

Two new *Capronia* species from the Czech Republic

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Two new species of *Capronia*, *C. perpusilla* and *C. svrcekiana*, are described from rotten wood in near natural forests in the Czech Republic. The intraspecific relationships and autecology of these species are discussed.

Key words: *Capronia perpusilla*, *Capronia svrcekiana*, Herpotrichiaceae, Ascomycotina.

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Jsou popsány dva nové druhy rodu *Capronia*: *C. perpusilla* a *C. svrcekiana* podle sběrů na zetlelém dřevu z pralesovitých porostů České republiky. Jsou diskutovány jejich mezidruhové vztahy a autekologie.

The genus *Capronia* Sacc. of the family Herpotrichiaceae Munk includes lignicolous, herbaceous and hypersaprobic species possessing dark coloured superficial ascomata, rarely immersed in the stromata, with dark setae or irregularly roughened peridia by protruding dark brown to black, thick-walled cells; asci are octo- to plurisporous, interthecial filaments are lacking; ascospores are light to dark coloured, smooth-walled, one to pluriseptate, phragmosporous or dictyosporous. The majority of anamorphs described for this genus belong to the *Exophiala-Ramichloridium-Rhinoclaadiella* complex, known as the “black yeasts” (Untereiner et al. 1995), and also to *Cladosporium* Link (Müller et al. 1987), all species with holoblastic conidiogenesis.

On the basis of cultural and morphological criteria Müller et al. (1987) united the genera *Berlesiella* Sacc., *Dictyotrichiella* Munk, *Didymotrichiella* Munk, *Herpotrichiella* Petrak and *Polytrichiella* Barr into the genus *Capronia* Sacc. According to the literature, the characters of ascospore septation and stroma development are unreliable and do not have large significance for the separation of the genera in question. Only the two genera *Capronia* and *Acanthostigmella* Höhn. (Barr 1977) were accepted within the family, which the authors (Müller et al. 1987) have separated on the basis of ascomatal colour, ascospore septation and the number of ascospores in the ascus and on the presence or absence of stromata. Eriksson and Hawksworth (1990)

followed Müller et al. (1987) to accept these two genera and enlarged the family to include *Berkelella* (Sacc.) Sacc., *Pleomelogramma* Speg. and *Taphrophila* Scheuer. The latter genus is recently placed in *Tubeufiaceae* Barr. The taxonomic position of *Acanthostigmella* has long been discussed (Barr 1977, 1980; von Arx and Müller 1975; Müller et al. 1987; Rossman 1987). Untereiner et al. (1995) excluded *Acanthostigmella* from Herpotrichiellaceae and considered it close to Tubeufiaceae and also excluded and transferred *Capronia pinicola* Petrini et Fisher, a species with delicately striate ascospores and multiple germ slite, trabeculate pseudoparaphyses and the anamorph belonging to *Helicodendron pinicola* Goos, to the new genus *Tyrranosorus* Untereiner et Malloch.

Barr (1987) took a somewhat different view of the genus *Capronia* and preferred to divide it into five genera according to ascospore septation and octo- or polysporous asci. In her latter study, Barr (1991) discussed important generic characters within Herpotrichiellaceae as polyspory and octospory of asci contrary to other groups of ascomycetous fungi.

The species of *Capronia* have a very inconspicuous appearance and occur especially on rotten wood or on dead stems and leaves covered by litter, which helps to retain the necessary moisture for ascoma development. They are able to grow on decorticated wood beneath the raised margins of the bark, especially on somewhat drier sites where litter is absent. They can also occur as hypersaprotrophs on remnants of stromata of other Pyrenomycetes or on old decayed fruit-bodies of resupinate Basidiomycetes. Nevertheless, so far a lot of species of *Capronia* have been described. Müller et al. (1987) recorded 25 species and Barr (1991) listed 15 new species or combinations from North America. According to Barr (1991) only a few taxa from North America can be identified with the described European species.

The author agrees with this opinion because based on the comparison of the original descriptions and drawings of the North American and European species it seems that some of them are rather intermediate than identical. Several finds from the Czech Republic on decaying wood could not be identified with any of the hitherto known species. Therefore, two new species are proposed.

Capronia perpusilla Réblová, sp. nov.

Fig. 1 a-e.

Ascomata superficialia, solitaria vel gregaria, globosa vel subglobosa, denique collapsa, papillata, fusca, 100–200 μm alta vel (80)100–180 μm lata, pariete 30–35 μm crassa, cellulis protrudentibus atque setis fuscis, flexuosis 50–54 \times 3 μm praedita. Asci 70.5–103 \times 15.5–17.2 μm , bitunicati, saccati. Filamenta interthecialia desunt. Ascospores (17.2)20.6–22.4(25) \times 6.8–7.8(8.9) μm , fuscae vel

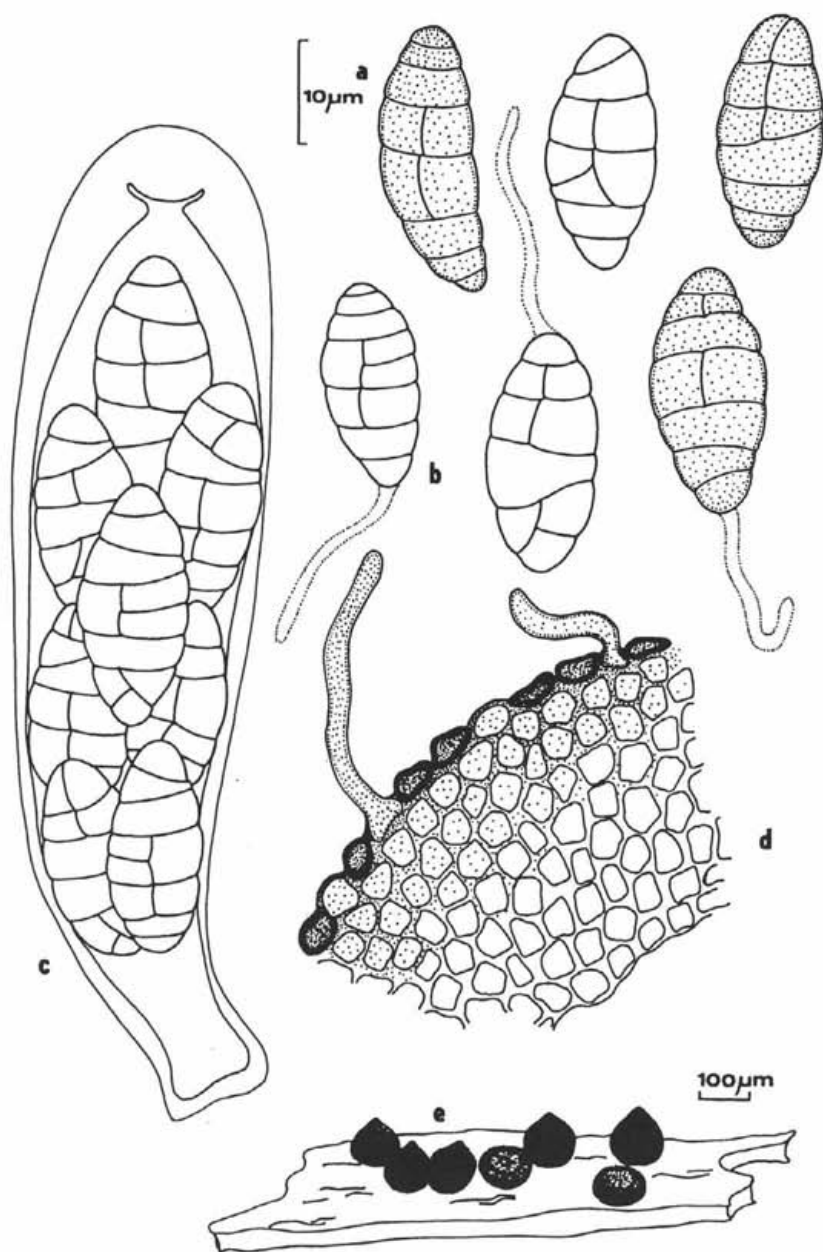


Fig. 1. *Capronia perpusilla* Réblová (PRM 842931).

a-ascospores, b-ascospores with germinating hypha, c-ascus with ascospores, d-vertical section of ascoma, e-ascomata.

Del.: M. Réblová.

griseo-fuscae, fusoidae, septis 5–7 transversalibus, 1–3 longitudinalibus praeditae.

Holotypus: Bohemia meridionalis: Montes Šumava, in declivibus meridionalibus montis "Ždánidla" (1308 m s.m.) dictis prope Prášily apud Železná Ruda; ad ramum putridum deiectum *Fagi sylvaticae*, 20.VI.1995, leg. et det. M. Réblová (PRM 842931).

Ascomata superficial, solitary to gregarious in small groups of 3 to 5, seated on sparse, dark brown mycelium, globose to subglobose, minutely papillate, collabent when dry, 100–200 μm high and (80)100–180 μm wide; ascomatal wall 30–35 μm wide, composed of pseudoparenchymatous cells, its surface bearing scattered protruding thick-walled, darker brown to black cells and in upper half with sparse, in bottom part with dense, pallid to median brown flexuous setae 50–54 μm long and 3 μm wide at base, obtuse at the ends. Asci 70.5–103 \times 15.5–17.2 μm , bitunicate, octosporous, saccate, broadly rounded above. Interthecial filaments lacking. Ascospores (17.2)20.6–22.4(25) \times 6.8–7.8(8.9) μm , irregularly 2–3-seriate, brown to grey-brown, broadly fusiform with obtuse ends, 5–7 transverse septa and 1–3 longitudinal or oblique septa in middle cells, occasionally in end cells, slightly constricted at the septa, smooth-walled.

Habitat: on rotten decorticated wood of *Fagus sylvatica*, often covered by a litter or buried in soil; associated with hyphomycetous fungi, e.g. *Brachysporium nigrum*, *Pseudospiropes obclavatus*, *P. simplex*.

Distribution: Czech Republic.

Additional specimen examined: Southern Bohemia: Šumava Mts., Černý Kříž near Volary, on the slopes of Mt. "Srňčí vrch" (1068 m a.s.l.); on decorticated fallen branch of *Fagus sylvatica*, 13.IX.1995, leg. et det. M. Réblová (Herb. M. Réblová 720/95).

C. mansonii (Schol-Schwarz) E. Müll. et al. is closely related but differs in having densely setose ascomata, smaller asci (40–45 \times 11–13 μm) and ascospores with longitudinal septum in each transverse segment. *C. collapsa* (Mathiasen) Barr is related but has smaller asci (45–65 \times 9–12 μm) and ascospores ((10)12–18 \times 3.5–5.5 μm) with three transverse septa only. *C. chlorospora* Barr reported from North America (Barr 1991) has noncollabent ascomata bearing very short dark setae and has somewhat smaller ascospores (12–18(20) \times (5.5)7–9 μm) and longitudinal septa in all middle cells.

Rhinocladia —like hyphomycetous species with holoblastic conodiogenesis growing out of the peridia of old ascomata have been observed, it has not been grown in culture.

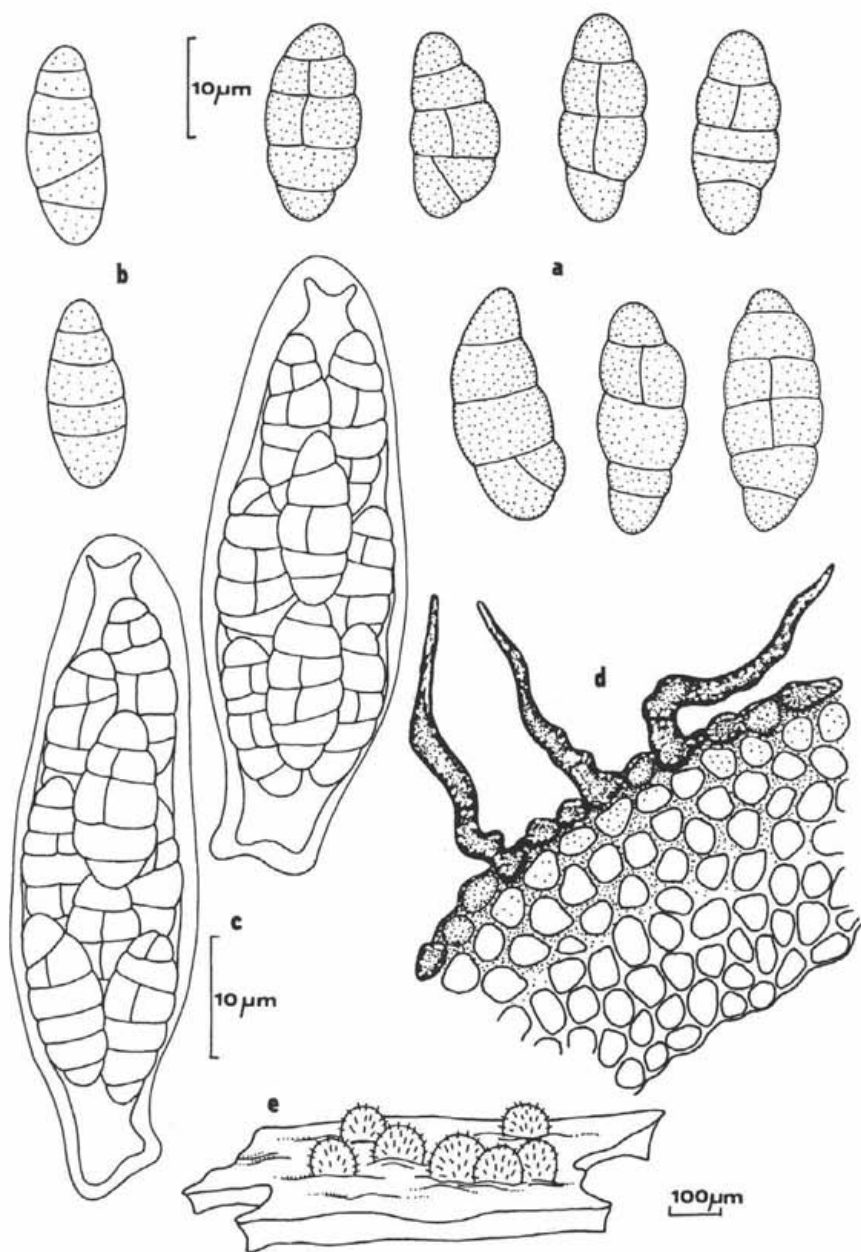


Fig. 2. *Capronia svrcekiana* Réblová (PRM 830880).

a-mature ascospores, b-young ascospores, c-asci with ascospores, d-vertical section of ascoma,
 e-ascomata.

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Capronia svrcekiana Réblová, sp. nov.

Fig. 2 a-d.

Ascomata superficialia, solitaria vel gregaria, basi immersa, subglobosa, non collapsa, non papillata, fusca, 100–150 μm alta vel 90–150 μm lata, pariete 25–30 μm crassa, cellulis protrudentibus atque setis fuscis, flexuosis 19–60(140) \times 5–6.8 μm praedita. Asci (56.7)59.3–64.5 \times 13–14.6 μm , bitunicati, saccati. Filamenta interthecialia desunt. Ascospores (14.6)15.5–19(20.6) \times 6–6.8 μm , fuscae vel olivaceo-fuscae, fusoideae, septis (3)4–5 transversalibus, 1–2 longitudinalibus praeditae.

Holotypus: Bohemia meridionalis, montes Novohradské hory, in silva virginea Žofinský prales; ad truncum putridum iacentem *Fagi sylvaticae*, 27.V.1967, leg. M. Svrček et J. Kubička, det. M. Réblová (PRM 830880).

Ascomata superficial, scattered to gregarious, base immersed, subglobose, non-papillate, not collabent when dry, dark brown, 100–150 μm high and 90–150 μm wide; ascomatal wall 25–30 μm wide, composed of pseudoparenchymatous cells, its surface roughened by protruding thick-walled, darker brown cells in upper half, densely setose, setae 19–60(140) μm long and 5–6.8 μm at base, unbranched, slightly to hardly flexuous, septate, pointed, densely surrounded ostiolar region and scattered over surface. Asci (56.7)59.3–64.5 \times 13–14.6 μm , octosporous, saccate, thick-walled, broadly rounded above. Interthecial filaments lacking. Ascospores (14.6)15.5–19(20.6) \times 6–6.8 μm , 2–3-seriate, brown to olivaceous brown, fusiform with obtuse ends, with (3)4–5 transverse septa and a longitudinal septum in one or two middle cells, rarely into end cells, constricted at the septa, smooth.

Habitat: on very soft and rotten wood of *Fagus sylvatica* and *Tilia* sp., also associated with an effuse basidiocarp of primitive Aphyllophorales (*Galzinia* sp.).

Distribution: Czech Republic, Slovak Republic, Germany.

Additional specimens examined: Slovak Republic: Slovenské Rudohoří Mts., Muráňská planina, natural reserve "Poludnica" near Muráň; on rotten wood of branch of *Fagus sylvatica*, 22.IX.1995, leg. et det. M. Réblová (Herbarium M. Réblová 854/95); Germany: Freienfels between Coburg and Bayreuth, MTB 6063; on rotten wood of fallen branch of *Tilia* sp., 23.III.1990, leg. H. Engel, det. M. Réblová (Herbarium H. Engel 12723); idem., MTB 6063; on fallen decorticated branch of *Tilia* sp., 31.XII.1990, leg. H. Engel, det. M. Réblová (Herbarium H. Engel 13850).

C. svrcekiana is intermediate between *C. perpusilla* and *C. pilosella* (Karsten) E. Müll. et al. The latter species has ascospores 12–16 \times 4–6 μm , constantly with 3 transverse septa and occasionally with one longitudinal septum in middle cells, ascomata with a conical papilla, surrounded by thick-walled, short erected hairs at the top. *C. coronata* Samuels resembles *C. svrcekiana* by the partially immersed

ascomata, slightly flexuous setae and comparable size of asci, but differs in size and septation of the ascospores. From North America, the similar *C. arctica* Barr was described (Barr 1991) from wood of *Salix reticulata*, which differs in possessing somewhat larger ascospore dimensions ($18-32(45) \times 6.5-9 \mu\text{m}$) with pointed ends and the longitudinal septum in the middle of most cells.

There are other two *Capronia* species, *C. parasitica* (Ellis et Everh.) E. Müll. et al. and *C. spinifera* (Ellis et Everh.) E. Müll. et al., growing on old resupinate basidiomycetous fungi. The former has $9-11 \times 3.5-4 \mu\text{m}$ large ascospores with three transverse septa, the latter has ascospores $(10)12-15.5 \times 3.5-4.5 \mu\text{m}$ large, usually with three, occasionally with 4 to 5 transverse septa.

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