

ALASKAN MUSHROOM GUIDE

FOR Harvesting Morels

Getting Started

FIELD IDENTIFICATION OF MOREL MUSHROOMS

There are a number of different species and varieties of edible wild morels. Harvesters must be diligent about observing each mushroom picked.

Consulting a number of up to date mushroom

guides such as Nancy Smith Weber's *A Morel Hunter's Companion* is strongly advised. If you are suspicious about the identity of a harvested species, they should be separated into a different container from your morels and examined in more detail by a mycologist or at a buying station.

Beginners should always pick with an experienced person. Experimental consumption of unknown species is not recommended and could be lethal.

MushroomExpert.com offers some very fundamental rules when it comes to picking morels, but it is no substitute for a reputable field guide to mushroom identification. Visit <http://www.bluewillowpages.com/mushroomexpert/morels/cardinal.html> for "Cardinal Rules" of morel picking.

Harvesting Morels after Wildfire in Alaska is another resource that can be used in helping to distinguish edible morels from false morels. It is the only publication that specifically deals with Alaskan fungi that fruit while morels are fruiting. It may be downloaded from USDA Forest Service at http://www.fs.fed.us/pnw/pubs/pnw_rn546.pdf.

PERSONAL SAFETY IN THE FOREST

Harvesting mushrooms for a living is hard, dirty and tiresome work. Beginners should expect long hours of physically challenging work and should bring plenty of drinking water. Pickers should be prepared for changes in weather, rough terrain, airborne

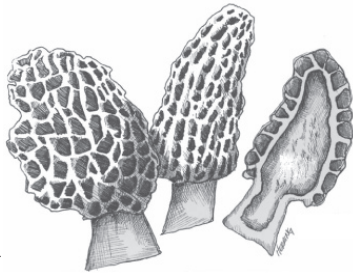


Illustration by Margaret Herring

ash, dense brush, and unexpected encounters with wildlife. Pickers should know how to read maps and use a compass to ensure that they can safely return to their campsite or vehicle. Accurate maps or aerial photographs should be taken in the field. Pickers should be aware of basic search and rescue procedures in the event they are lost or injured in the woods. Only experienced backcountry travelers should attempt picking in remote areas. Following proper safety precautions and practicing strict no-trace camping and hiking procedures is particularly important in remote areas.

Always be good stewards of the land. Leave some of the mushrooms you find. Do not collect mushrooms from previously harvested areas: leave the rest for wildlife food and to reproduce other mushrooms. Know whose land you are picking on and either go through the permitting process or have prior approval. Minimize impacts to the fungus by not disturbing the ground habitat. Do not dig, rake, or scrape the forest floor. A footprint should be the only thing you leave behind. Don't harvest more mushrooms than you need.

Warning!

Proper identification and determination of whether a mushroom is edible is the responsibility of the harvester. Many forest mushroom varieties are poisonous. There are many guidebooks available to assist with identification. When in doubt... leave it in the forest.

Permit Requirements

At the time of printing State agencies and land-owners were still finalizing their permit structures. It is the responsibility of the picker to learn any access restrictions and obtain any necessary permits for the area(s) they intend to harvest.

For further information on permit requirements contact:

Bureau of Land Management

Doug Stockdale
Carole Huey
Northern Field Office
1500 University Avenue
Fairbanks, Alaska 99709
(907) 474-2302

State of Alaska, Department of Natural Resources

Harry Bader
Division of Lands, Mining and Water
Frank Maxwell
3700 Airport Way
Fairbanks, Alaska 99709
(907) 451-2740

Doyon, Ltd.

Gary Lee (907)459-2037
Jamie Nollner (907) 459-2031
Doyon, Limited
1 Doyon Place, Suite 300
Fairbanks, Alaska 99701

There are Doyon lands on the Taylor highway that burned during summer 2004. Doyon lands start at approximately mile 12 and end at approximately mile 27. A map showing this area can be downloaded at:

www.doyonlands.com/landstatus/landtetlinjunction.html

Permitting by Doyon, limited to non-shareholders for personal use will not be an option due to Doyon's shareholder non-commercial use policy.

Fairbanks Northstar Borough

Cecily Hodges
Borough Land Management Department
809 Pioneer Road
Administrative Center, 2nd Floor
Fairbanks, Alaska 99707
(907) 459-1241

Harvesting

HABITAT: WHERE TO FIND MORELS

- ☛ Morels tend to show up the year after forest fires in conifer and hardwood forests.
- ☛ They will appear above ground when conditions are warm and wet.
- ☛ They will grow directly on the soil and prefer highly organic soils.
- ☛ They will not be in overly boggy areas because these are too wet.
- ☛ The air temperature will typically be 60-70 degrees F, with overnight lows at 45 degrees F and above.
- ☛ Mid-June until mid-late July is the best time for picking morels in Interior Alaska. A good sign to look for is when the bluebells are blooming.

Morels can be found in abundance during spring in forest areas burned the preceding summer. Proliferous fruiting (or flushing) of the mushroom bodies happens during a 2-3 week period, usually during June in Alaska, following the retreat of winter snow and a period of warm weather. They prefer the southern aspects of well-drained slopes and will occur in concentration around the base of coniferous trees. Patches of morels may occur where small depressions have retained soil moisture.

FOREST PROTECTION

A Burning Permit is required for burning on all lands during the fire season as declared by the State of Alaska. When traveling in the forest always use your ashtray, especially when driving along forest roads; stop for a smoke break instead of smoking while walking; select your campfire sites carefully, and put them out completely before leaving a site. When choosing an area to harvest, beware of fires which have survived underground. Consult with local authorities concerning up to date forest fire information. Contact:

Bureau of Land Management

Alaska Fire Service
PO Box 35005
Ft. Wainwright, Alaska
(907) 356-5500

State of Alaska, Division of Forestry:

Northern Regional Office
3700 Airport Way

Fairbanks, Alaska 99709-4699
(907) 451-2660

Delta Area Office
PO Box 1149
Delta Junction, Alaska 99737
(907) 895-4225

Fairbanks Area Office
3700 Airport Way
Fairbanks, Alaska 99709-4699
(907) 451-2600

Tok Area Office
PO Box 10
Tok, Alaska 99780
(907) 883-5134

Valdez Copper River Office
PO Box 185
Glennallen, Alaska 99588
(907) 822-5534

LITTER — CAMPSITES — WILDLIFE ENCOUNTERS

Food, garbage and unsanitary practices can attract animals and result in unhealthy camp conditions.

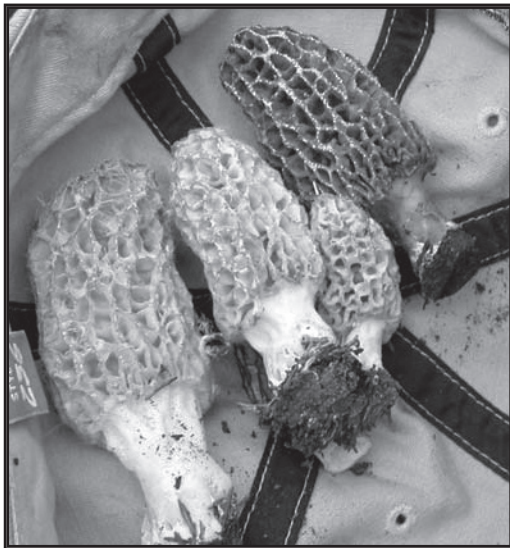


Photo by Irish Wurtz

Care should be taken to properly store food and refuse away from the campsite. Ensure that all human wastes are dealt with in a sanitary fashion. All garbage is to be packed out and disposed of in an approved dump site. You are not permitted to erect any permanent structure. Campsites must be left clean, safe and sanitary.

SUSTAINABLE HARVESTING METHODS

By practicing proper harvesting techniques pickers will get the best possible recovery of mushrooms year

Take Note!

All containers used in the collection, processing and storing of mushrooms must be **food-grade**. Food grade containers will not transfer noxious or toxic substances to the contents, provided they are new or have only been used for food. Generally speaking these containers are sold with the intent of storing food or will have originally contained commercially-bought food. Department stores, grocery stores and restaurant supply companies are good sources for unused, food-grade containers.

The only metal that should be used for containers or drying racks is **stainless steel** in order to avoid metal poisoning.

after year. Pickers will also be protecting the morel fungus, which produces the edible fruit body, and they will be protecting the site which supports it. Never disturb the forest floor in the vicinity of morels. This could harm the mycelium which produces the mushroom. Sensible care taken on mushroom sites this season is the best way to ensure abundant crops of Alaskan morels in the future.

When pickers arrive in a patch of morels they should never “clear cut.” Close observation will show that some of the specimens may be either too mature or too small. Always harvest healthy specimens. Buyers will provide size specifications. If pickers harvest and carry specimens that are not acceptable to the buying station, they will have wasted energy and will not be reimbursed. Furthermore, those morel spores will not be distributed and the soil will not benefit from decomposing fungi bodies.

Never pull the mushroom out of the ground by hand. Always cut off the morel cap at the top of the stem with a sharp knife. If you also harvest the stem you may be asked to cut them off at the buying station as European buyers are only interested in the caps. Minimizing the amount of excess with you while harvesting will allow you to move faster in the forest and conserve your energy for picking more mushrooms.

Morel mushrooms are difficult to see, as they tend to blend in visually with the forest floor. You will need to move slowly at first. Let your eyes adapt gradually to the subtle varieties of hue on the forest floor. Taking time to do this initially will allow you to be more efficient later in distinguishing a morel worth cutting from a morel worth leaving.

HARVESTING EQUIPMENT

Consider the following list of equipment for harvesting morel mushrooms:

- ☛ At least one good wild mushroom guide (preferably more than one)
- ☛ Map of the area (with plastic cover)
- ☛ A good compass with a strap
- ☛ Two **food grade** 5 gallon plastic buckets with ventilation holes
- ☛ Emergency blanket
- ☛ External backpack frame and bungee cords
- ☛ Bear mace, bear spray or bear flare
- ☛ Whistle with a strap
- ☛ Two 6" serrated kitchen knives (for cutting off caps)
- ☛ A package of dust masks
- ☛ A watch, preferably with an alarm
- ☛ First Aid Kit

HANDLING AND TRANSPORTING MORELS BACK TO CAMP

To ensure the quality of your product and to avoid health risks for the consumers of your morels, never spray insect repellent in the vicinity of your mushrooms, and do not use any chemicals on the palm of your hands. Always carry sufficient toilet paper and wash your hands. Place the morel caps gently in the bucket, and avoid banging the bucket into obstacles. The bucket must be listed as food grade. A food grade container will not transfer noxious or toxic substances to the contents. Move gently through the forest. Refrain from overfilling your containers, or compressing the morels. Always try to keep morels cool, well ventilated and in the shade.

Preserving Morel Mushrooms

Warning: Proper identification and determination of whether a mushroom is edible is the responsibility of the harvester. Many forest mushroom varieties are

poisonous. There are many guidebooks available to assist with identification. When in doubt... leave it in the forest.

Although true morel mushrooms are edible, they have been known to cause allergic reactions and gastrointestinal upset. Combining morels with alcohol can compound this. Morel mushrooms should only be eaten if they are fully cooked. It is recommended to only eat a small amount of morels at any one time. (*Poisonous Mushrooms of the Northern United States and Canada, & A Morel Hunter's Companion*)

Cook morel mushrooms in a stainless steel, or Teflon-coated pan. Using iron or aluminum pans can give the mushrooms an unpleasant metallic taste. (Montana State University News Service)

SELECTION AND STORAGE

Mushrooms should smell fresh and earthy. Those with soft spots or bruising should be rejected. Once home, refrigerate mushrooms between 34 and 35 degrees F. Wrap them in a paper bag or waxed paper. Non-porous plastic bags are not the best choice, as plastic accelerates mushroom deterioration. Optimum humidity for refrigerator storage is 85 to 90%, which also helps maintain quality and shelf life. Do not wash before storage. Since mushrooms absorb water, it is not recommended to wash them before storing, as this will hasten deterioration also. Mushrooms may absorb strong odors if stored near pungent items like onions, etc. (*Alaska's Mushrooms a Practical Guide, MushroomCouncil.org*)

Fresh mushrooms will only keep, refrigerated, for a few days. For longer storage, mushrooms may be frozen or dried.

PREPARING MUSHROOMS FOR USE

- ☛ Wipe mushrooms gently with a damp cloth or soft brush to remove dirt, debris and insects.
- ☛ When ready to use, mushrooms may be gently rinsed in cool water and drained. Shake gently to remove excess water. Mushrooms readily absorb water so do not soak them. Excess moisture speeds deterioration.
- ☛ There is no need to peel mushrooms. Trim and discard any portions of the mushrooms that are discolored or infested with insect or maggots. (*Alaska's Mushrooms a Practical Guide, MushroomCouncil.org*)

FREEZING MUSHROOMS

Preparation: Choose mushrooms free from spots and decay. Sort according to size. Wash thoroughly in

cold water. Trim off ends of stems. If mushrooms are larger than 1-inch across, slice them or cut them into quarters.

Mushrooms can be steamed or heated in fat in a fry pan. Steamed mushrooms will keep longer than those heated in fat.

To Steam: Mushrooms will have a better color if given anti-darkening treatment first. To do this, dip for 5 minutes in a solution containing 1 teaspoon lemon juice or 1 1/2 teaspoons citric acid to a pint of water.

Then steam whole mushrooms 5 minutes, buttons or quarters 3 1/2 minutes and slices 3 minutes. Cool promptly, drain and package, leaving 1/2-inch headspace. Seal and freeze.

To Heat in Fry Pan: Heat small quantities of mushrooms in margarine or butter in an open fry pan until almost done.

Cool in the air or set pan in which mushrooms were cooked in cold water to chill more quickly. Pack into moisture vapor resistant containers, leaving 1/2-inch headspace. Seal and freeze.

DRYING MUSHROOMS

Preparation: Mushrooms may be dried whole or in cut slices without blanching first. Drying time can be hastened by drying in small uniformly cut pieces. Mushrooms are a low acid food and must be dried until they are brittle or less than 10 percent moisture remains to insure no microorganisms can grow.

Methods: Mushrooms may be dried by using a dehydrator, convection or conventional ovens, sun drying or indoors at room temperatures. Microwave ovens are not recommended for drying mushrooms. Drying times will vary according to conditions. Usually it takes 8 to 10 hours in a dehydrator and longer with other methods. If using a convection or conventional oven, temperature readings must go as low as 140°F. If your oven does not go this low, then your food will cook instead of dry. Use only stainless steel or plastic screens for drying to avoid metal poisonings.

Storage of Dried Mushrooms: Store in airtight, food grade containers. Dried mushrooms will keep up to three months at room temperatures and longer in the freezer. Cook morel mushrooms thoroughly before eating.

Rehydrate Dried Mushrooms: Place the dried mushrooms in boiling water for 15 minutes or until they have returned to their original shape. Cook the mushrooms thoroughly before eating.

Add dried mushrooms to a product with lots of liquid like soup. Cook for at least 15 minutes. This will rehydrate the mushrooms and cook them in a single step.

Warning: Some people are allergic to drying mushrooms, and may have allergic reactions from drying mushrooms in their home. If you have allergies or have never dried mushrooms before do not try to dry mushrooms inside your home. Place the drier in a well-ventilated area. (*MushroomExpert.Com*)

CAUTION: Do not can wild mushrooms. There are no research-based processing times for canning wild mushrooms.

SOURCES:

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- Fisher, D. & Bessette, A., (1992). *Edible Wild Mushrooms of North America a Field-To-Kitchen Guide*. University of Texas Press, Austin.
- Freutel, S., (2004). *This story has two morels*. Montana State University News Service, Retrieved March 15, 2004, from <http://www.montana.edu/news/1088547463.html>.
- Kuo, M., (2002). "Preserving & drying morels." *MushroomExpert.Com*, Retrieved December 13, 2004, from <http://www.Bluewillowpages.com/mushroomexpert/morels/drying.html>
- Mushroom Council, from <http://MushroomCouncil.org/>.
- Parker, H., (1996). *Alaska's Mushroom a Practical Guide*. Alaska Northwest Books, Anchorage
- Weber, N., (1988). *A Morel Hunter's Companion*. Tow Peninsula Press, Lansing.

Marketing

The marketing of morels should only be attempted by experienced and qualified operators who are able to certify that their product is authentic, safe and good quality.

The major international markets for Alaskan morels are in Europe and Japan. Smaller markets exist in Canada and across the lower 48 States. It should be noted however, that all these markets are

changeable. The mushroom industry is still evolving both nationally and internationally, and product supplies, demand and prices can change rapidly and without notice in the international marketplace. There are a number of strong international players in the wild mushroom trade, and unexpected events, weather or harvests in countries elsewhere can have a major influence on the price and demand for Alaskan mushrooms.

It should also be emphasized that morel markets are extremely sensitive to product quality and regional reputation. Prices and demand for the product can vary considerably depending on the track record of the region or the individual supplier in regards to producing good quality morels.

Even within regions, there are no stable industry standards for product prices. Most prices at the wholesale and shipping level are negotiated on an individual basis between supplier and buyer. Prices can rise or drop radically within short spaces of time, and prices reported by one operator or industry study may not necessarily reflect the industry average.

SEARCHING FOR MARKETS

There are a number of ways to research potential markets for morel mushrooms. Inform yourself on the character of the market by talking to more experienced industry members and finding out about how the final product is used. Visit specialty food shops / delicatessens which sell European style products and take notice of ingredients, packaging and presentation. Observe the range of products where mushrooms are currently used and where morel might be substituted.

It is also useful to investigate other wild food markets. You may call, write and meet with producers / marketers of these products, inquiring about industry contacts, distributors, outlet managers and sales representatives who might be interested in learning about your product. Research library reference sections for food industry member addresses and statistics on consumer patterns. Try to acquire mailing lists for

specialty food clientele who might respond to direct marketing. A computer search engine would help find this type of information.

Suggested Guidebooks

- Bossenmeier, Eugene F., (1997). *Mushrooms or the Boreal Forest*. University Extension Press, University of Saskatchewan, Saskatoon, SASK.
- Hall, Ian R. (2003). *Edible and Poisonous Mushrooms of the World*. Timber Press, Protland, OR.
- Parker, Harriette, (1996). *Alaska's Mushroom a Practical Guide*. Alaska Northwest Books, Anchorage, AK.

Additional Sources

- Kuo, M. (2002, December). Cardinal rules. Retrieved from the MushroomExpert.Com Web site: <http://www.bluewillowpages.com/mushroomexpert/morels/cardinal.html>
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- Smith, Weber, N.S. (1995). *A Morel Hunter's Companion*. Lansing, MI: Thunder Bay Press.
- Wurtz, Tricia L. et al. (2005). *Harvesting Morels after Wildfire in Alaska*. USDA Forest Service, Pacific Northwest Research Station, Portland, OR.

The illustrations and photos contained in this document are not meant for identification purposes and should not be used in place of a reputable guidebook for identifying mushrooms. Proper species identification is the responsibility of the picker.

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