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Nomenclatural novelties : K. Liimatainen, J. Ammirati, D. Bojantchev & T. Niskanen

Cortinarius balaustinosimilis Niskanen & Liimat. sp. nov.

IF 903159

Holotype: K-M 001435595

Etymology: The species is named for its similarity to C. balaustinus.

Diagnosis: Pileus 3–5 cm in diam., at first hemispherical then low convex to almost plane, reddish brown. Lamellae brown. Stipe 5–7 cm long, 0·5–1·0 cm thick at the apex, cylindrical to somewhat clavate, white fibrillose. Universal veil white. Basidiospores 5·5–6·5 (–7) × (5–) 5·5–6 µm, almost globose to subglobose, moderately verrucose. Some basidia with olivaceous brown contents in 5% KOH. ITS sequence (GenBank OQ382896, ex holotype) distinct from other members of Cortinarius and with 95% similarity to the closest known species.

Specimens examined: USA. Florida, Gainesville, Sweetwater, Xeric oak forest with some pines, 15 Jan. 2015, K. Liimatainen, T. Niskanen 14-280, K-M 001435595 (holotype; H isotype). GenBank OQ382896.

Ecology and distribution: in mixed forests. So far known from the USA, Florida.

Notes: Cortinarius balaustinosimilis is preliminary placed in Cortinarius subgen. Illumini. It is reminiscent of C. balaustinus but the spores of C. balaustinus are somewhat narrower 5·5–6·5 × 4·7–5·2 µm.

Calonarius ochraceus Niskanen & Liimat. sp. nov.

IF 903160

Holotype: K-M 001435597

Etymology: The name refers to the colour of the pileus.

Diagnosis: Pileus over 5 cm in diam., at first hemispherical to convex, then low convex, centre ochraceous, toward margin very pale greyish blue. Lamellae crowded, adnexed, pale grey. Stipe over 4 cm long, over 1·0 cm thick at the apex, with a marginate bulb, whitish. Context whitish. Universal veil not recorded. Odour not recorded. Basidiospores 9–10 × 5–5·5 µm, rather narrowly amygdaloid to somewhat citriform, rather strongly, coarsely verrucose. Basidia hyaline. ITS sequence (GenBank OQ382898, ex holotype) distinct from other members of Calonarius and with 94% similarity to the closest known species, C. corrosus.

Specimens examined: USA. Florida, Walkulla Co., Ochlockonee River State Park, planted Pinus, some evergreen oaks, 30 Dec. 2014, K. Liimatainen, T. Niskanen 14-114, K-M 001435597 (holotype; H isotype). GenBank OQ382898.

Ecology and distribution: In mixed forests. So far known from the USA, Florida.

Notes: Very pale in colour compared to many other species in the genus Calonarius. Was collected in the field as a species reminiscent of C. corrosus, but C. corrosus lacks bluish tint at the margin of the pileus and the spores are larger 9·5–11·5 × 6–7·5 µm.

Cortinarius fuscobubulus Niskanen & Liimat. sp. nov.

IF 903161

Holotype: K-M 001435626

Etymology: The species belongs to C. sect. Bovini, that has been named after ox/cow. The latter part of the name 'bubulus' links to this idea and means pertaining to cattle, cows, oxen or bulls. Fuscus=black, brown, refers to the colour of the pileus.

Diagnosis: Pileus 4–7 cm in diam., reddish brown, hygrophanous and soon drying up streaked light reddish brown. Lamellae medium spaced, light reddish brown, older dark reddish brown. Stipe 6–8 cm long, 1–1·6 cm thick at the apex, clavate to bulbous, greyish white fibrillose, soon light reddish brown. Context marbled hygrophanous, reddish brown. Universal veil white, abundant, woolly. Odour indistinct. Basal mycelium white. Basidiospores 9·5–11 × 6–6·5 µm, amygdaloid-ellipsoid, moderately verrucose, more strongly at the apex. Basidia hyaline, some with pale olivaceous yellowish-brownish contents in 5% KOH. ITS sequence (GenBank OQ382904, ex holotype) distinct from other members of Cortinarius sect. Bovini and with 98% similarity to the closest known species.

Specimens examined: Canada. Alberta, Hinton, S of Centre, Road to Percotte Creek, about 5 km from the crossing, slope, old, mossy Picea dominated forest with some Populus, on rich ground, 3 Sep. 2011, K. Liimatainen, T. Niskanen 11-309, K-M 001435626 (holotype; H isotype). GenBank OQ382904. USA. Alaska, Fairbanks, University Campus NW, trails starting from the end of Yukon Road, mesic, mossy, partly needle/leaf covered, Picea dominated forest with some Betula, Populus, Salix and Alnus, on rich ground, 22 Aug. 2011, K. Liimatainen, T. Niskanen 11-212, 001435627 (K). GenBank OQ382905.

Ecology and distribution: In coniferous forests. So far known from North America, Alaska, Alberta, and British Columbia.

Cortinarius fuscobarba Niskanen & Liimat. sp. nov.

IF 903162

Holotype: K-M 001435628

Etymology: The species looks like a mixture of C. fuscobovinus and C. canabarba (current name C. rusticus) and the name has been formed by making a combination of these two epithets.

Diagnosis: Pileus 7–11 cm in diam., fibrillose, centre brown, other parts in moist places dark brown, in dryer places greyish brown, hygrophanous. Lamellae medium spaced, at first light brown, later reddish brown. Stipe 6–8 cm long, 1·3–2·3 cm thick at the apex, fleshy, clavate, first greyish white fibrillose, later light brown. Context marbled hygrophanous, greyish to reddish brown. Universal veil not recorded. Odour indistinct. Basal mycelium white. Basidiospores 9–10(–10·5) × 6–6·5 µm, amygdaloid, finely to moderately verrucose, more strongly at the apex. Basidia hyaline, some with pale olivaceous yellowish-brown contents in 5% KOH. ITS sequence (GenBank OQ382906, ex holotype) distinct from other members of C. sect. Bovini and with 97% similarity to the closest known species, C. bubulus.

Ecology and distribution: In coniferous forests. So far known from USA, Alaska.

Specimens examined: USA. Alaska, Fairbanks, Ballaine Lake trails, NE of University campus, Picea dominated forest with some Betula, Populus, Salix and Alnus, on rich ground, 19 Aug. 2011, K. Liimatainen, T. Niskanen 11-154, K-M 001435628 (holotype; H isotype). GenBank OQ382906.

Cortinarius albertaensis Niskanen & Liimat. sp. nov.

IF 903163

Holotype: K-M 001435630

Etymology: The species is named after the type locality which is located in the province of Alberta.

Diagnosis: Pileus over 5 cm in diam., at first hemispherical, then low convex to almost plane, with a low and broad umbo, brown to dark reddish brown, hygrophanous. Lamellae medium spaced, pale greyish brown when young, later dark brown to dark reddish brown. Stipe over 7 long, over 0·7 cm thick at the apex, clavate to bulbous, at first whitish fibrillose, soon brownish. Context dark brown.

Universal veil not recorded. Odour indistinct. Basidiospores 9–10·5 × 6–7 µm, amygdaloid to amygdaloid-ellipsoid, moderately verrucose. Basidia hyaline, some with pale ochraceous yellowish-brown contents in 5% KOH. ITS sequence (GenBank OQ382907, ex holotype) distinct from other members of C. sect. Bovini and with 98% similarity to the closest known species.

Ecology and distribution: In mixed forests on calcareous ground. So far known from France and North America: Alaska, and Alberta.

Specimens examined: Canada. Alberta, Hinton, S/SW of Centre, from road 40 to Cold Creek Road, by the Cold Creek, fairly old, mixed forest of Populus and Picea, on rich ground, 2 Sep. 2011, K. Liimatainen, T. Niskanen 11-285, K-M 001435629. GenBank OQ382908; loc. cit. K. Liimatainen, T. Niskanen 11-288, K-M 001435630 (holotype; H isotype). GenBank OQ382907. USA. Alaska, Fairbanks, University Campus NW, trails starting from the end of Yukon Road, mesic, mossy, partly needle/leaf covered, Picea dominated forest with some Betula, Populus, Salix and Alnus, on rich ground, 22 Aug. 2011, K. Liimatainen, T. Niskanen 11-213, K-M 001435631.

Thaxterogaster arenosovibratilis Liimat. & Niskanen sp. nov.

IF 903164

Holotype: K-M 001435632

Etymology: The name refers to the sandy habitat from where the type collection was made and the affinity to T. vibratilis.

Diagnosis: Pileus 2–4 cm in diam., at first hemispherical, then low convex, red brown. Lamellae pale brown. Stipe 5–9 cm long, 0·5–1·0 cm thick at the apex, cylindrical, whitish fibrillose, only slightly slimy. Context pale yellow in stipe. Universal veil white. Odour very strong, raphanoid, not sweet. Taste at least on the top of the pileus bitter. Basidiospores 7–8 × 4·5–5 µm, ellipsoid, finely verrucose. Basidia hyaline, many with hyaline oil drops. Lamellar trama hyphae with hyaline oil drops. ITS sequence (GenBank OQ382909, ex holotype) distinct from other members of Thaxterogaster sect. Vibratiles and with 95% similarity to the closest known species, Thaxterogaster vibratilis.

Specimens examined: USA. California, Humboldt Co., Arcata, James Road, more mature forest, older dune part, Sitka spruce and Pinus contorta, on moss, 2 Dec. 2012, J. Olsson, T. Niskanen 12-193, K-M 001435632 (holotype; H isotype). GenBank OQ382909; loc. cit. J. Olsson, T. Niskanen 12-198, K-M 001435633. GenBank OQ382910.

Ecology and distribution: In coniferous forests. So far known from USA, California.

Cortinarius subvenustissimus D.J. McLaughlin, Dentinger, Liimat., Ammirati, Niskanen & Kytöv. sp. nov.

IF 903165

Holotype: K-M 001435591

Etymology: This species was named for its affinity to Cortinarius venustissimus.

Diagnosis: Pileus from 2 cm in diam., convex with a small umbo, light grey to light greyish yellowish brown, dry, shiny, non hygrophanous. Lamellae medium spaced, adnexed, yellowish brown. Stipe around 7 cm long, around 1·0 cm thick at the apex, cylindrical to broadly clavate, silky white fibrillose, purple at the apex. Context pale yellowish grey to yellowish brown. Universal veil not recorded. Odour distinct. Basidiospores 6·5–7·5 × 4·5–5 µm, Q= 1·40–1·62, lacrymoid to lacrymoid-fusoid, with a prominent suprahilar depression and a round to somewhat tapering blunt apex, fairly finely verrucose, somewhat more strongly at apex, thin-walled, almost indextrinoid. Lamellar trama hyphae pale olive yellowish, smooth, somewhat guttulate. ITS sequence (GenBank OQ382893, ex holotype) distinct from other members of Cortinarius sect. Tragani and with 99% similarity to the closest known species, C. traganus and C. venustissimus.

Specimens examined: Canada. Alberta, Hinton, 4 Sept. 2011, K. Liimatainen, T. Niskanen 11-344, K-M 001435591 (holotype; H isotype). GenBank OQ382893. USA. Minnesota, Hubbard Co., Paul Bunyon State Forest, Minnesota County Biological Survey study site T6, in moss under red and jack pine with some balsam fir, 28 Sept. 2007, MCBS 263, 125-09 (MIN). GenBank OQ382894.

Ecology and distribution: In coniferous forests. So far known from North America, Alberta, and Minnesota.

Notes: The spores of C. venustissimus and C. traganus are larger, 7·5–8·5 × 4·5–5·5 µm and 8–9·5 × 5–6 µm. In addition, C. traganus is typically stouter, has more purple colours in the basidiomata, the universal veil is abundant and woolly, and the context is saturated yellow brown.

Phlegmacium americanocyanites Liimat., Niskanen & Ammirati sp. nov.

IF 903166

Holotype: K-M 001435593

Etymology: The species belongs to the same subgenus with P. cyanites and grows in North America.

Diagnosis: Pileus 4–7 cm diam., at first hemispherical, later low convex, greyish brown to brown with some purple. Lamellae medium spaced, blue. Stipe 5–10 cm long, 1–2 cm thick at the apex, clavate to broadly clavate, pale violaceous. Context pale purple to purple, becoming reddish at the base of stipe. Universal veil brown, forming girdles/scales on the stipe. Odour indistinct. Basidiospores 9·5–10·5 × 6–6·5 µm, amygdaloid, moderately verrucose. Basidia mostly hyaline, some with pale yellow contents. ITS sequence (GenBank OQ382895, ex holotype) distinct from other members of Phlegmacium subgen. Cyanicium and with 99% similarity to the closest known species, P. violaceorubens.

Specimens examined: USA. Washington, Snohomish County, Barlow Pass, Mt Baker-Snoqualmie national forest, Barclay Lake trail, Pseudotsuga, Abies, Tsuga, 11 Oct. 2009, J.F. Ammirati & K. Liimatainen, T. Niskanen 09-088, K-M 001435592; Seattle area, 15 Oct. 2011, T. Niskanen 11-474, K-M 001435593 (holotype; H isotype). GenBank OQ382895.

Ecology and distribution: In coniferous forests. So far known from USA: Alaska, and Washington state.

Calonarius napoides Niskanen & Liimat. sp. nov.

IF 903167

Holotype: K-M 001435596

Etymology: The species is related to C. napus.

Diagnosis: Pileus 5–8 cm diam., at first hemispherical then low convex, brown. Lamellae crowded to somewhat crowded, greyish white. Stipe 5–8 cm long, 1–2 cm thick at the apex, with a ± marginate bulb, whitish. Basal mycelium white. Basidiospores 9·5–10·5 × 5·5–6 (–6·5) µm, amygdaloid to amygdaloid-citriform, moderately, somewhat coarsely verrucose. Some basidia with brownish-yellow contents. ITS sequence (GenBank OQ382897, ex holotype) distinct from other members of Calonarius and with 95% similarity to the closest known species, C. napus.

Specimen examined: USA. California, Santa Cruz Co., Scotts Valley, mixed forest, 14 Dec. 2012, E. Vellinga, T. Niskanen 12-318, K-M 001435596 (holotype; H isotype). GenBank OQ382897.

Ecology and distribution: In mixed forests. So far known from the USA, California.

Notes: Calonarius napoides resembles C. napus, but the spores of C. napus are larger 10–12 × 6–7·5.

Thaxterogaster melleoamarus Liimat., Niskanen & Ammirati sp. nov.

IF 903168

Holotype: H 7001075

Etymology: The name refers to the colour and the bitter taste of the pileus.

Diagnosis: Pileus 2·5–3 cm diam., light yellowish brown, sticky slimy, hygrohanous, drying to ochraceous yellow, starting as a circle around the umbo. Lamellae medium spaced to somewhat crowded, adnate-adnexed, pale, yellowish brown. Stipe 4–8 cm long, 0·3–0·6 cm thick at the apex, cylindrical to somewhat clavate, white, almost dry. Context very pale yellowish-brown. Odour in lamellae strong raphanoid, in context sweeter. Taste bitter at least on the top of the pileus. Basidiospores 7–8 × 4·5–5 µm, amygdaloid to amygdaloid-ellipsoid, finely verrucose. Basidia hyaline. ITS sequence (GenBank OQ382911, ex holotype) distinct from other members of Thaxterogaster sect. Vibratiles and with 95% similarity to the closest known species, T. vibratilis.

Specimen examined: USA. Washington, SE of Seattle, SE of Fairwood centre, SE of Lake Youngs, Shadow Lake, damp coniferous forest (Tsuga heterophylla, Picea sitchensis), 10 Oct. 2007, K. Liimatainen, T. Niskanen 07-437, H 7001075 (holotype; K isotype). GenBank OQ382911.

Ecology and distribution: In coniferous forests. So far known from USA, Washington.

Cortinarius grandirubellus M.E. Sm., J.L. Horman & D.P. Lewis, sp. nov.

IF 903169

Holotype: TAES DPL-14108

Etymology: This large species was named after affinity to Cortinarius rubellus.

Diagnosis: Pileus 50–90 mm diam, convex to pulvinate, slightly depressed, margin enrolled, surface tomentose to minutely scaly, orange yellow on margin, otherwise light brown to brown or orange brown. Lamellae adnexed, subdistant, ochraceous to cinnamon or dull brick red, edges entire. Stipe 40–70 mm long, 15–26 mm thick above, 20–35 mm at base, expanding slightly downward to an abruptly narrowed base, surface cream yellow with darker areas colored like the pileus surface, roughened with raised striations, fibrillose, with dark red-brown veil fibrils. Context in pileus 7 mm thick, pale yellow to light yellow, in stipe solid, similar in color to the pileus context. Odor mild, raphanoid. UV exsiccatae dull red brown. Basidiospores size rather variable, (8·1–) 9·3–11·8 (13–15·5) × (5·2–) 5·6–6·5 (–7·4), ellipsoid to somewhat amygdaloid or short broad ellipsoid, some irregularly shaped, moderately to more coarsely verrucose, not dextrinoid or faintly so. Basidia 43–48 × 10–11·1 µm, 4–(2)-spored, clavate, colorless or light yellowish brown. Pileipellis: epicutis a thin layer of interwoven, ± radially arranged cylindrical hyphae, 4–7·5 µm wide, yellow to orange yellow, walls refractive, colorless or yellow, smooth or encrusted; hypocutis a distinct layer of interwoven, ± radially oriented, cylindrical to broadly cylindrical to enlarged hyphae, mostly 10–21 µm wide, yellow, orange yellow to orange brown in mass, walls refractive, ± thickened, yellowish or colorless, often encrusted. Clamp connections present. ITS sequence (GenBank PP094938, ex holotype) distinct from other members of C. sect. Orellani and with 96% similarity to the closest known species C. rubellus.

Specimens examined: USA. Florida. Putnam Co. Ordway-Swisher Biological Station, Lake Suggs boat ramp, Pinus and Quercus, 19 Oct. 2017, coll. M. Smith lab members, FLAS-F 61883 (FLAS, WTU), GenBank MH212130. New York. Long Island Co. Brookhaven S.P., Town of Wading River, 20 Aug. 2017, coll. M. Horman, jlh10514301 (NY), GenBank MZ08788; loc. cit., 21 Oct. 2019, coll. Margaret Horman, jlh0613-19, NYBG04273892 (NY), GenBank PP094939. Texas. San Jacinto Co., Evergreen-Outdoor Nature Club, Little Thicket Nature Sanctuary, Pinus and hardwoods, 13 Nov. 2021, coll. D. P. Lewis, TAES DPL-14108 (holotype), GenBank PP094938.

Notes: Generally mistaken in the field for C. rubellus, but much more robust and with large, ellipsoid to somewhat amygdaloid basidiospores. Rather large clamp connections, especially in the pileipellis. This species has not been evaluated for orellanine.

Ecology and distribution: under Quercus, in Oak-Pine Barrens, mixed Pinus-Quercus, Pine-hardwood forests, New York, Florida and Texas.

Cortinarius brunneostriatus Liimat., Niskanen, J.L. Horman & M.E. Sm., sp. nov.

IF 903170

Holotype: H 14-125

Etymology: Named for the broad, distinctly striate pileus.

Diagnosis: Pileus 13–20 mm diam, plane to slightly depressed at maturity, medium brown, with dark brown acute to rounded umbo, striate to one-third of diameter, hygrophanous. Lamellae adnate, sub-distant, pale brown becoming darker brown. Stipe up to 40mm long, 2-4 mm thick at apex, 3-5 mm thick at base, equal to slightly expanded toward base, slender, grayish brown to near citrine; veil remnants white, forming a belt at mid-stipe or below. Contex in pileus pale brown, in stipe pale brown, tubular to hollow, stuffed with darker material. Odor and taste none. Basidiospores 6·7–8·1 (–8·9) × 4·8–5·6 (–5·9) µm, subgloboid to short, broad ellipsoid or ellipsoid, ± moderately verrucose, dextrinoid. Basidia 28–33 × 7·4–8·5 µm, 4-spored (rarely 2-spored), clavate, colorless to pale brownish. Pileipellis: epicutis a thin layer of radially arrange, ± interwoven cylindrical, colorless to slightly yellowish hyphae 2–7·5 µm wide; hypocutis distinct, ± cellular, composed of broadly cylindrical to enlarged hyphae, 8–21 µm wide, brown to pale brownish colorless, walls refractive, encrusted or smooth; hyphae with dark brown pigment in pileus trama. ITS sequence (GenBank PP094944, ex holotype) distinct from other members of Cortinarius sect. Rubricosi and with 98.5% similarity to the closest known species C. mucicola.

Specimens examined: USA. Florida. Putnam Co. Ordway-Swisher Biological Station, near west entrance, unit A-4, 25 Jan. 2017, coll. M. Smith lab members, FLAS-F-60247 (FLAS), GenBank MF153044. Wakulla Co., Sopchoppy E, Silver Lake Road, rather old mixed forest (Quercus spp., Pinus sp., Magnolia), damp to mesic soil, 26 Dec. 2014, coll. K. Liimatainen, A. & T. Niskanen, 14-074 (H), GenBank PP094942. Crawfordville, 306 Wakulla Beach Road, Quercus virginiana, Magnolia, 30 Dec. 2014, coll. K. Liimatainen, A. & T. Niskanen, 14-124 (H), GenBank PP094943. loc. cit., H 14-125 (holotype; NY isotype), GenBank PP094944. Columbia Co., River Rise State Park, Laurel oak, Live oak, Pinus sp., Magnolia, sweetgum, 13 Jan. 2015, coll. K. Liimatainen, A. & T. Niskanen, 14-187 (H), GenBank PP094945. loc. cit., 14-191 (H), GenBank PP094946. Gainesville, Paynes Prairie Preserve State Park, parking place in East side of the Road at Puggy Road junction, Park-like oak spp. dominated forest, 14 Jan. 2015, coll. K. Liimatainen, A. & T. Niskanen, 14-241 (H), GenBank PP094947. loc. cit., 14-267 (H), GenBank PP094948. Sweetwater, 15 Jan. 2015, coll. K. Liimatainen, A. & T. Niskanen, 14-320 (H), GenBank PP094949. loc. cit., 14-321 (H), GenBank PP094950. loc. cit., 14-323 (H), GenBank PP094951. loc. cit., 14-324 (H), GenBank PP094952. loc. cit., 14-331 (H), GenBank PP094953. New York. Suffolk County. David Sarnoff Preserve, Riverhead, in Polytrichum, Quercus, Pinus, 6 Oct. 2019, coll. J. Horman, jlh6918-19 (NY), GenBank PP094941. Additional sequences: C. sp. 'IN61', Indiana, coll. S.D. Russell, iNaturalist # 17891574, GenBank OM473478. C. sp. CORTIN08 Southern Appalachian, GenBank AY656968.

Ecology and distribution: Mixed hardwood forest, Quercus roots, Quercus and Pinus rigida, Florida, Indiana and New York.

Thaxterogaster lodgeae M.E. Sm., Healy, D. P. Lewis, Ammirati, Cantonwine, sp. nov.

IF 903171

Holotype: WTU DPL-11732

Etymology: Named in honor of D. Jean Lodge, North American Mycologists.

Diagnosis: Pileus up to 35 mm diam, plano-convex, viscid moist to dry, glabrous, shiny, innately radially streaked, deep purple to lilac, paler in age, brownish in old, damaged areas. Lamellae

adnate, close, edges entire, purplish to dark purple then rusty brown from spores. STIPE 30–35 mm long, 7–9 mm thick, with ± bulbous base, rim rounded to slightly marginate, surface dry, glabrous, purple to light purple, sometimes whitish above base, in places dark purple where handled, mature with rusty spore covered veil at base. Context 5 mm thick in pileus, stipe hollow mature, color purple or purplish and white, darker purple in places after cutting; odor mild slightly musky, taste not recorded. Basidiospores (8·1–) 8·3–10·4 × 5·2–6·3 (–6·7) µm, ellipsoid to broadly ellipsoid or somewhat amygdaloid, coarsely verrucose. Basidia 4-spored, 30–37 × 8–9·6 µm, clavate, faintly pinkish to colorless. Pileipellis: epicutis a well-developed gelatinous matrix of narrow, cylindrical, interwoven hyphae, 2·5–7 µm wide, colorless to slightly pinkish or yellowish, a few filled with yellow pigment, smooth or slightly encrusted; hypocutis not well differentiated, but a distinct layer of cylindrical to broadly cylindrical, strongly interwoven, somewhat radially arranged hyphae, 4–10 µm wide, rich yellow to light yellow or pinkish to colorless, walls ± refractive, ± thickened, smooth to often yellow encrusted. Clamp connections present. ITS sequence (GenBank PP094940, ex holotype) distinct from other members of Thaxterogaster and with 97% similarity to the closest known species T. rhipiduranus.

Specimens Examined: USA. Florida. Putnam County. Ordway Swisher Biological Station, by west gate entrance, mixed Pinus and Quercus forest, 19 Oct. 2017, coll. M. Smith, R. Healy, A. Corrales, A. Farid, A. Grupe, N. Reynolds, C. Truong, B. Kaminsky, N. Kraisitudomsook, M. Caifa, A. Mujic, FLASH-F-61865 (FLAS), GenBank MH212120. Georgia. Brooks County. 30.8567°N 83.5264°W, hardwood-pine forest, 9 Sept. 2018, coll. Valdosta State University mycology lab members, VSC-F000035 (VSC), GenBank ON080999. Texas. Hardin Co., Lumberton, Village Creek State Park, nature trail, 30 May 2015, WTU DPL-11732 (holotype; TAES isotype), GenBank PP094940.

Ecology and distribution: pine oak and mixed pine hardwoods forests, Florida, Georgia and Texas.

Notes: This is a small to medium sized, purple species with ellipsoid to broadly ellipsoid or somewhat amygdaloid, coarsely verrucose basidiospores. With exsiccatae, 3% KOH on the pileus surface is brown to blackish brown on the stipe base blackish. Pileus of exsiccatae retain lilac to purplish tints that persist in slide mounts, and sections of lamellae and pileus tissue mounted in 3% KOH retain some pale lilac to pinkish color.

Cortinarius infractiincognitus Bojantchev, Pastorino, Liimat., Niskanen sp. nov.

IF 901872

Holotype: WTU F-079416

Etymology: the incognito infractus.

Diagnosis: pileus 25–90 mm diam., hemispherical to convex when young, plano-convex to plano-concave in age, occasionally broadly umbonate, margin involute then uplifted, pale beige, golden brown on the disk, light bluish grey towards the margin, finely innately fibrillose, with water marks, radial and concentric towards the margin, glutinous when wet. Lamellae moderately crowded, tan to beige, then light brown as the spores mature. Stipe 40–130 mm long, 8–25 mm wide, cylindric to subclavate, often tapering at the base, white to light tan, often covered with mycelial felt at the base. Universal veil white. Partial veil composed of whitish fibrils, leaving a sparse to absent annular zone on the stipe. Context whitish to light tan. Odor earthy. Taste bitter. Macrochemical Reactions 5% KOH negative. Basidiospores (7·0–) 7·3–7·7 (–8·0) × (5·2–) 5·6–6·0 (–6·2) µm (mean 7·5 × 5·9 µm), Qav = 1·29, broadly ellipsoid to subglobose, distinctly verrucose. Basidia 18–28 × 4–12 µm, 4-spored, cylindro-clavate, clamped. Lamella edges sparsely fertile. Cystidia not observed. Pileipellis a thin epicutis, composed of parallel to interwoven hyphae, 3–10 µm wide in a gelatinous matrix, hypodermium weakly developed, hyphae 10–16 µm wide. Clamp connections common in all parts. Ecology and distribution: infrequent, found in mixed woods across the Pacific Northwest.

Collections examined: USA. California: Mendocino County, Jackson State Demonstration Forest, off Little Lake Rd. (39.326595, -123.7330727), elev. 545ft under Notholithocarpus densiflorus, Pseudotsuga menziesii, Tsuga heterophylla, 17 Jan. 2019, DBB89459 (Genbank: PP411002, iNaturalist: 200680535); Humboldt Co., N of Korbel, off Hwy 299, 30 Nov. 2012, TN12-176 (iNaturalist: 200953883); Oregon: Jackson County, Lost Creek Lake, mixed woods, 20 Dec. 2023, RLP12-20-23E (Holotype: WTU F-079416, Genbank: PP411003, MushroomObserver: 541320); RLP12-20-23G (Genbank: PP411004, MushroomObserver: 541590).

Notes: Cortinarius sect. Infracti Bidaud & Reumaux is well represented in the North American West with several species. The species described here is least common of the species in that section and easily overlooked. It bears certain resemblance to species in Cortinarius sect. Anomali Konrad & Maubl.

Cortinarius napus Fr., Epicr. syst. mycol. (Upsaliae): 270 (1838) [1836-1838]

IF 901665

Neotype H 6029481

Specimen details: Finland, Uusimaa, Vantaa, Sotunki, Hogberget, NW slope, in mesic spruce forest (Picea abies), on needle litter, 18 Sept. 2004, coll. K. Liimatainen & T. Niskanen (Niskanen 04-855), GenBank No. OQ382913 (ITS).

Cortinarius corrosus Fr., Epicr. syst. mycol. (Upsaliae): 270 (1838) [1836-1838]

IF 903155

Neotype H 6008018

Specimen details: Finland, Varsinais-Suomi, Vastanfjard, Illo, Illogruvan, in mesic, Picea abies dominated forest with some Betula and Populus tremula on calcareous ground, 16 Sept. 2008, coll. K. Liimatainen & T. Niskanen (Niskanen 08-129), GenBank No. OQ382912 (ITS).