stipe. *A. tenax* is placed in synonymy with *A. crassa* because there is considerable overlapping in the characters used to separate the two species especially in the thickness of the walls of the sphaerocysts, as shown by a study of the holotype of *A. tenax* as well as numerous collections from western North America.

2. *Arcangeliella desjardinii* sp. nov. — Pl. 1, fig. 2

Basidiocarpia stipitato-pileata, epigaea. Pileus 4—5 cm latus, convexus demum planus vel subdepressus, siccus, pruinosus, fuscus vel olivaceus. Contextus albus, immutabilis. Sapor et odor mitis. Latex albus, immutabilis. Gleba lamelliformis, alveolata, subflava vel bubalina, brunneola vel rufa lactice maculata. Stipes 3—4.5 cm longus, 1—1.5 cm latus, siccus, pileo concolor, glaber. Basidiosporae 7.6—10.5 × 6.5—9.5 µm, globosae vel subglobosae, reticulatae vel fracto-reticulatae; reticulum amyloideum. Cystidia 50—70 × 4—8 µm, rara, inconspicua. Epicutis pilei ex hyphis implicatis. Gregaria in solo subter *Pseudotsuga menziesii* (Mirb.) Franco. Holotypus: H. D. Thiers 44020 (SFSU), leg. Desjardin, 21. Nov. 1981, Jackson State Forest, Mendocino Co., Calif., USA.

Basidiocarps with a distinct, well developed stipe and percurrent columella, epigeous during all stages of development, lactarioid. Pileus 4—5 cm broad, convex when young becoming plane to broadly convex to more typically shallowly depressed at maturity, sometimes with a short, acute umbo on the disc, often uneven and irregular in outline with age; margin incurved, entire or somewhat eroded; surface dry, pruinose, pruina easily removed by rubbing, somewhat wrinkled and often undulating or lobed on the margin, colored dark brown to olive or olive buff or olive brown ("hair brown" to "deep grayish olive"), sometimes paler ("darker olive buff") on the margin, lacking any spots or splotches of yellow discoloration, not changing when bruised. — Context 2—3 mm thick, firm, white, unchanging upon exposure. — Taste mild. — Odor not distinctive. — Latex white, copious, unchanging upon exposure and not staining white paper after 24 hours, typically staining tramal plates brownish to reddish upon drying, taste developing as a tingling sensation on the tongue after a few minutes. — Gleba (tramal plates) usually fully exposed at maturity, irregular in orientation with numerous branches, intervenose, alveolate to broadly lacunose; color pale yellow to buff ("light ochraceous buff") during all stages of development, unchanging when bruised. — Stipe 3—4.5 cm long, 1—1.5 cm broad, equal, solid; context white, unchanging; surface dry, colored as the pileus somewhat paler, often whitish to ochraceous buff at the base, glabrous to tomentose or pruinose at the apex.

Basidiospores 7.6—10.5 × 6.5—9.5 µm, globose to subglobose, walls hyaline with a strongly amyloid, complete or broken reticulum; smooth hilar plage apparent but not strongly conspicuous; apiculus hyaline, well developed, not strongly eccentric. — Basidia

30—50 × 7—8 µm, 1—2—4 spored, clavate, hyaline; sterigmata up to 16 µm long, curved. — Cystidia 50—70 × 4—8 µm, very rare, inconspicuous and embedded in the hymenium, clavate with an elongated tapering apex, walls moderately thin. — Trama of glebal plates interwoven; sphaerocysts absent; laticiferous hyphae abundant. — Trama of pileus composed of interwoven, filamentous hyphae with rare clusters of sphaerocysts; laticiferous hyphae common. — Epicutis of pileus highly diffentiated as a layer of tangled (a turf) hyphal tips, ochraceous in Melzer's, pale buff in KOH, individual hyphae hyaline, tips 3—5 µm wide. — Clamp connections absent.

Habit, habitat and distribution. — USA: California, Known only from the coastal forest in Mendocino Country where it was found growing in soil along a road cut under Douglas Fir *(Pseudotsuga menziesii* (Mirb.) Franco. H. D. Thiers 44020 — holotype (SFSU). Collected by Dennis Desjardin.

This species is most likely to be confused with *A. variegata* since they both occupy the same type of habitat and both may be somewhat gray to olive in coloration. However, *A. desjardinii* does not have a variegated pileus, lacks an acrid taste, has lamellae (tramal plates) which are stained brownish or reddish by the latex and has a much more highly differentiated epicutis. The epicutis is strongly reminiscent of that of members of Section Plinthogali in the genus *Lactarius*.

3. *Arcangeliella parva* sp. nov.

Basidiocarpia stipitato-pileata, hypogaea. Pileus 7—22 mm latus, convexus demum planus vel plano-convexus, humidus, glaber, albidus vel subflavidus, interdum tactu aurantius vel brunneolo-aurantius, margine ad stipitem perpetuo affixus. Contextus albus, immutabilis. Sapor acer. Odor haud distinctus. Latex albus, primo immutabilis dein tarde flavescens. Gleba lamelliformis, locularis vel alveolata, alba. Stipes 5—12 mm longus, 3—6 mm crassus, albus vel subflavidus, siccus, glaber. Basidiosporae 7.5—9.6 × 5.5—7 µm, ellipsoideae vel ovoideae, reticulatae vel fracto-reticulatae; reticulum amyloideum. Cystidia 40—56 × 8—12 µm, dispersa vel rara, fusoidea; apices longe attenuati. Epicutis pilei intertexta, compacta. In solo subter arboribus coniferis. Holotypus: Thiers 45906 (SFSU), legit Desjardin, 14 June 1983, prope Satterly, Plumas Co., California, USA.

Basidiocarp with distinct, although reduced, stipe and percurrent columella, completely hypogeous during all stages of development, lactarioid. — Pileus 7—22 mm broad, convex when young becoming plane to plano-convex at maturity, margin permanently attached to the stipe and never breaking free to expose the hymenophore; surface moist, not viscid but with debris often remaining attached to the surface, glabrous, colored white to slightly off-white to pale yellow to yellowish white ("cream color"), unchanging or with a tendency to stain grayish orange to brownish orange, drying whitish to brown. —