

dish brown is slower and not as bright as described for the European specimens. The herbarium specimens of my collections, however, are tinged "Kaiser brown" to "hazel." Although spore size is one of the most reliable characters in *Cortinarius*, I do not believe the difference is great enough to be of use in segregating a species or variety in this instance.

CORTINARIUS CAMPHORATUS Fr.—Gregarious under spruce, Florence, Oregon, Nov. 22, 1935 (3605); under redwoods, Trinidad, California, Nov. 25, 1935 (3631); under spruce, Crescent City, Nov. 5 (8455), and at Trinidad, Dec. 6, 1937 (9491). Kauffman (8) reported this species from the Adirondack Mountains in New York. It was fairly abundant during the 1937 season in California. As in *C. cyanites*, after exposure to continued wet weather, the surface hyphae on the pileus gelatinize slightly.

CORTINARIUS CANESCENS Pk.—Gregarious under spruce, Crescent City, California, Nov. 11, 1937 (8651). This species has not been previously reported for the western United States.

SUBGENUS DERMOCYBE

Cortinarius phoeniceus (Bull.) Maire var. *occidentalis* var. nov.—Pileus 3–8 cm. latus, convexus vel umbonatus, siccus, fibrillosus, subhepaticus; lamellae sordide sanguineae; stipes 4–7 cm. longus, 6–12 mm. crassus, pallide luteus vel deorsum vinaceus; sporae 6–7.5×4–4.5 μ . Hyphae luteae. Specimen typicum legit A. H. Smith n. 3485 prope Florence, Oregon, Nov. 14, 1935, in Herb. Univ. of Michigan conservatum.

Pileus 3–8 cm. broad, broadly convex, becoming expanded and somewhat umbonate, usually with a decurved margin, surface dry, innately silky under a lens, becoming appressed fibrillose at maturity, color evenly "ox-blood red" to "Garnet brown," often cracking radially in age; flesh rather thin, reddish near the cuticle, olive brown near the stipe, firm, odor and taste not distinctive; lamellae "Bordeaux" with a brighter almost "carminé" margin, with a changeable sheen when viewed at different angles, subdistant to distant or appearing close in small caps, broad, equal; stipe 4–7 cm. long, 6–12 mm. thick, equal, evenly "chamois" to "honey yellow," evenly covered by a coating of yellowish fibrils,

flesh "old gold," in age sometimes becoming sordid brown but never red when fresh, cortina scanty and "chamois" or paler yellow buff, mycelium around the base and in the soil "yellow ochre" or tinged vinaceous red in age; spores 6–7.5×4–4.5 μ , pointed at one end, roughened.

Gregarious under fir, spruce and pine in Washington, Oregon, and California: Boulder Creek, Olympic Mountains, Washington, Oct. 15, 1935 (3159 & 3258); Siltcoos Lake, Oregon, Nov. 13, 1935 (3459); Florence, Oregon, Nov. 14 (3485-type); Blue River, Oregon, Oct. 17, 1937 (7891); McKenzie Pass, Oregon, Oct. 18, 1937 (7956); Crescent City, California, Nov. 2 (8339); Fort Dick, California, Nov. 10 (8591); Trinidad, California, Nov. 12 (8679); and Crescent City, California, Nov. 22, 1937 (8997).

Kauffman's collection from the Olympic Mountains in Washington upon which he based his report of *Cortinarius anthracinus* Fr. is referable to the variety described above. A careful study of a collection made by Kauffman in Sweden and determined as *C. anthracinus* shows it to be *C. phoeniceus* (Bull.) Maire. It was on this collection that Kauffman based his concept of *C. anthracinus*. Fries (2, p. 370) described the stipe of *C. anthracinus* as "intense sanguineo," a character which definitely eliminates that species from consideration in the present study. As yet the latter species has not been recognized in the agaric flora of North America. The dark red to reddish brown pilei, deep blood-red shimmering gills, the yellow stipe and small spores distinguish *C. phoeniceus* var. *occidentalis*. In dried specimens the base of the stipe is often tinged vinaceous red or darker, and the same color change takes place on old specimens in the field.

CORTINARIUS ANOMALUS Fr.—Gregarious under spruce, Crescent City, California, Oct. 31 (8282), Fort Dick, Nov. 10 (8589); Smith River, California, Nov. 16, 1937 (8810). This species is widely distributed throughout the Pacific coast states, but has apparently not been reported from California.

CORTINARIUS CINNAMOMEUS Fr.—Gregarious under fir, Blue River, Oregon, Oct. 17, 1937 (7909), and at Crescent City, California, Nov. 2, 1937 (8332).