

subdecurrentes, "deep colonial buff" demum "honey yellow"; pori flavi, tacti badii; stipes 2-5.8 cm longus, 2-3 cm crassus, aequalis vel coartans deorsum, solidus, flavus, caeruleus basi quando fractus; sporae in cumulo "cinnamon" in sicco "sayal brown"; sporae 8-11 × 4-4.5 μ, ellipsoideae; pleurocystidia basi fusca, aut cylindracea vel clavata in fasciculis aut fusoides vel ventricosa quando solitaria; caulocystidia pleurocystidiis similia; cuticula pilei viscida, innexa. Typus: Smith n. 48733.

Pileus 6-14 cm broad, broadly and shallowly convex when young, finally plano-convex to plane or nearly so; surface viscid, but not truly glutinous and occasionally appearing only moist, usually with patches of agglutinated fibrillose tomentum which appears as scattered squamules or streaks, frequently appearing glabrous with age; color varying from uniformly dull "vinaceous" to "ochraceous tawny" on the disc and yellow toward the margin ("ochraceous buff"), or more dingy, squamules near the margin sometimes colored near "cinnamon", and margin at times appendiculate with veil remnants. Context 10-20 mm thick, pale yellow ("ivory yellow"), unchanging or assuming a dingy pinkish flush ("avellaneous"); taste mild to slightly acidulous, odor mild or slightly acidulous.

Tubes adnate to short decurrent, 6-10 mm deep, separable from the pileus context (but not readily); color when young "primrose yellow" to "sulfur yellow" to "deep colonial buff", in age extensively discolored dingy vinaceous brown ("avellaneous") from bruising; mouths yellow ("honey yellow"), very irregularly angular and uneven from the irregular configuration of the dissepiments, sometimes radially aligned but not always so, occasionally appearing compound, 1.5-2 mm broad radially, about 1 mm wide.

Stipe 2.5-8 cm long, 2-3 cm thick at the apex, tapered toward the base or apex or equal; solid, flesh yellow (like the pileus margin), slowly staining blue in the base when cut, elsewhere discoloring vinaceous brown ("avellaneous"); surface reticulate at the apex by fine lines from decurrent tubes, glabrous to furfuraceous-punctate above the annulus, glabrous to appressed fibrillose to dull and matted-fibrillose below, not glandular dotted, staining brown when handled, colored the same as the tubes above the annulus, becoming duller and often dingy brown below; annulus band-like, fibrillose, pallid to white but soon discoloring as the pileus, not gelatinous.

Spore deposit dingy cinnamon ("sayal brown" after moisture escapes). Spores 8-11 × 3-5 μ, smooth, hyaline to ochraceous in KOH, pale orange-buff to cinnamon-buff in Melzer's sol., elliptic in face view, merely obscurely inequilateral in profile.

Basidia 20-30 × 5-8 μ, 4-spored, clavate, yellowish in KOH and Melzer's sol. Pleurocystidia of two types, one cylindrical to clavate with brown pigment around base of cluster, and the other fusoid-ventricose and isolated to scattered, the former 35-70 × 5-8 μ and content brown to hyaline in KOH, the latter type with refractive granules and 22-28 × 5-8 μ. Cheilocystidia in clusters and 60-100 × 5-9 μ, cylindrical to

9. **Suillus caerulescens** Smith & Thiers sp. nov.

Pl. 10.

Pileus 6-14 cm latus, convexus demum planus, viscidus, "vinaceous" vel "ochraceous tawny", flavus ad marginem; tubuli adnati vel

clavate or narrowly fusoid-ventricose, content hyaline to yellow-brown. Caulocystidia similar to cheilocystidia (in clusters and with pigment at base of cluster) occurring only to the level of the annulus.

Tube trama of non-amyloid, hyaline, gelatinous hyphae somewhat divergent near the subhymenium, with an obscure to distinct central strand, numerous large contorted laticifers present and these dark brown in KOH. Pileus trama more or less compactly interwoven, homogeneous, occasional laticifers present. Epicutis of pileus a collapsed trichodermium with elements 8-17 μ broad, and a basal layer with elements mostly unbranched and 3-7 μ in diam., and hyaline to pale ochraceous in KOH, the layer gelatinous and up to 400 μ thick, Hypoderm differentiated as a compactly interwoven layer staining ochraceous in KOH. No clamps seen.

Gregarious in humus in the fall months in the Pacific Northwest. Not common.

This species is not associated with larch, but may be found in mixed conifer stands where larch is present. It may be more common than our records indicate, since this whole *S. lakei* series has been one of the most confused groups in the boletes. We have found it mostly under mixtures of Douglas fir lowland fir, hemlock and redwood with larch present at times.

It differs from *S. lakei* in having a distinct change to blue in the stipe and in having numerous large laticiferous ducts in the context of the cap. The spores also seem to average broader, up to 5 μ as compared with 3-4 μ , but we hesitate to emphasize this slight difference. We have not found the stipe to be glandular dotted but the fascicles of caulocystidia with their colored incrusting pigment as revived in KOH actually place this species close to the type section of the genus. It is close to *S. ponderosus* but the dry annulus separates them.

Material studied. California: Peters 117; 167; 174; 214. Motta 94. Thiers 8279; 8762; 8765; 9967; 9974; 9246; 9251; 9284; 9338; 9406; 10040. Oregon: Smith 28220. Washington: Smith 48733-type (MICH).