

THE LACTARIEAE OF THE PACIFIC COAST

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At the request of Dr. W. A. Murrill, I have undertaken to list the species of *Lactaria* and *Russula* found on the Pacific Coast, as they are represented by specimens in the herbarium of the New York Botanical Garden.

Context lactiferous.

1. LACTARIA.

Context not lactiferous.

2. RUSSULA.

1. LACTARIA Pers. Tent. Disp. Meth. Fung. 63-65. 1797

I. LACTARIA DELICIOSA (L.) Fries, Epicr. 341. 1838

Agaricus deliciosus L. Sp. Pl. 1172. 1753.

Seattle, Washington, *Murrill* 387; Newport, Oregon, *Murrill* 1130; Mill City, Oregon, *Murrill* 848; Corvallis, Oregon, *Murrill* 1010; La Honda, California, *Murrill*.

The specimens from Seattle were collected during the last of October in a peat bog, in holes with skunk cabbage. In Oregon, they were found during the month of November, in fir and pine barrens near the coast and also in the foothills of the Cascade Mountains at an elevation of from 800 to 1,200 ft.

2. LACTARIA CHELIDONIUM Peck, Ann. Rep. N. Y.
State Mus. 24: 74. 1872

Corvallis, Oregon, *Murrill* 986, in fir forest with scattered specimens of oak, birch, willow and maple, November 6-11.

3. LACTARIA SCROBICULATA (Scop.) Fries, Epicr. 334. 1838
Agaricus scrobiculatus Scop. Fl. Carn. 2: 450. 1772.

Fair Oaks, California, *Harper* 48, in February.

4. LACTARIA TORMINOSA (Schaeff.) Pers. Tent. Disp.
Meth. Fung. 64. 1797

Agaricus torminosus Schaeff. Fung. Bav. Icon. 4: 7 (Index). 1774.
Lactarius villosus Clements, Bot. Surv. Neb. 4: 20. 1896.

La Honda, California, *Murrill & Abrams 1281*. These specimens were collected in November on the western slope of the Santa Cruz Mountains, in a dense redwood forest below 1,000 feet elevation.

5. LACTARIA INSULSA (Fries) Epicr. 336. 1838

Agaricus insulsus Fries, *Myc. I*: 68. 1821.

Santa Cruz Peninsula, California, near Searsville Lake, *McMurphy 26*; Mission Cañon, California, *Oleson 84*.

6. LACTARIA ZONARIA (Lamarck) Fries, Epicr. 336. 1838

Agaricus zonarius Lamarck, *Fl. Fr. I* (108). 1778.

Fair Oaks, California, *Harper 46*, in February.

7. LACTARIA TRIVIALIS (Fries) Fries, Epicr. 337. 1838

Agaricus trivialis Fries, *Obs. Myc. I*: 61. 1815.

Lactarius deflexus Lindblad, *Monogr. Lact. Suec.* 8. 1855.

Mill City, Oregon, *Murrill 828*; Searsville Lake, Santa Cruz Peninsula, California, *McMurphy 25*. The specimens from Mill City may be faded specimens of *Lactaria circellata*.

8. LACTARIA CIRCELLATA (Fries) Fries, Epicr. 338. 1838

Agaricus circellatus Fries, *Hym. Eur.* 426. 1821.

Mill City, Oregon, *Murrill 798*; Glen Brook, Oregon, *Murrill 736*. These specimens were collected in coniferous woods containing some hardwoods, at an elevation of from 400 to 1,200 ft.

9. LACTARIA MUCIDA Burl. Mem. Torrey Club 14: 56. 1908

Seattle, Washington, *Murrill 539*; Mill City, Oregon, *Murrill 867*.

10. LACTARIA THEIOGALA (Bull.) Fries, Epicr. 342. 1838

Agaricus theiogalus, Bull. *Herb. Fr. pl. 567, f. 2*, 1793; *Hist. I*: 495. 1809.

Lactarius brevipes Longyear, *Rep. Mich. Acad. Sci.* 3: 59. 1901.

Lactarius brevix Peck, *Bull. N. Y. State Mus.* 94: 33. 1905.

Lactarius xanthogalactus Peck, Bull. Torrey Club 34: 346. 1907.
Salem, Oregon, *M. E. Peck*; California, *Patterson*.

11. LACTARIA CAMPHORATA (Bull.) Fries, Epicr. 346. 1838
Agaricus camphoratus, Bull. Herb. Fries, pl. 567, f. 1; Hist.
Champ. 493. 1809.

Santa Cruz Peninsula, California, *Miss Patterson 63*; Pasa-
dena, California, *McClatchie*.

12. LACTARIA SUBDULCIS (Pers.) Fries, Epicr. 345. 1838
Agaricus lactifluus dulcis, Bull. Herb. Fr. pl. 224, A, B. 1784.
Agaricus subdulcis Pers. Syn. Meth. Fung. 433, 434. 1801.
Lactarius subserifluus Longyear, Rep. Mich. Acad. Sci. 1901: 57.
1902.

Corvallis, Oregon, *Murrill 1016*; Marin Co., California, *East-
wood*; in November and December.

13. LACTARIA MITISSIMA Fries, Epicr. 345. 1838
Agaricus mitissimus Fries, Syst. Myc. I: 69. 1821.
Seattle, Washington, *Murrill 430*; Mill City, Oregon, *Mur-
rill 805*.

14. LACTARIA GRISEA Peck, Ann. Rep. N. Y. State
Mus. 23: 119. 1873
Seattle, Washington, *Murrill 607*.

15. LACTARIA PIPERATA (L.) Pers. Tent. Disp. Meth.
Fung. 64. 1797
Agaricus piperatus L. Sp. Pl. 1173. 1753.
Agaricus Listeri Withering, Nat. Arr. Brit. Pl. 4: 156. 1801
(Ed. 4).
Mission Cañon, Santa Barbara, California, *Oleson 123*.

16. LACTARIA VELLEREA (Fries) Fries, Epicr. 340. 1838
Agaricus vellereus Fries, Syst. Myc. I: 76. 1821.
Mission Cañon, Santa Barbara, California, *Oleson 123*.
The collection numbered 123 contains both specimens of *Lac-
taria piperata* and *Lactaria vellerea*.

2. *RUSSULA* (Pers.) Fries, Epicr. Myc. 349. 1838

1. *RUSSULA DELICA* Fries, Epicr. Myc. 350. 1838

Hypophyllum album, Paulet & Lév. Ic. Champ. 33. 1855.

Russula deliciosa Schröt. in Cohn, Krypt. Fl. Schles. 549. 1889.

Russula brevipes Peck, Ann. Rep. N. Y. State Mus. 54: 178. 1901.

Seattle, Washington, *Murrill* 372, 378; Corvallis, Oregon, *Murrill* 994; Preston's Ravine, near Palo Alto, California, *Murrill & Abrams* 1204; La Honda, California, *Murrill & Abrams* 1279; Santa Barbara, California, *Oleson* III.

There has been more or less uncertainty regarding the identity of *Russula delica* Fries, arising from the fact that in his earlier descriptions he refers to the pileus as "nitidus," shining; but in a later work¹ he does not mention this characteristic. The gills do not always impress one as distant, but it is noticeable that in the dried specimens the gills are really set far apart. Fries also did not mention the occurrence of a greenish tinge on the gills, but Kauffman² notes that the specimens which he has seen growing around Stockholm, and which Romell refers to *Russula delica*, often have this characteristic. The greenish tint on the edges of the gills in the American plants is not generally noticeable until the mushroom is fully mature, and gills which show no sign of the color when gathered often become greenish-gray during the process of drying; the color, however, vanishes before the plant is dry. Fries says that *Russula delica* is similar to *Lactaria vellerea* and often confused with it, which would seem to indicate that *Russula delica* sometimes might give the impression of being tomentose. Our specimens do occasionally appear obscurely fibrillose in places as though the surface fibers had pulled apart from each other. *Lactarius exsuccus* Smith probably should be referred to *Russula delica*.

The Seattle number, 372, is noted as having greenish gills.

2. *RUSSULA NIGRICANS* (Bull.) Fries, Syst. Myc. I: 60. 1821

Agaricus nigricans, Bull. Herb. Fr. pl. 212. 1784.

Russula nigrescens Krombh. pt. 9. 27. 1831.

¹ Monogr. Hymen. Suec. 2: 185. 1863.

² Rep. Mich. Acad. Sci. 11: 65. 1909.

Corvallis, Oregon, *Murrill 1012*; Newport, Oregon, *Murrill 1008*. These specimens were collected in mixed forests of fir, oak, willow and maple, in November, 1911. Number *1012* reached 15 cm. in diameter.

3. *RUSSULA DRIMEJA* Cooke, *Grevillea 10: 46. 1881*

Seattle, Washington, *Murrill 654*, collected late in October.

4. *RUSSULA GRANULATA* Peck, *Ann. Rep. N. Y. State Mus. 53: 843. 1900*

Presidio, California, *Harper 68*, March 12, 1911.

5. *RUSSULA EMETICA* Fries, *Epicr. Myc. 357. 1838*

Newport, Oregon, *Murrill 1063*; California, *Harper*.

6. *RUSSULA VETERNOSA* Fries, *Epicr. Myc. 354. 1838*

Mission Cañon, Santa Barbara, California, *Oleson 87*, under oaks, April 15, 1913.

7. *RUSSULA TURCI* Bres. *Fungi Trid. 22. 1881*

Seattle, Washington, *Murrill 640*; Corvallis, Oregon, *Murrill 1007*. These were found in fir forests mixed with maple and birch. In *640*, the pileus reached the diameter of 9 cm.

8. *RUSSULA CHAMELEONTINA* Fries, *Epicr. Myc. 363. 1838*

Seattle, Washington, *Murrill 686*; La Honda, California, *Murrill & Abrams 1271*.

The La Honda specimens were found growing in a dense redwood forest, November 25, 1911, below an elevation of 1,000 ft.

9. *RUSSULA ABIETINA* Peck, *Ann. Rep. N. Y. State Mus. 54: 160. 1901*

Seattle, Washington, *Murrill 275*, in deep coniferous woods.

10. *RUSSULA OBSCURA* Rom. *Öfvers. k. Vetensk.-Akad. Förhandl. 179. 1891*

Seattle, Washington, *Murrill 602*, under fir, hemlock, maple, late in October.

11. *RUSSULA ALUTACEA* Fries, Epicr. Myc. 362. 1838

Agaricus alutaceus Fries, Syst. Myc. I: 55. 1821.

Tacoma, Washington, *Murrill* 721.

These specimens which I am referring to *Russula alutacea* differ from the description in two respects; the pruinose gills and the unfading pileus. Upon comparison with better foreign material than I have yet been able to obtain, it may be possible to clear away any doubt. They were abundant along the border of a lake in deciduous and evergreen forests. The pileus is broad, depressed, slimy, with separable pellicle, very dark purple-black, up to 15 or more cm. broad, with an even margin; the gills are cream-colored, avellaneous when dry and dusted with spores, sinuate; stipe equal, rose-colored, 10 cm. long, 2.5–3 cm. thick; spores yellow, broadly ellipsoid, echinate; taste mild, odor none.

12. *RUSSULA FLAVICEPS* Peck, Ann. Rep. N. Y.

State Mus. 53: 843. 1900

Near Searsville Lake, California, *McMurphy* 20, December 28, 1902.

14. *Russula crenulata* sp. nov.

Pileus broadly convex, then plane to depressed, up to 9 cm. broad; surface milk-white or slightly yellow, viscid when moist, pellicle easily separable, glabrous; margin thin, slightly tuberculate-striate with age; context fragile, white, taste very acid; lamellae white, equal, adnate, plane, edges appearing under the lens finely notched or crenate, not forking, rounded at the outer end, narrowed at the inner, pruinose, close; stipe white, spongy, nearly equal or enlarged below, glabrous, 10 cm. long, 2 cm. thick; spores white, mostly globose, echinulate, 10 μ in diameter.

Type collected at Glen Brook, Oregon, in a dense fir forest with a few oaks, November, 1911, *W. A. Murrill* 762. This species differs from *Russula albidula* Peck in its larger size; crenulate gills, which are broader and adnate rather than decurrent; in the absence of forking gills; and in the slightly tuberculate-striate margin.

15. *Russula Murrillii* sp. nov.

Pileus convex, becoming plane then depressed, up to 5 cm. broad; surface violaceous or darker in the center or entirely

darker, pruinose, becoming floccose-pruinose, evidently viscid when wet but soon dry; margin even; context white, thin, taste not noted; lamellae ochroleucous when fresh, becoming deeper yellow, equal, venose connected, rarely forking next to the stipe, rounded at the outer end, narrowly adnate at the inner end, subdistant, rather broad; stipe chalk-white, unchanging in drying, nearly equal, firm, stuffed, then tending to become hollow, glabrous; spores pale-yellow, echinulate, some globose, but many ellipsoid, $10 \times 7 \mu$.

Type collected in fir forests with scattered specimens of oak, birch, willow, and maple, November 6, 1911, Corvallis, Oregon, *W. A. Murrill* 965. This species resembles *Russula azurea* Bres., but differs in the color of the pileus and the lamellae, which in *R. azurea* are white and remain white. It is a beautiful plant, characterized by its violet cap and pure-white stem. It is to be hoped that other collections of this species will soon be made and the taste recorded.

15. *Russula bicolor* sp. nov.

Pileus broadly convex, soon nearly plane, up to 8 cm. broad; surface coppery-red intermixed with pale-yellow or ocher, viscid when moist, pellicle separable on the margin, glabrous; margin even, becoming striate when mature; context white, subfragile, acrid to the taste; lamellae white, drying yellowish, equal, broad at the outer end, narrowed at the inner end but not free, interveined, subclose; stipe white, spongy, becoming hollow, 4.5 cm. long, 1.5 cm. thick or smaller; spores white, subglobose, echinulate.

Type collected under yellow birch in mixed woods, Newfane, Vermont, *Burlingham* 39-1911. Number 807, *Murrill*, Oregon, seems to be the same.

16. *RUSSULA PECTINATA* (Bull.) Fries, Epicr. Myc. 358. 1838

Seattle, Washington, *Murrill* 407.

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