

## CABALODONTIA (MERULIACEAE), A NOVEL GENUS FOR FIVE FUNGI PREVIOUSLY PLACED IN *PHLEBIA*

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**Abstract:** The new genus *Cabalodontia* M. Piątek with the type *Odontia queletii* Bourdot & Galzin is described, and new combinations *C. bresadolae* (Parmasto) M. Piątek, *C. cretacea* (Romell ex Bourdot & Galzin) M. Piątek, *C. livida* (Burt) M. Piątek, *C. queletii* (Bourdot & Galzin) M. Piątek and *C. subcretacea* (Litsch.) M. Piątek are proposed. The new genus belongs to Meruliaceae P. Karst. and is closely related to *Phlebia* Fr.

**Key words:** *Cabalodontia*, *Phlebia*, *Steccherinum*, *Irpex*, Meruliaceae, new genus, corticoid fungi, taxonomy

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The generic placement of *Odontia queletii* Bourdot & Galzin has been much debated, and the species has had a very unstable taxonomic position. Christiansen (1960) combined it into *Phlebia* Fr. as *Phlebia queletii* (Bourdot & Galzin) M. P. Christ., Parmasto (1968) transferred the species to the genus *Metulodontia* Parmasto as *Metulodontia queletii* (Bourdot & Galzin) Parmasto, and finally Hallenberg and Hjortstam (1988) reallocated *Odontia queletii* to *Steccherinum* Gray as *Steccherinum queletii* (Bourdot & Galzin) Hallenb. & Hjortstam with another species, *Steccherinum albo-fibrillosum* (Hjortstam & Ryvarde) Hallenb. & Hjortstam, originally described as *Phlebia albo-fibrillosa* Hjortstam & Ryvarde, with which it shares a monomitic hyphal system, in contrast to the remaining species of *Steccherinum* which are dimitic.

The taxonomy of the genus *Steccherinum* and its relation to the genus *Irpex* Fr.: Fr. was discussed by Niemelä (1998), who concluded that the two are very similar, and also closely related to *Flavodon* Ryvarde, *Flaviporus* Murrill and *Junghuhnia* Corda. The name *Irpex* has priority over the remaining generic names. Following this conclusion, Kotiranta and Saarenoksa (2002) proposed a new concept of the genus *Irpex*, which they greatly expanded by including species of *Flavodon*, *Flaviporus* and *Junghuhnia*. This taxonomic conclusion is clear and well-explained, but perhaps these

genera should be accepted as subgenera or sections within *Irpex*. In addition to *Flavodon*, *Flaviporus* and *Junghuhnia*, Kotiranta and Saarenoksa (2002) transferred to *Irpex* species of *Steccherinum* that possess a dimitic hyphal system, including *Hydnum ochraceum* Pers., the generitype of *Steccherinum* (Maas Geesteranus 1974). *Irpex* is now defined as a genus possessing a dimitic hyphal system, with simple septate or clamped generative hyphae, relatively small spores, large encrusted cystidia, an irpicoid, hydroid, odontoid or poroid hymenophore, and white rot.

In their new concept of the genus *Irpex*, Kotiranta and Saarenoksa (2002) did not include two above-mentioned species of *Steccherinum* with a monomitic hyphal system, *S. albo-fibrillosum* and *S. queletii*. However, *Steccherinum* cannot be restricted to the two species with a monomitic hyphal system, excluding its type. It should be noted that *Steccherinum albo-fibrillosum* is considered to be a typical member of the genus *Phlebia* (Nakasone 1997); this was apparently overlooked by Kotiranta and Saarenoksa (2002). Moreover, recent molecular data from Boidin *et al.* (1998) indicated that *Steccherinum queletii* is but distantly related to other species of *Steccherinum* (or *Irpex*, if the current concept is adopted); those authors considered it a member of the genus *Phlebia*, as Christiansen (1960) long ago concluded.

On the basis of molecular analyses of 20 species of *Phlebia*, Parmasto and Hallenberg (2000) concluded that *Phlebia queletii* forms a separate clade together with *Phlebia bresadolae* Parmasto. The other clade is formed by *Phlebia* s. str. (central group or core), including the type of the generic name, *Ph. radiata* Fr., plus *Ph. acerina* Peck, *Ph. lindtneri* (Pilát) Parmasto, *Ph. livida* (Pers.: Fr.) Bres., *Ph. rufa* (Pers.: Fr.) M. P. Christ., *Ph. subochracea* (Bres.) J. Erikss. & Ryvardeen, *Ph. subserialis* (Bourdot & Galzin) Donk, *Ph. tremellosa* (Schrad.: Fr.) Burds. & Nakasone and *Ph. uda* (Fr.: Fr.) Nakasone. Parmasto and Hallenberg (2000) thought that the *Ph. bresadolae-Ph. queletii* clade might be recognized as a separate genus, but they refrained from formally describing it. They also pointed out the difficulty of characterizing such a genus morphologically. Indeed, both species share many important characteristics with *Phlebia* s. str., such as ceraceous basidiomes, a monomitic hyphal system, narrowly clavate basidia, and ellipsoidal, non-amyloid basidiospores. *Phlebia queletii* has an odontoid hymenophore and numerous encrusted cystidia, while *Phlebia bresadolae* has a tuberculate hymenium and lacks cystidia, but such differences can be observed between other species of *Phlebia*. However, both *Ph. bresadolae* and *Ph. queletii* differ from the central group of *Phlebia* by having normal nuclear behavior, whereas the core show astatocoenocytic (exceptionally heterocytic or holocoenocytic) behavior, which according to Boidin (1971) characterizes the genus *Phlebia*. There are also three other species with normal nuclear behavior: *Phlebia cretacea* (Romell ex Bourdot & Galzin) J. Erikss. & Hjortstam, *Phlebia segregata* (Bourdot & Galzin) Parmasto and *Phlebia subcretacea* (Litsch.) M. P. Christ. (Hallenberg 1987, 1990; Wu & Chen 1992). These three species have been also included in the genus *Jacksonomyces* Jülich (Jülich 1982; Wu & Chen 1992), but the type of this genus, *Peniophora phlebioides* H. S. Jacks. & Dearden, on the basis of morphological characters and interfertility tests, is considered to be synonym of *Phlebia subserialis* (Nakasone *et al.* 1982), which has astatocoenocytic nuclear behavior. Therefore, the genus *Jacksonomyces* is probably a synonym of *Phlebia* s. str.

Taken together, normal nuclear behavior in the above-mentioned five species, together with the results of molecular studies (Parmasto & Hallenberg 2000), support the description of a new genus, for which the name *Cabalodontia* is proposed.

***Cabalodontia* M. Piątek, gen. nov.**

*Genus Meruliacearum, generibus Irpex et Phlebia simile, sed systemate hypharum monomítico a genere Irpex, attitudine nucleari normali a genere Phlebia discedens.*

TYPE: *Cabalodontia queletii* (Bourdot & Galzin) M. Piątek (*Odontia queletii* Bourdot & Galzin).

Basidiomes resupinate, ceraceous to subgelatinous, odontoid, tuberculate or smooth; hyphal system monomitic, hyphae with clamps; cystidia lacking or present; basidia narrowly clavate; basidiospores non-amyloid, allantoid or ellipsoidal; nuclear behavior normal.

ETYMOLOGY. Named in honor of Jolanta Cabała, Polish phycologist, my friend and illustrator of my mycological papers; ὀδῶν, -όντος, tooth, in reference to the odontoid hymenophore of the type species.

NOTE. The genus *Cabalodontia* is closely related to *Phlebia*, and belongs to the family Meruliaceae P. Karst. The genus comprises five species occurring in the Northern Hemisphere. It is not impossible that *Phlebia albo-fibrillosa*, which is very similar morphologically to *Cabalodontia queletii*, will have to be transferred to it later, but such a transfer should be supported by an examination of its nuclear behavior.

***Cabalodontia bresadolae* (Parmasto) M. Piątek, comb. nov.**

Basionym: *Phlebia bresadolae* Parmasto, Eesti NSV Tead. Akad. Toim. Biol. **16**(4): 390. 1967.

‘*Corticium deflectens*’ sensu Bres. [non (P. Karst.) P. Karst., Ann. Mycol. **1**(1): 94. 1903].

***Cabalodontia cretacea* (Romell ex Bourdot & Galzin) M. Piątek, comb. nov.**

Basionym: *Peniophora cretacea* Romell ex Bourdot & Galzin, Hymen. France: 288. 1928. = *Phlebia cre-*

*tacea* (Romell ex Bourdot & Galzin) J. Erikss. & Hjortstam, Cort. N. Europe **6**: 1105. 1981. = *Jacksonomyces cretaceus* (Romell ex Bourdot & Galzin) Sheng H. Wu & Z. C. Chen, Bull. Nat. Mus. Nat. Sci **3**: 261. 1992. = *Peniophora romellii* Litsch., in Bourdot, Bull. Soc. Mycol. France **48**(2): 212. 1932. = *Phlebia romellii* (Litsch.) Parmasto, Eesti NSV Tead. Akad. Toim. Biol. **16**(4): 393.

***Cabalodontia livida*** (Burt) M. Piątek, *comb. nov.*

Basionym: *Peniophora livida* Burt, Ann. Missouri Bot. Gard. **12**: 239. 1926. = *Jacksonomyces lividus* (Burt) Jülich, Persoonia **11**(4): 427. 1982. = *Peniophora segregata* Bourdot & Galzin, Hymen. France: 284. 1928. = *Phlebia segregata* (Bourdot & Galzin) Parmasto, Eesti NSV Tead. Akad. Toim. Biol. **16**(4): 393. = *Jacksonomyces segregatus* (Bourdot & Galzin) Sheng H. Wu & Z. C. Chen, Bull. Nat. Mus. Nat. Sci **3**: 261. 1992.

***Cabalodontia queletii*** (Bourdot & Galzin) M. Piątek, *comb. nov.*

Basionym: *Odontia queletii* Bourdot & Galzin, Bull. Soc. Mycol. France **30**(3): 270. 1914 = *Phlebia queletii* (Bourdot & Galzin) M. P. Christ., Dansk Bot. Ark. **19**(2): 176. 1960. = *Metulodontia queletii* (Bourdot & Galzin) Parmasto, Consp. Syst. Cortic.: 118. 1968. = *Steccherinum queletii* (Bourdot & Galzin) Hallenb. & Hjortstam, Mycotaxon **31**: 443. 1988. = *Odontia farinacea* Quél., Fl. Mycol. France: 435. 1888 [nec *Odontia farinacea* (Pers.: Fr.) Cooke & Quél. 1878].

***Cabalodontia subcretacea*** (Litsch.) M. Piątek, *comb. nov.*

Basionym: *Corticium subcretaceum* Litsch., Österr. Bot. Z. **88**: 110. 1939. = *Phlebia subcretacea* (Litsch.) M. P. Christ., Dansk Bot. Ark. **19**(2): 165. 1960. = *Jacksonomyces subcretaceus* (Litsch.) Jülich, Persoonia **11**(4): 427. 1982. = *Corticium aerugineolividum* Romell ex S. Lundell, in S. Lundell & Nannfeldt, Fungi exs. Suec. **37–38**: 19. 1950. = *Phlebia aerugineolivida* (Romell ex S. Lundell) Donk, Fungus **27**: 12. 1957. = *Phlebia lichenoides* Parmasto, Eesti NSV Tead. Akad. Toim. Biol. **16**(4): 391. 1967.

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