remedies for Psychiatric Conditions, Dr. Keith Parker</b>
	<b>Afternoon Field Trip to the Bitterroot</b>		<b>Nutritional Labs, Afternoon Field Trip</b>
Thur 9/18	CNS Stimulants From Plants	Thur 11/20	Oral Reports, Psychoactive Plants
Tue 9/23	<b>EXAM I</b>	Tue 11/25	Oral Reports, Psychoactive Plants Cont.
Thur 9/25	CNS Depressants From Plants		<b>Report III Due</b>
	<b>Report I Due</b>	Wed 11/26-30	<b>Holiday-Thanksgiving</b>
Tue 9/30	Introduction to Phytochemistry	Tue 12/2	Oral Reports, Poisonous Plants
Thur 10/2	Plant Drugs/Digestive System		<b>Term Paper Due</b>
Tue 10/7	<b>Systems of Traditional Medicine, Dr. Diana Lurie</b>	Thur 12/4	Oral Reports, Plants Used by American Indians
Thur 10/9	Plant Drugs/Respiratory System	Tue 12/9	<b>FINAL EXAM 10:10-12:10</b>
Sat 10/11	<b>Day-long Field Trip to Bozeman</b>		
Tue 10/14	Plant Drugs cont'd		
Thur 10/16	Plant Drugs/Cardiovascular System		

## MONTHLY REPORTS

### BMED 324 -- MEDICINAL PLANTS

Students must type one to two-page (or four double-spaced pages) monthly report on at least **ONE** of the topics listed below. Reference citations must be included according to the guidelines from Prof. Sherrill Brown. The term paper in December must be longer and comprehensive. The references below are examples to guide you but you do need to embellish these and find up-to-date references for your papers.

#### 1. **Flavors and Spices**

##### References:

- a. *"Essential Oils of Central and North America"* (video on reserve)
- b. Folder on Flavors and Spices (on reserve)
- c. Gunther's *"The Essential Oils"* Volume 1-6 (Mansfield Library)
- d. Books in the Mansfield Library under the title *"Aromatherapy..."*
- e. *"Illustrated Encyclopedia of Essential Oils"* (on reserve)
- f. *"The complete book of herbs, spices and condiments"* (on reserve)

#### 2. **Medicine of Lewis & Clark**

##### References:

- a. Dorothy H. Patent's *"Plant on the trail with Lewis & Clark"* (on reserve)
- b. David Peck's *"Or Perish in the Attempt: Wilderness Medicine..."* (on reserve)
- c. Ronald Lodge's *"Two dozes of bark & opium: Lewis & Clark as physicians"* (on reserve)
- d. Gary Lentz's *"Meriwether Lewis' Medicine Chest: Outfitting the Complete Physician's Field Kit of 1803"* (on reserve)

#### 3. **The Need for Conservation of Medicinal Plants**

##### References:

- a. FAO's *"Medicinal plants for forest conservation and health"*
- b. Videos #9, 10, 11, 12, 14, 15, 17, 18, 19
- c. Plotkin's *"Tales of a Shaman's Apprentice"* & *"Medicine Quest"* (on reserve)
- d. Folder on Conservation (on reserve)
- e. Grifo & Rosenthal's *"Biodiversity & Human Health"*
- f. Balick, M.J. et al., *"Medicinal Resources of the Tropical Forest"* (on reserve)
- g. Balick & Cox's, *"Plants, People & Culture"* (on reserve)
- h. Cox's *"Nafanua"* (on reserve)
- i. Plotkin's *"Medicine Quest"* (on reserve)

#### 4. **Functional Foods**

##### References:

- a. Wildman, EC. *"Handbook of Nutraceutical & Functional Foods"* (on reserve)
- b. Folder on Nutraceuticals (on reserve)
- c. RCA (on reserve)
- d. NRC's *"Carcinogens & Anticarcinogens in the Human Diet"*
- e. *Nutrition & The Amazon Food Pharmacy* (video on reserve)
- f. Bidlack's *"Phytochemicals as bioactive agents"* (on reserve)

#### 5. **Modern Drugs from Amerindian Medicines**

##### References:

- a. Vogel's *"American Indian Medicine"* (on reserve)
- b. Moerman's *"Medicinal Plants of Native America, Vol. 1 & 2"* (on reserve)
- c. Moerman's *"Native American Ethnobotany"* (see reference section)

- d. Balik & Cox's "*Plants, People, and Culture*" (on reserve)
- e. "*The Ethnobotany of the Americas*" (on reserve)
- f. Schultes & Raffauf's "*The Healing Forest: Medicinal & toxic plants of the NW Amazonia*" (on reserve)

## 6. **Hallucinogens**

### References:

- a. LSD/Ergot (video on reserve)
- b. "*Murder, Magic and Medicine*" (on reserve)
- c. Folder on Hallucinogens (on reserve)
- d. Check books by Richard E. Schultes
- e. Check books in the Mansfield Library under the title "*Hallucinogens....*"
- f. Peyote to LSD: A Psychedelic Odyssey (video on reserve)

## 7. **Special Forest Products (Medicinal Species)**

### References:

- a. Steven Foster's "*Forest Pharmacy*" (on reserve)
- b. "*Special Forest Products: Biodiversity Meets the Marketplace*" (on reserve)
- c. Folder on Special Forest Products (on reserve)
- d. Check books in the Mansfield Library on this topic
- e. Eric Jones et al "*Nontimber Forest Products in the US*" (on reserve)
- f. Special Forest Products in context (electronic resource): gatherers and gatherings in the eastern U.S.

## 8. **Intellectual Property Rights**

### References:

- a. "*Biodiversity Prospecting: Using Genetic Resources...*" (on reserve)
- b. "*Timber, Tourists & Temples*" (on reserve)
- c. Folder on Special Forest Products (on reserve)
- d. Check books in the Mansfield Library and the Law Library on this topic

## 9. **Special Topics**

Except for one of the above, choose any medicinal plant or plant product of medicinal value you wish to investigate. Check with the instructor. The same topic category must not be repeated.

## **NOTE:**

### REPORTS

**Outline of Report 1**

**Report 1**

**Report 2**

**Outline of Term Paper**

**Report 3**

**Term Paper**

### DUE DATES

**Tuesday, September 16, 2008**

**Thursday, September 25, 2008**

**Thursday, October 21, 2008**

**Thursday, October 30, 2008**

**Thursday, November 25, 2008**

**Tuesday, December 2, 2008**

### **VIDEOS ON RESERVE**

- |                          |         |
|--------------------------|---------|
| 1. The Opium Poppy       | VT07751 |
| 2. Aspirin/Willow        | VT07752 |
| 3. LSD/Ergot             | VT07753 |
| 4. Quinine               | VT07754 |
| 5. Digitalis             | VT07755 |
| 6. Belladonna/Mandragora | VT07756 |
| 7. Coca                  | VT07757 |

8. The Yew	VT07758
9. Powerful Medicine	VT02246
10. Jungle Pharmacy	VT02733
11. Secrets of the Rain Forest	VT04617
12. 20th Century Medicine Man	
13. Essential oils of North & Central America	VT03131
14. Plant Drugs, Healing Herbs & Phytomedicinals	VT06615
15. Pharmacology & Therapeutic Application of Plant Drugs	VT06614
16. Nutrition & The Amazon Food Pharmacy	VT06616
17. Tropical Medicine in the Rain Forest	VT06617
18. A Walk Through Aceer (Useful Plant Trail)	VT06618
19. Ethnomedical Field Research in the Amazon	VT06619
20. Presidential Lecture (Varro Tyler)	VT07333
21. Edible Wild Plants	VT02117
22. Poisonous Plants	VT08464
23. Whose plants are they, anyway?	VT02080
24. Shamans of the future of the new alliance	VT02080
25. Treasury of plants	VT02079
26. The Oregon Story: Harvesting The Wild	VT02008
27. Peyote to LSD: A psychedelic Odyssey	To be cataloged

**Exams and Grading:\*** Grades will be based on two mid-term exams and a final, three monthly reports, a term paper (**INSTRUCTOR MUST APPROVE THE TOPIC FOR THE TERM PAPER**) and participation in class. At least one of the reports must be presented to the class orally. Participation in class discussions and *attendance in all class-related activities is mandatory*.

Students are required to take all exams on scheduled days and times. The first two exams are scheduled at regular class times.

EXAM 1	20%
EXAM 2	20%
Final Exam	20%
Monthly Reports (5 x 3)	15%
Term Paper	15%
Attendance/Participation	10%

**Credit/No credit** Available to students taking too many credits

**Field Trips:** About five field trips are being planned in September - November. *Students must participate in at least two or more field trips*. Tentative dates for field trips are September 5 and 11, October 11 and 23, and November 18, 2008.

**\*Graduate Students:** Graduate students will be graded separately and must maintain scores in the upper 20% of the class. They must write a **COMPREHENSIVE TERM PAPER including an extensive bibliography**.

**Time/Commitment:** *You will need to devote extra time* to view the displays, watch the movies, and participate in afternoon or weekend field trips.

**Important Dates:** 9/23 EXAM I  
10/23 EXAM II  
12/9 FINAL EXAM