

SUPPLEMENTARY TABLE S1. Mushroom species involved in poisoning incidents and their spatial and temporal distribution in China, 2020.

Mushroom species	Number of incidents	Number of patients	Deaths	Case fatality (%)	Spatial and temporal distribution
Acute liver failure					
<i>Amanita exitialis</i>	11	36	2	5.56	Feb 24 to Mar 30, Guangdong; June 22 to July 22, Yunnan
<i>Amanita fuliginea</i>	9	23	0	0	June 1 to July 18, Hunan and Guizhou
<i>Amanita fuliginea</i> and <i>A. neoovoidea</i> ^{ARF}	1	2	0	0	June 28, Zhejiang
<i>Amanita fuliginea</i> and <i>A. pseudoporphyria</i> ^{ARF}	2	3	0	0	June 2 to 9, Hunan
<i>Amanita fuliginea</i> and <i>A. subjunquillea</i> ^{ALF}	1	4	3	75.00	July 18, Guizhou
<i>Amanita fuliginea</i> and <i>A. oberwinklerana</i> ^{ARF}	1	2	0	0	June 23, Hunan
<i>Amanita fuliginea</i> and <i>A. fritillaria</i> ^{G/FP}	3	9	0	0	June 5 to 15, Hunan
<i>Amanita cf. fuliginea</i>	2	9	0	0	June 18 to June 19, Guizhou and Chongqing
<i>Amanita pallidorozea</i>	4	7	0	0	June 16 to July 8, Guizhou
<i>Amanita pallidorozea</i> and <i>A. sinocitrina</i> ^P	1	1	0	0	June 30, Guizhou
<i>Amanita pallidorozea</i> and <i>A. fritillaria</i> ^{G/FP}	1	2	0	0	June 30, Chongqing
<i>Amanita rimosa</i>	4	10	0	0	June 6 to 27, Hunan, Hubei, and Chongqing
<i>Amanita rimosa</i> and <i>Lepiota brunneoincarnata</i> ^{ALF}	1	4	0	0	June 12, Hunan
<i>Amanita subjunquillea</i>	6	28	0	0	June 18 to 28, Guizhou; Aug 20 to Sept 2, Hebei and Beijing
<i>Amanita subpallidorozea</i>	4	8	4	50.00	Sept 16 to Oct 15, Yunnan and Guizhou
<i>Amanita subpallidorozea</i> , <i>A. citrina</i> ^P and <i>Lactifluus puberulus</i> ^G	1	3	0	0	Oct 20, Guizhou
<i>Amanita</i> sp., <i>Psathyrella candolleana</i> ^{G/FP} , <i>Russula</i> sp. ^U and <i>Agaricus</i> sp. ^U	1	2	1	50.00	July 13, Sichuan
<i>Galerina sulciiceps</i>	6	12	2	16.67	Oct 8 to 16, Yunnan, Sichuan, and Guizhou
<i>Lepiota brunneoincarnata</i>	14	28	5	17.86	May 13 to July 3, Hubei, Hunan, and Jiangsu; Aug 19 to 30, Ningxia, Gansu, Shandong, Hebei and Liaoning
<i>Lepiota brunneoincarnata</i> and <i>Gymnopus dryophilus</i> ^G	1	1	0	0	Sept 14, Guizhou
Rhabdomyolysis					
<i>Russula subnigricans</i>	10	26	4	15.38	June 26 to Oct 4, Yunnan, Zhejiang, and Hunan
<i>Russula subnigricans</i> and <i>R. japonica</i> ^G	1	4	0	0	July 5, Yunnan
<i>Russula subnigricans</i> and <i>Entoloma prismaticum</i> ^U	1	2	0	0	Aug 8, Sichuan
Acute renal failure					
<i>Amanita gymnopus</i>	3	4	0	0	June 14 to July 7, Hunan and Yunnan; Oct 10, Zhejiang
<i>Amanita neoovoidea</i>	4	4	0	0	Sept 24 to Oct 19, Hunan and Sichuan
<i>Amanita oberwinklerana</i>	14	36	0	0	June 6 to July 5, Guizhou, Chongqing, Hunan, and Jiangsu; July 26 to Sept 25, Henan, Shanxi, Beijing, Hebei and Hunan
<i>Amanita oberwinklerana</i> and <i>A. cf. ibotengutake</i> ^P	1	1	0	0	Sept 5, Beijing
<i>Amanita oberwinklerana</i> and <i>A. pseudoporphyria</i> ^{ARF}	2	3	0	0	June 3 to Sept 30, Hunan
<i>Amanita pseudoporphyria</i>	14	49	3	6.12	June 6 to Oct 14, Hunan, Guangxi, and Yunnan
<i>Amanita aff. pseudoporphyria</i>	3	10	0	0	June 6 to Oct 5, Hunan

Continued

Mushroom species	Number of incidents	Number of patients	Deaths	Case fatality (%)	Spatial and temporal distribution
<i>Amanita pseudoporphyria</i> and <i>Suillus placidus</i> ^G (dried mushrooms)	1	3	0	0	Dec 16, Hunan
Hemolysis					
<i>Paxillus involutus</i>	2	2	1	50.00	Sept 12 to 13, Inner Mongolia
Gastroenteritis					
<i>Baorangia major</i>	1	4	0	0	May 25, Fujian
<i>Baorangia major</i> and <i>B. pseudocalopus</i> ^G	1	7	0	0	July 19, Yunnan
<i>Baorangia</i> sp.	1	5	0	0	July 23, Yunnan
<i>Boletellus</i> cf. <i>emodensis</i>	1	1	0	0	Aug 12, Yunnan
<i>Chlorophyllum demangei</i> and <i>Scleroderma aurantiacum</i> ^G	1	2	0	0	July 31, Sichuan
<i>Chlorophyllum globosum</i>	3	14	0	0	June 3 to Aug 20, Sichuan
<i>Chlorophyllum hortense</i> and <i>Clitocybe</i> sp. ^P	1	1	0	0	Oct 26, Sichuan
<i>Chlorophyllum molybdites</i>	152	302	0	0	Mar 28 to Oct 20, Hunan, Guangxi, Zhejiang, Anhui, Sichuan, Hubei, Yunnan, Chongqing, Jiangxi, Hainan, Henan, Guangdong, Fujian, Guizhou, and Jiangsu
<i>Chlorophyllum molybdites</i> and <i>Ch. hortense</i> ^G	1	1	0	0	Sept 13, Hunan
<i>Chlorophyllum molybdites</i> and <i>Entoloma omiense</i> ^G	1	1	0	0	Sept 28, Hunan
<i>Chlorophyllum</i> spp.	3	9	0	0	July 31 to Dec 14, Sichuan, Hunan, and Guangdong
<i>Cortinarius sinensis</i> . ^E and <i>C. fulminoides</i> ^U (bought from market)	1	4	0	0	Sept 8, Ningxia
<i>Entoloma caespitosum</i>	1	1	0	0	Sept 20, Hunan
<i>Entoloma omiense</i>	28	49	0	0	June 28 to Oct 9, Hunan, Zhejiang, Hainan, and Fujian
<i>Entoloma omiense</i> , <i>Entoloma</i> sp. ^U and <i>Psathyrella candolleana</i> ^{G/P}	1	1	0	0	July 8, Hunan
<i>Entoloma omiense</i> and <i>Micropsalliota</i> sp. ^U	1	3	0	0	Sept 10, Fujian
<i>Entoloma omiense</i> and <i>Suillus placidus</i> ^G	1	4	0	0	Sept 17, Guizhou
<i>Entoloma</i> cf. <i>rhodopolium</i>	1	5	0	0	Aug 4, Yunnan
<i>Entoloma</i> cf. <i>sinuatum</i>	2	4	0	0	Sept 14 to 21, Guizhou
<i>Entoloma</i> spp.	17	51	0	0	June 5 to Oct 18, Guangxi, Guizhou, Hunan, and Yunnan
<i>Gerhardtia sinensis</i>	4	13	0	0	Oct 7 to 11, Hunan
<i>Gymnopus densilamellatus</i>	3	19	0	0	Feb 12 to May 31, Hunan and Guizhou
<i>Hygrophorus</i> cf. <i>whitei</i> ^U , <i>Lycoperdon caudatum</i> ^U and <i>Megacollybia marginata</i> ^U	1	5	0	0	Oct 9, Sichuan
<i>Hypholoma fasciculare</i>	3	9	0	0	July 8 to Dec 4, Sichuan and Yunnan
<i>Lactarius subhirtipes</i>	3	9	0	0	May 31 to July 26, Hunan, Guizhou, and Anhui
<i>Lactifluus deceptivus</i> , <i>Lf. pilosus</i> ^G , <i>Lf. aff. piperatus</i> ^G and <i>Lf. puberulus</i> ^G (dried mushrooms)	1	2	0	0	Feb 9, Hunan
<i>Lactifluus pseudoluteopus</i> ^U	1	5	0	0	Aug 23, Yunnan
<i>Leucocoprinus cretaceous</i> and <i>Lc. cepistipes</i> ^G	1	2	0	0	Sept 13, Hunan
<i>Marasmius maximus</i> ^E and <i>Mycena</i> sp. ^U	1	1	0	0	July 18, Hubei
<i>Melanoleuca griseobrunnea</i> ^U	1	2	0	0	May 12, Zhejiang
<i>Micropsalliota furfuracea</i>	1	2	0	0	Sept 14, Hunan

Continued

Mushroom species	Number of incidents	Number of patients	Deaths	Case fatality (%)	Spatial and temporal distribution
<i>Micropsalliota</i> sp. ^U , <i>Hortiboletus rubellus</i> ^E and <i>Russula pectinatoides</i> ^E	1	2	0	0	Sept 24, Hunan
<i>Neoboletus venenatus</i> (patients of two incidents ate dried mushrooms, bought from market)	4	9	0	0	Aug 13 to Sept 24, Xizang, Guangdong, Hunan, and Sichuan
<i>Neoboletus venenatus</i> and <i>Scleroderma bovista</i> ^G (dried mushrooms, bought from market)	1	2	0	0	June 18, Hunan
<i>Neonothopanus aff. nambi</i>	2	4	0	0	May 13 to July 13, Yunnan
<i>Omphalotus guepiniformis</i>	2	10	0	0	May 28, Guangxi; Oct 4, Hunan
<i>Omphalotus olearius</i>	2	16	0	0	Sept 9 to Nov 16, Yunnan
<i>Pholiota multicingulata</i>	2	9	0	0	Sept 22 to Oct 5, Hunan
<i>Pulveroboletus subrufus</i> , <i>Russula punctipes</i> ^G , <i>Chiaa virens</i> ^G and <i>Suillus pinetorum</i> ^G	1	2	0	0	Dec 6, Guizhou
<i>Rubroboletus sinicus</i> and <i>Neoboletus cf. multipunctatus</i> ^U	1	4	0	0	July 28, Guizhou
<i>Rubroboletus sinicus</i> and <i>Retiboletus fuscus</i> ^E	1	3	0	0	June 18, Yunnan
<i>Rubroboletus</i> sp. ^U	1	2	0	0	July 25, Hunan
<i>Russula viridicinnamomea</i> ^E , <i>Agaricus</i> sp. ^U , <i>Termitomyces microcarpus</i> ^E and <i>Lactarius vividus</i> ^E	1	5	0	0	Aug 2, Sichuan
<i>Russula rufobasalis</i>	1	1	0	0	June 10, Hunan
<i>Russula rufobasalis</i> , <i>Lactarius atromarginatus</i> ^G , <i>Amanita fritillaria</i> ^{G/P} and <i>Russula citrina</i> ^U	1	2	0	0	June 11, Hunan
<i>Russula rufobasalis</i> , <i>Amanita fritillaria</i> ^{G/P} , <i>Russula compacta</i> ^E , <i>R. nigricans</i> ^E , <i>R. subatropurpurea</i> ^E , <i>R. cf. fragrantissima</i> ^U , and <i>Cortinarius purpurascens</i> ^U	1	2	0	0	June 11, Hunan
<i>Russula grata</i> , <i>R. cf. subfoetens</i> ^G , <i>Lactifluus aff. glaucescens</i> ^G , <i>R. fragrantissima</i> ^U , <i>R. pseudoamoenicolor</i> ^U , <i>R. sarnarii</i> ^U , <i>R. cyanoxantha</i> ^E , <i>R. variata</i> ^E , <i>R. vesca</i> ^E , <i>R. virescens</i> ^E and <i>Entoloma cf. undatum</i> ^U (dried mushrooms, bought from market)	1	3	0	0	Feb 5, Hunan
<i>Russula japonica</i>	58	151	0	0	May 31 to Oct 15, Hunan, Zhejiang, Chongqing, Anhui, Yunnan, Guizhou, Fujian, and Hubei
<i>Russula japonica</i> , <i>Entoloma omiense</i> ^G and <i>Agaricus</i> sp. ^U	1	3	0	0	Oct 5, Hunan
<i>Russula japonica</i> , <i>R. cerolens</i> ^E , <i>Leotia lubrica</i> ^U and <i>Phylloporus dimorphus</i> ^E	1	2	0	0	July 11, Guizhou
<i>Russula japonica</i> and <i>R. foetens</i> ^G	1	1	0	0	June 15, Hunan
<i>Russula japonica</i> and <i>R. sanguinea</i> ^G	1	3	0	0	June 10, Hunan
<i>Russula japonica</i> and <i>R. punctipes</i> ^G	1	3	0	0	Oct 3, Hunan
<i>Scleroderma areolatum</i>	1	12	0	0	Aug 12, Beijing
<i>Scleroderma cepa</i>	4	11	0	0	July 7 to Sept 27, Yunnan, Sichuan, Hunan, and Chongqing
<i>Scleroderma citrinum</i>	1	1	0	0	Oct 13, Hunan
<i>Suillus granulatus</i> (dried mushrooms, bought from market)	1	2	0	0	Mar 23, Ningxia
<i>Suillus granulatus</i> , <i>Amanita sinocitrina</i> ^P , <i>A. griseofolia</i> ^{G/P} , <i>Russula</i> spp. ^U , <i>Lycoperdon</i> sp. ^U and <i>Gymnopus</i> sp. ^U	1	1	0	0	Sept 24, Hunan
<i>Suillus pinetorum</i>	1	8	0	0	July 21, Yunnan
<i>Thicholoma highlandense</i>	1	2	0	0	Nov 13, Yunnan
<i>Tricholoma sinopardinum</i> , <i>T. sinoportentosum</i> ^E , <i>Lactarius deterrimus</i> ^E and <i>Agaricus</i> sp. ^U	1	3	0	0	July 21, Sichuan

Continued

Mushroom species	Number of incidents	Number of patients	Deaths	Case fatality (%)	Spatial and temporal distribution
<i>Tricholoma stans</i>	1	6	0	0	Nov 14, Yunnan
<i>Tylophilus neofelleus</i>	1	1	0	0	Aug 9 to Sept 27, Yunnan and Chongqing
Psycho-neurological disorder					
<i>Amanita griseopantherina</i> and <i>Russula foetens</i> ^G	1	12	0	0	July 21, Sichuan
<i>Amanita melleiceps</i>	5	20	0	0	May 30 to Sept 15, Hunan and Guangxi
<i>Amanita orientigemmata</i>	1	1	0	0	Sept 23, Hunan
<i>Amanita orsonii</i> , <i>A. pseudovaginata</i> ^U and <i>Entoloma cf. subcorvinum</i> ^U	1	2	0	0	June 28, Guizhou
<i>Amanita rufoferruginea</i>	6	18	0	0	June 6 to Aug 6, Hunan, Chongqing, and Sichuan
<i>Amanita cf. subfrostiana</i>	1	2	0	0	July 21, Yunnan
<i>Amanita subglobosa</i>	17	49	0	0	June 19 to Sept 24, Guizhou, Anhui, Chongqing, Sichuan, Yunnan, and Hunan
<i>Amanita sychnopyramis f. subannulata</i>	4	42	0	0	Apr 26 to June 10, Hainan, Guangxi, and Hunan
<i>Butyriboletus roseoflavus</i> (bought from market, maybe from Yunnan)	1	9	0	0	Nov 5, Hainan
<i>Clitocybe dealbata</i>	1	2	0	0	July 15, Yunnan
<i>Clitocybe subditopoda</i>	1	3	0	0	Oct 5, Guizhou
<i>Gymnopilus dilepis</i>	6	13	0	0	June 21 to Sept 23, Sichuan, Yunnan, and Guizhou
<i>Gymnopilus spp.</i>	5	8	0	0	May 9 to Oct 3, Jiangxi, Hubei, Hunan, and Yunnan
<i>Gyromitra venenata</i>	2	4	0	0	Mar 13 to 21, Guizhou, Yunnan
<i>Inocybe aff. ericetorum</i> and <i>Russula insignis</i> ^G	1	1	0	0	May 26, Hunan
<i>Inocybe serotina</i>	1	2	0	0	Sept 19, Ningxia
<i>Inocybe serotina</i> and <i>Mallocybe fulvipes</i> ^P	1	1	0	0	Sept 2, Ningxia
<i>Inocybe serotina</i> and <i>Pseudosperma umbrinellum</i> ^P = <i>Inocybe umbrinella</i>	1	4	0	0	Aug 28, Ningxia
<i>Inocybe splendentoides</i>	1	1	0	0	Oct 7, Beijing
<i>Inosperma aff. virosum</i>	2	16	0	0	Sept 9 to 16, Yunnan
<i>Inosperma cf. virosum</i>	1	5	0	0	May 9, Hainan
<i>Lanmaoa asiatica</i>	1	4	0	0	July 19, Yunnan
<i>Lanmaoa asiatica</i> , <i>Rubroboletus latisporus</i> ^G , <i>Suillus granulatus</i> ^G , <i>Caloboletus xiangtoushanensis</i> ^U and <i>Imperator sp.</i> ^U (dried mushrooms, from Chongqing)	1	3	0	0	Aug 27, Guangdong
<i>Lanmaoa asiatica</i> , <i>Rubroboletus latisporus</i> ^G , <i>Tylophilus neofelleus</i> ^G , <i>Neoboletus sp.</i> ^U and <i>Sutorius aff. eximius</i> ^G (dried mushrooms, from Chongqing)	1	3	0	0	Oct 13, Zhejiang
<i>Panaeolus fimicola</i>	1	2	0	0	June 30, Shandong
<i>Pseudosperma cf. bulbosissimum</i>	1	4	0	0	Oct 5, Ningxia
<i>Pseudosperma umbrinellum</i> , <i>Mallocybe siciliana</i> ^P = <i>Inocybe siciliana</i> , <i>Hebeloma dunense</i> ^U and <i>Psathyrella candolleana</i> ^{G/P}	1	4	0	0	Sept 4, Hebei
<i>Pseudosperma yunnanense</i>	1	1	0	0	July 10, Yunnan
<i>Psilocybe cubensis</i>	1	2	0	0	Nov 27, Hunan
Shiitake mushroom dermatitis					
<i>Lentinula edodes</i> ^E	1	1	0	0	Jan 5, Jiangxi

Continued

Mushroom species	Number of incidents	Number of patients	Deaths	Case fatality (%)	Spatial and temporal distribution
Unclassified					
<i>Agaricus blazei</i> ^E	1	2	0	0	Aug 25, Yunnan
<i>Amanita cf. constricta</i> and <i>Entoloma cf. piceinum</i> ^U	1	5	0	0	Aug 7, Sichuan
<i>Amanita griseofolia</i>	1	4	0	0	June 27, Guizhou
<i>Butyriboletus yicibus</i> ^E (from Yunnan)	1	4	0	0	July 26, Hunan
<i>Coprinopsis nivea</i> ^E	1	3	0	0	June 29, Hunan
<i>Coprinus comatus</i> ^E	2	3	0	0	Early August to Oct 25, Beijing and Ningxia
<i>Cortinarius sinensis</i> ^E (bought from market)	1	2	0	0	Sept 24, Ningxia
<i>Lactarius cinnamomeus</i> ^E	1	2	0	0	Mar 14, Hunan
<i>Lactifluus tenuicystidiatus</i> ^E	1	2	0	0	Aug 25, Yunnan
<i>Panus giganteus</i> ^E	1	4	0	0	Sept 20, Hunan
<i>Panus tigrinus</i> ^E	1	1	0	0	May 16, Yunnan
<i>Pleurotus ostreatus</i> ^E	1	1	0	0	Oct 31, Ningxia
<i>Retiboletus fuscus</i> ^E (dried mushrooms, from Yunnan)	1	2	0	0	Mar 6, Fujian
<i>Russula cf. viridicinnamomea</i> ^E	1	4	0	0	July 29, Fujian
<i>Scleroderma yunnanense</i> ^E	3	7	0	0	June 25 to Sept 15, Hunan, Yunnan, and Fujian
<i>Stropharia rugosoannulata</i> ^E	1	1	0	0	Jan 31, Guizhou
<i>Xerocomus parvulus</i> ^E	1	4	0	0	Sept 28, Hunan

Abbreviations: ALF=Acute liver failure, ARF=Acute renal failure, G= Gastroenteritis, P= Psycho to neurological disorder, U=Unclassified, E=edible.

Note: Species newly recorded as poisonous mushrooms in China are in bold.