

Dermocybe sierraensis sp. nov.

SYNONYMS: Cortinarius sanguineus (Wulf. : Fr.) S.F. Gray var. sierraensis G. Keller & J.F. Ammirati nom. prov., Mycotaxon 18(2):364. 1983.

Cortinarius sanguineus (Wulf. : Fr.) S.F. Gray var. sierraensis J.F. Ammirati & A.H. Smith nom. prov., McIlvainea 6(2):62. 1984.

PILEUS 20-40 mm latus, novus convexus, maturior plano-convexus, denique planus; margo incurvus, demum decurvatus vel planus; superficies sicca, glabra vel adpresse sericeo-fibrillosa, serius nitida, brunneo-aurantiaca. Contextus roseolus, 1-2 mm crassus, sapor odorque haud proprii.

LAMELLAE adnatae vel adnexae, angustae, atrorubrae, margines integri, concolores.

STIPES 20-40 mm longus, 2-4 mm crassus, aequalis, siccus; superficies pannis veli exceptis glabra, obscurè vinacea in pili superficie colorem abeuns, mycelio basim versus vinaceo; panni veli cum superficie concolores; contextus solidus, cum superficie concolor.

BASIDIOSPORAE 7.7-9.1 (-9.5) x 4.8-5.5 (-5.8) um, facie obliqua elliptica, nonnumquam plus minusve reniformi vel enormi, verruculosae. BASIDIA quadrispora, 24.1-35.6 x 6.6-8.8 um, clavata vel aliquantum enormiter clavata, succum diffusum pallide purpureo-carneum continentia vel paulum carnescentia vel hyalina. CHEILOCYSTIDIA specie nulla. PILEI HYPHAE CUTICULARES plus minusve intertextae, aliquid per radios ordinatae, stratum distinctum efformantes, plerumque 2.9-13.1 um latae, cylindricae vel aliquatenus inflatae, succum diffusum pallide vel dilute purpureo-carneum vel carneo-rubrum continentes, denique in hyalinum pallescentes, tenuiter tunicatae, partim subtiliter incrustatae; pileocystidia nulla. PIGMENTUM INTER HYPHAS nullum in dilute KOH observatum.

In solo sub Pino contorta gregarii, altitudine 6500 pedum s. m., mense Augusto.

HOLOTYPUS: H. D. Thiers 32671, comitatu Alpine, respublicae Californiae, in herb. SFSU conservatus.

PILEUS 20-40 mm broad when fully expanded, convex when young becoming plano-convex to more commonly plane when fully mature; margin incurved becoming decurved to plane, entire, no veil fragments attached to edge and no apparent veil fragments on surface; surface dry, glabrous to appressed silky-fibrillose, usually shiny with age, color brownish orange to brownish red-orange (Cinnamon Rufous to Tawny) during all stages of development. Context pink, unchanging when exposed or bruised, 1-2 mm thick; taste and odor not distinctive.

LAMELLAE adnate to adnexed, narrow, somewhat wavy when mature, close (based on dried specimens), thin, several tiers of lamellulae, color dark red (Hays Russet to Grenadine Red) during all stages of development; edges entire, concolorous with faces.

STIPE 20-40 mm long, 2-4 mm thick, equal, dry; surface glabrous except for patches of veil tissue, color deep vinaceous to almost concolorous with the surface of the pileus, vinaceous mycelium at base; veil fragments concolorous with the surface. Context solid and concolorous with the surface.

BASIDIOSPORES 7.7-9.1(-9.5) x 4.8-5.5(-5.8) μm , in profile view elliptical, some more or less reiform or somewhat irregularly shaped, in face view elliptical to broadly elliptical, verruculose with coarser ornamentation towards distal end, light Ochraceous Tawny to light yellow-brown with darker brown ornamentation. BASIDIA 4-spored, 24.1-36.5 x 6.6-8.8 μm , clavate to somewhat irregularly clavate, containing a light purplish pink diffuse pigment or slightly pinkish to hyaline. PLEUROCRYSTIDIA absent. CHEILOCYSTIDIA apparently absent. SUBHYMENIAL HYPAE compactly interwoven, cylindrical, mostly 2.9-6 μm wide, color similar to tramal hyphae of lamellae. TRAMAL HYPHAE OF LAMELLAE subparallel, more or less interwoven, cylindrical to inflated, mostly 3.3-25.6 μm wide, at first pale to light pinkish purple or pinkish red, often fading to paler or hyaline, some with purplish red granules. CUTICULAR HYPHAE OF PILEUS more or less interwoven, somewhat radially arranged, forming a distinct layer, mostly 2.9-13.1 μm wide, cylindrical to somewhat inflated; containing diffuse pale to light dull purplish pink to pinkish red pigment, eventually fading to hyaline, thin-walled, some finely encrusted; scattered hyphal end cells present but no true pileocystidia seen. TRAMAL HYPHAE OF

PILEUS interwoven, more or less radially arranged, 2.9-29.9 μm wide, cylindrical to inflated, reddish pink to purplish red-pink or pale pinkish purple at first, fading to hyaline or nearly so, scattered hyphae with light yellow-brown pigment. CORTICAL HYPHAE OF STIPE longitudinally arranged, subparallel to somewhat interwoven, 2.9-18.3 μm wide, cylindrical to inflated, purplish red to purplish pink fading to hyaline; hymenial elements decurrent on stipe apex, some more or less differentiated as caulocystidia, 16.1-42.3 x 10.2-13.1 μm (some additional hyphal end-cells scattered over surface), clavate to broadly clavate more or less cylindrical, or more spherical, occasionally catenulate, pale pinkish purple to hyaline. CORTICAL HYPHAE cylindrical, mostly 3-5 μm wide, color similar to cortical hyphae of stipe (few observed). CLAMP CONNECTIONS of the normal type, present throughout the basidiomata. INTERHYPHAL PIGMENT DEPOSITS not observed in KOH.

Gregarious in soil under lodgepole pine, 6,500', August.

Collections examined. California. Alpine Co.: H.D. Thiers 32671 (holotype, SFSU). Mariposa Co.: H.D. Thiers 21106.

Dermocybe sierraensis appears to be a rare species of the western mountains. So far it is only known from the higher elevations of the Sierra Nevada Mountains. Studies of its pigmentation (Keller and Ammirati, 1983) show a close relationship to D. sanguinea, except that the former contains much less emodin and dermocybin in the material studied to date. D. sierraensis is distinguished from D. sanguinea by its silky fibrillose, brownish orange to brownish red-orange pileus, the lack of ochraceous mycelium on the stipe base, and somewhat larger basidiospores. Dermocybe sanguinea var. vitiosa Moser has some characteristics (more red-brown color of the pileus, rose colored basal mycelium and absence of emodin) in common with D. sierraensis, but an overall comparison indicates that they are not the same taxon.