

NAMA Toxicology Committee Report for 2010

North American Mushroom Poisonings

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Abstract

In 2010, for North America, 76 mushroom poisoning incidents involving 93 people were reported to NAMA. There was one death from mushrooms where a previously ill elderly person died after a meal of *Amanita phalloides*. There was one death from repeated Taser[®] applications by police on an out-of-control subject under the influence of mushrooms. There was one case of kidney damage after consumption of *Amanita smithiana*. Most reports involved GI distress as a result of consumption of unknown or poisonous species (in 3/4 of cases) or individual sensitivity to an edible species (in 1/4 of cases). Fourteen reports of dogs ill after eating mushrooms included four deaths of the dogs. Two dog deaths were from having eaten *Amanita phalloides* and one dog death was due to having eaten *Lepiota subincarnata*.

During 2010, 76 incidents of mushroom poisoning involving 93 people were reported through the NAMA website and/or through our nationwide team of toxicology identifiers. One person's death was hastened by having consumed *Amanita phalloides* (Table III). The individual was elderly and not previously in good health, resulting in death within approximately 24 hours of having eaten the mushroom – far too fast for the mushroom to have caused significant liver and kidney damage or to have caused blood thinning, the two usual causes of death from amatoxins. Two other members of the same family also consumed the meal of *Amanita phalloides* but their poisoning progression was mild considering the mushroom that they consumed. The one other *Amanita phalloides* case also involved mild liver damage and a hospital stay of <5 days. Two cases involving *Amanita ocreata* and one involving *Amanita bisporigera*, or a look-alike, also involved hospital stays of under 5 days and mild liver damage. There were two other suspected amatoxin cases where the details are very sketchy. One involved a *Psilocybe* seeker who apparently consumed *Galerina* by mistake and may have suffered some liver damage. The other involved a small *Lepiota* species that looked a lot like *L. rubrotincta*. This last case will be written up after DNA work. The *Lepiota* case plus the reported death of a dog from *Lepiota subincarnata* (syn. *josserandii*) reminds people once again not to eat small species in the genus *Lepiota*.

Of the 84 people not involved in confirmed or suspected amatoxin cases, 58 consumed known poisonous mushrooms or mushrooms where the identification was unknown (Tables IV and V) and 26 consumed or mushrooms that are edible to most people (Table V). The age and sex distribution of the cases is given in Table II. The most serious of the non-amatoxin cases involved a woman who consumed an *Amanita smithiana*, after having been told that it was Matsutake. She suffered kidney problems but was successfully treated and did not require dialysis.

Consumption of raw mushrooms led to serious GI upset in several people. Two consumed Morels raw, one consumed a raw *Leccinum*, another a raw *Russula* and one person ate a raw *Pleurotus*. Nearly all of the *Chlorophyllum* cases involved munching raw mushrooms. Even consuming raw *Chlorophyllum rachodes* or *C. brunneum* is likely to cause distress. *Chlorophyllum molybdites* poisoning is much worse if they are eaten raw – even though *C. molybdites* makes most

people ill even if cooked. All mushrooms, even the sliced ones you see on salad bars, should be cooked before consumption. Mushroom cell walls are made of chitin which we cannot digest well without the aid of cooking. Many mushrooms also contain compounds that damage red blood cells (hemolysins) unless denatured by cooking. Because freezing only slows down but does not stop bacterial decay, mushrooms should be cooked prior to preserving in the freezer. Failure to cook mushrooms prior to freezing was the probable cause of one reported case of GI distress.

An entertaining story in the New York Times by a physician told how he picked and ate (raw) what he thought was the “Sweetbread Mushroom.” He was going to complain about the fact that the Audubon field guide described the mushroom as “delicious” yet he found its flavor to be indifferent and the texture was rubbery. A rapid trip to the ER (where he was on staff) for an IV to deal with the effects of a racing heart, painful spasms in the back of the throat and profuse sweating, caused him to look more closely at the Audubon Guide and note the skull and crossbones by the adjacent “Sweating Mushroom” also known as the “Sweat Producing Clitocybe.” He admitted to not being adequately observant. In this he was by no means alone. Another man with “40 years of collecting experience” consumed *Chlorophyllum molybdites* when he thought that he was eating his favorite *Volvariella speciosa*. *Amanita cf bisporigera* was consumed by a person who had identified the mushroom as the “Horse Mushroom.”

One person began to feel ill from drying Matsutake – it is important the mushroom dryers be operated in well ventilated areas because the spores given off in the process can cause problems for some people. There was also the first formal report I have received of someone having GI distress after eating Matsutake. For every edible mushroom, there appears to be some people who are sensitive and get an upset stomach from eating it. Severe anaphylactic shock is rare, but there appears to be one case this past year involving *Laetiporus sulphureus* where the reaction was very severe. Several years ago there had been a death from shock after consumption of *Laetiporus conifericola*.

Consumption of hallucinogenic mushrooms can present serious problems when the altered state produces violent behavior and the police are called. There was one tragic outcome in Oregon last year. The death was attributed to *Psilocybe* mushrooms and psilocin was reportedly found in the urine of the victim. However, it is quite clear that the attribution was made to shield police from the fact that when pepper spray and control holds failed on the out-of-control subject, police repeatedly used a Taser. Even then, it took seven Taser shots before the person collapsed and quit breathing. No resuscitation effort was made until the EMT team arrived. The young man had taken hallucinogenic mushrooms and then sat down to watch “Alice in Wonderland.” From the strength and berserker behavior of the individual, the mushrooms involved may also have included *Amanita pantherina* or possibly *Amanita muscaria*, both of which are associated with berserker behavior while such behavior is not typical of *Psilocybe* ingestion. Also, “Alice in Wonderland” reportedly tells the story of the effects of *Amanita muscaria*.

Another tragic outcome was attributed to a young man having consumed *Psilocybe* mushrooms in 2006, but to my knowledge there was no confirmation of what mushrooms he consumed, though psilocin was again reportedly found in his urine. Once again, the symptoms were more consistent with *Amanita muscaria* and *Amanita pantherina*. The case was presented in a poster session at the North American Congress of Clinical Toxicologists conference in Denver, October 10/7/2010 (French LK, Burton BT, “Liberty and Death,” Oregon Poison Center, Portland, OR, USA):

A healthy 20-year-old-male reportedly ingested as much as 4 g of hallucinogenic mushrooms one evening (typical single ingestion is 1/8 g) prior to entering a sleeping woman’s apartment. Upon awakening she demanded he

leave and a struggle ensued. Police were summoned to the home but the man became increasingly violent and failed to comply with their commands. He did not submit to multiple Taser discharges. Instead, he managed to pull out or break the wires and continue to struggle and attempted to grab the officer's pistol. After fleeing outdoors, additional attempts to subdue the man included nine beanbag rounds and additional Taser applications, all without effect. After attempted entry into a police vehicle containing a loaded rifle, the man was shot and killed.

In one case mentioned above, a young man apparently picked and consumed some *Galerina* thinking he had *Psilocybe*. Many years ago, a mistake like this cost another young person her life. There was one report of a "bad trip" from Hawaii where a young man consumed hallucinogenic mushrooms growing on a cow pie. These were most likely *Psilocybe cubensis* or a bluing tropical *Panaeolus*. In another case, a very young man suffered long-term depression and 3 months memory loss after consuming what was almost undoubtedly *Amanita pantherina*. His symptoms were consistent with this mushroom and when his mother showed him pictures of *Amanita pantherina*, he confirmed that those are the mushrooms he had consumed. He also became violent and exhibited strength beyond his years.

One frequent user of hallucinogenic mushrooms contacted Marilyn Shaw about loss of muscular control, inability to focus, balance, or stand followed by extreme fatigue lasting up to three days. This has happened to him on several occasions after consuming *Psilocybe azurescens*. He reported that other individuals had observed a similar effect from *Psilocybe cyanescens* and other *Psilocybe* species that grow in association with wood chips and river estuaries. Marilyn contacted both Paul Stamets and Dr. Andrew Weil and confirmed that there appears to be a neurological problem associated with these wood-associated *Psilocybe* species.

One incident involving *Boletus edulis* and "puffballs" that were actually *Amanita muscaria* caught Marilyn's attention due to the mildness of the symptoms. The wife had been concerned that the top of the "puffball" was roughened with a yellow layer below the surface (the tell-tale signs of *Amanita muscaria* buttons). Before cooking, she cut off the tiny developing caps of the grape-sized mushrooms. The husband consumed ½ cup of the mixed mushroom dish without adverse symptoms and the wife, who consumed ¼ cup, only vomited. Marilyn then did some investigation and discovered that the toxins, ibotenic acid and muscimol, are most concentrated at the colored layer, thus probably explaining the mild symptoms.

A young man made a "medicinal" tea from the black knot fungus on cherry trees plus some *Daldinia concentrica* when he had been unable to find any Chaga. After days of suffering gastric distress he called numerous mycologists and toxicology identifiers (giving a different name each time) seeking reassurance and worried that he done permanent damage to his liver. All of us advised that he seek medical help, but instead he continued to self-medicate with various herbal remedies, soon attributing success to milk thistle, chamomile tea and artichokes. One of his ideas was that the GI distress was symptomatic of liver problems and milk thistle would protect his liver. However, milk thistle extracts are not absorbed in the GI tract (which is why injectable Silibinin is used the experimental protocol to treat patients who are suffering amatoxin poisoning from certain toxic *Amanita*, *Lepiota*, *Galerina* and *Conocybe* species). There was also no evidence that his mixed fungus tea had caused any liver problems. Tim Geho pointed out to him that at some doses Chaga has caused muscle paralysis and that he should be careful – but he plans to continue to seek out Chaga on Birch trees in Pennsylvania.

In addition to the reports involving humans, there were reports from 14 dog owners about dogs becoming ill after the dogs ate mushrooms or were suspected of having eaten mushrooms

(Table VI). Four of the cases involved the death of the dog. Three of the dog deaths were due to amatoxins and in one case the mushroom involved was uncertain and death was so rapid that it might not have been a mushroom at all. There was also an inquiry from the owner of a goat herd wondering if several deaths in her herd might be attributed to mushrooms. However, the symptoms fit neither known mushroom toxins nor known toxic weeds. The only mushrooms the owner reported in her field were lots of puffballs.

Table I
Principal Poisonous Mushrooms Affecting Humans in 2010

Mushrooms	# People	% Total
<i>Amanita muscaria</i> and <i>A. pantherina</i>	13	14.1%
<i>Chlorophyllum molybdites</i> , possibly other <i>Chlorophyllum</i> spp	9 ¹	10%
<i>Amanita cf bisporigera</i> , <i>A. ocreata</i> , <i>A. phalloides</i>	7	7.6%
<i>Pleurotus cf ostreatus</i>	4	4.3%
TOTAL	36	39%

¹The number of cases of *Chlorophyllum molybdites* is clearly under reported. Several individuals who do toxicology identification told the author of at least 15 additional cases that they did not report due to inadequate information.

Table II
Age Distribution of Affected Humans

Age Range	Male	Female	Unknown sex	Male/Total as %	Female/total as%
<14	4	3	3	4.3	3.3
15-29	12	6		13	6.5
30-44	4	8		4.3	8.7
45-59	11	10		12	10.9
>60	10	5		10.9	5.4
Unknown Age	10	6	1	10.9	6.5
TOTAL ¹	52	38	4	55.4	41.3

¹Male + Female % is <100% since there were four individuals where sex was unknown.

Table III
Human Poisoning Details where Amatoxins were Suspected or Confirmed

Mushroom Details and ID Confidence ¹	When/Where	Sex/Age	Onset (hrs)	Symptoms and Comments ²
<i>Amanita cf bisporigera</i> "Thought to be a horse mushroom"	7/31/10 MN	M 25	12.5	Diarrhea, intestinal cramps, vomit, diarrhea, nausea, elevated LFTs. Hospital 4 days – IV fluids, oral & IV N-acetyl cysteine, IV penicillin. No Silibinin
<i>Amanita ocreata</i> Had previously only eaten <i>Chanterelles</i>	2/14/10 CA	M ?	?	Consumed 1 egg – liver markers went up for 2-3 days then started down; IV fluids, N-acetyl cysteine, high dose penicillin
<i>Amanita ocreata</i> "Looked different than usual but deemed close enough to eat."	2/26/10 CA	M 76	6	Consumed 1 cap. Abdominal pain, nausea, vomit, diarrhea, slight hypertensive, slight liver enzyme elevation. Treatment IV Silibinin; drainage of bile; IV fluids
<i>Amanita phalloides</i>	~9/20/10 WA	F ~45	~12	Modest liver enzyme elevation & decrease in blood clotting. Silibinin used but already improving, released ~day 5.
<i>Amanita phalloides</i> Ignored a relative who warned they were poisonous	10/29/10 OR	M, 2F 70+, 72, 41	8-10	Diarrhea, intestinal cramps, vomiting, nausea, weak. Father ate 3 and DIED in 24 hrs (he had other health issues). Mother & daughter came to hospital after the death, were given IV Silibinin – recovered.
<i>Galerina?</i> Expected <i>P. cyanescens</i>	11/2010 BC	M ?	?	Specifics not available but fear of liver damage. Two species of <i>Galerina</i> found - mushrooms collected in wood chips
<i>Lepiota cf rubrotincta</i>	Summer 2010 ON	? ?	?	An apparent amatoxin poisoning. DNA work on fungus underway.

¹? = best guess; cf = looks like; no symbol = reliable ID from photo, etc.

²LFT = liver function tests. IV Silibinin = intravenous Legalon-Sil as part of FDA sanctioned IND.

Table IV
Human Ingestions of Known Poisonous Mushrooms

Mushroom Details and ID Confidence	When/Where	Sex/Age	Onset (hrs)	Symptoms and Comments ²
<i>Agaricus xanthodermus</i>	9/17/10 ID	F 5	1	Vomited and feeling “really sick” after eating unknown amount raw in yard.
<i>Amanita gemmata</i> mistaken for <i>Amanita calyptroderma</i>	?/?/09 CA	M Adult	Soon	Cooked several that tasted good but soon suspected the mistake and took oral milk thistle. Very unpleasant psychedelic trip + vomit, sweating. Unwell for over a month.
<i>Amanita muscaria</i> + <i>Boletus edulis</i>	8/1/10 CO	M,F 52,54	0.5 F M OK	Cooked Boletes with wine and “puffballs” but trimmed off rough top with yellow layer (with most toxins). Wife vomited.
<i>Amanita cf pantherina</i> Months elapsed before revealing he had eaten mushroom	3 or 4/10 WA	M 12	~1	One raw from yard then pale at dinner, slept then vomit 3x, hallucinating, pupils dilated, spasms, violent. ICU anti-seizure meds, improving next day but ongoing depression, 3 month memory loss
<i>Amanita pantherina</i>	3/19/10 OR	2F ?, 19	?	Mother ate about 10 mushrooms and wound up in ER, no details. Daughter who ate one mushroom only had GI distress .
<i>Amanita pantherina</i>	4/25/10 WA	F,? ?,3	?	Child vomiting and diarrhea Grandmother intubated in ICU
<i>Amanita pantherina</i>	4/25/10 WA	M <6	-	Child took one bite – no symptoms but vomiting induced and rehydration therapy
<i>Amanita pantherina</i>	6/11/10 MT	M 61	1	Vomiting after eating one 4” mushroom to get high.
<i>Amanita pantherina</i> + “ <i>Agaricus augustus</i> ” + Unknown	8/25/10 CO	M,F ?,71	2.5	Husband and wife ate ½ cup each. Wife most affected – loopy then fell out of bed and 10 hours later uncoordinated as was husband. He had strange dream for 1 hr – he had left the planet, could not get back.
<i>Amanita pantherina</i> But also cholinergic symptoms	10/3/10 MI	2M 38,45	?	Sweating, urinating, low BP. EMS found 45-year-old vomiting, diarrhea, awake but unresponsive – given oxygen.
<i>Amanita prairicola</i> ? White, prairie habitat	6/19/10 MT	M 56	12	Abdominal cramping and vomiting. Slightly elevated LFTs. Eastern Montana.
<i>Amanita smithiana</i> ID as <i>T. magnivelare</i>	10/24/10 OR	F ?	?	Failing Kidneys. Treatment slowly successful without dialysis.
<i>Chlorophyllum molybdites</i> ?	6/24/10 MI	M 1	1	Fussy, had gas, twisting as if in pain. Bite marks in mushroom from grass.

¹? = best guess; cf = looks like; no symbol = reliable ID from photo, etc.

Table IV (Cont.)

Human Ingestions of Known Poisonous Mushrooms

Mushroom Details and ID Confidence	When/Where	Sex/Age	Onset (hrs)	Symptoms and Comments ²
<i>Chlorophyllum molybdites</i>	7/21/10 MI	M 15	1.5	Vomiting (10x/2hr) after one bite of raw mushroom from grass – gills greenish.
<i>Chlorophyllum molybdites</i>	7/26/10 MN	M Adult	?	Significant GI effects from consuming undetermined amount raw. No treatment.
<i>Chlorophyllum molybdites</i>	8/4/10 CO	M 63	<4	Consumed nickel or dime-sized piece raw. Diarrhea, abdominal pain, nausea.
<i>Chlorophyllum molybdites</i> suspected	8/23/10 HI	M 55	0.5	Raw mushroom from roadside consumed. Severe abdominal cramps and vomiting.
<i>Chlorophyllum molybdites</i>	9/17/10 KS	M 50+	?	Critically ill in hospital. Thought he had eaten <i>Volvariella speciosa</i> .
<i>Chlorophyllum molybdites</i> or <i>C. rachodes</i>	9/17/10 MI	F 19	2	Consumed raw then tingling sensation, headache and nausea. Spore print color not determined.
<i>Chlorophyllum molybdites</i>	11/1/10 ID	M ?	2	Severe GI. ID was “Shaggy Manes”
<i>Clitocybe?</i> Thought to be “Sweetbread Mushroom”	Summer NY?	M 52	1/4	Heart racing, painful spasms back of throat, profuse sweat. IV fluids. Wondered why taste was indifferent, texture disagreeable. No spore print.
<i>Entoloma?</i> <i>rhodopolium?</i>	4/12/10 HI	M,F 64,65	¼ & 1	Nausea, vomiting, cramping from mushroom in the lawn
<i>Leucoagaricus leucothites</i>	9/15/10 ID	F 1.5	3	Vomiting 3x pieces of mushroom in vomit. LFTs normal. Photo ID
<i>Leucoagaricus leucothites?</i>	9-28-10 MI	M 69	<1	Consumed 1 cupful from lawn cooked in butter and vomited 1x.
<i>Psilocybe azurescens</i>	Multiple OR	M Adult	6	Loss of muscular control unable to focus, to close mouth, balance or stand; sleep; felt like squashed under tremendous weight; extreme fatigue for 3 days
<i>Psilocybe sp</i> Susp <i>P. cubensis</i>	9/27/10 ID	M 19	0.75	Abdominal pain after eating handful of dried <i>Psilocybe</i> . Panic
<i>Russula sp</i> , red cap, white stipe & gills	7/27/10 CO	F 31	8	One raw, then severe vomiting, diarrhea, cramps – “was studying <i>Russula</i> .”
<i>Scleroderma cf cepa</i>	10/?/10 OR	M ~75	?	Severe GI. Mushroom ID from stomach contents.
<i>Tricholoma sp</i> <i>cf pessundatum</i>	8/23/10 CO	F 17	0.5	GI symptoms after eating 4 mushrooms. Actual specimens examined.

¹? = best guess; cf = looks like; no symbol = reliable ID from photo, etc.

²Mushrooms cooked unless specified otherwise.

Table V
Human Ingestions of Unknown Mushrooms, Raw Edible Mushrooms, Reactions to Cooked Normally Edible Species & Miscellaneous Odd Cases

Mushroom Details and ID Confidence ¹	When/Where	Sex/Age	Onset (hrs)	Symptoms and comments ²
<i>Agaricus augustus</i>	5/27/10 OR	M,F 60s	2	Small amount eaten. Couple both with intense GI distress, weakness lasting days.
<i>Agaricus</i> (Portobellos)	3 times WA?	M,F Adults	?	Severe GI distress lasting days and requiring IV fluids and drugs
<i>Amanita pantherina</i> or <i>A. muscaria</i> Thrown, not eaten	~7/29/20 CO	F 15	~15	Gill impact outlined in red on leg. Red rash on arms, legs and face soon looked like acne. Had grass allergies
<i>Apiosporina morbosa</i> + <i>Daldinia concentrica</i>	12/31/10 MD	M ?	?	Made tea from the two black fungi when Chaga could not be found. Stomach issues for 3 days. Feared long-term damage.
<i>Armillaria cf solidipes</i>	9/27/10 WA	M Adult	NA	A panic attack, not an allergic reaction. Not confident of ID so went to ER.
<i>Armillaria solidipes</i> (= <i>A. ostoyae</i>)	10/9/10 ON	M 40-60	4.5	Vomiting and nausea.
<i>Auricularia</i>	~3/11/10 TN?	M ?	48	Noticed bleeding very hard to stop after a minor cut. No problems cut a week later.
<i>Cantharellus spp</i>	Multiple OR	F ?	?	Upset stomach, malaise, cramping always now after eating <i>Chanterelles</i> for years.
<i>Cantharellus sp</i>	10/27/10 OR	F ?	?	GI distress from slimy older <i>Chanterelles</i> . Not well before meal either.
<i>Chlorophyllum rachodes</i>	10/1/10 WA	M 20s	3-4	Vomiting and feeling awful after eating 2-3 very large caps (8-12").
<i>Coprinopsis cf atramentaria</i>	8/16/10 CO	M 31	3+	Consumed 4 beers after meal. Vomiting, diarrhea, mild heart palpitations.
<i>Lactarius sp</i> (white)	8/6/10 NC	M ?	3	Salivating, vomited 3x, diarrhea. Recovered in 1 hour
<i>Laetiporus cincinnatus</i>	8/1/10 NJ	F Adult	Rapid	Cooked tender young mushroom and after few bites face puffed red, fast pulse, trouble breathing (for days). Steroids, Benadryl. Rest of family unaffected
<i>Laetiporus sulphureus</i>	10/29/10 CA	F 53	1.5	Vomiting and nausea after second meal of day. Second person queasy. Prime young material
<i>Leccinum sp</i>	8/17/10 CO	F 58	1.25	Consumed one 2" raw specimen. Abdominal pain and diarrhea

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²Mushrooms cooked unless otherwise specified.

Table V (Continued)

Human Ingestions of Unknown Mushrooms, Raw Edible Mushrooms, Reactions to Cooked Normally Edible Species & Miscellaneous Odd Cases

Mushroom Details and ID Confidence ¹	When/Where	Sex/Age	Onset (hrs)	Symptoms and comments ²
<i>Morchella cf esculenta</i> "Yellow Morel"	5/2/10 MI	F 34	0.3	Consumed 1 raw morel. Nausea, diarrhea (3 days), vomit, hypotension, hypothermia. Given Zofran, IV fluids, Imodium
<i>Morchella sp</i> "Black Morel"	5/17/10 MT	M 52	1	Consumed raw. Vomiting
<i>Morchella tomentosa</i>	Summer 2009 WY	M ~25	?	Severe GI plus bloody stools after eating 2x in one week. Eats lots of morels.
<i>Pleurotus</i> (from a kit)	2/19/2010 WA	F ~20?	?	Mouth tingled and threw up from one raw mushroom.
<i>Pleurotus?</i> At base of Aspen	7/25/10 CO	M,F ?, 53	7	Both awoke with cramps, watery then bloody diarrhea.
<i>Pleurotus + Coprinus comatus</i>	10/20/10 CT	F ?	24	Chills, diarrhea, dizzy, cramps, sweating, disorientation, nausea, weak, headache.
<i>Russula cf rosacea</i>	10/2010 OR	F ?	NA	An anxiety attack after eating recently pickled <i>Russula</i> buttons.
<i>Suillus sp?</i> Definitely a Bolete	5/13/10 MI	F >50	1.5	GI distress. Mushrooms could not be identified from photos – looked viscid.
<i>Tricholoma focale</i>	9/7/10 CO	M 53	1-2?	Severe GI symptoms all night after 2 slices mistaken for Matsutake. Cooked or raw?
<i>Tricholoma magnivelare</i>	10/10/10 OR	F ?	?	GI distress.
<i>Tricholoma magnivelare</i>	10/28/10 OR	M ?	NA	Feeling ill from drying Matsutake presumably with inadequate ventilation.
<i>Tuber gibbosum</i>	2/8/10 ID	F 50+	6.5	Stomach queasy, diarrhea (4x), later fainted (3x), felt cold. Consumed brie infused/odor of truffle, no direct contact.
<i>Amanita muscaria</i> or <i>pantherina?</i> Death attributed to <i>Psilocybe</i> but Death due to Taser 7x	4/10/10 OR	M 24	NA	Became combative and destructive, stripped, ran smashing furniture & glass ½ mile away, blood covered. Unstoppable with pepper spray and first several Tasers. Collapse, no attempt to resuscitate.
Mixed - <i>Boletus</i> , <i>Russula</i> , <i>Agaricus</i> , possibly <i>Leccinum</i>	8/23/10 CO	2M,F 7, 40, 40	1	Vomiting and later diarrhea. <i>Agaricus</i> with white, smooth cap ID was incorrectly <i>A. augustus</i> . Also a Blue-staining Bolete.

¹? = best guess; cf = looks like; no symbol = reliable ID from photo, etc.²Mushrooms cooked unless otherwise specified.

Table V (Continued)
Human Ingestions of Unknown Mushrooms, Raw Edible Mushrooms, Reactions to Cooked Normally Edible Species & Miscellaneous Odd Cases

Mushroom Details and ID Confidence ¹	When/Where	Sex/Age	Onset (hrs)	Symptoms and comments ²
Unknown Hallucinogen <i>Psilocybe cubensis</i> ?	1/23/10 CO	M 19	2 hr?	Hallucinating from "Death Caps" to commit suicide. Friends grew them. One green and moldy, one tan and bluing
Unknown Hallucinogen <i>Psilocybe cubensis</i> ?	7/28/10 HI	M Young Adult	6	Arrived at Medical Center apparently on bad trip and acting squirrely after unknown number from cow pie.
Unknown (Gills white and free)	8/2/10 CO	M, F, 2C 12,8	0.5	Severe vomiting, nausea, diarrhea and chills. Seven mushrooms had been cooked and shared by family of 4.
Unknown	8/15/10 MI	? 8	?	Vomiting after eating three mushrooms from yard.
Unknown? Had bag of dried <i>Amanita pantherina</i>	8/29/10 CO	M 66	0.5	Drooling, hyperactive, sweating, altered mental state. Normal reactive pupils. Symptoms a bit odd for <i>A. pantherina</i>
Unknown pos. <i>Agaricus</i>	9/14/10 MI	M Adult	?	Consumed 1 raw from grass. Vomiting and diarrhea, overnight in ER.
Unk. misidentified White <i>Chanterelles</i>	10/10/10 ID	F 63	2.5	Consumed with wine. Nausea, vomiting (3x). Poor photos showed 2 species.
Mixture purchased at farmer's market	10/12/10 MT	F 32	4	Severe vomiting with blood after meal with wine.
Mixed Frozen Raw "brown-caps," 2 spp	10/20/10 CO	M,F 28,27	1 (F) 9 (M)	Vomiting (2x), diarrhea. Mushrooms had been frozen & cooked later. Gills brown.
Unknown LBMs	10/29/10 WA	M 16	2	Thought he had <i>Psilocybe</i> and ate one to be sure before selling them. Repeated vomiting. Given activated charcoal.
Phalloidin (chemical, not a mushroom)	4/6/10 MT	F 41	5	Scientist was staining slides, removed gloves - severe nausea, diarrhea

¹? = best guess; cf = looks like; no symbol = reliable ID from photo, etc.

²Mushrooms cooked unless otherwise specified.

Table VI
Mushroom Poisoning in Animals

Mushroom Details and ID Confidence	When/Where	Animal /Age	Onset (hrs)	Symptoms and Comments
<i>Agaricus xanthodermus</i>	10-26-10 NV	Dog	2	Dog on leash consumed 1 mushroom from lawn. Vomit (4-5x).
<i>Amanita muscaria?</i> <i>A. pantherina?</i> or?	10/26/10 NC	Dog 5	?	Fever, disorientation, weakness, 3 seizures in 12 hr, loss muscle control. Not expected to survive but home in 48 hrs.
<i>Amanita pantherina</i>	3/22/10 WA	Dog ?	?	Symptoms not available. Sedated with valium, anesthetized for gastric lavage
<i>Amanita pantherina</i>	4/23/10 WA	Dog 10 wk	1-2	Consumed 1/3 cap; vomiting, lethargic, shivering, slowed stimuli response
<i>Amanita phalloides</i>	8-14-10 CA	Dog 6 mo	5.5	Vomiting, diarrhea, liver enzyme levels skyrocketed. IV fluids, cerenia, DEATH.
<i>Amanita phalloides</i>	11/6/10 CA	Dog 3 mo	6-10	Chills, fever, diarrhea, intestinal cramps, vomit, nausea, weak. IV drip, dextrose, anti-nausea. DEATH
<i>Amanita subcokeri</i> (assuming a mushroom involved)	9/12/10 CT	Dog ?	?	Kidney failure, mucous and blood in stool. Many species in yard including suspect mushroom but no evidence dog ate any mushroom. Dog slowly recovered
<i>Inocybe sp</i>	4/22/10 BC	Dog Pup	?	Vomit, diarrhea, watery eyes. Rehydrated.
<i>Lepiota subincarnata</i>	Summer 2009 OR	Dog 8 mo	?	Dog DIED.
<i>Panaeolus foenisecii</i>	10/25/10 CA	Dog 3 mo	?	Vomiting. Given IV fluids.
<i>Phallus sp?</i> A stinkhorn	8/31/10 CO	Dog ?	0.5	Dog vomited. Girl, 1, also ate a nickel sized piece but no symptoms.
<i>Pholiota destruens</i> suspected	12/2/10 MT	Dog	?	Dog gnawed old dried specimen. Later digestive upset and blood clotting problems. Was the mushroom the cause?
<i>Scleroderma cf cepa</i>	10/29/10 NV	Dog 4 mo	1.5	Consumed ½ mushroom then repeatedly seemed to want to vomit.
Unknown Mushroom in vomit	11/10/10 WA	Dog Adult	1/4	Vomiting. DIED at vet 2 hours later. Photos of probable <i>Galerina</i> , <i>Cortinarius</i>
Unknown, Mushrooms unlikely Puffballs concerned herd owner	Spring 2010 WA	Goats	?	Several deaths unlike any known mushroom toxin or noxious weed. Puffballs abundant. Symptoms brain swelling, incoordination, temp blindness.

¹? = best guess; cf = looks like; no symbol = reliable ID from photo, etc.