

Thirty plus Years of Mushroom Poisoning:
Summary of the Approximately 2,000 Reports in the NAMA Case Registry
By Michael W. Beug, Marilyn Shaw, and Kenneth W. Cochran

In the early years of NAMA, toxicology was one of the concerns of the Mycophagy Committee. The existence of toxicology committees in the Puget Sound and Colorado clubs stimulated the NAMA officers to separate the good and bad aspects of ingesting mushrooms. In 1973 they established a standing Toxicology Committee initially chaired by Dr. Duane H. (Sam) Mitchel, a Denver, Colorado MD who founded the Colorado Mycological Society. In the early 1970s, Sam worked with Dr. Barry Rumack, then director of the Rocky Mountain Poison Center (RMPC) to establish a protocol for handling information on mushroom poisonings resulting in the center becoming nationally recognized for handling mushroom poisonings. Encouraged by Dr Orson Miller and acting on a motion by Kit Scates, the NAMA trustees then created the Mushroom Poisoning Case Registry in 1982. Dr. Kenneth Cochran laid the groundwork for maintaining the Registry at the University of Michigan. Dr. Cochran continues to maintain the gateway through which individuals can report mushroom poisonings using the NAMA website (www.namyco.org). The reporting is an entirely volunteer effort and at the end of each year members of the NAMA toxicology committee assemble all of the reports for the previous year as well as any other earlier cases that can still be documented. Individuals are encouraged to submit reports directly through the NAMA website. In addition members of the toxicology committee work with Poison Centers to directly gather mushroom poisoning reports. Marilyn Shaw (Colorado, Montana, Idaho, Hawaii and Las Vegas, NV), Dr. Bill Freedman (California), Jan Lindgren (Washington and Oregon), Judy Roger (Washington and Oregon), Dr. Ken Cochran (Michigan and the upper Midwest), Hanna Tschekunow (Florida and Eastern U.S., now Washington), Dr. Denis Benjamin (Washington and now Texas) and many others have worked hard to track down and record details of mushroom poisoning cases.

The first annual NAMA report of mushroom poisoning cases was published by Dr. Cochran in Mushroom: The Journal in 1985 (Cochran, 1985). All subsequent reports are in McIlvainea (Beug 2006; Cochran, 1986, 1988, 1999, 2000; Lampe, 1989; and Trestrail 1991, 1992, 1994, 1995, 1996, 1997, 1998). In some of Dr. Trestrail's reports (Trestrail 1992, 1994, 1995, 1996) he compares numbers of mushroom toxic exposures reported to NAMA to reports to the Poison Control Centers compiled through the Toxic Exposure Surveillance System of the American Association of Poison Control Centers. From this data we can infer that mushrooms account for about 0.4 to 0.5% of total toxic exposures. NAMA is receiving reports totaling about 1% of mushroom poisoning cases that are reported to Poison Control Centers each year. While about 90% of mushrooms in the Toxic Exposure Surveillance System are unidentified, NAMA involvement drops the % unidentified mushrooms into the range of 10 to 30%. Also, since approximately 80% of the reports to PCCs involve asymptomatic events, we conclude that NAMA reports get filed for about 10% of the symptomatic poisoning cases (and probably well over 50% of the cases involving a fatality).

The NAMA database that is maintained of all of the poisoning case reports that have been received by the toxicology committee is not readily accessible when questions arise. This paper summarizes all reports in the database where the mushroom could be reasonably well identified. We cover all material through December 2005. Unlike the annual reports, we will not delve into treatments or why the person may have consumed the mushroom (e.g. for food, for recreation, mistaken identification, etc.). The only age determination we make is for adults (and here we treat teenagers as adults) versus children. However, bear in mind that symptoms can be most severe in individuals whose health is previously compromised (due to age, alcohol or chronic disease) and in children whose digestive and immune systems are not yet fully developed. There are unusual cases where the death is not directly due to mushroom toxins. These include a previously severely ill elderly man who ate several successive huge meals of a *Gyromitra* species but the symptoms related to his death did not match any known mushroom symptoms. A quadriplegic consumed purchased *Psilocybe cubensis* (of uncertain quality), went into anaphylactic shock and died. One woman of a group of 5 ate what was probably *Laetiporus sulphureus* suffered severe GI symptoms, dermatitis, and died in 19 hours while no one else in the group was even sick. After passing unconscious from a large meal of *Amanita muscaria*, a man froze to death in his tent in Michigan. On the other side of the coin, we have not entered numerous cases where someone consumed an *Amanita* in the “Destroying Angel” group and had no ill effects or consumed a plateful of *Chlorophyllum molybdites* or some *Amanita muscaria*, etc. without getting sick. We have also not reported on the huge number of cases (roughly 33% of the total) where the cause of the poisoning is unclear due to the ingestion of several species at a time or due to the failure to preserve or produce any of the mushrooms for later identification.

The reports that have been summarized here are voluntary reports. In some regions (the Rocky Mountain region and the Pacific Northwest) the reporting is quite extensive (though undoubtedly not complete). In other regions the reporting is very spotty because at times during the past 23 years there have been few active experts in the area. Sometimes one can be quite certain about what mushroom was consumed but at other times it is just an educated guess based on mushrooms gathered near where the suspect mushrooms were picked or from pictures that the victim pointed out in a book.

We have generally not attempted to use the most current name but have followed the names used in the reports. The approach has also been that of a “lumper.” For example *Armillaria mellea* and *Laetiporus sulphureus*, are now recognized as complexes of several species, but there has often been no way to figure out what the actual culprit was, though by looking at the location one can sometimes make a good guess. A confounding factor here is that mushrooms can be contaminated by bacteria and molds and the symptoms from bacterial and mold contamination are extremely similar to most mushroom poisoning symptoms. Some of the cases certainly do appear to have been a result of consumption of spoiled mushrooms that were old before consumption or had been frozen raw (which allows the bacteria to keep growing). Also for mushrooms growing in lawns, flower beds, along roads and on golf courses there is the question of contamination by insecticides or heavy metals. In a few cases there was specific recollection of a recent Malathion or other insecticide spray. We have a Table of

poisonings where alcohol is implicated because there were individuals who said that they could eat the mushrooms if they did not drink alcohol. We are certain that several additional GI cases were also alcohol related. We have tabulated all of the reported dermatitis cases because that information has remained scattered. Where the case involved both dermatitis and GI symptoms, the event was tabulated in both tables.

We were surprised at some of the things that we found (or did not find). In over 2,000 reports, there were only three cases total involving a *Cortinarius* species, even though that is a huge genus with many large fleshy fungi. We did not find a single mention of a poisoning that matched the symptoms of orellanine poisonings. So far orellanine has been found in only one small brown *Cortinarius* species in North America. A further check of other available sources also failed to come up with any orellanine cases anywhere in North America. While we have often seen 50% quoted as a death rate for consumption of mushrooms containing amatoxins, we calculated an 11% death rate for reported cases of people who became ill. The overall rate of death from amatoxins is well under 10% when you count the people who showed no symptoms. Furthermore, we only found record of 5 liver transplants for a transplant rate of 3.5% in amatoxin cases. From other sources, we know that *Galerina autumnalis* can be fatal, but none of those reports have made their way into the database. Similarly, many cases of *Galerina autumnalis* ingestion that did not lead to death did not make this report. The one death reported from mushrooms causing GI symptoms with unknown toxins/irritants was from *Boletus pulcherrimus*. To our surprise, there were no reported deaths from the mushrooms noted for causing kidney failure, *Amanita smithiana* and *Paxillus involutus*. Though *Amanita smithiana* was at one time thought to contain orellanine, orellanine is not present. The toxin in *Amanita smithiana* is allenic norleucine that is probably bound to a sugar in the mushroom. A second compound, chlorocrotylglycine, may also be toxic. The toxins in *Paxillus involutus* are unknown. We found cases where mothers became ill from a mushroom ingestion and nursing infants (and nursing puppies) became ill (the puppy died) from toxins in the milk. Though many people still eat *Gyromitra esculenta*, the large number of cases found where there was liver and/or kidney damage will hopefully lead individuals to cease this practice.

In examining animal poisoning cases, we were struck by how frequently dogs (and even cats) consume either *Amanita muscaria* or *Amanita pantherina*. Neither of these species is deadly in humans, but both can be lethal to cats and dogs. Similarly there were deaths of dogs from both *Inocybe* species and *Scleroderma* species, though we have no record of human deaths from these same species. We looked for mushroom poisonings of horses or cows. There were no poisonings recorded for these animals, though there were two poisonings recorded for a pig, including one death. We tried to answer a question for a woman from Oregon whose prize horse was healthy one day and dead the next. Her pasture was full of mushrooms. Her vet said that similar deaths of horses are not all that unusual. We hope that someone who reads this will become curious and some day have an answer of whether or not mushrooms are involved in these mysterious horse deaths.

Table I
Summary of Human Poisonings (excluding Dermatitis)

Classification	Individuals Reported Sick	Typical # Reported Cases/year	% of total	Number of Deaths (Not counting shock)	% Deaths
Grand Total	1,641	70		17	1%
Amatoxins	147	6	8.9%	16	11%
Gyromitra, Helvella Verpa	68	3	4.1%	0	0
Morels	52 + 77(one big case)	3	3%	0	0
Isoxazoles	218	10	13%	0	0
Psilocybin	108	5	6.6%	0	0
Total GI	959	40	58%	1	0.1%
Chlorophyllum	176	8	10.7%	0	0
Omphalotus	98	4.5	5.9%	0	0
Leccinum	58	3	3.5%	0	0

Table II
Summary of Animal Poisonings

Animal	Type of Mushroom	Number affected	Number Died	Number Euthanized	Total % Dead
Cat	Amatoxin	1-2	1	0	50%
Cat	Isoxazoles	10	1	0	10%
Cat	GI Irritants	3	1	0	33%
Dog	Amatoxin	11	4	4	72%
Dog	Isoxazoles	61	1	2	5%
Dog	GI Irritants	47	7	0	15%
Pig	GI Irritants	2	1	0	50%

Table III
Human Liver Damage and Kidney Failure Cases

Species	Number Poisoned	Liver Damage		Kidney Failure	
		Number	% Total	Number	%Total
<i>Amanita bisporigera</i>	18	12	67%	1	5.6%
<i>Amanita brunnescens</i>	6	5	83%	0	0%
<i>Amanita smithiana</i>	8	0	0%	6	75%
<i>Amanita ocreata</i>	9	9	100%	7	78%
<i>Amanita phalloides</i>	55	24	44%	3	5.5%
<i>Amanita verna</i>	8	4	50%	1	12%
<i>Amanita virosa</i>	26	3	11%	3	11%
<i>Amanita spp</i>	10	7	70%	2	20%
<i>Galerina autumnalis</i> & <i>Galerina sp</i>	10	6	60%	1	10%
<i>Lepiota josserandii</i>	2	2	100%	1	50%
<i>Lepiota subincarnata</i>	1	1	100%	1	100%
<i>Gyromitra esculenta</i>	27	9	33%	3	11%
<i>Paxillus involutus</i>	3	0	0%	2	67%
Unknown species	-	7	-	2	-

Table IV
Amatoxin Syndrome: Poisoning by the Amanitins

Species and Location ¹	Number and onset ²	Symptoms ¹
<i>Amanita bisporigera</i> AR, MI(2), MN, MO, NJ, OH, ON, QC, RI	16 Adult + 2 Child 7-15(24) hours avg 10 hr	Full gastrointestinal (18), cramps(5), kidney failure, liver damage (12)., muscle spasms, salivation(2), drowsy, sweating(3), weakness(3), liver transplant(1), DEATH(2), elevated prothrombin time(2)
<i>Amanita brunnescens</i> CA, ID	3 Adult + 3 Child 6-18 hours avg 16 hr	Severe gastrointestinal distress (5), mild GI, chills, sweating, liver damage (5)
<i>Amanita magnivelaris</i> RI	2 adults, 24 hours	Severe gastrointestinal distress (2), DEATH(1)
<i>Amanita ocreata</i> CA(2), OR(2)	9 Adults 6-15 hours avg 10 hr	Gastrointestinal distress, cramps(2), disoriented (5), hypotension, kidney failure (7), liver damage(9), weak(2), DEATH(4)
<i>Amanita phalloides</i> BC CA(11), CT, NY, NJ, OR(2), PA, WA(2)	52 Adult + 3 Child (4)6-12(30) hours avg. 10 hours	Gastrointestinal distress (49), bloody vomit, chills(2), cramps(17), Convulsions(3), disoriented(13), dyspnea(3), fever (8), severe headache, hypotension, salivation, drowsy, sweating(8), unconscious, weak(13), high prothrombin, coagulopathy, hyponatremia, respiratory failure(3) kidney failure(3), liver damage(24), liver transplant(3), DEATH(2)
<i>Amanita verna</i> MI, MS, WA	6 Adult + 2 Child (0.3)5-12 hours avg 9 hr	Gastrointestinal distress(6), chills, cramps(2), disoriented, kidney failure, liver damage(4), sweating, cerebral edema, DEATH(1)
<i>Amanita virosa</i> CT, DC(3), CT, MI, MN, NJ, NY(5); QC, RI	23 Adult + 3 Child (0.5)6-24 hours avg 12 hr	Gastrointestinal distress(23), severe GI, chills(2), cramps(4), convulsions, disoriented(5), fever, flushing, hypotension, kidney failure(3), liver damage(3), muscle spasms, nausea, drowsy(3), weak(5), edema, thick feeling in tongue, DEATH(1)
<i>Amanita spp.</i> FL, GA, KY, OR, NY, VA	9 Adult + 1 Child 8-24 hours, avg 12 hr	Gastrointestinal distress (9), cramps(2), kidney failure(2), liver damage(7), mydriasis(2), drowsy, unconscious(2), weak, DEATH(3)
<i>Galerina autumnalis/venenata</i> AR, IL, KS, MI, OH, OR, WA	8 Adult + 1 Child 6-21 hours avg 13 hr	Gastrointestinal distress(6), blood in vomit or diarrhea, cramps(6), dehydrated, disoriented(2), hematemesis, drowsy(2), weak(3), liver damage(5), unable to walk, dry heaves, infant poisoned from nursing
<i>Galerina sp</i> OH	Adult, 9 hours	Severe gastrointestinal distress, liver damage
<i>Lepiota josserandii</i> NY(2)	2 Adults 9-15 hours avg 12 hr	Gastrointestinal distress, confused, kidney failure, liver damage(2), respiratory distress, liver transplant(1), DEATH(1)
<i>Lepiota subincarnata</i> BC	Adult, 13 hours	GI, kidney failure, liver damage, drowsy, DEATH(1)

¹Number in parentheses is number of times observed

²Number in parentheses is one report of unusually long or short onset not included in average

Long Delayed-Onset Renal Failure: Orellanine or Cortinarin Poisoning in North America
NONE REPORTED

Table V
Inebriation and Poisoning by Isoxazole Compounds (Muscimol, Ibotenic Acid, etc.)

Species and Location ¹	Number and onset ²	Symptoms ¹
<i>Amanita muscaria</i> AB(2), AK, CO(28), D(12), MA, MD, MT(6), NJ(9), NY, OH(2), OR(8), PA(3), RI(3), SK, WV(2), VA(2), WA(7), WY(6)	107 Adult + 2 Child 0.5-3(12) hours avg. 1.5 hr	Gastrointestinal distress (100), visual and/or time disturbances(39), atrial fibrillation(3), ataxic(3), chills(12), cramps(4), convulsions(3), disoriented(67), hematemesis, malaise, muscle spasm(47), nausea, salivation(3), drowsy(37), sweating(24), unconscious(11), deafness, out of body feeling, kidney polyuria, hypothermia. One death from freezing to death in a tent after consuming the mushrooms
<i>Amanita pantherina</i> BC(2), CA, CO(27), ID(11), MI, MT(7), NM, ON, OR(30), WA(14), WY	104 Adult + 5 Child 0.3-6 hours avg 2.4 hr	Gastrointestinal distress(48), visual and/or time disturbances(72), anxiety(3), ataxic(9), cramps(9), disoriented(33), headache(6), fever(6), flushing, liver failure(1), muscle spasms 18, mydriasis, nausea(6), salivation(6), drowsy(12), sweating(6), unconscious(9), weakness(18), respiratory failure, kidney hematuria(2), dermatitis(2), violent(2)

¹Number in parentheses is number of times observed

²Number in parentheses is one report of unusually long or short onset not included in average

Table VI
Mushrooms with Unique Toxins, Kidney Failure common

Species and Location ¹	Number and onset ²	Symptoms ¹
<i>Amanita smithiana</i> BC(2), OR(2), WA(3)	8 Adult 6-11 hours avg. 8 hr	Gastrointestinal distress(6), anxiety, chills, cramps(3), disorientation, kidney failure(6), malaise(2), sweating, weakness, warm feeling, oliguria, polyurea, thirst
<i>Paxillus involutus</i> OR, WA	1 Adult at 6 days 2 Adults at 0.25 hr	Kidney failure(2), incoherent, thirsty, hematemesis, muscle spasm, severe back pain, dry mouth, vomiting

¹Number in parentheses is number of times observed

²Number in parentheses is one report of unusually long or short onset not included in average

Table VII
Gyromitrin Poisoning Suspected due to Hydrazines and Morel Poisonings

Species and Location ¹	Number & onset ²	Symptoms ¹
<i>Gyromitra brunnea</i> ID	Adult, 2-3 hours	Gastrointestinal distress, sweating
<i>Gyromitra esculenta</i> AK(2), IA, ID(2), MA, MI(17), QC, WA	24 Adult + 3 Child 1-9(12) hours avg 6 hr	Gastrointestinal distress(27), anxiety, atrial fibrillation(3), chills(4), cramps, disoriented(6), dreams, fever, flushing(2), headache(2) jaundice, kidney failure(3), liver damage(9), muscle spasms, sweating(9), weak(5), methemoglobinemia, kidney hematuria, sensitive to sound
<i>Gyromitra gigas/montana</i> ID(9), MT(2), OR(3)	8 Adult + 1 Child 2-9 hours avg 5 hr	Gastrointestinal distress(7), chills(2), cramps(3), jaundice, muscle spasm(3)
<i>Gyromitra spp</i> ID(6), MI(3), MT(5), OR(3)	22 Adult + 1 Child 0.3-11 (24) hours, avg 3.5 hr	Gastrointestinal distress(18), ataxic, chills(4), convulsions, cramps(6) + severe cramps(4), disoriented(4), fever(2), headache(6), hematemesis, jaundice, liver damage, malaise, salivation, sweating(4), weakness(4), hot flashes(2), light sensitive, bilirubinemia, numb, neck pain
<i>Helvella spp.</i> CO	1 Adult, 2 hours	Nausea, headache, hypotension, floating feeling
<i>Morchella angusticeps</i> MI, MT	2 Adults 0.5 hours	Gastrointestinal upset, nausea burning throat
<i>Morchella deliciosa</i> NC, CO	2 Adults 2.5 & 12 hours	Gastrointestinal distress
<i>Morchella elata</i> BC, MT, OR(3), WA(4)	9 Adults 0.1-3 hours avg 1.5 hr	Gastrointestinal distress(6) + 1 severe GI, cramps(2), disoriented(1), fever, nausea, sensitive to sound, unconscious, weakness(2), eaten raw = immediate numb mouth and throat
<i>Morchella esculenta</i> ID, MD, MI(2), MO, NE, NJ, NY, WA(3)	11 Adult + Child 0.3-4.5 hours avg 2.5 hr	Gastrointestinal distress(10) + severe GI(2,raw), chills(3), cramps(3), disoriented, nausea(2), sweating, weakness(3), flatulence, numb hands, sneezing(24 hours)
<i>Morchella spp</i> CA, CO, ID(7), IL, MT(6), NM, OH(2), OR(3), WA	25 Adult + 2 Child 0.1-5.5 hours avg 2.3 hr	Gastrointestinal distress(26), chills(3) + severe chills, cramps(4), disoriented(5), fever, flushing(3), headache(7), hallucinations, muscle spasms(2), nausea, salivation, sweating(7), weakness(7), hot flashes, burning throat, bloated
Raw <i>Morchella spp</i> BC	77 Adults (of 483) 0.3 hours	Gastrointestinal distress(77), bloating(4), cramps(7), flushing, sweating, and thirst (all at one banquet)
<i>Verpa bohemica</i> CO(3), ID, MT(2), OR	8 Adult + 1 Child 2-5 hours avg. 3.3 hr	Gastrointestinal distress(6), chills, cramps, disoriented(2), fever, flushing, headache, hypotension, malaise(3), nausea, salivation(2), sweating(2), vomiting, bloated, light-headed, hot flashes, dehydrated

¹Number in parentheses is number of times observed

²Number in parentheses is one report of unusually long or short onset not included in average

Table VIII
Poisonings where Effects Appear to be Associated with Alcohol Consumption

Species and Location ¹	Number & onset ²	Symptoms ¹
<i>Armillaria mellea</i> OR	4 Adult 5 hours	The four beer drinkers in the group were much sicker than others (all with gastrointestinal distress)
<i>Boletus barrowsii</i> CO	Adult 1-5 hours	Person has 15 year history of adverse gastrointestinal reaction if alcohol is consumed with this species
<i>Boletus sp</i> (red top) WY	Adult 5 hours	Gastrointestinal distress, chills, fever, disoriented, salivation, dermatitis
<i>Clitocybe clavipes</i> MI	Adult 2 hours	Tachycardia and palpitations, tingling arms and legs, flushing
<i>Coprinus atramentarius</i> AK, ID(3), MI, MN, NY, WY	6 Adult, 0.1-51.5 hours (depending on when alcohol)	Tachycardia and palpitations(6), tingling arms and legs(6), flushing(6), headache, heavy limbs, salivation
<i>Coprinus comatus</i> MI, NH	3 Adults 0.5-2 hours	Gastrointestinal distress(2), cramps, chills, salivation, drowsy, sweating(2)
<i>Coprinus quadrifidus</i> KS	Adult, 27 hours (time alcohol use)	Tachycardia and palpitations, tingling arms and legs, flushing
<i>Coprinus sp</i> OH	Adult 4 hours	Gastrointestinal distress, chills, muscle spasms, sweating, weakness
<i>Morchella angusticeps</i> MI, CO	2 Adult 3 & 4.5 hours	Gastrointestinal distress, disorientation, throat constricted
<i>Morchella elata</i> + <i>M. semilibra</i> OH	Adult 0.5 hour	Gastrointestinal distress, cramps, muscle spasm
<i>Morchella spp</i> MT, CO	3 Adult 10 hours	Severe cramps, disoriented, headache, muscle spasm, nausea(3)
<i>Pholiota squarrosa</i> CO	Adult, 4.5 hours	Gastrointestinal distress
<i>Pleurotus ostreatus</i> MI, OR	2 Adult 0.3 & 1.5 hour	Tachycardia and palpitations, tingling arms and legs, flushing, nausea, weakness, sweating, hallucinations
<i>Pleurotus sp</i> WI	Adult 5 hours	Gastrointestinal distress, flushing, hypotension, muscle spasm, tachycardia

¹Number in parentheses is number of times observed

²Number in parentheses is one report of unusually long or short onset not included in average

Table IX

Hallucinogenic Syndrome: Effects of Psilocybin and Psilocin and other Tryptamines

Species and Location ¹	Number and onset ²	Symptoms ¹
<i>Gymnopilus cf. luteofolius</i> NY	Adult, 1 hour	Gastrointestinal distress, hallucinations
<i>Gymnopilus spectabilis</i> MA, MI, NJ(2), NY, OH, OR, RI, VA	15 Adult 0.3-2.5 hour avg 1.5	Gastrointestinal distress(2), anxiety(2), agitation, disoriented(7), flushing(2), nausea(2), hallucinations(10), drowsy, blurred vision, weakness, tingling limbs(3), numb(3), chest pain, paranoid(2)
<i>Panaeolus acuminatus</i> BC	Adult, 3 hours	Cramps
<i>Panaeolus campanulatus</i> OH	Adult 24 hours	Nausea and sweating, an apparent panic reaction due to fear of having made an error
<i>Panaeolus foenicecii</i> CA(2), CO(3), ID, MA, MI(2), MT, OR(3), WA	8 Adult + 10 Child 0.1-11(16) hours avg. 3 hr	Gastrointestinal distress(9), disoriented(6), fever(3), flushing(2), nausea(6), hallucinations(7), salivation, drowsy(2), unconscious, angiodema, euphoric, insomnia, dermatitis(2), hives, screaming
<i>Panaeolus papilionaceus</i> ME, ID	Adult + 3 Child 0.5 hour	Flushing, gastrointestinal distress(4), weakness
<i>Panaeolus spp</i> MT, HI	2 Adult, 0.8-1 hour	Hallucinations(2), agitation, cramps, nausea
<i>Psilocybe azurescens</i> OR	Adults ~1 hour	Anonymous report that several times recreational use led to loss of muscular control & inability to walk for 6-10 hours
<i>Psilocybe baeocystis</i> OR	Adult 0.6 hour	Anxiety, flushing, gastrointestinal distress, muscle spasms, tight chest
<i>Psilocybe cubensis</i> CA, CO(2), ID, MT, OH, OR(3) Note: Usually illicitly cultivated and often adulterated	14 Adult 0.2-2.5 hours avg 1 hr	Hallucinations(8), anxiety(2), ataxic(2), severe convulsions, disoriented(4), drunk feeling, hypotension(2), malaise, muscle spasms, mydriasis(3), nausea, salivation(3), sweating, tachycardia(2), unconscious(2), aggressive, detached, severe, rhabdomyolysis, respiratory arrest, violent 1 DEATH from anaphylactic shock (allergic reaction)
<i>Psilocybe cyanescens</i> CA(2), CO, NC, OR(3)	8 Adult 0.2-4.5 hr, avg 1 hr	Hallucinations(6), agitated, chills, disoriented(3), fever, flushing(2), sweating(2), weak, coordination loss
<i>Psilocybe semilanceata</i> CA, OR(6), WA(5)	15 Adult + 3 Child 0.5-3(12) hr avg 2hr	Hallucinations(15), anxiety(2), chills, cramps(3), disoriented(8), GI(10), mydriasis, drowsy(4), suicidal, unconscious, unable to walk, severe dermatitis
<i>Psilocybe stuntzii</i> OR(2)	2 Child 1.5 hour	Gastrointestinal distress, disoriented
<i>Psilocybe subcaerulescens</i> MI	Child -	Hallucinations
<i>Psilocybe spp</i> CA, CO(3), FL, HI, NY(3), OR(6), WA	21 Adult 0.6-3.5(36) hours avg 1.3 hr	Hallucinations(15), gastrointestinal distress(5) + severe GI(3), anxiety(5), atrial fibrillation, ataxic, chills(2), cramps(2), convulsions, kidney failure, liver damage, malaise, muscle spasms, mydriasis(2), salivation, drowsy(2), sweating, tachycardia(3), nausea, unconscious, suicidal, dry mouth(2), miosis, "freaking out", seizure, cold extremities, kidney polyuria

¹Number in parentheses is number of times observed²Number in parentheses is one report of unusually long or short onset not included in average

Table X
Cases Involving Dermatitis or Spore Inhalation

Species & Location	Ingest	Spore	Onset	Symptoms
35 species WA(2)	no		-	#1: joint stiffness, pain; #2: fluid retention
<i>Aman. pantherina</i> WY	yes		4.5	Gastrointestinal, etc, dermatitis
<i>Bol. pulcherrimus</i> OR	yes		0.8	Gastrointestinal, etc. dermatitis
<i>Boletus sp</i> WY	yes		5	Gastrointestinal, etc. dermatitis
<i>Calvatia gigantea</i> NY	yes		0.01	Flushing, burning rash around mouth
<i>Canth. cibarius</i> OR	yes		3	Edema, hives, numbness
<i>C. molybditum</i> TX	yes		0.5	dermatitis
<i>C. nebularis</i> WA	yes		1	hives
<i>C. semisanguineus</i> QC	yes		-	Cramps, dermatitis
<i>Cort sp, C. vinicolor, O. olivascens</i> CA	no		-	Itchy rash eyelids and inner thighs
<i>Gyromitra prob. esculenta</i> ID(2)	no		1	#1: Tight chest, scratchy throat; #2 “skin on fire”
<i>Laetiporus sulphureus</i> OR, WI	yes yes		0.5 14-18	#1: GI, etc, dermatitis, DEATH (shock) #2: severe rash, whole body like P. Ivy
<i>Lentinus edodes</i> NY	yes		9	GI, hives on scalp, neck & shoulder
<i>Leucoagar. naucina</i>	yes		48	Long-lasting whole-body rash
<i>Omphalotus olearius</i> GA(2)	no		0.1	Contact with “juice” resulted in immediate burning sensation, like an acid burn (2)
<i>Panaeolus foenisecii</i> CA, MI, OR	yes yes no		- - -	#1: Gastrointestinal, etc., dermatitis #2: Nausea etc., dermatitis, hives #3: Tingling & Itching hand & forearm
<i>Phallus impudicus</i> CO(2)	no no		0.2 1-2	#1: hives, erythema #2: rash & welts, nausea
<i>Phallus hadriani</i> CO	no		0.1	Tingling fingers, numb
<i>Pleurotus ostreatus</i>	no	Inhale	-	Diarrhea, runny nose and eyes
<i>P. semilanceata</i> WA	yes		-	hallucinations sv dermatitis
<i>S. citrinum</i> OR	no	Inhale	0.1	GI, tachycardia, unconscious, sneezing
<i>S. citrinum</i> & <i>S. macrorhizon</i> MI(2)	no	Inhale	1 1	Dyspnea, conjunct, rhinitis & rhinorrhea, lacrimation (both times)
<i>Suillus americanus</i> MI(2), MA	no yes		24 24	#1 & #2: dermatitis #3: eye irritation, tears, poison-ivy-like rash
<i>S. americanus</i> & <i>S. granulatus</i> NH(2)	no no		18 18	Dermatitis face & neck, swollen face & eyes both times
<i>S. granulatus</i> MA(2)	no		24	Poison Ivy-like facial dermatitis both cases
<i>Suillus luteus?</i> NY(2)	no		-	Edema, severe itching face & groin, puffy face
<i>Suillus pungens?</i> CA	yes		12	Dermatitis, swollen face, etc

Table XI
Gastrointestinal Syndrome

Species and Location ¹	Number & onset ²	Symptoms ¹
<i>Agaricus arvensis</i> PA	2 Adult, 2 hour	Both gastrointestinal distress, chills, drowsy, and weak
<i>Agaricus augustus</i> WA(3)	4 Adult 2.5-6 hr, avg 4 hr	Gastrointestinal distress, chills, cramps, dyspnea, nausea, sweating, rhinitis, sneezing, face numb
<i>Agaricus californicus</i> OR, CA	1 Adult + 1 Child 0.5 hr	Gastrointestinal distress, chills, nausea, weak (one event was suicide attempt, but the wrong mushroom to die from)
<i>Agaricus hondensis</i> BC, CA, WA	3 Adult 0.2-0.7 avg 0.4 hr	Gastrointestinal distress(2), severe cramps
<i>Agaricus placomyces & praeclaresquamosum</i> ID, MI, OR(2), WI, WV	5 Adult + 1 Child 0.5-5 hours avg. 2 hr	Gastrointestinal distress(4), cramps, headache, nausea, sweating, sneezing, rhinorrhea
<i>Agaricus xanthodermus</i> complex, CA(2), CO(6), ID(5), MT(2)	11 Adult + 5 Child 0.3-6 hours avg. 2 hr	Gastrointestinal distress(11) + severe GI(2), cramps 4, disoriented(2), fever, flushing(2), headache(2), nausea, hypotension, malaise, sweating(2), numb, warm feeling
<i>Agaricus</i> (commercial) WA	Adult 0.1 hour	Gastrointestinal distress, severe disorientation, sweating, weak, difficulty balancing
<i>Agaricus spp</i> CA, CO(5), HI, ID, NM, NV, OK, OR, TX	16 Adult + 5 Child 0.3-5 hours avg 1.7 hr	Gastrointestinal distress (17), flushing(2), headache, sweating, tachycardia
<i>Agrocybe dura</i> NJ, OH	2 Child, 1&10 hr	Gastrointestinal distress
<i>A. pediades?</i> OR	Child, 14.5 hour	Gastrointestinal distress, hallucinations
<i>A. praecox</i> NM	Child, 12 hour	Gastrointestinal distress, chills, drowsy
<i>Agrocybe sp</i> OK	2 Child, 0.6 hour	Gastrointestinal distress
<i>Amanita flaviconia</i> RI	2 Adult, 4 hour	Both with gastrointestinal distress, anxiety, bradycardia, flushing, headache, salivation, sweating
<i>A. flavorubescens</i> NY	Child	Gastrointestinal distress
<i>Amanita frostiana</i> AZ	Adult, 0.3 hours	Nausea, chills
<i>A. gemmata & A. crenulata</i> NH(3), OR	5 Adult 0.2-2(14) hr	Gastrointestinal distress(2), disoriented(2), flushing, weak(2), sweating, visual, drunk-feeling
<i>Amanita inaurata</i> MT	Adult, 0.6 hr	GI, sweating, nystagmus, blurred vision
<i>Amanita rhoadsii</i> FL	Adult, 1.5 hr	Gastrointestinal distress
<i>Amanita rubescens</i> CA(2), NJ	3 Adult 1&5 hr, avg 4 hr	GI(2) + severe GI, anxiety, chills, flushing, sweating, weak(2)
<i>A. russuloides</i> NJ	Adult, 3.5 hours	Gastrointestinal distress, drowsy
<i>Amanita sprete</i> ME	2 Adult, 3 hours	Atrial fibrillation, bradycardia, gastrointestinal distress
<i>A. triangulibulbosa</i> CA	Adult, 2 hours	Gastrointestinal distress
<i>Amanita vaginata</i> ND, WA	2 Adult 4 & 9 hours	GI(2), chills, cramps, disoriented, hallucinations, drowsy, sweating
<i>Amanita velatipes</i> WV, QC	3 Adult 6 hour	Gastrointestinal distress(3), chills, hallucinations(1 or 2?), atrial fibrillation(1 or 2?)
<i>Amanita velosa</i> CA	Adult, 4-5 hour	Unconscious
<i>A. sec. Lepidella</i> OR	Child, 2 hour	Gastrointestinal distress, disoriented, flushing, drowsy
<i>Amanita spp.</i> OR, NJ(2)	3 Adult + 1 Child 1.5, 3 & 12 hours	Gastrointestinal distress(4), chills, disoriented, muscle spasms, drowsy(2), weak
<i>Armillaria albolanaripes</i> WA	2 Adult + Child 4 hours	Gastrointestinal distress(3)
<i>Armillaria mellea</i> group BC, ME, MI(2), NM, NY(2), OR(8), PA, WA(2), VT	38+ Adult 0.2-11 hours avg. 4 hours	Gastrointestinal distress(32+) + severe GI(3), chills(5), cramps(5), flushing(3), mydriasis, drowsy, sweating(7), weak(13), dehydrated, hypothermic(4)

¹Number in parentheses is number of times observed

²Number in parentheses is one report of unusually long or short onset not included in average

Table XI(Cont.): Gastrointestinal Syndrome

Species and Location ¹	Number & onset ²	Symptoms ¹
<i>A. tabescens</i> LA	2 Adult, 1 hour	Gastrointestinal distress + severe GI, salivation, sweating
<i>Boletus edulis</i> & <i>B. barrowsii</i> CA, CO(5), CT, NH, WA	13 Adult 0.3-3(9) hours avg. 2 hours	Gastrointestinal distress(11), atrial fibrillation, bradycardia, chills(2), severe cramps(2), disoriented, flushing(2), weak(2), itchy throat
<i>Boletus pulcherrimus</i> OR	2 Adult 0.8 hours	Gastrointestinal distress(2), fever, hypotension(2), dermatitis, Mallory-Weiss syndrome, DEATH(1)
<i>Boletus regius</i> CA	Adult, 1.5 hours	Nausea
<i>Boletus satanas</i> CA(3), OR	4 Adult 0.1-2.5 hr, avg 1.5	Gastrointestinal distress(4), hematemesis, salivation, sweating, weak, hypothermic, pallid
<i>Boletus sensibilis</i> NH	2 Adult 2 hours	Gastrointestinal distress(2), severe cramps(2), thirsty(2), leucocytosis, fever, numb
<i>B. subflammeus</i> MI	Adult, 3 hours	Gastrointestinal distress
<i>B. subvelutipes</i> NY	Adult, 2 hours	Gastrointestinal distress
<i>Boletus spp.</i> CA, NC, NH, OR	4 Adult + 2 Child 0.5-4 hr, avg 1.7	Gastrointestinal distress(5), cramps, disoriented, headache(2), bloating, belching
<i>Caloscypha fulgens</i> WA	Adult Onset unknown	Ataxic, muscle spasms, weak, shallow breathing
<i>Calvatia fumosa</i> CA	2 Adult, 3 hours	Both disoriented, hypotension, nausea, unconscious, weak
<i>Calvatia gigantea</i> NY	Adult, 9 hours	Gastrointestinal distress, drowsy
<i>Cantharellus cibarius</i> & <i>formosus</i> CA, CO(2), MI, OR(8), PA, WA(3)	17 Adult 0.2-7(12) hours avg 1.8 hr	Gastrointestinal distress(11) + severe GI, ataxic, chills(4), cramps(5) + severe cramps, disoriented(2), hallucinations(2), malaise, sweating(2), sound sensitive, weak, swollen limbs, tight chest
<i>C. infundibuliformis</i> WA	Adult Onset unknown	Gastrointestinal distress, fever
<i>C. subalbidus</i> OR	Adult, 2 hours	Gastrointestinal distress, chills
<i>Catathelasma ventricosa</i> NM	2 Adults 2-3 hours	Gastrointestinal distress, sweating
Cooked <i>Chlorophyllum molybdites</i> AL, CA, CO(19), CT, DC, FL, HI(3), IA(2), MD, VA MI(2), MX, NH, NJ(6), NM, OH(5), SC, TX	60 Adult 0.5-6 hours avg 3.5 hr	Gastrointestinal distress (52), anxiety(2), bradycardia(4), chills(4), convulsions(4), disoriented(2), dyspnea(2), fever(4), flushing, hypotension(6), muscle spasms (2), sweating(12), tachycardia, weak(4), tight chest
Raw <i>C. molybdites</i> AR(2), AZ(2), CO(53), DC, FL(2), HI(9), IA(9), IL(3), LA, MI, MO, MX(2), NC(3), NJ(9), NM(2), NV(3), OH(2), OK, PA, SC, TN(2), TX(3)	106 Adult + 10 Child 0.5-8(12) hours avg. 2.7 hours	Gastrointestinal distress(80) + severe GI(20), blood in vomit/diarrhea(7), hematemesis (15), hypotension(5), salivation(10), sweating(25), fever(10), flushing(5), chills(15), hallucinations(2), tachycardia, unconscious, weak(10), dermatitis(2), burning mouth and throat, shock, kidney hematuria(2)
<i>Clitocybe inversa</i> OR	Adult, 1.5-2 hours	GI, disoriented, flushing, sweating, salivation, weak
<i>C. nebularis</i> WA	Adult, 1 hour	Gastrointestinal distress, hives
<i>Clitocybe nuda</i> MA, NY(2), OR, WA	6 Adult 2-18 hr, avg 11	Gastrointestinal distress(5) + severe GI, cramps, disoriented, headache, malaise, salivation, weak(2)
<i>Clitocybe spp.</i> CA(2), CO, ID, MT	8 Adult 0.5-3(12) hr	Gastrointestinal distress(7), bradycardia, chills, cramps(3), disoriented, malaise, sweating, severe flatulence(2)
<i>Clitopilus prunulus</i> CA	Adult, 1 hour	Gastrointestinal distress, chills, headache, sweating
<i>Collybia acervata</i> OR	4 Adult, 1 hour	Severe gastrointestinal distress(4)

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Table XI(Cot): Gastrointestinal Syndrome

Species and Location ¹	Number & onset ²	Symptoms ¹
<i>Collybia sp.</i> OR	Adult, 0.1 hour	Cramps, light sensitive, pallid, paresthesia, tears
<i>Conocybe lactea</i> NJ	Child, onset?	Gastrointestinal distress
<i>Conocybe sp.</i> NM	Child, 1.5 hours	Gastrointestinal distress, irritable
<i>Coprinus comatus</i> ID, MA(2), MD, ME, MI, NH, ON, OR	8 Adult +1 Child 1-8 hours avg 4.5 hr	Gastrointestinal distress(7), bloody GI, atrial fibrillation, chills, disoriented, salivation, drowsy(2), sweating(2)
<i>Coprinus sp</i> CA, WY	4 Adult + 1Child 2.5 hours	Gastrointestinal distress, tachycardia
<i>Cortinarius semisanguineus</i> QC	Adult, 24 hours	Cramps and dermatitis from consuming 37 cooked caps
<i>C. violaceus</i> WA	Adult, 0.75 hour	Drowsy, sneezing
<i>Craterellus cornucopioides</i> NC	Adult, 1.5 hour	Gastrointestinal distress, chills, sweating
<i>Crepidotus sp</i> WA	Adult, Unknown	Gastrointestinal distress, disorientation, sweating
<i>Entoloma abortivum</i> NH	Adult, 12 hours	Gastrointestinal distress, chills, muscle spasms, sweating
<i>Entoloma aprile</i> OH	4 Adult, 12 hours	Gastrointestinal distress, cramps, sweating, dehydrated
<i>E. bahusiense</i> CA	Adult, 1.1 hours	Gastrointestinal distress
<i>Entoloma grande</i> AB	Adult, 0.3 hrs	Gastrointestinal distress, cramps
<i>Entoloma luridum</i> QC	4 Adult, 2-3 hours	Gastrointestinal distress, cramps
<i>E. rhodopolium</i> CA	Adult, 1 hour	Gastrointestinal distress, sweating
<i>Entoloma sinuatum</i> CA	Adult, 0.5 hour	Gastrointestinal distress then unconscious
<i>Entoloma spp.</i> CO, OH, OR	4 Adult + 1 Child 0.6-2.5 hr avg 1.9	Gastrointestinal distress(2) + severe GI(2), chills(2), cramps, malaise, nausea, weak(2), miosis
<i>Flammulina velutipes</i> CO	Adult, 2 hours	Gastrointestinal distress, sweating, weak, may be associated with alcohol consumption
<i>Fuscoboletinus paluster</i> QC	Adult, 0.1 hour	Dyspnea, flushing, headache, burning throat and tongue
<i>Gomphus floccosus</i> CO, ME, WV	3 Adults 3.5-9 hrs, avg 5.5	Gastrointestinal distress(3), severe cramps(2)
<i>Grifola frondosa</i> IN, MA(3), MI(2), NY(2), PA, WI	10Adult + 2 Child 2-6(13.6) hours avg. 3 hr	Gastrointestinal distress(8) + severe GI, chills, convulsions, cramps, disoriented, tinnitis(3), weak(4), drowsy and very drowsy, drunk-feeling
<i>Hygrophorus puniceus</i> CA	2 Adult, 1.5 hour	Both with gastrointestinal distress, disoriented, hallucinations
<i>Hygrophorus speciosus</i> CO	Child, 1 hour	Gastrointestinal distress, chills, headache, sweating, miosis, glassy eyed
<i>Hypholoma sublateritium</i> DC	Child Onset unknown	cramps
<i>Hypomyces lactiflorum</i> OR, CA	2 Adult 0.1 & 4 hours	Severe gastrointestinal distress, disoriented, sweating, weak, burning throat, swelling sensation
<i>Inocybe geophylla</i> QC	Child, -	Typical muscarinic symptoms
<i>Inocybe spp.</i> FL, OH, WA	Adult + 2 Child 0.5-1 hr, avg <1 hr	Gastrointestinal distress, cramps, disoriented, hallucinations, salivation
<i>Laccaria ochropurpurea</i> MA	Adult, 0.5 hour	Gastrointestinal distress
<i>Lactarius aquifluus</i> MI	2 Adult, 0.5 hour	Both with gastrointestinal distress
<i>L. chelidonium</i> CO	2 Adult, 1.5 hour	Gastrointestinal distress, flatulence
<i>Lactarius sp.</i> NY	10 Adult, 1 hour	All with gastrointestinal distress, cramps

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Table XI(Cont.): Gastrointestinal Syndrome

Species and Location ¹	Number & onset ²	Symptoms ¹
<i>Laetiporus sulphureus</i> group, CA(10), CO, MI, NC, OR(6)	36Adult + 1 Child 0.5-4 hours avg. 1.5 hour	Gastrointestinal distress(26) + bloody GI, cramps(2), disoriented(4), fever, flushing, headache(3), nausea(2), salivation, sweating(3), chest pain, dermatitis, nursing baby = vomiting, Death(1) in 19 hours from 3 bites
<i>Leccinum atrostitipitatum</i> AK	Adult, 2 hours	Gastrointestinal distress
<i>Leccinum aurantiacum</i> group, CO(6), OR(2), WA	18 Adult 0.5-9 hours avg. 4 hr	Gastrointestinal distress(12) + severe GI(2), ataxic, chills(2), disoriented, malaise, sweating, weak
<i>L. fibrillosum</i> CO	Child, -	Gastrointestinal distress
<i>Leccinum insigne</i> UT	Adult, 1 hour	Headache
<i>L. manzanitae</i> CA	Adult, -	Gastrointestinal distress
<i>L. testaceoscabrum</i> AK	Adult, 48 hour	GI, lingual lesions (other causes suspected)
<i>Leccinum spp.</i> CA, CO(20), MX(5), WY	31Adult + 4 Child 1.5-12 hr avg. 2.6 hr	Gastrointestinal distress(17) + severe GI(3), cramps, disoriented, headache(2), hematemesis(2), malaise(4), nausea(2), blurred vision, weak, dry throat, flatulence(3)
<i>Lentinula edodes</i> CA, CO, NY(2), unk.	5 Adult 0.3-9 hr avg 5 hr	Gastrointestinal distress(4), chills(2), disoriented, headache, muscle spasms(2), unconscious, weak(2), hives, difficulty breathing
<i>Lepiota cepaestipes</i> OR	Adult, -	Gastrointestinal distress, cramps, disoriented
<i>Lepiota procera</i> MI	Adult, 1 hour	Gastrointestinal distress
<i>Lepiota rachodes</i> CA(7), CO(4), ID(2), Or, WA	15Adult + 1 Child 0.1-10(22) hours avg. 4 hr	Gastrointestinal distress(10) + severe GI(2), chills(2), cramps, convulsions, disorientation, malaise(2), nausea(2), salivation, drowsy, sweating, weak(3), chest pain, rhinitis
<i>L. rubrotincta</i> CA(2)	2 Adult, .8&1.4 hr	Gastrointestinal distress, nausea
<i>Lepiota spp.</i> NE, NM, TX	3 Adult + 2 Child 2.5-7 hr avg 4.5	Gastrointestinal (3) + bloody GI, bradycardia, headache, hypotension, salivation, sweating, weak, kidney hematuria
<i>Leucoagaricus naucinus/leucothites</i> CA(2), FL, ID, NC, OR, QC, WA	3 Adult + 5 Child 0.2-10 hr avg 4 hr	Gastrointestinal distress(7), cramps, nausea, salivation, irritable, acid reflux
<i>Leucopaxillus sp.</i> OH	Adult, 8 hours	Gastrointestinal distress
<i>Lycoperdon perlatum</i> OR	Adult, 1 hour	Gastrointestinal distress
<i>Lyophyllum decastes</i> AK, MI, WA	4 adult 0.3-2 hr avg 1hr	Gastrointestinal distress, hallucinations(2), euphoric(3), tachycardia
<i>Macrolepiota venenata</i> NY	Adult, 6 hours	Gastrointestinal distress, chills, disoriented, hypothermic
<i>Marasmius oreades</i> CO, MT(2), OR	2 Adult + 3 Child 0.3-1(24) hours	Gastrointestinal distress(5), hallucinations, sweating(2) Possibly 2 victims result of nearby Malthion application
<i>Melanoleuca sp</i> CO	Child, 1.5 hours	Gastrointestinal distress
<i>Mycena sp</i> OR(2)	3 Child, 5&8 hour	Gastrointestinal distress(2), cramps
<i>Nevatogastrium wrightii</i> CA	Adult, 1 hour	Gastrointestinal distress

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Table XI(Cont.): Gastrointestinal Syndrome

Species and Location ¹	Number & onset ²	Symptoms ¹
<i>Omphalotus olearius</i> & <i>olivascens</i> CA, CT, FL(2), GA, IA, IN(3), MA(2), MD, ME, MI(2), NC(2), NJ(7), NY(8), OH(5), ON(15), PA, QC(6), VA, WA(3), WV(3)	96Adult + 2 Child 0.1-6 hours avg. 2 hr	Gastrointestinal distress (80) + severe GI(9), disoriented(3), headache(11), hallucinations, salivation(5), drowsy(6), sweating(8) + severe sweating(5), weak(14), drunk-feeling(2), light-headed(5)
<i>Phaeolepiota aurea</i> AK(2), WA(2)	4 Adult 0.5-2(17) hr	Gastrointestinal distress(3), severe nausea
<i>Phallus impudicus</i> CO, OK	2 Adult, 1 hour	Gastrointestinal distress, cramps, tachycardia
<i>Phallus ravenelii</i> WI	Adult, 4 hours	Gastrointestinal distress, severe headache
<i>Pholiota aurivella</i> OR	Adult, 3 hours	GI, chills, cramps, disorientation, muscle spasm
<i>P. kodiakensis</i> (AK)	2 Adult, 23 hours	GI(2), cramps(2), disoriented(2), salivation, drowsy, sweat
<i>Pholiota squarrosa</i> AB, CO(2), MN, MT, WY	12 Adult 0.1-7.5 hr avg 4 hr	Gastrointestinal distress(7) + severe GI(2), fever(3), weak, flatulence
<i>Pleurotus ostreatus</i> CA, MI, OR(4), VT, WA	8 Adult + 1 Child 0.5-5 hr avg 2 hr	Gastrointestinal distress(7), disorientation, fever, nausea(2), salivation, drowsy(2), weak(2), dry mouth. One was a suicide attempt but wrong mushroom
<i>Pleurotus sp</i> MT	2 Adult, -	Both with gastrointestinal distress and cramps
<i>Pluteus cf. atomarginatus</i> MT	2 Adult, 1.5 hour	Gastrointestinal distress(2), severe cramps(2), fever
<i>Ramaria cf. aurea</i> CO	2 Adult, 8 hr	Gastrointestinal distress(2), cramps
<i>Ramaria sp</i> WA	Adult 4.5	Gastrointestinal distress
<i>Ramariopsis lentofragilis</i> ME	Adult, 9.5 hour	Muscle spasms, nausea, weak, sharp substernal pain
<i>Rhodocybe nitellina</i> CA	Adult, 2 hour	Gastrointestinal distress
<i>Russula cf. claroflava</i> VA	Adult + Child 4 hour	Gastrointestinal distress
<i>Russula cf. emetica</i> CO, MT	2 Adult 6 & 18 hour	Gastrointestinal distress, nausea after smoking it in attempt to get high
<i>Russula nigricans</i> OR	Child, 0.5 hour	Gastrointestinal distress, disoriented, convulsions
<i>R. occidentalis</i> WA	2 Adult, 4.5 hour	Gastrointestinal distress
<i>Russula paludosa</i> + <i>R. lutea</i> AB	2 Adult, 4 hour	Both with gastrointestinal distress
<i>Russula virescens</i> VA	Adult, 8 hour	Gastrointestinal distress, chills, fever
<i>Russula xerampelina</i> CO	2 Adult, 3 hour	Gastrointestinal distress(2), severe chills(2), cramps, fever, hematemesis(2), leucocytosis, anuria
<i>Russula spp</i> CO(5), NC, NM	12Adult + Child 0.3-6 hr avg 4 hr	Gastrointestinal distress(7) + bloody GI, chills(4), cramps(3), disoriented, nausea(2), mydriasis, salivation, sweating(2), tachycardia, weak(2), agitated, breathing dif.
<i>Scleroderma cf. cepa</i> CA(2), CO, OR(2), WA	5 Adult + 2 Child 0.3-2 hour avg 1 hr	Gastrointestinal distress, sweating(2), disoriented(3), hypotension(2), malaise, drowsy, blurred vision
<i>Scleroderma citrinum</i> OR, PA	5 Adult 0.8-4 hr avg 2 hr	Gastrointestinal distress(5)
<i>S. geaster</i> DC	Child, 9 hour	Gastrointestinal distress

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Table XI(Cont.): Gastrointestinal Syndrome

Species and Location ¹	Number & onset ²	Symptoms ¹
<i>Scleroderma lycoperdoides</i> QC	2 Adult + Child 0.5-2 hr, avg 1 hr	Gastrointestinal distress, malaise, nausea, visual disturbance, fever, dry mouth, throat constricted
<i>Scleroderma spp</i> GA, OR(3)	4 Adult + Child 0.1-4.5 hr avg 1.7	Gastrointestinal distress(5), chills(3), cramps(2), disoriented(3), mydriasis, drowsy(2), sweat(2), weak(2)
<i>Stropharia rugosoannulata</i> NJ	Child, 9 hours	Gastrointestinal distress
<i>Suillus albidus</i> CA	Adult, 0.75 hour	Gastrointestinal distress
<i>Suillus brevipes</i> CO	2 Adult, 1.5 hours	GI(2), chills, cramps, disoriented, weak, diplopia
<i>S. brunnescens</i> CA	Adult, 1.1 hour	nausea
<i>Suillus granulatus</i> CO	Adult, 1.5 hour	Gastrointestinal distress, malaise, "head felt heavy"
<i>Suillus luteus</i> MT, NJ, NY(2)	6 Adult + 2 Child 0.5, 0.8 & 12 hr	Gastrointestinal distress(7), disoriented(3), malaise(3), weak(3)
<i>Suillus pictus</i> NC	Adult, 1.5 hour	Gastrointestinal distress
<i>Suillus pungens</i> CA	Adult, 12 hour	Anxiety, disoriented, dermatitis, hyperpnea, swollen face
<i>S. tomentosus</i> CO(2)	2 Adult, 4&6 hr	Gastrointestinal distress, chills, disoriented
<i>Tricholoma focale</i> OR, CA	3 Adult 0.5-2.5 hr avg 2 hr	Gastrointestinal distress(3), headache(2), malaise, weak
<i>T. magnivelare</i> WA(2)	2 Adult, 1&8 hr	Gastrointestinal distress, headache, dry mouth
<i>T. pardinum</i> ON, OR	7 Adult, 2&3.5 hr	Gastrointestinal distress(7), chills
<i>T. pessundatum</i> CA	Adult, 5.7 hours	Gastrointestinal distress
<i>T. saponaceum</i> ID	8 Adult, 1 hour	Severe gastrointestinal distress(8)
<i>Tricholomopsis decora</i> ID	2 Adult, 0.5 hour	Gastrointestinal distress, chills, flushing, hypotension, severe salivation, severe sweating, blurred vision
<i>T. platyphyla</i> ME	2 Child, 2 hours	Gastrointestinal distress
<i>Truncocolumella citrina</i> MI	Adult, 0.5 hour	Gastrointestinal distress, chills, sweating, weak
<i>Tylophilus arborate</i> NJ	Adult, 1 hour	Gastrointestinal distress
<i>Tylophilus eximius</i> ME, NY, QC	12 Adult + Child 2-3(12) hr avg 3	Gastrointestinal distress(13), chills, cramps, sweating, weak
<i>Volvariella spp</i> NV,CO	2 Adult, 1.5&3 hr	Severe gastrointestinal distress, disoriented, sweating
<i>Xerula megalospora</i> NY	Child, 0.3 hour	Gastrointestinal distress, pallid

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Table XII
Poisonings of Animals

Species and Location ¹	Animal & onset ²	Symptoms ¹
<i>Agaricus sp</i> CO	Cat, -	Gastrointestinal distress, disoriented, foaming at mouth
<i>Amanita bisporigera</i> NC	Dog, -	Gastrointestinal distress, disoriented, anemic, hypoglycemic, EUTHANIZED
<i>Amanita muscaria</i> CO(3), OR	6 Cats 0.3-2 hr avg 1 hr	Gastrointestinal distress(5), apparent hallucinations(2), agitated, muscle spasms, mydriasis, nausea, salivation, drowsy(2), weak, DEATH(1) in 1 hour
<i>Amanita muscaria</i> AK, CO(9), MI, MN, NY	15 Dogs 0.8-6 hours avg 2 hr	Gastrointestinal distress(6), apparent hallucinations(3), agitated, ataxic(6), chills, cramps, disoriented(6), flushing, malaise(3), muscle spasms(10), mydriasis(4), salivation(6), sweating, tachycardia, unconscious(3), weak(2), red staring eyes(2), panting, could not stand(2), EUTHANIZED(1)
<i>Amanita pantherina</i> CO(2), OR(2)	4 Cats 4 hr (1 report)	Apparent hallucinations, agitated, convulsions, disoriented(3), muscle spasms(2), mydriasis, salivation, sweating, drowsy, unconscious and nearly unconscious, could not stand(2), fear, slow respiration
<i>Amanita pantherina</i> AR, BC(2), CO(38), MI, OR, WA	44 Dogs 0.8-3 hours avg 2 hours	Gastrointestinal distress (8), apparent hallucinations (15), agitated(13), ataxic(20), confused(2), convulsions(9), cramps, disoriented(13), dyspnea(3), fever, malaise(4), muscle spasms(21), mydriasis(8), salivation(3), sleepy(7), biting(5), fearful(9), flatulence, panting(5), hypercalcemia, sound sensitive(3), DEATH(1), Euthanized(2)
<i>Amanita ocreata</i> CA	Dog, 8.5	Gastrointestinal distress, jaundice, unconscious
<i>Amanita phalloides</i> CA(2)	3 Dogs, -	Gastrointestinal distress, disoriented, muscle spasms, weak(3), nursing puppy and its mother DIED
<i>Amanita thiersii</i> CA(2)	2 Dogs, -	GI(2), disoriented, liver damage, DEATH(1)
<i>Amanita sp</i> CO	Cat, -	GI, anxiety, agitated, bradycardia, hypothermia, DEATH
<i>Amanita sp</i> OH	Dog, -	Severe GI, liver damage, EUTHANIZED
<i>Chlorophyllum molybdites</i> TN, FL	2 Dogs, -	Gastrointestinal distress + bloody GI, DEATH(1)
<i>Clitocybe dealbata</i> WA	Dog, -	GI, bradycardia, hypotension, salivation, miosis
<i>Conocybe sp</i> CO	Cat, -	GI, agitated, dyspnea, salivation, miosis
<i>Galerina sp</i> AB	Cat, 0.7 hr.	GI, drowsy, anorexia
<i>Gymnopilus purpuratus</i> CO	Dog, -	Gastrointestinal distress, wobbly, staring
<i>Gymnopilus sp</i> CO	Dog, -	Disoriented, staggering
<i>Gyromitra sp</i> ID	Dog, -	Gastrointestinal distress
<i>Hebeloma cf. Crustuliniforme</i> WA(2)	2 Dogs, -	Both with gastrointestinal distress and malaise
<i>Hypholoma fasciculare</i> CO	Dog, -	GI, bradycardia, malaise, staggering
<i>Inocybe fastigiata</i> OR	Dog, 0.5	Gastrointestinal distress, salivation
<i>Inocybe geophylla</i> & <i>I. lilacina</i> OR(3)	6 Dogs, -	Gastrointestinal distress(6), DEATH(3)
<i>Inocybe spp</i> CO, OR, VA	3 Dogs 0.5 hr (one report)	Gastrointestinal distress(2) + severe GI, cramps, salivation + severe salivation, hallucinations, gas, pin-point pupils
<i>Lepiota josserandii</i> UT	2 Dog, -	GI, liver damage(2), malaise(2), nausea, salivation, weak(2), DEATH(1)
<i>Lepiota sp</i> WA	Dog, -	GI, salivation, sleepy, near death, 2 week recovery

¹Number in parentheses is number of times observed

²Number in parentheses is one report of unusually long or short onset not included in average

Table XII (Cont.): Poisonings of Animals

Species and Location ¹	Animal & onset ²	Symptoms ¹
<i>Marasmius oreades</i> CO, NV	2 Dogs, -	Gastrointestinal distress, salivation, frothy, unsteady
<i>Melanoleuca melaleuca</i> OR	Dog, -	Gastrointestinal distress, salivation, convulsions
<i>Panaeolus foenisecii</i> CO(4), MI, WA	6 Dogs 0.1-4 hr, avg 2.5	GI(4), anxiety, ataxic, agitated(2), malaise, muscle spasms, hallucinations, salivation, sleepy, weak, foaming at mouth
<i>Paxillus involutus</i> OK	Dog, 0.5 hour	GI, salivation, weak, respiration depression
<i>Pisolithus tinctorius</i> CA	New Zealand Pig	GI, salivation, weak from 1 bite
<i>Pleurotus sp</i> CO	2 Dogs, 2 hour	GI(2) from very old decaying mushrooms
<i>Psathyrella velutina</i> NY	Dog, 0.1 hour	Gastrointestinal distress, weak
<i>Psilocybe pelliculosa</i> OR	Dog, 0.5 hour	Hallucinations, disoriented
<i>Ramaria pallida</i> CO	Dog, -	GI, salivation, dry heaves
<i>Russula rosacea</i> NC	2 Dogs, -	Both with bloody GI
<i>Russula spp.</i> CO(2), MT	3 Dogs, -	GI(3), malaise, increased phosphate levels
<i>Scleroderma cf. Cepa</i> CO, NJ	3 Dogs 0.2-6 hr avg 3 hr	Gastrointestinal distress (2), weak
<i>Scleroderma citrinum</i> CA	Pot-bellied Pig	Consumed one specimen and DIED several hours later
<i>Scleroderma spp</i> CA(2), OR	3 Dogs 0.1 hr (1 report)	GI, liver damage(2), DEATH(2)
<i>Suillus cf. Luteus</i> WA	Dog, -	Gastrointestinal distress
<i>Tricholoma pardinum</i> + <i>Paxillus</i> <i>atrotomentosus</i> OR	Cat, 0.5 hour	Convulsions and DEATH
“Puffball” MT	Dog, 0.5 hour	Gastrointestinal distress

¹Number in parentheses is number of times observed

²Number in parentheses is one report of unusually long or short onset not included in average

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