

The Mushroom Poisonings 2001–2004

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Mushroom Poisonings Reported in 2001

THERE WERE 44 reports of mushroom poisoning of humans involving 58 people. Two of these cases were reports where the person would have been expected to have an adverse reaction but did not. The one human death (see unusual cases at end of report) does not match up with any normal mushroom poisoning and was almost undoubtedly due to other causes. Cases where children were found having eaten mushrooms from their yard are not included if there were no symptoms. The asymptomatic cases frequently involved what is commonly known as *Panaeolus foenicicii*. There were 5 cases involving dogs. The one death of a dog most certainly appears to be a veterinarian covering up for a death from other causes (see unidentified mushrooms case 5).

- *Agaricus?* 1 case, child of 3, one bite of mushroom picked days earlier. Symptoms: Vomited once.
- *Agaricus "placomyses."* 1 case of 1/3 cup cooked (thought to be *Agaricus arvensis*) plus alcohol, 7 adults, not all ill. Symptoms: diarrhea, intestinal cramps. Onset 5 hours.
- *Agaricus xanthodermus*. 1 case, child ate 1 bite. No symptoms from this generally moderately poisonous species.
- *Amanita muscaria* or look-alike. 1 case, 1 button, cooked. Symptoms: disorientation and confusion. 2nd case, one 6–8" raw cap. Symptoms: nausea, vomiting, shivering. Onset 1 hour.
- *Amanita muscaria* var. *flavivolvata*. 1 case of 1 bite raw to identify it. Symptoms: watery diarrhea, nausea, shivers, muscle spasms. Onset 3 hours.
- *Amanita pantherina* group and possibly *A. muscaria*. 1 case 3 non-English speaking adults ate 1–2 cupfuls each. Symptoms: vomiting
- *Amanita velatipes*. 1 adult. Symptoms: chills, vomiting.
- *Boletus edulis*. 1 case of 1 specimen cooked and consumed with glass of wine. Symptoms: vomiting several times. Onset 3 hours.
- *Amanita virosa?* 1 case, 0.75 cm² for recreation. Symptoms: Chills, fever, cramps, spasm, drowsy, nausea, weakness, pain in teeth. Onset 13 hours.
- *Armillaria "mellea"* on hemlock. 1 case, 4–6 caps. Symptoms: diarrhea, mild nausea. Onset 6 hours.
- *Cantharellus formosus*. 1 case adult. Symptoms: vomiting, diarrhea, chills and cramps. Onset 1 hour. Duration 48 hours.
- *Chlorophyllum molybdites?* 1 case of child eating unknown quantity in yard. Symptoms: nausea, profuse vomiting (10x). Onset 2–3 hours. 2nd case adult ate 1 raw from yard. Symptoms: vomiting and diarrhea. Onset 2 hours.
- *Gyromitra esculenta?* 1 case of 2 individuals, both asthmatics, affected by picking and handling the mushrooms, not eating them (though at least one had eaten some one week earlier without ill effect). Symptoms: (of female) headache, nausea, hot flushed skin; (of male) tightness of chest, scratchy throat, not feeling well. Onset 1 hour.
- *Inocybe fastigiata* + other species. 1 case, dog. Symptoms: salivation, vomiting, and gas. Onset ½ hour.
- *Leccinum* sp.(years ago): 1 case of adult eating a lot of raw and undercooked *Leccinums*. Symptoms: nausea and vomiting (14x).
- *Lepiota rachodes?* 1 case unknown quantity in spaghetti sauce, 1 of 5 people involved ill; 2 cases of "sensitivity" reported by members of Mycological Society of San Francisco; case 3 adult who had been eating them for a week. Symptoms: Vomiting and diarrhea, collapse (in case 3). Onset 1 hour.
- *Morchella* sp.(blacks) + alcohol (4–5 beers). 1 case 15 specimens cooked. Symptoms: vomiting

(4x), diarrhea (6–7x), fever, headache, sweating, weakness, clammy skin. Onset: 3.5 hours.

- *Morchella* sp. (blacks), no alcohol. 1 case 8 cooked. Symptoms: vomit 1x, severe headache, sweating, hands tingling, feeling drunk, jittery. Onset: 6 hours. Second case 8–10 cooked. Symptoms: vomit (lots + dry heaves), diarrhea, nausea, muscle pain, spasms, twitching. Onset 4.5 hours. Duration: 24 hours. With case 2, patient was an experienced picker and his son did not eat as many and had no symptoms. 3rd case cooked 30–45 seconds, large meal, father and son both ill. Symptoms: vomiting. Onset 1.5 hours. 4th and 5th cases raw morels, 5 bites and 6 mushrooms. Case 4 (raw) symptoms: burning throat, nausea and bloated feeling. Case 5: no ill effects.
- *Morels?* (in a restaurant). 1 case “morels” in omelets consumed by elderly mother and daughter-in-law. Symptoms nausea, severe vomiting, diarrhea for 2–3 hours followed by headache. Note a separate batch of omelets eaten by 2 other women caused no ill effects.
- *Panaeolus* (= *Psathyrella*) *foenicicii* group + 1 other species? Dog ate a lot of mushrooms from yard. Symptoms: vomiting. Onset: soon.
- *Psilocybe cyanescens*. 1 case single young adult. Symptoms: “A good buzz.” Patient picked up for erratic driving of a stolen car. A paranoid schizophrenic who had also ingested hash and a good amount of beer, whiskey, etc. 2nd case two teens, 30 caps in a tea. Symptoms: hallucinations. Onset ½ hour.
- *Russula* spp. 1 case of 4 males eating 1–4 cooked and raw. Symptoms: nausea (all 4), vomiting (2) and diarrhea (2). Onset 5–6 hours. Note: consumption of some of the blackening *Russulas* can be deadly.
- *Scleroderma* sp. (*cepa?*) 1 case 2 adults cooked and ate 4–5 slices each, thought they had *Calvatia fumosa*, an inedible puffball; second case 2–3 tablespoons, thought to be puffballs. Symptoms: nausea, vomiting, dizziness, and precipitous drop in blood pressure (in case 1). Onset 20 minutes, 1.5 hours in case 2.
- *Verpa bohemica?* 1 Case, 2 sisters with undetermined amount fried with eggs (mistaken for morels). Symptoms: vomit 6x and lower intestinal pain and feet hurt with one; other had chills, fever, nausea. 2nd case child ate 1 bite raw. Symptoms: headache. Onset 2 hours.

- *Volvariella* (“Straw Mushrooms”) consumed in a Chinese restaurant. 1 Case, adult, large meal. Symptoms: dizziness and sweating. Onset: 90 minutes. Duration: 7 hours.

Unidentified mushrooms. Case 1 Dog (golden retriever) ate lots of small, brown, ringless mushrooms in mountain habitat. Symptoms: vomiting, salivation, eyes watering, lethargy, pupils normal. Onset 1 hour. Case 2, 7-year-old child grazing in yard. Symptoms: vomiting (5x), shaking, sweating, pupils normal. Onset 4.5 hours (cause other than mushrooms?). Case 3 adult consumed 1 raw 5” x 4–5” black lawn mushroom under a tree on a dare. Symptoms: vomiting (3–4x). Onset 30–45 minutes. Case 4 young adult ate 4 raw hallucinogenic species. Symptoms: vomiting (extensive), sweating, dilated pupils, vertical and horizontal nystagmus, slight bradycardia. Duration: confused for a week. Case 5 Dog (chocolate lab puppy). Symptoms mild hyperactivity and diarrhea persisting 5–6 days then bloody diarrhea followed by death but no evidence of mushroom consumption and previous adverse reaction to 3 vaccinations and flea medication, so owners suspect the veterinarian (who had them search for mushrooms and when they found one he told them it was a death cap that “tested way off the charts.” There are no known tests that could have been performed. A second “identical” mushroom that owners later brought to Marilyn Shaw proved to be *Agaricus xanthodermus*). Case 6 elderly woman at mixed collection from Rocky Mountains. Symptoms: vomiting, diarrhea, nausea, intestinal cramps, and weakness. Onset 2 hours. Case 7, 4 adults, non-English speaking, ate mixed frozen mushrooms not in good condition. Symptoms: nausea, vomiting, diarrhea and chills. Onset 1–4 hours. Case 8, 3 adults. 2 ill. Symptoms diarrhea vomiting. Onset 1 hour. Case 9, 1 adult. Symptoms: vomiting, diarrhea, cramps, sweating. Onset 7 hours. Case 10 child ate 1 raw mushroom. Symptoms: vomiting, diarrhea, nausea, cramps, fever, spasms. Onset 10 hours. Case 11 Dog. Symptoms vomiting, cramps, chills, dizzy, disoriented, spasms, drowsy, weak, liver damage. Onset 4 hours.

Unusual cases in 2001: 2 women spent several hours identifying 35 species, none were eaten. Symptoms: 1 woman with arthritis developed

severe joint pain and stiffness in hands and wrist proceeding the next day to knee and ankle; second woman suffered severe fluid retention which lasted 48–72 hours. Second Case: Obese man with sleep apnea was sitting at a table with a bowl of unidentified wild mushrooms; a few hours later wife returned to find husband dead on floor and mushroom bowl empty. Autopsy inconclusive.

Mushroom Poisonings Reported in 2002

THERE WERE 36 reports of human poisonings by mushrooms involving 66 people not counting several cases where a child consumed a mushroom and there were no symptoms. There were no human deaths reported in 2002. We received 9 case reports regarding 10 dogs, four involving deaths of the dog.

- *Agaricus bisporus*. 1 case where man ate 15 cooked in oil. Symptoms: nausea and abdominal cramps. Onset 30 minutes. 2nd case due to Portabello consumed with wine in a restaurant. Symptoms about 8 hours of diarrhea, sweating and nausea.
- *Agaricus xanthodermus*. 1 case involving 10-month infant eating 1 bite. Symptoms: vomited 5x over next 7 hours. 2nd case, 2-year-old girl took 1 bite but no ill effects.
- *Amanita?* Woman ate 1.5 caps. Symptoms: chills, diarrhea, dizziness, cramps, sweating, spasm, vomiting, nausea, weak. Onset 4.5 hours
- *Amanita muscaria*. 1 case recreational ingestion of 1 by a young man; 2nd recreational case of three young men. Symptoms: nausea (4/4), vomiting (4/4), seizure (3/4) and hallucinations (4/4). Onset 3 hours.
- *Amanita thiersii?* Case 1, Dog (standard poodle). Symptoms: disorientation, vomiting, high liver enzyme, liver failure and death. Treatment: fluids and platelet transfusion. 2nd case Dog. Symptoms: vomiting and nausea. Treatment fluids and metoclopramide, famotidine, ampicillin, isoflurane, butorphanol, baytril, ACTH stimulation response, denosyl, ursodiol, plasma, famatodine, amoxicillin, phenobarbital.
- *Bolete?* Young man ate pea sized piece raw. Symptoms: chills, hallucinations, salivation, sweating, disorientation, headache. Onset 1 hour, duration 4 hours.
- *Cantharellus "cibarius."* 1 case involving 2 adults having cooked and eaten previously frozen raw Chanterelles. Symptoms: Severe diarrhea and abdominal pain. Onset 3 hours. Note: bitter taste and rancid odor due to slow spoilage from bacteria as a result of failure to parboil or partially cook before freezing.
- *Catathelasma ventricosa*. 1 case of a mother and adult son who ate 1 serving each. Symptoms: diarrhea, cramps, sweating, vomit, nausea. Onset 2–3 hours.
- *Chlorophyllum molybdites?* 1 case involving three males each having eaten ¼ of a mushroom raw. 2nd case where child of 12 ate 2–3 bites. 3rd case 6 men, all ill, ate several caps. 4th case man ate 1 button insisting they were a favorite *Agaricus* (and blaming later illness on a subsequent restaurant meal). 5th case man ate 1 button with alcohol thinking he was eating "Shaggy Mane." 6th case man trying to get high. 7th case man 39. Case 1, 3, 4 and 6 symptoms: vomiting and diarrhea. Onset 2.5–3 hours. Case 2 symptoms vomiting and diarrhea, flushed, chills, weakness. Onset 1.5 hour. Case 5 symptoms: chills, fever, diarrhea, dizzy, cramps, nausea, vomiting, weakness. Onset 3 hours. Case 7 exhibited the usual symptoms but then the man (aged 39) suffered a heart attack.
- *Coprinus comatus*. Adult male ate two cooked and drank alcohol. Symptoms: dizzy, atrial fibrillation, high pulse. Onset 6 hours. Previously had eaten this species with no ill effect.
- *Entoloma luridum*. 1 case involving 4 people who thought they were consuming *Clitopilus prunulus*, about 3 bites each with alcohol, all ill. Symptoms: diarrhea, cramps, vomiting, weak. Onset 0.5 hours.
- *Kombucha*, "Manchurian mushroom tea." 1 case from a long-time user. Symptoms: diarrhea, intestinal cramps, bloating and gas. Note: actually Kombucha is a mixed bacterial culture, not a fungus, and similar symptoms are not at all unusual.
- *Marasmius oreades?* Dog (14#, 14 years). Symptoms: vomited large quantity of mushroom stems and then wobbly, lethargic.
- Morels. 1 case involving man cooking and eating about ¾ cup dried morels over 3-day period. Symptoms: Diarrhea and nausea 4 hours after last meal. 2nd case undercooked black morels

on reheated Chinese food. Symptoms: vomiting. Onset 1 hour and duration 6 hours. 3rd case one man ate morels plus alcohol in a restaurant. Symptoms: vomiting, weakness, headache, lack of coordination, flushing, hallucinations, dizzy, sweaty, disoriented. Onset 1 hour.

- *Mycena* sp. This is not an actual mushroom poisoning but a case where the individual showed up at the hospital with *Mycenas* claiming poisoning in order to get drugs. I had a similar case several years ago where I puzzled over the strange reported symptoms and the doctors later figured out that this guy had tried the same trick on a series of hospitals up and down the west coast.

- *Omphalotus illudens*. Adult and child ate a lot mistaking them for chanterelles. Symptoms: vomiting and nausea. Onset 1 hour.

- *Omphalotus olearius*. 1 case of man who thought he was consuming chanterelles. Symptoms: nausea and vomiting. Onset 0.5 hour.

- *Panaeolus campanulatus*? Dog (6 years, 30 #). Symptoms: overnight became ataxic and apprehensive. Vet assistant did the ID from a book. Symptoms characteristic of *Amanita pantherina* or *A. muscaria*.

- *Panaeolus cyanescens*? 1 case involving intentional ingestion of mushrooms on a Florida cow pie to get high; 2nd case involving handful of mushrooms from Hawaiian cow pasture. Case 1 symptoms: “freaking out” 45 minutes after ingestion. A week later was still worried that he had done long-term damage (not likely). Case 2 symptoms hallucinations, nausea, and agitation. Onset 1 hour, duration a bit over 6 hours.

- *Psilocybe cubensis*? Case 1, ten males took hallucinogenic mushrooms and 4 mg Zanex 3 hours earlier; case 2, couple ate homegrown *Psilocybes*; 3rd case, three young women ate organically grown *Psilocybe cubensis*. Case 1 Symptoms: no details given except that some were “freaking out.” Case 2: Male became aggressive and had to be restrained and Tasered twice by police; Case 3 symptoms: in addition to hallucinations, one of three became “too weird to handle” and was abandoned by “friends” in a park where she was found and taken to a hospital.

- *Psilocybe cyanescens*. Woman had started mushroom bed for *Pleurotus ostreatus* and picked 12 for food. Symptoms: hallucinations, dizzy, disoriented, weakness. Onset 0.3 hour.

- *Scleroderma cepa*. 2 dogs, 12 weeks old. Symptoms: vomiting, nausea, weakness.

- *Tylospious arborate*. 1 case elderly woman. Symptoms cramps, vomiting, nausea. Onset 1 hour.

Unknown mushrooms. Case 1, three non-English-speaking adults ate unknown quantity. Symptoms: dizziness, blurred vision, arms tingling, hearing difficulties and in one case vomiting (3x). Onset 0.5—1.5 hours. 2nd case mixed unidentified mushrooms by mother and her 4 children thought to be “wood blewit,” “horse mushroom” and “shaggy mushroom” from pictures in old coffee table book. Symptoms: vomiting (all), mild diarrhea (2). Onset 2–3 hours, recovery 2–3 days. Case 3, 3-year-old girl ate small piece of white mushroom in field. Symptoms: vomiting and aching body. Onset 3 hours. Case 4 Dog (4-month-old shorthair pointer, 40#). Symptoms: vomited quantity of mushrooms, disoriented, spasms, respiratory arrest, death in 3 hours despite vet treatment with dopram, diazepam iv, fluids iv and intubation to breathe for her. Case 5 Dog (8 month, 9#) ate about ¼ tsp of fungus that grows like bread dough and dries corky between concrete and the ground in Arizona. Symptoms ALT level of 150. Onset 12 hours, recovery in 5 days. Case 6 Dog (5 years old) Symptoms: diarrhea, salivation, vomiting, weakness, death (no treatment given). Onset 2 hours. Case 7 Dog (“white mushrooms”). Symptoms: liver failure and death. Case 8 Dog (Jack Russell terrier ate “white mushrooms”). Symptoms: liver damage but survived. Case 9, 9-year-old girl ate 1 bite. Symptoms diarrhea, cramps, vomiting, nausea, skin blotching. Onset ½ hour.

Mushroom Poisonings Reported in 2003

THE CASE REPORT for 2003 is presented in two sections. The first section is a compendium of reports sent from all sources except for the majority of Marilyn Shaw’s reports. Marilyn’s reports are presented separately and in full detail to give the reader a sense of the total number of reports coming to one poison control center (the Rocky Mountain Poison Control Center). Her more detailed reports also give some sense of the

timing and location of the poisonings as well as more insight into the uncertainties and processes involved in investigating potential mushroom poisoning cases.

There were 20 individual mushroom case reports sent in involving 25 people plus an additional 4 case reports involving 5 dogs. Cases of children eating mushrooms but suffering no ill effects are not included. The one human death reported (see morels and Marilyn's more detailed report) is an unusual case of a severely impaired and unwell individual where, if mushrooms caused the death, the timing and symptoms are most unusual. The death of three dogs in 2002 was caused by three different species of mushrooms (*Amanita muscaria*, *Lepiota josserandii*, and an unknown mushroom suspected to be *Amanita bisporigera*).

- *Agaricus* (Portobello). Man ate a Portobello mushroom sandwich in a restaurant. Symptoms: dizzy, loss of balance, nausea, vomiting. Next day weak but OK. 2nd case: woman ate 1 grilled over a campfire. Symptoms: overwhelming sense of dread, panic, and heat radiating from chest to groin area. Onset 4–5 hours. Note: effects due to wood smoke?
- *Amanita muscaria* var. *formosa*. Dog (4 month Norwich Terrier, 6#) ate ½ cap. Symptoms: intense salivation, then diarrhea and tremors, seizure, and death 4.5 hours after ingestion. Onset <1 hour. Owner saw puppy eat mushroom and tried to get her to throw up, as did vet 1.5 hours later.
- *Amanita phalloides*. Man ate two unopened buttons, cooked, thinking they were puffballs. Symptoms: nausea, vomiting, elevated liver enzymes. Onset 12 hours, outcome, released after 1 week, appears fully recovered. 2nd case man possibly ate 3–5 cooked and a second man ate less (remaining collection included *Amanita phalloides*, a blewitt, and a Russula). Symptoms (of most ill patient): diarrhea, vomiting, nausea, fulminate hepatitis, elevated GGT, AST, ALT, worsening liver function tests. Onset about 11 hours. Denied transfer to a liver transplant team due to liver damage from alcoholism. Treatment supportive care, control of blood sugar, charcoal, neomycin, albumin, penicillin-g, thiamin, folate, multivitamins. Outcome: discharged with fulminate hepatitis, alcoholic liver disease, intractable

nausea, vomiting and diarrhea with electrolyte disturbance. Second man discharged after 1 day.

- *Amanita velosa*. Woman ate one bite, cooked. Symptoms dizzy, disoriented, drowsy, comatose on arrival at hospital. Onset 4–5 hours. Treated for anti-seizure, Ativan, Fosphenytoin, Narcan. Outcome: Patient, who reports having eaten these in past without ill effect, recovered after 12 hours.
- *Boletus* sp. Young man ate 3 cooked specimens. Symptoms: toxic hepatitis several days later. Connection between poisoning and mushrooms believed unlikely, I expect Marilyn Shaw's report to provide more details.
- *Chlorophyllum molybdites*. Case 1: Man expected "Parasol Mushroom" ate 1 raw stem. Symptoms: Chills, fever, diarrhea (for 24 hours), cramps, sweating, vomiting, nausea, weakness and headache lasting 6 hours. Onset 1 hour. Treatment oral fluids. Case 2: Man expected *Lepiota rachodes* and ate 2/3 cup cooked. Symptoms: diarrhea, nausea, headache, and increased urination. Onset 11 hours.
- *Clitopilus prunulus*. One woman out of 25 people affected, consumed ½ cup cooked plus alcohol. Symptoms chills, sweating, vomiting, nausea, headache. Onset 1 hour, immediate relief after vomiting.
- *Grifola frondosa*. Man ate one cup cooked plus had alcohol and medication Depakote. Symptoms: vomiting and headache. Onset 2 hours. Note: has eaten *Grifola frondosa* many times before without ill effect, expects combination of medicine and alcohol and mushrooms was the problem.
- *Inocybe* sp.? Little boy ate about 10 cc raw in yard. Symptoms: cramps. Onset ½ hour.
- *Lepiota josserandii*. 2 Dogs (Dalmatians). Symptoms: diarrhea, nausea, salivation, vomiting, weakness, fatigue, general malaise and death. Treatment iv liquids but first dog already near death. Second dog survived with severe liver damage after iv push for 1 week + denosyl, injected penicillin and oral amoxicilin. The vet reported that death of dogs from mushroom poisoning occurs frequently, but is rarely reported.
- Morels (blondes + alcohol). One man affected twice, once when meal included "Shaggy Manes," not previously affected by morels. Symptoms: In-

tense vomiting lasting 4 hours. Onset 5 hours.

- *Morels* (black). Man ate 5 rehydrated cooked morels in Australia plus had alcohol, 2 incidents (but no trouble eating fresh morels). Symptoms: diarrhea, vomiting, weakness. Onset 3.5 hours. 2nd case mentally impaired diabetic ate several raw morels. Symptoms: GI distress and death within a few hours, liver normal. Expect Marilyn Shaw's report to provide more details.
- *Omphalotus olearius*. Young man and woman handled, but did not eat the mushrooms. Almost immediate burning sensation from skin contact with orange mycelial juices. Washing hands with water ended episode. Note: two women working with mushrooms for dyes reported a similar but less severe reaction several years ago.
- *Paxillus involutus*. Dog (2-year-old) ate large cap portion. Symptoms: diarrhea, salivation, nausea, weakness, and respiratory depression. Onset 0.5 hour.
- *Pleurotus ostreatus*. Woman ate unknown quantity of cooked mushrooms growing on straw from a mushroom growing kit, two episodes. Symptoms: diarrhea, cramps. Onset 2–3 hours. Note: several others have eaten mushrooms many times from same kits without ill effects
- *Tricholomopsis decora*. Woman ate 2 thinking they were *Armillaria alboblanaripes*. Symptoms chills, diarrhea, intensely red skin, excessive sweating and salivation, blurred vision. Onset 0.5 hours. Treatment 2 cc Atropine IV.

Unknown. Two cases, mushroom related? Symptoms rapid onset kidney failure (acute interstitial nephritis). Onset 12–24 hours, no other details. 2nd case woman ate 2 large violet mushrooms and a white one. Symptoms: diarrhea, vomiting, and panic. Onset 1 hour. 3rd case woman and young son expecting *Agaricus campestris*, both ill. Symptoms: chills, diarrhea, salivation, cramps, vomiting. Onset 0.5 hour. Since onset was rapid, poison center advised not to worry, just stay hydrated. 4th case: elderly man ate 1/2" x 1/2" portion of a mushroom stalk hoping to get high (he thought it might be a *Psilocybe*). Symptoms: chills, salivation, sweating, vomiting, nausea and low blood pressure. "Given several iv's" and released after 2 hours. 5th case: Dog (golden re-

triever) suspected of eating "Destroying Angel" which was fruiting in general area at the time. Symptoms: malaise, lack of interest in eating, elevated liver enzymes, organ failure. Euthanized after 5–6 days.

Mushroom Poisonings Reported in 2004

THE 2004 mushroom season in the western half of the United States was exceptional, with record fruitings of many species. With a record abundance of mushrooms and an increased interest in the harvest of edible wild mushrooms, there was an associated increase in the total number of poisonings from the western half of the United States. The overwhelming majority of reports that I have received over the past year have again come via the work of Marilyn Shaw of Denver, Colorado. Most of her reports result from her close cooperation with the Rock Mountain Poison and Drug Center (RMP&DC). She also frequently talks with people involved in the poisonings in order to identify the mushrooms as accurately as possible, to obtain detailed information on symptoms experienced, and to try to determine what led to the ingestion. Hanna Tschekunov provided reports from calls to the Florida Poison Information Center Network. Judy Roger investigated mushroom poisoning reports from the Oregon Health Sciences University, Oregon Veterinarians, and from the Oregon Mycological Society website. Judy regularly went to the site of the poisoning to collect mushrooms and frequently was able to do microscopy from the vomitus of the victims to positively confirm most of her identifications. Raymond Archambault provided information about poisonings in the Québec area. Information about any poisonings that may have occurred in the rest of the United States continues to be very sparse and comes as a result of concerned individuals locating the NAMA website or contacting the author through his mushroom website. In other cases (California) reports were gathered largely from the newspaper and are quite incomplete.

This report covers 148 individuals including about 40 children and adolescents plus 51 dogs. This year, for the first time in several years, there were reports of human deaths from mushroom ingestion. There was one death reported from

ingestion of *Amanita bisporigera*, one from *Amanita virosa* and one death reported from *Amanita phalloides*. These mushrooms contain amatoxins. There may also have been a death due to kidney failure from a man in California collecting “Boletes.” Eight dogs died or were euthanized after mushroom consumption. It is important to note that over half of the human poisonings by *Amanita* spp. involved Asian immigrants (cases in Oregon, California and Minnesota). Several other poisonings also involved recent immigrants from various parts of the world where mushroom collecting is practiced. There is clearly a need to find a way to educate recent immigrants about dangerous look a-likes to mushrooms that they are familiar with from their home country. In many Asian countries, *Volvariella* spp. are abundant. These pink-spored mushrooms look very similar to the white-spored “Destroying Angels,” especially when young and the pink spores are not yet in evidence. In the past Italian immigrants have consumed *Amanita phalloides*, mistaking it for the choice edible “Coccora,” another *Amanita* with a distinct cup-like volva. One person likes to eat *Amanita vaginata* and got *Amanita phalloides* instead. People mistook *Amanita pantherina* and *Amanita muscaria* as well as *Chlorophyllum molybdites* for an amazingly wide range of edible mushrooms. Indeed, I suspect that many of the “unknown” poisonings from Florida were due to ingestion of *Chlorophyllum molybdites*.

The patient age is given where known since mushroom toxins frequently have a more adverse effect on the very young, the elderly and the infirm. I have also included any known information about other health issues that the person may have been suffering. This is very challenging since patient confidentiality rules have left doctors and hospitals very unwilling to give out any information, even though for our purposes we have no interest in the identification of the individual. The importance of knowing about underlying health issues is underlined by reports in the fall of 2004 of at least thirteen deaths in Japan, all associated with the consumption of *Pleurocybella porrigens*, “Angel’s Wing.” All of the individuals who died (of an acute brain condition) had kidney disorders. Since “Angel’s Wing” is common in the United States, it is important to alert mushroom pickers to its potential danger to people on dialysis. However, I have no record of this species

ever causing a poisoning in North America. I have eaten it occasionally and have once or twice served it to my mycology students over the years, but it is not that great tasting and it is now off of my list.

In a number of cases, the poisoning involved a popular edible species. Most of these cases are examples of individual food sensitivities. However, as in years past, a number of people became ill after eating morels—some in association with alcohol, but some, where no alcohol was involved and the mushrooms were thoroughly cooked. In some of these cases “False Morels” which I presume to be either *Verpa bohemica* or *Gyromitra esculenta* are suspected. There is actually a significant commercial market for *Verpa bohemica* and many people relish eating it! Others react strongly to *Verpa* spp. and/or to *Morchella* spp. There were also two reports of poisonings from consumption of the choice edibles *Cantharellus formosus* and one human and one dog report from *Tricholoma nudum*. Members of the *Armillaria mellea* complex growing on conifers also caused several poisonings.

In the compilation that follows, I have grouped reports by mushrooms species and given a brief overview of the number and age of individuals involved and the range of symptoms observed. Treatments are noted when reported. In many cases, we were not able to obtain very much information and so thus some reports are lacking in information. The identification of the mushroom species involved is sometimes just an educated guess, often done by people at the hospital from pictures on web sites but wherever possible the actual mushrooms involved in the poisonings were examined by a professional mycologist or another competent identifier. Cases involving dogs are grouped at the end of this report. Unusual features of the poisonings are in bold. Reports of earlier poisonings, not previously recorded, notably a group of reports from Québec are identified by month and year of the poisoning.

The Mushroom Poisonings

- *Agaricus* spp. Case 1: Idaho, two children age 6 and unknown age, each ate 2 large bites of a large, white, rapidly yellow-staining mushroom under a pine tree. Both began vomiting in 10

minutes. Vomiting in one continued for about 2 hours. Case 2: Idaho, male, 7, ate unknown amount of mushroom from grass in yard. Two hours later began vomiting (2x). Field identification was *Agaricus xanthodermus*.

- *Amanita bisporigera*. (August 2003): Québec, male, 56, ate mushroom cooked for food. Ten hours later symptom onset involved diarrhea, vomiting, nausea, intestinal cramps, sweating, vomiting and weakness. Treated with activated charcoal every 4 hours for 72 hours with remission of the hepatic symptoms observed. Case 2: Minnesota, a man, 87, became ill 8 hours after eating mushrooms collected in a Minnesota park. His liver enzymes were found to be elevated and he died (“bled out”) in about 2 days. The death, not from liver failure, was what Dr. Denis Benjamin postulates as “possible intestinal perforation, an uncommon and lethal complication of amatoxin poisoning” complicated by failure of the coagulation system.

- *Amanita muscaria*. Case 1: Idaho/Montana border, two adults and 2 adolescents picked mushrooms they believed to be Matsutakes. They cooked and ate several mushrooms from a mixed collection, of which one species was *Amanita muscaria*. After 1 to 1.5 hours both children were vomiting and subsequently “crashed” and could not be roused. Mom felt drunk with a headache and weird dreams that lasted all night. The father was not appreciably affected. Case 2: Montana, adult couple, 47 and 44, ate a “Puffball with a little orange on top” that was as big as a grapefruit. They also ate 2 lemon sized ones and two smaller ones cooked in foil on a campfire. An hour and a half later both were feeling weird, uncoordinated, and had difficulty walking. They were dizzy and having wild dreams about mushrooms and one vomited 2x, the other 3x. They drove from camp to get help and recovered at home. Case #3: Idaho, man, 60 cooked and ate mushroom, then 30 minutes later while driving home felt nauseated and began vomiting. He soon resumed driving but nearly went off the road. He tried to walk but couldn’t stand up and fell, spraining an ankle and getting bumps and bruises. Was not concerned that he thought he was dead and was talking to his dead father. Was found by a friend on the side of the road and at the hospital was hallucinating, twitching, drowsy, alert one minute and “out of

it” the next. Case #4: Washington, couple ate “Puffballs” that when cut showed a yellow ring around the edge. The woman ate just a little and experienced nausea and was “fuzzy headed.” The man felt lightheaded and threw up violently 12 hours after ingestion.

- *Amanita pantherina*. Case 1: Idaho, five male and female adults, 42 to 74, picked what they had identified as “Shaggy Manes” but had a mixed collection of *Amanita pantherina* and a smaller blue-gray mushroom. Within three hours one male began acting agitated and appeared to be hallucinating, soon at least 4 were affected and those four were hospitalized. They all were vomiting, had altered states, muscle twitching, some were agitated, then sleeping or comatose. One patient had a very low blood count. Case 2: Montana, two females and a male, 47–55. Two ate 2–3 caps each and a third had a few slivers. Symptoms after 3 hours included a night of vomiting followed by dry heaves in the morning, lethargy, exhaustion and headache. One reported hallucinations and one could not remember anything about the previous night. Case 3: Colorado, female, 80, and daughter each ate 2 mushrooms that they had identified as *Matsutake*, well cooked in butter. Two hours later they went to the hospital and both fell asleep with muscle spasms. Older woman, a chronic acetaminophen user, had unexplained pinpoint pupils and could not be roused. She slept for 36 hours. Daughter slept for 6–7 hours with dreams she could not describe. Case 4: Colorado, woman, 54, picked “After Rain Mushrooms” and ate 10 large specimens for lunch (two of which appeared to have been panthers). After 1 hour she began to feel funny, spacey and took a 20-minute drive with her young son after which she was dizzy, staggering and her visual background was revolving like a kaleidoscope. She vomited once and had her son call 911. She became comatose at the hospital and nurses reported muscle spasms. She regained consciousness after about 12 hours. Case 5: Colorado, couple, 61 and unknown age, collected, cooked and ate an unknown quantity. Symptom onset 2–2.5 hours. Male vomited was agitated, showed signs of altered mental status, becoming unconscious, muscles twitching. Female described as catatonic. She awoke after 12 hours, still shaky, and reported strange dreams. Case 6: Colorado, adult female fried and ate three. After about 1.5

hours she felt drunk, dizzy, light-headed, hands “nervous,” trouble focusing. She stayed at home and fell into deep sleep for about 6 hours. Case 7: Colorado, male, 22 months, found with dried-out mushroom in hand but no evidence of ingestion and no symptoms

- *Amanita phalloides*: Case 1: Oregon, 7 individuals, male and female, 24–40, who speak little English were poisoned. They ate a moderate amount at one meal cooked in a casserole. Symptom onset was 8–12 hours. Some ate more than others and were sicker. They suffered diarrhea, dizziness, fever, intestinal cramps, nausea, sweating, vomiting and weakness. Their liver enzymes were severely compromised. One had liver shutdown and kidney involvement and recovered much slower than the others. Two individuals were treated with IV fluids and released. For five individuals treatment was with IV fluids, silymarin, hemodialysis. They all gradually recovered. Collectors thought they had picked a *Volvariella* sp. “just like in Korea.” Case 2: California, for Thanksgiving dinner 4 adults from one family ate an unspecified amount of mushrooms macroscopically and microscopically confirmed to be *Amanita phalloides*. Some or all 4 came to the hospital the day after they first ate the mushrooms and “were given some medicine” and sent home. One returned the following day and when the physician found that mushrooms had been consumed summoned the other three to return. Four days after the first meal of the mushrooms one woman, 70, was dead, one was in critical condition, one was improving and a fourth had been discharged. The woman who died ate the mushroom at 2 meals. Case 3: Washington man, 47, ate the cap and part of the rest of one mushroom at one meal for food. Symptom onset was 8–10 hours but he waited an additional 12–14 hours to get help. He had diarrhea, dizziness, high fever, intestinal cramps, nausea, sweating, vomiting and weakness. He was near coma when brought in. His liver and kidneys shut down completely. He later went into a coma and had a blood infection. He was placed on full life support and given hemodialysis. Four and a half months later he is still in a nursing home, still very weak and too ill to care for himself with his kidneys at about 80% function, liver still compromised, but blood infection nearly gone. He thought that he had eaten an *Agaricus*. The entire mushroom that he

had was consumed and nothing was available to confirm the identification, but the symptoms and blood workup was consistent with *Amanita phalloides*. Case 4: Oregon, man, 35, ate about 2 caps for food, possibly in more than one meal. The onset of symptoms was about 8 hours. He suffered diarrhea, dizziness, severe headache, intestinal cramps, nausea, sweating and vomiting. Blood work showed kidney/liver damage and compromise. He was treated with fluids and silymarin and recovered quickly as he came in as soon as he suspected what he ate. He thought he had a very pale *Amanita vaginata*. It had been raining for several days and many of the specimens collected later identification had bleached nearly white. He said that he ate from the *amanita vaginata* group fairly often.

- *Amanita virosa*. Case 1: (Sept 2003) Québec, woman age 19 ate 1 bite raw, immediately realized that she had made a mistake and went to the hospital where she was treated 4x with activated charcoal at 4 hour intervals. She remained asymptomatic. Case 2: Québec. Man, 61, ate an unknown amount of cooked mushrooms for lunch. The symptom onset was 12 hours and he suffered typical amatoxin symptoms. There are no details of his treatment. Death occurred Sept 2, 2004, 5 days after ingestion of the mushrooms.
- *Boletes?* A man in the San Francisco Bay Area who thought he was collecting *Boletes* suffered renal failure and reportedly died. No other information is available.
- *Armillaria mellea* complex. Oregon. Several people contacted the Oregon Mycological Society website complaining of gastric upsets, cramps and/or diarrhea. All but one of the calls was checked out by examining mushrooms from the same clump. All were found on conifer logs or stumps. The exact number of people with these symptoms was not given in the report. One couple that had eaten the “Honey Mushroom” previously ate a fair amount this time. They suffered diarrhea, intestinal cramps, nausea, vomiting and a bit of flushing. They just felt miserable and were treated with charcoal and fluids after which they quickly recovered.
- *Boletus edulis*. Colorado, male, 61, and female, 51. Female, who has Crohn’s disease developed nausea, vomiting and diarrhea within 15–20 minutes. Male suffered nausea and vomiting commencing 1 hour after ingestion.

- *Cantharellus formosus*. Case 1: Washington, male, 50, purchased a pound of Yellow Chanterelles in good condition at a roadside stand and ate one large one (no alcohol involved). Several hours later he experienced hallucination and weakness, becoming completely disoriented, with imagined visits and conversation. He slept with troubled dreams and awoke tired but with a clear head. The mushrooms were later positively identified as Chanterelles. Case 2: Oregon, female ate a fair number cooked in a sauce. She drank no alcohol with the meal and began to feel ill after 2–3 hours. She suffered diarrhea, intestinal cramps and vomiting. She was treated with charcoal and recovered rapidly. She had eaten these many times before without adverse effect. The four or five other people who shared the meal were not made ill by it.
- *Chlorophyllum molybdites*. Case 1: Hawaii, two children, 4 and 6, each ate one bite. Charcoal was administered and there were no symptoms. Case 2: Hawaii, two males, 14, each took a taste. Three hours later one was vomiting, the other had no symptoms. Case 3: Hawaii, female, 56, no symptoms reported from cooked specimens. Case 4: Colorado, male, 14, picked what appeared to be *Agaricus arvensis* and what appeared to be *Chlorophyllum molybdites*. He cooked and ate two slices of the latter. After 2.5 hours, vomiting began and continued 9 times over next 2 hours. The father also ate some and got sick later. Case 5: Colorado, males 14 and 12, and female, 6, ate pieces of mushroom collected from a lawn identified as “horse mushroom” by their grandfather. Two hours later all three were sick with vomiting and diarrhea. Grandfather who ate only a very small amount was not affected. Children all given charcoal in hospital but could not keep it down so were put on IVs. The 12-year-old had blood in feces and vomit. Case 6: Colorado, female, 64, ate 3 whole, cooked 1–2 minutes (mixed collection of *Agaricus* sp. and *Chlorophyllum molybdites*). After 30 minutes vomiting (3x) and diarrhea (2x). Headache the next day. Case 7: Colorado, female, 6, ate mushroom growing in grass. Within 2 hours she was vomiting (2x). Case 8: Colorado, male, 30s, ate ½ cap. Vomiting (3x) began after 1.45 hours associated with a bloated feeling. Case 9: Hawaii, female, 45, stir-fried, and ate mushroom. After ½ to 1 hour vomiting and diarrhea began, lasting 1 hour. Case 10: Hawaii, couple, 42 and unknown age, ate one very small mushroom raw. ¾ eaten by husband, ¼ by wife. Nausea, vomiting and diarrhea began 6 hours later.
- *Clitocybe* sp. See mixed ingestion.
- Suspected *Gomphus floccosus*. West Virginia, adult female thought she had collected *Cantharellus minor*. Nine hours after ingestion she suffered abdominal pain and began vomiting. Cramps were sporadic for 24 hours.
- *Gymnopilus liquiritiae*. Japan, male, 35, consumed the mushrooms with beer for recreation. No mention is made of the hallucinations expected from “The Big Laughing Mushroom.” However, 12 hours later he began to feel queasy and lost his appetite for 24 hours. Then for the following week, he wanted to sleep 10–12 hours a day plus needed naps and had trouble concentrating. After a month, periods of anxiety would start. He would drink alcohol and then a few hours later would suffer intense anxiety, chills, tingling extremities, and a kind of inebriation. After 3 months this is happening less frequently and with diminished intensity.
- *Inocybe geophylla*. (November 2003) Québec, adult male ate several species including this muscarine-containing mushroom. Physician recognized and successfully treated the classical muscarinic symptoms.
- *Ipecac*. Colorado, female, 5, ate a mushroom from the yard and within 5 minutes the parents administered ipecac which soon induced vomiting. All of the mushrooms in the yard appear to have been *Marasmius oreades*.
- *Laetiporus sulphureus*. Wisconsin, male, 23, cooked and ate about ½ to ¾ cup. Fourteen to 18 hours later he experienced dizziness and a severe contact dermatitis (poison ivy-like) over most of his body with discomfort and blistering. Treatment with prednisone led to slow recovery over several weeks. To confirm that the mushroom caused this, the patient later cooked and ate one very small piece. After 12–15 hours small irritated patches of skin were noticeable.
- *Leccinum manzanitae*. California, a young woman ate several dried, salted manzanitae “chips” and suffered significant gastro-intestinal distress. Many others had eaten the same chips without ill effect.

- *Leccinum* sp. An Oregon man ate an unspecified number of *Leccinums*, leaving just one blackened stipe for the identifier. He suffered severe cramping and diarrhea.
- *Lentinula edodes*. Female, 54, ate ½ of a purchased mushroom, cooked for food. Alcohol was consumed. After 4.5 hours she experienced chills, dizziness, disorientation, spasms, vomiting, drowsiness, weakness, headache followed by difficulty breathing and unconsciousness within 20 minutes of symptom onset. Emergency room treatment included oxygen and IV fluids with recovery after several hours.
- *Lepiota americana*. Male and female twice ate mushroom, listed as edible and choice, and felt a very unpleasant mild to strong peppery sensation in their throat, lasting 4–6 hours.
- *Leucoagaricus leucothites*. Case 1 (August 2003): Québec, male, 35, ate 1 raw for recreation. 6 hours later he suffered diarrhea, intestinal cramps, nausea and vomiting with acidose respiratoire and recovered with rehydration treatment. Case 2: Adult male and female ate a number of mushrooms in a stew. Wife had no ill effects. Husband reported “after a couple of days my body was covered by a sort of pruriginous allergic reaction, most disturbing and resisting the usual treatments therefore, which lasted for a week at least and on hands and feet is still on.”
- Mixed Ingestion. Case 1: Montana, two adult males and a female collected “Elephant Ears” and ate “a lot.” About 3 hours later they began to experience vomiting, diarrhea, and stomach cramps. E-mailed photos show a *Ramaria* sp. and a large *Clitocybe* sp. Case 2: Adult male ate *Lactarius hygrophoroides* and “Hen of the Woods,” both thoroughly fried. After 2.5 hours he experienced nausea and acute gas followed by flu-like symptoms 24 hours later.
- *Morchella* spp. Case 1: Colorado, male, 26, rehydrated a handful of dried morels and cooked them for 10 minutes. They were consumed with 4–5 beers. Symptoms began at 1:30 am and included prolonged vomiting, chills, back and leg pain (no spasms), weakness, aching (no headache). Some had been eaten a week earlier along with wine and there was no problem then. Case 2: Montana, male, 25, and neighbor ate what they identified as morels. Patient ate one raw that night followed in 4 hours by vomiting. Neighbor cooked and ate a lot the next morning and also started vomiting 4 hours later. Case 3: Montana, male, 42, ate 6–8 cooked mushrooms of which some seemed to be morels, some were questionable, no alcohol. Vomiting, abdominal cramps, diarrhea, and sweating began 2 hours later and continued for at least 3 hours. Activated charcoal was given at the hospital. Case 4: Montana, female, 72, purchased morels or false morels at a farmers market and ate some a few hours later. About 3–.5 hours later she began vomiting (5–6x). No other symptoms. Case 5: Washington, male, 31, ate 5 cooked (no alcohol involved) and 1 hour later had onset of serious vomiting and diarrhea accompanied by weakness, nausea and dizziness
- *Omphalotus illudens*. (Sept 2003): Québec, six adult females ate about 100 grams cooked for food. In 15 minutes all started to suffer drowsiness, dizziness, headache, intestinal cramps, nausea, salivation, sweating, and vomiting. All were treated with rehydration therapy and recovered.
- *Pleurocybella porrigens* (reports from Japan): A total of 48 people in Japan reportedly developed a “brain condition” after eating “Angel’s Wings,” known in Japan as “Sugihiratake.” Thirteen died. All had impaired health prior to eating the mushrooms and all were on Kidney Dialysis. The common symptom was dizziness and the cause was acute encephalopathy.
- Suspected *Pleurotus* sp. Michigan, female, 3, ate some raw in an apparently deteriorated condition. Five hours later the child experienced fever, vomiting, nausea and was drowsy.
- *Psilocybe cubensis*. An individual suffered a bad trip with this hallucinogenic species, but no details are available.
- *Ramaria* sp. (see mixed ingestion)
- *Tricholoma nudum* (*Lepista nuda*). Washington, a retired physician with a few food allergies (to cherries, some plums, and hazelnuts) and his wife picked blewits from their back yard and fried them in butter for lunch. Fourteen hours later he was awakened with upper abdominal (transverse colon) cramps, and explosive watery diarrhea for a couple of hours followed by a quick recovery. The delayed timing did not tie the event to the mushrooms until a few weeks later when a fresh crop of blewits appeared. Eleven hours after the

second ingestion, he awoke with headache and malaise, followed in another hour by violent explosive diarrhea. Intermittent diarrhea and occasional cramps persisted this time for 60+ hours. His wife was unaffected on both occasions. I have positively identified the mushrooms.

- *Tricholoma saponaceum* (and *Tricholoma flavovirens*). Idaho, seven males, most 20–40, one 76 and one female, 72, consumed a mixed collection (identified by Dr. Orson Miller) and 1 hour later began to experience severe vomiting and diarrhea, even affecting the cook who had had just a taste.

Unknown hallucinogenic. Case 1: Hawaii, Two males, 17 picked and ate a handful of mushrooms from a cow pasture. After one hour, one was experiencing the expected visual distortions but the other experienced palpitations and was anxious. Case 2: Florida, female, 21, ate unknown mushrooms cooked in foil and seemed to have a seizure and pass out. She was treated with charcoal, given supportive care. Liver and kidney functions were normal. Case 3: Florida, woman in her 30s consumed a psilocybin mushroom for recreation and was admitted to non-critical care unit where she was treated with a single dose of activated charcoal and IV fluids. Case 4: Florida, woman in her 60s ate an unknown hallucinogenic mushroom (white, 7 cm diameter—*Psilocybe cubensis*? or did she get *Chlorophyllum molybdites*?) for recreation. Symptoms included vomiting and a slightly lowered heart rate. She was treated with a single dose of charcoal and IV fluids and kept overnight. Case 5: Florida, male, 16, ate unknown mushrooms for recreation at a party and suffered confusion, hallucinations/delusions and other related symptoms. He was given a single dose of activated charcoal and other supportive treatment and admitted to ICU. Recovery after 8 hours. Case 6: Florida, male 29, ate an unknown mushroom from his backyard for recreation and vomited once. He was given a single dose of charcoal and supportive treatment. Case 7: Florida, male 20, experienced hallucinations/delusions after eating a mushroom growing in cow manure. He was given a single dose of charcoal and supportive care and discharged in about 8 hours. Case 8: Florida, male 17, ate a bite of an unknown white mushroom and was asymptomatic. He was given a single dose of charcoal and observed for 12 hours, then discharged. Case 9: Florida, male, 19, ingested

some mushrooms and was hallucinating and had other unspecified symptoms. No other information was available. Case 10: Florida, male, 23, consumed unknown hallucinogenic mushrooms along with heroin and XTC (slang for MDMA). Patient had hypertension, tachycardia, fever, and was agitated/irritable. His pupils were constricted. Case 11: Florida, male, 19, had ingested mushrooms 5 days previously to get high and still feels “fuzzy-headed” and still hallucinating. Case 12: Florida, man, 32, “took a bite of a hallucinogenic mushroom.” Suffered diarrhea, nausea, vomiting. Patient given dose of charcoal and IV rehydration. Case 13: Woman, 21, consumed hallucinogenic mushrooms and marijuana and was hallucinating. Given dose of charcoal. Case 14: Florida, male, 15, ate about 10 mushrooms from a cow pasture and became agitated/irritable with tachycardia. Patient treated with single dose of charcoal and IV fluids. Admitted to ICU for monitoring for 8 hours. Case 15: Florida, female, 18, consumed 16 pills of Coricidin HBP (Cough and cold pills) plus psilocybin mushrooms at her school. She was fidgety and grabbing things in the air that are not there. Patient did not seek treatment.

Unknown purchased “hallucinogenic.” Denver, three teenagers purchased and consumed raw shredded brown mushrooms. One to four hours post ingestion they experienced vomiting, diarrhea, abdominal pain and a little tachycardia, but no hallucinations, just an emergency hospital bill.

Unknown. Case 1: Idaho, 4 adults collected and ate unidentified wild mushrooms. Female patient began vomiting three hours later. Others had no symptoms. Case 2: Montana, three adults, a male and two females, 31–57, cooked and ate a mushroom that they identified as “The Prince,” *Agaricus augustus*. Male also consumed a glass of wine and about 1 hour later felt drunk, dizzy, bloated, and nauseated. One female was dizzy and nauseated. Second female was nauseated and vomited (2x). Case 3: Colorado, female, 40, ate 4 raw, small mushrooms from her yard. After about 1.5 hours she experienced drooling, nausea, and hot and cold flashes. Case 4: Nevada, female, 14 months, ate a bite of a quarter-sized mushroom and vomited 2x. Case 5: Idaho, male, 3, ate a

mushrooms and when RMPDC was called 2 hours later he had vomited several times. Case 6: Idaho, woman, 50, ate dried "Honey Mushroom" on a pizza. An hour later she did not feel well and 5 hours later was vomiting, had diarrhea, headache and shaking. Case 7: Pennsylvania, male, 48, ate two small mushrooms ("False Morels"?) for food accompanied with alcohol. In ½ hour started to suffer cramps sweating, vomiting, nausea and weakness. Given charcoal and symptomatic treatment for diarrhea and vomiting. Case 8: Florida, woman 87, and one other person each ate one white mushroom from a lawn for food. One hour later she started suffering diarrhea and called Florida Poison Information Center Network. Case 9: Florida, two individuals found a huge white mushroom in the backyard and ate it. Both developed gastrointestinal symptoms within the hour and went into dry heaves. Case 10: Florida, boy, 5, ate a mushroom from his yard. No reported symptoms or treatment. Case 11: Florida, male, 33, had a taste of a mushroom and several minutes later suffered vomiting, dizziness, and nausea. He was given a single dose of charcoal and supportive treatment. Case 12: Florida, female, 12 months, found with a mushroom with a missing piece. She was treated with one dose of charcoal and had no adverse effects. Case 13: Florida, male, 4, ate a piece of mushroom. He was given one dose of charcoal and watched for several hours, then discharged. Parents returned with the mushroom several hours later after the child had vomited. Mushroom identified by ER staff as "The Prince." Case 14: Florida, female, 62, experienced in collecting in Germany ingested a mushroom she had identified from a German book and suffered diarrhea, nausea, vomiting. She was treated with charcoal and given fluids and supportive care. Discharged after 24 hours. Case 15: Florida, male, 13 months, ate some black mushrooms growing on carpet (after the hurricane). No ill effects. Case 16: Florida, male 30, consumed mushrooms at a restaurant and felt nausea, abdominal pain. He was advised to drink fluids and stay hydrated and that symptoms not necessarily due to the mushrooms. Case 17: Florida, male, 19 months, ate a mushroom from near a tree in his yard. No symptoms, but treated with a dose of charcoal and observed for 4 hours, then released. Case 18: Florida, male, 32, experienced vomiting (2x) and diarrhea after eating some wild

mushrooms in a park. Patient was treated with antiemetics, a single dose of charcoal, and supportive care. Case 19: Florida, woman, 32, suffered abdominal pain, diarrhea, nausea, vomiting 20 minutes after eating an unknown mushroom in her back yard. Treated with IV fluids. Case 20: Florida, male 40, was admitted to ER after consuming a herbal/natural product containing some type of mushroom. He suffered abdominal pain 1 hour after ingestion. Case 21: Florida, male, 52, ate some mushrooms from his yard. He suffered abdominal pain, vomited a lot and experienced tachycardia of 120s to 130s. Treated with activated charcoal and supportive care, MD was advised not to use physostigmine. Case 22: Florida, man, 22, suffered abdominal pain, diarrhea, nausea and vomiting 2 hours after eating an unknown mushroom. He was treated with a single dose of charcoal and given IV fluids.

Poisonings of Dogs

- *Amanita muscaria* or *Amanita pantherina*. (Except where noted, all cases are reported from Colorado) Case 1: Dog of unknown age or breed showed agitation, staggering, panting, vomiting, muscle spasms, coma-like sleep lasting 12 hours with seizures and agitation continuing for a while after awakening. Coughing and lethargy lasted a day or two. Cases 2–4: two adult dogs and a puppy all three showing same symptoms as in previous case. *Amanita pantherina* was fruiting in unprecedented numbers in the area. All were treated and recovered. Case 5: dog, 90 pounds, acting drunk, agitated, then could no longer stand. Treated and recovered after about 10 hours. Cases 6–10: Four dogs in one week were brought in to the vet with staggering, twitching, salivating, collapse and coma. All recovered. Case 11. The week after cases 6–10, the owners of a dog, 12, found it dead due to respiratory failure but there is no evidence of earlier symptoms or of mushroom ingestion so cause here is unclear. Case 12: Older yellow lab was found agitated, uncoordinated, twitching and having difficulty breathing 1 hour after being let outside. The dog was euthanized about 2–3 hours later. Cases 13–23: An intern at an animal hospital reported that they had treated about 10 dogs with neurological symptoms that all sounded like ibotenic acid/muscimol poisonings. Case 24: Puppy began staggering, vomiting, twitching, and then collapsed but remained con-

scious. Vet administered IVs. Case 25: Montana, German Shepherd, 53 #, 1 hour post ingestion started vomiting, diarrhea, slow heart rate, drooling, walking in circles, staggering, breathing erratically. The vet also observed pancreatitis and administered atropine 2x for very low heart rate. For a while the dog appeared dead but was fully recovered after 36 hours. Case 26: Unknown location, Vizsla, apparently ate a piece of stem and 3–4 hours later started to whimper and whine and was stumbling. She soon was frantically moving about, stumbling into walls and drinking lots of water, loss of depth perception, dilated pupils, high heart rate and panting. She recovered overnight at the vets after treatment with valium, charcoal, heavy sedation and an overnight IV. Case 27: Michigan, dog, 2, ate about 1 teaspoon of *Amanita muscaria* and in 5–6 hours started to salivate, and was dizzy, sweating, disoriented, weak and unable to stand or hold his head up. Heartbeat fast but steady, breathing labored. Vet administered Valium and took other unidentified measures. The dog soon stopped being restless, became limp and then slept for several hours and awoke weak. Next day the dog was recovered but extremely thirsty.

- *Gymnopilus* sp. Dog sick and staggering as if drunk.
- *Inocybe* sp. Case 1: Colorado, dog suffered vomiting, pinpoint pupils, diarrhea, and profuse salivation. Case 2 (from 2000): Virginia, dog had clearly identifiable *Inocybe lamellae* in vomitus. It experienced 45 minutes “of acute vomiting, mucoid diarrhea, hyper salivation and altered mentation.” It was found to have “gas distended bowel loops, was depressed and displayed significant abdominal discomfort . . . increased hematocrit, mild azotemia and elevated ALT and ALKP. Treated with activated charcoal and IV and recovered fully after 8 hours. Cases 3–8: Oregon, in separate incidents 4 Labrador retrievers, one poodle, one boxer, and one cocker/shi tzu ate either *Inocybe geophylla* or *Inocybe lilicina* or in one case an unidentified *Inocybe* (near lacera). All were treated with charcoal, some with IVs, and in some instances, with atropine where indicated. The poodle, cocker mix and one Labrador died of mushroom toxicity.
- *Ramaria* sp., possibly *pallida*. Colorado, dog, 6 months, salivating, gagging, and having dry heaves.

- *Russula* sp. Colorado, dog experienced vomiting and diarrhea a while after it was seen chewing on a red *Russula*.
- *Scleroderma*, probably *cepa*. Colorado, 15# Dog, 7 months, ate an earthball and vomited (4x) beginning 10 minutes after ingestion.
- *Tricholoma nudum*. Oregon, A schnauzer became only slightly ill after consuming this mushroom.

Unknown. Case 1: New Jersey, dog, 7 months, suffered diarrhea, salivation, spasms, dizziness, disorientation, weakness and drowsiness accompanied by an uncontrolled bladder and shallow breathing. Recovered with vet treatment. Cases 2 and 3: California, 2 puppies died from mushroom ingestion, few specifics given except that in second case puppy was euthanized after two transfusions failed to improve its condition—both puppies died in a region where *Amanita phalloides* was abundant this year. Case 4: Ohio, 9-month-old yellow lab suffered major liver damage from unknown toxins and was euthanized. Mushrooms were growing in the yard in Southern Ohio, apparently including one of the destroying angel group of *Amanita*. Case 5: Florida, three dogs, 4, ate mushrooms from the yard with no more than a minor effect. Advised to follow Ipecac protocol (Note: some poison centers no longer advise use of Ipecac). Owner bought and administered charcoal from the drugstore at doses recommended by the PCC. Case 6: Florida, dog found with pieces of black and pieces of white mushrooms in its mouth. No symptoms observed. Case 7: Florida, dog ingested mushrooms and suffered severe diarrhea and vomiting. Case 8: Florida, dog, 2, possibly had eaten mushrooms 2 days previously and was in liver failure and metabolically compromised. Case 9: Florida, dog ingested an unknown mushroom and suffered vomiting and diarrhea.

Unknown hallucinogen. Florida, dog consumed at least 9 hallucinogenic mushrooms. Seemed sleepy, not itself. Caller refused to pursue the matter with a vet for fear of getting into trouble with her fiancé.