

*Cortinarius* sect. *Balaustini* Niskanen & Liimat., sect. nov.

IF558171

Type: *Cortinarius balaustinus* Fr. 1838

Basidiomata medium-sized. Pileus vivid yellow brown to orange brown, somewhat hygrophanous, with hygrophanous streaks. Lamellae yellow brown to reddish brown. Stipe cylindrical to somewhat clavate, at first white, later very pale brown. Universal veil white, sparse. Basal mycelium white. Context pale ochraceous yellow. Odour in lamellae slightly raphanoid. Basidiospores subglobose, moderately verrucose, indextrinoid or somewhat dextrinoid, 5.5–6.5 × 4.5–5.5 µm. Pileipellis duplex. Epicutis hyphae with dark brown granules or particles in Melzer's. In deciduous and mixed forests.

Etymology: Named after the type species of the section.

*Cortinarius* sect. *Caustici* Niskanen & Liimat., sect. nov.

IF558173

Type: *Cortinarius causticus* Fr. 1838

Basidiomata small- to almost medium-sized. Pileus creamy-yellow, ochraceous, apricot yellow to vivid red brown, smooth or very finely papillose or rugulose, hygrophanous, viscid. Lamellae greyish white, later pale greyish brown. Stipe cylindrical to clavate, white, somewhat glutinous. Universal veil white, sparse, viscid. Basal mycelium white. Context white. Odour in lamellae indistinct. Taste in pileus very bitter. Basidiospores amygdaloid to ovoid-ellipsoid, finely to moderately verrucose, slightly dextrinoid, 6–9 × 4.5–5.5 µm. Lamellar trama hyphae smooth to finely incrustated. Pileipellis duplex. In coniferous and deciduous forests.

Etymology: Named after the type species of the section.

*Cortinarius* sect. *Emuncti* Niskanen & Liimat., sect. nov.

IF558168

Type: *Cortinarius emunctus* Fr. 1838

Basidiomata medium-sized. Pileus pale greyish violet to steel blue, becoming yellowish white to ochre from the centre with age, distinctly glutinous. Lamellae greyish violet when young, soon brown. Stipe cylindrical to somewhat clavate, very pale greyish violet, distinctly glutinous. Universal veil viscid, pale greyish violet, forming girdles on the stipe. Basal mycelium white. Context very pale brownish white. Odour in lamellae indistinct. Basidiospores subglobose, densely verrucose, 6.5–8.5 × 5.5–6.5 µm. Pileipellis with an epicutis and a weakly developed hypodermium. In coniferous and deciduous forests.

Etymology: Named after the type species of the section.

*Cortinarius* sect. *Fragrantiores* Niskanen & Liimat., sect. nov.

IF558169

Type: *Cortinarius fragrantior* Gaugué 1977

Basidiomata medium-sized. Pileus brown to dark brown, hygrophanous. Lamellae pale brown, later brown. Stipe cylindrical to somewhat rooting, white. Universal veil white, very sparse. Basal mycelium white. Context white. Odour in lamellae distinct, like cedar-wood, at the base of stipe

iodoform-like. Basidiospores ovoid-subglobose, moderately verrucose, somewhat dextrinoid, 7–8 × 5.5–6 µm. Lamellar trama hyphae finely incrustated. In mixed forests, on calcareous soil.

Etymology: Named after the type species of the section.

*Cortinarius* sect. *Lilacinocinerei* Niskanen & Liimat., sect. nov.

IF558164

Type: *Cortinarius brunneotinctus* Niskanen, Liimat., Ammirati, André Paul & Lebeuf 2012

Basidiomata medium-sized to large. Pileus purplish grey to greyish brown, not hygrophanous or somewhat hygrophanous in streaks. Lamellae at first pale greyish violet, later dark brown. Stipe cylindrical to clavate, silky fibrillose, at first whitish grey, later very pale brown, with more or less purplish tints, sometimes completely purple when young. Universal veil bluish violet or pale yellow, forming complete and incomplete girdles on stipe, sometimes rather indistinct. Basal mycelium white or bluish violet. Context violet and whitish, marbled hygrophanous, in some species discolouring slowly brownish when cut. Odour in lamellae indistinct or somewhat raphanoid. Basidiospores subglobose to broadly ellipsoid, moderately verrucose, almost non dextrinoid to somewhat dextrinoid, 6.5–8.5 × 5.0–6.5 µm. Lamellar trama hyphae smooth. Pileipellis duplex. In coniferous and mixed forests.

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

*Cortinarius* sect. *Lustrabiles* Niskanen & Liimat., sect. nov.

IF558163

Type: *Cortinarius lustrabilis* Moëne-Locc. 2000

Basidiomata medium-sized. Pileus vivid apricot yellow to more reddish brown, slightly viscid to almost dry, hygrophanous. Lamellae yellowish brown. Stipe cylindrical to somewhat clavate, dry, thinly covered with white silky fibrils which soon disappear revealing the yellow context. Universal veil white, sparse, presumably slightly viscid. Basal mycelium white. Context yellow. Odour in lamellae indistinct or somewhat sweetish. Taste slightly bitter, at least in the pileus context. Basidiospores ovoid to amygdaloid, finely to moderately verrucose, somewhat dextrinoid, 8.5–10.0 × 5–6.5 µm. Lamellar trama hyphae finely to more strongly zebra-striped incrustated. Pileipellis duplex. In dry to mesic coniferous forests.

Etymology: Named after the type species of the section.

*Cortinarius* sect. *Myodes* Niskanen & Liimat., sect. nov.

IF558170

Type: *Cortinarius perlaetissimus* Moëne-Locc. & Reumaux 2004

Basidiomata small-sized. Pileus red brown to dark red brown, strongly hygrophanous. Lamellae yellowish brown. Stipe cylindrical, white silky-fibrillose, soon yellowish brown to red brown. Universal veil white, rather sparse. Basal mycelium white. Context yellowish brown. Odour at the base of stipe faint, iodoform-like. Basidiospores subglobose, moderately verrucose, somewhat to moderately dextrinoid, < 6 × 5 µm. Lamellar trama hyphae very strongly zebra-striped and spot-like incrustated. Pileipellis duplex. In coniferous forests.

Etymology: Named after the generic name of red-backed voles, *Myodes*, since the species of this section are small and brown and occur in northern forests.

*Cortinarius* sect. *Pinophili* Niskanen & Liimat., sect. nov.

IF558172

Type: *Cortinarius pinophilus* Soop 1993

Basidiomata medium-sized. Pileus pale ochraceous to yellow brown, only very slightly viscid to almost dry. Lamellae pale greyish white. Stipe clavate or with a rounded bulb, at first white, later pale yellowish ochre, becoming yellowish when bruised. Universal veil white, sparse. Basal mycelium white. Context very pale greyish white. Odour in lamellae indistinct. KOH reaction in context ± yellow. Basidiospores ellipsoid, verrucose, 8–9.5 × 5.5–6.5 µm. Pileipellis duplex. On sandy soils with Pinus.

Etymology: Named after the type species of the section.

*Cortinarius balaustinus* Fr., *Epicr. syst. mycol. (Upsaliae)*: 307 (1838) [1836-1838]

IF556451

Neotype S F44840 (hic designatus)

Specimen details: Sweden, Harjedalen, Storsjö sn, 1 km W Messlingen, in subalpine forest with *Betula*, *Pinus*, *Picea*, 16 Aug. 1986, coll. H. Lindstrom et al. CFP438, GenBank No. MW599265 (ITS).

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

IF556452

Neotype H 6031321 (hic designatus)

Specimen details: Finland, Uusimaa, Kirkkonummi, Vols, W side of the lake Humaljarvi, in mesic, mossy *Picea abies* dominated forest with some *Pinus* and *Betula*, 8 Sept. 2004, coll. K. Liimatainen & T. Niskanen (Niskanen 04-718), GenBank No. MW599263 (ITS).

*Cortinarius emunctus* Fr., *Epicr. syst. mycol. (Upsaliae)*: 275 (1838) [1836-1838]

IF556453

Neotype H 6001942 (hic designatus)

Specimen details: Finland, Varsinais-Suomi, Karjaa, Mustio, Kohagen, herb-rich *Picea abies* forest with some *Corylus*, *Quercus*, *Betula* and *Populus*, 2 Sept. 2008, coll. T. Niskanen & K. Liimatainen, (Niskanen 08-051), GenBank No. MW599268 (ITS).