The Arizona Fun - Gi

Newsletter of the Arizona Mushroom Club

Foray Facts

Spring is here and our Scouts Terry Beckman and Jim Stanczak will be checking sites. If a foray for Morel mushrooms is set, it will be on short notice. Please check the AMC website for information frequently, more so as the weather warms up in the high country in late April through the second week in May.

For summer forays, start checking the website the end of July through the second week in September.
http://az-mushroom-club.org/az_mushroom/AZ_Mushroom_Club_Events.htm

The 2009 White Mountains Foray for late summer mushrooms is scheduled for the weekend of August 22 & 23rd.
Last years foray was my first with the AMC and although I could only attend the first day, it was a great experience. The scouts did a great job and there were plenty of mushrooms in the chosen area * I literally left my two friends behind in my excitement at such a bonanza. I hope all of you can make this event and bring along any interested family and friends. There are motels in Springerville where many club members will be staying. If you have questions about the event, contact Terry Beckman or Dr. Leathers. The club phone number is: 602-230-5281 (leave a message) and the club e-mail is: club@az-mushroom-club.org. Additional contact information is available on the club website. Those of you without web/e-mail access, you can call me directly (Shelley at 928-368-4485) and I will try to help or forward information to the appropriate contact.

Spring 2009
Volume 18 - No 1
The Arizona Fun-Gi
is the official newsletter of
Arizona Mushroom Club (AMC)
and is published tri-annually.

ARIZONA MUSHROOM CLUB and the
ARIZONA RARE FRUIT GROWERS
Joining to share information!
A great opportunity for AMC members
* Make plans to attend now*

The Arizona Rare Fruit Growers has invited members of The Arizona Mushroom Club to be their guests at a potluck meeting of the two organizations! There will be two, short, illustrated lectures on *Growing Mushrooms* by Ralph Reynolds, a Club member from New Mexico, and Dr. Chester Leathers, Club President. Several Rare Fruit Growers are interested in growing mushrooms and would like to learn more about fungi and how to grow them. AMC members can learn about mushroom cultivation as well as to learn of the success of growing rare fruits in the Valley of the Sun. This promises to be an interesting and informative evening.

The Rare Fruit Growers will provide a potluck dinner including various locally grown fruits, among other dishes. Mushroom Club members who wish to bring their favorite mushroom dish to share are encouraged to do so. If needed to keep the food warm, bring an extension cord and crock pot or warming dish. The meeting will be held at the Palo Verde Room, University of Arizona Agricultural Extension Building; 4341 East Broadway, between Tempe and Phoenix

MARK THIS DATE and TIME: June 11, 2009 (Thursday) at 7:15 PM.
HOPE TO SEE YOU THERE!

Officers

Chester Leathers, PhD	**President**
Larry Morehouse	**Webmaster**
Sandy Melgaard	**Treasurer/ Membership**
Terry Beckham	**Foray Coordinator**
Shelley Watanabe	**Fungi Editor**

ODDS & ENDS

AMC Member Holly Nipperus recommended a mushroom wallet for yourself or as a gift for your special fungi friend. You can find it at:
https://www.cartfly.com/bunkyboutique scroll down product category menu on the left to wallets. (THANKS HOLLY!)

The 25th New Mexico Mycological Society Annual Furay is in Taos, Aug. 20-23+ Unfortunately, this conflicts with the AMC Foray. But FYI, they do a vouchering system and collect specimens for storage by the Southwest Museum of Biology's Herbarium at UNM.

From the Editor

This issue is dedicated to the Morel Mushroom, with emphasis on Morels in Arizona. The good news is there is a vast amount of information on every facet of the morel in print, on video and on the internet. The bad news is that Arizona is rarely mentioned and very little information specific to this state exists. (or a least, very little your exasperated editor can locate). So I have endeavored to provide some basic and hopefully useful information on the What and What Not, When, Where and How of Morels. May the blessings of spring be plentiful for you and yours, and include a bountiful morel season wherever you may roam.
Happy Trails, Shelley Watanabe

For Copious amounts of information on Morels (and false morels) I suggest these two publications:
Spring Morels and False Morels of Midcontinental U.S.
http://acube.org/volume_27/v27-4p3-11.pdf

Ecology and management of morels harvested from the forests of western North America. http://www.fs.fed.us/pnw/publications/pnw_gtr710/

Inside this Issue

Foray Information	1
Announcements	1
Odds & Ends	1
Morels-What to Harvest	2,3
What Not to Harvest	3
Where, When, How	4
Recipes	5

MORELS

Morels are the fruiting bodies of species in the genus Morchella. They are prized edible mushrooms that fruit, sometimes prolifically, in many forests throughout much of North America and in temperate forests globally. Large gaps remain, however, in our knowledge about morels. Their taxonomy is confusing and many North American species lack valid scientific names. Their biology, nutrition, life cycle and reproductive modes are unusual and complex. Ecologically, we do not yet fully understand how and why some morels fruit prolifically following tree death, wildfire, or other forest disturbances. Efforts to cultivate morels have only been partially successful. Morels fruit from Mexico to Alaska in western North America.

Morel taxonomy above the species level is not controversial. However, morel species identification is extremely problematic for a number of reasons, and with DNA and genetic development the field is still evolving. The literature on this topic is technical, sometimes contradictory, often narrowly focused, and potentially compromised by the lack of valid scientific names. More than a dozen North American species of morels have been identified based on DNA analysis of data collected in the Morel Data Collection Project. Common names for morels are equally rife with confusion for the amateur mushroomer. Variations and overlaps in common names occur on the continental level down to regional and local level. [1,2]

The information presented here is not intended to enter into the fray of scientific or common names. *A rose by any other name....* Common names used here are based on what is accepted nomenclature for Arizona and neighboring western states. This information is offered to provide the amateur mushroomer with basic knowledge to begin hunting edible morels. As with any mushroom, you should only eat species identified by a qualified mycologist until such time as you are thoroughly familiar with the species.

editors note Discerning distinct species is only the first step in resolving taxonomic status. To be recognized as a species with an acceptable scientific name, appropriate collections must be accessioned to a public herbarium and a taxonomist must publish a thorough description of the vouchered collection specimens. Naming and publishing must be in accordance with the International Code of Botanical Nomenclature. Once a species has been validly named, then that scientific name is available for use. Most morels in North America lack scientific names that meet these standards.[1]*

What to Harvest

Morels generally are a small to large mushroom with a cap and stalk. The interior is hollow. The cap is rounded, oblong to cone-shaped and is honeycombed with ridges and pits. It is attached to the stalk for nearly all of its length (except for the half-free morel, which is attached for 1/3 to 2/3 of it's length). The stalk is well-developed, smooth when young and finely granular with age. The stalk is off-white, ivory to pale cream in color and the surface layer stretches apart with age so it appears enlarged and wrinkled/pleated. [1,3] Species variations will be noted in the Descriptions that follow.

Yellow Morels
figure-1

Morcella esculenta, The Yellow and Mountain/Western Blonde Morel: The yellow morel is found across North America. It grows in a wide variety of ecosystems; and different species are associated with certain trees depending upon the regional area. The cap is rounded to slightly cone-shape. The pits and ridges are irregularly arranged, and the top of the cap is usually not pointy. The ridges do not darken with age. When young, the pits may be dark (or nearly black), contrasting starkly with the pale ridges. In age, the pits usually fade until they are roughly the same yellowish color as the ridges. Both the mountain blond and yellow morels occur in western North America, but the mountain blond morel appears to be more commonly found in conifer forests (especially fir, lodgepole, or ponderosa pine forests), whereas yellow morels are found more often in riparian hardwood forests that are sometimes mixed with conifers. Kuo (2006) called this putative species the "western blond" morel, and suggested that it also can be found among hardwoods at lower elevations. In contrast to the yellow morel the head of the mountain morel is relatively narrow rather than oval or rounded, especially in young specimens. The primary ribs are strongly vertical and relatively straight, thus producing elongated pits rather than somewhat irregular pits generally attributed to the blonde morel. [1,3,4]

Mountain (blonde) Morel
Between two black morels
figure-2

figure 3

Black Morels

figure 4

Morchella elata, Morcella angusticeps & Morcella conica, The Black Morel: There are several black morel species common to North America. They are extremely variable in appearance, and generally "morphologically inseparable"---which means you can't tell them apart by looking at them. Black Morels as a group are however, fairly distinguishable. The cap is round to cone-shaped. The ridges of black morels are pale or brownish at first, but quickly begin to darken and by maturity are dark brown to black. The pits are usually pale brown to brownish throughout development, but may be somewhat greenish or pinkish, especially at high elevations. The pits and ridges are primarily vertical. The cap is often pointed and elongated to rounded-off or even more or less round. The stalk is whitish or pale brownish, often somewhat darker than that of other morel species. [1,3,4]

Gray Morels figure-5
A series of photographs illustrating color changes in a maturing gray morel. Photographs taken June 25, July 2, and July 9, 2003.

Morchella tomentosa*
not a recognized scientific name,
The Gray Morel: fuzzy foot,
black foot/stocking, burn morel.

The Gray morel is found in conifer burn sites in western North America. The cap is cone-shaped. When young, the cap and stem are densely covered with velvety fine hairs--the result often being a morel that looks like it has been dipped in fuzzy soot. The edges are fragile and break away with age. This morel can become gray, brownish, yellowish, or even whitish--especially when it is exposed to direct sunlight. Thus, while young, black specimens are unmistakable, older specimens can look like several other types of morels. The gray morel fruits in conifer forests and is found abundantly the first spring or summer after a wildfire and in reduced numbers the second post fire year. It is found in greatest abundance at high elevations and northern latitudes. (The burn associated gray is not the same thing as the "gray morel" known to collectors in the Midwest and eastern North America, who use the term for immature forms of the yellow morel. [1,4]

Half-free Morel
figure-6

Morchella semiliber, The Half-free Morel: The half-free morel is a small to medium size mushroom with the cap attached to the stalk roughly half-way up, with a substantial portion hanging "free". The pits and ridges of the are irregular. The ridges are broad and flat, moist/velvety when young and darkening to grayish brown or black with age. The mature stalk is often long in proportion to cap and is usually fragile. The cap of the half-free morel is attached to the stalk 1/3 to 2/3 of it's length so that a substantial portion hangs free like a skirt. [1,3,4]

Red-brown
Blushing Morel
figure-7

Morcella rufobrunnea, The Red-brown Blushing Morel: The *M. rufobrunnea* is "morphologically distinct" meaning it has observable features that distinguish it from other morels. When young its cap is often twisted and pointy and becomes rounded with age. The pits are dark and mostly vertical when young, becoming lighter and irregular with age. The ridges are whitish to gray when young, and become yellowish to brownish-yellow with age. The stalk is irregularly wrinkled near base with minute dark granules toward the top; whitish to cream, pale gray, darker grayish brown, yellowish toward base. The most distinctive feature, however, is the fact that all parts of this morel blush reddish-pink to rusty brown when maturing or in bruising, sometimes becoming almost completely reddish brown. [1,4,5,7]

White Morels
figure-8

Morchella deliciosa, The White Morel: This mushroom is small to medium in size. The cap is often pointed and the pits and ridges are sparse and usually more or less vertically arranged. The mature stalk is often fairly long in proportion to the cap. They are apparently limited to eastern North America's hardwood forests. [1,3,4]

What NOT to Harvest

Disclaimer: As with all mushrooms, never harvest morels for the table until you are familiar with all its features and potential look-a-likes. This information is not intended for use to identify selected species. Some of the false morels are dangerously poisonous, especially if eaten raw or in large quantities or raw.

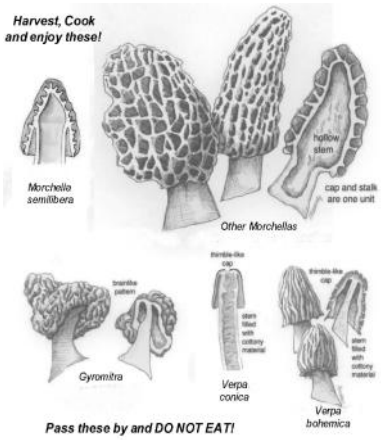


figure 9
Comparison of three genera sometimes referred to as *morels*
Morchella, Gyromitra, and Verpa.
Some species in the genera Gyromitra and Verpa contain poisonous compounds and should be avoided.

It may be that some people safely eat false Gyromitras and Verpas, but to paraphrase Capt. C McIlvaine, in All The Rain Promises and More...

"It is not probable that in our great food-giving country anyone will be narrowed to Gyromitra or Verpa for a meal. Until such an emergency arrives, the species would be better left alone". [3]

Two closely related genera of mushrooms, Verpa and Gyromitra, have potentially harmful species that could be mistaken for morels by the inexperienced harvester. These species are springtime mushrooms so their season overlaps with the true morels. Included here are the 4 species most commonly mistaken for morels, however there are other species resembling the morels and you should always be certain of your identification. [1,3,4]

Gyromitra esculenta, The False Morel, Brain Mushroom, Beefsteak Morel: This species is frequently found by morel hunters in northern and western areas of the continent. It can be distinguished by its brainlike, reddish brown, irregular cap, and by the fact that its stalk is not large in proportion to its cap. [3,4]

False Morel, Brain Mushroom figure-10

Snow-
Bank
(False)
Morel

Figure 11 Figure 12

Gyromitra gigas, The Snowbank False Morel: The cap of this species is medium to large and brainlike in appearance, deeply convoluted and wrinkled but NOT honeycombed. The cap is yellow-brown to tan, turning more reddish with age. The interior and undersurface is whitish. The stalk is thick and short, whitish, ribbed, wrinkled, and multi-channeled in cross-section. [1,3,4]

Figure 13 *Verpa bohemica* (NOT early morel) Figure 14

Verpa bohemica is mistakenly called the "early morel" in some areas. It appears very early in the spring, and continues fruiting during the true morel season. It bears a resemblance to the half-free morel, but the half-free is morel is exactly that--half-free-- while *V bohemica* has a cap that hangs completely free of the stalk, it is attached only at the top (see figures). Another way to separate the two mushrooms is to cut them open; the half-free morel is hollow, while *V bohemica* usually has cotton candy-like wisps of flesh inside. On close inspection, the Verpa has a cap that is (usually) different, as well; it tends to look wrinkled, rather than pitted (though old specimens can develop a "pitted" look. [1,3,4]

figure 15 *Verpa conica* figure 16

Verpa conica, The Thimble Morel: This is not a true morel; the caps are not at least partially attached to their stalks. The cap hangs free from the stalk, like a little brown thimble on the end of a pencil. The caps are convex or more frequently thimble shaped; typically with a slightly out curved margin when mature. They are tan to brown to dark brown, smooth, tacky when wet and smooth or very slightly wrinkled at maturity, but sometimes broadly lumpy or wrinkled. [1,3,4]

Where to Hunt

Morel habitat depends on which region of the country you are hunting. East of the Rockies, morels are more plentiful, and in some places downright bountiful. Morels in the Midwest, Southeast, and Eastern states, are typically found in hardwood forests and are especially associated with certain trees. Trees noted for morel production include Ash, Poplar, Tulip, Cottonwood, Sycamore, dead or dying Elm and Apple, especially old apple orchards. Hunters say to look:

-in sandy soil -never in sandy soils
-near stumps -at burn sites
-near old sawmills -near wood piles
-cemeteries -along fence rows
-in Mayapple patches -along roads
-on south-facing slopes
-on north-facing slopes
-along bottom of slopes
-along dried river/creek
-along running river/creeks [1,4,8,9]
*(*ed's note: Ben in central Ky assured me he always found hundreds ONLY on "tax day" April 15th , EVERY year in the woods. He made great moonshine too).*

Where in the West

Burn Site Morels figure-17

Morels apparently fruit differently in the western US. They rarely have any relationship with particular plants or trees, but instead appear most often in a variety of disturbed habitats, especially after forest fires, in old logging areas and in horticultural plantings, especially in bark mulch/bark dust. [1]

"Landscape Morels " figure-18

Red-Brown Blushing morels appear to account for most of the finds around landscaping and horticultural areas, especially in Coastal California.

Black Morels are found on the ground in many habitats but especially under mountain conifers in recently disturbed (i.e. logged or burned) areas. Some species of Black Morels fruit prolifically the spring following a burn, while others seem to appear sporadically in 2 or more years later.

Yellow morels are less common in western than in eastern North America. In western forests that consist solely of conifer tree species, light-colored morels might be the mountain blond morel.

(cont. next column)

Morel finds in Western Oregon and Washington are fairly numerous. In Montana and Idaho, morels are found mainly in burn areas. Some of these areas have been so prolific that commercial morel hunters and buyers have created an entire industry, with tent cities popping up with the morels each spring following the previous years forest fires. [1,10,11]

Where OhWhere in AZ

Black, Yellow, Half-free and Red-brown Blushing morels have all made the list of mushrooms found for the Arizona Mycota Project. (As gray morels are not yet scientifically recognized, it is possible these occur in AZ but have not been recorded as such). However, available books and numerous internet websites rarely if ever mention Arizona. Only 3 findings were reported via internet mapping sites, one in 2005 and two in 2006. NO morels from Arizona are included in the data for the Morel Identification Project on the Mushroom Expert Website (mushroomexpert.com). THIS Year, there was one reported find on March 30th, 2009 - near Sedona in a sub-irrigated (underground seepage watering) area around springs.... under Cottonwoods, Alder and blackberries.

Please note that the *false* morels, Gyromitra esculenta, Gyromitra gigas, and Verpa conica also are listed on the AMP species list, so be sure of your identification! [1,3,4,5,8,9,12,13]

Morels from Sedona, Az March 30, 2009 figure-19

Editors note I am going to boldly go where no Fungi editor has gone before, and suggest where to hunt for morels in AZ. Remember, it's called hunting NOT finding. Finding mushrooms is what happens when you go on an AMC foray at locations scouted by our super scouts Terry and Jim. One thing morels need to flourish is humidity, and like many others, I moved here partly because of the LACK of humidity! But, as hope springs eternal - I suggest you try along river/creeks where Cottonwoods grow and in last years burn areas. To locate 2008 burn areas you can access the Incident Information System for Arizona via internet at: http://www.inciweb.org/state/3/ This site includes some photos and maps. One site I am definitely going to try this spring is the Eagle Fire in the Clifton Ranger District of the Apache-Sitgreaves National Forest. The site is about 10-15 miles south of Hannigan Meadows on the West side of State Rd 191 and covers 3800 acres. This is a high elevation burn that happens to be closest to where I live. Please try burn sites near you, let me know if you find any morels!*

When to Hunt

Morels have been found in February through June depending on where you are hunting. The bottom line is that morels fruit when winter snow has melted, the soil is beginning to warm, and the air is still humid. In any one location, the season can last from several weeks to several months depending on rainfall, humidity, topography, and the morel species. Warmth and humidity provide the conditions morels need to continue development once they start fruiting. In areas that have hilly or mountainous topography, morels should fruit first at low elevation or on south-facing slopes that warm up early, then at higher elevations and on north-facing slopes that warm up later. Burned soils also warm more quickly than non-burned soils because the black surface absorbs infrared radiation better. As with fruiting locations, the timing and length of morel fruiting can be unexpected. [1]

An online progression map with dates can be accessed on the Morel Mushroom Hunting Club Website at: http:www.morelmushroomhunting.com/

Morel Habitat figure-20

How to Hunt Morels

Morels are notoriously difficult to spot, especially for the novice hunter. Morels need moisture/humidity so they grow in areas with trees and plants providing protection from the sun. Morels tend to blend in with their environment, especially in conifer forests. Morels and pinecones are very similar in color and shape. Contrary to folklore, morels do not just "pop-up" overnight. It does often seem that way however, as morels are so easily overlooked that you may not see them on the first time through an area. As David Arora points out, visual pattern recognition is essential to finding mushrooms, especially morels. Often, after locating one morel, hunters report being able to "suddenly see them all around". [1,3,8,9]

Morels in Burnsite figure-21

Editor's note When All Else Fails*; you can order fresh morels from commercial harvesters , they are not cheap, around $40-$70 a pound right now. Here are some sites to "hunt the internet".
http://www.morelmasters.com/
http://www.morelmogul.com/
http://www.oregonmushrooms.com/
http://www.earthy.com/

Mushroom Sauce Recipes

(you can use morels in either of these)

CAMPBELL'S GOLDEN MUSHROOM SOUP BASED SAUCE

-2 cups mushroom per can of soup
Any kind you have, I've done this with morels, chanterelles, lobsters, oysters,boletes,pholiota and store bought shitake, button and portabellas
You can mix one or any combination.
-Campbell's Golden Mushroom Soup
-1/2 can water per can of soup
-1/2 onion chopped (more if you like)
-Dry White Wine
(Chardonnay suggested)
-Butter
-Worstershire sauce - dash or two
-Salt and Pepper to taste

Sautee mushrooms on high heat in butter until "browned". Add onions and sauté 30 seconds or so (longer if you like your onions softer). Turn down the heat to medium and stir in soup and water. Add a dash or two of Worstershire Sauce. Add a little wine at a time, tasting as you go. When it's tastes good to you - add salt and pepper to suit you. Bring it all to a boil and turn down heat immediatelyto simmer . Serve over whatever you choose, enjoy.

From the kitchen of Shelley Watanabe
Fungi Editor

CREAMY MUSHROOM SAUCE

From the Slow Cooker by Gina Steer
This sauce is perfect to serve with poached chicken or fish (editor suggests chanterelle); or use as the basis for a pasta dish such as lasagna or cannelloni (editor suggests porcini or morels).
-2 Tbsp (25 g) unsalted butler
-2 large shallots, peeled and chopped
-1 serrano chile, seeded and chopped
-2-4 garlic cloves, peeled and minced
-6 cups (450 g) mushrooms, wiped and chopped fine
-2 cups (450 ml) vegetable broth
-2 Tbsp cornstarch
-Salt and fresh ground black pepper
-3-4 Tbsp light cream

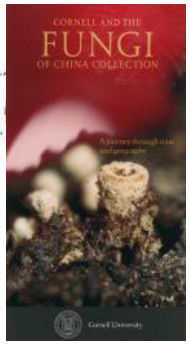
Preheat the cooker on high. Melt the butter in a large pan and sauté the shallots, chile, and garlic for 3 minutes. Add the mushrooms and continue to sauté for 3 more minutes. Spoon into the cooking pot and pour over the vegetable broth. Blend the cornstarch with 2 tablespoons of water and stir into the pot. Add the seasoning. Cover and cook on low for 4 hours. Adjust seasoning, stir in the cream, and use as required, reheating if necessary.

From The Mushroomer March-April 2009, a publication of THE SNOHOMISH COUNTY MYCOLOGICAL SOCIETY
Igor Malcevski, Editor
Retrieved from www.scmsfungi.org

Mushrooms in the News

"US University Returning Prized Mushrooms to China"

On April 13, 2009 the Associated Press reported that Cornell University was returning some 1,700 fungi specimens to China this fall. 57 of these specimens are considered irreplaceable. The specimens were collected from all across China over a 10 year period by Shu Chun Teng, who studied mycology at Cornell University from 1923 to 1925. During World War II, the specimens were smuggled by ox cart to Indochina and then by sea to the United States. 2,278 of the specimens were placed at Cornell University. The university is dividing up and sharing its Fungi of China Collection with the Academy of Sciences in Beijing. Some 1,700 specimens will be sent to China this fall, 57 of which are considered irreplaceable. (Cornell is keeping fungi that can't be divided, but will make them available to scholars). During Cultural Revolution in the 1960s, Teng was tagged as a "counter-revolutionary academic authority." His works were confiscated and he was discharged from his lab. He and his family were imprisoned. He died in 1970 at age 67. Years later, his family managed to recover his manuscripts. His daughter, Rosaline Deng, worked with a Cornell professor of mycology, Richard Korf, to complete and publish "The Fungi of China" in 1996. (Excerpted from Associated Press Reports) *Editor's note* The whole story is really fascinating, from not just a mycological perspective, but also as a very compelling human story. You can download the whole story and enjoy a really good read at:*
http:www.pressoffice.cornell.edu/pressoffice/cms/presskits/upload/CORNELLANDFUNGIOFCHINA.pdf



Illustrations of powdery mildews from the book Fungi of China, by S. C.Teng; edited by Richard P. Korf (Ithaca, N. Y.: Mycotaxon, Ltd., 1996)

For some way outstanding 3-D like photographs of 20 of the specimens, check out:
http://ppathw3.cals.cornell.edu/PhotoLab/FungiOChina/CUP-CH%202048.htm

Lentinus tigrinus

References

1. Agriculture, Forest Service, Pacific Northwest Research Station. Ecology and management of morels harvested from the forests of western North America, 161 pp. Retrieved from http://www.fs.fed.us/pnw/publications/pnw_gtr710/

2.Kuo, M. (2006, March). Morel Data Collection Project: Preliminary results. Retrieved from MushroomExpert.Com Web site: http:www.mushroomexpert.com/mdcp/ndex.html

3. Arora, David (1986). Mushrooms Dymystified (2nd ed.) Berkeley, CA Ten Speed Press

4. Kuo, M. 800+ Mushrooms and Keys: Retrieved from MushroomExpert.Com Web site: http:www.mushroomexpert.com/morchellaceae.html

5. Bates, Scott (2006) A Priliminary Checklist of Arizona Macrofungi Retrieved from http:www.azfungi.org/amp/checklists.html

6. Kuo, M. (2006, April). Deliciosa morels (Morchella species). Retrieved from the MushroomExpert.Com Web site: http://www.mushroomexpert.com/morchella_deliciosas.html

7. The Fungi of California Copyright 1999-2008, Michael Wood & Fred Stevens. http:www.mykoweb.com/CAFspeciesGyromitra_esculenta.html

8. Places to Hunt Morels, Morel Hunting Club Member's Area, Retrieved from http:www.morelmushroomhunting.net/members.cfm

9. Pelouch, Milan (2008) How to find Morels. The University of Michigan Press

10. Gearin up for the mushroom rush. By Jim Mann, The Daily Inter Lake, Published: April 23, 2008.

11. Evans, Larry (2008) Fire Morels: Picking Morels in Blackfeet Country, Fungi, Volume 1, No. 4 pgs. 2-44.

12. Sightings, The Great Moral Map Page, Retrieved from http://thegreatmorel.com/sightings.html

13.Morel Sighting Map Retrieved from http:/morelmushroomhunting.commorel_progression_sightings_map.htm

Figures Retrieved from Websites below:

Figures 1,2,3,5,6,7,9,17:
from USDA, USFS General Technical Report PNW_GTR_710. Retrieved from http://www.fs.fed.us/pnw/publications/pnw_gtr710/

Figures 4,8,10,11,12,13,14,15:
from Kuo, M. 800+ Mushrooms and Keys: Retrieved from the MushroomExpert.Com Web site: http://www.mushroomexpert.com/morchellaceae.html

Figure 16, from http://www.mykoweb.com/CAF/speciesVerpa_conica.html

Figure 18,20,22: from http://www.fungaljungal.org/morels/morel.htm

Figures 19, 20 from http://www.morelmushroomhunting.com/morelfinds.html

Figure 21 from http://www.oldhousecabins.com/sitebuildercontent/sitebuilderpictures/.pond/_up-north6050008a.JPG.w300h225.jpg

Editor's Note:
Much effort is put into editing the information in this newsletter and to accurately crediting sources. Any errors or omissions are unintentional and solely the responsibility (fault) of the editor; Shelley Watanabe, not of the membership or any individual member of the Arizona Mushroom Club.

Newsletter of the Arizona Mushroom Club

Dr Chester Leathers
President

Sandy Melgaard
TreasuArer/Membership
16418 w. Lower Buckeye
Goodyear, AZ 85338

Club Phone: 602-230-5281
Email: club@az-mushroom-club.org

On the Web@www.az-mushroom-club.org

Contact the Editor
Shelley Watanabe by email:
editor@az-mushroom-club.org

The Arizona Fun-gi

Newsletter of the Arizona Mushroom Club

Looking for a great gift for any mushroom enthusiast?
How about a polo shirt, hat or patch displaying the AMC club logo for yourself, a loved one or friend?
Use the form on the right to order from
Rose Mary or Chester Leathers.
A minimum number of orders must be placed, so you may have to wait until enough requests have been made to place an order,
But Hey - It's worth the wait!

ARIZONA MUSHROOM CLUB (AMC)
Order Form~~Please Print

Name_____

Address_____

Telephone # (_____)_____
POLO SHIRT with AMC Logo $24.00 ea QTY_____
Size (circle) S M L XL 1X
2X 3X 4X
HAT with AMC Logo $12.00 ea. Qty_____
PATCHES with AMC Logo $ 6.50 ea. Qty_____
Paid by: Cash_____
Check_____

Contact: Rose Mary Leathers or
Chester Leathers: Tel. 480-832-6709